

SCHEDULE 3
COMMUTER RAIL OPERATING AGREEMENT
CONTRACT NO. 159-12
BETWEEN

MASSACHUSETTS BAY
TRANSPORTATION AUTHORITY

AND

[OPERATOR]

DATED [•] [2014]

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SCHEDULE 3.1 TRANSPORTATION SERVICES

1. GENERAL

- 1.1 The Operator shall perform the Transportation Services. Except as specifically set forth in this **Schedule 3.1** (Transportation Services), the performance of all Transportation Services shall be included within the Annual Fee.

2. THE TRANSPORTATION SERVICES

- 2.1 The Operator shall operate, manage and staff MBTA Commuter Rail Services on (a) the rail lines contained within the Service Property (including, for avoidance of doubt, the Worcester Line), (b) the Amtrak line from the Massachusetts State Line to North Kingston, Rhode Island, and (c) the Pan Am line from Fitchburg to Wachusett, Massachusetts all as described in the Employee Timetable.
- 2.2 The Operator shall provide the Transportation Services in accordance with the Service Schedules established by the MBTA as currently found on the MBTA's public website and as may be revised during the Term.
- 2.3 The Operator shall provide sufficient professional capacity so as to effectively evaluate operations in coordination with the MBTA. This professional capacity shall include service evaluation, planning, and design functions which will be subject to written approval by the MBTA.
- 2.4 The Operator shall comply with the incident management and notification procedures set forth in Section 9 (Incident Management and Notification) of this **Schedule 3.1** (Transportation Services).
- 2.5 The Operator shall develop and submit a Transportation Service Plan for MBTA approval no less than 60 days after NTP (ODRL 3.1-001). The MBTA shall approve or return the Transportation Service Plan to the Operator for revision no more than 30 days after submission. The Operator shall make necessary amendments and re-submit plan for MBTA approval within 30 days of receipt. The MBTA shall grant approval or return the plan to the Operator within 20 days. In the event the plan is disapproved twice, the Operator shall arrange to immediately convene a meeting between the Operator General Manager and his or her appropriate staff and the MBTA Senior Director to discuss and resolve the issues preventing plan approval.
- 2.6 The Transportation Service Plan shall include details of all train service, staffing, revenue collection, including a Train Staffing Plan (as set forth in Sections 6.11 -6.15 of this **Schedule 3.1** (Transportation Services)) operational test plans, a drug and alcohol test policy, an attendance control policy and a code of conduct. This plan must comply with all FRA Regulations, APTA Recommended Practices and other applicable federal, state and local regulations and guidelines including consent decrees and restrictions on

locomotive idling found in the consent decree from United States of America v. Massachusetts Bay Transportation Authority, Civil Action No. 10-11311 (D. Mass).

- 2.7 The Operator shall submit an update of the Transportation Service Plan annually on April 1st of each year for MBTA review and written approval (ODRL 3.1-002). Updates to the Transportation Service Plan may be required more often as required by Service Changes or as required by notice in writing by MBTA's Senior Director. The MBTA shall approve or return the updated Transportation Service Plan to the Operator for revision no more than 20 days after submission. The Operator shall make the requested changes and re-submit the plan in no more than 10 days or propose reasonable alternatives to the MBTA's requests within 30 days. All changes proposed by the Operator are subject to MBTA written approval.
- 2.8 Each update shall address anticipated surges in ridership due to special events such as athletic contests, concerts, circuses, civic festivals and holiday travel and refer to any additional crew and consist rolling stock needs such as for anticipated new rolling stock test and qualification trains and other Special Trains.
- 2.9 The Operator shall also submit Transportation Service Plan updates for proposed changes in service made in support of work having a direct impact on service delivery.

3. **ON TIME PERFORMANCE**

- 3.1 The Operator shall provide Commuter Rail Services in accordance with the Service Schedules.
- 3.2 The Operator shall determine, record, calculate and report to the MBTA the On Time Performance of all trains for each route on which Operator is providing Commuter Rail Services (ODRL 3.1-003). "On Time Performance" shall be reported in terms of an on time performance percentage where,
 - 3.2.1 The denominator for each calculation shall be the number of trains scheduled during the reporting period for the appropriate group of routes.
 - 3.2.2 The numerator for the calculation shall be the number of scheduled trains LESS the sum of (a) number of Cancelled Trains; (b) the number of Terminated Trains and (c) the number of trains arriving at their final terminal more than four minutes and fifty-nine seconds (4:59) later than scheduled.
- 3.3 The Operator shall maintain, in electronic form in the Commuter Rail IT Environment, a historical record of On Time Performance for each trip for which the Operator is providing Commuter Rail Services (ODRL 3.1-004). The Operator shall also maintain records of the number of Late Trains, Cancelled Trains and Terminated Trains (ODRL 3.1-005).
- 3.4 The Operator shall produce daily, monthly, and annual reports including On Time Performance and the number of Customer Delays, Late Trains, Cancelled Trains, and Terminated Trains in electronic form using the Commuter Rail IT Environment

(collectively, the "**On Time Performance Reports**") (ODRL 3.1-006). On Time Performance shall be summarized for each route, division, and system-wide by each Peak Commuter Period and Off-Peak Commuter Period. Within ten (10) days from the MBTA's request (and at no additional cost to the MBTA), the Operator shall also provide to the MBTA On Time Performance Reports covering specific time periods and information that the MBTA designates (each, a "**Supplemental On Time Performance Report**") (ODRL 3.1-026). By way of example, and not limitation, a Supplemental On Time Performance Report may consist of the number of Late Trains on a particular route over a four (4) month period.

4. **SERVICE SCHEDULES**

- 4.1 The MBTA reserves the right, at any time, to make changes to the Service Schedules and will provide written notice to the Operator of at least sixty calendar days. Advance notice to the Operator may be less than sixty calendar days if both Parties mutually agree (agreement not to be unreasonably withheld or delayed by either Party), or in case of an Emergency or Force Majeure event.
- 4.2 The MBTA anticipates changing its schedules two times per year, in April and October. All costs associated with the administrative work needed to effect these two schedule changes shall be included in the Annual Fee.
- 4.3 In making schedule changes, the MBTA shall consult with the Operator and shall consider the following: (i) schedules shall promote On Time Performance with a high degree of reliability; (ii) schedules shall contain sufficient time to accommodate scheduled operations of all trains.
- 4.4 The Operator is expected to propose changes to the Service Schedules, provided that final approval of all schedules shall be within the sole discretion of the MBTA.
- 4.5 The Operator shall cooperate with Amtrak, Pan Am, CSX and all other necessary Third Parties to assure the coordinated provision of commuter rail, intercity passenger, and freight services over the rail lines included in the Service Property. In particular, the Operator shall comply with the provisions of (a) the Agreement between Amtrak and MBTA for Use and Maintenance of the MBTA Attleboro Line, dated July 1, 2003, (b) the Agreement between CSX and the MBTA for the Purpose of Granting the MBTA Certain Rights to Conduct Passenger Service, dated September 19, 1999, and as amended from time to time, (c) as applicable, the Agreement between the Commonwealth of Massachusetts and CSX pertaining to the Purchase and Sale of Certain Assets, dated October 10, 2008, (d) the South County Operating Agreement by and between the MBTA and the State of Rhode Island and Providence Plantations, dated September 30, 2010, and (e) the Deed from the Trustees of the Boston and Maine Corporation to the MBTA, dated December 24, 1976. The MBTA shall share these, and any other third-party rail agreements that it determines to be relevant, with the Operator.

- 4.6 The Operator shall not make scheduled or unscheduled train stops at MBTA or Operator employee work locations, such as CRMF, Southside S&I, and the Southampton Street Yard, to allow employees to board or alight from trains without prior written approval from the MBTA.

5. TICKET SALES, AND REVENUE ACCOUNTING

- 5.1 The Operator shall charge and collect Fares from all customers in accordance with Fare schedules established by the MBTA, and shall be responsible for the security of all Fares and revenues received.
- 5.2 The MBTA shall set Fare policy for the service and arrange for the printing of ticket stock and passes at its sole expense.
- 5.3 The Operator shall sell one-way, round-trip, ten trip and MBTA commuter rail, transit and bus system Monthly Passes and such other tickets as the MBTA shall provide including mobile ticketing options. The MBTA will also directly sell Monthly Passes through varied locations including, but not limited to, selected downtown subway stations, individual commercial establishments, U.S. Mail, e-commerce and employer programs.
- 5.4 The Operator shall develop and provide written Fare collection procedures for ticket selling, Fare collection, and Fare verification to the MBTA no later than 120 days after NTP for MBTA review and approval (ODRL 3.1-007). Such approval shall not be unreasonably withheld.
- 5.5 The MBTA or Operator may propose changes to existing ticket selling, Fare collection, and Fare verification procedures. All proposals for procedural changes initiated by the MBTA shall be implemented. Any proposals for procedural changes initiated by the Operator must be approved by the MBTA before implementation (ODRL 3.1-008).
- 5.6 All Commuter Rail Services Revenue received by the Operator, whether by cash, credit card, debit card or otherwise, shall be deposited or otherwise transferred daily by the Operator to an account designated by the MBTA. As between the Parties, the MBTA shall be responsible for Credit Card Transaction Fees.
- 5.7 The Operator shall report to the MBTA, on a daily basis, the daily Commuter Rail Services Revenue collected and deposited by the Operator, and tickets sold by the Operator (ODRL 3.1-009). The MBTA shall audit Fare collection records on a monthly basis (or more frequently at its discretion) during the Term.
- 5.8 The Operator shall sell tickets for Commuter Rail Services from 5:30AM through 12:00AM weekdays and 7:00AM through 11:00PM weekends and holidays at the staffed ticket offices located at North Station, South Station, and Back Bay Station. With the prior approval of the MBTA, the Operator may arrange ticket sales, by Operator Personnel or Third Parties, at additional locations. Unsold Monthly Passes shall be returned by the Operator to the MBTA, organized by zone and in numeric sequence (ODRL 3.1-010).

5.9 The Operator shall sell tickets for other rail carriers, including Amtrak, pursuant to any agreements relating thereto among any of the Operator, the MBTA, Amtrak or other rail carriers.

5.10 The Operator shall accept cash, checks, major credit cards, debit cards and transportation vouchers for payment at North Station, South Station, and Back Bay Station.

6. TRANSPORTATION STAFFING

6.1 The Operator shall, at all times, provide qualified Operator Personnel in accordance with **Schedule 3.10** (Training of Operator Personnel) in sufficient numbers to perform Transportation Services as further detailed in this Agreement including, but not limited to, this **Schedule 3.1** (Transportation Services).

6.2 The Operator shall designate a senior transportation official to oversee Transportation Services and act as the single point of contact for all matters regarding train operations (the “Chief Transportation Officer”). The Operator must designate a replacement, in writing, whenever the Chief Transportation Officer is absent or the position is vacant awaiting a permanent replacement.

6.3 The MBTA recommends that the Transportation Services Department be organized as illustrated in Figure 1. The Operator may propose a different management structure within 90 days of NTP subject to MBTA approval as required in **Schedule 3.9** (Management and Personnel) (ODRL 3.1-011).

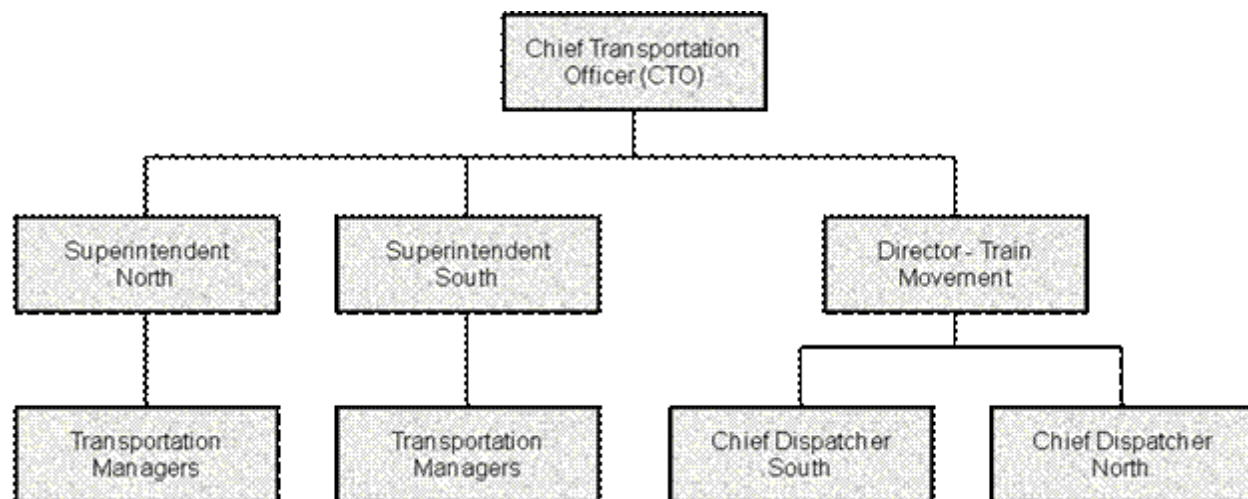


Figure 1: Recommended Organization Chart for Transportation

6.4 All Operator Transportation Department officials and managers shall be fully qualified on the rules set forth in the Operating Rule Book no later than 90 days after NTP.

6.5 All Operator Transportation Department managers (“**Transportation Managers**” and formerly known as “**Road Foremen of Engineers**” and “**Trainmasters**”) other than the

Chief Transportation Officer, shall be fully qualified at least to the equivalent level of those employees whom they are responsible for supervising.

- 6.6 Within 18 months after NTP, 50% of all Transportation Managers must be trained and qualified as locomotive engineers and qualified on the physical characteristics of the Service Property.
- 6.7 The Operator shall meet the following minimum staffing requirements;
 - 6.7.1 Seven Transportation Managers to oversee South Division service which is all operations and lines originating at South Station including the Southside S&I Facility and Readville Yard.
 - 6.7.2 Four Transportation Managers to oversee North Division service which is all operations and lines originating at North Station and CRMF.
 - 6.7.3 Six Transportation Managers to oversee all activity in the North Terminal Zone which includes North Station and the BET/CRMF.
 - 6.7.4 Six Transportation Managers to oversee all activity in the South Terminal Zone which includes South Station, the Southampton Streetyard and the Southside S&I Facility.
- 6.8 The Operator shall provide adequate staff to collect Fares and protect Commuter Rail Revenue. Failure of train crewmembers to collect Fares on board trains shall be considered Conduct Unbecoming an Employee as provided for in **Schedule 3.9** (Management and Personnel) of this Agreement.
- 6.9 Train and engine crews shall monitor all signage, PTIS, HVAC systems, carbody exterior doors and public address systems while conducting their daily duties to ensure proper operation of those systems. Train crewmembers shall immediately notify train dispatchers when such systems are not operating as intended.
- 6.10 Train and engine crews shall record and report any mechanical and safety-related defects discovered en route or while conducting their daily duties to the Train Dispatcher and Mechanical Help Desk. Safety-related defects must be reported immediately. The Operator shall ensure that such records and reports are entered into the Commuter Rail IT Environment not more than one hour after each occurrence.
- 6.11 No less than 90 days after NTP, the Operator shall prepare and submit to the MBTA for review and approval a Train Staffing Plan (ODRL 3.1-012). The Train Staffing Plan shall include train staffing levels and supervisor staffing levels for Transportation Services.
- 6.12 Train staffing levels may vary based on coach type, service route and peak/non-peak periods. Supervisor staffing levels may vary based on anticipated customer and transportation staff activity at assigned locations, each to be set forth in the Train Staffing Plan.

- 6.13 Any proposed changes to the Train Staffing Plan must be approved in writing by the MBTA.
- 6.14 The Train Staffing Plan shall also include all crew assignments necessary to serve customers on each scheduled train. Staffing levels shall be supported with an analysis of ridership and boarding patterns, including a summary.
- 6.15 The Train Staffing Plan shall include a full set of “crew runs”. The average actual customer count per train crewmember shall not exceed 300 in the Train Staffing Plan. The Train Staffing Plan shall reflect MBTA recommendations for minimum train staffing on each trip. The minimum staffing requirement is subject to change by MBTA during the Term due to technological advances.
- 6.16 The Operator must furnish sufficient Operator Personnel to establish a “Permanent Spare Board” to work as assigned filling vacancies, employee attrition, training and qualification, and absences, as necessary to provide Transportation Services in accordance with this Agreement. The Operator shall ensure that the Permanent Spare Board is sufficient for the Operator (i) to meet the customer count per train crewmember ratio obligation set out in Section 6.15 of this **Schedule 3.1** (Transportation Services), and (ii) to otherwise ensure that crewmember absenteeism does not adversely impact the Operator's performance of its obligations under this Agreement or the Customer experience.
- 6.17 The Operator shall post Operator Personnel at North Station and South Station to observe and manage terminal and road operations during the hours of Commuter Rail Services operation. This shall be considered a minimum requirement and additional Operator Personnel shall be provided by the Operator as necessary to meet the anticipated daily volume of activity.
- 6.18 The Operator must furnish up to four transportation or customer service Operator Personnel upon request from MBTA for special or unusual events and other purposes at no additional expense to MBTA.
- 6.19 The Operator shall provide Operator Personnel to be assigned as needed on a weekday basis as well as during events in which surges in ridership are anticipated in order to collect Fares on the platform prior to train departure (an “Advance Revenue Collection Team”) and mitigate the workload for onboard personnel and ensure complete Fare collection on each train as well as other work as directed. One Advance Revenue Collection Team will usually be assigned to North Division locations, the other to South Division locations. However, these teams must be able to work as assigned at any MBTA station in unusual situations. Typical weekday assignments for the Advance Revenue Collection Teams would be at high traffic suburban stations for the morning Peak Commuter Period and at North Station or South Station for the afternoon Peak Commuter Period. The MBTA will coordinate with the Operator with respect to providing security for the Advanced Revenue Collection Teams.

7. REPORTING

- 7.1 By 7:00AM each day, the Operator shall file a complete daily train and engine staffing report with the MBTA using the Commuter Rail IT Environment detailing all assignments of train and engine crews for the prior day's trains (ODRL 3.1-014).
- 7.2 The Daily Train and Engine Staffing Report shall highlight trains where the staffing levels, established in the approved Train Staffing Plan have not been met.
- 7.3 The cover sheet of the report shall list all understaffed trains and the reason for understaffing and perform all of required penalty calculations.

8. DISPATCHING

- 8.1 Dispatch Centers currently include CROCC, CETC, and CETC Back-up.
- 8.2 From the Dispatch Centers, the Operator shall provide train dispatching services for the Service Lines. Unless otherwise agreed, Transportation Services do not include dispatching by the Operator of the Attleboro Line from and including South Station to the Massachusetts-Rhode Island state line and beyond to North Kingstown, Rhode Island; Pan Am Fitchburg Line from Willows Interlocking to Wachusett; Haverill Line from Wilmington Junction interlocking to Haverhill; and Lowell Line from Bleachery interlocking to Lowell.
- 8.3 In the event that the MBTA assumes dispatch control of the Attleboro Line, or any other line currently under dispatch control of Amtrak, Pan Am, or RIDOT, the Operator shall assume such dispatching services, and the MBTA shall compensate the Operator for such work as a Service Change.
- 8.4 The Operator shall manage, operate, and provide qualified personnel for MBTA's Dispatch Centers, tower operators, and drawbridge operator positions.
- 8.5 Operator Personnel shall be responsible for direction, supervision and control over the safe and efficient movement of all trains or on-track vehicles; protection of all other on-track activity on the Service Property under the dispatch control of the MBTA, including but not limited to movement of MBTA passenger rail trains, freight trains, and Amtrak's intercity passenger trains; and notification of all operating rule violations.
- 8.6 All such dispatch services shall be governed by and subject to all current operating and safety rules, orders, procedures, and regulatory standards, applicable to the Operator.
- 8.7 The Operator shall dispatch Amtrak intercity trains over lines under MBTA dispatch control. The Operator shall be responsible for coordination of schedules and operations to ensure that Amtrak operations are compatible with the Commuter Rail Service and in accordance with the various trackage rights and terminal service agreements between Amtrak and the MBTA. The Operator shall maintain required crew, consist and delay records for all Amtrak intercity as well as freight movements on the Service Property.

Amtrak personnel may provide train dispatching services and power dispatching services for Amtrak rail lines from the Dispatch Centers.

- 8.8 The MBTA may, at any time, enter the Dispatch Centers for the purpose of observing train operations or monitoring proper adherence to agreed upon standards. The MBTA shall provide necessary pass keys and/or pass codes to the Operator for the purpose of entering the Dispatch Centers.
- 8.9 The Operator also shall provide the MBTA immediately, upon request, with copies of any records relating to dispatch functions (ODRL 3.1-015).
- 8.10 The Operator shall operate and maintain the existing North Division dispatching system at CROCC. The existing telecommunications system in use at CROCC shall be made available to the Operator at no cost for licenses or equipment.
- 8.11 The Operator shall operate the existing South Division train dispatching system, while Amtrak personnel will maintain the South Division train dispatching system at CETC and CETC Back-Up, including dispatching hardware, software, environmental control, security, communication and support systems.
- 8.12 The Operator shall maintain signal and voice communication facilities between non-high speed lines and CETC and CETC Back-Up communications processors. The Operator shall maintain all field signal and communication systems on all non-high speed lines.
- 8.13 The Operator dispatchers shall maintain and provide to the MBTA immediately, upon request, all FRA-required logs and records including but not limited to: logs of train movements, Form D movement permits, grade-crossing failures, and notes of extraordinary and unusual occurrences (ODRL 3.1-016).
- 8.14 For all trains operating under the Operator's dispatch control, the Operator shall complete a full computer record as soon as practicable but no later than the scheduled arrival time of the last trip of that day, in the Commuter Rail IT Environment, including: departure time from initial terminal; arrival time at final terminal; nature, duration, and location of any delays or unusual circumstances occurring en route; identification of all crew; identification of all equipment used; and the number of customers carried.
- 8.15 Until such time as real-time train location information from GPS, Automatic Vehicle Locator system or alternative system is available for entry into the Commuter Rail IT Environment, the Operator shall use the guidelines in Appendix 1 (Train Arrival Times) to this **Schedule 3.1** (Transportation Services), for recording train arrival times at final terminals.
- 8.16 The Operator shall give MBTA trains priority over regularly scheduled Amtrak intercity trains if such intercity trains are operating five or more minutes late during Peak Commuter Periods or 10 or more minutes late during Off-Peak Periods.

- 8.17 The Operator shall give MBTA trains priority at all times over non-regularly scheduled Amtrak intercity trains, such as extra trains operated by Amtrak during holiday periods. The Operator shall give both MBTA trains and Amtrak intercity trains priority over freight trains at all times.
- 8.18 MBTA trains shall have priority over Amtrak intercity trains whenever the normal schedule of operation of trains is disrupted due to problems associated with Amtrak's intercity service, including but not limited to problems relating to the electrification system, positive train control, ACSES, or disabled Amtrak trains.
- 8.19 When normal train operations are disrupted in the event of an Emergency, the Operator shall use best judgment to move passengers in the most expeditious and safe manner possible.
- 8.20 The Operator shall record all communications to and from the Dispatch Centers. The Operator shall operate, maintain and replace if inoperable, recording devices provided by the MBTA for such purpose.
- 8.21 The MBTA may issue instructions relating to dispatching which must be implemented by the Operator at the earliest practicable time.
- 8.22 All Operator Transportation Managers and those working in the Chief Dispatchers' Offices must be dressed in proper business attire and maintain a professional demeanor (For example, "business casual" attire and no loud swearing or other inappropriate conduct or documents present.)

9. INCIDENT MANAGEMENT AND NOTIFICATIONS

9.1 General

- 9.1.1 In the event of Service Disruptions or violation of the rules in the Operating Rule Book or other incidents that cause delays or otherwise impact Commuter Rail Services, the Operator shall notify the MBTA On-Duty Officer, notify the public at stations and on-board trains, investigate such delays and disruptions, and prepare reports, as set forth below. For purposes of this Section 9 (Incident Management and Notifications) of this **Schedule 3.1** (Transportation Services), "MBTA On-Duty Officer" shall mean, from the hours of 6:00 AM to 6:00 PM on Weekdays, the Section Chief – Transportation, and at all other times the On-Duty Officer for that date and time, so designated by the MBTA in the On-Duty Officer Schedule delivered to the Operator periodically.
- 9.1.2 The Operator shall establish and maintain an emergency telephone number that is staffed 24 hours a day, seven days a week, to assist in this notification process. Such telephone shall be staffed by an Assistant Chief Train Dispatcher or a person of higher rank in the Operator's organizational structure.

- 9.1.3 Notwithstanding any definition or provision in this Agreement to the contrary, the Operator's failure to follow these procedures and to provide the required notification information shall be a Breach of this Agreement as provided by **Schedule 12** (Defaults, Remedies, and Termination). The MBTA reserves the right to change the notification procedures identified herein at any time during the Agreement Term.

9.2 Notification of Service Delays to the MBTA

- 9.2.1 Notification Sequence – The Operator shall provide immediate notice to the MBTA of service delays in the following sequence:
- 9.2.1.1 Telephone call to OCC;
 - 9.2.1.2 General electronic message (page) to MBTA-specified officials;
 - 9.2.1.3 Notification to the Customer Service Manager (as defined in **Schedule 3.7** (Operator Customer Service Responsibilities)) and the public address operators of information to be broadcast on public notification systems.
- 9.2.2 Notification Information – The following information must be included in each notification regarding Service Delays:
- 9.2.2.1 Commuter rail line(s) and stations(s) affected;
 - 9.2.2.2 Actual or anticipated duration of delay;
 - 9.2.2.3 Cause of delay;
 - 9.2.2.4 Train number(s) and equipment number(s);
 - 9.2.2.5 Number of customers on affected train(s); and
 - 9.2.2.6 Proposed response or action taken.
- 9.2.3 Management During Service Delays – The Operator shall provide phone updates to OCC and pager updates to MBTA designated officials in a timely manner, approximately every 15 minutes or immediately after receiving relevant information, until the delay has been resolved.
- 9.2.4 The Operator shall produce "Delay Reports" containing detailed information describing the impact of all delays to customers on all affected trains. Delay Reports shall specify whether a commuter rail train was delayed during the morning or evening rush hour, or during off-peak service.

- 9.2.5 The Operator shall generate Delay Reports utilizing the Commuter Rail IT Environment. Each delay shall be classified as a Customer Delay or Late Train.
- 9.2.6 Delay Reports shall include all delays, regardless of duration. Delay Reports shall be produced in conformance with the requirements identified in Section 3 (On Time Performance) of this **Schedule 3.1** (Transportation Services).

9.3 Service Disruptions

- 9.3.1 In the event of a Service Disruption in which there are events or occurrences on or off the Service Property including, without limitation, collisions, derailments, fires, fatalities or injuries, or other emergencies whose potential impact on service requires close coordination of multiple activities, the Operator shall designate a senior official to oversee management of the incident and to act as a single point of contact for the MBTA with respect to the incident (the “**Incident Commander**”). In addition to Service Disruptions, any events or occurrences resulting in the use of bus substitution for commuter train service shall be treated in the same manner.
- 9.3.2 Until such time as the Incident Commander has been designated and is on-site, this function will be filled by the Assistant Chief Train Dispatcher or higher-positioned official.
 - 9.3.2.1 The Incident Commander shall have primary responsibility to manage the on-site response to the Service Disruption and its resolution and shall ensure that the appropriate notification procedures are followed.
 - 9.3.2.2 The Incident Commander shall: coordinate alternative transportation, if necessary; oversee wreck cleaning; manage service restoration; and serve as contact with emergency responders and public safety officials.
 - 9.3.2.3 The Incident Commander may delegate these responsibilities to qualified other Operator Personnel, as necessary or appropriate.
 - 9.3.2.4 Certain incidents may require that the Incident Commander be located at CETC or CROCC (e.g. CETC cold start). In such cases, the Incident Commander may be the Chief or Assistant Chief Train Dispatcher.
 - 9.3.2.5 The Operator shall follow the incident management, notification and reporting protocols set forth herein.
- 9.3.3 Notification Sequence – The Operator shall provide immediate notice of Service Disruptions, in the following sequence:

- 9.3.3.1 Telephone call directly to the MBTA On-Duty Officer. The Operator shall take any direction that the MBTA On-Duty Officer provides related to the Service Disruption or bus substitution.
- 9.3.3.2 First response telephone call or general electronic message (page) to Operator Personnel and MBTA-specified officials.
- 9.3.3.3 Telephone call to OCC.
- 9.3.3.4 Notification to the Customer Service Manager, Public Information Representative or other Operator designee and the public address operators of information to be broadcast on public notification systems.
- 9.3.4 Notification Information – The Operator shall include the following information in each notification regarding Service Disruptions:
 - 9.3.4.1 Exact location of the Service Disruption.
 - 9.3.4.2 Commuter rail line(s) and station(s) affected.
 - 9.3.4.3 Type of Service Disruption, including cause.
 - 9.3.4.4 Any actual or possible impacts on service, including anticipated duration of delays.
 - 9.3.4.5 Train number(s) and equipment number(s).
 - 9.3.4.6 Number of customers on affected train(s).
 - 9.3.4.7 The name and telephone number of the Incident Commander and lead safety investigator.
 - 9.3.4.8 Any initial or temporary steps taken to reduce or mitigate hazards associated with the incident.
 - 9.3.4.9 Proposed response and action taken.
- 9.3.5 Service Disruption Management
 - 9.3.5.1 The Operator shall provide phone updates to OCC and pager updates to MBTA-designated officials in a timely manner, approximately every 15 minutes or immediately after receiving relevant information, until the Service Disruption has been resolved.
 - 9.3.5.2 The Operator shall establish an Incident Command Post or “Situation Room” with continuous staffing for the duration of the Service Disruption or bus substitution. This Incident Command

Post must be equipped with Plenum 24 ports or MBTA-approved equivalent in order to provide the means for gathering, organizing and disseminating information as well as coordinating recovery efforts regarding the Service Disruption or bus substitution.

- 9.3.6 Reporting – Following a Service Disruption, the Operator shall adhere to the following sequence of reporting procedures:
 - 9.3.6.1 Within two hours of partial restoration of service, or within two hours of complete restoration of service (if service is fully restored without resort to the implementation of partial service), the Operator shall produce a preliminary report (ODRL 3.1-017) including:
 - (a) Type of Service Disruption;
 - (b) Impacts on and/or delays to service; and
 - (c) Chronology of relevant events beginning before the Service Disruption and continuing through resolution of the Service Disruption.
- 9.3.7 Within 24 hours of partial or complete restoration of service or other incident, the Operator shall produce a detailed interim report (ODRL 3.1-018) containing the following information:
 - 9.3.7.1 Type of Service Disruption;
 - 9.3.7.2 Effect of such disruption on trains on the system, including time and duration of delays;
 - 9.3.7.3 Train number(s) and equipment number(s) directly involved in the Service Disruption;
 - 9.3.7.4 Employee information regarding employees associated with the equipment involved in the disruption; and
 - 9.3.7.5 Alternate transportation provided and/or requested to facilitate passenger movement.
- 9.3.8 Within two weeks, the Operator shall submit to the MBTA, a document entitled “Final Incident/Accident Report and Analysis” (ODRL 3.1-019) that shall include:
 - 9.3.8.1 Chronology of events;

- 9.3.8.2 Relevant statements from employees, including supervisors and Incident Commanders, involved in the Service Disruption or its resolution, transcribed and typewritten;
 - 9.3.8.3 Subsequent findings and lessons learned;
 - 9.3.8.4 Results of Drug and Alcohol Screening;
 - 9.3.8.5 Transcriptions of tapes;
 - 9.3.8.6 Speed recorders;
 - 9.3.8.7 Dispatcher tapes;
 - 9.3.8.8 Event recorders;
 - 9.3.8.9 Disciplinary actions taken;
 - 9.3.8.10 Engineering responses taken and effectiveness of such responses;
 - 9.3.8.11 All data associated with equipment, vehicles, & employees involved;
 - 9.3.8.12 Statements from employees involved, including the safety official and Incident Commander on the scene;
 - 9.3.8.13 All primary and secondary findings;
 - 9.3.8.14 Corrective Action Plan, outlining short and long-term mitigation actions must also be included; and
 - 9.3.8.15 A final Corrective Action Plan summarizing engineering responses taken and their effectiveness shall be included. In the event that any corrective actions are left open a time line for completion is expected to be included.
- 9.3.9 If an investigation of the Service Disruption is ongoing at the time of submission of the report, the Final Incident/Accident Analysis Report and Analysis shall also update the MBTA on the status of the investigation. If the investigation is ongoing, this report shall include a timeline for completion of the investigation and the issuance of the final report. Report updates (ODRL 3.1-020) are required every 30 days thereafter. The Operator shall submit a final report to the MBTA that includes the data and information listed above as well as a qualitative analysis that encompasses information obtained from the investigation. Upon completion of the investigation, the Operator shall submit an Updated Final Incident/Accident Report and Analysis (ODRL 3.1-019) to the MBTA.

- 9.3.9.1 Each report issued shall contain the contents of all previous reports related to the disruption.
 - 9.3.9.2 At the request of the MBTA, the Operator shall meet with the MBTA to discuss any Service Disruption or incident at any time following a Service Disruption.
 - 9.3.10 The MBTA reserves the right to comment and recommend additional corrective actions if necessary. The Operator is expected to respond to these recommendations in writing within 10 business days.
- 9.4 Notification of Delays to the Public
- 9.4.1 The Operator shall promptly notify Customers of delays, both at stations and on-board trains, whenever delays are in excess of five minutes and provide updates every five minutes until the delay has been resolved.
 - 9.4.2 The Operator shall also notify Customers of potential delays immediately upon becoming aware of such potential delays. Notification shall be provided regardless of whether the event is considered a Service Disruption, and shall be delivered in accordance with **Schedule 3.7** (Operator Customer Service Responsibilities) of this Agreement.
 - 9.4.3 Following a significant delay, series of regular delays, or at the direction of the MBTA, the Operator shall provide information to Customers through the use of information fliers approved by the MBTA.
 - 9.4.3.1 Delay Notification at Stations
 - (a) At all Commuter Rail stations, the Operator shall provide announcements of delays, their causes and anticipated duration, and the Operator's planned response or corrective action, through public address systems, computer monitors, electronic message boards, and other systems including but not limited to those provided by the MBTA.
 - (b) The Operator shall update the notification message every five minutes until the situation is resolved. In the event that the Operator has no new information to change or add to the notification message, the Operator shall, for all systems other than the public address systems, update the time stamp on the notification message.
 - 9.4.3.2 Delay Notification On-Board Trains
 - (a) Conductors on-board trains shall obtain relevant information and ensure that Customers are notified of delays, their causes and anticipated duration, and the Operator's planned response or

corrective action, through both public address systems and direct communication with Customers.

- (b) The Operator shall also be responsible for ensuring that the entire train crew has up-to-date information to provide to Customers. Updates shall be provided every five minutes until the situation is resolved.
- (c) Failure to follow through on any of these requirements shall be considered Conduct Unbecoming An Employee.

10. **EMPLOYEE TIMETABLE, OPERATING RULE BOOK & TRAIN DISPATCHER'S MANUAL**

10.1 Administration

- 10.1.1 The Operator shall issue and maintain a NORAC Rule Book, an Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual, which shall contain all the information, rules and special instructions, Bulletin Order's, Notices' and TSRB (Temporary Speed Restriction Bulletins), Operator Personnel need to perform their duties and which shall be provided to MBTA for review prior to issuance.
- 10.1.2 The Operator shall ensure that all content required by Operator Personnel to effectively, efficiently, courteously and safely carry out their duties is available to them.
- 10.1.3 The Operator shall require that the Employee Timetable, Operating Rule Book, and/or Train Dispatcher's Manual or relevant section be carried by each employee while on duty who requires this information to perform his or her duties, including, but not limited to: locomotive engineers; conductors; assistant conductors; engineering department managers; track car foremen; welders; engineering department foremen; signal maintainers; train dispatchers; crossing tenders; draw tenders; tower operators; Transportation Managers; and mechanical managers.
- 10.1.4 The Operator shall ensure each such employee is properly trained and qualified on the Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual (or relevant section) and that he or she is bound to observe its requirements. Any employee's failure to do so shall be considered Conduct Unbecoming an Employee as provided for in **Schedule 3.9** (Management and Personnel) of this Agreement.
- 10.1.5 The Employee Timetable shall consist of at least the following parts:
 - 10.1.5.1 Special Instructions (Or General Special Instructions and Line

- 10.1.5.2 Special Instructions);
- 10.1.5.3 Customer Service Special Instructions; and
- 10.1.5.4 Physical Characteristics Maps
- 10.1.6 The Operator shall develop the Employee Timetable and Train Dispatcher's Manual using the following documents:
 - 10.1.6.1 Current NORAC Operating Rule Book (updated with most recent General Orders and Weekly or Monthly Bulletins)
 - 10.1.6.2 Current revision of MBCR Employee Timetable & Special Instructions
 - 10.1.6.3 Current revision of MBCR Train Dispatcher's Manual
- 10.2 Update and Reissue Policy
 - 10.2.1 As part of the Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual submittal, the Operator shall submit the draft policy and procedure for the periodic update of the Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual to the MBTA no more than 60 days after NTP (ODRL 3.1-021). This policy shall include a requirement that update of the Employee Timetable be made by General Order no less than annually. The Operator shall employ a procedure that includes the periodic issuance of:
 - 10.2.1.1 New Timetables;
 - 10.2.1.2 General Orders (with a cover page which shall state the number
 - 10.2.1.3 of the General Order, the effective date, and a summary of changes in each set of updated pages);
 - 10.2.1.4 Weekly Bulletin Orders (North and South);
 - 10.2.1.5 Monthly Bulletin Order Summary (North and South);
 - 10.2.1.6 Division Notices;
 - 10.2.1.7 Monthly Division Notice Summary;
 - 10.2.1.8 Speed Restriction Summary; and
 - 10.2.1.9 Drawbridge Tender's Notices.
 - 10.2.2 Updated pages and associated General Orders shall be issued as necessary, but not less than annually, to ensure the Employee Timetable remains as accurate

and up-to-date as possible and to prevent Bulletin Orders from becoming unmanageable in size and information. Updated pages contained in General Orders must show the General Order number and the effective date on the bottom of the page.

- 10.2.3 New Employee Timetables (progressively numbered i.e. 1, 2, etc.) shall be reissued as necessary, but not to exceed five General Orders.
- 10.2.4 The MBTA shall from time to time require the Operator to add, modify or otherwise change the content of the Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual. The Operator shall promptly comply with the direction of the MBTA.

10.3 Draft Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual

- 10.3.1 The Operator shall review, revise, conform, reformat and edit the source documents according to the requirements of this Section 10.3 (Draft Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual) to this **Schedule 3.1** (Transportation Services).
- 10.3.2 The Operator shall submit a draft Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual to the MBTA as part of the Mobilization Services not later than 90 days after the NTP (ODRL 3.1-022). The MBTA will review the draft Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual and return suggested revisions to the Operator not later than 30 days after submittal of the draft. The Operator may request reconsideration of the MBTA's revisions, which the MBTA shall not unreasonably deny during the next 15 days.
- 10.3.3 The Operator shall ensure that all information, instructions and rules necessary for safe, efficient and courteous operations are included in the draft Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual, and that the draft is in a form that expedites the MBTA's review and revision.
- 10.3.4 The Operator shall prepare an electronic spreadsheet no more than 90 days after NTP (ODRL 3.1-023) which shall, in combination with the draft Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual, show the following for each section or rule of the source documents listed above:
 - 10.3.4.1 Title of Source Document (e.g. NORAC Operating Rules);
 - 10.3.4.2 Section/citation (e.g. Rule G);
 - 10.3.4.3 Section/Rule Topic (Drugs and Alcohol);
 - 10.3.4.4 Action Taken;
 - (a) Reformat to Special Instruction;

- (b) Reformat to Operating Rule;
- (c) Reformat to Timetable Schedule Page;
- (d) Reformat to Commuter Service Special Instructions;
- (e) Reformat to Train Dispatcher's Manual;
- (f) Delete;
- (g) Amend; or
- (h) No Change; and

10.3.4.5 Reason/Purpose for Action Taken.

10.4 Characteristics of Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual

10.4.1 The Operator shall ensure the requirements in the Employee Timetable, Operating Rule Book, and Train Dispatcher's Manual are uniform and consistent in application to all aspects of the operations, unless the specific circumstances of a particular location or operating condition require a variation (e.g. the physical characteristics or equipment variations may require distinctions in the rules or instructions).

10.4.2 The Operator shall organize the instructions and rules into the following sections: Transportation, Mechanical, Engineering, Dispatching, Customer Service, and Other.

10.4.3 All Operator holiday schedule days must coincide with corresponding Holidays (*i.e.*, all MBTA services, including Commuter Rail Services, must observe the same Holidays and operate Holiday schedules concurrently). MBTA official Holidays are:

- i New Year's Day (Sunday Schedule)
- ii Martin Luther King Birthday (Saturday Schedule)
- iii President's Day (Saturday Schedule)
- iv Memorial Day (Sunday Schedule)
- v Independence Day (Saturday Schedule)
- vi Labor Day (Sunday Schedule)
- vii Thanksgiving Day (Sunday Schedule)
- viii Christmas Day (Sunday Schedule)

10.4.4 Timetable Schedule Page Software: the Operator shall develop Timetable Schedule Pages using the Commuter Rail IT Environment as provided for and

consistent with **Schedules 3.15** (Intellectual Property; Ownership) through **3.18** (Service Level Agreement and Service Credits).

- 10.4.5 The Operator shall provide schedule files no later than 90 days after NTP (separate for each rail line) to the MBTA for use in publishing public schedules by the MBTA, to ensure that all changes are made on one source document per rail line (ODRL 3.1-024).

10.5 General Special Instructions and Special Instructions

- 10.5.1 The purpose of General Special Instructions is to inform Operator Personnel of any operating requirements that vary from the Operating Rules or are not covered by the Operating Rules (e.g. special drug testing requirements); and to designate particular characteristics and methods of operation relevant to a specific area, location, or line (e.g. designation of tracks and method of operation within a yard).
- 10.5.2 The Operator shall employ a numbering scheme for General Special Instructions and Special Instructions that associates the change with the Operating Rule numbering scheme for simple, logical reference.
- 10.5.3 Miscellaneous required elements of the General Special Instructions:
 - 10.5.3.1 ADA Instructions: All applicable laws and regulations pertaining to the proper use of mini-high platform and cars that service the mini-high-platform;
 - 10.5.3.2 Reporting train delays and incidents according to the Incident Management procedures in Section 9 (Incident Management and Notifications) of this **Schedule 3.1** (Transportation Services);
 - 10.5.3.3 Pilot Service;
 - 10.5.3.4 Absolute block for track outages;
 - 10.5.3.5 Allow Line 2 for T/C Foremen;
 - 10.5.3.6 Conflicts between trains at stations; and
 - 10.5.3.7 Temporary Speed Restriction Bulletin

10.6 Passing Times

- 10.6.1 The Operator shall, in conjunction with issuance of new schedules, issue a manuscript which includes the passing times of all trains at interlockings including commuter rail trains, Amtrak trains and scheduled non-revenue train movements.

10.7 Customer Service Special Instructions

- 10.7.1 The purpose of the Customer Service Special Instructions is to ensure that the Operator requires Operator Personnel to perform Agreement Services in manner that conforms to the MBTA's expectations that the highest quality customer service shall be provided its Customers.
- 10.7.2 The Operator must provide the Agreement Services that involve interface with the MBTA's Customers with the highest degree of courtesy and professionalism. All requirements that relate to the customer interface shall be contained within the Customer Service Special Instructions, even if such requirements also appear in other sections of the Employee Timetable or Operating Rule Book or Train Dispatchers' Manual (e.g. use of the mini-high platform).
- 10.7.3 To the extent possible, the Operator shall format the Customer Service Special Instructions in a manner consistent with the General Special Instructions and Special Instructions.
- 10.7.4 Miscellaneous required elements of the Customer Service Special Instructions:
 - 10.7.4.1 Professional conduct;
 - 10.7.4.2 Personal appearance;
 - 10.7.4.3 Dress code;
 - 10.7.4.4 Nametag requirement;
 - 10.7.4.5 On-board announcements;
 - 10.7.4.6 Positioning of crewmembers;
 - 10.7.4.7 All coaches must be open during peak hours service;
 - 10.7.4.8 Opposite platform policy;
 - 10.7.4.9 Lost and found policy;
 - 10.7.4.10 ADA Instructions: Use of mini-high platform and cars that service the mini-high-platform; and
 - 10.7.4.11 Check train/bathroom.

11. SERVICE RECOVERY TRAINS

- 11.1 The Operator shall have one service recovery train consist built, serviced, staged and crewed and available for consist substitution in the event of equipment failure or other condition that might prevent a regularly scheduled train from leaving its terminal or to

rescue a stranded train en route to its destination on the North Division and one such service recovery train on the South Division.

- 11.2 The Operator must have these service recovery trains available and crewed for the afternoon peak hour operations between the hours of 2:00 P.M. and 8:00 P.M.
- 11.3 The Operator must have these service recovery trains available and crewed for the morning peak hour operations between the hours of 5:00 A.M. and 10:00 A.M.
- 11.4 Service recovery train crews shall consist of no less than one Locomotive Engineer and one Conductor in uniform.
- 11.5 Service recovery train crew positions shall be regularly bulletined jobs and available for service on demand and not drawn from the Permanent Spare Board.
- 11.6 Service recovery train crews shall be stationed aboard the service recovery train consist in order to expedite departure of the train when called to duty.
- 11.7 Service recovery train consist shall be made up of no less than six single level coaches with all systems including customer comfort systems intact and fully operational.
- 11.8 Service recovery train consist shall be fully fueled and provisioned with valid Calendar Day Inspection and FRA Class 1 Brake Tests done.

12. TEST & QUALIFICATION TRAINS

- 12.1 The Operator will be required to provide locomotives and coach consists for testing and qualifying new locomotives and coaches scheduled for delivery beginning in 2013.
- 12.2 The Operator must provide one or two locomotive engineers and one conductor depending on the test to be performed.
- 12.3 The MBTA will notify the Operator no less than 24 hours in advance of the need for the test or qualification train and specific crew requirements.
- 12.4 Test and qualification trains may be ordered in multiple (e.g. Test Trains everyday at 8:00 A.M. for the next week or test trains at 8:00 A.M. and 9:00 P.M. on Thursday).
- 12.5 Test and qualification train consists may vary from train to train, day to day. The MBTA will notify the Operator of train consist changes no less than 24 hours before the change is required.
- 12.6 The Operator may be required to operate test and qualification trains any day of the week.
- 12.7 For each Agreement Year, Operator shall provide up to 100 tests of Qualification trains in the first Agreement Year and as needed in each Agreement Year subsequent.

- 12.8 The MBTA will keep the Operator informed regarding the delivery schedule for new rolling stock in order for the Operator to adequately prepare for its arrival.

13. **NEW FLEET CREW QUALIFICATION AND TRAINING TRAINS**

- 13.1 The Operator may elect to operate non-revenue trains for the purpose of familiarizing Transportation Services and Mechanical Services Operator Personnel with new locomotives and coaches. This will be done at no additional cost to the MBTA.

14. **SPECIAL TRAINS**

14.1 Authority of MBTA

The MBTA may, at any time direct the Operator to operate Special Trains and the Operator shall be obligated to operate them in accordance with this **Schedule 3.1** (Transportation Services). The MBTA shall provide Operator with 48 hours written notice of its need for Special Trains.

14.2 Costs of Services

The Operator shall operate up to 60 Special Trains each Agreement Year during the Term as part of the Annual Fee. All costs associated with operating and fare collection aboard these Special Trains shall be included in the Annual Fee including, but not limited to all train and engine crew, management, dispatching, mechanical and customer service support staff as well as all consumables and other materials needed to provide the service.

15. **EXCURSION TRAINS**

15.1 Excursion Train Lease Arrangements

- 15.1.1 The Operator may request authorization from the MBTA to use Service Equipment and Service Property for the operation of Excursion Trains. The MBTA may grant such a request if it determines that:

15.1.1.1 The operation of the proposed Excursion Train will not adversely affect the Agreement Services; and

15.1.1.2 the Service Equipment is available for use.

- 15.1.2 The Operator and the MBTA shall enter into a lease agreement for any Excursion Train operated pursuant to this Section 15 (Excursion Trains) of this **Schedule 3.1** (Transportation Services), in a form similar to the lease agreement attached as Appendix 2 hereto, Sample Lease Agreement.

- 15.1.3 The lease agreement shall provide that the Operator assumes all liability for any damages or claims arising out of such operations, and the Operator shall maintain

all necessary insurance. The lease agreement shall also establish the amount of reimbursement and payment terms for any such Excursion Train.

- 15.1.4 All Service Equipment used by the Operator for the operation of an Excursion Train under this Section 15 (Excursion Trains) of this **Schedule 3.1** (Transportation Services) shall be returned to service clean, fully operational, and otherwise ready for use in providing the Agreement Services.
- 15.1.5 If the MBTA deems that any unit of the Service Equipment used for the operation of the Excursion Train is returned by the Operator uncleaned or otherwise not fully operational, the Operator shall reimburse the MBTA an additional amount equal to the daily rental rate per unit of Service Equipment as provided for in the lease agreement for each day that any unit of Service Equipment is deemed unfit for service.

15.2 General Provisions

All Excursion Train costs including, but not limited to the required crew, coach cleaning, mechanical support, management support, consumables including diesel fuel, promotional or other materials shall be borne by the Operator.

- 15.2.1 All Excursion Trains shall be leased for a minimum 12-hour period.
- 15.2.2 Payment for Excursion Trains shall be received at least three days prior to the date of the event.
- 15.2.3 A flag person is required for a film shoot or any commercial use of an Excursion Train.
- 15.2.4 If an Excursion Train is to be utilized for a non-profit organization for a non-fundraising event, a discounted equipment rental fee will be charged.
- 15.2.5 In the event of weather conditions, emergencies or any other problems not under the MBTA's control that would limit or prohibit use of an Excursion Train, the leasing party will be required to pay for any and all actual costs associated with the scheduled Excursion Train.

16. COORDINATION WITH AMTRAK AND OTHER RAIL CARRIERS

- 16.1 The Operator acknowledges the agreements listed in Section 4.5 of this **Schedule 3.1** (Transportation Services) and shall comply with said Section 4.5 of this **Schedule 3.1** (Transportation Services).
- 16.2 The Operator also acknowledges the agreements between MBTA and Pan Am as well as MBTA and CSX and MBTA and RIDOT and between other rail carriers and operations shall be conducted in a manner consistent with those Agreements.

- 16.3 The Operator acknowledges that Amtrak intercity dispatching and management staff may be stationed in CETC or CETC Back-Up Facility to dispatch trains operating on the Attleboro Line and trains operating on Amtrak lines in Rhode Island, Connecticut and Western Massachusetts controlled by the CETC or CETC Back-Up facility.
- 16.4 The Operator shall directly coordinate with other rail carriers intercity staff as necessary to operate and protect MBTA and other rail carriers services. With respect to Amtrak, this shall include the Operator's senior management being available and prepared to meet daily at a mutually agreeable location to discuss the previous day of operation, plan future operations as well other matters of mutual interest and concern. With respect to other rail carriers, these meetings shall occur regularly.
- 16.5 The Operator agrees that it will comply and cooperate with all agreements between the MBTA and other rail carriers, including CSX and Pan Am, operating on the Service Property.
- 16.6 The MBTA shall consult with the Operator before amending any existing agreements with other rail carriers or entering into new agreements when such amendments or new agreements would have a material impact on the Operator's performance of Agreement Services.
- 16.7 If such amendments or new agreements directly increase the Operator's costs of providing Agreement Services, the MBTA shall compensate the Operator for its increased costs associated with such amendments or new agreements through a Service Change.
- 16.7.1 The Operator's senior management shall meet no less than quarterly with Amtrak, Pan Am and CSX to discuss operational issues from the prior quarter and to address any issues of concern and future plans. Written minutes of such meetings must be prepared and made available to the MBTA upon request (ODRL 3.1-025).
- 16.7.2 The Operator shall notify the MBTA of these meetings in advance and the MBTA may attend such meetings at its sole discretion.

17. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.1-001	Transportation Service Plan	60 days after NTP
ODRL 3.1-002	Transportation Service Plan Update	April 1st, annually
ODRL 3.1-003	On Time Performance	Daily
ODRL 3.1-004	On Time Performance History	Operator retains, available on demand
ODRL 3.1-005	Late, Terminated, Cancelled Trains	Daily
ODRL 3.1-006	On Time Performance, Customer Delays, Penalty, Late, Cancelled Trains and Terminated Trains	Daily, monthly, annual
ODRL 3.1-007	Fare Collection Procedures	120 days after NTP
ODRL 3.1-008	Changes to Fare Collection Procedures	Prior to implementation
ODRL 3.1-009	Revenue Report	Daily
ODRL 3.1-010	Unsold Monthly Passes	Monthly
ODRL 3.1-011	Operator Transportation Dept. Org Chart	90 days after NTP
ODRL 3.1-012	Train Staffing Plan	90 days after NTP
ODRL 3.1-013	Train Staffing Plan Update	Quarterly
ODRL 3.1-014	07:00 Train & Engine Staffing Report	Daily
ODRL 3.1-015	Dispatching Records	On demand
ODRL 3.1-016	FRA Required Logs & Records	Operator retains, available on demand
ODRL 3.1-017	Preliminary Incident/Accident Report	2 hours after service restored
ODRL 3.1-018	Interim Incident/Accident Report	24 hours after service restored
ODRL 3.1-019	Final Incident/Accident Report	2 weeks after service restored
ODRL 3.1-020	Final Incident/Accident Report Update	30 days after Final Incident/Accident Report
ODRL 3.1-021	Draft Policy and Procedure for Periodic Updates	60 days after the NTP
ODRL 3.1-022	Draft Employee Timetable, Operating Rule Book and Train Dispatcher's Manual	90 days after NTP
ODRL 3.1-023	Spreadsheet of Rule Books/Manuals	90 days after NTP
ODRL 3.1-024	Timetable Schedule Pages for Publication	90 days after NTP
ODRL 3.1-025	Third Party Meeting Minutes	On demand
ODRL 3.1-026	Supplemental On Time Performance Report	On demand

APPENDIX 1 TRAIN ARRIVAL TIMES

1. INTRODUCTION

Train arrival times at each terminal shall be determined by the information provided by the PTIS System or other technologies that may become available and approved by the MBTA. In the event of a PTIS failure, the following criteria shall be used to determine train arrival times. These criteria may be changed at the direction of the MBTA.

2. GENERAL PROVISIONS

2.1 South Station

2.1.1 One minute shall be added to the time the train passes the Home signal at Tower 1.

2.2 Attleboro Line

2.2.1 Canton Junction - One minute shall be added to the time the train passes the Home signal at Junction.

2.2.2 Mansfield - The time the train arrives at Mansfield Station will be used.

2.2.3 Attleboro -

2.2.3.1 The time the train arrives at Boro will be used for those that terminate at Attleboro on Track #4.

2.2.3.2 Two minutes shall be added to the time the train passes Holden for those that terminate at Attleboro on Track #3.

2.2.4 South Attleboro - Two minutes shall be added to the time the train passes Hebronville.

2.2.5 Providence - One minute shall be added to the time the train passes Orms.

2.2.6 TF Green Airport – Two minutes after train passes Post.

2.2.7 Wickford Jct. – One minute after train passes Stony.

2.3 Needham Branch

2.3.1 Needham Heights - The time the train arrives at CP Heights will be used.

2.4 Franklin Branch

- 2.4.1 Norwood Central - Fourteen minutes shall be added to the time the train passes Sprague St.
- 2.4.2 Walpole - The time the train arrives at Walpole interlocking will be used.
- 2.4.3 Franklin - One minute shall be added to the time the train passes CP Frank.
- 2.4.4 Forge Park - The time the train arrives at Forge will be used.
- 2.5 Stoughton Branch
 - 2.5.1 Canton Junction - The time the train arrives at Canton Junction will be used.
 - 2.5.2 Canton Center - Two minutes shall be added to the time the train passes Canton Junction.
 - 2.5.3 Stoughton - The time the train arrives at Canton Junction will be used.
- 2.6 Middleboro Main Line
 - 2.6.1 Middleboro - One minute shall be added to the time the train passes Pilgrim.
- 2.7 Plymouth/Kingston Line
 - 2.7.1 Abington - Two minutes shall be added to the time the train passes Abby.
 - 2.7.2 Kingston - The time the train arrives at Gravel will be used.
 - 2.7.3 Plymouth - -Two minutes shall be added to the time the train passes Seaside.
- 2.8 North Station
 - 2.8.1 One minute shall be added to the time the train passes the Drawbridge Signal.
- 2.9 Western Route
 - 2.9.1 Reading - Fifteen minutes shall be added to the time the train passes Fells.
- 2.10 Haverhill - Ten minutes shall be added to the time the train passes Frost Eastern Route/Gloucester Branch.
 - 2.10.1 Salem - The time the train arrives at McNall.
 - 2.10.2 Beverly - Two minutes shall be added to the time the train pass Beverly Draw.

- 2.10.3 Hamilton/Wenham - One minute shall be added to the time the train arrives at Chesley.
- 2.10.4 Newburyport - The time the train arrives at Port will be used.
- 2.10.5 Rockport - The time the train arrives at CP Loop will be used.
- 2.11 New Hampshire Route
 - 2.11.1 Anderson/Woburn – The time the train passes Crawford shall be used.
 - 2.11.2 Lowell - One minute shall be added to the time the train passes CPF-BY.
- 2.12 Fitchburg
 - 2.12.1 Littleton/495 – The time the train passes CP30.
 - 2.12.2 South Acton - The time the train passes CP25 will be used.
 - 2.12.3 Fitchburg - One minute shall be added to the time the train passes CPF-GL.
 - 2.12.4 Wachusett – To be determined.

APPENDIX 2
SAMPLE LEASE AGREEMENT BETWEEN
LESSEE
AND
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

AGREEMENT dated this [●], 200[●], between the LESSEE with offices at [●], CITY, STATE ZIP (hereinafter LESSEE) and MASSACHUSETTS BAY TRANSPORTATION AUTHORITY, a body politic and corporate and political subdivision of the Commonwealth of Massachusetts, with offices at 10 Park Plaza, Boston, MA 02116 (hereinafter LESSOR).

WITNESSETH: In consideration of the mutual covenants, promises and conditions herein contained, the parties hereto agree as follows:

1. LESSOR hereby leases to LESSEE, and LESSEE hereby leases from LESSOR certain railroad equipment (Equipment) described in Exhibit A, attached hereto, and incorporated by reference herein.

The LESSEE shall keep the Equipment free of any markings or labelling which might be interpreted as a claim of ownership.

1. Compensation for the Equipment shall be as follows:

- i. \$[●] per locomotive, per 24-hour period or fraction thereof;
- ii. \$[●] per passenger coach, per 24-hour period or fraction thereof.

LESSEE shall pay the compensation for such rentals to LESSOR within 15 days of receipt of LESSOR's invoice therefor.

2. LESSEE shall return said Equipment in a fully serviced and fully fueled condition to LESSOR, for use in Commuter Rail revenue service within the time limits set forth in Exhibit A. In the event that LESSEE fails to return any Equipment in a timely or fully fueled and serviced condition, LESSEE shall be assessed a charge of twice the daily rental amount, as liquidated damages, for each 24-hour period, or fraction thereof, for each locomotive or passenger coach so long as the Equipment fails to meet the terms and conditions of this Lease Agreement. Any such charges shall be invoiced by LESSOR, as appropriate, and payable within 15 days of receipt by LESSEE.

3. LESSOR makes no warranty or representation, either express or implied, as to the fitness, design or condition of, or as to the quality of the material or workmanship in the Equipment, it being agreed that all such risks, as between LESSOR and LESSEE, are to be borne by LESSEE. LESSEE agrees that, at its own cost and expense, it will maintain and keep each unit which is subject to this Lease in good order and repair and deliver each Unit back to LESSOR, in the same condition as when received from LESSOR, reasonable wear and tear excepted. Any changes or modifications to the equipment by the LESSEE

are prohibited unless written request is approved in writing by the LESSOR's Chief Mechanical Officer.

4. It is understood and agreed that in the event that the said Equipment is damaged beyond repair, as determined solely by the LESSOR, the LESSEE shall pay the actual cash value of said Equipment to the LESSOR. It is further understood and agreed that in the event that components, subassemblies or any material that is on-board said Equipment is damaged, as determined solely by the LESSOR, the LESSEE shall pay for the repair or replacement cost of said material.

5. LESSEE shall release LESSOR from any and all liability for damage or destruction of LESSEE's property arising out of the use of the Equipment hereunder and, further, LESSEE hereby agrees to indemnify and defend LESSOR and save it harmless from any and all claims for damage, loss or injury to property of others, or for injury or death to persons, including employees of the parties hereto, arising out of this Lease or the use of the Equipment, hereunder, however occasioned, regardless of the party against whom such claim or claims may be made, and to pay to LESSOR any and all damages, claims, suit, judgments and expenses which LESSOR may at any time suffer or be called upon to pay by reason of or in consequence of this Lease or the use of the Equipment hereunder. The parties specifically agree that this indemnification includes indemnification against and from any and all claims and suits, and any and all liability for loss or expense arising from or incidental to or in connection with any environmental damage.

6. LESSEE shall accept delivery from LESSOR of the Equipment at the Southampton Street Facility. LESSEE shall redeliver the Equipment to LESSOR at the point where delivery was accepted.

7. LESSEE shall be entitled to the use of the Equipment in accordance with the terms of this Lease. LESSEE shall not assign, transfer or encumber its leasehold interest under this Lease in any Equipment, without the prior written consent of the LESSOR, part with the control of, or suffer or allow to pass out of its control, any Equipment.

8. LESSOR shall have the right at any time to inspect the Equipment to assure compliance by LESSEE with its obligations under this Lease, providing such inspection does not interfere with the normal operations of the LESSEE.

9. In addition to and in no way in limitation of the indemnification provision contained in paragraph 6, the LESSEE shall protect, defend and indemnify the LESSOR against any fine or charge for the violation of any law, ordinance, safety code, regulation, order or decree involving the operation or condition of the leased Equipment, whether caused by itself, its employees or its agents.

10. Any notice required or permitted to be given by either party hereto to the other shall be deemed to have been given when deposited in the United States Mails, first-class postage prepaid, addressed as follows:

If to LESSEE:

Lessee

Address

City, State Zip

Attention: General Manager

If to LESSOR:

Massachusetts Bay Transportation Authority

45 High Street

Boston, MA 02110

Attention: Director of Railroad Operations

or addressed to either party at such other address as such party shall hereinafter furnish to the other party in writing.

1. This Lease, and any lease supplemental hereto, may be executed in several counterparts, each of which so executed shall be deemed to be an original, and in each such case such counterparts together shall constitute but one and the same instrument.

2. LESSOR and LESSEE agree that the rights and obligations under this Lease shall inure to and be binding on their respective successors and assigns.

3. This Lease embodies the entire agreement between the parties relating to this Lease. No oral statement or prior written matter will have any force or effect. The parties hereby acknowledge that they are not relying on any representations or agreements other than those contained in this Lease. This Lease shall not be modified except in writing subscribed to by both parties.

SCHEDULE 3.2 ENGINEERING SERVICES

1. OVERVIEW

1.1 General

- 1.1.1 The Operator shall inspect, manage, service, repair, replace and maintain the Service Property (including, for avoidance of doubt, the Worcester Line) and Support Property, including without limitation, as set forth in this **Schedule 3.2** (Engineering Services) and except where such obligations are currently performed pursuant to third party agreements. Except as specifically set forth in this **Schedule 3.2** (Engineering Services), the performance of all Engineering Services shall be included within the Annual Fee.
- 1.1.2 The requirements of this **Schedule 3.2** (Engineering Services) are not exhaustive. The requirements of this **Schedule 3.2** (Engineering Services) are intended to ensure that the Operator will provide quality facilities, stations, buildings, track, bridges, signal and communication systems, and miscellaneous maintenance activities with the intent to avoid the deferral of maintenance. Maintenance shall be performed in accordance with manufacturers' standard recommended practices and applicable State and Federal codes, laws and regulations. The Operator shall:
 - 1.1.2.1 comply fully with the terms of any manufacturer's warranty on the Service Property and Support Property and any other property used in the provision of Agreement Services;
 - 1.1.2.2 cooperate with the MBTA regarding the fulfillment of any warranty obligations; and administer such warranties on behalf of the MBTA; and
 - 1.1.2.3 provide the MBTA with any information necessary to the administration of any such warranties at the Termination Date of this Agreement.
- 1.1.3 The Operator shall comply with all applicable federal, state, local, industry and MBTA safety requirements, regulations, or guidelines relating to the maintenance of the Service Property and the Support Property including but not limited to safety, environmental and other requirements, regulations, standards, or guidelines promulgated by FRA, U.S. Coast Guard, EPA, MDEP, APTA, Massachusetts Department of Public Utilities, ("Mass DPU"), PU, MassDOT, ADA, FTA, or DOT.
- 1.1.4 The Operator shall operate and maintain all Environmental Systems in existence on or in the Service Property or Support Property, as required by **Schedule 3.8** (Environmental Services) of this Agreement.

1.2 Engineering Maintenance Services

- 1.2.1 The Operator shall inspect service, repair and maintain the Service Property and the Support Property owned and controlled by the MBTA in accordance with the procedures and standards set forth in this Agreement. The Service Property and Support Property must at all times be suitable for the provision of Commuter Rail Services.
- 1.2.2 The Operator shall provide commuter Rail Services every day of each year in accordance with the terms of this Agreement. The Operator shall comply with the requirements of this **Schedule 3.2** (Engineering Services) under all weather conditions and in compliance with all Third Party Railroad Agreements and all applicable laws.
- 1.2.3 The Operator shall maintain the condition and availability of the infrastructure assets of the MBTA for the operation of Commuter Rail Services, and shall not defer maintenance of these assets so as to reduce the Operator's costs, or for any other reason to the detriment of the MBTA or the performance of the Agreement Services. These assets include the Service Property and the Support Property assets themselves; the inventories of material and spares; the intellectual and engineering property; the control of the assets' configuration; and the information required for a safe, quality, and cost effective commuter rail service.
- 1.2.4 In addition to the foregoing activities, the MBTA from time to time may require other Supplemental Work as provided for in this Agreement.
- 1.2.5 The Operator shall cooperate with the other MBTA contractors; with the MBTA's efforts to procure, renew, and dispose of Service Property and Support Property; and with various public agencies and communities.

2. GENERAL PROVISIONS

2.1 Administration

- 2.1.1 The Operator shall perform and oversee these Engineering Services from 32 Cobble Hill Road, 1st Floor Rear; Somerville, MA 02143.
- 2.1.2 The Operator's Chief Engineer shall have his/her office located at CROCC along with his/her staff and technical managers. The Operator's Chief Engineer shall be dedicated to ensuring the provision of the Engineering Services and any replacement must be approved, in writing, by the MBTA in accordance with **Schedule 3.9** (Management and Personnel) of this Agreement.
- 2.1.3 The Operator shall not establish any reporting location or staging area, nor set up any office or storage trailer on the Service Property or any other property without the prior written approval of the MBTA's Chief Engineer. The Operator

shall not increase, decrease or delete the level of utility of any existing location without similar approval.

- 2.1.4 The MBTA shall provide the existing 222 voice telephone exchange extensions, with dial tone service and wiring at no cost to the Operator. The MBTA may provide certain existing telephone handsets for the Operator's use in performing Agreement Services. Any additional phone services, such as long distance service, shall be at the Operator's expense. The Operator may elect to install its own telephone system, switch, wiring, telephone handsets and external trunk lines. The MBTA will assume ownership of the Operator-installed equipment and the Operator will transfer external trunk telephone extensions to its control at the termination of this Agreement.
- 2.1.5 The Operator shall pay the costs associated with all cellular telephones, including 50 mobile telephones as specified by the MBTA for MBTA staff use. At the Operator's request, the MBTA shall conduct an audit on the use of these phones to determine excessive or unnecessary usage. All mobile telephones provided to the MBTA shall be equivalent to and compatible with the Operator's mobile telephones. All mobile telephones provided to the MBTA and the Operator use shall be defined to a common private calling circle.
- 2.1.6 The Operator shall maintain a membership in the AAR, AREMA and the Massachusetts Railroad Association, in the name of the MBTA during the Term.
- 2.1.7 The Operator shall provide certain materials for approximately 50 MBTA Railroad Operations staff including: technical and reference books and materials, industry reference manuals and documents, Personal Protective Equipment ("PPE") deemed necessary by the MBTA and any other equipment and materials that the Operator may provide Operator Personnel, and as may be required by the MBTA to verify compliance with, and oversee, the Agreement Services. Updates shall be provided to the MBTA concurrently with distribution to Operator Personnel so that the MBTA materials are up-to-date at all times.
- 2.1.8 The Operator shall provide, maintain and service 20 All Wheel Drive utility vehicles with seating for no less than five adult passengers for the use of MBTA Railroad Operations staff.
- 2.1.9 The Operator shall maintain all records necessary to provide and support Agreement Services. The Operator reporting and record keeping requirements are summarized in **Schedule 3.14** (Reporting and Submittals) of this Agreement.
- 2.1.10 The Operator shall enter five years of historical maintenance data into the Commuter Rail IT Environment. This information currently resides in several different databases and, in some cases, hardcopy form.

- 2.1.11 Where additional historical data is required for scheduling of tests, inspections, and maintenance activities, such as rail and tie maintenance, the Operator shall be required to enter data from manual records.
- 2.1.12 All required tests, inspections, and preventive maintenance activities shall be scheduled from the historical last-occurrence date for each Service Property and Support Property item.
- 2.1.13 The Operator shall establish computerized work orders and shall establish the method of responding to them in terms of a prioritized ranking system. Rankings shall be established for Service Property and Support Property assets based on its importance to providing safe transportation services.
- 2.1.14 The Operator shall operate and maintain the Maintenance Operations Control Office (the “Radio Room”) located at CROCC, continuously (24 hours per day, 7 days per week, and 365 days per year).
- 2.1.15 The Operator shall operate and maintain all communications and control systems located in the Radio Room, including radio, security monitoring, video recording, data transmitting, and other devices and systems that may be added at any time. Custody of video recordings and other potential evidence must be controlled per MBTA Security Policies. The Operator requirements relating to communications and control systems are further detailed in Section 6 (Signals and Communications) of this **Schedule 3.2** (Engineering Services).
- 2.1.16 The Radio Room shall be supervised by management-level Operator Personnel at all times. Such supervisory personnel shall be:
- 2.1.16.1 duly authorized to make decisions in the absence of the Operator’s senior engineering management personnel;
 - 2.1.16.2 familiar with the physical characteristics of the Service Property; and
 - 2.1.16.3 sufficiently qualified.
- 2.1.17 The Operator shall enter all communications regarding trouble calls, equipment failures, alarms, or any unusual occurrence into the Commuter Rail IT Environment.
- 2.1.18 The Operator shall document all responses to calls for assistance in the appropriate Commuter Rail IT Environment element, and the Operator shall conduct follow-up investigations to determine the root cause for any equipment failures.
- 2.1.19 The Operator shall provide a full-time dedicated manager at CRMF and a full-time dedicated manager at the Southside S&I Facility. These facilities managers

shall oversee the Operator's facility maintenance activities at these facilities, including those described in this **Schedule 3.2** (Engineering Services) and elsewhere in this Agreement. These managers shall investigate and be responsible for producing reports on all damage to CRMF, the Southside S&I Facility and Support Property contained therein.

2.2 Annual Engineering Services Plan

- 2.2.1 The Operator shall establish, prepare and implement upon approval from the MBTA an annual Engineering Services Plan. The MBTA will have up to thirty (30) days after receipt of the plan to review and approve or return the plan for amendment. The Operator shall then have twenty (20) days to make necessary changes to the plan and resubmit it to the MBTA. If the plan is disapproved a second time, the Operator shall immediately convene a meeting with MBTA officials to resolve any issues of contention.
- 2.2.2 The Engineering Services Plan shall include a number of component plans, cost estimates and programs relating to functional areas of the Engineering Services. These component plans, cost estimates and programs together will constitute the Engineering Services Plan. The Operator shall submit the initial Engineering Services Plan to the MBTA for review and approval within 90 days after NTP (ODRL 3.2-001). Thereafter, the Operator shall submit a preliminary draft of the proposed Engineering Services Plan on or before December 1st of each year and the final draft on February 1st of each year (ODRL 3.2-002). The interim period between preliminary and final drafts will allow the MBTA time to work with the Operator and review, amend and approve the proposed schedules and plans for the next Agreement Year except where alternative submission dates are provided herein for specific components of the Engineering Services Plan. It is the intention of the parties that the annual engineering services plan will support the normal needs of service as required by this Agreement and coordinate with the project support needs of the MBTA Capital Improvement Program ("CIP") for the Capital Year beginning on July 1st of each year.
- 2.2.3 The Engineering Services Plan shall identify the inspection and maintenance activities to be undertaken by the Operator; major maintenance operations; maintenance performance standards; frequencies of tasks; staffing plan; specific work schedules; schedule of values for various maintenance operations and proposed work windows, track outages or service diversions; and flagging requirements.
- 2.2.4 Each component of the Engineering Services Plan shall include a breakdown of all costs associated with this work including, labor and staffing, materials, services and other costs associated with the proposed work.
- 2.2.5 The annual Engineering Services Plan shall include, but not be limited to, the following components:

- 2.2.5.1 A plan recommending capital improvements (See Section 2.3.1 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.2 Three Year Work and Material Forecast (See Section 2.3.2 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.3 Rail Grinding Program (See Section 4.2.7 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.4 Rail Replacement Plan (See Section 4.2.8 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.5 Tie Replacement Plan (See Section 4.3.1 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.6 Switch Replacement Plan (this activity shall be included as part of Rail and Tie Replacement Plans).
- 2.2.5.7 Grade Crossing Improvement Plan (See Section 4.4.10 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.8 Drainage Pumping Plan (See Section 4.5.2 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.9 Drainage Ditch Reshaping Plan (See Section 4.5.4 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.10 Fencing Installation Plan (See Section 4.5.17 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.11 Support Property and Facilities Maintenance Plan (See Section 5.5.1 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.12 Rolling Stock Support Equipment Condition Assessment, Repair Program and Normal Replacement Program (see Section 5.6 (Rolling Stock Support Equipment) of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.13 Escalator & Elevator Inspection and Maintenance Program (See Section 5.9.8 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.14 Station, Building, and Facility Maintenance Program (See Section 5.9.10 of this **Schedule 3.2** (Engineering Services)).
- 2.2.5.15 Bridge Maintenance Plan (See Section 5.13.11 of this **Schedule 3.2** (Engineering Services)).

- 2.2.5.16 Drawbridge Maintenance Plan (See Section 5.13.12 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.17 Drawbridge Operation and Maintenance Manual (See Section 5.13.13 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.18 Timber Bridge Deck Replacement Plan (See Section 5.13.16 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.19 Tunnel Operation and Maintenance Manual (See Section 5.19.8 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.20 Culvert Replacement Plan (See Section 5.16.5 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.21 Signal Failure Reduction Program (See Section 6.1.17 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.22 Grade Crossing Event Recorder Program (See Section 6.6.6 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.23 Interlocking Event Recorder Program (See Section 6.7.7 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.24 Pole Replacement Program (See Section 6.8.5 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.25 Pole Line Retirement and Replacement Program (See Section 6.8.4 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.26 Switch Machine Replacement Plan (See Section 6.7.10 of this **Schedule 3.2** (Engineering Services)).
 - 2.2.5.27 Energy Consumption Minimization Plan (See Section 7.4 ((Energy Conservation and Utilization) of this **Schedule 3.2** (Engineering Services)).
- 2.2.6 The MBTA at its sole discretion, after consultation with the Operator, may reallocate planned maintenance costs within the items enumerated within Section 2.2.5 of this **Schedule 3.2** (Engineering Services), or to other Operator obligations established by this Agreement, without a change in the Annual Fee (including through a Service Change) with the goal, if possible, of avoiding or minimizing additional financial consequences to the Operator (each, an "**MBTA Reallocation Item**"). The MBTA shall make a reasonable effort to provide the Operator with at least sixty (60) days prior notice of an MBTA Reallocation Item; provided, however, that failure to provide such prior notice shall not excuse the Operator's compliance with its obligations under this Agreement.

- 2.2.7 The Operator shall provide updates to the Engineering Services Plan on a quarterly basis beginning May 1st each year (ODRL 3.2-108) or more frequently as required by significant changes to the Agreement Services, or as directed by the MBTA's Senior Director. The Operator shall be prepared to meet with the MBTA within two weeks of its submission of the annual Engineering Services Plan, or any update to review the plan and revise as may be required by the MBTA. In the event that the MBTA requests changes to the quarterly updates of the Engineering Services Plan, the Operator shall make and agree to implement such proposed changes within ten (10) days of the MBTA's request.

2.3 Capital and Productivity Improvement

- 2.3.1 As part of the Engineering Services Plan, the Operator shall develop a plan of recommended capital improvements (ODRL 3.2-004). This plan shall include capital improvements that will enhance Customer Service.
- 2.3.2 The Operator shall also prepare and submit, as part of the annual Engineering Services Plan, a three-year work and material forecast (ODRL 3.2-107) for use by the MBTA in planning capital and productivity improvements. The three-year work and material forecast shall identify anticipated locations of regular maintenance operations (rail replacement, tie replacements, switch replacement, rail grinding, etc). It shall also identify long lead time material items and required procurements as well as address anticipated labor needs.
- 2.3.3 The Operator shall test potential improvements to work methods used on the Service Property.
- 2.3.4 The Operator shall work cooperatively with the MBTA to conduct tests on new or prototype materials or equipment. The Operator shall purchase the required materials or equipment as well as provide the necessary labor and non-prototype materials and equipment.
- 2.3.5 The Operator shall work with the MBTA to identify areas that can result in cost savings, such as but not limited to, maintenance materials, construction techniques or use of third party vendors.

2.4 Materials Management

- 2.4.1 The Operator shall provide all materials management services necessary for the performance of the Engineering Services described in this **Schedule 3.2** (Engineering Services) and **Schedule 3.4** (Materials Management and Procurement) of this Agreement.
- 2.4.2 The MBTA shall provide limited storage facilities and the Operator shall ensure that Support Property and Support Inventory are stored only in areas approved by the MBTA, and under security appropriate for the nature of the materials.

- 2.4.3 The Operator shall keep the material yards and any other storage facilities neat and in an orderly fashion at all times. All surplus materials or quantities above the minimum needed for routine maintenance shall be stored at the material yards unless otherwise approved by the MBTA.

2.5 Warranty Provisions

- 2.5.1 The Operator shall not jeopardize any warranty covering any portion of the Commuter Rail Property. The Operator shall comply with the terms and conditions of any manufacturer's maintenance and service schedules, except as otherwise modified by industry standards or otherwise explicitly directed in writing by the MBTA. The Operator senior manager responsible for management of warranty compliance shall also be responsible for all work effort detailed in this **Schedule 3.2** (Engineering Services). The MBTA shall make reasonable efforts to make available all such warranties.
- 2.5.2 In addition, the Operator shall make all repairs to the Service Property and the Support Property using the Engineering Services Standards as defined in Section 2.10 (Engineering Services Standards) of this **Schedule 3.2** (Engineering Services) as minimum standards. In the event that the Operator is found to be in violation of the Engineering Services Standards, the Operator shall rectify the incorrect work at no additional cost to the MBTA.

2.6 Warranty Provisions for Non-Operator Work

- 2.6.1 The Operator shall aggressively administer warranties owned by the MBTA. The Operator shall conduct inspections, troubleshooting, and repair work in a manner to reveal circumstances where the MBTA's warranties apply. Such work shall be part of the Annual Fee and not considered Supplemental Work.
- 2.6.2 The Operator shall obtain all material and parts for warranty repairs from suppliers without cost to the MBTA. Where the warranty covers only material and parts, and not labor, the Operator shall only be reimbursed for direct labor costs.
- 2.6.3 The Operator shall prepare and maintain the data necessary to advance claims, and meet locally with vendors or contractors as the MBTA requests. The Operator shall use the Commuter Rail IT Environment to prepare and maintain data and claims.

2.7 Emergencies and Service Disruptions

- 2.7.1 The Operator shall ensure the readiness of and maintain standby power and back-up telephone systems for emergency use at 32 Cobble Hill Road, 1st Floor Rear; Somerville, MA 02143 and at other Service Property locations as directed by the MBTA. This shall include back-up power supply apparatus for all drawbridges and testing requirements.

- 2.7.2 Upon the occurrence of an event which causes serious damage to the Service Property or the Support Property or obstructs railroad operations, the Operator shall immediately notify the MBTA following the Incident Management and Notification procedures outlined in Section 9 (Incident Management and Notifications) of **Schedule 3.1** (Transportation Services) of this Agreement.
- 2.7.3 The management-level Operator Personnel authorized to conduct all phases of the operation shall be stationed in the Emergency Control Center located at 32 Cobble Hill Road, 1st Floor Rear; Somerville, MA 02143 without interruption during storm events and Emergencies. At a minimum these management-level Operator Personnel shall include senior managers with oversight of track, signals, communications, materials, bridges and buildings.
- 2.7.4 The Operator shall respond to Emergencies and Service Disruptions with sufficient resources without regard for time, day or otherwise, to resolve all such situations. Overtime, night, weekend and holiday work is expected and shall not be restricted for economic reasons.
- 2.7.5 The Operator shall utilize Operator Personnel to the greatest extent possible, before utilizing subcontracted personnel to resolve such situations.
- 2.7.6 Where the Operator does not provide 24-hour on-duty coverage in any functional area, the Operator shall provide key Operator Personnel with the appropriate vehicles, equipment, tools and materials in order to respond directly to a service problem or interruption at all times, from locations including their primary residence. The Operator shall provide the MBTA with a list of key employees, assigned vehicles, and the reason for their inclusion on this list (ODRL 3.2-111).
- 2.7.7 The Operator shall provide a dedicated emergency response vehicle, ready for immediate deployment at all times, equipped for cleanup and containment of fuel, oil and hazardous materials spills. This is intended to be an initial response vehicle under the Operator's control. The provision of this vehicle is not in the Environmental Subcontractor's scope of service, and the Operator may not use subcontracted personnel for the deployment of the emergency response vehicle. The provision and deployment of the emergency response vehicle does not relieve the Operator or Environmental Subcontractor of responsibilities included in **Schedule 3.8** (Environmental Services) of this Agreement.

2.8 Flag Protection and Track Outages

- 2.8.1 The Operator shall provide all flagging for its own workforce as well as the contractors engaged by the Operator for work associated with this Agreement at the Operator's expense as part of the Annual Fee.
- 2.8.2 The Operator shall provide flagging services for work performed by other contractors engaged by the MBTA at the request of the MBTA or such other

contractors. The MBTA will compensate the Operator for such flagging as Supplemental Work.

- 2.8.3 The Operator shall provide flagging services for work performed by Third Parties on the Service Property and adjacent rights of way (e.g. MBTA Subway). Flagging for bridge work and work done on adjacent rights of way by MBTA shall be performed by the Operator at the Operator's expense as part of the Annual Fee. Flagging for any other work performed by Third Parties shall be compensated either by the MBTA as Supplemental Work or by the Third Party under separate agreement.
- 2.8.4 The Operator shall perform all maintenance and construction work so as to mitigate the impact on, and not delay or cause disruption to Commuter Rail Services to the extent practicable. Track outages for maintenance and construction work will only be approved by the MBTA when there are no other options. Track outages shall be requested by the Operator in writing to the MBTA at least 35 days in advance of the date needed. The track outage request shall identify any alternative transportation requirements, and shall be submitted in the form specified in Appendix 1 (Track Outage Request Form) to this **Schedule 3.2** (Engineering Services).
- 2.8.5 The Operator shall explore all available alternatives to the track outages and shall provide the reasons that such alternatives are not viable. In the event a track outage is required to respond to an Emergency, the Operator may commence such work immediately, and shall approve notification to the MBTA Senior Director as soon as practicable. The refusal of the MBTA to approve requested track outages shall not reduce the Operator's obligations hereunder. The Operator shall provide a weekly report of scheduled track outages to the MBTA (ODRL 3.2-005).

2.9 Performance Standard

- 2.9.1 All activities undertaken in the performance of the Agreement Services shall further the MBTA's stated goal of 79 mile per hour track speeds on all of the rail lines used in the Commuter Rail Service. The MBTA reserves the right to establish maximum authorized speeds for specific track segments, based on the maintenance class of track as described in the Asset Register.
- 2.9.2 The Operator shall maintain the performance level of the Service Property to allow Transportation Services to be provided at speeds no less than the Maximum Authorized Speeds in existence on the date that the Agreement is executed, or higher as maximum authorized speeds are increased during the Term.

2.10 Engineering Services Standards

- 2.10.1 The Operator shall adhere to the following standards (collectively, the “**Engineering Services Standards**”) in the performance of inspection, maintenance, repair, replacement, and construction work pursuant to this Agreement. The standards appear in priority order. At a minimum, all Service Property and Support Property shall be maintained in a Good Working Condition. In the event of a conflict between one or more of the following standards, the safest or most restrictive standard shall govern until such time as the conflict is resolved. If safety is equal among the differing standards, the MBTA will indicate preference.
- 2.10.1.1 All applicable laws and regulations, including those specific to the railroad industry.
- 2.10.1.2 Standards specific to the MBTA’s commuter rail system, set forth in the following documents: MW-1; CS-1; Station and Facility Design Standards; Book of Standard Plans; Electrical Department Procedures Manual; NETA 2001 Maintenance Testing Specifications; material standards; policies and procedures (track buckling, rail grinding, field welding, etc.); and any revisions which may occur from time to time.
- 2.10.1.3 Rail Industry Standards: AREMA, AAR, AREA and the like.
- 2.10.1.4 The Operator standards as they currently exist and subsequent revisions which shall be subject to written MBTA approval, which will not be unreasonably withheld.
- 2.10.1.5 FRA: as a minimum, track safety standards.
- 2.10.2 All inspection and test cycles shall be tied to FRA regulations or MBTA standards, not to Agreement Year or MBTA fiscal year cycles. Inspection and test dates shall be scheduled from the last inspection date, not from the Agreement Services Commencement Date.
- 2.10.3 The levels of maintenance described herein for the Service Property are not all-inclusive and are intended to provide direction for the Operator to provide safe, high-quality maintenance with the intent to avoid the deferral of maintenance.
- 2.10.4 The Operator shall provide inspection and maintenance service for all aspects of the Service Property in order to maintain the Service Property in a condition equal to or greater than the Service Property’s condition on the Agreement Services Commencement Date. If a temporary speed restriction is imposed for any reason, the Operator shall submit to the MBTA a schedule to be approved by the MBTA for performing the work necessary to remedy the need for each such temporary speed restriction. The Operator shall perform the work in

accordance with the approved schedule. Designation of a speed restriction as permanent requires prior written MBTA approval.

- 2.10.5 Maintenance of all Service Property and Support Property shall be the Operator's responsibility. The entire Service Property shall be kept clean and all Service Property and Support Property shall be maintained in a Good Working Condition. The Operator shall maintain any new or reconstructed assets that are added or modified after the Agreement Services Commencement Date to the level at which the Operator received such property. In addition, the Operator shall be responsible for maintaining the following specialty vehicles:

		PLATE#	VEHICLE TYPE	VEHICLE IDENT	GVW
AA	00018	M30474	95 Freightliner HR Digger	1FV6HFAA4SL724390	33,000
AA	00022	N66557	05 Freightliner Dump/Plow/Sander	1FVACXCS25HU21894	33,000
AA	00023	N66559	05 Freightliner Dump/Plow/Sander	1FVACXCS45HU21895	33,000
AA	00025	L68637	00 Ford F550 HR, Flat Bed	1FDAF56F7YEE25592	17,500
AA	00106	M74145	06 Sterling 6 Wheel Dump/Sander	2FZACGCS96AW37115	33,000
AA	00164	N19082	08 GMC C8500, Dump/Plow/Sander	1GDP8C1B28F417598	35,000
AA	00171	N24573	08 Sterling Digger Derrick	2FZAAWBS79AAF9052	38,000
AA	00176	N24575	09 Sterling Lt8500 Crane	2FZHAWBSX9AAF9058	66,000
AA	00177	N30644	07 Sterling Acterr Dump/Plow/Sander	2FZACGCS37AY67606	33,000
AA	00178	N29856	08 Sterling Lt9500 Tractor	2FWJAZCVX8AY91637	61,000
AA	00179	N30645	07 Sterling Acterr Dump/Plow/Sander	2FZACGCS17AY67605	33,000
AA	00180	N48733	07 Sterling Acterr	2FZACFCS87AZ17068	33,000
AA	00184	N59750	08 Sterling Acterra Block Truck	2FZACGBS68AZ84793	33,000
AA	00188	N58812	09 Sterling Acterra Dump/Sander	2FZACGBS09AAK4244	33,000
AA	00189	N58813	10 Western Wheel Changer-Knuckle Boom	5KKHALCV4APAR0305	64,000
AA	00190	N68896	10 International 7400 Bucket	1HTWCAAR4AJ204741	42,000
AA	00216	N63123	05 Sterling Acterra	42FZACGCS95AP00325	33,000
AA	00223	N85764	07 GMC C7500/Fuel Truck	1GDK7C13X7F413237	26,000
AA	00314	AP497D	09 International 4300 Line Truck	1HTMMAAN89H105859	33,000
AA	00322	AN831R	11 International 7600 International	1HTWYSHT3BJ331247	58,000
AA	00329	AP182E	12 Ford F750 Hr Welder	3FRXF7FK3CV300063	33,000
AA	00330	XY399L	12 Ford F550 Welder W/Generator	1FDUF5GT1CEC46510	19,500
AB	00024	N66558	05 Freightliner Dump/Plow/Sander	1FVACXCS05HU21893	33,000
AE	23170	T684	00 GMC Dump/Sander/Plow	1GDP7H1C4YJ509799	35,000
AE	59374	K58852	98 Chevy Utility	1GBJ6H1C2WJ113479	26,000
AE	97482	L24326	95 Ford Util Bucket	1FDLF47F9SEA37899	15,000
AE	97483	L24327	95 Ford Util Bucket	1FDLF47F7SEA37898	15,000
AE	99643	73770	08 Freightliner Fuel Truck	1FVHCYBS98HZ82877	54,000
AG	88747	L80928	98 Ford Hr Boom	1FDYF80E0WVA06142	35,000
AG	90024	K50573	99 Volvo Swivel Dump	4VHJCBGG7XN866790	56,000
AG	90109	T300	98 Volvo Hr Dump	4VHJCLPF7WDN863058	52,000
AG	93118	T690	00 Int'l Rotary Dump/Sander	1HAGLATT5YH300957	52,000

		PLATE#	VEHICLE TYPE	VEHICLE IDENT	GVW
AH	50171	T999	98 Intl Line Truck	1HTSCAAR5WH557874	35,000
AH	59243	K54967	99 Intl Utility Boom	1HTSDAAR2XH604065	35,000
AH	59244	K39878	99 Intl Hr Crane	1HTSDAAR4XH604066	35,000
AH	59348	K50567	98 Ford Line W/Digger	1FDXF80C4WVA13430	33,000
AH	67377	L24336	95 Kodiak Hi-Rail Bucket	1GBP7H1J6SJ104106	35,000
AJ	19378	K54962	98 Chevy Hr Welder	1GBK6H1C8WJ113653	25,000
AJ	22652	T920	98 GMC Hr Welder	1GDK6H1C6WJ512584	25,000
AN	17136	T836	92 Chevy Stake Body	1GBJ6H1J8NJ108297	26,000
AN	28639	K50568	95-Ford P/U Rack Body	1FDWF80C4SVA82608	26,000
AN	42400	T974	98 Chevy Hr Boom Truck	1GP7H1C0WJ517248	35,000
AN	62301	T990	98 Intl Util Bucket	1HTSCAAR6WH577471	35,000
AN	69639	K39877	98 Chevy Fuel Truck	1GBM7H1C4WJ110688	33,000
AN	69640	K39876	98 Chevy Stake Body/Plow	1GBM7H1C5WJ110618	33,000
AN	69641	K55003	98 Chevy Hr Boom	1GBM7H1C0WJ110574	33,000
AN	70012	K54971	99 Chevy Hr Boom C7500	1GBM7H1C8WJ113612	53,000
AN	83171	P38498	01 Western Star Ramp Truck	2WLPCD2G71K968293	64,000
AN	93995	T478	01 Western Star Grapple	2WDLLC1F61K971614	72,000
AN	96847	T749	90 Intl Hr Log Loader	1HAGCZ3T3LH216451	56,000
AN	96848	T812	90 Intl Hr Stake Body	1HTSNHN2LH286968	32,900
AT	30110	T316	98 Volvo Tractor	4VGSDBCH0WN518882	58,350
AT	48722	K50572	97 Volvo Tract/Trail	4VGSDBC4VN518017	56,000
T	64602	MBT993	99 Spect Trailer Utility	1S9DA3438WS188808	80,000
T	64703	A27013	09 Lowb Utility Trailer	1E930277E9E111153	135,000
T	73137	SM85404	Cheet Semi Trailer Generator	5EF2GC3007B771001	65,000

- 2.10.6 Levels of maintenance shall be performed per all MBTA standards and requirements unless governed by other special conditions as defined by MBTA (such as, but not limited to, MBTA maintenance contracts with outside vendors, warranties, lease or rental agreements, and programmed maintenance). The Operator shall not relieve any Third Party with which it contracts of the obligation to conform to these standards.
- 2.10.7 Levels of maintenance to the Service Property and Support Property shall be performed per the manufacturer's recommendations and instructions to the extent that they exist or unless otherwise directed herein.
- 2.10.8 All Service Property and Support Property and associated systems shall be maintained by the Operator in accordance with all applicable local, State, and federal codes, laws and regulations. Maintenance of the MBTA's Service Property also shall be sensitive to the historical nature of the Service Property.
- 2.10.9 Notwithstanding section 3.1 of this **Schedule 3.2** (Engineering Services), the MBTA reserves the right, at its discretion, to use contracted cleaning services at

any of the Service Property locations, and to effect a Service Change to reflect this decision.

3. GENERAL RESPONSIBILITIES

- 3.1 The Operator shall provide cleaning services at all buildings, facilities, and stations, including without limitation rubbish removal, sand removal, and vandalism-related repairs.
- 3.2 MBTA does not allow dumping or stockpiling of debris and spoils on its property. The Operator shall secure and use legal disposal locations to ensure the Service Property is kept clean.
- 3.3 The Operator shall remove all trash and debris immediately, and in no event longer than 24 hours after discovering same or receiving notice from the MBTA of the existence of same. In the event that the Operator fails to remove such trash or debris following written notice by the MBTA of the continued existence of the condition, the MBTA shall have the right to take corrective measures at the Operator's expense.
- 3.4 The Operator shall not apply decals, bumper stickers, or other materials not related to the Agreement Services to any surface on the Commuter Rail Property, including non-revenue vehicles and work equipment. The Operator shall remove all such materials immediately upon discovery or notification.
- 3.5 Graffiti shall be removed expeditiously, and in no event longer than 24 hours after receipt of a report of graffiti at any location on the Service Property. The removal of graffiti shall be prioritized by the MBTA but in every case graffiti containing ethnic, racial, obscene or otherwise offensive content shall be removed immediately upon notification or discovery. In stations or highly visible locations, graffiti can be temporarily covered until the entire surface can be repainted as weather permits.
- 3.6 The Operator shall operate and maintain, repair or replace all Service Property exhaust ventilation systems, dampers, air curtains, equipment and components except where those assets are maintained by MBTA staff, e.g. Back Bay Station.
- 3.7 The Operator shall maintain all HVAC systems and purchase heating fuels and other utilities at all Service Property locations, including without limitation, stations, unless MBTA directs otherwise.
- 3.8 The Operator shall take necessary measures (e.g. maintaining basic maintenance tasks, periodic inspection, maintaining low levels of heat in cold weather) to stabilize unused Service Property (such as station buildings awaiting a lease) in order to prevent further damage or deterioration.
- 3.9 All MBTA supplied machinery, equipment, buildings and facilities used by the Operator shall be kept clean and maintained, repaired or replaced so as to be kept in a Good Working Condition. Pursuant to Section 2.3 (Capital and Productivity Improvement) of

this **Schedule 3.2** (Engineering Services), the Operator shall identify for the MBTA any of the foregoing assets which the Operator believes are beyond their useful lives.

- 3.10 Automobiles and trucks shall be maintained in a State of Good Repair and washed inside and outside monthly by private local businesses licensed and permitted for such activity.
- 3.11 All maintenance of way reporting locations, tool houses, and shop facilities, including buildings, equipment, utilities, sanding facilities, fueling facilities and train storage areas, shall be kept clean and in a Good Working Condition. New or reconstructed shop facilities shall be maintained to the level received. All maintenance of way reporting locations shall receive a large scale, intensive cleaning, utilizing all available personnel between April 1 and May 1 of each Agreement Year.
- 3.12 All driveways, roadways and access ways shall be kept clean and maintained in a Good Working Condition.
- 3.13 Facility floors, work areas, windows, platforms, and pits shall be kept, clean and free of accumulations of dirt, grease and other contaminants. Walkways and service aisles shall be maintained free of parts and debris.
- 3.14 Oil, engine coolant and any other waste or hazardous material effluence shall be captured, labeled and disposed of by the Operator in accordance with environmental regulations.

4. **TRACK**

4.1 Inspection

- 4.1.1 At a minimum, the Operator shall perform the following inspections in accordance with the following:
 - 4.1.1.1 FRA mandated track and right of way inspections (ODRL 3.2-006) at the required frequency.
 - 4.1.1.2 Supervisory track and right of way inspections (ODRL 3.2-007) shall be performed monthly.
 - 4.1.1.3 System-wide Service Property inspections (ODRL 3.2-110) by the Operator's management by train shall be performed once every week.
 - 4.1.1.4 Track geometry car inspection (ODRL 3.2-008) shall be performed once every three months.
 - 4.1.1.5 Grade crossing inspections (ODRL 3.2-009) shall be performed annually.

- 4.1.1.6 Special inspection of track and right of way during and immediately after severe weather conditions. The Operator shall promptly submit a report of observed conditions that could affect track and railroad operations and identify corrective actions required (ODRL 3.2-010).
 - 4.1.1.7 Walking turnout inspection (ODRL 3.2-011) shall be performed monthly.
 - 4.1.1.8 Switch inspections shall be performed monthly (ODRL 3.2-012) with representatives of both track and signal departments, commonly referred to as joint switch inspections.
 - 4.1.2 The results of all inspections shall be recorded on the prescribed form, including digital photographs as appropriate, and signed by inspector(s) and submitted to the appropriate agency(s) with a summary report of all inspections submitted monthly to the MBTA (ODRL 3.2-013). The Commuter Rail IT Environment regarding these inspections shall be updated to reflect the fact that the inspections occurred and detail any conditions found during the inspections.
- 4.2 Rail
- 4.2.1 The Operator shall conduct ultrasonic testing (Sperry Rail Services or equivalent) once annually in rail yards, but not allowing less than 10 months and not more than 14 months between tests.
 - 4.2.2 The Operator shall conduct ultrasonic testing (Sperry Rail Services or equivalent) twice annually on main line continuous welded rail (“**CWR**”) and jointed rail, but not less than four months apart or more than eight months apart.
 - 4.2.3 The Operator shall ultrasonically test main line replacement rail before installation.
 - 4.2.4 The Operator shall perform additional tests if, in the opinion of any of the MBTA, the Operator, or a regulatory agency having competent jurisdiction, conditions warrant additional testing.
 - 4.2.5 The Operator shall address all defects identified during ultrasonic testing in accordance with the latest FRA and MW-1 requirements, but in no case shall the Operator allow a temporary repair to a defect revealed during ultrasonic testing to remain in track longer than 10 days.
 - 4.2.6 The Operator shall submit a report detailing results of rail testing and corrective actions made (ODRL 3.2-014). The Operator shall submit such reports within two weeks of testing and corrective measures employed.

- 4.2.7 The Operator shall develop a rail grinding program in the amount of \$500,000 per Agreement Year (ODRL 3.2-015), to prevent the need for premature replacement of the rail or where otherwise required to mitigate hazardous conditions that may jeopardize the safety of train operations. In lieu of rail grinding, and with prior MBTA approval, the Operator may propose limited rail replacement up to \$500,000 per Agreement Year. This rail grinding program shall indicate the approximate location and schedule of the rail grinding (or rail replacement) and shall be submitted to the MBTA for approval as part of the annual Engineering Services Plan. The Operator shall avoid performing rail grinding during the drier months (i.e. typically July, August & September) of the year.
- 4.2.8 The Operator shall purchase, weld, and position five track miles of CWR, including OTM, in the first six months of each Agreement Year and shall install such CWR, including OTM, each Agreement Year. A rail replacement plan (ODRL 3.2-016) indicating the approximate location of the new rail shall be developed by the Operator and submitted to the MBTA for approval as part of the annual Engineering Services Plan.
- 4.2.9 The Operator shall keep replacement rails neatly stacked in accordance with AREMA standards. The Operator shall only stack replacement rails at MBTA approved locations. The Operator shall include proposed rail storage locations as part of the rail replacement plan.
- 4.2.10 The Operator shall provide inspection and maintenance services for all aspects of the rail in order to maintain the Service Property in a Good Working Condition. The Operator shall provide these services to achieve the performance standard described in Section 2.9 (Performance Standard) of this **Schedule 3.2** (Engineering Services).
- 4.2.11 For those sections of track designated with an “S” in the Asset Register, the Operator shall perform safety and security functions on an as-needed basis, but not less than annually, with periodic inspections as directed by the MBTA or as required by severe weather conditions or other similar circumstances, or in the event that the Operator becomes aware of a situation or condition necessitating such inspection. The cost of such inspections is included in the Annual Fee. On these track segments, the Operator shall also repair any defects found or perform remediation work as directed by the MBTA. The cost of such repairs or remediation shall be reimbursed as Supplemental Work.

4.3 Ties and Timber

- 4.3.1 All crossties shall be replaced as required for the designated maintenance class. A minimum of 40,000 new crossties shall be installed by the Operator during each Agreement Year. The MBTA shall provide a tie program for the first six months of the first Agreement Year. The Operator shall develop a tie

replacement plan for the remainder of the Term (ODRL 3.2-017) indicating the approximate location of the new ties. The plan shall be submitted to the MBTA for approval as part of the annual Engineering Services Plan.

- 4.3.1.1 Upon initiation of tie program work, the Operator shall work continuously without interruption until the tie program work is complete. Tie disposal shall begin concurrently with tie installation and shall continue without interruption until complete.
- 4.3.1.2 The Operator shall purchase and install an additional 10,000 ties per Agreement Year as directed by the MBTA for spot replacement due to track conditions.
- 4.3.1.3 Tie replacement incidental to other work including, but not limited to grade crossing replacement, switch panel replacement, joint ties on side tracks to the property line, and wreck repair, shall be included in the Annual Fee and are in addition to the tie program and the spot replacement ties.
- 4.3.1.4 The Operator shall perform all tie replacement in conformance with AREMA standards and track buckling procedures in the Engineering Services Standards.
- 4.3.1.5 Switch timber shall be changed as required to maintain the Service Property in a Good Working Condition.
- 4.3.1.6 Bridge ties and timber shall be changed as required to maintain the Service Property in a Good Working Condition.
- 4.3.1.7 Ties shall be replaced with ties made from the same material as that removed unless otherwise approved by the MBTA.
- 4.3.1.8 The Operator shall be responsible to purchase, deliver, and install all ties and timbers.
- 4.3.1.9 Within 30 days of removal, the Operator shall sort all removed ties and timbers, separating ties to be reused on the Service Property from ties for disposal.
- 4.3.1.10 Within 30 days of removal, the Operator shall stack and stockpile neatly ties to be reused on the Service Property. Within 30 days of removal, the Operator must dispose of all remaining ties through a properly certified and licensed hazardous materials disposal contractor, pursuant to all applicable laws and regulations unless other arrangements are made with MBTA written approval. Wooden ties and timber shall be disposed of in a proven manner in compliance with all federal, state and local regulations; concrete ties

shall be disposed of via crushing and proper disposal in an approved landfill. Ties fit for reuse off the Service Property may be sold by a properly certified and licensed hazardous materials disposal contractor, pursuant to all applicable laws and regulations.

- 4.3.1.11 The Operator shall provide inspection, maintenance, and replacement services for all ties and timbers in order to maintain the Service Property in a Good Working Condition. The Operator shall provide these services to achieve the Performance Standard described in Section 2.9 (Performance Standard) of this **Schedule 3.2** (Engineering Services).

4.4 Track Structure

- 4.4.1 Gauge rods are prohibited. Any exception to the requirements in this Section 4.4 (Track Structure) of this **Schedule 3.2** (Engineering Services) shall be submitted to the MBTA Chief Engineer for prior written approval.
- 4.4.2 Discovery by the Operator of an improperly anchored track shall require the implementation of a temporary speed restriction and immediate notification of the condition to MBTA. The Operator shall perform corrective measures to anchor the track in accordance with the Engineering Services Standards.
- 4.4.3 Discovery by the Operator of any curves not spiked to MBTA and applicable standards shall require the Operator to bring the track up to all applicable standards within 30 days.
- 4.4.4 The Operator shall perform all track surfacing and aligning as frequently as necessary to meet maintenance class requirements and maintain speed conditions authorized by the maintenance class of the MW-1, and never less than the speed in existence as of the Commencement Date, as identified in the Asset Inventory or higher as track speeds or classifications are upgraded during the Agreement Term.
- 4.4.5 The temporary speed restrictions that are in existence on the Commencement Date shall be removed as quickly as practical. The Operator shall submit a schedule for completion of this work no later than 120 days after NTP (ODRL 3.2-018). This schedule shall be included in the initial Engineering Services Plan and subject to MBTA approval.
- 4.4.6 Tracks and turnouts shall always be resurfaced and realigned by the Operator as part of any re-timbering work and included within the submitted work by schedule.
- 4.4.7 The Operator shall keep all frogs, switch points and stock rails ground in accordance with the Engineering Services Standards as part of the required inspection and maintenance services.

- 4.4.8 The Operator shall inspect, maintain and rehabilitate all at grade crossings in order to maintain the Service Property in a Good Working Condition. Crossings, including Automatic Highway Crossing Warning Systems shall be maintained by the operator in a manner that is safe, convenient and compliant with all applicable uses, rules and regulations including FRA, DOT, Manual or Uniform Traffic Control Devices (“**MUTCD 2000**”), Mass DPU and MassDOT.
- 4.4.9 The Operator shall ensure that all components of the warning system are in place and functioning. The Operator shall notify Third Parties as necessary to remedy noted deficiencies.
- 4.4.10 The Operator shall establish and provide to the MBTA for approval, a grade crossing improvement plan as part of the Engineering Services Plan (ODRL 3.2-019). This plan shall include a schedule and budget for the replacement and/or upgrade of at least 15 grade crossings per year having a design life expectancy of approximately 15 years, in accordance with MBTA Standard Plans and using equivalent materials, unless otherwise approved or directed by the MBTA. The budget shall be sufficiently detailed and itemized to determine various costs to include paving, rail, signals, utility upgrades, drainage, signage, etc. The locations of the grade crossing construction activities shall be subject to the approval of the MBTA. At the sole discretion of the MBTA, after consultation with the Operator with the goal, if possible, of avoiding or minimizing additional financial consequences to the Operator, some of the budgeted monies may be allocated to MassDOT for participation in their grade crossing replacement program in order to satisfy the MBTA’s 20% participatory funding requirement.
- 4.4.11 The Operator shall maintain, repair or replace rail lubricators as necessary to lubricate curves of 4 degrees or greater. All replacement materials shall be of equal quality or better. Lubricating materials shall be replenished by the Operator on an as-needed basis.
- 4.4.12 At a minimum, the Operator shall perform inspection and maintenance of the turnouts, crossovers and sidings in order to maintain the Service Property in a Good Working Condition.
- 4.4.13 All switch components and other track materials removed from track and deemed as reusable by mutual agreement of the MBTA and the Operator shall be repaired for reuse by the Operator and returned to the Support Inventory. Repaired and refurbished inventory reclaimed to inventory shall be tracked as such in the Commuter Rail IT Environment.

4.5 Rights Of Way

- 4.5.1 The Operator shall fully and consistently maintain track drainage systems to their design capacity.

- 4.5.2 The Operator shall control flooding on the right of way by the use of drainage systems. The Operator shall anticipate and perform pumping to remove water from the right of way and track as necessary (for example, as is often the case during storm events near Natick Station). All locations requiring the assistance of pumping to maintain proper drainage shall be identified in the Engineering Services Plan along with mitigating measures and “triggers” that will ensure pumping is performed on a timely basis when needed (ODRL 3.2-020).
- 4.5.2.1 Culverts used to pass water under tracks shall be maintained by the Operator for their entire length.
- 4.5.2.2 The Operator shall keep drainage ditches open and at proper design profiles (depth, grade and alignment). The Operator shall reshape at least 2,500 lineal feet of drainage ditches per line per Agreement Year in accordance with the design profiles. The Operator shall establish and provide an annual Drainage Ditch Reshaping Plan (ODRL 3.2-021) to the MBTA for approval as part of the Engineering Services Plan. This Drainage Ditch Reshaping Plan shall indicate the approximate location and schedule of drainage ditch improvements.
- 4.5.2.3 The Operator shall keep brush cut back to the existing width of the Right of Way from property line to property line or as designated by the MBTA, and the Operator shall promptly chip and remove all brush from the Right of Way. Vegetation identified by the MBTA as a nuisance or safety hazard shall be removed by the Operator with due diligence, and in any event, not later than 15 days after notification by MBTA.
- 4.5.2.4 The Operator shall keep all approaches to grade crossings clear so that approaches to the crossing shall be visible from the train.
- 4.5.2.5 The Operator shall keep approaches to all wayside signals free of vegetation in order to ensure a clear line of sight for approaching trains.
- 4.5.2.6 The Operator shall keep the Right of Way free and clear of debris and rubbish. The Operator shall immediately respond to MBTA reports of debris or rubbish on the Right of Way.
- 4.5.2.7 Railroad materials and equipment removed from service shall be removed from the Right of Way by the Operator within 30 days except where otherwise specified. The Operator shall not store materials awaiting installation along the Right of Way for more than 30 days, unless otherwise permitted or agreed to by the MBTA, with the exception of any material that is considered a safety hazard by

the MBTA and which shall be immediately removed or repositioned upon discovery by the Operator or notification by the MBTA. Continuous welded rail strings longer than 200 feet awaiting installation are excepted with prior written approval from the MBTA.

- 4.5.2.8 Scrap rail and relay rail shall be removed from the Right of Way by the Operator within 30 days of removal from the track.
- 4.5.2.9 The Operator shall not be permitted to scrap any Service Property or Support Property without prior written consent of the MBTA. All proceeds from the sale of the scrap and relay rail, and all other scrap and obsolete materials, shall be put into an escrow account pursuant to **Schedule 3.4** (Materials Management and Procurement) of this Agreement.
- 4.5.2.10 The Operator shall report to the MBTA Transit Police, and shall attempt to control, illegal dumping activities, trespassing, and unauthorized use of the Service Property. In addition, the Operator shall also participate with MBTA in programs to educate the public to the dangers of trespassing on the Right of Way.
- 4.5.3 The Operator shall apply State-approved herbicides to prevent weed growth from all track beds and other approved areas, to the extent that regulations allow.
- 4.5.4 The Operator shall maintain and install right of way signage pursuant to MBTA standards and shall repair or replace damaged or missing signs.
- 4.5.5 The Operator shall provide engineering, including survey and plans, to control encroachments on the Rights of Way. All engineering and survey work shall be saved in the Commuter Rail IT Environment no later than 30 days after the work is completed. The Operator shall not permit any construction or modification to any facility that reduces existing clearance dimensions at any location along the Right of Way, without the prior written approval of the MBTA.
- 4.5.6 Right of Way fences and fence gates shall be kept well maintained by the Operator. Holes and gates shall be repaired by the Operator as soon as the schedule will allow, but they shall always be repaired within 10 business days of discovery and/or notification by the MBTA. Holes discovered in known safety sensitive areas or upon notification by the MBTA shall be repaired by the Operator immediately upon notification or discovery.
- 4.5.7 The Operator shall be responsible for replacing or installing at least 2 lineal miles of MBTA standard fencing on an annual basis at locations that are mutually agreed to by the MBTA and the Operator. The Operator shall establish and provide to the MBTA for approval, a Fencing Installation Plan as part of the

Engineering Services Plan (ODRL 3.2-022). The Operator shall repair or replace any gating in the areas of the fence replacement.

5. STRUCTURES

5.1 General

- 5.1.1 The Operator shall inspect and maintain in a Good Working Condition all layover facilities, buildings, facilities, stations, drainage systems, culverts, switch heaters, overhead and under-grade bridges, tunnels, and pedestrian structures that are part of the Service Property for which the MBTA has the maintenance responsibility.
- 5.1.2 For those buildings listed in the Asset Register that are not used in performing Agreement Services (including the Billerica Main Office, the Billerica Main Shop, the Billerica Stores, the Billerica Systems Office, the Billerica Fire Pump House, the Billerica Power Plant, the Billerica Frog Shop, and the Attleboro Tower), the Operator shall perform safety and security functions on an as-needed basis with periodic inspections as directed by the MBTA or as required by severe weather conditions or other similar circumstances, or in the event that the Operator becomes aware of a situation or condition necessitating such inspection. Inspections shall be performed as part of the Annual Fee. The Operator shall also repair any defects found or perform remediation work, for these buildings as directed by the MBTA, which will be compensated as Supplemental Work.
- 5.1.3 The Operator shall perform structural inspections not less than once per Agreement Year, and more frequently as required, on all structures that are part of the Service Property, including those not used in the performance of Agreement Services.
- 5.1.4 All inspections shall be documented by the Operator and recorded in the Commuter Rail IT Environment. All structural inspections shall include digital photographs. An annual report summarizing each structural inspection and findings regarding structural condition (ODRL 3.2-023) shall be provided to the MBTA. The cost of preparing the annual report is included in the Annual Fee.
- 5.1.5 The Operator shall maintain the Support Property and facilities required to perform Agreement Services. The MBTA owns most of the Support Property used for Agreement Services, as described in the Asset Register.

5.2 Layover Facilities

The Operator shall maintain in a Good Working Condition all Service Property, Service Equipment and Support Property located at the layover facilities. At a minimum, the Operator shall provide the following services:

- 5.2.1.1 The Operator shall maintain all electrical systems and facilities in a Good Working Condition in compliance with Section 7 (Electrical) of this **Schedule 3.2** (Engineering Services).
- 5.2.1.2 The Operator shall maintain all buildings and trailers free of leaks and in a Good Working Condition. The Operator shall keep all exterior surfaces clean and free of graffiti as provided in Section 3.1.5 of this **Schedule 3.2** (Engineering Services). The Operator shall keep the areas surrounding the buildings and trailers free and clear of debris.
- 5.2.1.3 The Operator shall inspect, maintain, and repair or replace as necessary all hydrants, hoses, pumps, and water distribution systems so that they are in a Good Working Condition at all times.
- 5.2.1.4 The Operator shall ensure that all lighting systems, fences, crosswalks, parking lots, and roadways are maintained in a Good Working Condition.
- 5.2.1.5 The Operator shall inspect, maintain and repair sewage/septic systems. The Operator shall provide septic tank pumping and septic system maintenance. The Operator shall ensure that proper wastewater pre-treatment is performed through the services of the Environmental Subcontractor as described in **Schedule 3.8** (Environmental Services) of this Agreement.
- 5.2.1.6 The Operator shall inspect, maintain, and repair all electrical sub-stations and electrical systems in a Good Working Condition including, but not limited to the layover ground power receptacles at the CRMF, Readville Yard, North Station, the Commuter Rail portions of Southampton Street Yard, Greenbush and Pawtucket Yard.
- 5.2.1.7 The Operator shall perform rubbish removal weekly, or more frequently as necessary, at all layover facility locations on the Service Property.
- 5.2.1.8 The Operator shall inspect, maintain and repair toilet dumping stations on a scheduled basis and repair any defects within 5 days of notification. Toilet dump stations shall be emptied by the Operator on a regular scheduled basis and shall not be allowed to become overfull or unavailable for use due to failure to drain them on a timely basis.
- 5.2.1.9 The Operator shall inspect, maintain, repair and empty any oil/water separators and drip pans through the services of the Environmental

Subcontractor as described in **Schedule 3.8** (Environmental Services) of this Agreement.

- 5.2.1.10 The Operator shall inspect, maintain, repair and ensure the continuous availability of all stationary in-ground air supply systems at all layover facilities so equipped. This shall include all air compressors, air driers, exposed and buried manifolds and piping, valves and fittings, electrical control apparatus, power supplies, hoses and any other associated apparatus or components of such systems. All such air supply systems shall be kept drained and free of moisture at all times. When additional air supply systems are commissioned at layover facilities, the additional inspection and maintenance responsibilities shall be handled as a Change.

5.3 Buildings, Facilities, and Stations

- 5.3.1 The Operator shall be responsible for the inspection, management and maintenance of all buildings, facilities and stations. Buildings and facilities are provided strictly for the performance of Agreement Services. No other use is authorized by this Agreement.
- 5.3.2 All equipment and appurtenances shall be kept in a Good Working Condition by the Operator in accordance with industry standards and the operating and maintenance manuals. If the operating and maintenance manuals are not available, the Operator shall secure them if possible. The Operator shall maintain, repair or replace all facility equipment so that it performs in a Good Working Condition.
- 5.3.3 The Operator shall determine the warranty status of station, building, and facility equipment and appurtenances, and administer any warranties in effect. The Operator shall administer and pursue warranty claims on behalf of the MBTA. The Operator must anticipate the need to perform reimbursable warranty work. If the Operator fails to adequately protect MBTA's warranty interests, as solely determined by the MBTA, all costs arising from such failure shall be the responsibility of the Operator.
- 5.3.4 The Operator shall input data into the Commuter Rail IT Environment regarding inspection and maintenance activities on the Southside S&I Facility, Abington, West Cambridge, Cobble Hill, and Readville Engineering and Mechanical facilities in a level of detail equivalent to that for CRMF.

5.4 Station Inspections and Removal of Deficiencies

- 5.4.1 Within 90 days after NTP, the Operator shall provide a station inspection form (ODRL 3.2-024) for MBTA's approval. The Operator shall make whatever

revisions to the form that MBTA requests, finalize the form and add the items contained on the form to the Commuter Rail IT Environment.

- 5.4.2 The Operator shall inspect each station on the Service Property at least once per calendar quarter using the MBTA approved station inspection form. The results of each inspection shall be entered into the Commuter Rail IT Environment and shall be available to the MBTA at anytime (ODRL 3.2-025).
- 5.4.3 The Operator shall restore, repair or replace all noted deficiencies within one week after the inspection. Exceptions shall require the prior written approval of the MBTA Chief Engineer. Deficiencies which present a safety hazard to the public shall be corrected immediately.

5.5 Building and Facility Inspections and Removal of Deficiencies

- 5.5.1 Within 90 days after NTP, the Operator shall submit to the MBTA for review and approval a preliminary Support Property and Facilities Maintenance Plan (ODRL 3.2-026) which describes the Operator's proposed plan for operating and maintaining the MBTA's facilities, equipment and appurtenances. The preliminary plan shall address, at a minimum, proposed staffing, operation, maintenance, safety, regulatory, and evacuation plans for each of the major facilities. The Support Property and Facilities Maintenance Plan (ODRL 3.2-027) shall be part of the Engineering Services Plan, updated accordingly and subject to the same process as the Engineering Services Plan. It shall include annual maintenance projects, additions, modifications and upgrades to existing facilities and a long-range (at least a three year forecast) facility plan which shall include an inventory of improvements to accommodate maintenance and repair of the revenue fleet. The annual maintenance plan shall also include budgeted and prioritized preventive maintenance projects for structures and installed equipment such as cranes, wheel machines, drop pits, car washers, and similar equipment.
- 5.5.2 The Operator shall implement the Support Property and Facilities Maintenance Plan upon the Agreement Services Commencement Date.
- 5.5.3 Within 90 days after NTP, the Operator shall provide a facility inspection form (ODRL 3.2-028) for MBTA's approval. The Operator shall make revisions to the form as MBTA requests, finalize the form and add the items contained on the form to the Commuter Rail IT Environment.
- 5.5.4 The Operator shall inspect each facility on the Service Property at least once per calendar quarter using the MBTA approved facility inspection form. The results of each inspection shall be entered into the Commuter Rail IT Environment. The Operator shall restore, repair or replace all noted deficiencies within one week after each inspection. Exceptions shall require the prior written approval of the MBTA Chief Engineer. Deficiencies which present a safety hazard to the public

shall be corrected immediately. The Operator shall perform all inspection, maintenance and repair services for CRMF and associated facilities, equipment and appurtenances in accordance with the Support Property and Facilities Maintenance Plan. For other major facilities, the Operator shall evaluate the maintenance requirements at each facility, determine the appropriate industry standards and warranties that cover each facility, and maintain each facility according to those requirements, standards and warranties. The Operator shall not leave Support Property disconnected, jumpered, defective, locked out, or otherwise inoperative without prior notification to and written authorization from the MBTA. Any parts or material required to secure or restore Support Property that is out of service must be identified and included in the “None On Hand” process described in **Schedule 3.4** (Materials Management and Procurement) of this Agreement.

5.6 Rolling Stock Support Equipment

- 5.6.1 The Operator shall have responsibility for the operation, inspection, maintenance and repair of all shop equipment used primarily for the inspection, maintenance and repair of the Rolling Stock Fleet (“rolling stock support equipment” or “RSSE”).
- 5.6.2 The Operator shall identify and perform a condition assessment (ODRL 3.2-029) within 120 days after NTP of all shop equipment designated as RSSE. This shall include, but not be limited to jacks; hoists; bridge cranes; jib cranes; drop tables; lathes, milling machines, drill presses and other machine shop equipment; wheel truing machines; train wash equipment; winches; car progression systems; and other equipment and apparatus the Operator deems RSSE (with MBTA concurrence required). This assessment shall include an estimate of the remaining life expectancy of each piece of RSSE. This assessment shall thereafter be updated as part of the annual Engineering Services Plan (ODRL 3.2-030).
- 5.6.3 The Operator shall develop and implement, based on the condition assessment and subject to MBTA review and approval a Good Working Condition Program for all RSSE (ODRL 3.2-031). This shall include periodic inspection and maintenance for each piece of equipment as well as scheduled repairs required in order to bring all pieces of RSSE to a Good Working Condition. The initial program shall be submitted for review and approval no later than 120 days after the Mobilization Commencement Date. The program shall thereafter be updated as part of the annual Engineering Services Plan.
- 5.6.4 The Operator shall develop and implement, subject to MBTA review and approval, a Rolling Stock Support Equipment Normal Replacement Program (ODRL 3.2-032). This program shall recommend specific pieces of RSSE to be replaced when its life expectancy has expired and further repair or refurbishment no can no longer be economically justified or fundamental elements of such

equipment reaches a state of excessive wear or deterioration. The initial program shall be submitted 6 months after the Mobilization Commencement Date and thereafter be updated as part of the annual Engineering Services Plan.

- 5.6.5 The Operator shall include an annual allocation of \$100,000 within the Annual Fee to support the RSSE Normal Replacement Program. This is not intended to limit the annual normal replacement of RSSE to \$100,000, but is intended as a guaranteed source of funding for such replacement, to be expended as approved by the MBTA. Funding for normal replacement of RSSE in excess of \$100,000 per Agreement year may be requested as Supplemental Work.

5.7 Building and Facility Operation

- 5.7.1 The Operator shall have general responsibility for the daily operation and maintenance of the buildings and facilities comprising the Service Property, including, but not limited to, opening and closing the buildings and facilities as needed, lights, locks, heat, air conditioning, pest control, cleaning, and snow removal and other duties agreed to by the Operator and the MBTA in the Support Property and Facilities Maintenance Plan. The Operator shall publish the times and days that each building and facility is open for use (ODRL 3.2-033) and update the schedule whenever there is a change, but not less than annually.
- 5.7.2 The Operator shall comply fully with the terms and conditions of any manufacturer's or the Operator's maintenance and service schedules, and shall not jeopardize any manufacturer's or the Operator's warranty covering any portion of Support Property except under the direction of MBTA.
- 5.7.3 The Operator shall open the buildings and facilities for operations each day and close the buildings and facilities when operations conclude each day. Opening and closing the buildings and facilities includes unlocking and locking doors, unlocking and locking security gates, turning lights on and off, activating and shutting down HVAC and other necessary systems, opening and closing the elevators at all stations, as applicable and otherwise preparing the buildings and facilities to perform the Agreement Services.
- 5.7.4 The Operator shall ensure that there is adequate lighting for the buildings and facilities during operating hours in accordance with applicable federal, state and local rules to provide a safe work environment and that those lights are turned off when not in use. This includes turning lights on and off, replacing light bulbs and ballast, and performing routine maintenance to lighting systems, as necessary.
- 5.7.5 The Operator shall ensure that there is adequate heating, ventilation, and air conditioning to provide a safe and comfortable work environment for Operator Personnel and the MBTA. This includes activating and shutting down the HVAC systems when the building is not in use and performing routine

maintenance (including window maintenance) to keep the HVAC operational and efficient.

5.7.6 The Operator shall keep the buildings and facilities (including floors, work areas, and windows) clean and in a Good Working Condition, free from trash, debris, and graffiti. The Operator shall promptly remove all trash, debris, and graffiti and in compliance with Sections 3.1.1 to 3.1.5 of this **Schedule 3.2** (Engineering Services).

5.7.7 The Operator is responsible for all office cleaning except for MBTA office space at the CRMF.

5.8 Station Cleaning

5.8.1 The Operator shall submit a schedule for station cleaning activities (ODRL 3.2-034), prioritizing the activities by level of station use, as part of the Station, Building and Facility Maintenance Program described in Section 5.9 (General Building, Facility and Station Maintenance) of this **Schedule 3.2** (Engineering Services). This schedule shall be published not less than annually and be included in the annual Engineering Services Plan. Cleaning shall be performed at intervals of no more than two weeks apart for the least used stations. It shall be done more often for stations with more use. The Operator shall submit a report of its cleaning activities each month (ODRL 3.2-035).

5.8.2 The Operator shall keep all exterior and interior surfaces of stations free and clear of graffiti as provided in Section 3.1.5 of this **Schedule 3.2** (Engineering Services). In addition, the Operator shall keep the grounds, curbs, walkways and other station areas free and clear of trash, debris and graffiti, paying special attention to those areas directly in the path of Commuter Rail customers.

5.8.3 MBTA shall retain the right to perform unannounced audits of station cleanliness or employ independent auditors to do the same. Audit reports shall be furnished by MBTA to the Operator if requested.

5.9 General Building, Facility and Station Maintenance

5.9.1 The Operator shall maintain all building systems, equipment, components, and utilities.

5.9.2 The Operator shall inspect, maintain and repair sewage/septic systems. The Operator shall provide septic tank pumping and septic system maintenance. The Operator shall ensure that proper wastewater pre-treatment is performed through the services of the Environmental Subcontractor per **Schedule 3.8** (Environmental Services) of this Agreement.

5.9.3 MBTA-provided telephone, intercom systems, public information systems, LED systems, security and annunciation systems, automated building control systems

at CRMF, and other communication equipment shall be maintained by the Operator in a Good Working Condition, consistent with manufacturer's warranties and recommendations.

- 5.9.4 The Operator shall maintain the Information Booths at North Station, South Station, and Back Bay in a clean and attractive manner so as to encourage their use by Customers.
- 5.9.5 Within 90 days after NTP, the Operator shall provide an inventory of all fire protection systems and fire call boxes within the Service Property (ODRL 03109). The Operator shall inspect such fire protection systems and fire call boxes and test such systems as required by law or insurance policy (ODRL 3.2-036). Inspection and repair reports shall be made available to MBTA upon request. The Operator shall keep these systems fully operational at all times in a State of Good Repair consistent with manufacturers' warranties and recommendations. The Operator shall keep all such systems in compliance with current applicable sections of National Fire Protection Association as codes and regulations as such sections change from time to time, and as provided in Section 7.2 (Testing and Maintenance Responsibilities) of this **Schedule 3.2** (Engineering Services).
- 5.9.6 Windows, roofs, foundations, containment berms, walls (inside and out), doors, floors, floor coverings, stairs or any related building components shall be maintained in a Good Working Condition by the Operator.
- 5.9.7 The Operator shall obtain the services of an appropriately licensed and permitted elevator and escalator contractor to perform the inspection, maintenance and repair of elevators and escalators in a Good Working Condition, and shall be responsible for elevator inspections and posting of inspection certificates.
- 5.9.8 Elevators must be available as near to 100% of the time as possible. Maintenance intervals shall be scheduled when station is not in use or when traffic is very light. The Operator shall develop and implement an elevator inspection and maintenance program for the elevators at CRMF, Cobble Hill, Southside S & I, and Framingham (ODRL 3.2-037), subject to MBTA review and approval. This plan shall include proposed availability levels by location based on the age and condition of each escalator/elevator at each specific location. The initial program shall be submitted no later than 120 days after NTP and thereafter updated as part of the annual Engineering Services Plan (ODRL 3.2-038).
- 5.9.9 The Operator shall be responsible for cleaning of elevators, emergency service response immediately upon notification, and opening and closing all elevators.
- 5.9.10 The Operator shall implement a station, building and facility annual work plan to include but not be limited to painting, roof and gutter repairs and replacement, stairs, drop ceiling, paneling and lighting upgrades. The Operator shall submit

to the MBTA for approval a preliminary station, building and facility maintenance program (ODRL 3.2-039) no later than 120 days after NTP and thereafter shall be submitted as part of the annual Engineering Services Plan (ODRL 3.2-040). This program shall include a general work plan outlining the station, building, and facility maintenance activities for the coming year, including itemized pricing for each element of the work plan. The itemized pricing shall include estimated cost of labor, staffing requirements by classification, materials and services anticipated for such work.

- 5.9.11 The station, building and facility annual work plan shall include a monthly staffing plan (ODRL 3.2-041) for all work planned during the year. This staffing plan shall be updated monthly to reflect work plan changes that may develop over the course of the year. The station, building and facility maintenance program also shall include a spring cleaning and touch-up for all stations, buildings and facilities. The Operator shall obtain the approval by the MBTA prior to the use of any paint colors that may be different from those as of the Commencement Date. The Operator shall, thereafter, maintain station paint in colors approved by the MBTA.
- 5.9.12 [Reserved]
- 5.9.13 The Operator shall provide complete interior improvements, including but not limited to painting, paneling, drop ceilings, and new lighting, in order to maintain the Service Property in Good Working Condition in a minimum of five stations per Agreement Year. The location, manner and extent of this work will be approved by the MBTA prior to any work being done or materials being ordered. This work will be compliant with all federal, state and local accessibility laws and regulations.
- 5.9.14 The Operator shall maintain, repair, or replace building air conditioning, heating, ventilating and circulating units and other building systems and system components contained within the Service Property so that they are all in Good Working Condition.
- 5.9.15 The Operator shall provide water coolers, replacement water, and supplies to all buildings and facilities.
- 5.9.16 The Operator shall provide and maintain in Good Working Condition building furniture, office equipment and related supplies required to perform the Agreement Services.
- 5.9.17 The Operator shall maintain all MBTA-owned, leased, or controlled roadways, sidewalks, buildings, facilities, stations, and parking facilities, exclusive of parking facilities maintained under contracts with Third Parties, by a municipality or by the MBTA, contained within the Service Property in Good

Working Condition. This work will be compliant with all federal, state and local accessibility laws and regulations.

- 5.9.18 The Operator shall keep all platforms, canopies, railings and access ramps and platforms in Good Working Condition at all times.
- 5.9.19 The Operator shall inspect and maintain all lighting at buildings, facilities and stations according to the procedures detailed in Section 7 (Electrical) of this **Schedule 3.2** (Engineering Services).
- 5.9.20 Walkways and service aisles in shop facilities shall be delineated by non-slip yellow striping and shall be maintained free of obstructions, parts, grease, and debris. Concrete floors in shop facilities shall be inspected annually and re-coated with non-skid industrial coating as necessary.
- 5.9.21 The Operator shall perform inspections to ensure the safety of the Customers and shall maintain, repair and/or replace platform surfaces, edges, structures, stripes and markings, safety devices, warning stripes, tactile edges or others items required to provide for safe and efficient use of the Service Property. The Operator shall maintain platform safety stripes and tactile edges in a bright yellow and highly visible condition. Platform safety stripes and tactile edges shall be repaired within one week after defects or damage reports are made unless otherwise approved in writing by the MBTA.
- 5.9.22 The Operator shall perform inspections no less than twice annually to assure the safety of the Customers and shall maintain and repair parking facilities in a Good Working Condition exclusive of parking areas maintained and operated by either the MBTA, a municipality or Third Parties. All potholes shall be repaired as expeditiously as possible and with due diligence, but no more than 10 days after defect report is made.
- 5.9.23 The Operator shall inspect all Station Fixtures (as defined herein) to assure the safety of the Customers and shall maintain, repair, repaint, or replace as may be required to keep said fixtures in a “like new” condition at all times. “Station Fixtures” shall include, but not be limited to, canopies, railings, light poles, sign frames, signs, bulletin boards, parking lot pay boxes, windscreens, shelters, benches, bike racks, and trash receptacles and other fixtures or furniture that may exist from time to time.
- 5.9.24 The Operator shall maintain all schedule cases. The Operator shall lubricate all schedule case locks and hinges when replacing schedules on the Service Property. The Operator shall replace all locks and chains when defective or damaged or missing. The Operator shall replace Plexiglas fronts, if damaged.
- 5.9.25 The Operator shall keep rubbish containers neat, secured and well maintained. The Operator shall supply, maintain and replace as necessary one rubbish

container per 200 linear feet of platform unless directed otherwise by the MBTA. The Operator shall replace damaged or missing rubbish receptacles with covered, locking top type in accordance with MBTA standards.

- 5.9.26 The Operator shall perform rubbish removal weekly, or more frequently as necessary, at all stations, buildings, and facility locations on the Service Property, including any provision for flagging that may be required. Trash shall be separated from items that can be recycled such as newspapers, plastics etc. Recycling containers shall be installed at each station at the direction of the MBTA.
- 5.9.27 The Operator shall keep guard rails, inter-track fences and signage, railings and cross walks maintained in a Good Working Condition at all times, including any provision for flagging that may be required.
- 5.9.28 All stations and signs shall be maintained by the Operator and graffiti shall be removed expeditiously upon receipt of a report of graffiti. The removal of graffiti shall be in accordance with Section 3.5 of this **Schedule 3.2** (Engineering Services), including any provisions for flagging that may be required.
- 5.9.29 The Operator shall procure, produce, install, add and replace signs as necessary and/or as directed by the MBTA. These signs shall include, but not be limited to station identification, directional, warning, informational and all other purposes deemed necessary by the MBTA.
- 5.9.30 Station buildings shall be maintained by the Operator unless the specific maintenance responsibility resides with a Third Party. Third Party responsibility generally includes only minor repairs, when the building is leased. If the property is not leased then the repairs are the responsibility of the Operator. The Operator is responsible for any repairs other than minor repairs performed by the Third Party.
- 5.9.31 The Operator shall perform inspections at all stations to ensure the safety of the Customers and at a minimum, shall maintain, repair and/or replace all exteriors and interior defects of all MBTA owned, leased or controlled buildings used in provision of the Agreement Services.
- 5.9.32 All landscaped or naturally vegetated areas within building, facility, station and parking lot areas shall be kept free of all fallen leaves and debris on a year round basis. All trees and shrubs shall be pruned yearly or as directed by the MBTA. All landscaped areas, platforms and parking areas shall be kept weed free on a year round basis. All landscaped areas that have a mulch bed shall be re-mulched on a yearly basis, between April 15 and June 15, with current season pine bark mulch. All dead or diseased hedges, shrubs and trees shall be replaced as necessary. All landscaped areas containing grass shall be cut every two weeks to keep a neat and “non-overgrown” appearance. The Operator shall submit to

the MBTA for approval, no later than February 1st of each Agreement Year, an annual staffing plan and work schedule for performing landscaping work (ODRL 3.2-042). The staffing plan shall designate dedicated crews for performing landscaping work from April to October. Any Operator landscaping requirements that may change as a result of future MBTA Third Party contracts will be treated as Service Changes.

5.9.33 The Operator shall clean all station track areas at least once every three months or more frequently as directed by the MBTA. Associated flagging costs shall be included in the Annual Fee.

5.9.34 The Operator shall pressure wash station platforms and the underside and tops of North Station and South Station canopies semi-annually or more frequently as directed by the MBTA. Associated flagging costs shall be included in the Annual Fee.

5.10 Maintenance of Drainage Systems

5.10.1 The Operator shall maintain all drainage manholes, catch basins, clean-outs and any other structures or systems used intentionally or otherwise to direct the flow of water on or from the Service Property (collectively, "Drainage Systems") in Good Working Condition. Storm water catch basins will be maintained as necessary and clogged sewer lines snaked as necessary.

5.10.2 All parking lot Drainage Systems shall be maintained by the Operator in a Good Working Condition.

5.10.3 The Operator shall keep all closed Drainage Systems clean and free of obstructions.

5.10.4 When the Operator replaces any Drainage System or portion thereof, the system shall be designed and constructed based on an evaluation of the current drainage conditions and applicable regulatory requirements. At a minimum, the Drainage System shall be designed to handle a 50-year storm. All designs shall be submitted to the MBTA for review and written approval (ODRL 3.2-043) in advance of any work being performed.

5.11 Gas Switch Heaters

5.11.1 The Operator shall perform the inspection, maintenance and operation of all gas switch heater systems, including any associated appurtenances such as ducting for forced hot air switches, contained within the Service Property.

5.11.2 In preparation for the winter season, the Operator shall ensure that all gas switch heaters are in a Good Working Condition by November 15th of each Agreement Year.

5.12 Structural Inspections for Bridges, Tunnels, Pedestrian Structures and Culverts – General Responsibilities

- 5.12.1 The Operator shall perform structural inspections on all aspects of Service Property to ensure safe and proper operation. The Operator shall also perform structural inspections on all other bridges contained within the Right of Way, including but not limited to all MassDOT and private overhead bridges to ensure safety. For those bridges listed in the Asset Register as “Freight-Only Bridges” the Operator shall also perform inspections as directed by the MBTA as Supplemental Work.
- 5.12.2 The Operator shall perform safety and security functions on an as-needed basis with periodic inspections as directed by the MBTA and as required after a bridge has been struck, after a noticeable defect has been reported, or in the event that the Operator becomes aware of a situation or condition necessitating such inspection, but not less than annually. The cost of such inspections is included in the Annual Fee. Inspections shall meet all applicable FRA and MBTA requirements and all reports shall be made available to the MBTA.
- 5.12.3 At a minimum, the Operator shall be responsible for the following:
 - 5.12.3.1 Annual inspection reports on safety and integrity (ODRL 3.2-044), including recommendations for any necessary repairs (minor and major) as well as a summary of all maintenance activities that have occurred during the previous year.
 - 5.12.3.2 Quarterly safety inspections in tunnels (ODRL 3.2-045) of ventilation systems, niches, safety lighting, fire systems, debris, and drainage.
 - 5.12.3.3 Emergency inspections (ODRL 3.2-046) immediately after a railroad bridge has been struck or after noticeable defects are reported.
 - 5.12.3.4 Special bridge inspections that shall be conducted quarterly (ODRL 3.2-047), when warranted by bridge condition, on fracture-critical bridges, or at the direction of the MBTA. A current list of such bridges is included in the Asset Register.
 - 5.12.3.5 Underwater inspections (ODRL 03-048) shall be performed on all structures (bridges, culverts and tunnels) crossing over water where damage could occur and be hidden by the water. The underwater inspections shall be performed by a certified professional underwater inspector. The Operator shall schedule all such underwater inspections so that each such structure is inspected not

more than five years from the previous inspection date, regardless of whether the Operator performed the prior inspection.

- 5.12.3.6 The Operator shall supply a motorized boat and boat operator to the MBTA as requested to inspect bridges, fender systems or perform other work on the water. The boat shall be of sufficient size to accommodate ladders or staging required to perform the work. The boat shall conform to all State, United States Coast Guard and OSHA requirements. The cost of such inspections, up to six per year, including boat, operator, fuel and other incidental items is included in the Annual Fee.
- 5.12.3.7 The Operator shall conduct quarterly inspections of the drawbridges (ODRL 3.2-049), performed jointly with C&S, Structures, Track and Electrical personnel.
- 5.12.3.8 The MBTA may hire a Third Party to perform additional inspections as deemed necessary by the MBTA. These inspections are not considered part of this Agreement. The inspection reports will be made available to the Operator upon request.

5.13 Overhead and Undergrade Bridge Maintenance

- 5.13.1 The Operator shall perform maintenance activities and Minor Repairs (as defined below) on all MBTA-owned bridges (overhead and undergrade) and tunnels as listed in the Asset Register to maintain the Service Property in a Good Working Condition.
- 5.13.2 For the purposes of this Section 5.13 (Overhead and Undergrade Bridge Maintenance) of this **Schedule 3.2** (Engineering Services), “Minor Repairs” are defined as repairs performed on bridge or retaining structures or components of such structures in which the structural functionality and capacity will remain unchanged after the repair work is performed, including but not limited to painting of structural steel members, railings, concrete surfaces; repairing spalls and minor cracks of concrete members; welding; installing temporary support measures such as pony trusses or cribbing; repairing or replacing protective fencing; cleaning bridge bearings and deck joints; cleaning and resealing of expansion joints; and the repair of any and all “wear and tear” damage to the Service Property resulting from normal operations.
- 5.13.3 Minor Repair work shall not require the use of Third Party contractors or experts, but shall not preclude their engagement if the Operator deems it cost effective or more expeditious.

- 5.13.4 Regular maintenance such as clearing of vegetation, maintaining railroad clearance, cleaning and painting over graffiti shall also be considered Minor Repairs and shall be the responsibility of the Operator.
- 5.13.5 The MBTA may reference additional inspections performed by a Third Party to determine maintenance activities and Minor Repairs to be performed by the Operator. The cost of maintenance activities and Minor Repairs is included in the Annual Fee.
- 5.13.6 For those bridges listed in the Asset Register as “Freight-Only Bridges,” the Operator shall also perform repairs as directed by the MBTA. The cost of such repairs shall be reimbursed as Supplemental Work.
- 5.13.7 Major Repairs (as defined below) to any MBTA-owned bridges by the Operator are not included in the Annual Fee, with the exception of damage caused in whole or in part by the actions of the Operator. The Operator shall be required to submit a separate price for any Major Repair services requested by the MBTA and such jobs will be handled as Supplemental Work. The Annual Fee shall include any temporary measures required to keep a bridge in service until such time as Major Repairs are complete.
- 5.13.8 For the purposes of this Section 5.13 (Overhead and Undergrade Bridge Maintenance) of this **Schedule 3.2** (Engineering Services), “Major Repairs” are defined as repairs performed on bridge or retaining structures or components of such structures in which the structural functionality and capacity will change after the repair work is performed. Examples of Major Repairs include but are not limited to: strengthening of structural supporting members including beams, girders and truss members; and replacing and repairing bridge bearings that require jacking of superstructure. The MBTA shall make the final determination as to whether the repair work shall be considered a Minor Repair or a Major Repair.
- 5.13.9 MBTA may, at its option, employ a Third Party contractor to perform Major Repairs. The Operator shall provide flag protection for any such repair work and shall be compensated through a direct agreement between the Operator and such Third Party.
- 5.13.10 The Operator shall repair and maintain in Good Working Condition all retaining walls, back walls, wing walls, abutments, bracing, track structures and signal apparatus, and other structures, appurtenances and systems associated with the MBTA owned bridges located within the Service Property.
- 5.13.11 The Operator shall prepare and provide to the MBTA for approval, a Bridge Maintenance Plan to address the structural maintenance issues for each bridge. The Operator shall submit to the MBTA a preliminary plan (ODRL 3.2-050) no later than 120 days after NTP and thereafter, an updated plan (ODRL 3.2-051)

as part of the annual Engineering Services Plan. The Operator shall adhere to all such plans.

- 5.13.12 The Operator shall prepare and provide to the MBTA for approval, a drawbridge maintenance plan to address the structural, mechanical, electrical, track and signal components for each drawbridge. The Operator shall submit to the MBTA a preliminary plan (ODRL 3.2-052) no later than 120 days after NTP and an updated plan (ODRL 3.2-053) as part of the annual Engineering Services Plan. The Operator shall adhere to all such plans.
- 5.13.13 The Operator shall prepare and provide to the MBTA for approval, a drawbridge operation manual in preliminary form no later than 120 days after NTP (ODRL 3.2-054) to address the procedures used to operate the bridge and any other relevant operational information. The Operator shall submit an updated manual (ODRL 3.2-055) to the MBTA as part of the annual Engineering Services Plan. The Operator shall adhere to all such manuals.
- 5.13.14 The Operator shall post rules governing drawbridge opening, emergency telephone contacts, tide boards, marine band radio frequencies, and any information required by the U.S. Coast Guard, FRA or other such regulatory agencies at each drawbridge. The Operator shall repair and maintain in Good Working Condition all controls, contacts, mechanical components, and other appurtenances and systems associated with MBTA owned moveable bridges located within the Service Property.
- 5.13.15 The Operator shall record all drawbridge openings and failures in the Commuter Rail IT Environment. A copy of this report shall be kept at the drawbridge location. Copies of all inspection and maintenance documents shall also be kept at the drawbridge location.
- 5.13.16 The Operator shall replace not less than 500 linear feet of timber bridge decking per Agreement Year. The Operator shall coordinate all Minor Repairs and Major Repairs to coincide with the timber bridge deck replacement. The Operator shall establish and provide an annual timber bridge deck replacement plan (ODRL 3.2-056) to the MBTA for approval, as part of the annual Engineering Services Plan. A preliminary timber bridge deck replacement plan shall be submitted to the MBTA no later than 120 days after NTP (ODRL 3.2-057).
- 5.13.17 The Operator shall install or replace, and maintain bridge mile markers and clearance designations on all bridges and tunnels located on the Service Property.
- 5.13.18 The Operator shall keep all bridge seats, bearings and abutments clean and free of debris at all times.

- 5.13.19 The Operator shall maintain all stairs, walkways, sidewalks, catwalks, railings and other bridge attachments and devices associated with the MBTA owned bridges, located within the Service Property, in a Good Working Condition.
- 5.13.20 The Operator shall be responsible for painting services pertaining to bridge maintenance requirements and removal of graffiti. Graffiti on bridges shall be removed in accordance with Sections 3.1 to 3.5 of this **Schedule 3.2** (Engineering Services).
- 5.13.21 The MBTA may allow advertising signs on bridges. The Operator's maintenance activities shall not damage or obscure the approved signage. The Operator must return signage to its intended configuration after bridge inspection is complete.
- 5.13.22 The Operator shall safely attach and/or remove banners, posters and signage to/from bridges as requested by the MBTA.
- 5.13.23 The Operator shall remove all unauthorized attachments immediately after such are reported or found during inspection.
- 5.13.24 The Operator shall maintain in Good Working Condition the navigation lighting system and the fender system on the Merrimack River Bridge in Newburyport. This bridge is not currently used for MBTA train service but must be protected for possible future use. The Operator is, therefore, responsible for performing the above listed tasks.
- 5.13.25 No less than 500 square feet of protective screening under bridges and structures for pest and bird control and protective fencing along bridges shall be installed or replaced per Agreement Year. These materials shall be maintained by the Operator as may be necessary to function as intended. Additional screening shall be installed as directed by the MBTA to protect the general public.

5.14 Maintenance of Tunnels

- 5.14.1 The Operator shall maintain tunnel structures on the Service Property in a Good Working Condition at all times. Pointing and leak plugging shall be performed as needed.
- 5.14.2 The Operator shall control ice buildup in tunnels during the winter months so as not to interfere with tunnel clearance and the movement of trains.
- 5.14.3 The Operator shall maintain in Good Working Condition all vibration attenuation systems located in tunnels within the Service Property.
- 5.14.4 The Operator shall repair and maintain in Good Working Condition, all ventilation systems in MBTA owned tunnels located within the Service Property.

- 5.14.5 The Operator shall repair and maintain in Good Working Condition, all safety lighting, fire protection and management systems, air curtains, dry standpipes, pumps, and drainage systems in MBTA owned tunnels located within the Service Property.
- 5.14.6 The Operator shall inspect, repair and maintain all emergency access and egress routes to ensure the safety of customers, emergency response personnel, and employees.
- 5.14.7 The Operator shall keep all tunnel niches and track surfaces free and clear from debris at all times. The Operator shall pay particular attention to removal of flammable debris. Under no circumstances shall anything be mounted or stored in niche areas.
- 5.14.8 The Operator shall prepare and provide to the MBTA for approval, a tunnel operation and maintenance manual (ODRL 3.2-058). The manual shall include all pertinent equipment information regarding the operation and maintenance of the equipment in the tunnels. Maintenance shall be performed in accordance with established procedures, equipment manufacturer's standard recommendations, equipment manufacturer's operations and maintenance manuals, and other applicable operation and maintenance agreements. Operation and maintenance shall include but not be limited to the following existing locations: Salem Tunnel, Boston and Albany Tunnel, Hingham Tunnel, Weymouth Landing, Kingston, and Quincy Center. The Operator shall submit such manual to the MBTA for MBTA review and approval as part of the annual Engineering Services Plan. A preliminary plan shall be submitted to the MBTA no later than 120 days after NTP (ODRL 3.2-059).

5.15 Maintenance of Pedestrian Structures

- 5.15.1 All structures used or designed to allow pedestrian movement across, over or under the Service Property ("Pedestrian Structures") shall be inspected and maintained by the Operator in Good Working Condition at all times.
- 5.15.2 The Operator shall maintain the cleanliness of Pedestrian Structures and shall further maintain the adjoining fences, lighting, drainage, vegetation, surfaces, ramps, stairways, equipment, devices and appurtenances in Good Working Condition and in a manner that encourages use of the structure. All graffiti must be removed from Pedestrian Structures in compliance with Sections 3.1 to 3.5 of this **Schedule 3.2** (Engineering Services).
- 5.15.3 Doing construction or maintenance of these structures, alternate accessible paths must be provided, which must be compliant with all federal, state and local accessibility laws and regulation.

5.16 Maintenance of Culverts

- 5.16.1 The Operator shall be responsible for all culverts located on the Service Property. As used herein, a “Culvert” is any undergrade structure less than 10 feet in span. All undergrade structures greater than or equal to 10 feet in span will be inspected and maintained per the requirements in Sections 5.12 (Structural Inspections for Bridges, Tunnels, Pedestrian Structures and Culverts - General Responsibilities) and 5.13 (Overhead and Undergrade Bridge Maintenance) of this **Schedule 3.2** (Engineering Services).
- 5.16.2 The Operator shall annually inspect, clean and perform maintenance and repairs as needed on all Culverts contained within the Service Property to maintain the Culverts in Good Working Condition, consistent with original design profiles. Inspections shall include digital photographs of the Culvert condition. All inspection and repair activity shall be recorded in the Commuter Rail IT Environment.
- 5.16.3 The Operator shall maintain and repair all Culverts to greater than or equal to design capacity. The Operator shall replace failed Culverts with a Culvert of equal size.
- 5.16.4 The Operator shall keep all Culvert approaches free and clear of all debris and vegetation.
- 5.16.5 The Operator shall replace six Culverts per Agreement Year. The Operator shall establish and provide an annual culvert replacement plan (ODRL 3.2-060) to the MBTA for approval, as part of the annual Engineering Services Plan. A preliminary plan shall be submitted no later than 120 days after NTP (ODRL 3.2-061).
- 5.16.6 The Operator shall maintain, install or replace culvert markers as necessary.
- 5.16.7 The Operator shall coordinate all maintenance, repair and replacement activities with all applicable permitting agencies.

6. SIGNALS AND COMMUNICATIONS

6.1 General

- 6.1.1 At a minimum, all existing, reconstructed, or newly accepted signal and communications systems located on the Service Property shall be maintained in Good Working Condition.
- 6.1.2 The Operator shall not modify MBTA signal and communication maintenance and construction standards unless authorized in writing by the MBTA's Chief Engineer.
- 6.1.3 Signal or communications systems shall not be installed, modified, or retired without prior written approval from the MBTA's Chief Engineer. When such

approval is given, it shall be the responsibility of the Operator to prepare all necessary documents for MBTA approval and file all necessary applications for authorization to the FRA, Federal Communications Commission and/or Mass DPU for new installations, modifications or removals. This application will be co-signed by the MBTA.

- 6.1.4 Emergency modifications may be performed in the interest of safety. Oral notification of such modifications will be accepted if received by the MBTA within four (4) hours of initiation of such modifications. The Operator shall provide a written request for final modifications within twenty-four (24) hours of such initiation, and shall include a detailed explanation of the required modifications and the reason emergency modification was initiated.
- 6.1.5 Any permanent modifications made to the signal or communication system shall be recorded in the Commuter Rail IT Environment and submitted to the MBTA Chief Engineer no later than 30 days after the modification is placed in service. Additionally, the Operator shall obtain all applicable warranty agreements in the name of the MBTA and provide any and all associated documentation to the MBTA. The Operator shall administer those warranties.
- 6.1.6 The Operator, when requested by the MBTA, shall furnish any plans, crossing layouts, or crossing traffic counts (ODRL 3.2-062) as may be necessary for the proper petitions to be prepared and brought before Mass DPU for potential changes to existing Mass DPU orders as may be required. These requirements shall hold true for other legal matters as identified by the MBTA.
- 6.1.7 Purchase and installation of material for maintenance or construction shall be performed in accordance with the Engineering Services Standards and the manual titled Standard Plans for Signal and Communications Systems. Any deviation from these standards shall require the prior written approval of the MBTA Chief Engineer.
- 6.1.8 The Operator shall coordinate field devices with the dispatching systems of foreign railroads performing dispatching services on the Service Property.
- 6.1.9 The Operator's signal and communications department shall be responsible for coordination with neighboring railroads and other abutters of the MBTA with regard to any failures of devices or other matters that result in public complaints or inhibit the safety of the general public. It shall be the responsibility of the Operator to take whatever measures are necessary to mitigate any such circumstances as described above.
- 6.1.10 The Operator shall provide the necessary support and documentation for any regulatory proceedings to eliminate the need for crossing tenders at any crossing on the Service Property.

- 6.1.11 Signal and communication cases and apparatus shall be kept sealed, locked, clean and free of all foreign material, such as: snow, ice, brush, rodents, insects, rust and graffiti.
- 6.1.12 Signal and Communications cases and apparatus shall be painted in accordance with the following painting schedule:
- 6.1.12.1 One-third of all apparatus shall be painted each calendar year. Paint type and colors shall be determined by the MBTA.
 - 6.1.12.2 Aluminum equipment will not require paint, unless necessary to improve visibility (such as in the case of signal backgrounds and hoods), or to obscure graffiti.
 - 6.1.12.3 Switch Machines shall be painted and numbered for identification on the machine cover.
 - 6.1.12.4 Apparatus requiring painting at more frequent intervals than described above shall be painted more frequently to improve the aesthetic appearance and prevent corrosion. Graffiti shall be removed expeditiously upon receipt of a report of graffiti in accordance with Sections 3.1 to 3.5 of this **Schedule 3.2** (Engineering Services).
 - 6.1.12.5 Acid resistant paint shall be used to protect signal cases and housings from battery acid damage. This paint shall be applied as required to prevent corrosion.
- 6.1.13 Only manufacturer-recommended or -approved replacement parts and procedures shall be used to repair broken signal and communication apparatus on a permanent basis. The Operator must be prepared to replace failed equipment with approved materials or rebuild as necessary, all parts deemed to be obsolete by the manufacturer.
- 6.1.14 Temporary repairs shall be permanently repaired commencing on the next business day after the installation of the temporary repair. In the event replacement parts are not readily available, MBTA shall immediately be notified in writing. The missing parts must be added to the “None on Hand” list per procedures described in **Schedule 3.4** (Materials Management and Procurement) of this Agreement and MBTA apprised on the status of parts order status until delivery is made and necessary repairs effected.
- 6.1.15 Material that can be much more economically repaired, or has proprietary rights or patents established, or is covered by warranty, may be repaired by an outside vendor. This would include materials such as circuit card repair and return, and the equivalent.

- 6.1.16 The Operator shall follow applicable FRA regulations regarding investigation and reporting of false proceeds. The Operator shall also submit the following reports to the MBTA after every false proceed:
- 6.1.16.1 A preliminary report (ODRL 3.2-063), within 24 hours of the reported false proceed, in electronic format.
 - 6.1.16.2 A final report (ODRL 3.2-064), within 15 days of the false proceed, filed on form FRA F 6180-14, in electronic format.
- 6.1.17 The Operator shall provide an annual signal failure reduction program (ODRL 3.2-065) for MBTA approval as part of the annual Engineering Services Plan. The goal of the program shall be to produce an annual five percent reduction from the previous Agreement Year's totals on all preventable signal failures causing train delays. Goals shall be met when a five percent reduction is achieved by the end of the MBTA fiscal year. A preliminary plan shall be submitted to the MBTA no later than 120 days after NTP (ODRL 3.2-066).
- 6.1.17.1 Non-preventable signal failures causing train delays shall be included in this program, but shall not require a yearly five percent reduction.
 - 6.1.17.2 Three failure areas shall be identified yearly by the Operator from the activity report categories, which shall require a five percent reduction from the previous Agreement Year's totals.
- 6.1.18 A monthly Train Delay Report shall be forwarded to the MBTA's Chief Engineer no later than the date of the submission by the Operator of its monthly invoice to the MBTA.
- 6.1.18.1 The report shall include a breakdown of preventable and non-preventable signal and communications failures.
 - 6.1.18.2 Adjustments to the report shall be made only after review and with concurrence of both the Operator and the MBTA Chief Engineer.

6.2 Tests and Inspections

- 6.2.1 All signal and communication systems in use on the Service Property shall be tested and inspected by the Operator to assure that they are all in Good Working Condition. This shall be accomplished by periodic tests and inspection of MBTA signal and communication systems and apparatus as required by this Agreement, MBTA's CS-1, FRA Parts 234 and 236, and any other applicable laws, rules or regulations.

6.2.2 In addition to meeting any applicable FRA reporting requirements the Operator shall submit the following reports to the MBTA after every FRA signal and train control test or inspection:

6.2.2.1 A preliminary written report (ODRL 3.2-067) by the end of the next business day of the test or inspection, in both hardcopy and electronic formats.

6.2.2.2 A final written report (ODRL 3.2-068) indicating the corrective action taken or plan to correct by the Operator, within two (2) business days of the preliminary written report, in electronic formats.

6.2.3 All corrections or repairs shall be made within time limits specified by FRA Parts 234 and 236 for correction.

6.2.4 Test and inspection dates and results, including digital photographs where appropriate, shall be recorded in the Commuter Rail IT Environment and summarized in the monthly Report on FRA Test Compliance (ODRL 3.2-069).

6.3 Signal and Communications Repair Facilities

6.3.1 The MBTA provides signal and communications repair facilities in which the Operator shall repair relays, switch machines, switch circuit controllers, and other signal and communications apparatus necessary to maintain the Service Property in a Good Working Condition.

6.3.2 These repair facilities provide limited space both inside and outside to build signal cases, bungalows and other apparatus necessary to support the performance of the Agreement Services. These repair facilities shall be used for repairing or constructing signal and communications apparatus to be used on the Service Property. For any other use of these repair facilities, the Operator must obtain prior written approval from the MBTA Chief Engineer.

6.4 Signal Design

6.4.1 The Operator shall produce and maintain a complete set of “as-built” plans reflecting the current circuitry on all new system installations or newly modified pieces of such systems. The Operator shall create these plans and store them in the Commuter Rail IT Environment (ODRL 3.2-070) within 30 days of the time any modification or new installation to the Service Property is placed in service.

6.4.2 Updated field plans reflecting changes made shall be supplied to the MBTA by the Operator within 30 calendar days of the time such field change is placed in service.

- 6.4.3 The Operator shall keep correct, as-in-service, up-to-date, and legible plans at all interlockings, control points, automatic signals, grade crossings and any other locations that are required by FRA Parts 234 and 236 regulations.
- 6.4.4 Six complete sets of current line plans, track charts, and interlocking books (ODRL 3.2-071) for active commuter rail routes shall be submitted to the MBTA by February 1st of each Agreement Year.

6.5 Supervisory Control Systems

- 6.5.1 Redundant carrier lines shall be maintained in an operable condition at all times when available and periodic testing/usage by the Operator shall be performed to ensure their integrity and that they are in Good Working Condition. The Operator shall ensure survivability and continuity of network services in the case of any catastrophic event or incident and ensure communications between CROCC and the CRMF, and as further required by **Schedules 3.15** (Intellectual Property; Ownership) through **3.17** (IT Security) of this Agreement.
- 6.5.2 Where available, MBTA communication facilities, including lines, wires, fiber optics, radio frequencies, and the like shall be used by the operator.
- 6.5.3 The Operator shall provide all qualified technical personnel required to maintain the programmable logic controllers (“PLCs”) used for supervisory control, as well as all electronic equipment used for train control systems including code servers, code emulators, and Vital Processor Control Interlockings.

6.6 Grade Crossings

- 6.6.1 The Operator shall provide information to the MBTA regarding railroad operations involving specific highway rail grade crossings upon request, including but not limited to, present and projected rail traffic (including transportation of hazardous materials); present and projected passenger traffic; present and projected track configuration and signaling; present and projected maximum authorized track speed and other conditions which may affect the planning for, and prioritization of, crossing improvements (ODRL 3.2-072).
- 6.6.2 When required by the MBTA, the Operator shall provide appropriate engineering and other technical assistance to Third Parties in designing and installing the warning system determined to be appropriate to a particular crossing.
- 6.6.3 Grade crossing gates, lights, and wires shall be properly attached to apparatus following appropriate AREMA Section 3 Standards and in accordance with FRA Part 234 Regulations. Grade crossing warning systems shall be maintained by the Operator in accordance with the appropriate sections of the MUTCD 2000 as modified by Mass DPU. Lights shall be aligned using AREMA Section 3.3.5 and Mass DPU standards. The use of Light Emitting Diode (“**LED**”) signal lamps is approved and their use is encouraged for signal lamps.

- 6.6.4 The Operator shall ensure all appropriate devices and appurtenances are in place and functioning, including but not limited to striping and advance warning lights.
- 6.6.5 The Operator shall remove vegetation from the Service Property, private property and roadways so that the view of the warning system from an approaching train or motorist is not obstructed.
- 6.6.6 The Operator shall establish and provide to the MBTA for approval, an annual grade crossing event recorder program (ODRL 3.2-073), as part of the annual Engineering Services Plan. The program shall provide a schedule for the Operator to purchase, install and maintain a minimum of 10 new event-recording devices per year at grade crossings. The Operator shall provide, with the program, a list of those grade crossings not equipped with recording devices for MBTA's input on prioritizing future installation schedules. Event recording devices shall have no fewer than 32 channels. The Operator shall provide a preliminary plan no later than 120 days after NTP (ODRL 3.2-074).
- 6.6.7 All recording devices shall be remotely accessible from end-user computers on the MBTA and the Operator computer networks, and individually addressable with a common communications protocol. All recording devices shall also be accessible via individual MBTA owned or outside telephone lines or facilities. Recording devices shall have the capability of transmitting emergency failure data to CROCC and CETC. Items to be recorded must include:
 - 6.6.7.1 Power off;
 - 6.6.7.2 Gate down, including fully horizontal position where available;
 - 6.6.7.3 Pushbutton manual interruption of crossing operation;
 - 6.6.7.4 Lamp out;
 - 6.6.7.5 All track circuit occupancies (approach track circuits & island track circuit); and
 - 6.6.7.6 Crossing stick conditions.
- 6.6.8 The Operator shall report to the MBTA all gate and grade crossing malfunctions that result in "fail unsafe" conditions. The Operator shall submit a report within 24 hours to the MBTA (ODRL 3.2-075) that provides the failure cause and all planned corrective actions.
- 6.6.9 The Operator shall maintain crossing approach distances of sufficient length to accommodate the existing maximum authorized track speeds and adjust them as necessary in the event that changing track conditions warrant track speed changes.

- 6.6.10 The Operator shall post and maintain the crossing name, milepost designation, and maintenance phone number for each highway-grade crossing on each crossing bungalow, or at the crossing if there is no bungalow, in accordance with the Engineering Services Standards.
- 6.6.11 As new highway-crossing technology is installed, the Operator shall maintain these systems. Technology included in the Operator's responsibility shall include maintenance of the following systems:
 - 6.6.11.1 Four-quadrant gate systems;
 - 6.6.11.2 Quiet zone systems;
 - 6.6.11.3 Vehicle detection systems;
 - 6.6.11.4 Traffic light preemption systems coordinated with the highway crossings;
 - 6.6.11.5 Visual monitoring systems;
 - 6.6.11.6 Police and fire department notification systems;
 - 6.6.11.7 Remote Terminal Units (such as ScadaNet) if installed; and
 - 6.6.11.8 Other technologies associated with highway crossing warning systems.

6.7 Wayside Signals and Interlockings

- 6.7.1 The focus of all signals shall be maintained by the Operator to provide the optimal sight distance at all times. This shall include adequate brush removal as required.
- 6.7.2 Under no circumstances shall any railroad material be stored in or around signal cases or signal masts.
- 6.7.3 Track wires and connectors shall be properly installed in accordance with rail industry practice, such as the Operator's standard plan for track wire connections, to avoid exposure to mechanical injury and/or vandalism and in accordance with all applicable FRA Parts 234 and 236 regulations.
- 6.7.4 Signal number plates shall be properly displayed so that signal identification cannot be mistaken. Signal interlocking bungalows shall have the interlocking identification name displayed on both sides of the bungalow at Central Instrument Locations, and at all entrances to the interlockings.

- 6.7.5 Lamp change out records showing last date changed shall be kept at each location. In addition, the change out date for each lamp with an appropriate apparatus identification number shall be recorded in the Commuter Rail IT Environment. The use of LED signal lamps is approved and their use is encouraged for signal lamps.
- 6.7.6 Up to date copies of the required tests of signal apparatus shall be kept in the signal instrument housing at all times, and copies maintained in an office file as required for inspection by FRA and Mass DPU inspectors per FRA Parts 234 and 236 (ODRL 3.2-076). These reports shall be made available to the MBTA upon request.
- 6.7.7 The Operator shall establish and provide to the MBTA for approval as part of the annual Engineering Services Plan, an Interlocking Event Recorder Program (ODRL 3.2-077) to provide, install and maintain a minimum of ten (10) new event recorders at interlockings each year. Additional event recording devices shall be used at interlockings for investigation of continuous failures without a determined cause. A preliminary program shall be submitted to the MBTA no later than 120 days after NTP (ODRL 3.2-078).
- 6.7.8 The Operator shall provide a list of those interlockings not equipped with recording devices by February 1st of each Agreement Year for MBTA's input on prioritizing installation schedules. This list shall be an appendix to the Interlocking Event Recorder Program (part of ODRL 3.2-077). The event recording devices shall provide the largest number of channels commercially available.
- 6.7.9 The recording devices shall be remotely accessible from MBTA offices and individually addressable by a standard PC with a common communications protocol, via individual MBTA owned or telephone company outside telephone lines or facilities. Items to be recorded must include:
- 6.7.9.1 Power off;
 - 6.7.9.2 Signal cleared or to stop;
 - 6.7.9.3 Request for signal cleared or to stop;
 - 6.7.9.4 Track circuit occupancy of all available track circuits including plant circuits and approach indications;
 - 6.7.9.5 Request for switch;
 - 6.7.9.6 Indication for switch;
 - 6.7.9.7 Fire alarm conditions;

- 6.7.9.8 Manual operation of interlocking;
 - 6.7.9.9 Intrusion alarms; and
 - 6.7.9.10 Bungalow temperature extremes.
- 6.7.10 The Operator shall develop and submit to the MBTA for approval a system-wide Switch Machine Replacement Plan (ODRL 3.2-079) as part of the annual Engineering Services Plan. Switch machines shall then be overhauled, renewed, or replaced by the Operator based upon that plan. The Operator shall expect to replace 10 switch machines per Agreement Year. The Operator shall submit a preliminary plan no later than 120 days after NTP (ODRL 3.2-080).
- 6.8 Pole Line, Wire, and Cable
- 6.8.1 Temporary wires or twisted pair shall be replaced promptly, in accordance with FRA Regulations, but not to exceed 30 calendar days.
 - 6.8.2 All wiring and cabling shall be protected from damage, inspected, and tested in accordance with the Engineering Services Standards, Rail Industry Standards, and FRA requirements. Wire and cable shall be replaced as part of the Annual Fee when damaged through negligence on the part of the Operator.
 - 6.8.3 All pole line wire and cabling shall be maintained in accordance with the guidelines set forth in the Engineering Services Standards.
 - 6.8.4 The Operator shall develop and submit to MBTA for approval, as part of the annual Engineering Services Plan, a suggested Pole Line Retirement and Replacement Plan (ODRL 3.2-081) with prioritized pole line segments requiring more immediate replacement listed first. The Operator shall submit to the MBTA a preliminary suggested Pole Line Retirement and Replacement Plan no later than 120 days after NTP (ODRL 3.2-082).
 - 6.8.5 As part of the annual Engineering Services Plan, the Operator shall establish and provide to the MBTA for approval an annual Pole Replacement Program (ODRL 3.2-083). This program shall include an updated list of defective poles and a schedule for planned replacements. The Operator shall be required to replace a minimum of 50 poles per Agreement Year and wiring as necessary to keep the system functioning and in Good Working Condition. The Operator shall submit to the MBTA a preliminary plan no later than 120 days after NTP (ODRL 3.2-084).
- 6.9 Communications
- 6.9.1 MBTA shall continue to provide existing 222 exchange telephone extensions and certain other communication lines as required to perform the Agreement

Services. Additional lines required by the Operator shall be at the Operator's sole cost and expense.

- 6.9.2 The Operator shall provide 24 hour alpha-numeric messaging service to alert the Operator and designated MBTA staff of service related incidents.
- 6.9.3 MBTA shall provide to the Operator radio base station licenses in the MBTA's name.
- 6.9.4 The Operator shall complete, on behalf of the MBTA, license applications and materials for MBTA's submission to licensing authorities.
- 6.9.5 The Operator shall maintain all mobile, portable or otherwise two-way radios, base stations and antennas, including those used by the MBTA, in Good Working Condition.
- 6.9.6 The Operator shall maintain all radio equipment located in locomotives and cab coaches. Such radios are currently maintained by the Engineering Department in the Radio Shop Facility.
- 6.9.7 The Operator shall maintain all communication equipment, public address and intercom systems used to perform the Agreement Services in Good Working Condition. These shall include the LED scrolling sign systems installed at train stations and vehicle location systems (GPS, wayside transponders, and the like).
- 6.9.8 The Operator shall maintain the MBTA-owned fiber optic systems used for the provision of Agreement Services. This shall include all telecommunications interfaces and/or telephone, code lines, radio lines and data lines that interface with the systems.

7. ELECTRICAL

7.1 General

- 7.1.1 The Operator shall provide complete electrical service and maintenance, and provide a reliable and adequate power source for all of the Service Property, including but not limited to buildings, stations, layover facilities, roadways, grade crossings, switch heaters, substations, area lighting and draw bridges.
- 7.1.2 The Operator shall develop and submit to the MBTA Safety Department within 90 days after NTP a Lock-Out Tag-Out Procedure (ODRL 3.2-085) to protect workers from electric shock hazards.
- 7.1.3 The Operator shall review the available database of electrical and lighting equipment provided by MBTA and field inspect all of the Service Property to familiarize the Operator Personnel with the type and quantity of equipment that requires testing and maintenance. The Operator shall add any existing or

additional equipment that provides electrical service or lighting to the Service Property to complete the database (ODRL 3.2-086). This must be done no later than 120 days after NTP.

- 7.1.4 The Operator shall develop complete records for all electrical and lighting equipment on the Service Property and maintain them in the Commuter Rail IT Environment. These records shall contain, at a minimum, specific information with regard to the types of maintenance and testing required, and the testing frequency. After the Agreement Services Commencement Date, the Operator shall update these records with any changes in equipment or procedures.
- 7.1.5 The MBTA will make available to the Operator the Commuter Electrical Department Millennium Edition Rules and Procedures document as a reference. Based on this document and industry standards, the Operator shall develop rules and procedures for electrical testing and maintenance (ODRL 3.2-087) and submit these for MBTA approval within 90 days after NTP.
- 7.1.6 The Operator shall maintain a membership within the IEEE, for the benefit of itself and the MBTA, as requested. The Operator shall provide a copy of all IEEE manuals to the MBTA.

7.2 Testing and Maintenance Responsibilities

- 7.2.1 The Operator shall test and maintain all electrical and lighting equipment on the Service Property in accordance with the following standards:
 - 7.2.1.1 Wherever applicable, the Operator shall adhere to the International Electrical Testing Association (“**NETA**”) Maintenance Testing Specifications, MTS-2011. This document may be downloaded from: <http://www.techstreet.com/cgi-bin/detail?docno=neta%7Cmts2011;productid=1800106>.
 - 7.2.1.2 Where requirements are not specifically detailed in the reference standard noted in Section 7.2.1.1 of this **Schedule 3.2** (Engineering Services), the Operator shall test and maintain equipment per the FM Global Publication 5-20, dated September 2007.
 - 7.2.1.3 Where requirements are not specifically detailed in the reference standards noted in Sections 7.2.1.1 and 7.2.1.2 of this **Schedule 3.2** (Engineering Services), the Operator shall test and maintain equipment per the manufacturer’s recommendations at a minimum, or in the absence of those, per good engineering practice.
- 7.2.2 The Operator shall set the frequency for electrical and lighting equipment testing and maintenance according to the following guidelines:

- 7.2.2.1 Wherever applicable, the Operator shall adhere to Appendix B of the NETA Maintenance Testing Specifications, MTS-2011, using the matrix multiplier of 1.0.
- 7.2.2.2 Where requirements are not specifically detailed in the reference standard noted in Section 7.2.2.1 of this **Schedule 3.2** (Engineering Services), the testing and maintenance frequency shall be as per FM Global Publication 5-20, dated May 2001.
- 7.2.2.3 Where requirements are not specifically detailed in the reference standards noted in Sections 7.2.2.1 and 7.2.2.2 of this **Schedule 3.2** (Engineering Services), the testing and maintenance frequency shall be as per the manufacturer's recommendations at a minimum, or in the absence of those, per good engineering practice.
- 7.2.3 The Operator shall be responsible for the implementation of all electrical and lighting testing and maintenance activities, including but not limited to scheduling, utility coordination, outage duration, and notification.
- 7.2.4 The Operator shall keep the MBTA apprised of activities in this area on a monthly basis, through the reporting and meeting requirements described below.
- 7.2.5 The Operator shall notify the MBTA at least 35 days prior to planned outages that affect the operation of trains or stations (ODRL 3.2-088), and shall notify the MBTA immediately in the case of unplanned outages (ODRL 3.2-089), in accordance with Sections 2.2.4 and 2.2.5 of this **Schedule 3.2** (Engineering Services).
- 7.2.6 The Operator shall record all electrical testing and maintenance activities and results in the Commuter Rail IT Environment. The Operator shall provide a monthly report, in electronic format, to the MBTA containing a comprehensive summary of all electrical maintenance and testing activities and results for the previous month, as well as anticipated activities for the coming month (ODRL 3.2-090). The Operator shall submit a template showing the proposed form for these reports to the MBTA within 90 days after NTP (ODRL 3.2-091).
- 7.2.7 The Operator shall schedule and attend monthly meetings with the MBTA and be prepared to provide and discuss a summary of electrical maintenance and testing activities and results for the previous month, as well as anticipated activities for the coming month. The Operator shall publish and distribute a schedule for these meetings (ODRL 3.2-092) as well as prepare and distribute to all stakeholders a meeting agenda prior to each meeting (ODRL 3.2-093).
- 7.2.8 The Operator shall inspect and maintain all lighting on the Service Property, including without limitation, stations, yards, buildings, roads, and parking lots. The Operator shall inspect all lighting installations on a monthly basis at a

minimum. All lighting shall be inspected and maintained so that no less than 90% of the lighting at every location is illuminated. Unlit areas shall not exceed 10% of lighting at any one location. If an unlit area or any lighting deficiency is concentrated so as to create a dark spot, it shall be corrected immediately. Every effort must be made to achieve 100% lighting at all locations.

- 7.2.9 The Operator shall repair or replace all ballast, lenses and vandal shields if they are found to be defective. When replacing bulbs, the Operator shall ensure that the fixture is aimed correctly and ensure that any house side shields are reinstalled. Light bulbs shall be replaced by the Operator on an annual basis and as otherwise directed by the MBTA.
- 7.2.10 The Operator shall clean all light fixture lenses when replacing bulbs. All replacement light bulbs shall be mercury free.
- 7.2.11 Where the MBTA utilizes Third Party cleaning contractors on the Service Property, the Operator shall supply the Third Party cleaning contractors with mercury free light bulbs to be used as replacements. Lighting and electrical fixtures installed or replaced shall be tamper-resistant and in accordance with the Engineering Services Standards. Any fixtures replaced must provide more light than that which existed previously, except with the express written permission of the MBTA Chief Engineer.
- 7.2.12 The Operator shall develop and implement a thermo graphic survey (infrared testing) program, based upon the history of failures and problems discovered during maintenance and testing procedures (ODRL 3.2-094). At a minimum, the Operator shall perform infrared testing on all substations and other critical equipment annually. Infrared testing shall conform to the requirements set forth in the NETA Maintenance Testing Specifications, MTS-2011.
- 7.2.13 The Operator shall maintain the layover ground power receptacles and all layover facilities in a Good Working Condition.
- 7.2.14 The Operator shall test and maintain fire alarm and detection systems on the Service Property as per NFPA 72.
- 7.2.15 The Operator install fire protection systems on the Service Property as per NFPA 25. The frequency shall be as indicated in NFPA 25 Table 2-1.
- 7.2.16 The Operator shall provide all resources and maintain inventory and parts required for the maintenance of electrical systems and lighting on the Service Property in a timely fashion. The Operator shall record and monitor inventory in the Commuter Rail IT Environment.
- 7.2.17 The Operator shall be responsible for identifying testing and maintenance measures with the potential to reduce cost, save time, simplify procedures, or the like, to the MBTA. The Operator shall recommend these measures in report form

as measures are identified. These reports shall contain cost estimates for the improvements or changes, and estimated annual or one-time savings. These reports shall be submitted no less than annually.

7.3 Inspection, Maintenance and Operation of Electric Switch Heaters

- 7.3.1 The Operator shall inspect, maintain and operate all electric switch heater systems, including any associated appurtenances, contained within the Service Property.
- 7.3.2 The Operator shall maintain track switch snow melting equipment as installed and in accordance with the latest revision of MBTA Standard Plan 3040 "Typical Snow Melter Layout." In the case of older installations, they shall be maintained until replaced in accordance with MBTA Standard Plan 3040.
- 7.3.3 In preparation for the winter season, the Operator shall ensure that all electric switch heaters are in Good Working Condition by September 15th of each Agreement Year.

7.4 Energy Conservation and Utilization

- 7.4.1 The Operator shall provide energy conservation and utilization audits for all of the Service Property maintained pursuant to this Agreement and subject to energy consumption. The Operator shall be responsible for reviewing on a monthly basis all energy bills for correctness and consistency with invoicing and consumption over the previous 12 months. The Operator shall investigate and reconcile any unusual energy consumption and invoicing. A summary report of all energy conservation and utilization audits shall be submitted to the MBTA no less than annually (ODRL 3.2-095).
- 7.4.2 The Operator shall be responsible for inputs to the Commuter Rail IT Environment for all electric services that contains monthly kW and kWh consumption and related billing data, along with class of service, location information, service number and other data pertinent to the MBTA (ODRL 3.2-096). The location information shall be listed in sufficient detail so as to be understandable to a person without Railroad expertise to interpret without confusion. The Operator shall ensure current records for Operator and MBTA use and shall update continuously and be available on to the MBTA on request.
- 7.4.3 The Operator shall review, in conjunction with the appropriate utility companies, on an annual basis each electric service to determine if it is billed under the most cost beneficial electric tariff available. The Operator shall re-negotiate the service tariffs for any services that are not on the best tariff to receive electric service under the most cost-effective tariff, subject to MBTA approval.

- 7.4.4 The Operator shall scan the energy market environment on a monthly basis to uncover the least expensive commodity prices available and secure such commodity if it proves to be both reliable and adequate.
- 7.4.5 The Operator shall work with utilities and energy service companies to audit energy end-uses to implement cost effective load management strategies and electric service consolidations.
- 7.4.6 The Operator shall work with utilities and energy service companies to audit each energy use at each building, facility and station for the purpose of investigating and implementing energy efficiency measures and equipment that are cost effective. These measures will include, but not be limited to lighting system improvements.
- 7.4.7 The Operator shall work with utilities and energy service companies to investigate and implement the most cost effective energy conservation measures that are outlined in energy audits.
- 7.4.8 The Operator shall be responsible for developing a strategy and implementing a program that details the judicious use of switch heaters for minimizing energy consumption without impairing their intended use nor contributing to any service delay.
- 7.4.9 The Operator shall be responsible for developing a strategy and implementing a program for minimizing energy consumption of layover facility ground power receptacles. This shall be submitted for MBTA review and approval no later than 120 days after NTP (ODRL 3.2-097) and updated annually and included with the annual Engineering Services Plan (ODRL 03-098).

7.5 Non-Revenue Vehicles and Work Equipment

- 7.5.1 The non-revenue vehicles and work equipment include those owned by the MBTA or owned or leased by the Operator as specifically used by the Operator or the MBTA for the provision of the Agreement Services, and as set forth in more detail in the Asset Register. The Operator shall maintain all such non-revenue vehicles and work equipment in Good Working Condition in accordance with the Engineering Services Standards.
- 7.5.2 The levels of maintenance described herein are not all-inclusive and are intended to provide direction for the Operator to provide quality non-revenue vehicle and work equipment maintenance with the intent to avoid the deferral of maintenance.
- 7.5.3 All non-revenue vehicles and work equipment used by the Operator shall be maintained in Good Working Condition. Levels of maintenance shall be in accordance with manufacturer's standard recommended maintenance

instructions unless governed by other special conditions (i.e. rental or lease contracts).

- 7.5.4 Work equipment shall be repaired at the West Cambridge Work Equipment Facility or at other locations subject to prior written approval by the MBTA.
- 7.5.5 The MBTA reserves the right, at its sole discretion, to use its own or contracted maintenance services for any of the non-revenue vehicles or work equipment.
- 7.5.6 All non-revenue vehicles and work equipment shall be maintained by the Operator in accordance with all applicable state and federal codes, laws and regulations.
- 7.5.7 In performing maintenance for non-revenue vehicles, the Operator shall be sensitive to the aspect of public image, including without limitation, the general appearance of the non-revenue vehicles and work equipment. The Operator shall not apply decals, bumper stickers, or other materials not related to the Agreement Services to any surface on non-revenue vehicles and work equipment. The Operator shall remove all such materials immediately upon discovery or notification by the MBTA, including graffiti.
- 7.5.8 The Operator shall maintain current all appropriate permits, registrations, inspections, certificates, licenses, etc. relating to the operation and maintenance of non-revenue vehicles and work equipment. All non-revenue vehicles and work equipment used by the Operator or MBTA shall be properly registered. Registrations shall be made with the appropriate local, state and/or federal governing agency and maintained current at all times. The Operator shall provide, and keep up-to-date at all times, inspection stickers of all vehicles.
- 7.5.9 The MBTA reserves the right, at its sole discretion, to direct the Operator to perform any emergency or safety-sensitive maintenance or repairs to any non-revenue vehicle or work equipment unit.
- 7.5.10 The Operator shall perform annual non-revenue vehicle and work equipment inspections. The inspections shall be documented using a standardized inspection form (ODRL 3.2-099) and be performed by the Operator's equipment and/or automotive engineer with an MBTA representative. The results of the inspection shall be entered into the Commuter Rail IT Environment. The template for this inspection form shall be submitted to the MBTA no later than 120 days after NTP.
- 7.5.11 Non-revenue vehicles shall be washed inside and outside monthly, or more frequently as directed by the MBTA, by private local businesses licensed and permitted for such activity.

- 7.5.12 Any Operator Personnel involved in three or more accidents in any three year period in MBTA-owned non-revenue vehicles shall be barred from driving such vehicles.
- 7.5.13 The Operator shall provide to the MBTA an annual fuel (diesel and gasoline) usage audit report (ODRL 3.2-100) covering any and all maintenance of way fueling stations and Operator issued fuel credit cards. The report shall indicate monthly consumption information by fuel type, vehicle number, and average miles per gallon, vehicle operator, and location of fueling operation, gallons filled during each transaction. The Operator, within 90 days of NTP, shall submit an initial report form to the MBTA for approval (ODRL 3.2-101).
- 7.5.14 All Operator Personnel who operate specialized non-revenue vehicles shall be properly licensed.
- 7.5.15 All Operator truck drivers shall have a hoisting-engineers license valid for the operation of the hoisting equipment that may be attached to the equipment to which they may be assigned.
- 7.5.16 The Operator shall perform at least a yearly review of operator's licenses' to ensure that MBTA equipment is only operated by appropriately licensed individuals. This requirement includes drivers, hoisting, and any other licenses that may be required by state law to operate equipment. A copy of said review shall be submitted to the MBTA for its records (ODRL 3.2-102).

8. SNOW REMOVAL

- 8.1.1 The Operator is responsible for snow removal, sanding, and salting operations at all locations on the Service Property, exclusive of locations where these operations are performed pursuant to contracts with Third Parties, by municipalities or by the MBTA. The Operator shall plan for and react quickly to remove ice and snow from traveled areas to keep users of the Service Property safe and minimize liability to the MBTA and the Operator.
- 8.1.2 The Operator shall establish and provide a snow removal plan to the MBTA for approval no later than Labor Day of each Agreement Year (ODRL 3.2-103). The plan shall identify labor, equipment, materials, management, repair facilities, chronological station assignments, initial starting points, back-up contractors, important names and phone numbers, and preseason activities. The plan shall include a strategy for effectively utilizing the Operator's labor resources during storm events. The plan shall also identify responsibilities in Transportation, Mechanical, and Customer Service areas. All preseason activities shall be performed by November 15th of each Agreement Year.
- 8.1.3 By November 15th of each Agreement Year, the labor forces assigned to clean station platforms shall have shovels, brooms, pushers, snow blowers, gas, oil,

sand, and salt stored at all locations. Labor forces assigned to draw and swing span bridges shall be equipped with brooms, shovels, salt and sand. The Operator shall submit to the MBTA a completed pre-season checklist and status report including, but not limited to, the above items, by September 15th (ODRL 3.2-104) of each Agreement Year and updated at least monthly through the winter season. This material shall be treated as Critical Material as provided by Section 1.7, 1.8 and 1.9 of **Schedule 3.4** (Materials Management and Procurement).

- 8.1.4 A storm-specific plan shall be discussed and submitted prior to the start of every snowfall (ODRL 3.2-105). During the execution of the storm-specific plan, all available personnel and equipment resources shall be deployed with safety and passenger convenience as the primary considerations. The storm specific plan shall also take into consideration Operator Personnel fatigue.
- 8.1.5 The Operator shall perform as much snow removal as possible with maintenance employees who are involved in providing the Agreement Services on a full-time basis.
- 8.1.6 The Operator shall keep all platforms, walkways, ramps and parking areas clear of ice and snow. The Operator shall conduct snow removal from all building, facility, station and parking lot areas not the responsibility of Third Parties. This work will be compliant with all federal, state and local accessibility laws and regulations.
- 8.1.7 The Operator shall inspect and oversee snow removal work performed by Third Parties, to keep users of the Service Property safe and minimize liability to the MBTA and the Operator. The Operator shall notify the MBTA if a Third Party fails to perform snow removal duties. The Operator shall coordinate and cooperate with the MBTA Real Estate Department for issues involving snow removal with a Third Party to ensure that all parking lots are usable for Commuter Rail customers.
- 8.1.8 Snow removal shall begin no later than when a snowfall of two inches has accumulated when any storm forecast projects an accumulation of more than four inches or when icy conditions on streets and walkways require sanding or salting. Snow removal shall continue uninterrupted until snow removal is complete.
- 8.1.9 The Operator shall remove snow from platforms, sidewalks, roadways, parking spaces, auxiliary areas, and any area where snow poses a safety risk to Customers, Operator Personnel, or the general public. This work shall be scheduled when possible such that these areas are completely cleared of snow prior to the beginning of the next rush hour.

- 8.1.10 Snowstorms forecast to be less than four inches shall be addressed for safety concerns immediately, but may otherwise await daylight for the complete snow removal effort.
- 8.1.11 The Operator is encouraged to manage deployment of personnel to maximize the alertness of snow removal personnel.
- 8.1.12 In the event conditions change during the storm, the Operator shall be prepared to address a storm event of greater than four inches without incurring a significant delay or safety hazard. Ice and freezing rain reports shall be addressed immediately and shall also be actively inspected for such conditions. Repeated and continued due diligence by the Operator shall be required to satisfactorily prevent an unsafe or hazardous condition from developing.
- 8.1.13 The Operator shall consult with and take direction from the Senior Director or his or her designee when there are conflicting weather forecasts.
- 8.1.14 Sand and/or chemicals shall be applied in the manner and quantities stipulated in the Operator's snow removal plan. At all times, application of these materials shall be performed in accordance with all applicable laws, rules and regulations. At no time shall salt or salt-based chemicals be applied to any concrete surface in quantities that will cause damage to the concrete surface.
- 8.1.15 Ice melting agents shall always be applied by the Operator immediately following each snow removal "pass" and when slippery conditions are anticipated.
- 8.1.16 When snow piles reach a level that restricts parking or interferes with pedestrian traffic, snow removal operations shall be implemented by the Operator.
- 8.1.17 The Operator shall plan for and react quickly to remove ice and snow from all Pedestrian Structures and traveled areas to keep users of the Service Property safe and minimize liability to the MBTA and the Operator.
- 8.1.18 Bridge tenders shall ensure drawbridges are in operable condition at all times.
- 8.1.19 The Operator shall perform snow removal activities so that layover facilities are accessible at all times.
- 8.1.20 The Operator shall remove snow and ice from track and switches to allow for the safe and unimpeded passage of trains and to ensure service is provided and available at all scheduled times.
- 8.1.21 The Operator shall develop and implement operating rules and procedures for on-track snow plows to efficiently and safely remove snow from tracks without causing damage to track structure, wayside infrastructure or grade crossings.

- 8.1.22 The Operator shall control ice buildup in tunnels during the winter months so as not to interfere with tunnel clearance and the safe movement of trains.
- 8.1.23 Emergency escape hatches associated with tunnels must be kept clear of snow. Measures must be taken to assure that these hatches never freeze. Weekly inspections and testing must be conducted and documented as directed by the MBTA in the Commuter Rail IT Environment to assure that snow and ice are not interfering with proper hatch operation.
- 8.1.24 All fire protection standpipes at street level and corridor level shall be cleared of snow by the Operator immediately following a snowstorm.
- 8.1.25 Within 48 hours of a major winter storm or as directed by the MBTA, the MBTA Chiefs of Transportation, Mechanical and Engineering shall meet with their Operator counterparts, and evaluate the level of service attained during the storm.
 - 8.1.25.1 Planning for improvements and correction of any deficiencies will commence at this time. The MBTA may prescribe special instructions to implement improvements or corrective actions.
 - 8.1.25.2 The Operator shall provide a post-storm fitness report (ODRL 3.2-106) identifying any damage encountered and the general condition of the Service Property.
- 8.1.26 All damages to parking areas caused by snowplowing shall be repaired by the Operator as soon as possible and not later than May 1st of each Agreement Year.

9. OTHER ENGINEERING SERVICES

- 9.1.1 The Operator shall provide other engineering services as may be required for the performance of the Agreement Services. These engineering services may include surveys, design, development of plans, layouts, sketches, pictures, staging and phasing plans, and other engineering functions that are normally required in the operation and maintenance of a railroad. Unless otherwise stated, these services are to be included in the Annual Fee.
- 9.1.2 The Operator shall assist the MBTA, as requested, with engineering services related to Service Property licenses and easements, including plan preparation.
- 9.1.3 The Operator shall maintain files and provide copies of all Service Property construction and valuation plans for the Service Property maintained pursuant to this Agreement and that are currently in the control of the Operator. For any new work performed on or within the Service Property, the Operator shall provide the MBTA with a complete set of updated plans and/or documents in electronic and hard copy formats within 30 days following completion of the work. The Operator shall provide plans as necessary for control of encroachments. The

Operator shall provide testimony and work with MBTA lawyers to control encroachments.

- 9.1.4 The Operator shall provide drafting services for property maintenance, presentation documents for the MBTA, and support capital acquisition appropriation requests or as otherwise requested by the MBTA.
- 9.1.5 The Operator shall provide inspection and testing of track and signal systems before placing or restoring these systems to service following an Operator outage. The Operator shall further ensure the safety compliance of all work done on the Service Property resulting from Third Party work.
- 9.1.6 The Operator shall comply with all MBTA Standard Plans, material specifications, design criteria, work practices and methods, and use only MBTA-approved materials in performing the Agreement Services and in designing modifications, improvements or additions to the Service Property.
- 9.1.7 The Operator shall provide all disciplines of engineering from its own staff or subcontracted consultants to properly inspect, maintain, design, engineer, review or to professionally ensure that the Service Property is maintained pursuant to this Agreement is kept safe and properly maintained and constructed.
- 9.1.8 The MBTA shall issue all Service Property licenses and easements to Third Parties, as deemed appropriate by the MBTA. The Operator shall not have the authority to issue Service Property licenses and easements to Third Parties. The Operator shall update the plans for the Service Property to include such licenses and easements.
- 9.1.9 The Operator shall provide engineering reviews of plans and specifications submitted by or on behalf of Third Parties and shall arrange for reimbursement of expenses incurred in its services from such Third Parties.
- 9.1.10 Consistent with **Schedule 3.11** (Construction Support Including PTC), the Operator shall provide engineering reviews for MBTA Construction Directorate projects unless the Operator is directed otherwise.
- 9.1.11 The Operator shall provide all survey services for maintenance and property control. Any plans requiring certification shall be certified by a Registered Surveyor licensed in the Commonwealth of Massachusetts at no additional cost to the MBTA.
- 9.1.12 The Operator shall investigate, respond to and attempt to resolve complaints and problems on and along the Service Property that result from the performance of the Agreement Services.

- 9.1.13 The Operator shall make available to MBTA sufficient personnel that are qualified and authorized by the Operator to support the MBTA and/or Other Contractors for Supplemental Work.
- 9.1.14 The Operator shall provide up to four employees, of the classifications as requested from time to time by the MBTA, at no additional cost to the MBTA. Each of the above provided employees shall work at the direction of the MBTA.
- 9.1.15 The Operator shall provide all flagging services required to support bridge work performed by Other Contractors or Third Parties or otherwise on the Service Property, including the Attleboro Line upon direction by the MBTA. Flagging services described in this Section 9 (Other Engineering Services) to this **Schedule 3.2** (Engineering Services) shall be compensated pursuant to direct agreements with such other Contractors or Third Parties.
- 9.1.16 The Operator shall ascertain any and all railroad construction and maintenance requirements for fiber optic companies, utilities and other Third Party occupants of the Service Property and comply with such requirements. MBTA Real Estate shall provide copies of agreements upon request by the Operator.
- 9.1.17 The Operator shall provide three (3) dedicated and qualified employees who shall operate CADD equipment on a full time basis, to convert as many existing MBTA plans as possible to CADD drawings each Agreement Year. The MBTA shall establish the priority order for the existing plans to be converted to CADD.
- 9.1.18 The Operator shall scan and create an electronic index of at least 10,000 drawings per Agreement Year. The priority order for scanning shall be determined by the MBTA. The Operator shall create a complete set of "as-built" plans in the Commuter Rail IT Environment.
- 9.1.19 Existing "as-built" plans shall be maintained in accordance with FRA regulations at all times. Once plans are created in or converted to electronic CADD format, they shall be maintained without "mark ups" in a 100% correct and accurate state.
- 9.1.20 All CADD work shall utilize the latest version of CADD software compatible with MBTA software.
- 9.1.21 Electronic copies of any new or updated CADD files shall be forwarded to the MBTA so as to keep the MBTA set of plans current at all times.
- 9.1.22 The Operator shall staff and operate the Plan Room located at 32 Cobble Hill Road, 1st Floor Rear; Somerville, MA 02143 with qualified staff, subject to the approval of the MBTA Chief Engineer. Plan Room duties include, without limitation, neat and orderly storage of plans, protecting plans from damage, controlling access to Third Parties, plan copying, safe and appropriate handling of plans, Third Party billing, and cataloguing of new and updated plans. Failure

of Plan Room staff to perform their duties may be deemed Conduct Unbecoming an Employee.

10. WRECK CLEARING

- 10.1.1 General. Operator shall clear wrecks that involve MBTA trains and restore to operation all affected Agreement Services.
- 10.1.2 Specific Other Wrecks. The MBTA may direct Operator to assist in clearing wrecks involving a foreign railroad operating on MBTA property or other MBTA agency. The respective rights and obligations of the foreign railroad and the MBTA shall be governed by the terms and conditions of agreements, if any, between the MBTA and that railroad. Operator shall be responsible for coordinating with the dispatching railroad where a wreck occurs on territory dispatched by a Third Party.

11. WIND TURBINES

- 11.1.1 The Operator will operate and maintain the 100 KW wind turbine currently located in Kingston, MA adjacent to the Kingston Layover.
- 11.1.2 The Operator will operate and maintain the newly built wind turbine located on the Commuter Rail right of way directly adjacent to Titicut grade crossing in Bridgewater.
- 11.1.3 Both the Kingston and the Bridgewater wind turbines will be operated and maintained pursuant to the O&M Manual provided by the applicable manufacturer of the wind turbine.

12. MBTA ENGINEERING REPAIR OPTION

- 12.1 Notwithstanding anything to the contrary and in addition to the MBTA's other rights and remedies, should the Operator fail to timely make any repairs, make any replacements or otherwise service or maintain the Service Property (collectively, "**Required Work**") as required in this **Schedule 3.2** (Engineering Services), the MBTA shall have the option of either performing the Required Work itself or engaging a Third Party to perform the Required Work (the "**MBTA Engineering Repair Option**"). The MBTA shall provide the Operator with three (3) days' prior notice of its election to perform an MBTA Engineering Repair Option so as to afford the Operator a final opportunity to agree to perform the Required Work. Should the Operator refuse to perform the Required Work or fail to respond to the MBTA, then the MBTA shall have the right to set off (pursuant to Section 47 (Set Off) of **Part 1**) an amount equal to the cost of the Required Work, plus a reasonable MBTA administration fee (the "**Repair Option Cost**") by either (i) estimating the Repair Option Cost and offsetting the same from the Fixed Fee for the applicable Reporting Period in which the estimate is prepared, or (ii) offsetting the Repair Option Cost against the Fixed Fee for those Reporting Periods in which the MBTA incurs Repair Option Costs. Should the MBTA elect to estimate the Repair Option Cost, then

it shall either reimburse the Operator (in the case of an overestimate) or set off (in the case of an underestimate) from the Fixed Fee for the Reporting Period any amount due, promptly following the conclusion of the Required Work.

13. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.2-001	Engineering Services Plan	90 days after NTP
ODRL 3.2-002	Annual Engineering Services Plan	February 1st of each Contract Year.
ODRL 3.2-003	Reserved	
ODRL 3.2-004	Annual Recommended Capital Improvement Plan	February 1, annually
ODRL 3.2-005	Track Outage Report	Weekly
ODRL 3.2-006	FRA Mandated Track & Right-of-Way Inspection Reports	As Required
ODRL 3.2-007	Supervisory Track & Right-of-Way Inspection Reports	Monthly
ODRL 3.2-008	Track Geometry Car Inspection Report	Each July 1, Oct. 1, Jan. 1, and April 1
ODRL 3.2-009	Grade Crossing Inspection Report	Annually
ODRL 3.2-010	Special Track & Right of Way Reports	After Severe Weather
ODRL 3.2-011	Turnout Inspection Report	Monthly
ODRL 3.2-012	Joint Switch Inspection Report	Monthly
ODRL 3.2-013	Track Inspection Summary Report	Monthly
ODRL 3.2-014	Rail Testing and Corrective Action Report	After Testing
ODRL 3.2-015	Rail Grinding Plan	February 1, annually
ODRL 3.2-016	Rail Replacement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-017	Tie Replacement Plan (becomes part of ODRL 3.2-002)	February 1 of 1st. Contract Year.
ODRL 3.2-018	Temporary Speed Restriction Removal Schedule	120 days after NTP
ODRL 3.2-019	Grade Crossing Improvement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-020	List of Flood-Prone Locations & Mitigating Measures (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-021	Drainage Ditch Reshaping Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-022	Fencing Installation Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-023	Structural Inspection Report	Annually
ODRL 3.2-024	Station Inspection Form	90 days after NTP
ODRL 3.2-025	Quarterly Facility Inspection (uses ODRL 3.2-018)	Quarterly
ODRL 3.2-026	Preliminary Support Property & Facilities Maintenance Plan.	90 days after NTP
ODRL 3.2-027	Support Property & Facilities Maintenance Plan (Becomes part of Annual Engineering Services Plan, ODRL 3.2-002)	Annually

ODRL	Description	Due Date
ODRL 3.2-028	Facility Inspection Form	90 days after NTP
ODRL 3.2-029	Rolling Stock Support Equipment (RSSE) Condition Assessment	120 days after NTP
ODRL 3.2-030	RSSE Condition Assessment Update (becomes part of Annual Engineering Services Plan – ODRL 3.2-002)	Annually
ODRL 3.2-031	RSSE Good Working Condition Program (becomes part of Annual Engineering Services Plan – ODRL 3.2-002)	Annually
ODRL 3.2-032	RSSE Normal Replacement Program (becomes part of Annual Engineering Services Plan – ODRL 3.2-002)	Annually
ODRL 3.2-033	Building & Facility Operating & Access Hours	As needed & annually
ODRL 3.2-034	Station Cleaning Schedule (becomes part of Annual Engineering Services Plan – ODRL 3.2-002)	Annually
ODRL 3.2-035	Station Cleaning Report	Monthly
ODRL 3.2-036	Fire Protection System & Call Box Inspection Reports	Upon request
ODRL 3.2-037	Preliminary Elevator & Escalator Inspection & Maintenance Program	120 days after NTP
ODRL 3.2-038	Elevator & Escalator Inspection & Maintenance Program (becomes part of Annual Engineering Services Plan – ODRL 3.2-002)	Annually
ODRL 3.2-039	Preliminary Station, Building and Facility Maintenance Program	120 days after NTP
ODRL 3.2-040	Station, Building and Facility Maintenance Program (becomes part of Annual Engineering Services Plan – ODRL 3.2-002)	Annually
ODRL 3.2-041	Station Building and Facility Services Staffing Plan Update	Monthly
ODRL 3.2-042	Landscaping Plan	By March 1st of each Contract Year.
ODRL 3.2-043	Drainage System Designs	Before construction
ODRL 3.2-044	Annual Bridge, Tunnel, Culvert, Pedestrian Structure Inspection Reports	Annually, available on request
ODRL 3.2-045	Quarterly Tunnel & Ventilation Inspection Reports	Quarterly, available on request
ODRL 3.2-046	Emergency Bridge Strike Inspection Reports	Immediately, available on request
ODRL 3.2-047	Special Bridge Inspection Reports	Quarterly, available on request
ODRL 3.2-048	Underwater Inspection Reports	Every 5 years, available on request
ODRL 3.2-049	Drawbridge Inspection Reports	Quarterly, available on request

ODRL	Description	Due Date
ODRL 3.2-050	Preliminary Bridge Maintenance Plan	120 days after NTP
ODRL 3.2-051	Bridge Maintenance Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-052	Preliminary Drawbridge Maintenance Plan	120 days after NTP
ODRL 3.2-053	Drawbridge Maintenance Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-054	Preliminary Drawbridge Operation Manual	120 days after NTP
ODRL 3.2-055	Drawbridge Operation Manual (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-056	Timber Bridge Deck Replacement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-057	Preliminary Timber Bridge Deck Replacement Plan	120 days after NTP
ODRL 3.2-058	Tunnel Operation and Maintenance Manual (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-059	Preliminary Tunnel Operation and Maintenance Manual	120 days after NTP
ODRL 3.2-060	Culvert Replacement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-061	Preliminary Culvert Replacement Plan	120 days after NTP
ODRL 3.2-062	Crossing Plan, Layouts, Traffic Counts	Upon request
ODRL 3.2-063	Initial False Proceed Signal Indication Report	<24 hrs after incident
ODRL 3.2-064	Final False Proceed Signal Indication Report	<15 days after incident
ODRL 3.2-065	Signal Failure Reduction Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-066	Preliminary Signal Failure Reduction Program	120 days after NTP
ODRL 3.2-067	Train Control & Signal Inspection & Test Report	<24 hrs after inspection or test
ODRL 3.2-068	Final Train Control & Signal Inspection & Test Report	2 business days after first report (3.2-067)
ODRL 3.2-069	FRA Test Compliance Report	Monthly
ODRL 3.2-070	Signal System Modification/New Installation As-Built Drawings	30 days after installation
ODRL 3.2-071	Line Plans, Track Charts, Interlocking Books (6 sets)	March 1st, annually
ODRL 3.2-072	Highway Rail Crossing Information	Upon request
ODRL 3.2-073	Grade Crossing Event Recorder Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-074	Preliminary Grade Crossing Event Recorder Program	120 days after NTP
ODRL 3.2-075	Grade Crossing Malfunction Report	<24 hrs after incident
ODRL 3.2-076	Wayside Signal Apparatus Test Reports	Upon request
ODRL 3.2-077	Interlocking Event Recorder Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-078	Preliminary Interlocking Event Recorder Program	120 days after NTP

ODRL	Description	Due Date
ODRL 3.2-079	Switch Machine Replacement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-080	Preliminary Switch Machine Replacement Plan	120 days after NTP
ODRL 3.2-081	Pole Line Retirement and Replacement Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-082	Preliminary Pole Line Retirement and Replacement Program	120 days after NTP
ODRL 3.2-083	Pole Replacement Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-084	Preliminary Pole Replacement Program	120 days after NTP
ODRL 3.2-085	Lock Out / Tag Out Procedure	90 days after NTP
ODRL 3.2-086	Electrical and Lighting Equipment Field Inspection & Asset Inventory Update	120 days after NTP
ODRL 3.2-087	Electrical Testing and Maintenance Plan	90 days after NTP
ODRL 3.2-088	Planned Track Outage Notification	35 days before outage
ODRL 3.2-089	Unplanned Track Outage Notification	Immediately
ODRL 3.2-090	Electrical Maintenance & Testing Report	Monthly
ODRL 3.2-091	Electrical Maintenance & Testing Report Template	90 days after NTP
ODRL 3.2-092	Electrical Maintenance & Testing Meeting Schedule	Monthly
ODRL 3.2-093	Electrical Maintenance & Testing Meeting Agenda	Monthly
ODRL 3.2-094	Thermo Graphic Survey	Annually
ODRL 3.2-095	Energy Conservation & Utilization Summary Report	Periodically, but no less than annually
ODRL 3.2-096	Electric Service Database	90 days after NTP
ODRL 3.2-097	Energy Consumption Strategy	120 days after NTP
ODRL 3.2-098	Update to Energy Consumption Strategy	Annually
ODRL 3.2-099	Non-Revenue Vehicle & Work Equipment Inspection Form	120 days after NTP
ODRL 3.2-100	Annual Fuel Usage Audit Report	Annually
ODRL 3.2-101	Annual Fuel Usage Audit Report Form	90 days after NTP
ODRL 3.2-102	Review of Operators' Licenses	Annually
ODRL 3.2-103	Snow Plan	Labor Day, annually
ODRL 3.2-104	Winter Pre-Season Checklist	September 15th, annually & updated monthly
ODRL 3.2-105	Storm Plan	Before every storm
ODRL 3.2-106	Post Storm Fitness Report	After each storm
ODRL 3.2-107	Five Year Work Forecast (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-108	Engineering Services Plan Update	Annually starting February 1 st with quarterly updates
ODRL 3.2-109	Fire Protection System/Call Box Inventory	90 days after NTP
ODRL 3.2-110	Manager System-Wide Service Property Inspection	Weekly

ODRL	Description	Due Date
ODRL 3.2-111	List of Key Employees with Vehicles	Yearly

APPENDIX 1
TRACK OUTAGE REQUEST FORM

MBTA Railroad Operations

Track Outage Request

Date of Request:		Request by:	
Request Department:		Telephone:	

Track Outage Request Identification					
Project Name					
Project Description					
Supervisor					
Route		Track			
From MP/Station		To MP/Station			
Dates: Starting		Ending:		Monday Tuesday Wednesday Thursday Friday	
Times: Starting		Ending:		Saturday Sunday Holidays	

Maintenance of Traffic and Mitigation of Service Impacts		
Recommended Method of Operation	<input type="checkbox"/> Pilot Service <input type="checkbox"/> Train Dispatcher Interlocking Control <input type="checkbox"/> Substitute Bus Service	<input type="checkbox"/> Other <i>Specify</i>
Why?		
Other Methods Considered?		
Why not recommended?		

Anticipated Service Impacts						
Train Number Or ID	Number of Passengers	Anticipated Minutes of Delay				Total Minutes
		Receiving form D	Receiving Rule 241	By Diversion	By Speed Restriction	

Anticipated Service Impacts						
Train Number Or ID	Number of Passengers	Anticipated Minutes of Delay				Total Minutes
		Receiving form D	Receiving Rule 241	By Diversion	By Speed Restriction	
Totals						

Customer Information Plan	
Signs	
Locations	
Posting Date	
Ending Date	
Fliers	
Distribution Date	
MBTA Website	
Date of Update	
Announcements in Terminals	
Dates	
Proposed Text	
LED Sign Messages	
Locations	
Date	
Proposed Text	
Press Release	
Date	

Proposed Text for Fliers and Press Releases must be attached.

MBTA Approval Block	
Received By:	Date:

Reviewed By:		Date:
Approved By:		Date

SCHEDULE 3.3

MECHANICAL SERVICES

1. GENERAL DESCRIPTION OF SERVICE

The Operator shall perform and document all of the Mechanical Services set forth in this **Schedule 3.3** (Mechanical Services). The Operator's obligations described in this Schedule shall be included in the Annual Fee and the Operator is not entitled to additional compensation or additional scope unless approved by the MBTA as Supplemental Work.

1.1 General Requirements

1.1.1 All Mechanical Services provided by the Operator shall comply in all respects with all applicable laws, regulations, standards, and recommended practices including but not limited to the following agencies, organizations and regulations: DOT, FRA, FTA, EPA, U.S. Food and Drug Administration ("FDA"), APTA, MassDOT, Occupational Safety and Health Administration ("OSHA"), Commonwealth of Massachusetts Department of Environmental Protection, Commonwealth of Massachusetts Building and Electrical Codes, AAR, and ADA.

1.1.2 Where there is a conflict, the most restrictive requirement shall apply.

1.1.3 The Operator shall become a registered member of APTA and the AAR for the duration of this Agreement and shall dutifully represent the MBTA as may be required.

1.2 Maintenance Operations – General

1.2.1 The Operator shall perform maintenance on the MBTA's fleet in compliance with the provisions of this **Schedule 3.3** (Mechanical Services).

1.2.2 In some instances, this **Schedule 3.3** (Mechanical Services) sets forth maintenance standards and condemning limits for components that are more stringent than FRA requirements. In the event of any conflict, the MBTA standards shall apply.

1.3 Railroad Operation Characteristics

1.3.1 Through efficient and economic implementation of the Mechanical Services described in this **Schedule 3.3** (Mechanical Services), the Operator shall supply trains of sufficient capacity that are safe, fully functional and reliable and that will deliver the Agreement Services.

1.3.2 The Operator shall cooperate with the MBTA in adjusting the Mechanical Services in order to support the implementation of Service Changes from time to time.

- 1.3.3 The Operator shall make trains available in order to support the train cycle described in Appendix A to this **Schedule 3.3** (Mechanical Services) – Train Cycle and Train-Consist Requirements and support the train cycles in accordance with the designated dispatch time for each train from its initial terminal in revenue service compliant condition as presented in Appendix B to this **Schedule 3.3** (Mechanical Services) – Train Initial Terminal Dispatchment Schedule.
- 1.3.4 Operator shall develop and assign trainsets to cover the Equipment Cycle, provided that each trainset placed in service meets the following characteristics:
- 1.3.4.1 The trainset meets the minimum seat requirements for the scheduled trip, as specified in Appendix A to this **Schedule 3.3** (Mechanical Services).
 - 1.3.4.2 The trainset does not exceed the maximum train length for the line, based on platform lengths along the line and at the terminal.
 - 1.3.4.3 The trainset has at least one operable toilet.
 - 1.3.4.4 Each coach on the trainset has trainlined doors (if trainlined doors are required on that line).
 - 1.3.4.5 The trainset has the required, operable ADA wheelchair device(s).
 - 1.3.4.6 The trainset does not exceed 85% of the maximum HEP draw of the coaches at the average weight of the vehicle at crush capacity (AW3) when temperatures are between –10 and 105 degrees Fahrenheit.
 - 1.3.4.7 Pursuant to Massachusetts General Law, Worcester trains are required to accommodate eight (8) wheelchairs without moving the train, e.g., double-spotting. This is currently accomplished through the use of modified MBB coaches.
 - 1.3.4.8 Any other requirements for a particular trip or line defined in Appendix A to this **Schedule 3.3** (Mechanical Services).
- 1.3.5 The Operator may substitute equipment provided that the requirements of Section 1.3.4 of this **Schedule 3.3** (Mechanical Services) are met.
- 1.3.6 All trains that are designated by the Operator as available for revenue service shall comply in all respects with the requirements of this **Schedule 3.3** (Mechanical Services).

1.4 The MBTA Commuter Rail Fleet

- 1.4.1 The following tables provide a summary of the “**revenue service fleet,**” comprising locomotives (passenger and switching), cab (control) trailer cars (“**CTC**”), and blind trailer cars (“**BTC**”) and the “non-revenue service fleet,” comprising maintenance of way (“**MOW**”) equipment, that are to be supported by the Operator:

Table 1.1 – Passenger Locomotives

Designation	Original Builder	Road Numbers	Quantity	Description
GP40MC	EMD	1115 – 1139	25	Remanufactured in 1997-98 these locomotives were originally built in 1974- 75 by EMD. Equipped with EMD 16-cylinder 645 engine (3000 HP) and separate HEP engine/generator sets that produce 600 KW 3-phase AC power for the coaches.
F40PHM-2C	EMD	1025 – 1036	12	These units were purchased in 1991-93 as remanufactured locomotives from MPI. The units have undergone a mid-life overhaul (completed October 2004). Equipped with EMD 16-cylinder 645 engine (3000 HP) and separate HEP engine/generator sets that produce 600 KW 3-phase AC power for the coaches.
F40PH-2C	EMD	1050 – 1075* *Locomotive 1073 was severely damaged in a wreck and is no longer in active service	25	These units were purchased in 1987-88 as new locomotives from EMD. Equipped with EMD 16-cylinder 645 engine (3000 HP) and separate HEP engine/generator sets that produce 600 KW 3-phase AC power for the coaches.
F40PH-2	EMD	1000 – 1017* 1016 has been retired	17	These units were purchased in 1978-80 as new locomotives from EMD. Equipped with EMD 16-cylinder 645 engine (3000 HP) and a direct drive generator off the auxiliary drive end of the engine to provide 3-phase AC power for the coaches.
MP36PH-3C	MPI	010-011	2	Acquired 2 units from UTA. Equipped with EMD 16-cylinder 645 engine (3000 HP) and separate HEP engine/generator sets that produce 600 KW 3-phase AC power for the coaches.

Table 1.2 – Cab (Control) Trailer Cars (CTC)

Designation	Original Builder	Road Numbers	Quantity	Description
CTC-4	Kawasaki	1700 – 1724	24 Active *1710 Accident Damage	
CTC-1B	Bombardier	1600 – 1651	51 Active	25 Units - 1600 to 1624 converted to blind coaches 26 Units 1625 to 1651 remain as control coaches
CTC-3	MBB	1500 – 1533	34	
CTC-5	Rotem	1800 – 1827	28	

Table 1.3 – Blind Trailer Cars (BTC)

Designation	Original Builder	Road Numbers	Quantity	Description
BTC-4	Kawasaki	700 – 749	50	
BTC-4A	Kawasaki	750 – 766	17	
BTC-4C	Kawasaki	767 – 781	15	
BTC-4C	Kawasaki	900 – 932	33	
BTB-1B	Bombardier	600 – 653	54	
BTB-1A	Bombardier	350 – 389	40	
BTC-3	MBB	500 – 532	33	
BTC-1C	Pullman Standard	200 – 258	57	
BTC-4D	Rotem	800 – 846	47	

Table 1.4 – Switching Engines

Vehicle Type	Year Built	Body Manufacturer	Propulsion	Road Number	Active Vehicles
GP40-1 Switcher Locomotive	1971	EMD	Diesel-electric	3247	1
GPMC	1974 1975*	EMD	Diesel-electric	1116, 1119	2
GP-18 (GP-19 Blue Card) Switcher Locomotive	1960	EMD	Diesel-electric	904	1
GenSet Switcher Locomotive	2009	NRE	Diesel-electric	3248, 3249	2

Table 1.5 – MOW Support Fleet

Vehicle Type	Year Built	Body Manufacturer	Propulsion	Road Number	Active Vehicles
Side Dump Cars	1979	Maxon	Non-powered	SD1-SD20	20
Ballast Cars	1986		Non-powered	W300-W308	9

Open Hopper (Gondola)	1978		Non-powered	MBTX # 11349 to 11398	13
Flat Cars (6 axle)	1959, 1964		Non-powered	MBTX#52 to 59 , 61	7
Flat Cars 89'	1963		Non-powered	100,101	2
Flat Cars Steel Sides- 2 ½ '6			Non-powered	15004, 15007	2
Flat Cars - Pressure Washer 52'6			Non-powered	MWRW #1 MWRW#2	2
Caboose	1977		Non-powered	C1.,C2, 13743	3
Flanger	1978		Non-powered	64711	1
Tank Car	1975-78		Non-powered	2517, 30	2
Snow Plow	1942, 1997	Russell	Non-powered	2740, 2746	2
Snow Plow	1942, 1997	CN	Non-powered	2742, 2744	2

Table 1.6 – Wreck Response Vehicles*

Vehicle Type	Year Built	Body Manufacturer	Propulsion	Road Number	Active Vehicles
Mobile Wrecking Crane	1988	Kershaw	Diesel		1
Mobile Wrecking Crane	2008	Mantis	Diesel		1
Mobile Wrecking Crane	1982	Grove 1012D Industrial	Diesel	T51801	1

*One of these vehicles may be re-assigned to MBTA transit service, in which case, Operator Obligations will be modified accordingly.

1.5 Fleet Availability Requirements

1.5.1 Equipment “**available for revenue service**,” as used herein, shall mean equipment from the revenue service fleet that has the following attributes:

1.5.1.1 Daily MI (as hereinafter defined) has been performed;

1.5.1.2 Passed all required daily tests;

1.5.1.3 Compliant with the MBTA inspection criteria and condemning limits;

1.5.1.4 Equipped with all required amenities; and

1.5.1.5 Posted as being available for revenue service.

1.5.2 Equipment “**available for non-revenue service**,” as used herein, shall mean equipment from the non-revenue service fleet that has the following attributes:

1.5.2.1 Daily MI has been performed;

1.5.2.2 Passed all required daily tests;

1.5.2.3 Compliant with the MBTA inspection criteria and condemning limits;

1.5.2.4 Equipped with all required amenities; and

1.5.2.5 Posted as being available for MOW service.

1.5.3 The Operator shall perform all of the work to achieve the availability requirements set forth above and as further described in Section 10 (Performance Requirements, Measurement and Management) of this **Schedule 3.3** (Mechanical Services).

1.6 Fleet Changes During Term

1.6.1 During the Term, the MBTA may change the number of vehicles in the fleets listed in Tables 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6 of Section 1.4 (The MBTA Commuter Rail Fleet) to this **Schedule 3.3** (Mechanical Services). These changes may be in the form of reduction of fleet or addition of fleet. Any changes to the fleet shall be communicated to the Operator by the MBTA in writing with specific instructions as to the disposition of the fleet and the requirements associated with this change.

1.6.2 Increases and reductions in fleet shall be negotiated through the Service Change process. The MBTA reserves its right to have maintenance performed on any

additional fleet by alternate means (e.g. by another contracted maintenance service provider or by the MBTA workforce), following advance notice to the Operator and the unions.

1.7 Facilities

The MBTA has the following facilities that are in place to support the requirements of this **Schedule 3.3** (Mechanical Services). A more detailed summary of each facility is included in the Asset Register.

1.7.1 Major Maintenance and Repair Facilities

1.7.1.1 Commuter Rail Maintenance Facility / Boston Engine Terminal (CRMFBET)

1.7.1.2 This facility is located west of North Station between the Fitchburg Line and the New Hampshire Line. The facility is approximately 320,000 sq. ft. and has the capacity to provide the requisite fixed facility work space to support all levels of train service, inspection and maintenance and repair. Adjacent to the facility is a 5 track yard equipped with berthing stations to provide storage and servicing for two 9-car trainsets plus locomotive per track.

1.7.1.3 Southside Service and Inspection Facility (SSSI)

1.7.1.4 This two track facility consists of a 56,650 sq. ft. building that houses space and apparatus capable of providing maintenance access for two nine-car trainsets plus locomotive per track. The facility is fitted out with a vestibule height island platform between the tracks and roof top access for locomotive inspection. The facility has two full-servicing stations for locomotive fueling, sanding, replenishment of vital fluids and general servicing. The facility also is equipped with two train washers (one on each track on the east end of the facility). (One yard storage track, track 4 provides storage for one six-car trainset plus locomotive.)

1.7.1.5 Readville Shop

This facility is equipped with three indoor tracks, each with space to work on two cars. The facility is equipped with a wheel truing machine. Adjacent to the facility is a mid-day storage yard.

1.7.2 Layover Facilities

1.7.2.1 The MBTA has overnight storage and servicing facilities at the following locations: Greenbush, Plymouth/Kingston,

Middleborough/Lakeville, Pawtucket, RI, Franklin, Needham, Worcester, Fitchburg, Haverhill, Newburyport; and Rockport.

- 1.7.2.2 Each layover facility is equipped with 480 VAC ground power stations to plug in the trains for layover storage and maintenance.

2. REQUIRED INSPECTIONS

2.1 General

2.1.1 The MBTA's revenue service fleet is comprised of Tier I-compliant passenger vehicles and shall be inspected and maintained in accordance with all applicable FRA requirements for Tier I equipment as outlined in the Code of Federal Regulations – Title 49. Examples of the FRA required inspection and maintenance tasks include, but are not limited to, the following:

2.1.1.1 Exterior Calendar Day Mechanical Inspection;

2.1.1.2 Interior Calendar Day Mechanical Inspection;

2.1.1.3 Periodic Mechanical Inspections

2.1.1.4 Periodic Brake Equipment Maintenance;

2.1.1.5 Single Car Test;

2.1.1.6 Class 1, Class 1A, and Class 2 Brake Tests as applicable;

2.1.1.7 Testing of Emergency Window Exits, Emergency Lighting, Manual Door Releases Passenger Emergency Intercoms and Public Address Systems; and

2.1.1.8 The MBTA Locomotive 45-day Inspection and other MBTA inspections, with sample maintenance inspection forms to be provided by the MBTA upon request (and subject to change by the MBTA).

2.2 Responsibility

2.2.1 The Operator shall be directly responsible for conducting all inspection and maintenance work required by this **Schedule 3.3** (Mechanical Services).

2.3 Recordkeeping

2.3.1 The Operator shall maintain and keep current all inspection and maintenance records as required by this **Schedule 3.3** (Mechanical Services) and **Schedule**

3.14 (Reporting and Submittals), and shall make such records available upon request for review by the FRA and the MBTA.

3. PREVENTIVE MAINTENANCE AND INSPECTION SERVICES

3.1 General

- 3.1.1 The Operator shall provide the necessary resources (including materials and labor) to execute all tasks required to service, inspect, maintain and document the MBTA's revenue service fleet and non-revenue fleet. Additionally, the Operator shall manage and execute the tasks required to keep the non-revenue service fleet maintained in accordance with the requirements stated in this **Schedule 3.3** (Mechanical Services).
- 3.1.2 The fleet will be available for revenue service as presented in Appendix A to this **Schedule 3.3** (Mechanical Services) – Train Cycle and Train-Consist Requirements and Appendix B to this **Schedule 3.3** (Mechanical Services) – Train Initial Terminal Dispatchment Schedule as such appendices may be adjusted from time to time by the MBTA. During the revenue service period, certain trains will be cycled to the service and inspection facilities for mid-day servicing. The Operator shall perform all levels of maintenance required by this **Schedule 3.3** (Mechanical Services) through the most efficient means available. The Operator is responsible for updating the train consist cycles as necessary to ensure the completion of all inspections, cleaning and maintenance and the provision of all necessary equipment to meet the Service Schedules.
- 3.1.3 The Operator shall develop and implement a Comprehensive Preventive Maintenance, Inspection and Cleaning Program (the "**LCM Program**") which shall incorporate a component-level Life Cycle Maintenance ("**LCM**") concept, FRA inspection requirements, MBTA inspection requirements, and OEM maintenance and cleaning standards. This program shall be approved by the MBTA and appropriately designed and maintained for the MBTA fleet.

3.2 Life Cycle Maintenance Program

3.2.1 General

- 3.2.1.1 The maintenance philosophy for the MBTA fleet shall be one in which the LCM concept is the foundation for all maintenance related tasks. The LCM concept will be combined with FRA, OEM and MBTA inspection and maintenance standards to form a comprehensive preventive maintenance and inspection program.
- 3.2.1.2 Using the LCM concept the Operator will maximize the availability and functionality of rolling stock through a regular-interval program of planned maintenance events occurring over the useful life of each vehicle. The Operator will indentify each repairable item on the

vehicle and develop a series of pre-defined inspection and maintenance activities for each. These activities shall be scheduled to occur prior to (or to coincide with) the anticipated service life requirements of each repairable component. The Operator will perform the appropriate maintenance activity for components including, for example, but without limitation, on main engines, main generators and HEP units (e.g., overhaul, repair, replace, renew, etc.) on a cycle which minimizes the chances of component failure and keeps the vehicle in overall Good Working Condition.

3.2.1.3 The LCM Program shall establish a set of service intervals extending over the life of the vehicle for each maintainable component (part) and a defined set of inspection and maintenance activities for each interval. These activities are coordinated sequentially among the maintenance intervals, such that the longer intervals typically include all work conducted at preceding intervals. For example, 92-day work would include tasks unique to the 92-day interval, plus all work done during daily and weekly intervals. Similarly, annual work includes all 92-day work plus tasks unique to the annual maintenance interval.

3.2.1.4 The MBTA shall be responsible for full overhauls of entire locomotives and coaches, which shall be completed offsite and through a separate procurement process (each, an "**MBTA Full Vehicle Overhaul**"). The term MBTA Full Vehicle Overhaul expressly includes top-deck overhauls. The Operator shall be responsible for all vehicle overhauls that do not constitute MBTA Full Vehicle Overhauls. By way of clarification, and not limitation, the Operator shall be responsible for overhauls of subsystems and components within a particular locomotive, coach or other vehicle as well as all other references to overhauls in this Agreement (excluding only MBTA Full Vehicle Overhauls).

3.2.1.5 The goal of this philosophy is to prevent in-service failures through an extensive campaign of identifying milestones in a component's life where inspection, servicing and/or replacement are critical to maintain 100% reliability of the component and its system.

3.2.2 LCM Development

The Operator shall develop the LCM Program using industry standards and maintenance practices appropriate for application to the MBTA's fleet.

3.2.2.1 Equipment List

- (a) The Operator shall conduct a thorough analysis of the fleet and identify a list of maintainable components for each vehicle system excluding the MBB fleet. This list shall be submitted to the MBTA at the time of NTP and shall be known as the Equipment List (“**ELIST**”) (ODRL 3.3-01). The ELIST shall be organized by system. For each fleet-type (locomotives and coaches (CTCs and BTCs separately)), at least the following systems must be addressed in the ELIST:

Table 1.7

System	Description
01	Propulsion
02	Cab Controls
03	Friction Brake
04	Auxiliary Power Supply
05	Car Body Exterior and Interior (for locomotives inclusive of Fuel Storage Tank and Ecology Tank)
06	Lavatory Room and Systems
07	Door System
08	Truck and Suspension / Coupler and Draft Gear
09	HVAC System
10	Communications
11	Main Engine, Air Intake and Exhaust and Cooling System (locomotive only)
12	HEP System
13	Event Recorder
14	Diagnostics (where applicable)
15	Positive Train Control / ATC / ACSES

- (b) All systems shall be maintained to an operable level as defined by the OEM, carbuilder or locomotive builder. In the absence of such guidance, the Operator shall notify the MBTA and apply the appropriate MBTA standards. Final ELISTs for each fleet type shall be developed and delivered for the MBTA review and approval within 60 days after NTP (ODRL 3.3-02).

3.2.2.2 Maintenance Allocation Chart

- (a) The ELIST shall be the basis for the development of a Maintenance Allocation Chart (“**MAC**”) for each vehicle system for each fleet-type. Each MAC will provide a list of items from the ELIST for the subject systems (01 through 15). At a minimum, the MAC will contain the following data relating to each ELIST item:

- (i) OEM Part Number; or Operator designation if no OEM part number exists. Any substitute parts must be identified by a new and unique part number. No reuse of old part numbers shall be permitted.
 - (ii) Part Name;
 - (iii) Part Description;
 - (iv) Maintenance Required (inspect, calibrate, service, replace, overhaul);
 - (v) Ideal Maintenance Interval (expressed in days in service – miles based intervals must be converted);
 - (vi) Useful Life (days of life of the component provided that all of the prescribed maintenance is performed);
 - (vii) LCM Interval (actual interval when integrated with the overall LCM Program);
 - (viii) Maintenance Location (flat floor, pit track, crane track, etc.);
 - (ix) Required procedures and special tools;
 - (x) Task ID number; and
 - (xi) Labor hours.
- (b) Preliminary MACs for each fleet-type shall be submitted to the MBTA at the time of NTP for its review (ODRL 3.3-03).
 - (c) Final MACs for each fleet-type shall be developed and delivered for the MBTA review and approval within 60 days after NTP (ODRL 3.3-04). OEM guidelines shall be used as a basis for these intervals.

3.2.3 LCM Program

- 3.2.3.1 The Operator shall use the MACs to compile an interval-based LCM Program for each fleet-type. The proposed LCM Program shall be submitted to the MBTA for its review at the time the NTP (ODRL 3.3-05). This program shall take MAC-prescribed maintenance and sort the items by LCM interval to generate an interval-based maintenance program. The intervals shall be coordinated with FRA-mandated inspection and maintenance cycles.

3.2.3.2 Final LCM Programs for each fleet type shall be developed and delivered for the MBTA review and approval within 60 days after NTP (ODRL 3.3-06).

3.2.3.3 The Operator shall approach the development of the LCM Program from a Value Engineering perspective and present an LCM Program that balances maintenance to mission critical vehicle systems with cost containment. The Operator shall take into consideration the age of particular fleets and any MBTA plans for fleet replacement when assembling the LCM Program.

3.2.4 LCM Implementation

3.2.4.1 The LCM Program will form a major component for the work plan for the Operator's maintenance operations. The LCM Program shall be applied to the entire fleet. The Operator shall prepare a maintenance schedule for the each fleet-type over the Term and shall incorporate this schedule within the Maintenance Production Plan required in Section 4 (Preventive Maintenance and Inspection Management) of this **Schedule 3.3** (Mechanical Services). The LCM Program schedule shall associate each LCM maintenance interval ("MI") with an actual planned maintenance date (Day, Month, Year) for each vehicle in each fleet-type in a manner such that scheduled work is spread out to maximize availability of the fleet and minimize congestion in maintenance facilities.

3.2.4.2 The LCM Program schedule shall take into consideration all requirements relating to fleet availability for revenue service and shall ensure that these requirements are not compromised. This schedule shall form the basis for the annual maintenance program for the fleet.

3.2.4.3 The Operator shall conduct the necessary steps to ensure that all requisite resources (including, but not limited to, shop personnel, shop space, materials, tools and test equipment) are positioned, allocated and in ample supply to implement and sustain the LCM Program.

3.3 Maintenance Intervals

3.3.1 The Operator shall prepare a comprehensive preventive maintenance, inspection and cleaning program that shall be the product of integrating a component-level LCM concept, FRA inspection requirements and the MBTA and OEM inspection and maintenance requirements, and the MBTA cleaning standards. Each interval shall have unique maintenance requirements.

- 3.3.2 The proposed comprehensive preventive maintenance, inspection and cleaning program shall be submitted to the MBTA at the time of NTP. (ODRL 3.3-07).
- 3.3.3 The final comprehensive preventive maintenance, inspection and cleaning program shall be developed and delivered for the MBTA review and approval within 60 days after NTP (ODRL 3.3-08).
- 3.3.4 The MBTA has provided examples of the expected level of detail to be included on the MI Forms in Appendix C to this **Schedule 3.3** (Mechanical Services) – Sample Maintenance Forms. The MBTA reserves the right, after consultation with the Operator, to direct the Operator to shorten the intervals between MIs or modify the work content of the MI if performance of the vehicles is not meeting requirements.
- 3.3.5 The following Maintenance Intervals are required (the Operator is responsible for identifying any necessary additional MIs):
 - 3.3.5.1 Locomotives and Control Trailer Cars: (a) Daily MI; (b) 30-day Air Filter MI on all passenger cars; (c) 45-day MI – including Cab AC filter (locomotives-only); (d) 92-day MI; (e) 184-day MI; (f) 368-day MI; (g) 1104-day MI; (h) 1476-day MI; (i) 2208-day MI; and (j) 4416-day MI.
 - 3.3.5.2 Coaches – Blind Trailer Cars: (a) Daily MI; (b) 30-day Air Filter MI; (c) 184-day MI; (d) 368-day MI; (e) 1476-day MI; and (f) 8 YR (Second 4-YR PM).

3.4 Daily Servicing Program

- 3.4.1 The following are the minimum requirements for the Daily Maintenance Interval (the “**Daily MI**”). The Operator shall perform maintenance and inspection of the revenue service fleet at the beginning of each service day. This work is grouped together to form the Daily MI. At a minimum, the Daily MI tasks shall include tasks required in Section 3.4.2 of this **Schedule 3.3** (Mechanical Services) and be performed for each train consist (locomotive plus coaches) in the pool available for revenue service.

3.4.2 Daily MI - Minimum Requirements

- 3.4.2.1 The Daily MI shall be scheduled and executed so that peak schedule requirements can be met within bounds of the overall fleet size and the available spare locomotives, trailer cars and control cars.
- 3.4.2.2 The Daily MI for each revenue service pool consist shall be completed no less than 1 hour prior to the consist’s scheduled departure from the initial terminal.

(Reference: 49 CFR 229.21– Daily Inspection, 49 CFR 238, Subpart D – Inspection, Testing and Maintenance Requirements for Tier I Passenger Equipment in effect at date of NTP)

- (a) Exterior Calendar Day Mechanical Inspection;
- (b) Interior Calendar Day Mechanical Inspection;
- (c) Class I Brake Test;
- (d) Safety Appliance Test;
- (e) Trainline Power Test;
- (f) Toilet System Servicing (includes watering);
- (g) Re-stock toilet room with amenities;
- (h) Remove all trash;
- (i) Renew any inoperable light bulbs (interior and exterior);
- (j) Inspect for emergency lights and signage for compliance and repair if not compliant;
- (k) Inspect public address system for functionality and repair if not functioning;
- (l) Inspect all seats and replace if damaged;
- (m) Check all vital engine fluids to the full mark and replenish if necessary;
- (n) Check windshield washer fluid to the full mark and replenish if necessary;
- (o) Check and top off sand level;
- (p) Class C Cleaning (reference Section 3.5, Cleaning Standards);
- (q) Maintain all applicable records (on-board and in Maintenance Management System); and
- (r) Check safety equipment (fire extinguisher, pry bar, first aid kit, flagging kit, etc.) and replace missing or out-of-date items.

3.5 Cleaning Standards

- 3.5.1 All proposed cleaning chemicals and processes shall be submitted to the MBTA for its review at the time of NTP (ODRL 3.3-09).
- 3.5.2 The final list of cleaning chemicals and processes shall be developed and delivered to the MBTA for review and approval within 60 days after NTP (ODRL 3.3-10).
- 3.5.3 Each train consist and fleet-type shall be cleaned in accordance with the standards set forth in this Section 3.5 (Cleaning Standards) of this **Schedule 3.3** (Mechanical Services). Each cleaning interval (Class A, Class B and Class C) shall be recorded in the Maintenance Management System (as defined below) by task ID (Class A, Class B or Class C), vehicle ID number and date performed.
- 3.5.4 The Operator shall perform a walk-through of each train consist between the morning and afternoon Peak Commuter Periods to remove debris and trash from the train. This walk-through trash pick-up may be performed at North Station, South Station and at midday layover facilities (wherever there is sufficient lay up time).
- 3.5.5 Minor graffiti shall be addressed as part of each of the classes of cleaning listed below. If there is a significant graffiti incident, and the graffiti is not deemed offensive (if there is a question as to what is offensive, the Operator shall ask the MBTA for a determination), the Operator shall keep the equipment in revenue service until its next regularly scheduled time for service and inspection in a service and inspection facility (North or South Division) and address the car at that time (such time not to exceed 24 hours from notice or discovery of the graffiti). If the graffiti is deemed offensive, the car shall be removed from revenue service at the point of discovery and moved to an appropriate facility for graffiti removal as soon as practicable.
- 3.5.6 As used in this Section 3.5 (Cleaning Standards) of this **Schedule 3.3** (Mechanical Services), “wipedown” shall be defined as cleaning a surface using a damp cloth with cleaning solution while not leaving a film, residue or streak when completed.
- 3.5.7 Class A Coach Cleaning

The Class A coach cleaning shall be the highest level cleaning applied to the fleet of coaches (CTCs and BTCs). This cleaning will take place no less than once every 30 calendar days for each coach. The Class A cleaning shall involve the following work:

- 3.5.7.1 Interior: (a) Remove all trash; (b) Hand wash interior panels; (c) Hand wash seat backs and bottoms; (d) Hand wash seat frames; (e) Wash and squeegee windows; (f) Wash floor and heater guards; (g) Toilet Room – wash all surfaces with an approved anti-bacterial

cleaner; (h) Hand wash all stanchions and partitions; (i) Hand wash all cab surfaces; (j) Hand wash all trash receptacles; (k) Hand wash all light lenses (covers); (l) Inspect all decals and repair/replace as required; and (m) Remove all graffiti and unauthorized materials (stickers, gum, etc., from interior surfaces).

3.5.7.2 Exterior: (a) Wash coach exterior with an approved cleaner; (b) Hand wash and squeegee windshields; (c) Remove all debris from the exterior of the vehicle; (d) Inspect all decals and reflective materials and repair/replace as required; and (e) Remove all graffiti and unauthorized materials (stickers, gum, etc., from exterior surfaces).

3.5.8 Class B Coach Cleaning

The Class B coach cleaning shall be the second level cleaning applied to the coach fleet (CTCs and BTCs). This cleaning will take place no less than once every 3 calendar days for each coach not approved by the MBTA as Long Term Out of Service. The Class B cleaning shall involve the following work:

3.5.8.1 Interior: (a) Remove all trash; (b) Hand wash seat backs and bottoms; (c) Wash and squeegee windows; (d) Wash floor and heater guards; (e) Toilet Room – wash all surfaces; (f) Hand wash all cab surfaces; and (g) Remove all graffiti and unauthorized materials (stickers, gum, etc., from interior surfaces).

3.5.8.2 Exterior: (a) Wash coach exterior with an approved cleaner; and (b) Hand wash and squeegee windshields.

3.5.9 Class C Coach Cleaning

The Class C coach cleaning shall be the third level cleaning applied to the coach fleets (CTCs and BTCs). This cleaning will take place no less than once every calendar day for each coach not approved by the MBTA as Long Term Out of Service. The Class C cleaning shall involve the following work:

3.5.9.1 Interior: (a) Remove all trash; (b) Wipedown all seating surfaces; (c) Clean all spills on floors; (d) Clean all windows; (e) Sweep and wet mop floor and stairs; (f) Wipe down all handles and passenger grab handles, stanchions and hand-holds; (g) Toilet Room – wash all surfaces; and (h) Remove all graffiti and unauthorized materials (stickers, gum, etc. from interior surfaces).

3.5.10 Class A Locomotive Cleaning

The Class A locomotive cleaning shall be the highest level cleaning applied to the fleet of locomotives. This cleaning will take place no less than once every

368 calendar days for each locomotive. The Class A cleaning shall involve the following work:

- 3.5.10.1 Interior: (a) Remove all trash; (b) Hand clean locomotive control stand, consoles and floor; (c) Wash and squeegee windows; (d) Toilet Room – wash all surfaces; and (e) Remove all graffiti and unauthorized materials (stickers, gum, etc. from interior surfaces).
- 3.5.10.2 Exterior: (a) Wash locomotive exterior with an approved cleaner; (b) Powerwash trucks, fuel tank, engine room; (c) Hand wash and squeegee windshields; (d) Remove all debris from the exterior of the vehicle; (e) Inspect all decals and reflective materials and repair/replace as required; and (f) Remove all graffiti and unauthorized materials (stickers, gum, etc. from exterior surfaces).

3.5.11 Class B Locomotive Cleaning

The Class B locomotive cleaning shall be the second level cleaning applied to the locomotive fleet. This cleaning will take place no less than once every 92 calendar days for each locomotive. The Class B cleaning shall involve the following work:

- 3.5.11.1 Interior: (a) Remove all trash; (b) Hand wash seat backs and bottoms; (c) Wash and squeegee windows; (d) Wash floor and heater guards; (e) Toilet Room – wash all surfaces; (f) Hand wash all cab surfaces; (g) Remove all graffiti and unauthorized materials (stickers, gum, etc. from interior surfaces); and (h) Pressure wash floor of engine room.
- 3.5.11.2 Exterior: (a) Wash exterior with an approved cleaner; (b) Powerwash trucks and fuel tank; and (c) Hand wash and squeegee windshields.

3.5.12 Class C Locomotive Cleaning

The Class C locomotive cleaning shall be the third level cleaning applied to the locomotive fleets. This cleaning will take place no less than once every calendar day for each locomotive, subject to Section 3.5.12.2 of this **Schedule 3.3** (Mechanical Services). The Class C cleaning shall involve the following work:

- 3.5.12.1 Interior: (a) Remove all trash; (b) Wipedown all seating surfaces; and (c) Wash and squeegee windows.
- 3.5.12.2 Exterior: (a) Wash exterior with an approved cleaner, no less than once every 3 calendar days for each locomotive.

3.6 Fueling

- 3.6.1 Subject to the provisions of Section 11 (Fuel Purchasing) of **Schedule 3.4** (Materials Management and Procurement), the Operator shall manage delivery of fuel from the MBTA's fuel vendor to the MBTA's fuel storage facilities at CRMF and the Southside S&I facility and fuel the locomotives from the fuel delivery systems at these locations. Fueling locomotives by fuel trucks at any location shall be on an exception basis only and shall be reported to the MBTA within 24 hours after fueling by truck has occurred.
- 3.6.2 The Operator shall have all locomotives fueled during the mid-day Service and Inspection Period and overnight Layover Period at the storage yards. Fueling activities shall be planned so as not to conflict with any planned maintenance activities.
- 3.6.3 All liability associated with the receipt, storage and dispensing of fuel shall be the responsibility of the Operator.
- 3.6.4 The Operator shall perform testing of fuel in storage tanks for product compliance and ensure no contamination that is detrimental to the operation of the fleet.
- 3.6.5 The Operator shall notify the MBTA immediately through email to and telephone call with a designated MBTA representative if the following occurs:
 - 3.6.5.1 Any locomotive runs out of fuel;
 - 3.6.5.2 Any fuel tank that has less than 20% of its capacity; or
 - 3.6.5.3 Any fuel contamination occurs.

3.7 Inspection Criteria And Condemning Limits

The Operator is required to inspect and maintain the fleet to the applicable FRA and OEM standards. In some cases, however, the MBTA standards shall supersede the FRA minimum requirements. The following are the MBTA standards that shall supersede the applicable FRA minimum standards and be included as part of the Daily MI except for standards set forth in Section 3.7.7.5:

- 3.7.1 Wheels
 - 3.7.1.1 Flange thickness must not be less than 1 in.
 - 3.7.1.2 Flat spots must be less 1½ in. or more in length.
 - 3.7.1.3 Shelling/spalling must be less 1½-in. or more in length.
 - 3.7.1.4 Flange height must not be 1⅜-in. or more.

- 3.7.1.5 Rim thickness must not be 1¹/₁₆-in. or less.
- 3.7.1.6 Wheels must not have any cracks or breaks.
- 3.7.1.7 A chip or gouge in the flange must be less than 1½-in. or more in length and ½-in more in width.
- 3.7.1.8 Wheel-set must not have a scrape, dent, gouge, built-up tread, or grooved tread ⅛-in. or more in depth.
- 3.7.1.9 Axle must not be cracked, broken or bent.
- 3.7.1.10 Wheels must not have evidence of overheating or discoloration on front and back face of the plate that extends 4 in. into the plate.
- 3.7.2 Roller Bearings
 - 3.7.2.1 Roller bearings must not show signs of excessive fresh grease leakage.
 - 3.7.2.2 Bearing end cap screws must not be loose or missing.
 - 3.7.2.3 Bearing end cap must not be cracked, broken, or missing.
 - 3.7.2.4 Bearing cap screw locking plate must not be broken, missing, or improperly applied.
 - 3.7.2.5 Inspect hot bearing warning device.
 - 3.7.2.6 Grease seals (grease seal/backing ring) must not be loose, cocked or misaligned.
 - 3.7.2.7 Bearing adaptors must be in proper position for service.
- 3.7.3 Trucks
 - 3.7.3.1 Shoes/pads must not be loose, missing key or improperly aligned with braking surfaces.
 - 3.7.3.2 Shoes must not be worn to a thickness of ⅜-in. or less at the thinnest point.
 - 3.7.3.3 Pads must not be worn to a thickness of ¼ in. or less.
 - 3.7.3.4 Levers, rods, brake beams or hangers must be properly secured and not worn more than 30%.
 - 3.7.3.5 Equalizers must not be cracked, broken, or rubbing the truck frame.

- 3.7.3.6 Pedestal liners, tie straps/retainer must not be broken or missing.
- 3.7.3.7 All safety wire must be in place and properly installed,
- 3.7.3.8 Inspect ground straps for proper installation,
- 3.7.3.9 Shock absorbers must be properly secured and not leaking clearly defined droplets of oil.
- 3.7.3.10 Bolster anchor/radius rods must not be loose or missing.
- 3.7.3.11 Air bags must not be over-inflated or display excessive wear.
- 3.7.3.12 Side bearing assemblies must have proper clearance.
- 3.7.3.13 Outer coil springs must not be broken or display wear marks on coils.
- 3.7.4 Couplers
 - 3.7.4.1 Coupler head and shank must not have cracks, breaks or be bent.
 - 3.7.4.2 Uncoupling levers must not be bent or broken and must be free of obstruction.
 - 3.7.4.3 Uncoupling lever must be secured in the down (locked) position with knuckle locked.
 - 3.7.4.4 Any coupler component must not be cracked or broken.
 - 3.7.4.5 Tell-tale recess and tell-tale hole must be fully visible with knuckle fully locked.
 - 3.7.4.6 Coupler shank pin retaining key must not be cracked or worn more than 25%.
 - 3.7.4.7 Lock lift assembly must have proper rod eye clearance with coupler locked and centered.
 - 3.7.4.8 Maintain coupler components to not exceed OEM defined wear limits.
 - 3.7.4.9 Inspect drawbar connection for defects.

3.7.5 Electrical

- 3.7.5.1 At initial terminal, 480 VAC system must not be short looped.

3.7.5.2 Emergency lights must be operative.

3.7.5.3 All marker lights must be operative.

3.7.5.4 480 VAC cable/receptacles must not interfere with uncoupling lever.

3.7.5.5 Hot journal and wheel slide detection systems must be operable.

3.7.5.6 P.A. and Intercom systems must be operating as intended.

3.7.5.7 Radios in cab control coaches and locomotives must be operating as intended.

3.7.5.8 Power door operation must be fully functional.

3.7.5.9 480 VAC jumper cable heads must be secured to jumper receptacles with MBTA approved securing appliances, *i.e.*, O Rings.

3.7.6 Carbodies

3.7.6.1 No safety appliances may be cracked, bent, broken or missing and must be fastened in accordance with FRA and OEM specifications.

3.7.6.2 Handhold minimum clearance must not be less than 2 in.

3.7.6.3 Emergency exit identifications must not be missing. Operating handles must not be broken or improperly installed.

3.7.6.4 Safety equipment must not be missing.

3.7.6.5 Fire extinguishers must not be out of date or discharged.

3.7.6.6 Trap door catch must not be missing or inoperative.

3.7.6.7 Carbody must not have unsafe high/low condition.

3.7.6.8 The use of duct tape is not an acceptable mean of repair.

3.7.6.9 Pilot, plow, end sheets clearance above top of rail must not be less than 3 in. or more than 6 in.

3.7.7 Brake System

3.7.7.1 Consist must not depart without FRA Class 1 or Class 1A air brake inspection and test and all FRA required brake inspections in compliance.

- 3.7.7.2 Brake disc must not have a crack over 3 in. in length or within ½ in. from the edge of the disc.
- 3.7.7.3 Slack adjusters must be operational.
- 3.7.7.4 5-day brake inspections for all coaches fitted with disc brakes.
- 3.7.7.5 All brake shoes and disc brake pads must be MBTA approved.
- 3.7.8 Engines
 - 3.7.8.1 Check all vital fluids to ensure that all are at the proper fill levels
 - 3.7.8.2 Inspect engines for fluid leaks. Repair leaks as required.
 - 3.7.8.3 Check fuel gauge to ensure proper fill level.
 - 3.7.8.4 Inspect engines for exhaust leaks and repair as required.
- 3.7.9 General
 - 3.7.9.1 Daily inspection forms must be completed in compliance with FRA regulations.
 - 3.7.9.2 Alerter and speedometer overspeed trip must be functional and properly sealed.
 - 3.7.9.3 Train over-speed trip must be functional and properly sealed.
 - 3.7.9.4 ATC and PTC equipment must be functional and properly sealed (as applicable) on the head ends of all revenue service trains.
 - 3.7.9.5 Event recorder must be working including accurate date and time stamp.
 - 3.7.9.6 Headlights, horn, bell, windshield wipers, sanders and crossing lights must be working properly.
 - 3.7.9.7 Warning alarms must be working properly.
 - 3.7.9.8 Radio must be working properly.
 - 3.7.9.9 All circuit breakers must be positioned properly.
 - 3.7.9.10 Cab seats must be securely mounted.

3.8 Maintenance Interval (MI) Forms

- 3.8.1 The Operator shall prepare and present to the MBTA for review and approval within 90 days after NTP, maintenance interval forms that are designed to record the work performed at each maintenance interval (ODRL 3.3-11).
- 3.8.2 The forms shall, at a minimum, include the following:
- 3.8.2.1 Name of the agency (the MBTA) and the Operator,
 - 3.8.2.2 Date and Time,
 - 3.8.2.3 Vehicle Number(s),
 - 3.8.2.4 MI Type (i.e. Daily MI, 92-day MI, etc.),
 - 3.8.2.5 Maintenance Location,
 - 3.8.2.6 FRA Inspections:
 - (a) Reference each inspection individually with a reference to the specific regulation.
 - (b) Include a signature block next to each inspection to certify that the inspection was properly performed.
 - 3.8.2.7 MI Tasks:
 - (a) List all MI tasks in a logical sequence (i.e., by vehicle type, by location and/or by craft performing the work).
 - (b) Include a signature block for the appropriate responsible person's signature and employee identification number(s) to certify that the work was properly performed.
 - 3.8.2.8 General:
 - (a) The forms shall include a signature block for the supervisor's signature and employee identification number to certify that the work was properly performed.
 - (b) Any defects found and repaired during the inspection shall be documented on the form.
 - (c) The forms shall have multiple copies to facilitate the following:
 - (i) One form stays in a holder on the lead cab of the consist.
 - (ii) One form is filed at the maintenance facility.

- (d) The forms shall be recorded electronically in the Maintenance Management System.

4. **PREVENTIVE MAINTENANCE AND INSPECTION MANAGEMENT**

- 4.1 The Operator shall be responsible for developing a method of coordinating all scheduled maintenance activities so as to not detrimentally impact the required fleet available for revenue service. This method shall be developed and communicated to the MBTA through the following documents that shall be maintained and transmitted to the MBTA as indicated:

- 4.1.1 Operator Fleet Maintenance Plan (“**OFMP**”);

- 4.1.2 Maintenance Production Plan; and

- 4.1.3 Quality Management Plan.

- 4.2 Fleet Maintenance Plan

- 4.2.1 The Operator shall develop and implement an Operator Fleet Maintenance Plan that establishes the specific maintenance requirements for each locomotive, coach (CTC and BTC) and designated other equipment (e.g. switch engines, side dumps, etc) in the fleet for the Term.

- 4.2.2 The OFMP shall be in the form of a matrix with vehicle number in the far left column, maintenance events across the top row and dates of expected maintenance events filling the matrix for each vehicle in the fleet.

- 4.2.3 The proposed version of the OFMP shall be presented for MBTA review and approval within 60 days after NTP (ODRL 3.3-12).

- 4.2.4 The OFMP shall be updated as maintenance events occur (near real-time) and shall be provided to the MBTA on a monthly basis and be made available upon request (ODRL 3.3-13).

- 4.2.5 The Operator shall maintain a real-time database containing the up-to-date OFMP in the Commuter Rail IT Environment.

- 4.3 Maintenance Production Plan Report

- 4.3.1 The Operator shall develop and implement a weekly Maintenance Production Plan and weekly maintenance production report. The weekly Maintenance Production Plan shall provide an overview of planned maintenance activities for the 7 day work week, including all work shifts. The Maintenance Production Plan shall include a work breakdown detailing the following:

- 4.3.1.1 Planned Date / Time / Shift for maintenance activity;

- 4.3.1.2 Vehicle number for each work activity;
- 4.3.1.3 Scheduled Work – Narrative description of work to be performed;
- 4.3.1.4 Planned work location;
- 4.3.1.5 Supervisor responsible for work;
- 4.3.1.6 Assigned resource(s) (Type and labor hours required);
- 4.3.1.7 Material requirements;
- 4.3.1.8 References to all relevant OEM service manuals, drawings, electrical schematics; and
- 4.3.1.9 Planned out of service time (hours) by vehicle.
- 4.3.2 The weekly Maintenance Production Plan and supporting Maintenance Management Systems data (ODRL 3.3-14) shall be submitted in a proposed draft form no later than 60 days after NTP.
- 4.3.3 Once approved by the MBTA, the Operator shall put in place a process for submitting the weekly Maintenance Production Plan (ODRL 3.3-15) to the MBTA as established by this **Schedule 3.3** (Mechanical Services). The weekly Maintenance Production Plan shall be submitted to the MBTA no later than 3:00 pm on Friday of each week detailing the planned work for the upcoming week (Saturday through Friday).
- 4.3.4 The weekly maintenance production report shall be supported by the Maintenance Management System and shall contain the actual work performed for the previous week (seven day period) as presented in the weekly Maintenance Production Plan for the corresponding seven day period. The report shall detail the status of the work prescribed in the weekly Maintenance Production Plan for the reporting period and shall contain the following information:
 - 4.3.4.1 Actual Date / Time / Shift of work performed;
 - 4.3.4.2 Additional work performed (if any);
 - 4.3.4.3 Actual work location (if different);
 - 4.3.4.4 Actual supervisor and employees assigned to the work with a breakdown of labor hours;
 - 4.3.4.5 Actual material consumed (if different);
 - 4.3.4.6 Actual out of service time; and

- 4.3.4.7 Recovery Plan (if needed) that identifies all tasks not completed and the detail identifying when the incomplete task will be accomplished.
 - 4.3.5 The weekly maintenance production report format shall be submitted to the MBTA for review and approval within 60 days after NTP (ODRL 3.3-16). The weekly maintenance production report shall be submitted to the MBTA no later than 10:00 am on Monday of each week (ODRL 3.3-17).
- 4.4 Maintenance Management System
 - 4.4.1 The Operator shall utilize and maintain the Commuter Rail IT Environment that shall retain all necessary records to manage the work and track resource utilization, schedule work and forecast requirements as set forth in Section 8 (Maintenance Management System) of this **Schedule 3.3** (Mechanical Services) (the “**Maintenance Management System**” or “**MMS**”).

5. **CORRECTIVE MAINTENANCE SERVICES**

- 5.1 The Operator shall be responsible for performing all corrective maintenance. “**Corrective maintenance**” is defined as any maintenance required as a result of a failure or defect of a component or system in advance of replacement of the component or system at the end of its useful life. “**Useful life**” is defined as the component life used in the Operator’s LCM Program and MAC for maintainable components and the design life for non-maintainable components (e.g. brackets) as required in Section 3 (Preventive Maintenance and Inspection Services) of this **Schedule 3.3** (Mechanical Services). The Operator shall acquire and maintain the necessary tools and fixtures or have access to any required special tools, fixtures or expertise required to perform all levels of corrective maintenance. Necessary tools are at a minimum those required by the OEM to properly maintain the equipment.
- 5.2 Corrective Maintenance – Component Failure
 - 5.2.1 All maintenance resulting from a component failure that is caused by normal wear-and-tear shall be the responsibility of the Operator. The Operator’s continuous equipment performance monitoring and implementation of the LCM Program shall be designed to minimize corrective maintenance due to component failure.
 - 5.2.2 The Operator shall implement a maintenance approach that will assure that components are replaced in advance of the point of failure due to normal wear-and-tear to the greatest extent possible.
 - 5.2.3 Corrective maintenance shall be performed in a timely manner. Corrective maintenance shall be performed, as required, to ensure fleet availability and shall not be deferred.

- 5.2.4 The Operator shall maintain sufficient resources to address corrective maintenance with a sense of urgency to maximize fleet availability.
- 5.3 Corrective Maintenance – Component Failure Due to Vendor Defect
- 5.3.1 Corrective maintenance resulting from defective components supplied by a vendor are the Operator’s sole responsibility and will be treated in the same fashion as Operator negligence. The Operator shall assure that material, parts, components and systems are purchased from reputable sources of supply and procured using the appropriate specifications.
- 5.3.2 The Operator shall inform the MBTA in writing, immediately, of cases where vendor defective components have caused failures and when available, document the findings of an investigative inspection and the corrective actions necessary. This shall be supported by the Quality Assurance Program required by **Schedule 3.6** (Quality) of this Agreement.
- 5.4 Corrective Maintenance – Damaged Components
- 5.4.1 Any work to repair or replace damaged components that result from vandalism, right of way accidents caused by unauthorized third parties or trespassers or incidents, and debris strikes caused by unauthorized third parties or trespassers shall be reimbursed to the Operator in addition to the Annual Fee.
- 5.4.2 The Operator is responsible for presenting the MBTA an incident report providing a description of the circumstances that caused the damage, the extent of the damage and cost estimate to complete these repairs within one (1) Business Day of the event causing the damage or discovery of damage. Exceptions for one Business Day turnaround for estimates shall be granted on a case-by-case basis.
- 5.4.3 The Operator shall provide evidence that the damage is due to vandalism by unauthorized third parties or trespassers, right of way accidents or incidents caused by unauthorized third parties or trespassers and debris strikes caused by unauthorized third parties or trespassers.
- 5.4.4 The Operator has an obligation to maintain control in and around the MBTA maintenance and layover facilities as a deterrent to vandalism and unauthorized entry. The incident report claiming vandalism against the MBTA rolling stock shall include a demonstration that security measures were in place at the time of the incident and, to the extent possible, provide a description of how the security measures were evaded or compromised to allow for the act of vandalism.
- 5.4.5 Work to repair or replace components that are damaged due to vandalism, right of way accidents or incidents, and debris strikes shall not commence until the MBTA supplies written authorization for the Operator to proceed.

- 5.4.6 The Operator shall not be compensated for work to repair or replace components that are damaged due to vandalism, right of way accidents or incidents, and debris strikes which are not authorized in writing by the MBTA. Email shall not be considered a formal request or approval. A formal document, signed by an authorized representative of the Operator and an authorized MBTA official shall constitute the appropriate notification of a request and authorization of approval with the conditions of approval or disapproval of the request.

5.5 Corrective Maintenance –Operator Negligence

- 5.5.1 The Operator shall be responsible for all costs associated with repairs or maintenance requirements resulting from the Operator’s negligence.
- 5.5.2 The MBTA maintains the right to determine negligence based on the circumstances relating to component failure, damage and the need to replace components in advance of the end of a component’s useful life.

5.6 Corrective Maintenance – MBTA Negligence

- 5.6.1 When previously notified in writing by the Operator of the MBTA’s negligence and, the MBTA concurs with Operator’s assessment of the MBTA’s negligence, the MBTA will be responsible for all costs associated with repairs or maintenance requirements resulting from the MBTA’s negligence.
- 5.6.2 Repair costs shall be determined through a presentation process whereby the Operator presents the repair costs in a proposal to the MBTA and the MBTA responds with written approval of the proposal.
- 5.6.3 No work is to commence prior to receipt of written approval of the proposal from the MBTA. The Operator shall perform, or be responsible for subcontracting the repairs or maintenance required to address the MBTA’s negligence.

5.7 Disputes Regarding Responsibility For Corrective Maintenance

- 5.7.1 In the event that the Operator and the MBTA are unable to resolve differences in terms of responsibility for corrective maintenance, the dispute shall be resolved pursuant to **Schedule 11** (Settlement of Disputes) of this Agreement. The MBTA reserves the right to direct the Operator to commence work that is the subject of a dispute pending resolution of the process set forth in **Schedule 11** (Settlement of Disputes).

6. MAINTENANCE STANDARDS

- 6.1 The Operator shall establish maintenance standards that ensure the safe and proper application of labor, materials and services to execute tasks required in the performance of all levels of maintenance.

- 6.2 The Operator shall prepare a Maintenance Standards Manual (“MSM”) for issuance to all maintenance Operator Personnel to provide guidelines for performing maintenance work. The MSM shall be submitted for the MBTA review and approval within 60 days after NTP (ODRL 3.3-19).
- 6.3 The MSM shall be the governing document covering maintenance policies, standards and procedures. Violation of these policies by Operator Personnel shall be a Breach.
- 6.4 The Operator shall establish a management program to enforce the policies, standards and procedures contained in the MSM.
- 6.5 The following sections describe the minimum elements that are required in the MSM. This shall be enforced by the Quality Assurance Program established in **Schedule 3.6** (Quality) of this Agreement.

6.5.1 Maintenance Standards

- 6.5.1.1 The Operator shall be provided one set of master files of the MBTA’s current maintenance standards from the MBTA’s Technical Library, including OEM standards and other technical standards.
- 6.5.1.2 The Operator shall provide the MBTA updated maintenance standards as revisions are developed, submitted for MBTA approval, approved by the MBTA and implemented.
- 6.5.1.3 Maintenance standards prepared by the Operator for use on the MBTA rolling stock shall become the property of the MBTA and be maintained in the MBTA’s Technical Library.

6.5.2 Maintenance Procedures

- 6.5.2.1 The Operator shall properly store, update and provide to Operator Personnel all the MBTA-approved maintenance manuals and procedures.
- 6.5.2.2 The MSM shall provide a detailed description of how maintenance manuals and procedures will be stored, updated and made available to Operator Personnel.
- 6.5.2.3 Maintenance procedures shall be interfaced with a work order system to ensure that the proper procedures are applied in the performance of the work.
- 6.5.2.4 The MSM shall identify a process for revising maintenance procedures and providing instruction to employees regarding the revision(s) in compliance with the Quality Assurance Plan. This

process shall include, a provision outlining the development process for maintenance procedures in order to maintain a high level of procedure quality.

6.5.3 OEM Maintenance Procedures

6.5.3.1 The Operator shall be responsible for maintaining all maintenance procedures with the most current changes and revisions issued by the OEMs.

6.5.3.2 Formal notification of changes shall be made to all maintenance Operator Personnel and the MBTA. All relevant documents shall be updated to reflect changes as necessary.

6.5.3.3 This MSM revision process shall contain a provision for upkeep of maintenance procedures for inclusion of the most current OEM information to maintain a high level of procedure quality.

6.5.4 Maintenance Procedure Management

6.5.4.1 The MSM shall identify the process whereby the MBTA is assured that the maintenance work performed on the MBTA's assets (locomotives, passenger cars, other rail cars and work equipment, facilities and other the MBTA property used in the performance of Agreement Services) is compliant with the OEM and the MBTA-approved maintenance procedures established for these assets. Such process shall be in compliance with the Quality Assurance Plan.

6.6 Inspection Standards

6.6.1 Inspections shall be conducted in a manner consistent with OEM recommendations and all regulatory requirements. Visual inspections shall be carried out to the fullest extent, utilizing if required, inspection mirrors, feeler gauges, measuring devices and any other apparatus required in performance of the inspection.

6.7 Equipment Calibration

6.7.1 The Operator shall identify all tools and test equipment that require calibration, the frequency of calibration and the calibration standards and procedures.

6.7.2 The Operator shall be required to maintain a system for tracking the calibration status (electronic and hard copy reporting) of the equipment and to be able to recall items for recalibration based on a published schedule, as well as items discovered to have been processed with "out of calibration" equipment.

- 6.7.3 The required system shall also provide for clear identification of calibration status and due dates on the calibrated items, retention of current calibration certificates, and storage of calibrated items under conditions that ensure their continued accuracy.
- 6.7.4 The Operator shall submit a calibration management procedure for MBTA review and approval (ODRL 3.3-20) within 60 days after NTP.

7. MAINTENANCE OF NON-REVENUE FLEET

7.1 General

- 7.1.1 This Section 7 (Maintenance of Non-Revenue Fleet) of this **Schedule 3.3** (Mechanical Services) provides a description of the scope of services that are unique to the non-revenue service fleet. All requirements listed in other sections of this **Schedule 3.3** (Mechanical Services) as applied to maintenance requirements are applicable unless specifically superseded by a requirement in this Section 7 (Maintenance of Non-Revenue Fleet) of this **Schedule 3.3** (Mechanical Services).

7.2 Non-Revenue Fleet

- 7.2.1 The Operator shall register all non-revenue vehicles defined in this Section 7 (Maintenance of Non-Revenue Fleet) of this **Schedule 3.3** (Mechanical Services) with the Umler Equipment Management Information System. The registration of these vehicles in the Umler Equipment Management Information System shall be maintained for the duration of this Agreement unless otherwise directed by the MBTA.
- 7.2.2 The MBTA's non-revenue fleet is summarized in Tables 1.4, 1.5 and 1.6 of Section 1.4 (The MBTA Commuter Rail Fleet) to this **Schedule 3.3** (Mechanical Services).

7.3 Maintenance Obligation

- 7.3.1 The non-revenue fleet is critical to the MBTA's operation. The Operator shall include maintenance of these vehicles in the overall strategy for the Mechanical Services provided as part of this Agreement. The non-revenue services fleet shall be included in the Maintenance Management System for tracking and scheduling / performing / recording all required inspections and maintenance.
- 7.3.2 The Operator shall develop a comprehensive preventive maintenance program for the rail vehicles in the non-revenue service fleet (locomotives, side dump, ballast and flat cars, open hopper car and snow plows) that conform to industry standards. This maintenance plan shall be submitted for the MBTA review and approval within 60 days after NTP (ODRL 3.3-21).

- 7.3.2.1 The Operator shall maintain the cranes in accordance with the approved maintenance plan. The two mobile wrecking cranes shall be inspected in accordance with and compliance with all Commonwealth of Massachusetts Department of Motor Vehicle requirements.
- 7.3.2.2 The Operator shall develop a comprehensive preventive maintenance program for the two mobile wrecking cranes that is based on the OEM requirements. This maintenance plan shall be submitted for MBTA review and approval within 60 days after NTP (ODRL 3.3-22). The Operator shall maintain the cranes in accordance with the approved maintenance plan.

7.4 Equipment Availability

- 7.4.1 The Operator shall maintain the equipment listed in this Section 7 (Maintenance of Non-Revenue Fleet) of this **Schedule 3.3** (Mechanical Services) so as to be available for non-revenue service in accordance with the following requirements:
 - 7.4.1.1 Switching / Work Locomotives (Table 1-4)
 - (a) A minimum of 75% percent of the switch and work locomotive fleet shall be available for intended use each weekday. At a minimum, at least one switching/work locomotive shall be available seven days/week, 365 days per year in each of the North Division and South Division of the Service Area.
 - 7.4.1.2 MOW Support Fleet (Table 1-5)
 - (a) The MOW support fleet shall be made available for its intended use in coordination with the Operator's Engineering and Maintenance Department to support planned and unplanned activities. Special emphasis shall be placed on maximizing availability during the summer "construction season".
 - (b) The MBTA shall conduct periodic audits to assess the Operator's performance in connection with the comprehensive preventive maintenance program for the rail vehicles in the non-revenue service fleet.
 - 7.4.1.3 Wreck Response Vehicles (Table 1-6)
 - (a) Down-time for wreck response vehicles shall be managed such that at no time, two wreck response vehicles are unavailable for intended use at the same time.

- (b) Down-time shall be managed such that no single wreck response vehicle is unavailable for intended use during each weekday.
- (c) Wreck response vehicle maintenance shall be conducted during Off-Peak Commuter Periods only.

8. MAINTENANCE MANAGEMENT SYSTEM

8.1 General

8.1.1 After the consultation between the MBTA and the Operator, and in addition to any requirements of **Schedules 3.15** (Intellectual Property; Ownership) through **3.18** (Service Level Agreement and Service Credits) of this Agreement, the Operator shall utilize, maintain and ensure the Operation of a Maintenance Management System as follows:

- 8.1.1.1 At a minimum, the MMS shall be capable of tracking resources applied to maintenance (labor, materials, shop space, warranty, etc.).
- 8.1.1.2 If necessary, the Operator shall transfer all data stored in the MBTA's or incumbent operator's existing MMS into the new MMS.
- 8.1.1.3 The MBTA shall have full 24/7 user access to the MMS. This access shall include the ability to perform all of the data input, data download, report generation and other functions as would the highest level user of the MMS for the Operator as coded to reflect the author of the data input.
- 8.1.1.4 The MMS shall be available for the MBTA personnel to monitor and download information on a real-time basis.
- 8.1.1.5 All data reported in this system must have the ability to be sorted by equipment ID, task ID, work order status, service request, parts used, date, location, employee performing and supervisor. The work order must define the work scope, action taken (example: replace, repair), time to accomplish task and amount of material consumed to perform task (if applicable). (Free form text cannot be accepted to close a work order). The system shall be maintained such that sufficient detail is attached to each record to document the description of a failure and the corrective action taken.
- 8.1.1.6 The MMS must comply in full with the requirements of 49 CFR Part 217, Subpart A.
- 8.1.1.7 The Operator shall be responsible for all costs associated with system maintenance, support, data back-up and licensing (including maintaining an MBTA user license with administrator rights).

- 8.1.1.8 The Operator shall submit a maintenance management system plan for review and approval by the MBTA no later than 60 days after NTP (ODRL 3.3-18).

8.2 Maintenance Management System Features

- 8.2.1 The MMS shall be a relational database capable of creating flat file records for tracking work orders, material consumption and other resources associated with work performed on each vehicle.

- 8.2.2 The MMS shall also be capable of tracking vehicle reliability and other measures of vehicle performance.

- 8.2.3 The system shall account for vehicle availability by tracking vehicle status on a real-time basis.

8.2.3.1 Maintenance Management System Work Orders

- (a) The MMS shall be capable of generating reports that utilize the data stored in the above records.
- (b) The MMS shall retain all inspection reports required by the MBTA.
- (c) The MMS shall be capable of tracking inspection dates and generating a schedule of required inspections for the fleet.
- (d) The MMS work orders shall, at a minimum, capture the following information:
 - (i) Vehicle Number;
 - (ii) Date Out-of-Service;
 - (iii) Date and Time Work Started;
 - (iv) Employee(s) and Employee (s) Identification Number Assigned to Perform Work;
 - (v) Work Location;
 - (vi) Trouble Code for Reason Vehicle is Shopped;
 - (vii) Description of Failure;
 - (viii) Work Code for Work Task(s) performed (if multiple tasks are performed, they must be listed individually for tracking purposes);

- (ix) Description of Corrective Action;
- (x) Labor Hours (by person) for the Work Task(s) Performed (if multiple tasks are performed, the hours must be listed individually for tracking purposes);
- (xi) Material with quantities Removed from the Vehicle (code for type, part number and serial number);
- (xii) Material with quantities Applied to the Vehicle (code for type, part number and serial number);
- (xiii) Warranty Information;
- (xiv) Supervisor and Supervisors identification number Sign-off; and
- (xv) Date and Time Returned to Available Revenue Service Fleet.

8.3 Maintenance Management System Performance Tracking

8.3.1 The Operator shall input data required to accurately track vehicle performance as required in Section 10 Section (Performance Requirements, Measurement and Management) of this **Schedule 3.3** (Mechanical Services). The MMS shall be the tool for collecting, tracking and analysis of vehicle performance data. At a minimum, the following data shall be input and updated to facilitate performance tracking:

8.3.1.1 Vehicle Mileage (daily mileage and cumulative mileage);

8.3.1.2 Daily Availability; and

8.3.1.3 System and Subsystem Failures for all Line Replaceable Units.

8.3.2 The Operator shall track performance on a vehicle-specific basis and system-specific basis using the MMS as the source of information. All data reported in this system must have the ability to be sorted by task, part number, date, employee performing work, hours, location, repeat failures as defined by part number, task, or equipment ID and supervisor. The task must define the work scope, action taken (example: replace, repair), time to accomplish task and amount of material consumed to perform task (if applicable). (Free form text cannot be accepted to close a work order).

9. FRA COMPLIANCE

9.1 General

9.1.1 The Operator shall be obligated in its duties in connection with this Agreement to perform all work and provide all services in compliance with the applicable requirements of the Code of Federal Regulations, Title 49, Transportation Parts 200 to 299 in its current form and as periodically amended and updated during the Term.

9.2 Fleet Compliance Management - General

9.2.1 The Operator shall be responsible for maintaining the fleet to be in compliance in all respects with the requirements of the Code of Federal Regulations, Title 49, Transportation Parts 200 to 299 in its current form and as periodically amended and updated during the term of this Agreement.

9.2.2 At the Agreement Services Commencement Date the Operator shall take full responsibility for FRA compliance for the revenue service fleet and non-revenue service fleet. All costs associated with maintaining this compliance shall be borne by the Operator. Any violations, citations, penalties, restrictions or other mandates by the FRA shall be the responsibility of the Operator.

9.3 Fleet Inspection, Testing And Maintenance Requirements

9.3.1 The Operator shall be responsible for performing all inspections and tests required by the Code of Federal Regulations, Title 49, Transportation Parts 200 to 299 (in its current form and as periodically amended and updated during the Term). In performing these inspections and tests, the Operator shall ensure that the work associated with these inspections and tests is appropriately supervised and performed in compliance with established procedures that meet all of the applicable requirements listed in the Code of Federal Regulations, Title 49, Transportation Parts 200 to 299 in its current form and as periodically amended and updated during the Term.

9.4 FRA Compliance Management

9.4.1 The Operator shall prepare an FRA Compliance Management Plan (FRA-CMP) that shall provide details on the following:

9.4.1.1 How the Operator will maintain competency on all applicable FRA regulations relating the revenue service and non-revenue service fleets.

9.4.1.2 How fleet inspection, testing and maintenance procedures will be developed to be in compliance with FRA requirements.

9.4.1.3 How the Operator will supervise work being performed such that the work is performed as required by established procedures that are compliant with FRA requirements.

- 9.4.1.4 How the Operator will supervise the work-force to ensure the work-force is performing duties in compliance with FRA requirements.
- 9.4.1.5 How the Operator will train employees in compliance with FRA requirements.
- 9.4.1.6 How the Operator will document the inspection, maintenance and employee requirements.
- 9.4.1.7 How the Operator will manage record retention in compliance with FRA requirements.
- 9.4.1.8 How the Operator will manage interface with the FRA.
- 9.4.2 The FRA-CMP shall be submitted for the MBTA review and approval within 60 days after NTP (ODRL 3.3-25). The Operator shall comply with all requirements of the approved FRA-CMP.

10. PERFORMANCE REQUIREMENTS, MEASUREMENT AND MANAGEMENT

10.1 General

- 10.1.1 The fleet shall be maintained to achieve performance levels expected through the design, construction, maintenance and normal service life of the fleet, inclusive of revenue service and non-revenue fleets defined in Section 1.4 (The MBTA Commuter Rail Fleet) of this **Schedule 3.3** (Mechanical Services). This Section 10 (Performance Requirements, Measurement and Management) of this **Schedule 3.3** (Mechanical Services) establishes standards for measuring and maintaining acceptable levels of performance.
- 10.1.2 The entire fleet shall be maintained in compliance with all applicable FRA requirements.
- 10.1.3 The Operator shall apply maintenance consistent with the requirements of this Agreement and the MBTA approved fleet maintenance plan to the entire MBTA commuter rail fleet. The Operator shall not be permitted to defer maintenance or repair work on any vehicle in the fleet without the prior written permission of the MBTA.
- 10.1.4 The following definitions apply to the performance requirements of this Section 10 (Performance Requirements, Measurement and Management) of this **Schedule 3.3** (Mechanical Services):
 - “**Train Consist**” means the base train set inclusive of cars and locomotives sized for the peak demand load of its equipment cycle. The current consist list for both North Division and South Division train services is presented in

Appendix A to this **Schedule 3.3** (Mechanical Services) – Train Cycle and Train-Consist Requirements.

“Train-specific miles” means the miles traveled by the base consist for each train designated for daily revenue service.

“Failure” means a system malfunction that originates on the vehicle that affects the performance of any single vehicle or base consist. Failures can occur in one car or multiple cars or in the locomotive in the base consist. Any failure, regardless of whether it is on one car, multiple cars or the locomotive, is considered a failure for the base-consist. This includes any component on any coach or locomotive, or coach-to-coach or coach-to-locomotive connection that can malfunction. The Failure shall be tracked on a “per trip” basis. If the equipment is kept in service and fails on a subsequent trip, it is counted as a new failure. The term Failure also applies to the non-revenue service fleet, on a locomotive or work vehicle, and shall be defined as a system malfunction that affects performance of the vehicle or base consist.

10.1.5 The Operator shall not permit the fleet to be in a state of Long-Term Out-of-Service for extended periods, without the prior written approval of the MBTA.

10.1.5.1 Any vehicle in the Commuter Rail Fleet that is not available for intended use for greater than (7) days during a fifteen (15) continuous, calendar day period shall be considered a Long-Term Out-of-Service. Additionally, any vehicle in the Commuter Rail Fleet that is out of revenue service (12) days during a continuous twenty (20) days shall be considered a Long Term Out-of-Service.

10.1.5.2 The Contractor shall submit a Long-Term Out-of Service Release Plan to the MBTA for review and approval within five (5) days of the Long-Term Out-of-Service designation. This plan shall provide details on the procedures and schedule for restoration of all Contractor’s Long-Term Out-of-Service Status Report to the MBTA every month.

10.1.5.3 Commuter Rail Fleet shall not be deemed a Contractor’s Long-Term Out-of-Service if it has suffered Material Damage not deemed to have been caused in whole or in part by acts or omissions of Contractor.

10.2 Performance Measures

10.2.1 The following performance measures shall be established to monitor the fleet and maintenance operation.

10.2.1.1 Mean Distance Between Failure

- (a) Mean distance between failures (“**MDBF**”) shall be calculated by the Operator and reported to the MBTA for the fleet on a monthly basis.
- (b) A failure for revenue service MDBF calculations is defined as a vehicle failure that causes the train to be delayed five minutes or more upon arrival at any station along its route. A failure for non-revenue service MDBF calculations is defined as a vehicle failure that causes the train to fail completion of the prescribed work-plan for the timeframe in which it is called for duty.
- (c) The MDBF shall be calculated in the following manner:
 - (i) For locomotives, locomotive mileage in service during the reporting period divided by number of locomotive-related failures in reporting period.
 - (ii) For cab (control) trailer cars (CTC), CTC mileage in service during the reporting period divided by number of CTC-related failures in reporting period.
 - (iii) For blind trailer cars (BTC), BTC miles in service in the reporting period divided by number of BTC-related failures in reporting period.
- (d) Calculation shall be carried out as follows:
 - (i) $(\text{Miles in Month X for vehicle-type}) \div (\text{Number of Failures of Vehicle-type in Month X}) = \text{MDBF for Vehicle-type in Month X}$
 - (ii) For example,
 - (iii) In May the locomotive fleet ran 342,833 miles;
 - (iv) Experienced 20 locomotive failures in May;
 - (v) Therefore, $\text{MDBF for locomotive fleet in May} = 342,833 / 20 = 17,141 \text{ miles}$
- (e) The Operator shall also monitor and report revenue service locomotive, CTC, BTC and non-revenue service vehicle MDBF on an individual vehicle basis and by vehicle systems to ascertain whether there are any problematic vehicles that require immediate action. In other words, MDBF shall also be calculated for each individual coach and each individual locomotive as a means of tracking vehicle-specific performance.

10.2.1.2 Service Failures

- (a) Service Failures are defined as in-service failures of vehicle systems that do not affect the On Time Performance of the train or MDBF calculations, but affect the passengers. These failures include, but are not limited to:
 - (i) HVAC System Failure – Failure to maintain temperatures within the design values;
 - (ii) Door Failure - Failure of a door to operate as designed;
 - (iii) Lighting System Failure – Failure of 10% or greater of the lights in the interior of the vehicle to remain illuminated for the duration of the trip;
 - (iv) Toilet System Failure – Failure of the toilet system to function as designed;
 - (v) Cleanliness Failure – Failure of the vehicle to be maintained in a clean state as required through the application of the Daily MI;
 - (vi) Communication System Failure – Failure of the Public Address System, Intercom, Signage or Vehicle Radio en-route; and
 - (vii) Ride Quality Failure – Failure of the truck and suspension system to provide the designed ride quality.
- (b) Mean Time Between Service Failure (“MTBSF”) shall be calculated on a monthly basis on a vehicle-specific basis and fleet basis. The Parties shall negotiate, in good faith during the Mobilization Period, MTBSF requirements for legacy Rolling Stock for each year of calendar years 2014 through 2020; provided, however, that the MBTA shall set the MTBSF requirements for legacy Rolling Stock in the event that the Parties cannot reach agreement. With respect to new Rolling Stock, the MTBSF requirements for each year of calendar years 2014 through 2020 shall be as specified by the applicable manufacturer of the new Rolling Stock.
- (c) The MTBSF is calculated in the following manner:
 - (i) Cumulative days (locomotive days plus coach days) in service in the reporting period divided by total number of service failures in reporting period.

(ii)
$$\frac{(\text{Days in Month X}) \times (\text{Total Average Number of Vehicles Available for Service for Month X})}{(\text{Number of Service Failures in Month X})} = \text{MTBSF for in Month X}$$

(iii) For example,

- May has 31 days,
- Average number of locomotives available for service in May equals 62
- Average number of coaches (CTCs + BTCs) available for service in May equals 380,
- Total average number of vehicles available for service in May equals 442,
- Experienced 20 service failures in May,
- MTBSF for Revenue Service Fleet in May = 685.1

(d) The Operator shall monitor and report vehicle-specific MTBSF to the MBTA on a monthly basis to ascertain whether there are any problematic locomotives and/or coaches that require immediate action and to determine the Operator's compliance with its obligations under this Agreement (each, an "**MTBSF Report**") (ODRL 3.3-29). Within ten (10) days from the MBTA's request (and at no additional cost to the MBTA), the Operator shall also provide to the MBTA MTBSF Reports covering specific time periods and information that the MBTA designates (each, a "**Supplemental MTBSF Report**") (ODRL 3.3-30). By way of example, and not limitation, a Supplemental MTBSF Report may consist of MTBSFs over a two (2) month period.

(e) The following tables provide the MDBF performance requirements for the Operator to achieve for the MBTA's fleets:

Table 1.9 – Locomotive MDBF Performance Requirements

The MBTA Locomotive MDBF		Monthly MDBF Performance Requirements by Year (in Miles)						
Locomotive-type	Current MDBF	2014	2015	2016	2017	2018	2019	2020
GP40MC	4,660	5,000	5,000	5,000	5,000	5,000	5,000	5,000
F40PH2C	6,680	7,700	8,500	10,000	10,000	10,000	10,000	10,000
F40PH2	8,092	8,800	9,500	10,000	10,000	10,000	10,000	10,000
F40PHM	10,017	11,000	11,000	11,000	11,000	11,000	11,000	11,000
MP36	5,976	10,000	10,000	10,000	10,000	10,000	10,000	10,000

Table 1.10 – Coach (CTC and BTC) MDBF Performance Requirements

Fleet-type Manufacturer (Road Numbers)		Current MDBF	Monthly Fleet Performance Requirements by Year						
			2014	2015	2016	2017	2018	2019	2020
CTCs Kawasaki 1700-1724 Bombardier 1625-1651	MDBF (miles)	20,569	68,000	100,000	136,000	136,000	136,000	136,000	136,000
BTCs Kawasaki 700-749 Kawasaki 750-766 Kawasaki 767-781 Kawasaki 900-932 Bombardier 1600-1624 Bombardier 600-653 Bombardier 350-389 Pullman 200-258	MDBF (miles)	57,138	100,000	136,000	136,000	136,000	136,000	136,000	136,000

10.2.1.3 Fleet Availability

- (a) In order to be considered available for revenue service, locomotives, CTCs and BTCs must have the attributes set forth in Section 1.5.1
- (b) In order to be considered available for non-revenue services, non-revenue service vehicles must have the attributes set forth in Section 1.5.2

10.2.1.4 Weekday Availability – Train Consist Requirements

- (a) Fleet availability is a performance measure of the Operator’s ability to have locomotives and coaches available for revenue service that match the requirements on a train consist by train consist basis.
- (b) Each train consist shall be built in conformance with the requirements listed in Section 1.3 (Railroad Operation Characteristics) of this **Schedule 3.3** (Mechanical Services). The MBTA requires that at least one lavatory-equipped coach is present in each train consist.

- (c) The weekday revenue service train-consist requirements are presented in Appendices A-1 and A-2.
- (d) Additionally, availability shall be measured as the available fleet count by equipment type (locomotives, bi-level cab cars, bi-level trailer cars, single level cab cars and single level trailer cars) at the start of each of the two daily weekday peak periods from 5:00 am to 10:00 am and from 4:00 pm to 9:00 pm. During these two peak periods of the service day, the required fleet shall be available for revenue service. The required fleet shall be defined as:
 - (i) North Side
 - (i) 24 Locomotives
 - (ii) 131 Coaches (including minimum of four bi-level cars and 24 cab control cars)
 - (ii) South Side
 - (i) 38 Locomotives
 - (ii) 228 Coaches (including minimum of 126 bi-level cars and 37 cab control cars)
- (e) Sufficient equipment shall be available during the off-peak periods to cover all scheduled service.

10.2.1.5 Weekend and Holiday Availability

- (a) The weekend and holiday service requirement is the availability as presented in Appendix A to this **Schedule 3.3** (Mechanical Services) – Train Cycle and Train-Consist Requirements.
- (b) The same availability requirements listed in Section 10.2.1.4 of this **Schedule 3.3** (Mechanical Services) apply for weekend and holiday availability.

10.2.1.6 Fleet Availability Exceptions

If a vehicle is not in service due to the following reasons, it will be exempt from the fleet availability (Peak Period Availability) calculations:

- (a) Damage due to vandalism or MBTA negligence (the Operator shall present evidence supporting its claim as defined in Sections 5.2 (Corrective Maintenance - Component Failure) and 5.4 (Corrective

Maintenance - Damaged Components) of this **Schedule 3.3** (Mechanical Services));

- (b) Corrective maintenance requirements due to MBTA negligence, which has been previously documented and reported to the MBTA in writing within five days of the negligent event and approved in writing by the MBTA; or
- (c) Any MBTA directed removal from service of Service Equipment.

10.2.2 Performance Tracking

10.2.2.1 The Operator shall collect, on a daily basis, the following information to be used to track vehicle performance:

- (a) Individual Vehicle Mileage (daily mileage and cumulative mileage);
- (b) Cumulative Days in Service for each vehicle;
- (c) Peak Period Availability (the number of units available for service at the start of each peak period);
- (d) Off-peak availability;
- (e) System and Subsystem Failures for all Line Replaceable Units, including those enumerated in Section 10.2.1.2 (Service Failures) of this **Schedule 3.3** (Mechanical Services);
- (f) Resource Consumption (Materials and Labor); and
- (g) Out-of-Service Time for all vehicles (any rolling stock not available for revenue train service).

10.2.2.2 The Operator shall develop a Maintenance Operation and Fleet Performance Report format and present it to the MBTA for review and approval within 30 days after NTP (ODRL 3.3-26).

10.2.2.3 Using the MBTA-approved report format, the Operator shall prepare and submit this report to the MBTA for approval on a monthly basis (each, a "**Maintenance Operation and Fleet Performance Report**") (ODRL 3.3-27). The Maintenance Operation and Fleet Performance Report shall be provided within seven calendar days of the close of the previous month, and shall be the focal point for the Operator performance review for each month's Reporting Period. Within ten (10) days from the MBTA's request (and at no additional cost to the MBTA), the Operator shall also provide to the MBTA Maintenance Operation and Fleet

Performance Reports covering specific time periods and information that the MBTA designates (each, a "**Supplemental Maintenance Operation and Fleet Performance Report**") (ODRL3.3-31). By way of example, and not limitation, a Supplemental Maintenance Operation and Fleet Performance Report may consist of daily mileage for a six (6) month period.

11. **OPERATOR DELIVERABLE REQUIREMENTS LIST**

ODRL	Description	Due Date
ODRL 3.3-01	Equipment List (ELIST) – Proposed	At time of NTP
ODRL 3.3-02	Equipment List (ELIST) – submitted for the MBTA Approval	60 days after NTP
ODRL 3.3-03	Maintenance Allocation Chart (MAC) – The Operator Proposed	At time of NTP
ODRL 3.3-04	Maintenance Allocation Chart (MAC) – submitted for the MBTA Approval	60 days after NTP
ODRL 3.3-05	Life Cycle Maintenance (LCM) Program – The Operator Proposed	At time of NTP
ODRL 3.3-06	Life Cycle Maintenance (LCM) Program – submitted for the MBTA Approval	60 days after NTP
ODRL 3.3-07	Comprehensive Preventive Maintenance, Inspection and Cleaning Plan	At time of NTP
ODRL 3.3-08	Comprehensive Preventive Maintenance, Inspection and Cleaning Plan – submitted for the MBTA Approval	60 days after NTP
ODRL 3.3-09	Cleaning Standards – proposed	At time of NTP
ODRL 3.3-10	Cleaning Standards – submitted for the MBTA Approval	60 days after NTP
ODRL 3.3-11	Maintenance Interval Forms – submitted for the MBTA Approval	90 days after NTP
ODRL 3.3-12	Fleet Maintenance Plan – for the MBTA approval	60 days after NTP
ODRL 3.3-13	Fleet Maintenance Plan – Real-time	Monthly and Upon Request
ODRL 3.3-14	Weekly Maintenance Production Plan – proposed draft form	60 days after NTP
ODRL 3.3-15	Weekly Maintenance Production Plan	No later than 3:00 pm on Friday
ODRL 3.3-16	Weekly Maintenance Production Report	60 days after NTP
ODRL 3.3-17	Weekly Maintenance Production Report	No later than 10:00 am on Monday
ODRL 3.3-18	Maintenance Management System Plan	60 days after NTP
ODRL 3.3-19	Maintenance Standards Manual (MSM)	60 days after NTP
ODRL 3.3-20	Calibration Procedure Management Plan	60 days after NTP
ODRL 3.3-21	Rail Vehicle Non-Revenue Fleet – comprehensive preventive maintenance program	60 days after NTP
ODRL 3.3-22	Mobile Wreck Cranes – comprehensive preventive maintenance program	60 days after NTP
ODRL 3.3-23	Maintenance Management System Procurement Specification	At time of NTP
ODRL 3.3-24	FRA Defect Report – Rolling Stock	60 days after NTP
ODRL 3.3-25	FRA Compliance Management Plan	60 days after NTP

ODRL	Description	Due Date
ODRL 3.3-26	Present a Maintenance Operation and Fleet Performance Report format to the MBTA for review and approval	30 days after NTP
ODRL 3.3-27	Maintenance Operation and Fleet Performance Report	Monthly
ODRL 3.3-28	Maintenance Cost per Vehicle per Year	60 days post NTP
ODRL 3.3-29	MTBSF Report	Monthly
ODRL 3.3-30	Supplemental MTBSF Report	On demand
ODRL 3.3-31	Supplemental Maintenance Operation and Fleet Performance Report	On demand

APPENDICES TO SCHEDULE 3.3

1. TRAIN CYCLE AND TRAIN-CONSIST REQUIREMENTS

See Appendices below:

A-1 – North Side Equipment Cycle

A-2 – South Side Equipment Cycle

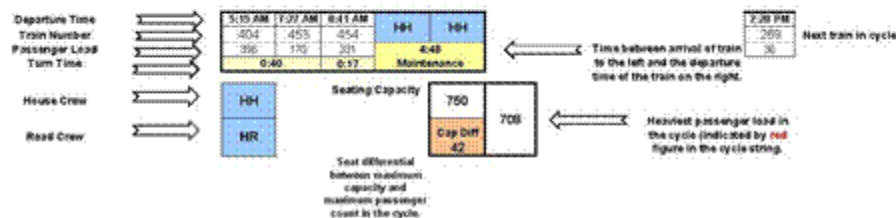
2. INITIAL TERMINAL DISPATCHMENT SCHEDULE

See Appendix B

Appendix A-1

						North Side Equipment Cycle Seating Requirements for 196 Scheduled Weekday Trains Effective February 02, 2012 (Replaces Equipment Cycle of November 29, 2010)																
SET	R/L	Req'd	Stops	Peak Load	Leaver Location													Put Up	Passenger Moves & Disposal			
A	0	5	570 Cap Diff 132	438	ROCKPORT	5:05 AM	6:30 AM	7:55 AM	10:20 AM	12:00 PM	HH	HR	5:55 PM	7:00 PM	8:30 PM	10:45 PM	12:10 AM	ROCKPORT	No. of Trains 19 1371 Passengers			
						102 270	151 N6	162 438	113 48	120 90	4:47	Maintenance	296	26	153	17	17			0:14	1:20	0:33
B	0	5	570 Cap Diff 132	438	ROCKPORT	6:10 AM	7:35 AM	9:05 AM	Shut Down		2:10 PM	3:15 PM	4:30 PM	6:25 PM	HH	HR	10:40 PM	ROCKPORT	No. of Trains 8 1450 Passengers			
						106 409	205 79	214 131	3:56		329 129	328 29	227 438	238 30	3:15	Maintenance	5:15			143 80		
C	0	7	798 Cap Diff 39	758	ROCKPORT	6:44 AM	HH	HR	2:20 PM	3:05 PM	5:30 PM	6:55 PM	7:41 PM					ROCKPORT	No. of Trains 5 1581 Passengers			
						108 799	6:28		126 121	126 60	131 628	94 6	55 7	0:16	0:10							
D	1	4	636 Cap Diff 38	598	ROCKPORT	7:25 AM	HH	HH	2:40 PM	4:30 PM	6:06 PM					ROCKPORT	No. of Trains 4 1531 Passengers					
						110 608	4:42		423 144	424 131	129 498											
E	0	5	570 Cap Diff 93	477	NEWBURYPORT	5:22 AM	6:42 AM	7:57 AM	HH	HH	1:10 PM	2:15 PM	3:20 PM	4:35 PM	5:10 PM	7:45 PM	9:05 PM	10:45 PM	11:30 PM	NEWBURYPORT	No. of Trains 12 1681 Passengers	
						152 282	191 36	198 438	4:45		521 34	524 51	175 290	178 26	133 427	138 32	189 142	98 9	8 8			0:15
F	0	5	570 Cap Diff 91	489	NEWBURYPORT	5:50 AM	7:15 AM	8:00 AM	8:40 AM	9:15 AM	HH	HH	4:40 PM	5:45 PM	6:45 PM					NEWBURYPORT	No. of Trains 8 1689 Passengers	
						154 448	265 10	265 485	307 9	308 97	6:00	329 689	334 29	185 476	0:14	0:14						
G	0	6	684 Cap Diff 37	647	NEWBURYPORT	6:30 AM	8:00 AM	9:36 AM	10:20 PM	2:08 PM	HH	HH	5:40 PM					NEWBURYPORT	No. of Trains 5 1588 Passengers			
						158 626	193 23	184 96	177 108	124 52	2:30	183 647	2:30									
H	0	7	798 Cap Diff 125	673	NEWBURYPORT	7:00 AM	8:25 AM	9:20 AM	11:20 AM	1:06 PM	HH	HH	5:15 PM					NEWBURYPORT	No. of Trains 6 1680 Passengers			
						158 673	63 20	64 171	165 165	172 89	3:08	191 582										
I	0	5	570 Cap Diff 47	523	BET	HR	3701	5:05 AM	6:45 AM	7:30 AM	8:55 AM	10:27 AM	HH	HR	5:35 PM	6:30 PM	7:20 PM	8:00 PM	9:45 PM	10:15 PM	BET	No. of Trains 11 1496 Passengers
						202 225	253 13	268 523	417 99	418 110	6:00	281 222	284 14	287 98	288 3	239 140	244 9	HH	0:10	0:10		
J	0	5	570 Cap Diff 136	434	BRADFORD	5:30 AM	7:10 AM	8:15 AM	HH	HR	4:00 PM	5:05 PM	6:20 PM					BRADFORD	No. of Trains 5 1504 Passengers			
						204 333	61 65	62 344	7:08		467 228	468 154	235 438	0:11	0:19							
K	0	5	570 Cap Diff 58	512	BRADFORD	6:10 AM	7:50 AM	8:30 AM	10:10 AM	11:15 AM	HH	HH	4:20 PM	5:15 PM	7:40 PM	9:00 PM	10:35 PM			BRADFORD	No. of Trains 10 1682 Passengers	
						206 512	257 63	262 225	315 35	318 87	4:21	177 470	182 36	187 124	188 22	243 63						
L	0	6	684 Cap Diff 75	609	BRADFORD	6:40 AM	8:10 AM	9:15 AM	HH	HH	3:50 PM	4:32 PM	5:55 PM					BRADFORD	No. of Trains 5 1611 Passengers			
						208 489	309 48	314 134	8:51		275 126	280 11	231 681	0:12	0:17							
M	0	6	684 Cap Diff 82	602	BRADFORD	7:30 AM	9:10 AM	10:15 AM	HH	HH	4:20 PM	4:55 PM	5:35 PM					BRADFORD	No. of Trains 6 1554 Passengers			
						212 602	311 35	316 137	8:21		359 98	360 1	233 611	0:10	0:20							
N	0	6	684 Cap Diff 33	651	BET	HR	3801	5:35 AM	6:45 AM	7:40 AM	9:40 AM	11:06 AM	1:10 PM	2:40 PM	5:10 PM	6:20 PM	7:30 PM	9:30 PM	10:40 PM	BET	No. of Trains 12 2037 Passengers	
						302 290	305 41	310 602	419 49	420 80	217 117	228 40	331 153	339 13	342 104	342 33	345 16	HR	0:20			0:10
O	1	4	684 Cap Diff 180	504	BET	HR	3803	6:10 AM	7:25 AM	8:25 AM	9:25 AM	11:24 AM	Shut Down		4:49 PM	5:35 PM	6:25 PM	8:25 PM	BET	No. of Trains 9 1754 Passengers		
						304 364	307 34	312 343	419 111	420 87	3:59		279 252	282 14	433 384	436 6	HR	0:15			0:24	

Appendix A-1 North Side Equipment Cycle Seating Requirements for 196 Scheduled Weekday Trains Effective February 02, 2012 (Replaces Equipment Cycle of November 20, 2010)																					Put Up		Revenue Miles & Reliability		
SET	Bl Level	Required	Seats	Peak Load	Layover Location																				
P	0	6	684 Cap Diff 46	638	BET	HR	5:45 AM 301 7	6:14 AM 306 638	7:55 AM 355 10	8:30 AM 356 216	9:25 AM 281 5	10:05 AM 288 35	11:30 AM 421 83	1:05 PM 422 83	HH 2:57	HR	3:35 PM 335 635	4:45 PM 437 45	10:25 PM 439 9	BET	No. of Trains 11 1789 Passengers				
Q	0	7	798 Cap Diff 46	711	BET	HR	7:15 AM 3805 711	8:40 AM 308 59	10:05 AM 109 07	12:10 PM 116 78	1:15 PM 319 68	3:00 PM 322 136	4:30 PM 225 68	5:55 PM 252 68	HR	HR	6:35 PM 335 635	7:45 PM 437 45	10:25 PM 439 9	BET	No. of Trains 9 1832 Passengers				
R	0	5	570 Cap Diff 64	486	BET	HR	6:25 AM 351 15	8:50 AM 352 239	9:10 AM 105 50	9:10 AM 114 107	11:10 AM 317 45	12:15 PM 320 68	1:20 PM 189 168	2:45 PM 176 79	4:10 PM 527 410	5:40 PM 380 50	6:25 PM 337 408	7:45 PM 340 13	9:40 PM 345 43	10:35 PM 348 0	HR	No. of Trains 15 1885 Passengers			
S	0	5	570 Cap Diff 287	283	BET	HR	10:30 AM 213 61	12:00 PM 220 40	6:45 PM 67 283	8:40 PM 68 32	11:10 AM 237 214	12:15 PM 238 38	1:20 PM 345 24	HR	HR	HR	HR	HR	HR	HR	BET	No. of Trains 7 666 Passengers			
T	0	5	570 Cap Diff 174	396	FITCHBURG	HR	5:15 AM 404 396	7:27 AM 453 170	8:41 AM 454 331	HH 4:48	HH 4:48	2:30 PM 269 36	3:00 PM 274 9	4:00 PM 127 289	5:25 PM 180 18	7:30 PM 435 195	FITCHBURG	FITCHBURG	FITCHBURG	FITCHBURG	FITCHBURG	No. of Trains 6 1491 Passengers			
U	1	4	636 Cap Diff 11	625	FITCHBURG	HR	5:00 AM 406 635	5:04 AM 309 33	10:00 AM 218 55	HH 4:41	HR 4:41	4:27 PM 426 29	5:41 PM 341 21	6:44 PM 439 44	HR	HR	HR	HR	HR	HR	FITCHBURG	No. of Trains 5 1291 Passengers			
V	0	6	684 Cap Diff 40	644	FITCHBURG	HR	6:30 AM 408 644	8:12 AM 455 182	9:25 AM 456 80	HH 6:22	HR 6:22	4:40 PM 425 353	5:25 PM 328 108	6:28 PM 429 867	HR	HR	HR	HR	HR	HR	FITCHBURG	No. of Trains 4 1488 Passengers			
W	1	5	750 Cap Diff 42	708	FITCHBURG	HR	6:55 AM 410 750	HH 0:58	HH 0:58	12:20 PM 215 44	1:20 PM 222 40	3:10 PM 325 160	4:15 PM 328 108	5:28 PM 429 867	HR	HR	HR	HR	HR	HR	FITCHBURG	No. of Trains 6 1727 Passengers			
X	0	5	570 Cap Diff 48	522	FITCHBURG	HR	7:20 AM 412 505	HH 0:06	HR 0:06	3:00 PM 405 99	4:17 PM 406 10	5:40 PM 431 52	7:30 PM 434 47	8:35 PM 291 42	10:14 PM 292 3	12:18 AM 401 30	FITCHBURG	FITCHBURG	FITCHBURG	FITCHBURG	FITCHBURG	No. of Trains 8 1240 Passengers			
24 Sets	Bl 4	Flats 129	Seats 15426	Peak Load 13367																	~ Seating is based on ~ Single level coaches having 114 seats on average. Bi-level coaches having 180 seats on average. Ridership based on November 2011. Avg Total Passenger Cnt Report.		196		
Coaches					Total Coach Count	North Side = 133		South Side = 228		System Count = 361										34184					



Appendix A-2

[illegible]

Appendix A-2

~ South Side Equipment Cycle ~

Seating Requirements for 282 Scheduled Weekday Trains
Effective July 3, 2012 (Replaces July 2, 2012)

BLevel	Single level	Max Seats/Coach	Key Load	Layover Location																					Put Up In	Next Trip	Cycle	Revenue Moves & Ridership	
2	3	702	360	KINGSTON	032	003	518	063	062	SH	062X	017X	017	020	067	065	055									KINGSTON	032	AA	1564
		342			300	61	237	26	26		2:33			380	68	350	11	65											1512
5	1	1014	683	KINGSTON	034	034X	RDV	047X	047																	KINGSTON	038	DD	1312
		931			629		10:25		043																				1409
5	1	1014	775	KINGSTON	036	005	012	012X	SH	043X	043															KINGSTON	034	BB	1409
		239			275	25	108		5:28																				1004
5	1	1014	704	KINGSTON	038	038X	SH	079X	079	089	045	052	027	028	057											KINGSTON	036	CC	1004
		330			614		5:51		73	38	704	13	113	24	26														1804
3	3	882	617	MIDDLEBORO	002	003	010	007	014	014X	SH	015X	015	018	019	022	051	056	025							MIDDLEBORO	006	GG	1792
		265			226	16	304	55	157		1:34		106	47	617	26	169	12	66										12
3	3	882	657	MIDDLEBORO	004	053	040	040X	SH	013X	013	014	759	760	021											MIDDLEBORO	002	EE	1554
		239			530	21	160		3:46		118	47	18	3	657														6
3	3	882	687	MIDDLEBORO	006	006X	SH	077X	077	084	081	068	025													MIDDLEBORO	004	FF	1325
		195			657		4:45		42	23	238	45	190																6
5	1	1014	558	MIDDLEBORO	008	081	080	060X	SH	023X	023															MIDDLEBORO	008	HH	1008
		456			556	20	52		6:13		378																		2
2	3	702	626	GREENBUSH	010	071	078	075	082	082X	SH	041X	041	043	085											GREENBUSH	072	JJ	1187
		76			267	10	119	20	34		1:55		102	9	626														8
2	3	702	584	GREENBUSH	072	749	750	750X	RDV	083X	083															GREENBUSH	070	II	1101
		108			506	10	118		7:52		378																		4
2	3	702	561	GREENBUSH	074	074X	RDV	763X	763	764	089	092	093													GREENBUSH	076	LL	1015
		141			561		9:07		190	7	267	36	36																6
2	3	702	507	GREENBUSH	076	073	080	009	016	016X	SH	087X	087	090	091											GREENBUSH	074	KK	1109
		195			587	12	45	73	38		3:25		348	10	75														8
BI	Plats	Seats	Key Load	SH = Southampton Yard RDV = Readville Yard Maintenance Window ~ Seating is based on ~ Single level coaches having 114 seats on average. B-level coaches having 180 seats on average.																				Revenue Moves	282				
126	102	34308	27856	Ridership based on platform counts of May 2012 Average Total Count Report.																				Ridership	65009				
5	228	Coaches																											

Approved Sets		Number of Sets in Layovers	
Location	Total	Sets	
1 B			
5 A,D,E,F,H	8	G,I,J,G,S,T,W,X,Y	
4 BB,CC,DD,HH	5	N,O,P	
10 C,G,I,J,K,P,R,T,V,X	5	H,R,V	
8 AA,BE,FF,GG,S,U,JK,LL	4	K,L,M,U	
8 B,M,N,O,Q,S,U,W	6	A,B,C,D,E,F	
1 Y	4	AA,BB,CC,DD	
37 Sets		EE,FF,GG,HH	
Rev of Set Configurations =	7	Greenbush	4
			Sets = 37

Maintenance Locations	
SH	A,C,E,F,I,J,K,L,N,O,Q,R,S,T,U
28	V,W,X,Y,AA,CC,DD,EE,FF,G
RDV	G,H,H,I,LL
9	B,D,G,H,M,P,BB,J,K,K
37	

Approved Seat Shortages

Approved seat shortages apply to sets which are 60 seats or less short of the highest "peak load". There are no approved seat shortages.

The Contractual minimum coach count is 356.

System Coach Count	
South Side =	228
North Side =	128
System =	356

APPENDIX B

LOCATION	DAY	TRAIN #	START-UP	INITIAL TEST COMPLETE	DEPART LAYOVER	(LAYOVER SHUT-DOWN)	DEPART STATION
NORTHSIDE LOCATIONS (Mechanical 55 min.; Crew 5 min.; Depart Layover / Station varies by location)							
Bradford	Weekday	204	4:13 AM	5:08 AM	5:13 AM	5:38 AM	5:38 AM
		206	4:45 AM	5:40 AM	5:45 AM	6:10 AM	6:10 AM
		208	5:21 AM	6:16 AM	6:21 AM	6:46 AM	6:46 AM
		212	6:05 AM	7:00 AM	7:05 AM	7:30 AM	7:30 AM
Fitchburg	Weekday	404	3:45 AM	4:40 AM	4:45 AM	5:10 AM	5:15 AM
		406	4:30 AM	5:25 AM	5:30 AM	5:55 AM	6:00 AM
		408	5:00 AM	5:55 AM	6:00 AM	6:25 AM	6:30 AM
		410	5:25 AM	6:20 AM	6:25 AM	6:50 AM	6:55 AM
		412	5:50 AM	6:45 AM	6:50 AM	7:15 AM	7:20 AM
	Saturday	1402	5:20 AM	6:15 AM	6:20 AM	6:45 AM	6:50 AM
		1406	7:55 AM	8:50 AM	8:55 AM	9:20 AM	9:25 AM
	Sunday	2402	5:20 AM	6:15 AM	6:20 AM	6:45 AM	6:50 AM
		2406	7:55 AM	8:50 AM	8:55 AM	9:20 AM	9:25 AM
Newburyport	Weekday	152	3:52 AM	4:47 AM	4:52 AM	5:17 AM	5:22 AM
** See NOTE		154	4:25 AM	5:20 AM	5:25 AM	5:50 AM	**5:55 AM
		156	5:00 AM	5:55 AM	6:00 AM	6:25 AM	6:30 AM
		158	5:30 AM	6:25 AM	6:30 AM	6:55 AM	7:00 AM
	Saturday	1156	7:18 AM	8:13 AM	8:18 AM	8:43 AM	8:48 AM
	Sunday	2156	7:18 AM	8:13 AM	8:18 AM	8:43 AM	8:48 AM
Rockport	Weekday	102	4:00 AM	4:55 AM	**Sta Track	5: 25 AM	5:05 AM
** See NOTE		106	4:45 AM	5:40 AM	5:45 AM	6:10 AM	**6:05 AM
		108	5:24 AM	6:19 AM	6:24 AM	6:49 AM	6:44 AM
		110	6:05 AM	7:00 AM	7:05 AM	7:30 AM	7:25 AM
	Saturday	1104	5:55 AM	6:50 AM	**Sta Track	6:20 AM	7:00 AM
	Sunday	2104	5:55 AM	6:50 AM	**Sta Track	6:20 AM	7:00 AM
<p>**These three Rockport trains start up in the station (Sta), not the layover. For these trains, the time of turnover to Transportation is recorded as the ACTUAL Depart Layover time on the Idling / Layover Facility Maintenance Log.</p> <p>**NOTE: On the public schedule, the first and last weekday trains for Newburyport and Rockport are temporarily modified to accommodate necessary repairs to the Saugus River Drawbridge. The modified schedule was effective as of 11/21/2011, and is expected to remain in place for 6 months or so (until May, 2012). During this period, Newburyport Train #154 will depart 5 minutes earlier (5:50 AM) and Rockport Train #106 will depart 5 minutes earlier at 6:10 AM. Idling logs for both locations have been updated to reflect the modified schedule.</p>							

APPENDIX B

LOCATION	DAY	TRAIN #	START-UP	INITIAL TEST COMPLETE	DEPART LAYOVER	(LAYOVER SHUT-DOWN)	DEPART STATION
SOUTHSIDE LOCATIONS (Mechanical 55 min.; Crew 5 min.; Layover to Station varies by location)							
Franklin	Weekday	706	5:10 AM	6:05 AM	6:10 AM	6:40 AM	**6:30 AM
		708	5:00 AM	5:55 AM	6:00 AM	6:25 AM	**6:20 AM
		710	6:15 AM	7:10 AM	7:15 AM	7:40 AM	7:45 AM
Kingston	Weekday	032	3:57 AM	4:52 AM	4:57 AM	5:22 AM	5:22 AM
		034	4:44 AM	5:39 AM	5:44 AM	6:09 AM	6:09 AM
		036	5:42 AM	6:37 AM	6:42 AM	7:07 AM	7:07 AM
		038	6:07 AM	7:02 AM	7:07 AM	7:32 AM	7:32 AM
	Saturday	1032	5:20 AM	6:15 AM	6:20 AM	6:40 AM	6:40 AM
		1034	7:07 AM	8:02 AM	8:07 AM	8:32 AM	8:27 AM
	Sunday	2032	5:20 AM	6:15 AM	6:20 AM	6:45 AM	6:40 AM
		2034	7:07 AM	8:02 AM	8:07 AM	8:32 AM	8:27 AM
Middleboro	Weekday	002	3:45 AM	4:40 AM	4:45 AM	5:10 AM	5:10 AM
		004	4:25 AM	5:20 AM	5:25 AM	5:50 AM	5:50 AM
		006	5:25 AM	6:20 AM	6:25 AM	6:50 AM	6:50 AM
		008	5:50 AM	6:45 AM	6:50 AM	7:15 AM	7:15 AM
	Saturday	1002	5:05 AM	6:00 AM	6:05 AM	6:30 AM	6:30 AM
		1004	6:28 AM	7:23 AM	7:28 AM	7:53 AM	7:53 AM
	Sunday	2002	5:05 AM	6:00 AM	6:05 AM	6:30 AM	6:30 AM
		2004	6:28 AM	7:23 AM	7:28 AM	7:53 AM	7:53 AM
Needham	Weekday	600	4:45 AM	5:40 AM	5:45 AM	6:10 AM	6:10 AM
		602	5:20 AM	6:15 AM	6:20 AM	6:45 AM	6:45 AM
		604	6:05 AM	7:00 AM	7:05 AM	7:30 AM	7:30 AM
Pawtucket	Weekday	800	3:37 AM	4:32 AM	4:37 AM	4:58 AM	5:07 AM
		8801(802)	3:05 AM	4:00 AM	4:05 AM	4:30 AM	4:35 AM
		804	4:37 AM	5:32 AM	5:37 AM	5:58 AM	6:07 AM
		8803(806)	4:08 AM	4:58 AM	5:08 AM	5:28 AM	5:33 AM
		8805(808)	4:30 AM	5:25 AM	5:30 AM	5:55 AM	6:00 AM
		8805(810)	4:30 AM	5:25 AM	5:30 AM	5:55 AM	6:00 AM
	Saturday	1802	5:05 AM	6:00 AM	6:05 AM	6:30 AM	6:35 AM
	Sunday	2806	9:50 AM	10:45 AM	10:50 AM	11:15 AM	11:20 AM
Scituate	Weekday	070	4:00 AM	5:10 AM	5:15 AM	5:40 AM	5:40 AM
		072	4:57 AM	6:07 AM	6:12 AM	6:37 AM	6:37 AM
		074	5:23 AM	6:33 AM	6:38 AM	7:03 AM	7:03 AM
		076	6:10 AM	7:20 AM	7:25 AM	7:50 AM	7:50 AM
	Saturday	1070	5:15 AM	6:25 AM	6:30 AM	6:55 AM	6:55 AM
	Sunday	2070	5:15 AM	6:25 AM	6:30 AM	6:55 AM	6:55 AM
Worcester	Weekday	500	3:03 AM	3:58 AM	4:03 AM	4:28 AM	4:45 AM
		506	4:48 AM	5:43 AM	5:48 AM	6:13 AM	6:30 AM
		508	5:13 AM	6:08 AM	6:13 AM	6:38 AM	6:55
		512	5:53 AM	6:48 AM	6:53 AM	7:18 AM	7:35 AM
**NOTE: These 2 Franklin departure times intentionally vary from the MBTA printed schedule per Mary Ann Reilly.							

SCHEDULE 3.4
MATERIALS MANAGEMENT AND PROCUREMENT

1. MATERIALS MANAGEMENT

- 1.1 The Operator shall manage the purchase, storage, security, disbursement, control and disposal of all Support Property and Support Inventory necessary to perform the Agreement Services.
- 1.2 The Operator shall ensure that all Support Property and Support Inventory purchased by the Operator in order to perform the Agreement Services shall be used solely for the purpose of providing the Agreement Services.
- 1.3 The Operator shall not sell, loan, give away or use for purposes other than Agreement Services, Support Property and Support Inventory purchased or obtained for the Agreement Services, without the express written consent of the MBTA. This applies to material designated as scrap as well as usable material.
- 1.4 Title and ownership of Support Property and Support Inventory shall pass to the MBTA upon purchase by the Operator except as otherwise provided in this Agreement.
- 1.5 Support Property and Support Inventory shall be available for inspection by the MBTA at all times.
- 1.6 The Operator shall develop and implement a materials management process that will optimize efficiency and inventory value through forecasting of replenishment requirements as well as control of all phases of the materials handling function. A preliminary Materials Management Plan shall be submitted to the MBTA for review and approval no later than 60 days after NTP (ODRL 3.4-01). The Materials Management Plan must ensure that adequate levels of critical inventory (particularly long lead-time items) are maintained without any interruption in availability.
- 1.7 The Operator shall designate each item of critical or unique material (the "**critical material**") and determine necessary stocking levels in order to ensure continuous availability during seasonal demands and to support fluctuations in lead time that typically occur. Critical material must be available in sufficient quantities to support the operation of Agreement Services. This applies to all Service Equipment as well as Service Property and Support Property.
- 1.8 The Operator shall develop a list of critical material including item number and description, average unit price (the "**AUP**"), lead time, vendor contact data, order quantity and reorder point. This list shall be submitted to MBTA each quarter for review and approval no later than 90 days after NTP (ODRL 3.4-02).

- 1.9 The Operator shall determine quantities of critical material to be kept in stock for normal consumption and quantities to be kept on hand for emergency use (i.e. safety stock). Normal consumption and safety stock may be physically warehoused together, but must be warehoused as separate lots. Warehousing may be done virtually via electronic recordkeeping and dispensing protocols. This also applies to Service Property and Support Property material and must include a category for project material. Any attempt to charge out safety stock or project material for any use must be accompanied by an email alert to the Operator's material management personnel as well as MBTA officials. Any use of safety stock or project material must be approved by the Operator's Manager – Material Management or his or her designee.
- 1.10 The Operator shall develop a processes for kitting common use materials for complex tasks such as locomotive and coach periodic inspection and maintenance (ODRL 3.4-03) no later than 12 months after the Mobilization Commencement Date. Kitting may be done on site by Operator Personnel or off site by a primary vendor or consolidator. The Operator shall also identify opportunities to develop kitting for common processes used in tasks other than vehicle maintenance.
- 1.11 The Operator shall use the Commuter Rail IT Environment to monitor levels of materials and inventory.

2. NEW VEHICLE FLEET SUPPORT

- 2.1 From the date of acquisition through the expiration of any applicable warranties, only Original Equipment Manufacturer (“OEM”) parts and material may be purchased and applied to Rolling Stock Fleet vehicles acquired pursuant to the MPI HSP46 Locomotive Procurement program and the Hyundai-Rotem CTC-1800 and BTC-800 Bi-Level Coach Procurement program or any designated Rolling Stock Fleet vehicles acquired thereafter (collectively, “New Fleet Vehicles”).
- 2.2 The Operator shall arrange long-term (no less than annual) commitments from OEMs for parts and material for New Fleet Vehicles. The Operator may consider OEM material consignment agreements, guaranteed delivery schedules with on-site and off-site warehousing and other means of preventing accumulation of excess inventory while ensuring timely availability of parts. These arrangements must be in effect by the Agreement Services Commencement Date (ODRL 3.4-04).
- 2.3 The Operator shall develop parts lists for New Fleet Vehicles in compliance with guidelines established by the MBTA Vehicle Engineering Group or an MBTA-approved alternate. These lists shall be submitted for MBTA review and approval no later than 90 days after NTP (ODRL 3.4-05).
- 2.4 The Operator shall develop lists of unique and critical parts for New Fleet Vehicles and ensure sufficient safety stock is on hand for unanticipated increases in consumption. This shall be done under the guidelines established by the MBTA Vehicle Engineering Group

and is subject to MBTA approval. These lists shall be submitted for MBTA review and approval no later than 90 days after NTP (ODRL 3.4-06).

2.5 The Operator shall develop a list of components, especially high value parts and assemblies for New Fleet Vehicles to be restored for use via repair-and-return no later than 6 months after the Mobilization Commencement Date (ODRL 3.4-07) and arrange repair-and-return contracts with New Fleet Vehicle OEMs or OEM-approved alternates following MBTA approval. Sufficient spare parts and assemblies must be in inventory to support consumption and repair-and-return vendor turnaround times. The Operator shall either purchase additional spares once repair-and-return agreements are made and turnaround times are known or demonstrate that additional spares are otherwise sufficient.

2.6 The Operator shall ensure secure storage of all New Fleet Vehicle parts and material.

2.7 The Operator shall ensure continuous availability of New Fleet Vehicle parts and material.

3. **STORAGE AND HANDLING**

3.1 Support Inventory shall remain on MBTA property unless the Operator receives MBTA approval to store such Support Inventory elsewhere.

3.2 Capital spares shall be stored in secure storage; behind chain link fence or other barriers to restrict access.

3.3 All material, except for low value consumables (i.e. hardware, some cleaning materials, etc.) and common use hardware shall be kept in secure storage areas in order to minimize the incidence of undocumented consumption, hoarding, pilferage and other modes of undocumented inventory depletion. This includes outdoor storage of maintenance of way and other large, durable or slow moving material. Requests for exceptions to this policy are subject to prior written MBTA approval.

3.4 The Operator shall ensure that all Support Property and Support Inventory is properly handled and protected to prevent damage. Support Property and Support Inventory must be protected from the effects of precipitation, heat, sun, cold, damp, and other effects of time and weather. Support Property and Support Inventory shall be stored so that it does not warp, twist, or otherwise distort during storage. The MBTA may reject as non-compliant Support Inventory not stored in conformance with this Agreement.

3.5 The Operator shall develop and submit a Damaged Inventory Report that is submitted quarterly on the 1st day of February, May, August and November for MBTA review (ODRL 3.4-08).

3.6 Loss of value due to improper handling or storage of Support Property or Support Inventory shall be the responsibility of the Operator, pursuant to **Schedule 4** (MBTA Assets and Third Party Agreements) of this Agreement and will require immediate replenishment upon discovery of damaged material.

3.7 The Operator shall ensure adherence to any OEM recommended storage requirements.

4. **SUPPORT INVENTORY VALUATION**

4.1 The Operator shall ensure that the inventory value maintained in the Commuter Rail IT Environment shall be equal to or greater than the system average price based on the actual purchase price of the Support Inventory acquired for use in the Agreement Services, and shall be subject to audit and verification by the MBTA or its authorized representatives.

4.2 The Operator shall adjust the inventory value to reflect the results of the annual physical inventory. At no time during the Term shall the value of the Support Inventory fall below 90% of the value of the Support Inventory on the Agreement Services Commencement Date, unless the MBTA adjusts the inventory value to reflect inventory items that the MBTA adds, at its cost and expense, to the inventory, or removes from the inventory obsolete or otherwise unused inventory items. In the event that the MBTA adjusts the total value of the inventory as described in the preceding sentence, the Operator shall ensure that at no time during the Term does the value of the Support Inventory fall below ninety (90%) of the adjusted value of the Support Inventory.

4.3 The Operator may propose adjustments to inventory value based on need. This includes increases made to ensure uninterrupted availability of critical material, adjustments made in support of changes in lead time, economic order quantity, reorder point, consumption patterns, seasonal need or other substantiated reason. Any change will be subject to MBTA approval.

4.4 The Operator shall calculate the average unit price of all parts in the inventory. This may be used as an index to justify increasing inventory based on the average price of any part being higher than the year before.

4.5 The Operator may propose adjustments to inventory value based on obsolescence or extremely low consumption. Obsolete material must be approved by MBTA for disposal before it may be removed from inventory and sold or discarded. Extremely slow moving, but necessary or unobtainable material (i.e. parts needed to restore wrecked and damaged vehicles or infrastructure) may be proposed for write down (i.e. “devalued” to minimum allowable amount) subject to prior written approval from the MBTA.

5. **PHYSICAL INVENTORY AND AUDIT**

5.1 The Operator shall conduct an initial physical inventory and annual physical inventory of the Support Inventory and an initial audit and annual audit of the Support Property.

5.2 No later than 10 days prior to the Agreement Services Commencement Date, the MBTA and the Operator shall complete an initial physical inventory of the Support Inventory and an initial audit of the Support Property to determine the quantities thereof. This initial inventory and audit shall be as provided in **Schedule 3.12** (Mobilization) of this Agreement. Upon completion of the initial physical inventory and audit, a listing of Support Inventory and Support Property shall be attached to this Agreement. This

inventory shall be a Condition Precedent as provided for in **Schedule 2** (Conditions Precedent) of this Agreement.

- 5.3 The Operator shall conduct an annual physical inventory of all Support Inventory. This must be completed by June 30th annually (ODRL 3.4-09). The MBTA shall, with the cooperation of the Operator, conduct or cause to be conducted an annual audit of the Support Property.

6. **OBSOLETE, SURPLUS AND SCRAP SUPPORT PROPERTY AND SUPPORT INVENTORY**

- 6.1 The Operator shall identify any Support Property or Support Inventory considered obsolete, surplus or scrap, subject to MBTA approval as part of the annual physical inventory and audit and as required during the normal course of business.

- 6.2 The Operator shall develop and implement a plan for handling all obsolete and scrap material including ferrous and non-ferrous metals, trash, hazardous solid and liquid waste, and recyclables (ODRL 3.4-10). This plan must be submitted for MBTA review and approval no later than 60 days after NTP.

- 6.3 Obsolete material is Support Inventory that is:

6.3.1 not readily, economically, and commonly available to the Operator; or

6.3.2 not in current parts catalogs; or

6.3.3 not a standard item supplied by an OEM; or

6.3.4 rendered unnecessary by an action of the MBTA.

- 6.4 An item of Support Inventory deemed obsolete by the MBTA may continue to be utilized until depletion, unless the item has been determined to be inappropriate due to safety or other failure considerations.

- 6.5 Material that is obsolete because it is no longer available, but still required to support the delivery of Agreement Services shall be replaced by the Operator. The Operator shall prepare an estimate for “reverse engineering” or otherwise developing an ordering description and specification for acquiring the obsolete material from an approved alternate source. This estimate must be a fixed price/fixed fee estimate and include testing as may be necessary. Such jobs will be treated as Supplemental Work.

- 6.6 Obsolete material shall be properly disposed of by the Operator after approval is obtained from the MBTA.

- 6.7 Surplus material is Support Inventory for which the annual turnover is less than 0.20 for the prior three years, and for which there is more than a five year supply. The inventory in

excess of the five year supply may be disposed of by the Operator with prior written approval from the MBTA.

- 6.8 The Operator may scrap an item of Support Property or Support Inventory if the actual cost to repair or repair-and-return such item exceeds the economic cost to replace the item, with the prior written approval of the MBTA, if the Operator replaces it with a new or completely remanufactured item.
- 6.9 The Operator may also scrap-and-replace items of Support Property and Support Inventory that are no longer economical to maintain when operating economies can be realized from standardized configurations, with the prior written approval of the MBTA. For such standardization, the Operator shall use only new or completely remanufactured items.
- 6.10 The Operator shall, at least annually, dispose of any Support Property and Support Inventory identified as obsolete, surplus, or scrap.
 - 6.10.1 Disposal of non-capitalized units of property shall be accomplished through sale by competitive bidding.
 - 6.10.2 Capitalized units of property must be disposed of in accordance with instructions from the MBTA.
 - 6.10.3 Capitalized units of property include capital spares included with a Service Equipment purchase.
 - 6.10.4 Disposal of any obsolete, surplus or scrap Support Property and Support Inventory shall be on a first-in, first-out (FIFO) basis. All Support Property and Support Inventory retained shall be the most recently acquired unless the Operator is otherwise instructed in writing by the MBTA.
- 6.11 The proceeds of sales of obsolete, surplus, or scrap Support Property and Support Inventory shall be deposited into an escrow account to be maintained by the Operator and, at the direction of the MBTA, either be remitted to the MBTA or used by the Operator to acquire other Support Property or Support Inventory to be utilized in providing the Agreement Services. The Operator shall also credit to the escrow account the amount of any and all proceeds from the routine sale of used inventory items.
- 6.12 The Operator shall set-up this escrow account no later than the Agreement Services Commencement Date and shall submit written documentation of the same to the MBTA (ODRL 3.4-11).
- 6.13 Should the disposal include sale to a division, joint partner, or subsidiary of the Operator, the price paid shall be the book value of the disposed material unless a higher price is received.
- 6.14 The Operator shall submit a monthly report detailing all transactions to or from the escrow account (ODRL 3.4-12).

- 6.15 The cost of selling or otherwise disposing of such items shall be included in the Annual Fee.

7. INVENTORY CONTROL

- 7.1 The Operator shall develop an inventory maintenance plan (the “Inventory Maintenance Plan”). The plan shall detail the amount of inventory required to maintain the Service Equipment, Service Property, and Support Property. The plan must include a process and schedule for monthly review and metrics for measuring the effectiveness of the plan. The plan is subject to approval by the MBTA. The plan shall be initially submitted to the MBTA for review and approval no later than 60 days after NTP (ODRL 3.4-13). The MBTA shall review and approve or return the plan for amendment within 30 days after receipt. The Operator shall amend and resubmit the plan within 20 days. If the plan is rejected a second time, the Operator shall immediately arrange a meeting with the MBTA to quickly resolve the issues of contention. The plan shall be updated annually and submitted to the MBTA as part of the corresponding Mechanical Services Plan and Engineering Services Plan.
- 7.2 The Operator shall determine the minimum and maximum levels of each item of Support Inventory to be maintained as part of the Inventory Maintenance Plan. The MBTA may, in its sole discretion after consulting with the Operator, direct the Operator to adjust minimum and maximum line item inventory levels.
- 7.3 The Operator shall maintain actual levels of Support Inventory that exceed the MBTA-approved minimum inventory levels including spare component pools. The Operator shall ensure that long lead time inventory items are maintained at the MBTA approved level.
- 7.4 The Operator shall not deplete existing stocks to generate working capital for the Operator's benefit. Consumption of existing stocks that results in replacement with consignment material is not permitted without prior written approval from the MBTA.
- 7.5 The Inventory Maintenance Plan must include minimum levels of necessary common use material to be stocked at all secure outlying points to support troubleshooting and running repair of locomotives and coaches in order to avoid train delays; inoperative or unusable locomotives; un-air conditioned, un-heated or un-lit coaches; coach door defects and other failed systems critical to train operation. Stocking such levels of specific parts and material may introduce higher minimum stocking levels of these parts in order to support multiple stocking locations (i.e. minimums cannot be established only by measuring against fleet size, lead time, etc.)
- 7.6 The Inventory Maintenance Plan must include minimum levels of necessary common use and long lead time Service Property items including track, signal, grade crossing, bridge, station and facility components.
- 7.7 The Inventory Maintenance Plan must include a three year forecast for all material needs with special attention given to long lead time items as well as material from overseas suppliers.

- 7.8 The Inventory Maintenance Plan must include minimum acceptable levels at all fuel storage locations and a process for managing those levels. The plan shall include a process for managing bulk fuel delivery schedules and monitoring in order to prevent storage tank levels from falling below required minimum levels during inclement weather, holiday weekends, etc.
- 7.9 The Inventory Maintenance Plan must include lists of all seasonal material and fluids and plans to ensure adequate stocking levels to meet peak demand. Details include item number and description, vendor contact information, min/max level, order quantity, lead time, delivery schedule, and deployment locations. The Inventory Maintenance Plan must include multiple suppliers for critical winter needs.
- 7.10 The Inventory Maintenance Plan must include schedules and ordering information for winter blend fuel including the method for ensuring that the blend remains within allowable tolerance for variation (i.e. mix on site in MBTA storage tanks or pre-mix at vendor terminal).
- 7.11 The Inventory Maintenance Plan shall include a process for monitoring and tracking all spare component pools including reclaim pools in order to eliminate the incidence of inventory shrinkage. This process must include methods of periodically tracking the status and location of all pool components. There shall be no variation in inventory levels of pool components from the levels as of the Agreement Services Commencement Date without MBTA approval. The Operator is responsible for restoring all missing, damaged, vandalized or otherwise ruined pool spares.
- 7.12 The Operator shall develop and implement a process for generating and maintaining a “None on Hand” list for tracking of stock outs as well as a process for reconciling the none-on-hand items including expedited delivery, alternate sourcing, inventory adjustments, etc. This process must be submitted to the MBTA for review and approval no later than 60 days after NTP (ODRL 3.4-14). The Operator must ensure that there are no unanticipated stock-outs and that Procurement and Stores personnel meet with end users monthly to maintain continuous forward progress in solving material issues. This process must include the following elements:
- 7.12.1 There can be only one officially sanctioned None on Hand list.
- 7.12.2 There must be a procedure for populating the list and all additions and deletions must follow this process. Included with each entry must be the item number and description of each none-on-hand item; vendor data, min/max level, economic order quantity, lead time, buyer's contact information, delivery due dates, any other pertinent information such as work-arounds, units held out of service awaiting material, delays in infrastructure maintenance and repairs, etc.
- 7.12.3 None-on-hand material must be prioritized by criticality, length of time of stock out, and the extent to which it is unique (i.e. there is lack of alternate vendors for the material).

- 7.12.4 A meeting of relevant Operator Personnel must be convened monthly to review and act upon the status of each item on the list. MBTA staff shall be notified of all monthly material meetings, receive all reports in advance and may attend as necessary (ODRL 3.4-15).
- 7.12.5 A report detailing the status of Work In Progress (the “**WIP Report**”) with respect to the Operator ordering process shall also be presented and discussed at this monthly meeting. The Operator must develop a means to ensure that procurement department administrative time is included in all its lead time estimates and kept to a minimum. All items waiting in the Operator's procurement queue must be stratified on the WIP Report by length of time in the queue - >15 days, > 30 days, >60 days, etc. Any items in the procurement queue for >30 days must receive priority treatment unless they are critical, in which case immediate attention is required.
- 7.12.6 The Operator shall use the WIP Report to ensure that all stakeholders understand the details and effects of each stock-out, that remedial actions are determined and managed correctly and in a fashion to remedy the stock-outs as soon as possible and that no missing parts or material are overlooked. The Operator must ensure that all fleets and other assets are available for the maximum amount of service.
- 7.12.7 An updated None on Hand list shall be generated following each of these meetings and forwarded to the Operator’s management and to MBTA officials within five (5) days of each meeting (ODRL 3.4-16)
- 7.12.8 Attendance sign-in sheets shall be generated at each meeting whether or not MBTA representatives are in attendance and forwarded to the MBTA.

8. QUALITY OF MATERIALS

- 8.1 Support Inventory material and services shall be selected to achieve or exceed performance requirements of the Agreement Services. Services include repairing and overhauling components, hazardous and scrap material haulers, monitoring and audit services, etc.
- 8.2 All Support Inventory materials to be used in the Agreement Services shall be first quality products and conform to OEM specifications. If OEM specifications are not available, then other appropriate specifications or standards (such as AAR, AISI, Aluminum Association, ASTM, AWI, NEC, NFPA, SAE, ASME, or others) shall be utilized, unless otherwise specified by the MBTA.
- 8.3 Track material must meet or exceed the requirements of AREMA and American Railway Engineering Standards, whichever is more stringent.
- 8.4 The Operator shall not acquire or use materials that will negatively impact safety, durability, reliability, regulatory compliance, or operating economy relative to the Service Equipment or Service Property original design or as modified through upgrades or improvements.

- 8.5 The Operator shall acquire Support Inventory that is identical to and interchangeable with parts, material, circuits, logic, ergonomics and dimensions on the existing Service Equipment and Service Property. Unless otherwise specified in this Agreement, the requirement for interchangeability shall apply to material used for repairs, maintenance, and replacements. Interchangeability shall be defined by form, fit, and function. Safety, durability, delivery time, cost and appearance are integral parts of function.
- 8.6 All track car fuels and fluids must be ordered by the Operator in compliance with MBTA technical specifications. In the absence of a technical specification for a specific item, the Operator must develop and implement a technical specification subject to MBTA approval (ODRL 3.4-032). Technical specifications must be approved by the MBTA before any orders are placed for applicable material.
- 8.7 The Operator may recommend substitutions or changes in configurations of material and spares that do not lessen the safety, reliability, appearance, availability, operating economy, or regulatory compliance of the Service Equipment or Service Property.
- 8.8 The Operator shall acquire sufficient quantities of MBTA approved substitute material in order to provide for fleet needs and provide a viable pool of spares. Substitute material may only be purchased with prior MBTA approval.
- 8.9 All Support Inventory purchased for the Agreement Services shall comply with all local, state, and federal regulations.

9. MATERIALS MANAGEMENT INFORMATION SYSTEM

- 9.1 The Operator shall, no later than 135 days after NTP, develop, implement and administer a Material Management Information System Plan so as to use the Commuter Rail IT Environment to monitor and control materials management activities (ODRL 3.4-18). These activities shall include, but not be limited to, maintaining an inventory of all existing materials and parts; optimizing stocking of materials and parts; calculating the costs of materials and parts used for work orders; controlling the ordering of materials and parts; and tracking specific materials, including materials for Supplemental Work Projects, serialized components, budgets and project costs.
- 9.2 The Materials Management Information System shall be fully operational and up-to-date not later than 90 days after NTP (ODRL 3.4-19). The Operator also shall ensure that existing MBTA materials management data is loaded into the Commuter Rail IT Environment not later than 90 days after NTP (ODRL 3.4-20).
- 9.3 The Operator shall separately identify and track materials used for Supplemental Work in the MBTA approved or MBTA supplied Materials Management Information System.

10. FAILURE TO MAINTAIN ADEQUATE LEVELS

- 10.1 In the event that the Operator fails to perform the necessary maintenance on the Service Property or Service Equipment within the allocated maintenance schedule due to the

Operator's failure to maintain an adequate level of inventory, the Operator shall be held liable for the costs associated with such failure to perform such maintenance, including all applicable penalties.

11. FUEL PURCHASING

- 11.1 The MBTA shall select a locomotive fuel vendor(s) and pay for bulk locomotive fuel that is delivered to the fuel storage tanks located at the Southside S&I Facility and CRMF and used in Commuter Rail Services.
- 11.2 The MBTA shall also pay for the delivery of bulk locomotive fuel transported by an MBTA owned fuel truck or vehicle and used for the Commuter Rail Service at the Readville Yard or other facility as mutually agreed to by the Operator and the MBTA.
- 11.3 The Operator shall order and arrange for the delivery of locomotive fuel from the MBTA-approved vendors.
- 11.4 The Operator shall maintain sufficient levels of fuel in storage tanks to permit compliance with the requirements cited in the Inventory Maintenance Plan.
- 11.5 The Operator shall monitor the composition and quality of the fuel in the storage tanks by performing frequent periodic chemical analysis. Winter and summer blends shall be maintained within specified allowable variation as described Sections 7.8 and 7.10 of this **Schedule 3.4** (Materials Management and Procurement). The Operator shall develop and implement fuel testing plan including sampling schedule subject to MBTA approval no later than 90 days after NTP (ODRL 3.4-21).
- 11.6 The Operator shall replace at its sole cost any fuel that is degraded as a result of the Operator's own conduct or omission(s). The Operator shall schedule testing to ensure that problems associated with degraded or contaminated fuel are minimized.
- 11.7 Other Fuel
 - 11.7.1 The Operator shall provide or secure, at its own cost and expense, all fuel used by the Operator, including locomotive fuel delivered to outlying points, in the performance of Agreement Services other than fuel dispensed from the storage tanks described in Sections 11.1 through 11.6 of this **Schedule 3.4** (Materials Management and Procurement), above.
 - 11.7.2 All such fuel shall meet or exceed the fuel specifications of the OEMs.
 - 11.7.3 Operator shall ensure that fueling that occurs at locations other than Southside S&I and CRMF is done in compliance with all state and federal regulations, as well as in accordance with all applicable SPCC Plans.

- 11.7.4 No labor than 90 days after NTP, Operator shall develop and maintain a waste/recycling tracking plan to account by volume, weight, commodity and cost for all materials including trash/waste that is disposed (ODRL 3.4-34).

11.8 Fuel Accounting Requirements

- 11.8.1 No later than 60 days after NTP, the Operator shall develop and implement a system using the Commuter Rail IT Environment for accounting for all fuel deliveries and dispensing that includes, but is not limited to, the following (ODRL 3.4-22):
- 11.8.2 Every gallon of fuel that is dispensed must be accounted for with a dispensing ticket that identifies the unit number to which it was applied, date and location;
- 11.8.3 Every gallon of fuel that is delivered must be accounted for on the fuel transporter's delivery ticket as well as a matching Operator delivery receipt;
- 11.8.4 Variation between transporter and Operator receipts must be limited to 0.1% with a written explanation for any variance that exceeds this tolerance;
- 11.8.5 A daily reconciliation must be performed that balances all delivery quantities, storage quantities and dispensing quantities with variation not to exceed 0.1%. Any variation that exceeds that limit must be accompanied with a written explanation.
- 11.8.6 Defined periodic checks of physical storage inventory (at least twice daily) using means other than receiving or dispensing meters (e.g. measuring sticks, tape measures, sight glasses, etc.)
- 11.8.7 Defined service intervals for receiving and dispensing, meter inspection, calibration, maintenance and overhaul.
- 11.8.8 A defined periodic audit process of receiving and dispensing practices. This must include written reports submitted to the MBTA within 48 hours of completing each individual audit.
- 11.8.9 Laborer/Fueler training must include specific instructions on the use and care of fuel receiving and dispensing apparatus; monitoring fuel deliveries; filling out dispensing tickets, etc.
- 11.8.10 Daily, weekly, monthly and annual reports (ODRLs 3.4-23 thru 3.4-26) that include all fuel delivery, dispensing and variation data and cumulative information along with explanations and narrative as required.
- 11.8.11 Monthly reports for all inspection, maintenance, calibration, repair and overhaul of fueling apparatus (ODRL 3.4-27).

11.9 The Operator must make all reasonable efforts to remedy unacceptable variation through improvements in accounting practices; inspection, maintenance, calibration & repair of fuel storage, receiving and dispensing apparatus; employee training and, if necessary, discipline. These efforts must be documented in the Operator's written explanations for fuel variance as well in periodic reports cited in Section 11.8 (Fuel Accounting Requirements) of this **Schedule 3.4** (Materials Management and Procurement).

11.10 Locomotive Fuel Usage

11.10.1 The Operator shall provide to the MBTA monthly reports showing fuel usage by locomotive by date, time of day, fueling location, and amount (ODRL 3.4-28), and a monthly report of fuel purchases by the Operator (ODRL 3.4-29).

11.10.2 No later than 90 days after NTP, the Operator must develop and implement a plan to ensure that locomotive idling time is minimized (ODRL 3.4-019). MBTA locomotives shall be idling continuously for no longer than permitted by 310 CMR 7.11(2). Monthly reports cited above shall include hours running and hours idling by locomotive number based on baseline equipment manipulation cycle requirements. The plan must show compliance with Section 1.3.5 of **Schedule 3.8** (Environmental Services) of this Agreement.

12. **MASSACHUSETTS SALES TAX**

12.1 The MBTA and the Operator agree that, pursuant to M.G.L. c. 64H(tt)(E), the Operator is exempt from Massachusetts Sales Tax on property it purchases that is required to perform Agreement Services.

12.2 In the event of a change in state law or any other duly authorized legislative, judicial, or regulatory determination that the Operator is required to pay sales tax on such property, the MBTA and the Operator shall agree to a Service Change that compensates the Operator for its increased costs resulting from such determination.

12.3 The MBTA and the Operator agree that, consistent with M.G.L. c. 64H(tt)(E), the Operator is not entitled to a sales tax exemption on the purchase of any property used to administer, oversee, supply, maintain, or control any of the Operator's own offices, facilities, workshops, vehicles, equipment or business operations.

12.4 The Operator is responsible for maintaining all appropriate and required records related to the purchase of property required to perform the Agreement Services and for compliance with all applicable tax laws (ODRL 3.2-31).

13. **CAPITALIZATION**

13.1 Capital Funded Material

All capitally funded material purchased by the Operator must be done in compliance with FTA and MassDOT procurement guidelines.

13.2 Capital Spares

- 13.2.1 The Operator shall not use capital spares under any circumstances without written MBTA authorization.
- 13.2.2 Capital spares shall be stored in compliance with Section 3.2 of this **Schedule 3.4** (Materials Management and Procurement).
- 13.2.3 The Operator may not, under any circumstances, “borrow” or scavenge parts from capital spares.
- 13.2.4 The Operator shall provide written justification proposing the use of a specific number of capital spares based on need (ODRL 3.4-32). This justification must include potential impacts on safety, service, vehicle or system availability, vehicle or system reliability, reasons for reduction in the prior number of spare components. This shall be submitted for MBTA review and approval at least 15 days before the components can, if approved, be withdrawn from capital inventory and made part of the spare component pool.

14. WARRANTY MATERIAL

- 14.1 The Operator shall develop and implement a warranty control and administration plan. This plan must cover all current and future equipment warranty programs and must be submitted for MBTA review and approval no later than 90 days after NTP (ODRL 3.4-33).
- 14.2 The Operator shall provide segregated storage for all warranty material and strict controls on removal, storage, tracking, disposition, return and replacement of all components covered under warranty programs.
- 14.3 Warranty programs are purchased by the MBTA as part of capially funded rolling stock and other system procurements. As such, any proceeds from warranty programs will be remitted directly to the MBTA.

15. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.4-01	Materials Management Plan	60 days after NTP
ODRL 3.4-02	Critical Material List	90 days after NTP
ODRL 3.4-03	Kitting Plan	12 months after Mobilization Commencement Date
ODRL 3.4-04	New Fleets Parts & Materials Plan	Prior to Notice to Commence Services
ODRL 3.4-05	New Fleet Parts Lists	90 days after NTP

ODRL 3.4-06	Unique Parts/Safety Stock Lists	90 days after NTP
ODRL 3.4-07	Repair-and-Return List	6 months after Mobilization Commencement Date
ODRL 3.4-08	Damaged Inventory Report	Quarterly, 1 st day of February, May, August & November
ODRL 3.4-09	Physical Inventory Count	June 30 th , annually
ODRL 3.4-10	Scrap & Obsolete Material Handling	60 days after NTP
ODRL 3.4-11	Obsolete, Surplus & Scrap Material Sales Escrow Account Report	Prior to Notice to Commence Services
ODRL 3.4-12	Obsolete, Surplus & Scrap Material Sales Escrow Account Report	Monthly
ODRL 3.4-13	Inventory Maintenance Plan	60 days after NTP
ODRL 3.4-14	None on Hand Material Action List	60 days after NTP
ODRL 3.4-15	None on Hand Material Meeting Plan	60 days after NTP
ODRL 3.4-16	None on Hand Material List	5 days after Material Meetings
ODRL 3.4-17	Truck Car Fluid Technical Specifications	Before placing order
ODRL 3.4-18	Materials MIS Plan	135 days after NTP
ODRL 3.4-19	Materials MIS Operational & Current	90 days after NTP
ODRL 3.4-20	MBTA Materials Management Data Upload	90 days after NTP
ODRL 3.4-21	Fuel Test Plan	90 days after NTP
ODRL 3.4-22	Fuel Accounting Plan	60 days after NTP
ODRL 3.4-23	Fuel Report	Daily
ODRL 3.4-24	Fuel Report	Weekly
ODRL 3.4-25	Fuel Report	Monthly
ODRL 3.4-26	Fuel Report	Annual
ODRL 3.4-27	Fuel Apparatus Inspection, Maintenance, Calibration & Overhaul Report	Monthly
ODRL 3.4-28	Fuel Usage By Locomotive Report	Monthly
ODRL 3.4-29	Operator Fuel Purchases	Monthly
ODRL 3.4-30	Locomotive Idle Time Minimization Plan	90 days after NTP

ODRL 3.4-31	Property Purchase & Tax Law Compliance Documentation	Operator retains
ODRL 3.4-32	Capital Spare Component Usage Justification Report	15 days before use
ODRL 3.4-33	Warranty Control & Administration Plan	90 days after NTP
ODRL 3.4-34	Waste Recycling Tracking Plan	90 days after NTP

SCHEDULE 3.5
SAFETY AND SECURITY

1. GENERAL OBLIGATIONS

- 1.1 In performing the Services, the Operator shall at all times conduct its operations in a safe manner, so as to ensure the safety of all Operator Personnel, the Customers, MBTA staff, the general public and all other individuals.
- 1.2 The Operator shall, at its own expense, promptly take all precautions which are reasonable or necessary to safeguard against risks, and shall make regular safety and security inspections, audits, tests, and reviews of the Commuter Rail Property.
- 1.3 The Operator shall inspect, test, and maintain the Commuter Rail Property in compliance with the Operator Safety Compliance Plan described in this **Schedule 3.5** (Safety and Security), and maintain records of all such inspections. The Operator shall grant MBTA access to those records on demand.
- 1.4 MBTA may conduct oversight of any part of the Operator's services to ensure full compliance with all regulatory requirements, the applicable portion of the MBTA's System Safety Program Plan, Risk Reduction Program and other system safety programs, plans, initiatives, rules, policies and directives, as well as to ensure the safe conduct of all Services.
- 1.5 The Operator's Manager-Safety as established by Section 1.4 (Management Personnel) of **Schedule 3.9** (Management and Personnel) of this Agreement shall be the point of contact for direct communication, interface and coordination with the MBTA Chief Safety Officer, MBTA Senior Director Security & Emergency Management, and the MBTA Chief of Transit Police.
- 1.6 Subject to Section 2.3 of **Schedule 4.1** (Obligations Concerning Commuter Rail Property), the Operator will provide continuous, unfettered access to the Service Property for MBTA officials and MBTA contractors and designees, with or without an Operator escort, for the purpose of audits, inspections, investigations, tests, assessments, or other similar activity. No costs will be borne by the MBTA, its contractors or designees for accessing the Service Property. In the event an escort is required, all costs will be borne by the Operator. MBTA officials, contractors and designees must be properly trained, display required identification with appropriate level of authorization, and wear required personal protective equipment ("PPE") when on the Service Property. The Operator will provide and bear the cost of any training and PPE required for access by the MBTA to the Service Property.
- 1.7 The Operator shall develop a joint safety incident notification, tracking, investigation, reporting, and review plan compliant with Section 14 (Incident Management) of this **Schedule 3.5** (Safety and Security) (the "**Safety Incident Reporting & Review Process**"). The Safety Incident Reporting & Review Process must be submitted to the

MBTA for approval no later than 60 days after NTP (ODRL 3.5-001). This process shall include reporting of near misses, close calls, incidents, and accidents on the Service Property that is related to facilities, structures, systems elements, and/or rolling stock. This detailed reporting shall be addressed to the MBTA Chief Safety Officer as well as agencies or authorities in accordance with state and federal regulations. The Operator shall ensure that, in addition to any other reporting requirements requested by the MBTA, the incident notification, tracking, investigation and reporting portions of the Safety Incident Reporting & Review Process shall be integrated into the Issue Tracking Portal.

- 1.8 The Operator will meet specified deadlines for submitting and revising required safety and security documents, and implement and adhere to same.
- 1.9 The Operator shall develop and implement an emergency action process improvement plan (the "**Emergency Action Process Improvement Plan**"). The Emergency Action Process Improvement Plan shall be submitted to the MBTA for approval no later than 60 days after NTP (ODRL 3.5-002).
- 1.10 The Operator shall provide means and methods to communicate a daily safety and security thought of the day. A top-down safety and security culture shall be developed throughout the Operator's organization to maintain continual safety and security awareness for all employees and subcontractors on a routine basis.
- 1.11 Safety and security of personnel and activities is of paramount importance in delivering the Operating Agreement. To this end, the Operator must incorporate a level of aggressive safety and security management. The approach to safety and security management must focus on the human element in achieving a safety and security culture beyond the normal rules, regulations and statistics.
- 1.12 The Operator shall recognize that any accident or security incident has the potential of acutely affecting office, field, Operator, and subcontractor personnel in addition to costs, time, and other resources. One of the primary goals of the Operating Agreement is to ensure each person leaves the workplace each day returning home without injury.
- 1.13 The MBTA will coordinate with the Operator to identify and implement security in cooperation with the MBTA Transit Police. The Operator will cooperate in this regard with the MBTA Transit Police and Municipal Police, as appropriate.
- 1.14 Notwithstanding any role of the Operator, Operator acknowledges that the MBTA Transit Police has primary responsibility for public safety, security, and law enforcement for the Agreement Services, including all property and vehicles owned, operated or utilized by the MBTA or its agents or independent contractors or representatives. In addition to the requirements of this **Schedule 3.5** (Safety and Security), Operator shall ensure that its public safety policies and operations are reviewed by and coordinated with the MBTA Transit Police. Notwithstanding anything to the contrary, under no circumstance shall the Operator create, maintain or otherwise provide its own police force.

- 1.15 In addition to the Operator's provision of reports and other deliverables to those individuals designated in **Schedule 3.14** (Reporting and Submittals), a copy of all reports and other submissions outlined in this **Schedule 3.5** (Safety and Security) (collectively, the "**Safety and Security Reports**") shall be provided to the MBTA Transit Chief of Police (or his/her designee) as well as those designees in the MBTA Department of Security and Emergency Management identified by the MBTA Transit Chief of Police from time to time (collectively, the "**Safety and Security Report Recipients**"). The Operator shall deliver the Safety and Security Reports to the Safety and Security Report Recipients contemporaneously with its delivery of the same to the MBTA pursuant to **Schedule 3.14** (Reporting and Submittals).

2. **OPERATOR SAFETY COMPLIANCE PLAN**

- 2.1 The Operator shall establish and implement an Operator Safety Compliance Plan (the "**OSCP**") that delineates compliance with all provisions of MBTA's System Safety Program Plan (the "**SSPP**"), which is based on the requirements of CFR 49, Part 270, System Safety Program Requirements for Passenger Railroads. The OSCP must conform with the MBTA's System Safety Program Plan, Risk Reduction Program, Emergency Preparedness Program and all other system safety program, plans, initiatives, rules, policies and directives; (collectively, the "**Existing MBTA Safety Program**"). In the OSCP, the Operator shall provide a description of the individual roles, responsibilities, processes, methods of documentation, accountabilities of all management, employees and other parties involved in the Operator's system safety program.
- 2.2 To implement such OSCP, the Operator shall establish appropriate policies and procedures, lines of authority, levels of responsibility and accountability, and methods of documentation. This documentation is subject to review and approval by the MBTA.
- 2.3 The OSCP shall address the hazard management process to include hazard identification, hazard categorizations (hazard severity/probability), hazard investigation and hazard mitigation and resolution through elimination, minimization, and control safety hazards and their attendant risks. The Operator shall develop and implement a risk based hazard management plan to continuously identify, report, track, analyze and mitigate hazards, in accordance with MBTA's Risk Reduction Program.
- 2.4 The Operator shall immediately notify the MBTA of unacceptable hazardous conditions or concerns and will include MBTA Safety, Railroad Operations and other MBTA designees in the Operator's safety committee to participate in the investigation, analysis, review, mitigation, prioritization and resolution processes. The Existing MBTA Safety Program shall be guiding documents.
- 2.5 The Operator's OSCP must be submitted for review to the MBTA Chief Safety Officer and the Senior Director, no more than 90 days after NTP (ODRL 3.5-003). They shall review the OSCP, and either approve it or, within 30 days, direct the Operator to revise it. The Operator shall revise the OSCP accordingly within 30 days of receipt of such revisions from the MBTA.

- 2.6 The Operator shall update the OSCP to ensure compliance with the MBTA's annual revision of its safety program within 30 days of receiving the Existing MBTA Safety Program and all other regulatory requirements, and deliver the updated OSCP to the MBTA for approval by October 1st of each Agreement Year (each, an "**Operator Safety Compliance Plan Update**") (ODRL 3.5-004).
- 2.7 The OSCP shall meet all applicable federal and other legal requirements and regulations and the Existing MBTA Safety Program and shall comply with all other regulatory requirements.
- 2.8 The Operator shall identify changes that require modification of the OSCP on an ongoing basis and incorporate them in the OSCP and submit these changes to MBTA for approval, within 45 calendar days of the date of the change (each, an "**Operator Safety Compliance Plan Change**") (ODRL 3.5-005).
- 2.9 The MBTA may request modifications to the OSCP due to internal audit report results, on-site reviews and investigations, changing trends in accident/incident or security data, external audits, tests, reviews, FRA regulations, or other reasons that may come to the attention of the MBTA. Upon receipt of a written request for OSCP modifications from the MBTA, the Operator shall submit a revised OSCP within 45 calendar days thereof to MBTA for approval (each, an "**MBTA Requested Operator Safety Compliance Plan Change**") (ODRL 3.5-006).
- 2.10 The Operator shall submit to audits conducted by the MBTA, APTA, any federal or state regulatory agency, or any MBTA contractor, and shall implement recommended corrective actions as directed by the MBTA. Corrective actions shall also be audited for implementation by the MBTA. The audit scope shall include safety, security, emergency management, quality assurance and quality control, reliability and sustainability, inspections, assessments and reviews.
- 2.11 The Operator's OSCP shall include procedures that incorporate the relevant provisions of **Schedule 3.6** (Quality) of this Agreement to ensure safety audits include review of other parameters of performance including operations, maintenance and construction processes.
- 2.12 The Operator shall carry out and track regular internal audits, assessments, inspections, tests, and reviews to ensure compliance with all aspects of the Existing MBTA Safety Program as well as all other regulatory requirements (each, an "**Operator Safety Audits**"). The results of the Operator Safety Audits will also be used as input for the annual revision of the OSCP. The Operator Safety Audits, and their results, shall be made available to the MBTA on demand (ODRL 3.5-007).
- 2.13 The OSCP shall include processes and procedures for responding to emergency medical conditions experienced by Customers or Operator Personnel on-board trains, in stations, or on other Service Property, as well as plans for responding to other incidents that threaten the safety or security of Customers or Operator Personnel.

- 2.14 The Operator's emergency management plan shall comply with MBTA's Emergency Preparedness Program pursuant to FRA regulations. Reporting protocols must coincide with MBTA incident notification procedures, required by Section 9 (Incident Management and Notifications) of **Schedule 3.1** (Transportation Services).
- 2.15 The Operator's Safety Manager shall attend quarterly meetings, and other meetings as directed by the MBTA, with the MBTA Chief Safety Officer and the Senior Director to discuss safety-related incidents, hazards, non-compliances, defects, violations, complaints, corrective action, trending, and other concerns, and the Operator's compliance with the OSCP.
- 2.16 The Operator shall provide monthly reporting, with trending from the beginning of the Agreement Services Commencement Date onward. The monthly report shall be distributed by email to the MBTA Transit Chief of Police, with the quarterly report presented formally at the quarterly meeting.
- 2.17 The Operator shall provide a report detailing safety performance, all pending safety issues as well as prior incidents and mitigation/resolution measures taken at least one week in advance of each quarterly meeting for MBTA review and use during each meeting (each, a "**Safety Performance Report**") (ODRL 3.5-008).
- 2.18 In the event that the Operator becomes aware of an unsafe, non-secure, or potentially unsafe or non-secure condition on the Service Property or any Service Equipment, or otherwise related to the Services, the Operator shall inform the MBTA immediately (each, an "**Unsafe, Non-Secure Condition Notification**") (ODRL 3.5-009). A hazardous condition that needs immediate mitigation to prevent any immediate and further repetitive loss to MBTA assets or injury to persons shall be corrected immediately by the Operator to the satisfaction of the MBTA.
- 2.19 All hazardous conditions shall be documented and submitted to the MBTA within one Business Day of discovery, with mitigating/corrective actions noted (each, an "**Hazardous Condition Report**") (ODRL 3.5-010). All unacceptable hazardous conditions shall be documented and submitted in writing to the MBTA with mitigating/corrective actions noted within one hour of discovery (each, an "**Unacceptable Hazardous Condition Report**") (ODRL 3.5-011).
- 2.20 As a part of the OSCP, the Operator's hazard risk reduction plan shall describe notification, handling, tracking, investigating, reporting, mitigation, resolving, and prioritization processes compliant with the Existing MBTA Safety Program.

3. **SYSTEM SECURITY PLAN**

- 3.1 The Operator shall establish and implement an Operator System Security Compliance Plan (the "**OSSCP**") that describes the processes by which the Operator shall perform security functions in accordance with the MBTA's System Security Plan. The OSSCP shall be updated annually by October 1st of each Agreement Year and shall detail the

Operator's security policies, procedures and programs (each, an "**Operator System Security Compliance Plan Update**") (ODRL 3.5-013).

- 3.2 All Operator security documents and plans shall be developed and maintained in accordance with MBTA's Sensitive Security Information ("SSI") guidelines and procedures.
- 3.3 The proposed OSSCP shall meet all applicable federal and other legal requirements, regulations, and standards, and must be provided to the MBTA not more than 90 days after NTP (ODRL 3.5-012). The Director of Railroad Operations, in consultation with the MBTA Security Department and the MBTA Transit Police Department, will review the OSSCP, and either approve the plan or, within 30 days, direct the Operator to revise the plan. The Operator shall revise such plan accordingly within 30 days of receipt of revisions from the MBTA.
- 3.4 The OSSCP shall integrate the security function into the safety function so the two can work collaboratively to address safety concerns and security concerns that overlap. The configuration management process shall include procedures to integrate security in the certification processes. At a minimum, the OSSCP shall address the following:
 - 3.4.1 Identify the policies, goals, and objectives for the security program endorsed by the MBTA General Manager.
 - 3.4.2 Document the Operator's process for managing threats and vulnerabilities during operations, and to publish those requirements for each building and facility it operates.
 - 3.4.3 Identify controls in place that address the personal security of Customers and Operator Personnel.
 - 3.4.4 Document the Operator's process for conducting internal security reviews to evaluate compliance and measure the effectiveness of the OSSCP.
 - 3.4.5 Document the Operator's process for making its OSSCP and accompanying procedures available to the MBTA, or other oversight authority agency for review and approval.
- 3.5 To implement the OSSCP, the Operator shall establish appropriate policies and procedures, lines of authority, levels of responsibility and accountability, to manage access control to facilities and infrastructure, including yards, rolling stock, locomotives, and cab control areas subject to approval by the MBTA Senior Director of Security and Emergency Management.
- 3.6 The MBTA will host all access and the Operator ID's, but it is the Operator's responsibility to supply ID cards for Operator Personnel that are in compliance with MBTA standards and compatible with MBTA card readers.

- 3.7 Security and access control systems will be hosted by the MBTA. Any measures taken by the Operator to improve security systems or implement additional security related infrastructure on the Service Property, must be compliant with MBTA standards and be submitted for review and approval by the MBTA Transit Police Chief and the MBTA Department of Security and Emergency Management.
- 3.8 Any security related implementation and or improvements made on the Service Property shall become MBTA property as of the Termination Date.
- 3.9 The Operator's Safety Manager shall attend quarterly meetings, and other meetings as directed by the MBTA, with the MBTA Transit Police and the Director of Railroad Operations to discuss recent security related incidents and concerns, and the Operator's compliance with the OSSCP.
- 3.10 The Operator shall provide a report detailing all pending security issues as well as prior incidents and mitigation/resolution measures taken at least one week in advance of each quarterly meeting for MBTA review and use during each meeting (each, a "**Security Issue & Incidents Report**") (ODRL 3.5-014). Mitigation measures shall be subject to review and approval by the MBTA Transit Chief of Police and the MBTA Senior Director of Security and Emergency Management.
- 3.11 In the event that the Operator becomes aware of a security incident, non-secure, or potentially vulnerability condition on the Service Property or the Service Equipment, or otherwise related to the Services, the Operator shall immediately take all actions required to mitigate such condition, notwithstanding any other provision of this Agreement that requires or permits notice or any other interim measure. These events shall be reported to MBTA in accordance with MBTA's System Security Plan as delineated in the OSSCP.
4. **EMERGENCY PREPAREDNESS PLAN**
- 4.1 The Operator shall establish and implement an Emergency Preparedness Plan ("**EPP**"), which shall be compliant with FRA requirements and detail the Operator's emergency preparedness policies, procedures and programs. The initial EPP shall be provided to the MBTA no later than 90 days after NTP (ODRL 3.5-015). The Director of Railroad Operations, in consultation with the MBTA Chief Safety Officer, MBTA Senior Director of Security and Emergency Management, and MBTA Chief of Transit Police will review the EPP, and either approve the plan or, within 30 days, direct the Operator to revise the plan. The Operator shall revise the plan accordingly within 30 days of receipt of revisions from the MBTA. The Operator must conform this plan to the MBTA's requirements prior to the Agreement Services Commencement Date.
- 4.2 The EPP shall be updated annually by May 1st of each Agreement Year. The Operator shall provide to the MBTA drafts of subsequent EPPs no less than 60 days before such plan or amendments are submitted to the FRA (each, an "**Emergency Preparedness Plan Update**") (ODRL 3.5-016). The Director of Railroad Operations, in consultation with the MBTA Chief Safety Officer, MBTA Senior Director of Security and Emergency

Management, and MBTA Chief of Transit Police will review such plan, and either approve the plan or, within 30 days, direct the Operator to revise such plan. The Operator shall revise such plan accordingly before submitting to the FRA.

- 4.3 At a minimum, the Operator shall cooperate and fully participate in two MBTA full scale Emergency Drills (tabletop and field exercises) during each Agreement Year at times to be determined by the MBTA. The Operator shall provide all personnel required to fully simulate daily operations under this Agreement including passengers with physical disabilities. All drills and exercises shall meet the requirements of the Homeland Security Exercise Education Program guidance and must be coordinated through and approved by the MBTA Security and Emergency Management Department. All costs of these drills and exercises shall be borne by the Operator as part of the Annual Fee.
- 4.4 Emergency preparedness drills and tabletop exercises, when required, will be planned and conducted to ensure the following:
 - 4.4.1 Adequacy of emergency plans and procedures;
 - 4.4.2 Readiness of transit operating and maintenance personnel to perform under emergency conditions;
 - 4.4.3 Effective coordination between transit operations and emergency response agencies—police, fire, and emergency medical services; and
 - 4.4.4 Readiness of fire, police, and emergency medical services personnel with sufficient information relative to the uniqueness of transit operations and hazards for the BRL Project so that these agencies can respond in a timely and successful manner.
- 4.5 Any drill/tabletop exercise required will be outlined in advance of the exercise. Drills and tabletop exercises will be evaluated against the objective established for the drill/exercise. Drills/tabletop exercises will be followed by an assessment of the drill in a meeting, including all drill participants.
- 4.6 Following this assessment, the Operator will document lessons learned and actions needed to improve both internal and external emergency response capabilities. Outcomes may include making recommendations for revisions to the EPP including policies and procedures, operating procedures that affect emergency response, and changes to training plans and training programs pertaining to emergency response and personnel.
- 4.7 Specific tabletop drills and exercises will include scenarios addressing:
 - 4.7.1 Fire/smoke condition on board trains and in station facilities;
 - 4.7.2 Reports of suspicious objects or persons;

- 4.7.3 Derailments;
- 4.7.4 Bomb threats;
- 4.7.5 Vehicle accidents; and
- 4.7.6 Active Shooters.

4.8 In accordance with **Schedule 3.10** (Training of Operator Personnel) of this Agreement, the Operator shall develop and implement a training program for emergency response agencies, (e.g., fire and police), subject to responding to incidents along the Right-of-Way or other Service Property. Training shall include all elements of the railroad system and provide initial and continuing education modules. All cost for this training shall be borne by the Operator.

5. **EMERGENCY RESPONSE PLAN**

- 5.1 The Operator shall establish and implement an Emergency Response Plan (“**ERP**”) to effectively address conditions resulting from major storms, other natural occurrences that could disrupt Commuter Rail Services and any other incidents or events that require services of emergency response agencies. The Operator shall prepare and submit the ERP to the MBTA no later than 90 days after NTP (ODRL 3.5-017).
- 5.2 The Operator shall prepare the ERP in coordination with the Environmental Services Subcontractor, shall update the ERP annually, and shall provide it to the MBTA for approval no later than August 1st of each Agreement Year (each, an “**Emergency Response Plan Update**”) (3.5-018).
- 5.3 The ERP shall detail the specific use and assignment of all resources available and the Operator shall provide additional resources as necessary.

6. **CONTINGENCY PLAN**

- 6.1 No more than 60 days after the Mobilization Commencement Date, the Operator shall develop and provide to the MBTA for approval (through briefings or other appropriate means) a written Contingency Plan describing in detail measures to be taken by it to assure continued and uninterrupted performance of the Agreement Services in the event of any strike or work stoppage engaged in by Operator Personnel (the “**Contingency Plan**”) (ODRL 3.5-019).
- 6.2 The Operator shall update such plan annually, and submit to the MBTA for approval, no later than August 1st of each Agreement Year (each, a “**Contingency Plan Update**”) (ODRL 3.5-020).
- 6.3 The Operator shall incorporate in the Contingency Plan a Continuity of Operations Plan (“**COOP**”) that is compliant with Federal Emergency Management Agency (“**FEMA**”) guidelines.

- 6.4 In the event of any strike or work stoppage of Operator Personnel, the Operator shall implement the Contingency Plan, as then established.

7. VIOLATIONS

- 7.1 The Operator shall be responsible for the discovery, determination and correction of any and all violations of the OSCP, the OSSCP, the EPP, the ERP or any other safety, security or emergency preparedness violation related to the Services.
- 7.2 The Operator shall notify MBTA of such violations immediately and shall consult with MBTA on implementing any corrective action plans that are not immediate (each, an "**OSCP, OSSCP, EPP, ERP Violation Notification**") (ODRL 3.5-021). The Operator shall, however, proceed immediately to take any corrective steps that are required to prevent such a violation from being repeated and to prevent any injury, damage or loss of life in the immediate timeframe.
- 7.3 The MBTA shall be consulted at all stages of a violation, from identification to resolution and/or management of a given violation.

8. EMPLOYEE NON-COMPLIANCE

- 8.1 The failure of any Operator Personnel to comply with the OSCP, the OSSCP, or the Existing MBTA Safety Program or to conduct themselves suitably as a representative of MBTA, or to otherwise comply with applicable safety requirements, shall be considered Conduct Unbecoming an Employee and shall be subject to the relevant provisions of **Schedule 3.9** (Management and Personnel) of this Agreement.

9. DRUG AND ALCOHOL-FREE WORKPLACE

- 9.1 The MBTA is a drug-free workplace. All Operator Personnel and Subcontractors are to be free of the effects of illegal drugs, alcohol, controlled substances or other prohibited substances when they are on the Service Property or performing Services.
- 9.2 The Operator shall maintain a drug-free workplace and have an ongoing drug-free awareness program.
- 9.3 No later than 90 days after NTP, the Operator shall develop and provide to the MBTA for approval a written drug-free workplace policy, compliant with 49 CFR Part 32 and 41 USC Sections 701, that notifies employees of the substance abuse policy, maintains an ongoing drug-free workplace, and establishes an employee education program (the "**Drug Free Workplace Policy**") (ODRL 3.5-022).
- 9.4 The Operator shall update such plan annually, and submit the plan to the MBTA for approval, no later than August 1st of each Agreement Year (each, a "**Drug Free Workplace Policy Update**") (ODRL 3.5-023).

- 9.5 All Operator Personnel and Subcontractors are prohibited from using, possessing, selling or distributing any drugs, alcohol, controlled substances or other prohibited substances when they are on the Service Property or performing Services.
- 9.6 The Operator shall advise Operator Personnel of this requirement and ensure that Operator Personnel meet this **"fitness for duty"** standard.
- 9.7 The Operator shall remove violators of this policy immediately from the Service Property and such Operator Personnel shall be held out of performing Services or any other agreements held with MBTA. The Operator shall immediately assign the disciplined employee's job responsibilities to another qualified employee and shall inform the MBTA within 24 hours of the suspected drug and alcohol abuse in the workplace (the **"Report of Drug/Alcohol Abuse"**) (ODRL 3.5-024).
- 9.8 The Operator shall furnish the MBTA with a written report of any policy violations, within five days of the violation (each, a **"Drug Free Workplace Policy Violation Report"**) (ODRL 3.5-025).
- 9.9 The Operator shall have a return to work program, through the Operator's Employee Assistance Program, for Operator Personnel that test positive for drug and alcohol use. For Operator Personnel who are returning to work following the completion of a return to work program, the Operator shall medically certify that the Operator Personnel is fit for duty. The Operator shall inform the MBTA of such certifications and return to work of such Operator Personnel and shall maintain and make available such certifications for review by the MBTA (each, a **"Violator Return to Work Certification"**) (ODRL 3.5-026).
- 9.10 Following a repeat positive drug and alcohol test, MBTA reserves the right to bar such the Operator Personnel from performing Services.
- 9.11 The Operator hereby accepts all liability arising from violation of this policy by Operator Personnel.

10. FEDERAL REQUIREMENTS

The Operator shall establish and update as necessary appropriate drug and alcohol testing programs for all Operator Personnel in full compliance with the most stringent interpretation of applicable Federal regulations governing control of drug use and alcohol abuse in railroad and/or transit operations.

11. DRUG AND ALCOHOL TESTING REQUIREMENTS

- 11.1 The Operator shall establish appropriate drug and alcohol testing programs for all Operator Personnel (the **"Drug & Alcohol Test Guidelines"**) (ODRL 3.5-027). These programs shall be in full compliance with applicable regulations set forth by the FRA in 49 CFR 219 (Control of Alcohol and Drug Use) and by the FTA in 49 CFR Part 655 and 49 CFR Part 40 governing the control of drug use and alcohol abuse in railroad and/or

transit operations. The program shall also provide for random testing of Operator Personnel. The MBTA shall be notified of all failures and the disposition thereof. The Operator shall update the Drug & Alcohol Test Guidelines annually, and submit the update no later than August 1st of each Agreement Year (each, a "**Drug & Alcohol Test Guidelines Update**") (ODRL 3.5-028).

- 11.2 The Operator's procedures for compliance with the required drug and alcohol testing shall be included in the Operator Safety Compliance Plan required for submittal and approval by the MBTA. These requirements shall include identification of a drug and alcohol testing facility for the Operator as well as record keeping procedures for drug and alcohol testing.
- 11.3 The Operator has primary responsibility for administering a Substance Abuse Testing Program in accordance with the following regulations: 49 CFR Part 655—Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations; 49 CFR Part 40—Procedures for Transportation Workplace Drug and Alcohol Testing Programs; and 49 CFR Part 29—Government-wide Requirements for Drug-Free Workplace and 49 CFR 219.
- 11.4 The Operator shall monitor the program of each of its departments and ensure that employees in safety sensitive positions who are returning to work from the program have been medically certified to do so.
- 11.5 The Operator shall submit to the MBTA at NTP an inventory of positions that the Operator defines as safety sensitive positions (the "**Inventory of Safety Sensitive Positions**") (ODRL 3.5-029). Any employees of a Subcontractor to the Operator shall be subject to the same drug and alcohol policy of the Operator that is approved by the MBTA. The Operator shall include in the inventory of safety sensitive positions any such positions that are performed by Subcontractor employees (ODRL 3.5-029).
- 11.6 Subject to all state and federal laws and regulations, the MBTA will have full access to all drug and alcohol tests conducted on Operator Personnel working on the Service Property or providing Services.

12. **ADDITIONAL TESTING**

- 12.1 The Operator shall, upon reasonable suspicion and consistent with the MBTA's drug and alcohol testing policy, conduct drug and alcohol testing of any Operator Personnel not governed by Federal regulations for drug and alcohol abuse in railroad and/or transit operations.
- 12.2 Drug and alcohol testing shall be considered standard protocol following any incident on the Service Property or during the provision of Services.

13. SAFETY SENSITIVE POSITIONS

13.1 In accordance with 49 CFR 209.303, safety sensitive positions are considered to include the following at a minimum:

13.1.1 Railroad employees who are assigned to perform service subject to the Hours of Service Act (45 USC 61-64b) during a duty tour, whether or not the person has performed or is currently performing such service and any person who performs such service.

13.1.2 Railroad employees or subcontractor employees who:

13.1.2.1 Inspect, install repair or maintain track and roadbed;

13.1.2.2 Inspect, repair or maintain locomotives, passenger cars, and freight cars; or conduct training and testing of employees when the training or testing is required by the FRA's safety regulations.

13.1.3 Railroad managers, supervisors, or agents who:

13.1.3.1 Perform any of the safety-sensitive functions listed in this Section 13 (Safety Sensitive Positions) of this **Schedule 3.5** (Safety and Security);

13.1.3.2 Supervise and otherwise direct the performance of any of the safety-sensitive functions listed in this Section 13 (Safety Sensitive Positions) of this **Schedule 3.5** (Safety and Security); or

13.1.3.3 Are in a position to direct the commission of violations of any of the required of parts 213 through 236 of this title.

13.2 For purposes of this **Schedule 3.5** (Safety and Security), Operator Personnel who perform the functions described in Section 13.1.1, shall be classified as holding safety sensitive positions.

14. INCIDENT MANAGEMENT

14.1 NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

14.1.1 All Operator Personnel and Subcontractor employees who will be servicing this Agreement with a direct role in emergency management, incident management or and incident response shall be trained on the National Incident Management System ("NIMS") fundamentals to the requisite level for each type of employee described above prior to the start of the performance of this Agreement.

14.1.2 The following Operator Personnel shall be NIMS certified:

- 14.1.2.1 General Manager (ICS 100, ICS 200, ICS 300, ICS 400, IS 700, IS 701, IS 703); and
- 14.1.2.2 Operations Managers (ICS 100, ICS 200, ICS 300, ICS 400, IS 700).
- 14.1.3 During mobilization, all other Operator Personnel including Subcontractor employees shall be trained in the fundamentals of NIMS, ICS 100, and be operationally fluent in NIMS and able to apply the NIMS framework in an incident until first responders arrive on-scene.
- 14.1.4 Future additions to Operator Personnel shall be appropriately trained in NIMS prior to starting work under this Agreement.

14.2 INCIDENT NOTIFICATION AND INVESTIGATION

- 14.2.1 MBTA staff will be party to any investigation that is conducted by the Operator regarding Service Disruptions or Emergencies.
- 14.2.2 The MBTA will conduct its own investigation if it deems appropriate. In the event that the MBTA determines that a criminal investigation should be conducted, the MBTA Transit Police shall have the sole right to retain jurisdiction and control over the investigation (each, a "**Criminal Investigation**"). The Operator shall provide all support and assistance requested by the MBTA Transit Police in the event that a Criminal Investigation is initiated. In the event of any Service Disruption, Emergency, or any incident that affects the hazard free delivery of Services, as further described in Section 1.7 of this **Schedule 3.5** (Safety and Security), the Operator shall comply with the requirements of Section 9 (Incident Management and Notifications) of **Schedule 3.1** (Transportation Services). In addition, the Operator shall immediately inform the MBTA designated representative. The Operator shall make contact with an MBTA representative from the list provided below:
 - 14.2.2.1 MBTA Manager of Transportation Services, Safety and Security (primary);
 - 14.2.2.2 MBTA Manager of Operations and Customer Communications (alternate);
 - 14.2.2.3 Director of Rail Equipment and Services (alternate);
 - 14.2.2.4 Deputy CEO (alternate); and
 - 14.2.2.5 CEO (alternate).
- 14.2.3 The Operator shall provide the following as an initial verbal report:
 - 14.2.3.1 Caller's name and contact telephone number;

- 14.2.3.2 Time and date of incident;
 - 14.2.3.3 Type of incident;
 - 14.2.3.4 Location and direction of travel;
 - 14.2.3.5 Train and vehicle numbers and any other vehicles involved;
 - 14.2.3.6 Number of persons injured and requiring medical attention away from the scene and number of fatal injuries; and
 - 14.2.3.7 If the incident has been reported to any oversight agency – i.e. NTSB, FRA, FTA, EPA, DHS, OSHA.
- 14.2.4 An interim written incident report shall be transmitted to the MBTA within 24 hours of the incident (each, an "**OSCP, OSSCP, EPP, ERP Violation Incident Report**") (ODRL 3.5-030).
- 14.2.5 The Operator shall immediately report any violation of the OSCP, OSSCP or any other safety or security violation related to near misses, train control and yard services to the designated MBTA point of contact (each, an "**OSCP, OSSCP, EPP, ERP Violation Interim Written Report**") (ODRL 3.5-031). A OSCP, OSSCP, EPP, ERP Violation Interim Written Report, on the MBTA required reporting template, shall be submitted to the MBTA within 24 hours of an incident.
- 14.2.6 A full investigative report complete with root cause and corrective actions (if applicable) for either type of incident shall be submitted to the MBTA within 30 days of the incident (each, a "**Violation Incident Final Written Report**") (ODRL 3.5-032). An incident investigation will be considered "**closed**" once MBTA's Safety Standing Executive Committee ("**SSEC**") has adopted this investigative report as its own.
- 14.3 Notwithstanding any definition or provision in the Agreement to the contrary, the Operator's failure to follow these procedures and to provide the required notification information is a Breach of this Agreement.
15. **SAFETY & SECURITY TRAINING FOR AGREEMENT EMPLOYEES**
- 15.1 All Operator Personnel and Subcontractor employees operating under this Agreement shall receive security awareness training that includes fundamentals of NMIS, ICS, and suspicious package training. All training shall be coordinated with and approved by the MBTA Security and Emergency Management Department and the MBTA Transit Police Department.

- 15.2 The Operator shall be responsible for the development, documentation, maintenance and training on all incident notification procedures, based upon existing MBTA Incident Management procedures.
- 15.3 The Operator and its Subcontractors shall be available to submit to any required training as new procedures are implemented by MBTA.
- 15.4 The Operator shall provide training for employees, as required, regarding procedures for operating in tunnels, on bridges, including moveable bridges. This training shall include standard operating procedures as well as emergency procedures.
- 15.5 The Operator shall furnish Roadway Worker Protection (“**RWP**”) training in accordance with 49 CFR 214 for all relevant Operator Personnel and MBTA designees. The cost of the training for MBTA designees shall be borne by the Operator.

16. **EMERGENCY NOTIFICATIONS**

The Operator shall immediately notify the MBTA in the event of an Emergency Notification Occurrence (as that term is defined below). Subsequent to notifying the MBTA, the Operator shall immediately notify all applicable Emergency Services (e.g. Police, Fire Department, Ambulance) and/or regulatory agencies (e.g., FRA, DEC, DEP, NTSB, DHS, EPA) of the applicable Emergency Notification Occurrence. The term "**Emergency Notification Occurrence**" means any of the following:

- 16.1 Incidents defined in 49 CFR 225 per FRA
- 16.2 Loss of life, employee injury or passenger injury;
- 16.3 Major disruption of service or work stoppage;
- 16.4 Collision or derailment;
- 16.5 Damage to track, maintenance facilities, shop equipment, rolling stock or yard facilities;
- 16.6 Operating rule violations;
- 16.7 Trespass incidents;
- 16.8 Fighting on the premises;
- 16.9 Incidents of substance or alcohol abuse;
- 16.10 Fuel or hazardous material spill;
- 16.11 Vandalism or other illegal activity;
- 16.12 Sink hole formations; and

- 16.13 Collision, derailment, fire, explosion, acts of nature, or any other event involving damage to or operation of MBTA equipment as observed along the Right-Of-Way.

17. **SITE VISITS BY REGULATORY AGENCY**

Any on-site visit or inspection by the FRA or any other controlling regulatory agency shall be reported to the MBTA within two hours of such visit (each, a "**Report of FRA or Other Regulatory Agency Visit**") (ODRL 3.5-033). Any violation, order or directive from any regulatory agency shall be reported immediately.

18. **OPEN PROCESS FOR SAFETY AND SECURITY PLANNING**

The MBTA expressly prohibits the Operator from implementing any safety or security related policies, processes or procedures without the explicit review and authorization of the MBTA. The only exception to this requirement is in the interest of averting a repeat incident within the immediate timeframe.

19. **PRESENCE DURING SAFETY TESTING**

The Operator shall inform the MBTA's Safety Manager regarding all operational testing including those tests that are required per FRA regulations. The Operator shall make arrangements for the MBTA's Safety Manager to accompany the Operator's supervisory and managerial staff during the conduct of any safety related testing. The Operator shall accommodate other MBTA officials/staff during the conduct of any safety testing procedure, if the MBTA so requires. Notwithstanding anything to the contrary, the Operator shall ensure that either the MBTA Chief Safety Officer (or his/her designee) is present during any safety testing contemplated by this Section 19 (Presence During Safety Testing) of this **Schedule 3.5** (Safety and Security).

20. **SAFETY AND SECURITY REPORTING**

- 20.1 The Operator shall provide to the MBTA, all records and reports pertaining to the safety compliance and competency testing of all categories of its employees in safety sensitive positions as described in Section 13 (Safety Sensitive Positions) of this **Schedule 3.5** (Safety and Security).
- 20.2 The Operator shall provide to the MBTA, all records and reports pertaining to any inspections of equipment and facilities that are conducted by the Operator in the execution of the Services.
- 20.3 The Operator shall alert the MBTA to any hazardous conditions for which corrective actions need to be implemented to avoid further degradation to the efficacy of the equipment or facility or to avoid injury or loss of life to Operator Personnel, Customers, or populations in communities on or adjacent to the Service Area, the Service Property and elsewhere that the Operator provides Services.

21. SAFETY EQUIPMENT OR PRACTICES

The Operator shall revise its standard operating practices, emergency operation practices, training techniques, or reporting practices if it is revealed to the Operator through industry communiqué, occurrence of a particular incident, employee communication or MBTA communication that such revision will assist in the reduction or prevention of injury or loss of life to Operator Personnel, to Customers, to MBTA staff, or to the surrounding communities within the Service Area or elsewhere that the Operator provides Services. The Operator shall also do so if it will assist in the reduction or prevention of damage to MBTA facilities and equipment.

22. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.5-001	Safety Incident Reporting & Review Process	60 days after NTP
ODRL 3.5-002	Emergency Action Process Improvement Plan	60 days after NTP
ODRL 3.5-003	Operator Safety Compliance Plan	90 days after NTP
ODRL 3.5-004	Operator Safety Compliance Plan Update	October 1 st , annually
ODRL 3.5-005	Operator Safety Compliance Plan Changes	45 days before effective date
ODRL 3.5-006	MBTA Requested Operator Safety Compliance Plan Changes	45 days after request
ODRL 3.5-007	The Operator Safety Audits	On demand
ODRL 3.5-008	Safety Performance Reports	Quarterly
ODRL 3.5-009	Unsafe, Non-Secure Condition Notification	Immediate
ODRL 3.5-010	Hazardous Condition Report	One business day after discovery
ODRL 3.5-011	Unacceptable Hazardous Condition Report	One hour after discovery
ODRL 3.5-012	Operator System Security Compliance Plan	90 days after NTP
ODRL 3.5-013	Operator System Security Compliance Plan Update	October 1 st , annually
ODRL 3.5-014	Security Issue & Incidents Report	Quarterly
ODRL 3.5-015	Emergency Preparedness Plan	90 days after NTP
ODRL 3.5-016	Emergency Preparedness Plan Update	May 1 st , annually & 60 days before sent to FRA
ODRL 3.5-017	Emergency Response Plan	90 days after NTP
ODRL 3.5-018	Emergency Response Plan Update	August 1 st , annually
ODRL 3.5-019	Contingency Plan	60 days after NTP
ODRL 3.5-020	Contingency Plan Update	August 1 st , annually
ODRL 3.5-021	OSCP, OSSCP, EPP, ERP Violation Notification	Immediate
ODRL 3.5-022	Drug Free Workplace Policy	90 days after NTP
ODRL 3.5-023	Drug Free Workplace Policy Update	August 1 st , annually
ODRL 3.5-024	Report of Drug/Alcohol Abuse	Within 24 hours
ODRL 3.5-025	Drug Free Workplace Policy Violation Report	5 days after incident
ODRL 3.5-026	Violator Return to Work Certification	On demand

ODRL	Description	Due Date
ODRL 3.5-027	Drug & Alcohol Test Guidelines	60 days before Commencement
ODRL 3.5-028	Drug & Alcohol Test Guidelines Update	August 1 st , annually
ODRL 3.5-029	Inventory of Safety Sensitive Positions	At NTP
ODRL 3.5-030	OSCP, OSSCP, EPP, ERP Violation Incident Report	Immediately
ODRL 3.5-031	OSCP, OSSCP, EPP, ERP Violation Interim Written Report	24 hours after incident
ODRL 3.5-032	Violation Incident Final Written Report	30 days after incident
ODRL 3.5-033	Report of FRA or Other Regulatory Agency Visit	2 hours after arrival

SCHEDULE 3.6 QUALITY

1. QUALITY

- 1.1 The Operator shall establish and implement a Quality Assurance Program (the “**Quality Assurance Program**”), and provide sufficient quality assurance (“**QA**”) and quality control (“**QC**”) staffing to support the delivery of the Quality Assurance Program.

2. OPERATOR PROGRAM AND STAFFING

- 2.1 The Quality Assurance Program shall set out the organization, processes, and resources needed to achieve consistency and uniformity of work performed by the Operator, Subcontractors, manufacturers and suppliers through implementation of and adherence to documents described in the QAP (as defined herein).
- 2.2 The Quality Assurance Program shall comply with ANSI/ISO/ASQ Q9001-2000 or an MBTA approved equivalent. ISO registration of sub-contractors and manufacturers and suppliers selected by the Operator is desirable but not required.
- 2.3 The Quality Assurance Program shall include the following general requirements, at a minimum:
- 2.3.1 The Operator shall be responsible for the conduct of all inspections required to demonstrate full conformance of the performance of the Agreement Services by the Operator to the requirements of this Agreement.
- 2.3.2 The Operator shall be responsible for any independent third party analysis requirements.
- 2.3.3 The Operator shall provide an inspection system capable of producing objective evidence that materials provided and finished work performed by the Operator meet the quality requirements of this Agreement.
- 2.3.4 The inspection system shall be considered acceptable when, as a minimum, it provides for the detection and removal of non-conforming work or material where it can be corrected prior to placement into a more progressive state (*e.g.*, for a locomotive – prior to being placed into revenue service; for a report or document – prior to being submitted to the MBTA).
- 2.4 The Operator shall designate a specific person as the Manager – Quality with the qualifications and responsibilities as defined in **Schedule 3.9** (Management and Personnel) of this Agreement.
- 2.5 The Operator shall designate Quality Assurance Representatives (“**QAR**”) within its organization who shall report to the Manager – Quality. The QARs may have other duties

as well as QA and QR, but will be the designated representative within their area of the Operator's organization. At a minimum, QAR's shall be designated for:

- 2.5.1 Operations (Transportation & Customer Service & Information);
 - 2.5.2 Engineering – Buildings, Structures & Facilities;
 - 2.5.3 Engineering – Maintenance of Way & Wayside Systems;
 - 2.5.4 Mechanical;
 - 2.5.5 Purchasing, Material and Stores, and
 - 2.5.6 Documentation and Reporting.
- 2.6 The Operator may designate such additional QAR's as are necessary to achieve the requirements of this Agreement.

3. **OPERATOR QUALITY ASSURANCE PLAN**

The Operator shall develop and implement a Quality Assurance Plan (“QAP”) that addresses each of the clauses in ANSI/ISO/ASQ9001-2008. The QAP shall be submitted for MBTA review and approval no later than 120 days after NTP (ODRL 3.6-001). The following Sections of this **Schedule 3.6** (Quality) identify specific areas of particular attention the Operator shall address in the QAP.

- 3.1 The Operator shall implement the QAP under its Quality Assurance Program and those of its Subcontractors, manufacturers and suppliers, as applicable.
- 3.2 The MBTA shall have the right to audit and verify compliance throughout the Term at the Operator, Subcontractor, manufacturers and supplier facilities.
- 3.3 The QAP shall consist of the documented procedures, policies, plans, and organization activities of the Operator, Subcontractors, manufacturers, and suppliers, which shall assure that all work, materials, testing, and documentation conforms to the requirements of this Agreement.
- 3.4 The QAP shall include:
 - 3.4.1 The Operator's Organization Chart showing the lines of authority.
 - 3.4.2 Responsibility for quality assurance and its relationship with other functions;
 - 3.4.3 Titles and names of key personnel; and
 - 3.4.4 Titles and functions of all quality personnel.

- 3.5 The quality management system for each area of the Operator's work shall be defined including, but not limited to:
 - 3.5.1 Operations (Transportation & Customer Service & Information);
 - 3.5.2 Engineering – Buildings, Structures & Facilities;
 - 3.5.3 Engineering – Maintenance of Way & Wayside Systems;
 - 3.5.4 Mechanical;
 - 3.5.5 Purchasing, Material and Stores; and
 - 3.5.6 Documentation and Reporting.
- 3.6 Within the work areas, processes, procedures, and criteria shall be developed to measure compliance with the Agreement and requirements of the specific activity.
- 3.7 Specific ISO requirements that must be addressed in the QAP include, but not be limited to:
 - 3.7.1 Quality Management System
 - 3.7.1.1 Control of Documents
 - 3.7.1.2 Control of Records
 - 3.7.2 Management Responsibility
 - 3.7.3 Resource Management
 - 3.7.4 Product Realization (Rail Service and Maintenance)
 - 3.7.5 Measurement, Analysis and Improvement
 - 3.7.5.1 Internal Audits
 - 3.7.5.2 Control of non-conforming product
 - 3.7.5.3 Corrective action
 - 3.7.5.4 Preventive action

4. **QUALITY CONTROL**

- 4.1 The Operator shall establish a Quality Control Process Manual (“**QCPM**”) that includes guidelines for conducting quality control inspections; documenting performance failures

and incidents of non-compliance with this Agreement requirements, reporting all performance failures and instances of non-compliance.

- 4.2 For specific areas of the Operator's scope, the MBTA requires that the Operator submit for review and approval QCPM sections for specific aspects of the work.
- 4.3 The QCPM shall be organized by the area of work a particular Schedule to this Agreement covers, for example: "**Materials Management (Schedule 3.4).**"
- 4.4 The QCPM shall contain a log of updates or new processes that are added, and will be maintained to be current.
- 4.5 Manuals shall be electronic in form, available to users, including the MBTA, through terminals or computers at workstations through the Commuter Rail IT Environment.
- 4.6 At a minimum, the following manual sections shall be provided within 120 days of NTP:
 - 4.6.1 Transportation Services (ODRL 3.6-002)
 - 4.6.2 Customer Service Information (ODRL 3.6-003)
 - 4.6.3 Engineering Services (ODRL 3.6-004)
 - 4.6.4 Mechanical Services (ODRL 3.6-005)
 - 4.6.5 Materials Management (ODRL 3.6-006)
 - 4.6.6 Capital Project Support (Including PTC) (ODRL 3.6-015)
- 4.7 The QCPM will include work instructions, as needed, to assure that critical processes are executed and documented in a uniform and traceable manner.

5. **STANDARDS AND REFERENCES**

- 5.1 In order to assure that all work is carried out within the terms of this Agreement, the Operator shall follow industry and national standards where applicable, or develop standards for approval by the MBTA.
- 5.2 All procedures, processes and instruction documents shall be referenced to recognized national standards documents where appropriate, such as APTA, ANSI, etc.
- 5.3 To the extent practical, all maintenance documents for equipment, systems, and purchased items shall be based upon and referenced to the latest instructions of the OEM.
 - 5.3.1 When OEM instructions are not available, or not relevant to MBTA applications, the Operator shall develop a proposed standard for MBTA review.

- 5.3.2 Once approved by the MBTA, a standard shall be maintained and documented through the configuration management system.
- 5.4 The Operator shall develop and implement calibration standards, processes, procedures and documentation for all tools and equipment that are used to measure and verify characteristics and processes (ODRL 3.6-007). This shall be submitted to the MBTA for review and approval no later than 120 days after NTP. The Operator shall prepare a list of all equipment that it believes is outdated and for which no documentation exists and submit the proposed list for MBTA review.
- 5.5 All tools and equipment shall be periodically calibrated and maintained in calibration, or identified as being out of calibration and otherwise secured to prevent accidental use. In addition:
 - 5.5.1 Calibration standards shall be traceable to the National Bureau of Standards.
 - 5.5.2 Calibration history and frequency records shall be maintained and available.
 - 5.5.3 Calibration dates and due dates shall be displayed on equipment.
- 5.6 The Operator shall adopt workmanship standards for all areas of Agreement Services. They shall become appendices to this Agreement.
 - 5.6.1 The Operator shall ensure that workmanship is maintained at a level of quality consistent with the technical and functional requirements of the work.
 - 5.6.2 Workmanship shall be defined to the greatest practical extent by written standards, accepted by the Operator and the MBTA as examples of satisfactory workmanship.
 - 5.6.3 The Operator shall submit written workmanship standards that must be referenced to a recognized standard. This may include reference to an MBTA Technical Specification(s) (ODRL 3.6-008). These standards shall be submitted no later than 120 days after NTP, and upon acceptance by the MBTA shall become the standard to which Operator workmanship performance is measured. The accepted Standards shall become an appendix to this Agreement.
- 5.7 The Operator employees engaged in performing work which requires specialized training and/or certification shall have the records of that training and qualification maintained in a system that:
 - 5.7.1 Indicates the date of initial qualification and any refresher training
 - 5.7.2 Indicates the date of expiration of the certification
 - 5.7.3 Provides for notification of the employee and his or her supervisor of the need for recertification prior to expiration

- 5.7.4 Is available to QA personnel to verify the worker's qualification to do the work during audits and inspections
- 5.8 The Operator shall develop written instructions for all Agreement Services functions, processes and procedures not already covered by written instructions. These shall be prepared and submitted to MBTA for review and approval prior to implementation.
- 5.9 The Operator shall develop a Master List of all Agreement Services functions, processes and procedures not already covered by written instructions as well as a proposed schedule for completion (ODRL 3.6-009). This Master List shall be submitted to the MBTA no later than 120 days after the Mobilization Commencement Date.
6. **CONFIGURATION CONTROL**
- 6.1 The Operator shall prepare and implement a Configuration Management Plan ("**CMP**"), either separately or as part of the QAP that governs the configuration of all Service Property, Support Property and Service Equipment (ODRL 3.6-010). It shall encompass all processes, documents, and equipment used to provide Agreement Services. This CMP shall be submitted for MBTA review and approval no later than 120 days after NTP.
- 6.2 The CMP will include sections for:
- 6.2.1 Document control and revisions;
- 6.2.2 Vehicle and System History Books as maintained by the MBTA; and
- 6.2.3 A Software Configuration Management Plan ("**SCMP**") compliant with **Schedule 3.15** (Intellectual Property; Ownership) of this Agreement and compliant with 49 CFR 238.105 and all other applicable regulations (ODRL 3.6-011).
- 6.3 The Operator shall develop and implement the CMP to prevent the removal of re-buildable components and assemblies from any Commuter Rail Property and replacement with earlier, superseded, obsolete or discontinued models taken from other sources of Commuter Rail Property or supplier inventories.
- 6.4 The Operator shall develop the CMP to prevent its Subcontractors and suppliers of Unit Exchange (UTEX), Repair-and-Return (R&R), overhauled and rebuilt components from substituting models of lesser quality or value or that do not meet MBTA or OEM specifications.
- 6.5 The SCMP shall be comprehensive and include all Service Equipment and Support Property including all software/firmware files and other software configurable files whether onboard, wayside or diagnostic equipment.

- 6.6 The Operator shall develop the SCMP to prevent the installation or use of incorrect, superseded or non-compatible software that could affect the safety, function, availability or reliability of Commuter Rail Property or cause damage to same.
- 6.7 The SCMP shall include a comprehensive software inventory including version number, open issues, file sizes/dates and CRC where applicable, by vehicle or equipment number, asset description and/or number, that is continually updated (*i.e.*, in real time) and available electronically to the Operator and MBTA personnel on demand.

7. AUDITS

- 7.1 The Operator shall prepare and implement an Audit Plan that encompasses all areas of Agreement Services (ODRL 3.6-012). This shall be a separate, stand-alone plan that will be an adjunct to the QCPM. This plan shall be submitted to the MBTA for review and approval no later than 120 days after NTP.
- 7.2 The Audit Plan shall identify minimum audit requirements for internal audits to be performed of all functional areas as well as Subcontractors and major suppliers. Emphasis shall be given to all areas directly impacting Customer Service, comfort and safety.
- 7.3 Copies of all audit reports and findings (ODRL 3.6-013) shall be transmitted to the MBTA within thirty (30) days of conclusion of the audit.
- 7.4 An Audit Summary Report (ODRL 3.6-014) shall be prepared and submitted to the MBTA on a quarterly basis. The specific schedule for submission of these reports shall be included in the Audit Plan.
- 7.5 The MBTA reserves the right to conduct its own audits of the Operator or the Subcontractors and suppliers at any time. The Operator shall fully cooperate and assist in such audits, as requested by the MBTA.
- 7.6 The Operator shall afford access to the MBTA to inspect all Service Equipment to ensure that it is serviceable and properly stored, and may conduct spot inspections of Service Equipment, Support Property, and all Service Property for compliance with the requirements of this Agreement.
- 7.7 The Operator shall promptly address any MBTA quality assurance findings of deficiencies, and shall conduct any additional training that may be required to remedy such deficiencies.
- 7.8 The MBTA reserves the right to conduct quality assurance reviews of the Operator's training, inspection, maintenance, and safety programs, as well as procedures, and documentation.

8. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.6-001	Quality Assurance Program Plan	120 days after NTP

ODRL 3.6-002	Quality Control Manual for Transportation Services	120 days after NTP
ODRL 3.6-003	Quality Control Manual for Customer Service & Information	120 days after NTP
ODRL 3.6-004	Quality Control Manual for Engineering Services	120 days after NTP
ODRL 3.6-005	Quality Control Manual for Mechanical Services	120 days after NTP
ODRL 3.6-006	Quality Control Manual for Materials Management	120 days after NTP
ODRL 3.6-007	Calibration Standards, Processes, Procedures and Documentation	120 days after NTP
ODRL 3.6-008	Workmanship Standards	120 days after NTP
ODRL 3.6-009	Commuter Rail Function, Processes & Procedures Master List	120 days after NTP
ODRL 3.6-010	Configuration Management Plan	120 days after NTP
ODRL 3.6-011	Software Configuration Management Plan (SCMP)	120 days after NTP
ODRL 3.6-012	The Operator Audit Plan	120 days after NTP
ODRL 3.6-013	The Operator Audit Reports and Findings	30 days after audit completion
ODRL 3.6-014	The Operator Audit Summary Report	Quarterly
ODRL 3.6-015	Quality Control Manual for Capital Support	120 days after NTP

SCHEDULE 3.7
OPERATOR CUSTOMER SERVICE RESPONSIBILITIES

1. GENERAL

- 1.1 The Operator shall perform all Customer Services set out in this **Schedule 3.7** (Operator Customer Service Responsibilities). Except as specifically set forth below, the performance of all Customer Services shall be included within the Annual Fee.
- 1.2 The Operator shall perform the Customer Services described in this **Schedule 3.7** (Operator Customer Service Responsibilities) and in compliance with the pledges in the MBTA's current Customer Bill of Rights, attached as Appendix 1 to this **Schedule 3.7** (Operator Customer Service Responsibilities), as it may be amended by the MBTA from time to time.
- 1.3 The Operator shall make every effort to assist the MBTA in providing excellent service to Customers by adopting the MBTA Customer Bill of Rights as the cornerstone of its duties.

2. RESPONSIBILITIES

2.1 Customer Service Manager

The Operator shall provide a manager responsible for overseeing the Operator's delivery of the Customer Services (the "**Customer Service Manager**"). The Customer Service Manager will maintain frequent contact and coordinate efforts with MBTA Railroad Operations and the MBTA's Customer Service department, and will report to the Operator General Manager. In addition, the Customer Service Manager shall have the duties set forth in Section 14.2.4 (Customer Service Manager) of **Schedule 3.9** (Management and Personnel) of this Agreement.

2.2 Customer Service Representatives

- 2.2.1 The Operator shall provide staff for the Customer Service Offices located in the same building and in the office nearest each of the North Division Chief Dispatcher and the South Division Chief Dispatcher (as such positions are described in **Schedule 3.1** (Transportation Services) of this Agreement.) Such staff shall be known as Customer Service Representatives ("**CSR**").
- 2.2.2 Customer Service Office staffing and hours shall be included as elements of the Transportation Service Plan required by in **Schedule 3.1** (Transportation Services) of this Agreement and subject to MBTA review and approval as well as possible change. These operating hours may be subject to change whenever a Service Schedule change goes into effect.
- 2.2.3 CSR duties shall include, but not be limited to, taking information from the appropriate Chief Dispatcher and Shift Dispatchers when events occur that have

impacts on customer service and preparing and delivering announcements through the Commuter Rail IT Environment and other information technology systems to the public and to the MBTA's Customer Service Department.

- 2.2.4 CSR duties shall also include sending pages and texts to designated Operator and MBTA managers and others in need of information relative to ongoing events.
- 2.2.5 CSRs must be familiar with the routes, infrastructure, and rolling stock used to provide Commuter Rail Services.
- 2.2.6 CSRs shall arrange for alternate transportation for Customers (as further described in Section 2.11 (Provision of Alternate Transportation) of this **Schedule 3.7** (Operator Customer Service Responsibilities)) during Emergencies, Service Disruptions, planned maintenance work and track outages, and as otherwise necessary to reduce the effect of delays and mitigate Service Disruptions. During Emergencies and Service Disruptions, CSRs shall work under the direction of the applicable Chief Dispatcher in coordinating such alternate transportation.
- 2.2.7 A CSR will staff the PTIS sign desk in each train dispatchers office (North and South) for two shifts (5:00 am until 1:30 pm until 10:00 pm), seven days per week. In the event of an ongoing service disruption or delay, the CRS-PTIS sign person will remain on duty, as required.

2.3 Information Booth Staffing

- 2.3.1 The Operator shall provide staff for the information booths located in South Station, Back Bay Station and North Station (the **"Information Booth Staff"**).
- 2.3.2 The Operator shall, at a minimum, provide Information Booth Staff at South Station and Back Bay Station continuously from 5:30AM through 12:00AM weekdays and 7:00AM through 11:00PM weekends and Holidays, in each case, provided that in the event of a Service Disruption or a delay, Information Booth Staff shall remain until the last train departs the station.
- 2.3.3 The Operator shall, at a minimum, provide Information Booth Staff at North Station continuously from 6:00AM through 12:00AM weekdays, and 7:30AM through 11:30PM weekends and Holidays, in each case, provided that in the event of a Service Disruption or a delay, Information Booth Staff shall remain until the last train departs the station.
- 2.3.4 The number of Information Booth Staff and their hours shall be included as elements of the Transportation Service Plan required by **Schedule 3.1** (Transportation Services) of this Agreement and subject to MBTA review and approval as well as possible change. These operating hours may be subject to change whenever a Service Schedule change goes into effect.

- 2.3.5 The duties of the Information Booth Staff shall include, but not be limited to, providing schedule information and customer assistance relating to all Commuter Rail Services and other MBTA services. Information Booth Staff must be knowledgeable of all Commuter Rail Services and other MBTA services and shall perform their duties in a courteous, efficient, and competent manner.
- 2.3.6 The Operator shall maintain information booths in a clean, well lit, well signed, and inviting condition and in compliance with **Schedule 3.2** (Engineering Services) of this Agreement.
- 2.4 Ticketing
 - 2.4.1 The Operator shall provide ticketing services on-board all commuter rail trains and at all of the Stations with staffed ticketing booths in accordance with its obligations to deliver the Transportation Services.
 - 2.4.2 Operator Personnel providing ticketing services shall perform their duties in a courteous, efficient, and competent manner.
- 2.5 Lost & Found Services
 - 2.5.1 The Operator shall provide lost & found services at North Station, South Station and Back Bay Station.
 - 2.5.2 The Operator shall develop a set of standard procedures for lost & found services, in accordance with the Lost Articles provision of the MBTA General Rules. This set of procedures shall be submitted to MBTA within 60 days after NTP for approval (ODRL 3.7-001).
 - 2.5.3 Lost & found services shall include, but not be limited to, collecting lost items on trains and at stations and keeping a log of these items to assist patrons in retrieving their possessions.
 - 2.5.4 The Operator shall continuously provide lost & found services from 7:00AM through 7:00PM Monday to Friday, not including Holidays.
 - 2.5.5 Operator Personnel providing lost & found services shall perform their duties in a courteous, efficient, and competent manner.
- 2.6 Public Information Materials, Bulletin Boards and Kiosks
 - 2.6.1 The Operator shall post MBTA-approved promotional materials, public information and current Service Schedules on bulletin boards and kiosks at all the Stations as required by the MBTA. All information materials posted by the Operator shall be weather resistant.

- 2.6.2 The Operator shall post updated Service Schedules prior to their effective date. The Operator shall maintain and stock MBTA promotional materials and current train schedules at North Station, South Station and Back Bay Station information booths, bulletin boards and kiosks as required by the MBTA.
- 2.6.3 The Operator shall also create, reproduce, and distribute customer informational flyers, seat drops, or bulletins as directed and approved by the MBTA for scheduled track outages, in such numbers and at such times as are required to give timely and effective notice of service changes, or explanations or apologies for Service Disruptions. (ODRL 3.7-002) These items are expected to be required on average once per week, with an average distribution of 3,000. This is only an estimate; actual distribution will be based on actual events and occurrences.

2.7 Station Announcements and Electronic Messages

- 2.7.1 The Operator shall immediately inform Customers of all train departures, platform assignments, destinations and intermediate stops through the public address systems at North Station and South Station and shall immediately inform Customers of all train arrivals, departures, platform assignments, destinations and intermediate stops through the public address system at Back Bay Station.
- 2.7.2 The Operator shall immediately inform Customers of train arrivals, departures, platform assignments, destinations and intermediate stops or other applicable customer service information using computer monitors, electronic message boards and other systems provided by the MBTA.
- 2.7.3 The Operator shall provide, through these systems, timely and accurate delay and Service Disruption information, in accordance with the procedures required by Section 9.4 (Notification of Delays to the Public) of **Schedule 3.1** (Transportation Services).
- 2.7.4 The Operator shall be responsible for immediately informing Customers about emergencies and security issues.
- 2.7.5 The Operator shall make announcements concerning Fare policy, MBTA General Rules (such as MBTA smoking policy), special events and other messages as required by the MBTA.
- 2.7.6 The Operator shall be responsible for the input of customer service information for all automated messages, from either one or both MBTA Commuter Rail Dispatching Centers or at locations provided by the MBTA during all hours of train operations.
- 2.7.7 The Operator shall ensure that the content, format and timing of all station announcements and messages are in compliance with the requirements of all federal, state and local accessibility laws and regulations.

2.8 On-Board Announcements

- 2.8.1 Crewmembers shall make announcements on-board all Revenue Trains, as required by the Employee Timetable and Customer Service Special Instructions, MBTA policies and procedures and the ADA.
- 2.8.2 Crewmembers shall announce from station platforms the train destinations to Customers at intermediate and terminal Stations as trains arrive and prior to departure. Announcements at terminal stations shall be made on the platforms and on board prior to departure.
- 2.8.3 Crewmembers shall activate the available on-board automated announcement system. In the event that the automated system is unavailable or malfunctioning, the Crewmembers shall announce the train destinations to Customers as trains approach and depart from each Station.
- 2.8.4 Crewmembers shall provide timely and accurate delay information on-board all commuter rail trains, in accordance with the procedures outlined in Section 9.4 (Notification of Delays to the Public) of **Schedule 3.1** (Transportation Services) of this Agreement.
- 2.8.5 Crewmembers shall immediately inform Customers about emergencies and security issues. Crewmembers must be knowledgeable of all MBTA services and all emergency and security policies and procedures.
- 2.8.6 Crewmembers shall perform their duties in a courteous, efficient and competent manner and shall not make any inappropriate announcement or include any personal opinion or editorial in any announcement. Any inappropriate, unprofessional or otherwise unacceptable announcement shall be considered Conduct Unbecoming an Employee as provided in **Schedule 3.9** (Management and Personnel) of this Agreement.
- 2.8.7 The Operator shall ensure that the content, format and timing of all on-board announcements are in compliance with the requirements of the ADA.

2.9 Response to Public Comments and Complaints

- 2.9.1 The Operator shall investigate all comments and complaints arising from the provision of Services or the actions of Operator Personnel whether or not requested by the MBTA.
- 2.9.2 The Customer Service Manager shall be responsible for investigation of complaints.
- 2.9.3 Comments and complaints received by the MBTA will be collected by the MBTA in writing, in electronic form, and by telephone and forwarded to the

Operator. The Operator will forward promptly any comments and complaints received by it to the MBTA through the Incident Tracking Portal.

- 2.9.4 The Operator shall respond to any customer comments or complaints forwarded from the MBTA or received by the Operator directly from a Customer within five Business Days and shall copy the MBTA on all such responses. (ODRL 3.7-003)
- 2.9.5 The Operator shall prepare a formal written report stating the circumstances for the complaint and any corrective action taken. This response shall be entered and maintained in the Commuter Rail IT Environment through the Incident Tracking Portal within five Business Days after receipt by the Operator of the complaint whether received from the MBTA or received directly. (ODRL 3.7-004)
- 2.9.6 If the comment or complaint requires additional investigation after the initial response the Operator shall enter updates into the Commuter Rail IT Environment on the status of the investigation every five Business Days, or at intervals agreed to by the MBTA. (ODRL 3.7-005)
- 2.9.7 The Operator shall make every reasonable effort to resolve all complaints as soon as possible.
- 2.9.8 The Operator also shall maintain a record of all complaints received and responses made about individual Operator Personnel in the Commuter Rail IT Environment.
- 2.9.9 All records shall be made available at the request of the MBTA in either hard copy or electronic format on demand in the Commuter Rail IT Environment (ODRL 3.7-006).
- 2.9.10 Operator Personnel performance that leads to a complaint, whether written or oral, may be considered Conduct Unbecoming an Employee in accordance with Sections 1.8.7, 1.8.8 and 1.8.9 of **Schedule 3.9** (Management and Personnel) of this Agreement.
- 2.9.11 The Operator shall prepare and submit to the MBTA quarterly reports detailing the number of Customer comments and complaints, broken down by various categories determined by the Parties (provided, however, that the Operator shall include all categories identified by the MBTA) (each, a "**Quarterly Customer Comment and Complaint Report**") (ODRL 3.7-010). Unless the MBTA requires earlier action, the Operator shall use the applicable year's Quarterly Customer Comment and Complaint Reports to determine those areas of Customer Service that could be improved upon, and shall prepare and submit to the MBTA an annual plan detailing the efforts that the Operator proposes to implement to address identified areas in need of improvement (each, an "**Annual Customer Service Improvement Plan**") (ODRL 3.7-011). The MBTA shall

either approve the efforts identified in the Annual Customer Service Improvement Plan, or identify deficiencies in the Annual Customer Service Improvement Plan. The Operator shall have fifteen (15) days to correct all deficiencies in the Annual Customer Service Improvement Plan and resubmit the same to the MBTA for further review. If the applicable Annual Customer Service Improvement Plan is determined to be deficient a second time, the Parties shall immediately meet and make a good faith effort to resolve outstanding issues. If the Parties fail to reach agreement then the Operator shall proceed as directed by the MBTA. Upon approval from the MBTA, the Operator shall implement the efforts identified in the Annual Customer Service Improvement Plan.

2.10 Coordination with Third-Party Contractors

- 2.10.1 The Operator shall maintain frequent and ongoing communications with any Third Party concerning such Third Party's schedules, delays, construction scheduling and similar matters to ensure that the Agreement Services continue to be provided in full compliance with this Agreement.
- 2.10.2 The Operator shall provide timely and accurate information concerning delays or unusual conditions related to any Third Party, in accordance with the procedures outlined in Section 9 (Incident Management and Notifications) of **Schedule 3.1** (Transportation Services) of this Agreement.

2.11 Provision of Alternate Transportation

- 2.11.1 The Operator shall develop, distribute and implement protocols for the handling of alternate transportation for Customers during Emergencies, Service Disruptions, planned maintenance work and track outages, and as otherwise necessary to reduce the effect of cascading delays and to minimize Service Disruptions. Such protocols shall clearly delineate lines of responsibility in order to minimize delays for Customers affected by events calling for the use of alternate transportation. The protocols shall be submitted to the MBTA no later than 60 days after NTP (ODRL 3.7-007).
- 2.11.2 The CSRs shall implement the alternate transportation protocols, including arranging for and coordinating bus, shuttle or other transportation for Customers during Emergencies and Service Disruptions. The CSRs shall also arrange for and coordinate such alternate transportation during planned maintenance work and planned track outages, and as otherwise necessary to prevent delays or Service Disruptions.
- 2.11.3 The Operator shall notify OCC and MBTA Railroad Operations immediately of the need for alternate transportation and shall use MBTA vehicles and operators for these services unless authorized or required by the MBTA to do otherwise in that instance.

- 2.11.4 The Operator shall maintain an up-to-date roster of private carriers in the Service Area, including contact names, telephone numbers and operating statistics (e.g., fleet size, hours of operation). This list shall be forwarded to the MBTA no later than 90 days after NTP and an updated list shall be forwarded to the MBTA at least quarterly thereafter (ODRL 3.7-008).
- 2.11.5 The Operator shall provide notification of the use of alternate transportation through the public address system and other announcement systems at affected Stations and on-board affected trains.
- 2.11.6 The Operator shall provide personnel at affected Stations and on-board affected trains to assist Customers and coordinate the use of alternate transportation.
- 2.11.7 The Operator shall be required, at the request of the MBTA, to provide alternate transportation for the MBTA transit system services using the Service Equipment and Service Property during periods of MBTA transit system delay or disruption or a Service Disruption that requires the provision of alternate transportation (each, an "**Alternate Transportation Triggering Event**"). The MBTA will compensate the Operator, as Supplemental Work, for the actual incremental costs of those alternate transportation services triggered by an Alternate Transportation Triggering Event.

2.12 Accommodation of People with Disabilities

- 2.12.1 The Operator's Customer Service responsibilities shall include accommodating persons with disabilities to the greatest extent possible. At a minimum, the Operator shall be responsible for providing all Agreement Services in compliance with all federal, state and local accessibility laws and regulations, and as described in **Schedule 3.9** (Management and Personnel) of this Agreement. In addition, the Operator shall maintain the Service Property and the Service Equipment in compliance with the ADA and all such state laws, in accordance with **Schedule 3.2** (Engineering Services) of this Agreement.
- 2.12.2 Operator Personnel behavior that is not in compliance with the ADA and all such state laws shall be considered Conduct Unbecoming an Employee as provided for in **Schedule 3.9** (Management and Personnel).
- 2.12.3 Any audits or other reports covering ADA compliance shall be forwarded to MBTA immediately (ODRL 3.7-009). Any delay in this process or mishandling of audit staff or reports will result in the imposition of a remedial plan to cure any deficiency.
- 2.12.4 In addition to the Operator's other obligations: (i) the Operator shall notify the MBTA and the MBTA Department of System-Wide Accessibility immediately upon (and, in no event, more than twelve (12) hours after) the Operator's receipt of a Customer comment or complaint relating to the ADA, and (ii) the Operator shall notify the MBTA and the Office of Diversity and Civil Rights immediately

upon (and, in no event, more than twelve (12) hours after) the Operator's receipt of a Customer comment or complaint relating to civil rights or DBEs.

2.13 Customer Service Satisfaction Efforts

- 2.13.1 The Operator shall prepare and submit a customer service satisfaction plan to the MBTA for review no later than 90 days after NTP (the "**Customer Service Satisfaction Plan**") (ODRL 3.7-012). The MBTA shall either approve the Customer Service Satisfaction Plan, or identify deficiencies that the Operator must correct. The Operator shall have fifteen (15) days to correct all identified deficiencies and resubmit the same to the MBTA for further review. If the Customer Service Satisfaction Plan is determined to be deficient a second time, the Parties shall immediately meet and make a good faith effort to resolve outstanding issues; provided, however, that in the event that the Parties cannot reach agreement, the Operator shall make all revisions directed by the MBTA. Upon approval from the MBTA, the Operator shall implement the efforts and activities identified in the Customer Service Satisfaction Plan in compliance with the associated implementation timeline.
- 2.13.2 The Customer Service Satisfaction Plan shall detail those efforts and activities that the Operator shall implement (with an associated timeline for implementation) during the Term of the Agreement to continuously improve the overall customer experience in connection with the Commuter Rail Service. By way of example, and not limitation, the Customer Service Satisfaction Plan may include efforts related to Personnel training targeted towards Customer interaction and service provision, Customer ambassador programs, means of facilitating Customer communications and community building, contests and updates to Operator uniforms.
- 2.13.3 On an annual basis, the MBTA shall commission the development and administration of a survey designed to gauge Customer satisfaction with the Commuter Rail Service (each, an "**Annual Customer Satisfaction Survey**"). The MBTA shall provide the Operator with the results of the applicable Annual Customer Satisfaction Survey within a reasonable time of its completion.
- 2.13.4 The Operator shall update the Customer Service Satisfaction Plan annually, and submit the same to the MBTA for review and approval (each, a "**Customer Service Satisfaction Plan Update**") (ODRL 3.7-013). Updates as well as additional efforts and activities included in the Customer Service Satisfaction Plan Update shall be based on the Annual Customer Satisfaction Survey, the Annual Customer Service Improvement Plan and new developments and other innovations relating to improving customer service. Each Customer Service Satisfaction Plan Update shall also include an associated implementation timeline for all identified changes to the applicable Customer Service Satisfaction Plan. The MBTA shall either approve the Customer Service Satisfaction Plan Update, or identify deficiencies in the Customer Service

Satisfaction Plan Update. The Operator shall have fifteen (15) days to correct all deficiencies in the Customer Service Satisfaction Plan Update and resubmit the same to the MBTA for further review. If the applicable Customer Service Satisfaction Plan Update is determined to be deficient a second time, the Parties shall immediately meet and make a good faith effort to resolve outstanding issues. If the Parties fail to reach agreement then the Operator shall proceed as directed by the MBTA. Upon approval from the MBTA, the Operator shall implement the updates, efforts and activities identified in the Customer Service Satisfaction Plan Update in compliance with the associated implementation timeline.

3. **MARKETING RESPONSIBILITIES**

3.1 MBTA Responsibilities

- 3.1.1 The Operator may market the Commuter Rail Service through advertisements or other public promotions in consultation with the MBTA and with the prior approval of the MBTA's General Manager or designee. Branding for the Commuter Rail Service shall refer to it as a service of the MBTA and all marketing must refer primarily to the MBTA, not the Operator.
- 3.1.2 The Operator shall support the MBTA in its efforts to inform the public about the Commuter Rail Service. Incident management and notification of Service Disruptions and delays are not considered marketing activities, and the Operator shall bear responsibility for such notification pursuant to Section 2 (Responsibilities) of this **Schedule 3.7** (Operator Customer Service Responsibilities) and to Section 9 (Incident Management and Notifications) of **Schedule 3.1** (Transportation Services) of this Agreement.
- 3.1.3 The MBTA shall have sole responsibility for communicating with the media, except where the MBTA directs the Operator to support such media communication. Notwithstanding anything to the contrary: the Operator (i) shall not communicate (without the MBTA's express written permission, which may be withheld or withdrawn for any reason) with the media regarding major or significant events that involve the public interest such as deaths or other catastrophes, or that otherwise could reasonably be interpreted as casting the MBTA in a negative light (each, a "**Media Communications Event**"); and (ii) shall immediately notify the MBTA in the event that the Operator receives an inquiry relating to a Media Communication Event. The Operator shall prepare a list of additional Media Communications Events for the MBTA's review and approval; provided, however, that the MBTA shall make the final determinations as to what constitutes a Media Communications Event (ODRL 3.7-014).

3.2 The Operator Responsibilities

- 3.2.1 The MBTA hires Third Party contractors to install and maintain promotional materials or public information notices on the Service Property and the Service Equipment and, as part of the Annual Fee, the MBTA may direct the Operator to install MBTA-approved promotional materials or public information notices on the Service Property and Service Equipment pursuant to procedures established by the MBTA.
- 3.2.2 The Operator shall cooperate with MBTA Real Estate staff and MBTA contractors that may be tasked with developing and/or applying MBTA-sanctioned advertising and other public display materials to the Service Property or the Service Equipment.
- 3.2.3 In addition to the Operator's obligations set out in Section 3.1 (MBTA Responsibilities) of this **Schedule 3.7** (Operator Customer Service Responsibilities), the Operator shall assist the MBTA in its efforts to market, promote and otherwise advertise the Commuter Rail Service and to otherwise participate in community outreach programs and other community communications.

4. **THIRD PARTY ADVERTISING**

- 4.1 The MBTA shall have the sole and exclusive right to utilize or authorize the utilization of Stations, Right of Way Assets, and the exterior and interior of the Service Equipment or the Service Property for the display of any written or printed advertising, promotional material, or public information notices. Any revenues from such advertisements, whether or not such advertisements are properly authorized, shall belong exclusively to the MBTA. The MBTA may hire contractors to install and maintain advertising materials on the Service Property and Service Equipment.
- 4.2 The Operator may solicit and propose, to the MBTA, Third Party advertising programs and other non-Fare revenue generating programs. To the extent such program is approved by the MBTA and implemented, the Operator and the MBTA shall share, as determined, in any revenues generated net of any expenses of the advertising program.

5. **MBTA INVOLVEMENT IN OPERATOR MARKETING AND ADVERTISING EFFORTS**

- 5.1 Notwithstanding anything to the contrary, the Operator shall not undertake any marketing or advertising efforts related to the Commuter Rail Service (including, but not limited to, those efforts outlined in Section 3 (Marketing Responsibilities) and Section 4 (Third Party Advertising) of this **Schedule 3.7** (Operator Customer Service Responsibilities)) without (i) providing at least thirty (30) days' prior written notice to the MBTA and the Assistant General Manager of Marketing and Communications (or his/her designee) of the proposed efforts, and (ii) obtaining the MBTA's prior written approval for such efforts.

6. **OPERATOR DELIVERABLE REQUIREMENTS LIST**

ODRL	Description	Due Date
ODRL 3.7-001	Lost & Found Procedures	60 days after NTP
ODRL 3.7-002	Customer Fliers & Bulletins	Weekly
ODRL 3.7-003	Response to Customer Complaint	5 days after complaint
ODRL 3.7-004	Customer Complaint Reports to MBTA	5 days after complaint
ODRL 3.7-005	Customer Complaint Updates	Every 5 days after original complaint
ODRL 3.7-006	Complete Customer Complaints	On demand
ODRL 3.7-007	Alternate Transportation Protocols	60 days after NTP
ODRL 3.7-008	List of Alternate Transportation Bus Lines	90 days after NTP and quarterly thereafter
ODRL 3.7-009	Independent Auditor Reports	Immediately
ODRL 3.7-010	Quarterly Customer Comment and Complaint Report	90 days after Commencement and quarterly thereafter
ODRL 3.7-011	Annual Customer Service Improvement Plan	October 1, annually
ODRL 3.7-012	Customer Service Satisfaction Plan	90 days after NTP
ODRL 3.7-013	Customer Service Satisfaction Plan Update	March 12, annually
ODRL 3.7-014	Media Communications Events List	90 days after NTP

Appendix 1

MBTA Customer Bill of Rights

1. A safe ride every time

We're continuously monitoring the system to help keep you safe. In addition to Transit Police patrolling the system all day, cameras have been installed in stations and on our vehicles, and T employees are keeping their eyes and ears open for suspicious activity. You can help too. If you see something, say something by calling the Transit Police at 617-222-1212 or by speaking to an MBTA official.

2. Courteous, clean, accessible, and dependable service

All T employees are trained to ask the question, “**How can we help you today?**” Simply put, we're here to help you reach your destination in a timely and positive way. If you find our service less than adequate, see a concern, or have an idea for how to improve the system please let us know how we can do better by visiting the customer support section of mbta.com.

3. Accurate and timely information

We make it our priority to provide you with timely information on service conditions and delays. If we anticipate delays of more than 15 minutes on any service we will post that information to mbta.com, send alerts to T-Alerts subscribers, and post information to station message boards. Want to know where your bus or train is? More than two dozen apps are available to track your bus, subway, or commuter rail train at mbta.com/apps.

4. Improved communications

Your comments, questions, and ideas help make the T better. The General Manager and T's senior management team are always out on the system. Join them at regular “**Join the GM**” sessions and customer roundtables. Can't meet us in person? Send us a note through the customer support section of mbta.com, on Twitter at twitter.com/mbtagm, or through mobile tools. We make it our priority to respond within 5 days.

5. Transparent performance measures

How are we performing toward our goal of providing on-time, reliable service? The latest facts and figures about our performance are available in our monthly ScoreCard at mbta.com/about_the_mbta/scorecard.

SCHEDULE 3.8 ENVIRONMENTAL SERVICES

1. ENVIRONMENTAL SERVICES - GENERAL

The Operator shall operate, maintain, and service all environmental systems located throughout the MBTA service property. The Operator shall maintain all environmental permits, certificates and licenses necessary to perform Agreement Services and maintain Service Property. Permits, certificates, and licenses shall be obtained in the name of the Operator, or the Environmental Subcontractor whenever possible. The Operator shall properly dispose of any waste or hazardous material in accordance with all applicable federal, state and local regulations. The Operator, with the assistance of subcontractors, shall furnish all labor, materials, tools, and equipment to operate, test, service, maintain, and repair the MBTA's environmental systems as described herein.

1.1 General Terms

- 1.1.1 The Operator shall retain the services of a properly certified and licensed Hazardous Materials Disposal Subcontractor; a properly qualified, grade three industrial Wastewater Operator; Level A, B and/or C Certified Tank Operator(s) and a licensed Pest Control Subcontractor to perform the specialized services included in this **Schedule 3.8** (Environmental Services).
- 1.1.2 The Operator shall ensure that all work areas are restored to their original existing conditions when conducting work efforts included in this **Schedule 3.8** (Environmental Services).
- 1.1.3 All materials, parts, equipment, software, data and calculations procured under this **Schedule 3.8** (Environmental Services) are the property of the MBTA. All deliverables including but not limited to reports, permits, plans, certificates, licenses and backup data, calculations, analytical results, communications with regulatory agencies, etc. shall be provided to the MBTA Environmental Director when finalized.
- 1.1.4 The Operator shall maintain at least two full-time environmental compliance staff, and additional staff if needed, to supervise environmental subcontractors, monitor compliance with existing and new permits, and ensure that environmental regulations are complied with throughout the Commuter Rail System. Resumes of the proposed staff shall be submitted to MBTA for review and approval within 30 days of Notice to Proceed (ODRL 3.8-001). Minimum qualifications shall include a Bachelor's of Science degree in an environmental field and 8-10 years of experience with environmental permitting and compliance monitoring.
- 1.1.5 MBTA personnel may, at any time and without prior notice, conduct inspection(s) of any Service Property or Service Equipment for the purpose of

evaluating compliance with environmental regulations and the requirements of this Section 1 (Environmental Services - General) of this **Schedule 3.8** (Environmental Services). In the event that noncompliance issues are identified by MBTA during a visit, MBTA may, at its discretion, cease operations and/or activity at the facility/property and the Operator shall immediately perform whatever actions are required to restore compliance.

1.2 Environmental Permitting/Reporting

1.2.1 The Operator shall maintain current all appropriate permits, certificates, licenses, and the like relating to the Service Property, Support Property, systems, equipment and facilities used in performing the Agreement Services. Operator, within 30 days of Notice to Proceed, shall submit to the MBTA, for review and approval, a draft program to manage the transfer, updating and record keeping for all permits, licenses, and certificates (ODRL 3.8-002). A final program will be submitted to the MBTA, for approval, within 90 days of Notice to Proceed (ODRL 3.8-003). This program shall be submitted in an electronic format and shall include, but not be limited to, compliance with all local, state and federal environmental laws and regulations, and shall include an electronic Management Information System compatible with the MBTA's Environment Management System.

1.2.2 Permits, certificates, licenses, and the like that are required relating to the Service Property, Support Property and systems and facilities used in performing the Agreement Services include, but may not be limited to:

1.2.2.1 NPDES Individual Permits

1.2.2.2 NPDES Multi-sector Permits

1.2.2.3 Storm Water Pollution Prevention (SWPP) Plans

1.2.2.4 Spill Prevention Control and Countermeasures (SPCC) Plans

1.2.2.5 MWRA Sewer Connection Permits

1.2.2.6 MWRA Sewer Discharge Permits

1.2.2.7 Municipal Sewer Discharge Permits

1.2.2.8 Aboveground Storage Tank Permits

1.2.2.9 Underground Storage Tank Permits

1.2.2.10 Air Emissions Permits

1.2.2.11 Garage Licenses

- 1.2.2.12 Source Registrations
- 1.2.2.13 Flammable Storage Permits
- 1.2.2.14 Greenbush Wildlife Crossing Maintenance Plan

The Operator shall maintain the permits and plans included in, but not limited to, those listed in Appendix 1 to this **Schedule 3.8** (Environmental Services), Major Permits for MBTA Facilities.

- 1.2.3 The Operator shall complete periodic inspections and reporting requirements necessary to maintain all environmental permits, certificates, and licenses. Inspections and reporting shall include, but not be limited to, quarterly reports for NPDES Multi-sector Permits, SWPP Plans, SPCC Plans, and MWRA Sewer Connection permits.
- 1.2.4 The Operator shall submit to MBTA on a monthly basis a summary report listing active and pending permits, results of most recent inspections, and any existing or potential non-compliance issues (ODRL 3.8-005). The report shall summarize the status of all environmental permits, inspections and conditions referenced in this Section 1.2 (Environmental Permitting/Reporting) of this **Schedule 3.8** (Environmental Services). An example report shall be submitted to MBTA for review and approval within 30 days of Notice to Proceed (ODRL 3.8-004).
- 1.2.5 All applications for permits, certificates, and licenses and correspondence with regulatory agencies regarding permits, certificates, licenses and the like, relating to the Service Property, Support Property, facilities, equipment and systems will be prepared and forwarded to the MBTA at least 90 days before expiration (ODRL 3.8-006). The Operator shall operate and maintain the Commuter Rail IT Environment for tracking permits, certificates, and licenses in accordance with Section 12 (Examination and Audit) of **Part 1** of this Agreement. The system must be made available to the MBTA and training and software provided to MBTA employees so they can utilized the system.
- 1.2.6 The Operator shall procure all permits, certificates and licenses that can be obtained only in the Operator's or Environmental Subcontractor's name, to pay all charges, fees and taxes, and give all notices necessary or incidental to the obtaining and provision of such permits, certificates and licenses at the Operator's sole expense.
- 1.2.7 The Operator shall cooperate with the MBTA in the procurement of any permits that must be obtained by either the MBTA or both the MBTA and the Operator, including without limitation, preparation of permit applications, and preparing responses to questions and comments on the permit applications.

- 1.2.8 All required permits will be transferred prior to the Agreement Services Commencement Date. The Operator shall be responsible for any and all costs associated with the transfer of permits.
- 1.2.9 The Operator shall submit to the MBTA for review and approval, a draft Emergency-Spill Response/Spill Prevention Control and Countermeasure (SPCC) Plan, including a chain of command for each applicable Service Property location not later than 60 days after NTP (ODRL 3.8-007). A final Emergency Spill Response/SPCC Plan for each facility shall be submitted by the Operator to the MBTA for approval not later than 90 days after NTP (ODRL 3.8-008). This plan shall be reviewed and updated (as needed) on an annual basis, or sooner if necessary, and provided to the MBTA by February 1st of each Agreement Year. Every five years the Emergency Spill Response/SPCC Plan shall be reviewed and updated (as needed) by a Professional Engineer.
- 1.2.10 Operator shall maintain all designated wildlife crossings in conformance with the Greenbush Wildlife Crossing Maintenance Plan. Operator shall regularly inspect and maintain the crossings to ensure the integrity of the barrier fence and fencing structures, each of the identified locations. Operator shall perform bi-annual inspections to ensure that the crossings are free of trash, materials, and debris which may inhibit the free movement of wildlife. Corrective actions, as a laid out in the Maintenance Plan, shall be implemented as necessary.

1.3 Air Emissions Testing, Permitting And Reporting

- 1.3.1 The Operator shall be responsible for all testing, monitoring, permitting and reporting related to air emission controls at the CRMF. The Final Approval and Facility Wide Emissions Cap approved by the Environmental Protection Agency (EPA) contains specific emission limitations, conditions, and requirements that must be met. It is the responsibility of the Operator to comply with all conditions included in the permit. The permit reference number is Application No. MBR-98-COM-002, Transmittal No. 122540.
- 1.3.2 As required by Section 11 (Fuel Purchasing) of **Schedule 3.4** (Materials Management and Procurement) of this Agreement, the Operator must retain all fuel purchase receipts for both locomotive and heating fuel. The Operator must maintain fuel usage logs, which are to include total monthly fuel usage for all combustion units, and total CRMF fuel usage for the previous twelve (12) months. A monthly report must be submitted to the MBTA that includes a copy of all fuel usage logs and calculates the past 12 months of fuel usage (ODRL 3.8-009). All receipts and logs must be maintained on-site and available for inspection by any regulatory agency upon request.
- 1.3.3 The Operator must maintain logs for the CRMF that include total locomotive engine hours per month and total engine hours for the previous 12 months.

Engine hours are to include the specific date and time that any locomotive is running within the CRMF, from the time it is started or enters to the time it is shut down, plugged in or exits the CRMF. The log is also to include the name and signature of the responsible foreperson. Engine hours must be calculated on a daily basis. Monthly run time reports must be submitted by the Operator to the MBTA. All logs must be maintained on-site and available for inspection by any regulatory agency upon request.

- 1.3.4 The Operator must prepare all required annual and periodic reports for the MBTA to submit to the EPA in accordance with the conditions of The Final Approval and Facility Wide Emissions Cap for the CRMF/Boston Engine Terminal (ODRL 3.8-010).
- 1.3.5 The Operator must follow locomotive idling regulations as set forth in 310 CMR 7.11(2) and the Consent Decree in Civil Action NO. 10-11311. In addition Operator is subject to the provisions of Section 11 (Fuel Purchasing) of **Schedule 3.4** (Materials Management and Procurement) of this Agreement.

1.4 Hazardous Material Disposal

- 1.4.1 Any regulated waste or hazardous materials located on the Service Property produced or generated while delivering the Agreement Services shall be disposed of in accordance with all applicable environmental regulations.
 - 1.4.1.1 The Operator shall review the current policy and procedures manual and guidelines for handling and managing hazardous waste and materials required for the Agreement Services within 30 days of NTP and provide a draft updated hazardous materials management plan within 60 days of NTP (ODRL 3.8-011). Said policies shall include but not be limited to, spill prevention and control, hazardous materials, medical waste handling, hazardous materials or waste generators (not limited in size) and wetlands protection. The policies shall be in compliance with all applicable local, state and federal environmental laws and regulations, applicable permits, and shall be coordinated with the policies of the MBTA, and shall be kept up-to-date at all times. The MBTA shall have the right to comment on the draft hazardous materials management plan, and the Operator must address any and all deficiencies noted by the MBTA and provide a final updated hazardous materials management plan within thirty (30) days of receipt of the MBTA's comments (ODRL 3.8-012). A copy of the final hazardous materials management plan must be provided to the MBTA and a copy maintained by the Operator.
 - 1.4.1.2 Disposal of any regulated materials such as paint, fluorescent light bulbs, railroad ties, drip pans, and batteries shall be through the

services of a properly certified and licensed Hazardous Materials Disposal Operator and in compliance with all Applicable Law.

- 1.4.1.3 Disposal of defective or obsolete batteries shall begin within one week of removal from service and completed within sixty (60) days. Battery disposal and storage sites shall be in accordance with OSHA regulations.
- 1.4.1.4 Railroad tie disposal shall begin concurrently with any tie installation program and shall continue, without interruption, until complete.
- 1.4.1.5 The Operator shall take immediate actions to comply with all applicable local, state and federal laws and regulations and permit conditions concerning the release of any contaminant on or along the Service Property without regard to source.
- 1.4.1.6 The Operator and all subcontractors shall comply with all written policies maintained by the MBTA or applicable regulatory agencies pertaining to environmental compliance and/or response policies and procedures, including coordination with the MBTA, and/or their designated subcontractor(s) or representative(s).
- 1.4.1.7 Immediately upon receipt, copies of all waste management documentation, including manifests, bills-of-lading, weight slips, and receiving facility receipts shall be provided to the MBTA. Copies of all documentation shall also be maintained with the Operator's files (ODRL 3.8-013).

1.5 Environmental Subcontractor

- 1.5.1 The Operator shall retain the services of an Environmental Subcontractor (the "**Environmental Subcontractor**") to test, operate, maintain and service various environmental systems located throughout the service property as specified herein. The Environmental Specifications include Tank System Servicing, Oil/Water Separator System Servicing, Stormwater Inspections and Catch Basin Cleaning, Onsite Subsurface Disposal System Servicing, Boston Engine Terminal Wastewater Pretreatment Facility Operations and Maintenance, and Widett Circle Terminal Wastewater Treatment and Reuse Facility Operations and Maintenance. All work outlined herein shall be directly performed and coordinated by the Environmental Subcontractor unless otherwise approved in advance by the MBTA. All costs associated with Environmental Subcontractor shall be included in the Annual Fixed Price.
- 1.5.2 The Operator must review the current Environmental Services Work Plan within 30 days of NTP and provide a draft updated environmental services work plan

within 60 days of NTP (ODRL 3.8-014). The plan shall include a schedule specifying when all work items in the Environmental Specifications will be performed. This schedule will be subject to MBTA approval, and cannot be changed without the consent of the MBTA. The MBTA shall have the right to comment on the Draft Environmental Services Work Plan, and the Operator must address any and all deficiencies noted by the MBTA and provide a final updated Environmental Services Work Plan within thirty (30) days of receipt of the MBTA's comments (ODRL 3.8-015). A copy of the final Environmental Services Work Plan must be provided to the MBTA and a copy maintained by the Operator.

- 1.5.3 Environmental Subcontractor shall respond immediately in the event of uncontained releases of hazardous materials to assist in containment. Environmental Subcontractor shall also respond to emergency environmental services requests by the MBTA or the Operator.
- 1.5.4 Services provided by the Environmental Subcontractor shall include all labor, tools, equipment, materials, testing, and reporting associated with providing services described in the Environmental Specifications herein.
- 1.5.5 The Operator shall provide copies of all correspondence with local, state, and federal regulatory agencies regarding the environmental systems under the Environmental Specifications to the MBTA's designated contact (ODRL 3.8-016).
- 1.5.6 The Operator shall notify the MBTA's designated contact immediately to report any malfunctions observed during work conducted under the Environmental Specifications. The Operator shall provide written documentation to the MBTA's designated contact providing detailed information regarding the malfunction within three business days.
- 1.5.7 Malfunctions of environmental equipment or systems, which can be rectified through minor repairs, must be repaired by the Operator in a timely manner so as not to result non-compliance of any permit or permit conditions.
- 1.5.8 If the Operator believes that the information concerning the Environmental Facilities provided herein is inconsistent with conditions in the field, the Operator shall report inconsistencies to the MBTA but any amendment to this Agreement will be entirely within the discretion of the MBTA.
- 1.5.9 Except as specified herein, no allowance will be made for any increased expenses, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Operator resulting either directly or indirectly from increased or decreased quantities not identified by Operator prior to NTP. In cases where the MBTA requests Supplemental Work or which Supplemental Work is

required, compensation will be governed by the terms of **Schedule 9** (Supplemental Work) of this Agreement.

1.5.9.1 Failure to Complete Work on Time

- (a) On or before the date(s) stated in the Environmental Services Work Plan or the MBTA approved completion date(s), the Environmental Subcontractor shall perform the work items specified in the plan.
- (b) In case a work item has not been substantially and physically completed by the date stipulated in the Environmental Services Work Plan or the MBTA approved completion date, the Operator shall pay to the MBTA any cost incurred by the MBTA due to the Operator's failure to complete the work item on time, including fines and penalties issued for failure to comply with any permit condition.
- (c) Permitting the Environmental Subcontractor to complete any work item in whole or in part after the date(s) approved in the Environmental Services Work Plan or the MBTA approved completion date, shall not constitute a waiver on the part of the MBTA of any rights under this Agreement.

1.5.9.2 Warranty of Work

- (a) Neither acceptance, payment nor any provision in the Agreement nor partial or entire use of the, facilities, systems, equipment or reports by the MBTA shall constitute an acceptance of work not done in accordance with the Agreement or relieve the Operator or Environmental Subcontractor of liability with respect to any express warranties or responsibility for faulty materials or workmanship.
- (b) Except where longer periods of warranty are specified for certain items, the Environmental Subcontractor warrants that all work done under the Agreement relating to system repair and replacement of parts or equipment be free from faulty materials and workmanship for a period of one year from date of acceptance thereof.
- (c) Upon receiving notification from the MBTA, the Operator or the Environmental Subcontractor shall immediately make repairs or replacements to any work found defective. If repairs or replacements are not started within 10 days from the date of notification and continuously executed to completion, the MBTA reserves the right to employ others to complete the work item. The Operator agrees, upon demand, to reimburse the MBTA for all amounts which the MBTA expends for such repairs or replacements.

- (d) All remedied work shall carry the same warranty as the original work starting with the date of acceptable replacement or repair.

1.5.9.3 Spare Parts and Emergency Repairs

The Environmental Subcontractor must respond immediately upon becoming aware of a malfunction or to requests by the MBTA for emergency repairs. The Environmental Subcontractor must maintain spare parts lists and supplier contacts and complete repairs to environmental systems, and associated equipment and appurtenances within a 24 hour period whenever possible, or sooner if imminent hazard conditions are present. The Environmental Subcontractor shall maintain an up-to-date inventory of tools and parts recommended by the equipment manufacturers of the various environmental systems serviced under the Environmental Specifications. A copy of the inventory and spare parts and tools must be provided to the MBTA and maintained at each facility and/or at Operator's local office or service facility (ODRL 3.8-017). The Environmental Subcontractor must use new parts to make repairs and/or replacements to the MBTA's environmental systems.

1.5.9.4 Licenses and Permits

- (a) The Environmental Subcontractor shall obtain all permits and licenses necessary to perform the work included herein. The Environmental Subcontractor shall prepare and submit the necessary license and permit applications, and shall obtain licenses and permits to conduct this work.
- (b) The Environmental Subcontractor shall obtain all necessary permits, licenses, and/or certifications from federal, state, and/or local regulatory agencies required for the management, transportation, and disposal of hazardous and/or non-hazardous wastes generated by this work.
- (c) Environmental subcontractor shall maintain compliance with permit conditions including inspection, monitoring, and reporting requirements.

1.5.9.5 Waste Containerization, Characterization, Transport and Disposal

- (a) During execution of work included herein, the Environmental Subcontractor shall ensure that containers used for storage and transportation of waste materials meet applicable federal, state, and local requirements for labeling, storage, disposal, and transportation of waste materials.

- (b) The Environmental Subcontractor shall conduct any and all testing of waste materials to be transported and disposed off-site, if required, to determine proper and legal methods for transport and disposal in accordance with all applicable local, state, and federal regulations.
- (c) The Environmental Subcontractor shall prepare hazardous waste manifest forms completely and accurately on behalf of the facility generating the waste as required by federal, state, and/or local regulatory agencies for the transportation and disposal of hazardous wastes to be collected under these specifications. Manifests will be signed by the Operator. The Environmental Subcontractor shall provide the appropriate copy(ies) of the completed hazardous waste manifest to the facility supervisor and to the MBTA. In the event the MBTA approves the use of electronic recordkeeping with respect to this Section 1.5.9.5 (Waste Containerization, Characterization, Transport and Disposal) of this **Schedule 3.8** (Environmental Services), records shall be maintained in the Commuter Rail IT Environment.
- (d) The Environmental Subcontractor shall transport waste materials in a manner that meets all federal, state, and local regulations including vehicles with appropriate markings, placards, and licenses.
- (e) The Environmental Subcontractor shall ensure that waste materials collected during conducting Agreement Services are disposed at a facility that is properly equipped and licensed by federal and state regulatory agencies to receive the materials collected.

1.5.10 Health and Safety Planning and Work Area Security

- 1.5.10.1 The Operator shall develop and implement a Health and Safety Plan for all Operator Personnel or subcontractor personnel working with and or exposed to hazardous or other contaminated materials as part of their work (ODRL 3.8-018). A copy of the plan shall be submitted to the MBTA, within ninety (90) days of Notice to Proceed, as proof of completion of the plan. The Health and Safety Plan shall be prepared following the guidelines of the United States Department of Labor, Occupational Safety and Health Administration (OSHA) 29 CFR 1910. The Operator shall ensure that the work area is secured when work is not being performed and otherwise secured during the work to prevent inadvertent access to the work area by unauthorized and/or unqualified persons.

1.5.11 Training and Qualifications

- 1.5.11.1 The Operator shall ensure that personnel executing Environmental Services are qualified to perform the services. Qualifications shall include, but not limited to, demonstrated experience servicing systems described herein.
- 1.5.11.2 All Operator and Environmental Subcontractor personnel who work on the Service Property executing Environmental Services must be trained in compliance with applicable regulations as required by OSHA, MassDEP, and EPA.
- 1.5.11.3 All Operator and Environmental Subcontractor personnel who work on the Service Property executing Environmental Services must be MBTA ROW (right of way) Safety Certified by completing the MBTA's ROW Safety Awareness Certification Program.
- 1.5.11.4 All Operator and Environmental Subcontractor personnel who work on the Service Property executing Environmental Services must be certified as trained in Roadway Worker Protection Safety by completing the Operator Safety Awareness Certification Program.
- (a) All Operator and Environmental Subcontractor personnel executing Environmental Services who work on the Service Property where hazardous waste is present or likely to be encountered must have hazardous waste management training required by MassDEP regulations under 310 CMR 30.0000.
- (b) All Operator and Environmental Subcontractor personnel who work on the Service Property executing Environmental Services must be trained in compliance with OSHA regulations including but not limited to 40-Hour HAZWOPER, 24-Hour HAZWOPER, Right-to-Know, Lock Out/Tag Out, Confined Space Entry, and Personal Protective Equipment as applicable and as required by OSHA.

1.6 Pest Control

- 1.6.1 The Operator shall install and maintain, bird, rodent and pest control on or about the Service Property. Pigeons and other animals shall be controlled at stations and as directed by the MBTA at other Service Property locations that are maintained pursuant to this Agreement. The Operator shall retain the services of a certified Pest Control Subcontractor to perform this work.

2. **STORMWATER INSPECTIONS AND CATCH BASIN CLEANING**

2.1 Description of Services

- 2.1.1 This specification defines the conditions and requirements for conducting routine and emergency stormwater drainage area inspections, routine and emergency

maintenance, and routine and emergency cleaning of catch basins on the service property. Environmental Subcontractor shall conduct inspections of stormwater drainage areas at facilities having NPDES MultiSector General Stormwater Discharge Permits, and furnish all labor, equipment, and materials necessary to clean out and dispose of excavated materials from catch basins at facilities described herein. Environmental Subcontractor shall conduct all work to fulfill, and comply with, all applicable local, state, and federal regulations, policies, ordinances, or guidelines applicable to this work.

- 2.1.2 Table ES1-1 (Parts A & B) summarizes the facilities where the work is to be performed and information on catch basins at each facility, as provided by the MBTA. Part A lists Commuter Rail Maintenance and Layover Facilities (Facility) and Part B lists Commuter Rail Stations (Station) where work is to be performed. The MBTA has determined that the average catch basin size is 30” in diameter with no catch basin larger than 36”, with an average basin volume of 500 gallons. There are currently 742 catch basins at 88 locations.

Table ES1-1 Facility/Station and Catch Basin Information

Facility/Station Location	Expected Number Of Catch Basins	Stormwater Discharges Permitted Under NPDES Multi-Sector General Stormwater Permit
PART A: COMMUTER RAIL MAINTENANCE AND LAYOVER FACILITIES		
Boston Engine Terminal (BET) 70 Rear Third Avenue Somerville, MA	23	YES
Bradford Layover Railroad Avenue Haverhill, MA	3	YES
Cambridge Rail Parking Lots	Unknown	
Charlestown Maintenance of Way Roland Street Charlestown, MA	1	
East Junction Layover Oak Hill Avenue Attleboro, MA	1	Closed-moved to Pawtucket
Franklin Layover Depot Street Franklin, MA	1	
Greenbush Layover	8	
Ipswich Layover Haywood Street Ipswich, MA	1	
Kingston Layover Marion & Gallen Streets Kingston, MA	14	SWPP BMP
Lowell Layover Thorndike Street Lowell, MA	1	
Middleborough Layover West Clark Street Middleborough, MA	13	SWPP BMP
Needham Layover West Street Needham, MA	3	YES
Newburyport Layover	8	YES
North Station	3	YES
Pawtucket Layover	28	
Readville Coach Maintenance 41R Wolcott Court Hyde Park, MA	7	
Readville Track & Engineering 1664 Hyde Park Avenue Hyde Park, MA	7	
Rockport Layover Poole's Lane Rockport, MA	5	
Salem Layover Salem, MA	0	
Somerville Maintenance of Way 132 Washington Street Somerville, MA	1	
West Cambridge Facility	0	
Widett Circle 110 Widett Circle South Boston, MA	3	YES

Facility/Station Location	Expected Number Of Catch Basins	Stormwater Discharges Permitted Under NPDES Multi-Sector General Stormwater Permit
Worcester Layover	8	

Commuter Rail Station by Line	Expected Number of Catch Basins (in parking areas and on platforms)
PART B: COMMUTER RAIL STATIONS	
New Hampshire Mainline:	
North Billerica	4
Winchester	2
Wedgemere	7
West Medford	1
Anderson Transportation Center	30
Fitchburg Mainline:	
Fitchburg	9
Ayer	2
South Acton	8
West Concord	10
Lincoln	1
Brandeis	4
Waltham	7
Franklin Line:	
Norwood Depot	11
Dedham Corporation	3
Norwood Central	16
Walpole	1
Norfolk	22
Franklin Dean	6
Forge Park	33
Stoughton Line:	
Stoughton	7
Canton Junction	18
Canton Center	4
West Route Main Line:	
Haverhill	7
Bradford	5
Lawrence	1
Ballardvale	3
Reading	1
East Route Maine Line – Gloucester:	
Hamilton/Wenham	Subterranean detention system, 1
Montserrat	1
Gloucester	1

Commuter Rail Station by Line	Expected Number of Catch Basins (in parking areas and on platforms)
Rockport	5
Ipswich	1
Salem	11
Swampscott	1
Lynn	5
Needham Line:	
Needham Heights	6
Needham Center	4
Needham Junction	4
Hersey	5
Highland	4
Bellevue	2
Roslindale Village	6
Fairmount Line:	
Fairmount	1
Readville	37
Worcester Line:	
West Natick	11
Framingham	3
Grafton	5
Westborough	5
Southborough	5
Ashland	5
Plymouth/Kingston:	
South Weymouth	18
Abington	19
Whitman	4
Hanson	11
Halifax	10
Plymouth	5
Kingston	32
Middleboro Line:	
Randolph/Holbrook	9
Montello	11
Brockton	2
Campello	6
Bridgewater	3
Middleboro/Lakeville	19 (including subterranean detention system)

Commuter Rail Station by Line	Expected Number of Catch Basins (in parking areas and on platforms)
Greenbush Line:	
Weymouth Landing	9
E. Weymouth	6
W. Hingham	6
Nantasket Jct	7
Cohasset	6
N. Scituate	6
Greenbush	63

2.1.3 Summary of Work

2.1.3.1 Quarterly Drainage Area Inspections

For the eight facilities listed in Table ES1-1 that have stormwater discharges permitted under the NPDES Multi-Sector General Stormwater Discharge Permit (MSGP), Environmental Subcontractor shall conduct quarterly stormwater drainage area inspections of the affected catch basins, associated drainage structures, and drainage areas in accordance with the requirements of the MSGP. The work must include inspections of oil/water separators, where present, that are associated with stormwater drainage. The scope of work for the oil/water separator inspections is included under a separate specification. Environmental Subcontractor shall develop drainage area inspection forms for conducting the quarterly inspections. The inspection forms are subject to the approval of the MBTA. Environmental Subcontractor shall complete the inspection forms for each drainage area inspection conducted and provide the completed form to the MBTA's designated contact (ODRL 3.8-019).

2.1.3.2 Annual Cleaning of Oil-Contaminated Media from Catch Basins

Catch basins expected to contain oil-contaminated media are considered to be catch basins that are located in areas that receive drainage from diesel locomotive parking and/or staging areas at Commuter Rail Maintenance and Layover Facilities. These catch basins shall be equipped with oil absorbent basin guards or other oil absorbent material. The status of oil absorbent materials within catch basins shall be monitored during monthly inspections

- (a) Environmental Subcontractor shall conduct annual cleaning of catch basins to remove oil-contaminated media (water, oil, sludge,

sediment, sand). The contaminated media shall be managed in accordance with hazardous waste management practices under 310 CMR 30.0000, Massachusetts Hazardous Waste Management regulations. For facilities where inspections are required in accordance with the NPDES MSGP, more frequent catch basin cleaning may be required based on the frequency of emergencies and spills caused by Environmental Subcontractor, and storm events. Environmental Subcontractor is responsible for any additional inspections and management of wastes generated during more frequent inspections and cleaning of both non-MSGP and MSGP catch basins resulting directly from Operators operations or storm events.

- (b) Catch basin cleaning shall consist of removing in its entirety all water, oil, sludge, sediment, and other material contained in the catch basin. Materials removed from the catch basins contaminated with oil may be considered hazardous waste. Environmental Subcontractor shall provide analytical testing, manifesting, and reporting services as required by applicable regulations. Environmental Subcontractor is responsible for proper and legal handling and offsite recycling or disposal of materials removed from the catch basins. Environmental Subcontractor must handle, transport, and dispose of materials in accordance with all applicable local, state, and federal regulations, policies, ordinances, or guidelines applicable to the work.

2.1.3.3 Annual Cleaning of Non-Oil-Contaminated Media from Catch Basin

- (a) Environmental Subcontractor shall conduct annual cleaning of catch basins that are not contaminated with oil. Such catch basins are expected to be located in parking areas and on platforms at Commuter Rail Stations and at Commuter Rail Maintenance and Layover Facility employee and commuter parking areas.
- (b) Cleaning of non-oil-contaminated media from catch basins shall consist of removing in its entirety and proper off-site recycling or disposal of material contained in the catch basin. It is expected that materials removed from non-oil-contaminated catch basins will not be classified as a hazardous waste. However, Environmental Subcontractor is responsible for proper and legal handling and offsite recycling or disposal of materials removed from the catch basins and must provide appropriate analytical testing, manifesting, and reporting services, if necessary, as required by applicable regulations. Environmental Subcontractor shall handle, transport, and dispose of materials in accordance with all applicable local,

state, and federal regulations, policies, ordinances, or guidelines applicable to the work.

2.1.3.4 Oil or Hazardous Material Releases Caused by Operator or Environmental Subcontractor

For releases of oil or other hazardous materials caused by Operator or Environmental Subcontractor that exceed an applicable reportable quantity established by the Massachusetts Contingency Plan (MCP), the Operator or Environmental Subcontractor shall notify the MassDEP and MBTA within two-hours of the release. The reportable quantity for oil is 10 gallons. The Operator or Environmental Subcontractor shall be identified as the Responsible Party (operator) during any MassDEP notification. The Operator or Environmental Subcontractor shall implement response actions as necessary to contain and cleanup the release at no additional costs to the MBTA. The Operator or Environmental Subcontractor shall retain a Licensed Site Professional (LSP) as necessary to prepare any required MassDEP submittals related to response actions associated with the release caused by Operator or Environmental Subcontractor.

2.1.3.5 Monthly Environmental Status Report

The MBTA Environmental Director shall receive a monthly status report of all open environmental sites on MBTA property or caused by MBTA equipment (each, an "**Open Environmental Site Report**") (ODRL 3.8-045). The Open Environmental Site Report shall detail all federal, state, and/or local issues of any kind that are ongoing or recently closed.

2.1.4 Status of Facilities

2.1.4.1 The Operator acknowledges and agrees that the Operator shall be responsible for the maintenance, repair and operation of the catch basin systems, as in effect on the Agreement Services Commencement Date, in accordance with the provisions of Section 4 (Onsite Subsurface Disposal System Servicing) of this **Schedule 3.8** (Environmental Services) and the costs of all such services are included in the Annual Fee.

2.2 Execution of Work

2.2.1 Stormwater Drainage Area Inspections

2.2.1.1 Environmental Subcontractor shall perform inspections of all facility drainage areas in accordance with the provisions of the

EPA's NPDES Multi-Sector General Stormwater Discharge Permit. Environmental Subcontractor shall prepare and submit to the MBTA an inspection report for each inspection, routine service, maintenance calls, and emergency service and maintenance, on a form to be developed by Environmental Subcontractor and approved by the MBTA (ODRL 3.8-023). The form shall be prepared to include all inspection items required for this work, in accordance with applicable local, state, and federal regulations and permit conditions. Environmental Subcontractor shall conduct inspections of catch basins and drainage areas at the time of catch basin cleanings.

- 2.2.1.2 Environmental Subcontractor shall notify the MBTA's designated contact immediately to report any malfunctions of the MBTA's drainage systems, noncompliance with a permit condition, identification of conditions requiring non-scheduled cleaning, evidence of a spill or contamination caused by the Operator, Environmental Subcontractor or by others, or indications of defective system components. The Operator in association with Environmental Subcontractor is responsible for all repairs and response actions associated with spills or emergencies caused by the Operator or Environmental Subcontractor.
- 2.2.1.3 The Operator or Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs to the catch basins and associated drainage systems as necessary based on results of the inspection. If a catch basin and/or its associated drainage appurtenances are found to require major repairs or replacement, the MBTA must be notified immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by the Operator or Environmental Subcontractor.
- 2.2.1.4 Environmental Subcontractor shall collect, characterize, and remove from the facility all waste materials generated during this work in accordance with applicable local, state and federal regulations.
- 2.2.1.5 Environmental Subcontractor shall inspect the catch basins and drainage areas on a quarterly basis, or more frequently where and when conditions warrant. Environmental Subcontractor shall supply a schedule to the MBTA specifying when Systems will be inspected. This schedule will be subject to MBTA approval, and once approved, cannot be changed without the written approval from the MBTA.

2.2.2 Catch Basin Cleaning

2.2.2.1 Environmental Subcontractor is responsible for any snow removal required to access the catch basin to be inspected or cleaned. Cleaning of oil-contaminated catch basins requiring hazardous waste management practices under 310 CMR 30.0000 shall consist of entirely removing all water, oil, sludge, sediment, stones, and other matter contained in the catch basin. Cleaning may be performed by pump, handwork, and/or jetting as necessary to fully clean the catch basin. Dissimilar materials shall be segregated to the extent possible during cleaning. Prior to the cleaning of any oil-contaminated catch basin, Environmental Subcontractor shall provide a minimum of three working days notice to the MBTA to allow a joint inspection of the catch basin to confirm that the MBTA agrees that hazardous waste management practices are required.

2.2.2.2 Catch basins may be cleaned by using a clamshell apparatus where water is allowed to drain back to the catch basin only where petroleum and/or other hazardous materials are not present in the catch basin. Environmental Subcontractor shall ensure that all materials contained in the catch basins are removed for proper off-site recycling or disposal. Environmental Subcontractor is responsible for evaluating the proper and legal disposal of the materials removed from the catch basins during cleaning, including the collection and analysis of samples as necessary to meet the requirements of the receiving facility.

2.2.3 Licenses and Permits

2.2.3.1 It shall be Environmental Subcontractor's responsibility to obtain all necessary permits, licenses, and/or certifications from federal, state, and/or local regulatory agencies required for the management, transportation, and disposal of hazardous and/or non-hazardous wastes generated during this work.

2.2.3.2 Environmental Subcontractor shall prepare all applications and obtain all licenses, permits and registrations required by local, state, and federal agencies for work to be performed for the catch basins included under this specification. Environmental Subcontractor must ensure that catch basins are maintained in compliance with the NPDES MSGP permit conditions including inspection, monitoring, and reporting requirements.

3. OIL/WATER SEPARATOR SYSTEM SERVICING

3.1 Description of Services

- 3.1.1 This specification defines the conditions and requirements for the operation and maintenance of oil/water separators and separator systems located throughout the Service Property. Environmental Subcontractor shall furnish all labor, materials, and equipment necessary to operate, maintain, repair, inspect, skim, pump, and clean oil/water separators and separator systems. Oil/water separator systems shall include all drip pans, piping and other systems associated with the oil/water separator.
- 3.1.2 For the purposes of this specification, inspections shall consist of visual observation of oil/water separator system components and associated equipment, and recording of observed conditions on approved inspection forms, in accordance with manufacturer specifications, good engineering practice, and applicable local, state, and federal regulations. Inspections shall include maintenance of system equipment and components including adsorbent booms, cleaning, adjustment, and calibration of system components and associated equipment. Environmental Subcontractor is responsible for all snow removal to access the oil/water systems.
- 3.1.3 For the purposes of this specification, skimming shall include pumping of the floating oil contained within the separators and system chambers, and pumping of all oil contained in associated waste oil holding tanks. Cleaning shall consist of entirely removing by pump and handwork, and by jetting as necessary, all water, oil, sludge, sediments, and other matter contained in separators, chambers, holding tanks, and connecting piping.
- 3.1.4 The Operator shall conduct minor repairs to oil/water separator system components including, but not limited to, jetting/snaking of clogged or damaged building sewers and component piping, repair or replacement of drip pans, replacement of separator and chamber covers; removal and replacement of adsorbent booms as necessary in oil/water separators and at outfalls; and replacement of pumps, and level float switches and sensors. Major repairs include replacement of oil/water separators, chambers, level control panels, sewers, and underground piping.
- 3.1.5 Environmental Subcontractor shall properly handle and dispose of water, oil and material residuals generated in performing services. Environmental Subcontractor shall handle, transport, and dispose of residuals in accordance with EPA and MassDEP rules and regulations and provide analytical testing, manifesting, and reporting services.
- 3.1.6 Environmental Subcontractor shall perform work at nineteen locations. Some locations have more than one oil/water separator/system. Table ES2-1

summarizes the available data on most of the separators and associated systems on the Service Property

Table ES2-1 Oil/Water Separator System Information

NUMBER AND SIZE OF SEPARATORS	FACILITY LOCATION	PERMIT
3 Oil/Water Separator Systems 1 @ 30,000 gallons– Oil Capacity: 3,000 gallons 1 @ 12,000 gallons Anticipated Oil Capacity 1,200 gallons 1 @ 8,000 gallons–Anticipated Oil Capacity 1,000 gallons The oil chambers of these separators are connected via pumps and underground piping to waste oil holding tanks	Boston Engine Terminal (BET) 70 Rear Third Avenue Somerville, MA	Multi-Sector General Stormwater Permit
1 Oil/Water Separator Anticipated Size: 3,000 gallons; Anticipated Oil Capacity 1,500 gallons	Franklin Layover Depot Street Franklin, MA	Multi-Sector General Stormwater Permit No. MARD05D158
2 Oil/Water Separators Anticipated Size: 3,000 gallons each; Anticipated Oil Capacity 1,500 gallons each	Greenbush	Multi-Sector General Stormwater Permit
2 Oil/Water Separators Anticipated Size: 3,000 gallons each Anticipated Oil Capacity 1,500 gallons each	Kingston Layover Marion & Gallen Streets Kingston, MA	Multi-Sector General Stormwater Permit
2 Oil/Water Separators Anticipated Size: 3,000 gallons each Anticipated Oil Capacity 1,500 gallons each	Middleborough Layover West Clark Street Middleborough, MA	Multi-Sector General Stormwater Permit
1 Oil/Water Separator Anticipated Size: 3,000 gallons; Anticipated Oil Capacity 1,500 gallons	Newburyport Layover	Multi-Sector General Stormwater Permit No. MAR05D153
1 Oil/Water Separator Anticipated Size: 19,750 gallons; Anticipated Oil Capacity 3,000 gallons	North Station	NPDES Permit No. MA0028941
1 Oil/Water Separator Anticipated Size: 3,000 gallons; Anticipated Oil Capacity 1,500 gallons	Pawtucket Layover	Multi-Sector General Stormwater Permit
1 Oil/Water Separation System Cambridge Chambers – 2 @ 8' x 18' x 20' (43,000 gallons) Anticipated Oil Capacity – 3,000 gallons Rope Skimmer Chamber – 12'x10'x12' (11,000 gallons) The rope skimmer transfers oil to a waste oil holding tank	Prison Point Bridge at BET	NPDES Permit No. MA0003590

NUMBER AND SIZE OF SEPARATORS	FACILITY LOCATION	PERMIT
Anticipated Holding Tank Capacity : 500 gallons		
1 Oil/Water Separator Size: 2,000 gallons; Oil Capacity 1,000 gallons	Readville Coach Maintenance 41R Wolcott Court Hyde Park, MA	City Sewer Connection Permit
1 Oil/Water Separator Anticipated Size: 3,000 gallons; Anticipated Oil Capacity 1,500 gallons	Rockport Layover Poole's Lane Rockport, MA	Multi-Sector General Stormwater Permit No. MAR05D151
2 Oil/Water Separators Anticipated Size: 3,000 gallons each; Anticipated Oil Capacity 1,500 gallons each	Salem Salem, MA	No Current Permit
1 Oil/Water Separator Size: 2,000 gallons; Oil Capacity 1,000 gallons	West Cambridge Maintenance Facility 86 Cambridge Park Drive Cambridge, MA	City Sewer Connection Permit
1 Oil/Water Separator Size: 4,900 gallons; Anticipated Oil Capacity 2,500 gallons	Widett Circle 110 Widett Circle South Boston, MA	Multi-Sector General Stormwater Permit No. MAR05D150
1 Oil/Water Separator Size: 3,000 gallons; Oil Capacity 1,500 gallons	Worcester Layover	City Sewer Connection Permit

NOTE: Where the MBTA could not provide actual sizes, anticipated sizes were provided.

3.1.7 Status of Facilities

3.1.7.1 The Operator acknowledges and agrees that the Operator shall be responsible for the maintenance, repair and operation of the oil/water separator systems, as in effect on the Agreement Services Commencement Date, in accordance with the provisions of Section 4 (Onsite Subsurface Disposal System Servicing) of this **Schedule 3.8** (Environmental Services) and the costs of all such services are included in the Annual Fee.

3.1.8 Summary of Work

For all the facilities and oil/water separators identified in this specification, Environmental Subcontractor shall perform the following tasks:

3.1.8.1 Individual Operation and Maintenance Plans (O&M) shall be prepared (ODRL 3.8-021). Included with each O&M Plan, Environmental Subcontractor shall develop an Inspection Plan with inspection forms and provide an assessment of existing conditions and a staffing plan. The O&M Plans are subject to the approval of the MBTA.

- 3.1.8.2 Environmental Subcontractor shall conduct, at a minimum, monthly inspections of all identified separators and associated equipment and appurtenances. Additional inspections shall be performed following significant storm events. Environmental Subcontractor shall complete the approved inspection forms for each facility and submit the completed form to the MBTA's designated contact monthly (ODRL 3.8-022). All inspections forms shall also be maintained in the Operators files.
- 3.1.8.3 If, based on an inspection, skimming, cleaning, or adsorbent boom replacement is required, Environmental Subcontractor shall conduct skimming, cleaning, or replacement as needed. After each significant storm event, Environmental Subcontractor shall inspect all absorbent booms and make replacements where required. Environmental Subcontractor shall conduct minor repairs and emergency services on the oil/water separator systems as needed.

Specific details for each individual facility are summarized below.

3.1.8.4 Boston Engine Terminal (BET)

- (a) The oil/water separators at the BET receive drainage from drip pans located in the rail yards designed to collect drippings from the diesel locomotives. Waste oil collected by the separators is pumped to a waste oil holding tank, one tank for each separator. Environmental Subcontractor shall develop an Operations and Maintenance (O&M) Plan for each of the three oil/water separator systems. The O&M Plan shall include an assessment of existing conditions and a staffing plan for executing the work subject to the review and approval of the MBTA.
- (b) Environmental Subcontractor shall conduct a complete cleaning and inspection of the drip pans, oil/water separators systems and waste oil holding tanks if required based on the results of an inspection.

3.1.8.5 Prison Point Bridge

- (a) The oil/water separator system at the Prison Point Bridge receives drainage from the BET and from the local storm drainage system. Environmental Subcontractor shall follow the current O&M Plan for the overall separator system including the Rope Skimmer and Chamber and the Cambridge Chambers. During significant storm events the oil/water separator system shall be monitored, which includes the manual operation of pumps and pump systems, to ensure continued proper operation.

- (b) Environmental Subcontractor shall provide all monitoring, testing, and reporting required under the Facility's NPDES Discharge Permit Number MA0003590.
- (c) Environmental Subcontractor shall skim the floating oil from the Cambridge Chambers and pump the oil from the skimmer waste oil holding tank whenever required based on an inspection. Environmental Subcontractor shall conduct a full cleaning of the complete oil/water separator system if required based on the results of an inspection.

3.1.8.6 Franklin Layover and Rockport Layover

Environmental Subcontractor shall inspect the oil/water separators located at these facilities, at a minimum, once a month to ensure that the separators are operating satisfactorily. Environmental Subcontractor shall provide all monitoring, testing, and reporting required under the Facility's Multi-Sector General Stormwater Permit Numbers MAR05D158 and MAR151, respectively.

3.1.8.7 North Station

Environmental Subcontractor shall inspect the separator located at North Station, at a minimum, once a month to ensure that the separator is operating satisfactorily. Environmental Subcontractor shall provide all monitoring, testing, and reporting required under the Facility's NPDES Discharge Permit Number MA0028941.

3.1.8.8 Kingston Layover, Middleborough Layover, Newburyport Layover, Readville Coach Facility, Salem Layover, West Cambridge Facility, Widett Circle Facility, and Worcester Layover

Environmental Subcontractor shall inspect the separators located at these facilities, at a minimum, once a month to ensure that the separators are operating satisfactorily.

3.2 Execution of Work

3.2.1 Inspections and Routine Service and Maintenance

3.2.1.1 General

- (a) Environmental Subcontractor shall perform inspections of the MBTA's oil/water separator systems. Environmental Subcontractor is responsible for all snow removal to access the systems to perform the inspections. Subcontractor must prepare and submit to the MBTA an inspection report for each inspection and routine service

and maintenance call on a form to be developed by Environmental Subcontractor and approved by the MBTA. Environmental Subcontractor shall conduct inspections and routine service and maintenance of each oil/water separator on the Service Property. Inventories of existing oil/water separators include a total of nineteen: three at the Boston Engine Terminal, two at Greenbush, one at North Station, one at Prison Point Bridge, two at Salem, one at Widett Circle and a total of ten at the layover and maintenance facilities located throughout the system.

- (b) Environmental Subcontractor shall notify the MBTA's designated contact immediately to report any malfunctions of the oil/water separator systems, noncompliance with a permit condition, identification of conditions requiring non-scheduled pumping or cleaning, evidence of leakage or subsurface contamination, or other signs of defective system components.
- (c) Operator or Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs to the oil/water separator systems as necessary based on results of the inspection. If an oil/water separator system is found to require major repairs or replacement, the MBTA must be notified immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by the Operator or Environmental Subcontractor.
- (d) Environmental Subcontractor shall collect, sample for analytical analysis as required by the receiving facility, characterize, and remove from the facility all waste materials generated during this work in accordance with applicable local, state and federal regulations.

3.2.1.2 Inspection Forms

- (a) Environmental Subcontractor shall prepare inspection forms designed to conduct monthly and full cleaning inspections of the MBTA's oil/water separator systems. The forms shall be prepared to include all inspection items required for this work, in accordance with applicable local, state, and federal regulations. The Forms shall be subject to the approval of the MBTA (ODRL 3.8-022).

3.2.1.3 Inspections

- (a) Environmental Subcontractor shall at a minimum conduct monthly inspections of the separators and associated equipment and appurtenances including but not limited to the controls, level

sensors, leak detection systems, adsorbent booms, alarms, skimmers, pumps and piping. Inspections shall include cleaning, adjustment, calibration, and minor repairs to the controls, sensors, alarms, pumps and piping associated with the separators. Environmental Subcontractor shall inspect and monitor the Prison Point oil/water separator system during significant storm events. Inspection and monitoring includes the manual operation of pumps and pump systems, to ensure continued proper operation. Environmental Subcontractor shall make inspections of all oil/water separator system, including inspection and replacement of damaged absorbent booms, after every significant storm event. Cleaning, adjustment, and calibration shall be conducted in accordance with the equipment manufacturer's specifications and good engineering practice. The inspections shall include the measurement of floating oil and collected sludge and sediments inside separators, adsorbent booms, chambers, and waste oil holding tanks. Environmental Subcontractor shall report observed malfunctions to the MBTA's designated contact immediately. Environmental Subcontractor shall complete an approved inspection form and submit the completed form to the MBTA's designated contact monthly (ODRL 3.8-022).

- (b) Environmental Subcontractor must supply a detailed schedule to the MBTA specifying when Systems will be inspected (ODRL 3.8-022). This schedule will be subject to MBTA approval, and once approved, cannot be changed without the consent of the MBTA.
- (c) If, based on an inspection, skimming and/or cleaning of an oil/water separator system component or replacement of an adsorbent boom is required, Environmental Subcontractor shall conduct pumping, cleaning or replacement as needed. In determining the need to conduct skimming/cleaning/boom replacement, Environmental Subcontractor shall use good engineering practice and follow manufacturer recommendations when evaluating the results of oil, sludge, and sediment measurements made during inspections.

3.2.1.4 Skimming

- (a) Skimming shall include pumping of the floating oil contained within the separators, system chambers, and pumping all oil from associated waste oil holding tanks. Pumping shall be to an appropriate vehicle or container for proper transport and offsite disposal. Skimming/pumping shall be conducted on a quarterly basis unless the MBTA requests a change in service frequency or servicing is required based on an inspection.

3.2.1.5 Cleaning

- (a) Cleaning shall consist of entirely removing by pump and handwork, and by jetting as necessary, all water, oil, sludge, sediment, mud and other matter contained in separators, associated systems, and connecting piping. Cleaning includes the jetting of pipes, mechanical augering, or other means necessary to free a potential clog condition. Cleaning includes pumping the contents of separators, chambers, holding tank and appurtenances to an appropriate vehicle or container for proper transport and offsite disposal. Cleaning of each oil/water separator shall be conducted at a minimum once per calendar year, or more frequently if inspection warrants or, upon the request of the MBTA. Adsorbent booms located in the systems shall also be replaced as necessary. Upon completion of cleaning, Environmental Subcontractor shall add clean tap water to the separator chambers to raise water to operating levels of the baffle/water seal. For the purposes of adding clean water to separator systems, Environmental Subcontractor may use MBTA water sources where available.
- (b) Cleaning shall also include a visual inspection of the inside of the separators, chambers and/or holding tanks to verify the structural integrity of the separators, tanks, and systems. This cleaning inspection shall be recorded on an approved inspection form and submitted to the MBTA's designated contact. Structural issues requiring immediate or future repair shall be photographed and documented by Environmental Subcontractor and reported immediately to the MBTA's designated contact.

3.2.1.6 Boom Replacement

- (a) Environmental Subcontractor shall inspect and replace, when necessary, absorbent booms at all oil/water separator systems and outfalls after each significant storm event.

3.2.1.7 NPDES Permit Monitoring

- (a) Environmental Subcontractor shall provide the following NPDES Permit-related services.
- (b) Prison Point Bridge:
 - (i) Environmental Subcontractor shall provide all monitoring, testing, and reporting required under the Facility's NPDES Discharge Permit Number MA0003590. This permit requires that an estimate of flow, water samples of the discharge, measurement of temperature and pH, and observation of floating solids and foam is performed

monthly. The grab samples are to be analyzed for parameters outlined in the NPDES permit at a MassDEP certified laboratory. Reporting includes completion of quarterly Discharge Monitoring Reports (DMRs). Environmental Subcontractor shall complete all permit-required monitoring, testing, and reports and submit reports to the MBTA's designated contact in a timely manner such that the MBTA can submit the reports to the EPA and MassDEP by the dates listed in the permit (ODRL 3.8-023).

- (ii) Environmental Subcontractor shall collect and record all information required by the permit and provide this information to the MBTA for inclusions with the DMRs (ODRL 3.8-023). In the event that monitoring results indicate noncompliance with the permit, Environmental Subcontractor shall immediately notify the MBTA and provide a description of the cause of the noncompliance and other information required by the permit (ODRL 3.8-023).
- (iii) In addition to the NPDES requirements at Prison Point, Environmental Subcontractor shall manually operate transfer pumps located within the oil/water system. The manual operation of the pumps is required during significant storm events. Environmental Subcontractor's staffing plan shall also include provisions for providing staff on an on-call emergency basis to operate the pumps during significant storm events.

(c) North Station:

- (i) Environmental Subcontractor shall provide all monitoring, testing, and reporting required under the Facility's NPDES Discharge Permit Number MA0028941. The North Station permit requires an estimate of flow, water samples of the discharge, measurement of temperature and pH, and observation of floating solids and foam to be performed monthly. Grab samples are to be analyzed for parameters outlined in the NPDES permit. Reporting includes completion of quarterly Discharge Monitoring Reports (DMRs). Environmental Subcontractor shall complete all permit-required monitoring, testing, and reports and submit reports to the MBTA's designated contact in a timely manner such that the MBTA can submit the reports to the EPA and MassDEP by the dates listed in the permit (ODRL 3.8-023).

- (ii) Environmental Subcontractor shall collect and record all information required by the permit and provide this information to the MBTA for inclusions with the DMRs. In the event that monitoring results indicate noncompliance with the permit, Environmental Subcontractor shall immediately notify the MBTA and provide a description of the cause of the noncompliance and other information required by the permit. Environmental Subcontractor shall provide any additional testing, reporting or coordination associated with the North Station oil/water separator system that may be required for MBTA or other Massachusetts government agencies projects.

3.2.2 Operation and Maintenance Plans

Environmental Subcontractor shall review the current Operations & Maintenance Plan that includes an Operations & Maintenance Manual, Staffing Plan (O&M Manual) and Inspection Plan per these specifications for the MBTA's oil/water separator systems located at the BET and Prison Point Bridge. The O& M Manual shall be updated to include an assessment of existing conditions and a staffing plan for executing the work, subject to the review and approval of the MBTA.

3.2.2.1 Operation and Maintenance Manual

- (a) Environmental Subcontractor shall review the current Operation and Maintenance (O&M) Manual based on the requirements of Massachusetts regulations (314 CMR 12) that specifies the standard operating procedures (SOPs) for each unit operation and provides a schedule for preventive maintenance (PM) for each unit operation and its appurtenances and associated equipment. SOPs and PM must be conducted in accordance with equipment manufacturer specifications. The O&M Manual must include, at a minimum, the following:
 - (i) Facility Overview
 - (ii) Facility and Emergency Contacts
 - (iii) System Operator Qualifications, Licensing, and Training Requirements
 - (iv) Instrumentation and Alarms
 - (v) Support Systems (Power, Plumbing)
 - (vi) Standard Operating Procedures

- (vii) Preventive Maintenance Schedule
- (viii) Sampling and Testing Requirements
- (ix) Waste Identification, Characterization, and Management Requirements
- (x) Record-keeping Requirements
- (xi) Safety Requirements
- (xii) Emergency Procedures and Contingency Plan
- (xiii) Facility Plans
- (xiv) Tools and Spare Parts Inventory and Parts Supplier Contacts
- (xv) References to Manufacturer Service Manuals

3.2.2.2 Staffing Plan

- (a) Environmental Subcontractor shall conduct an evaluation of the staffing for certain oil/water separator systems. The staffing requirements shall include provisions for on-call staffing 24 hours/day, 7 days /week, 52 weeks/year using certified, grade 3 industrial, wastewater treatment plant operators based on the Staffing Plan to be updated by Environmental Subcontractor and submitted for approval to MBTA.
- (b) For the BET and Prison Point Bridge oil/water separator systems, Environmental Subcontractor shall update the written Staffing Plan to provide on-call operators with current and valid certification at the Full Operator Status requirements for operating the MBTA's oil/water separator systems based on the requirements of 257 CMR 2.00 (ODRL 3.8-021). The Staffing Plan shall be written in accordance with Massachusetts regulations (314 CMR 12) and shall specify the number and qualifications of personnel necessary to ensure proper and continuous operation of the oil/water separator systems.

3.2.2.3 Existing Conditions Assessments and Inspection Plans

- (a) Environmental Subcontractor shall conduct an existing conditions assessment for the oil/water separator systems in place at the BET and Prison Point Bridge to document the type and condition of the separators, equipment, and appurtenances. Environmental Subcontractor shall review and update (if necessary) the current

Inspection Plan that specifies the inspection requirements for these systems. The inspection requirements shall be based on manufacturer recommendations and good engineering practice (ODRL 3.8-022).

- (b) Inspection Plans include inspection forms designed to conduct monthly and full cleaning inspections of the MBTA's oil/water separator systems. The forms shall include all inspection items required for this work, in accordance with applicable local, state, and federal regulations.
- (c) Environmental Subcontractor shall supply a copy of the updated O&M Plans complete with O&M Manuals, Staffing Plans and Inspection Plans to the MBTA for MBTA approval within 45 days of the beginning of the contract term (ODRL 3.8-020). The MBTA shall have the right to comment on the O&M Plans, and Environmental Subcontractor must address any and all deficiencies noted by the MBTA and provide final updated O&M Plans within 15 days of receipt of the MBTA's comments (ODRL 3.8-021). A copy of the final O&M Plans must be provided to the MBTA and a copy maintained by Environmental Subcontractor. Up-to-date copies of manufacturer service manuals must be maintained at the Facility. Requirements of the O&M Plans cannot be changed without the approval of the MBTA.

3.2.3 Minor Repairs

- 3.2.3.1 Operator or Environmental Subcontractor shall perform minor repairs on oil/water separator system components including, but are not limited to, jetting/snaking of clogged or damaged building sewers, and component piping, repair or replacement of drip pans, replacement of separator and chamber covers; removal and replacement of adsorbent booms in oil/water separators and at outfalls; and replacement of pumps, and level float switches and sensors.
- 3.2.3.2 If an oil/water separator system is found to require major repairs or replacement, the MBTA shall be contacted immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by the Operator or Environmental Subcontractor.

3.2.4 Spare Parts and Emergency Repairs and Services

3.2.4.1 Services

- (a) Environmental Subcontractor shall be responsible for the following services:
 - (i) The Operator shall respond immediately upon becoming aware of a malfunction or to requests by the MBTA for repairs of any nature.
 - (ii) The Operator shall complete repairs to oil/water separator systems, appurtenances, and associated equipment within a 24-hour period whenever possible.
 - (iii) The Operator shall maintain an up to date inventory of tools and parts for maintaining the oil/water separator systems.

3.2.4.2 Spare Parts List

- (a) Environmental Subcontractor shall develop and submit to the MBTA for approval within 45 days of the Notice to Proceed, a list of spare parts recommended by the oil/water separator systems and associated equipment manufacturers for each oil/water separator/system, appurtenance, and equipment component (ODRL 3.8-024). For each spare part,
 - (i) supplier name, address, telephone number
 - (ii) emergency telephone number
 - (iii) delivery time
 - (iv) unit price
- (b) Environmental Subcontractor shall provide the following information:
 - (i) supplier name, address, telephone number
 - (ii) emergency telephone number
 - (iii) delivery time
 - (iv) unit price
- (c) The Operator shall maintain and keep current, the spare parts list.

3.2.4.3 Spare Parts Inventory

- (a) Environmental Subcontractor shall develop and submit to the MBTA for approval within 45 days of the Notice to Proceed, a list of critical spare parts recommended by the oil/water separator system and associated equipment manufacturers for each oil/water separator system, appurtenance, and equipment component. Environmental Subcontractor shall maintain an inventory of all items listed on the MBTA-approved spare parts inventory list (ODRL 3.8-024).

3.2.4.4 Emergency Repairs

- (a) The Operator in coordination with Environmental Subcontractor must ensure that emergency repairs are completed within 30 days of malfunction discovery. Environmental Subcontractor is responsible for completing an application for an oil/water separator system Construction Permit, or obtain other applicable approvals/permits, if required, within 30 days of malfunction discovery. The Operator shall use new parts to make repairs and/or replacements to the MBTA's oil/water separator systems.

3.2.4.5 Emergency Services

- (a) Environmental Subcontractor shall respond within 24 hours to requests by the MBTA for emergency skimming/cleaning services. Environmental Subcontractor shall provide emergency skimming/cleaning services necessary to prevent backup. Environmental Subcontractor shall complete and submit skimming/cleaning reports to the MBTA's designated contact for each skimming/cleaning event.

3.2.5 Licenses and Permits

- (a) Environmental Subcontractor's shall obtain all necessary permits, licenses, and/or certifications from federal, state, and/or local regulatory agencies required for the management, transportation, and disposal of the various hazardous and/or non-hazardous wastes generated under these specifications.
- (b) Environmental Subcontractor shall research licensing, permitting, and registration requirements, prepare applications and obtain licenses, permits and registrations required by local, state, and federal agencies for the oil/water separators included under these specifications. Environmental Subcontractor must maintain separators in compliance with permit conditions including inspection, monitoring, and reporting requirements.
- (c) Environmental Subcontractor shall maintain compliance with discharge permits for the drainage systems included under these specifications including compliance with existing and future Multi-Sector General Stormwater Discharge Permits and permits for discharge to local sanitary districts. Environmental Subcontractor is responsible for conducting monitoring and testing of oil/water separator discharges when required by permit conditions and/or by local, state, or federal regulatory agencies.

4. **ONSITE SUBSURFACE DISPOSAL SYSTEM SERVICING**

4.1 Description of Services

- 4.1.1 These specifications define the conditions and requirements for the inspection; maintenance; minor repair; and pumping of onsite subsurface sewage disposal systems on the Service Property.
- 4.1.2 On-Site Subsurface Sewage Disposal Systems (disposal systems) include septic systems, tight tanks, and cesspools and their associated piping, equipment, and appurtenances.
- 4.1.3 Minor repairs to disposal systems include but are not limited to jetting/snaking of clogged or damaged building sewers, component piping, and distribution lines; replacement of covers and tees for septic tanks, distribution boxes, and cesspools; and replacement of pumps, level float switches, and sensors.
- 4.1.4 Major repairs include replacement of septic tanks, distribution boxes, control panels, sewers and distribution lines, and leaching trenches/fields.
- 4.1.5 For the purposes of this specification:
 - 4.1.5.1 Inspections shall consist of visual observation of disposal system components and associated equipment, and recording of observed conditions on approved inspection forms, in accordance with manufacturer specifications, good engineering practice, and applicable local, state, and federal regulations.
 - 4.1.5.2 Maintenance shall include cleaning, adjustment, and calibration of system components and associated equipment.
 - 4.1.5.3 Pumping shall include removing in its entirety all water, sludge, scum, solids, and other materials contained in the disposal systems and transport of these materials for proper and legal off-site disposal.
- 4.1.6 Environmental Subcontractor is responsible for proper and legal handling and offsite disposal of all septage and material residuals removed from the disposal systems. Environmental Subcontractor must handle, transport, and dispose of residuals in accordance with all applicable, local, state, and federal regulations, policies, ordinances, and guidelines, and provide maintenance and reporting services in accordance with these specifications.
- 4.1.7 Table ES3-1 summarizes site-specific data supplied by the MBTA for each Disposal System included in this specification.

Table ES3-1 Disposal System Information

FACILITY LOCATION	EXPECTED DISPOSAL SYSTEM CHARACTERISTICS
Boston Engine Terminal (BET) 70 Rear Third Avenue Somerville, MA	One 5,000-gallon Tight Tank
East Junction Layover Oak Hill Avenue Attleboro, MA	One 1,500-gallon Septic Tank; Pump Chamber; and Leach Field
Fitchburg Layover Summer Street Lunenburg, MA	One 900-gallon Septic Tank; 300-gallon Pump Chamber; Distribution Box; and Leach Field
Kingston Layover Marion & Gallen Streets Kingston, MA	One 1,500-gallon Septic Tank; Distribution Box, and Leach Field
Middleborough Layover West Clark Street Middleborough, MA	One 1,500-gallon Septic Tank; Distribution Box, and Leach Field
Wilmington Headquarters Rt. 129 Wilmington, MA	One 1,350-gallon Cesspool

4.1.8 Summary of Work

4.1.8.1 Boston Engine Terminal

- (a) Environmental Subcontractor shall perform inspections, maintenance, and pumping of the disposal system located at this facility on a monthly basis. Environmental Subcontractor shall also provide minor repairs identified during inspections and emergency repairs and pumping services requested by the MBTA.

4.1.8.2 East Junction Layover, Fitchburg Layover, Kingston Layover, Middleborough Layover

- (a) Environmental Subcontractor shall perform inspections, maintenance, and pumping of the disposal systems located at these four facilities on an annual basis. Environmental Subcontractor shall also provide minor repairs identified during inspections and emergency repairs and pumping services requested by the MBTA.

4.1.8.3 Wilmington Headquarters

- (a) Environmental Subcontractor shall perform inspections, maintenance, and pumping of the disposal system located at this

facility on a semi-annual basis. Environmental Subcontractor shall also provide minor repairs identified during inspections and emergency repairs and pumping services requested by the MBTA.

4.1.9 Status of Facilities

- 4.1.9.1 The Operator acknowledges and agrees that the Operator shall be responsible for the maintenance, repair and operation of the disposal systems, as in effect on the Agreement Services Commencement Date, in accordance with the provisions of Section 4 (Onsite Subsurface Disposal System Servicing) of this **Schedule 3.8** (Environmental Services) and the costs of all such services are included in the Annual Fee.

4.2 Execution of Work

4.2.1 Inspections and Routine Service and Maintenance

- 4.2.1.1 Environmental Subcontractor shall perform inspections of the disposal systems. Prior to and following pumping of the Disposal System, Environmental Subcontractor shall inspect the disposal system and ensure that it is structurally sound and that all associated equipment is functioning properly. Environmental Subcontractor shall provide appropriate maintenance to the disposal system components and associated equipment as required during the inspection. Environmental Subcontractor shall document the findings of the inspection, on a form prepared by Environmental Subcontractor and approved by the MBTA. The inspection form shall contain all information required under Title 5 of the Commonwealth of Massachusetts Environmental Code and any other applicable local, state, or federal regulations. Environmental Subcontractor shall submit the completed inspection form to the MBTA's designated contact upon completion of the inspection. Environmental Subcontractor shall notify the MBTA immediately to report any malfunctions or indications of system failure (ODRL 3.8-025).
- 4.2.1.2 Environmental Subcontractor shall notify the MBTA's designated contact immediately to report any malfunctions of the MBTA's disposal systems, noncompliance with a permit condition, identification of conditions requiring non-scheduled cleaning, evidence of a spill or contamination, or indications of defective system components.
- 4.2.1.3 Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs to the septic systems as

necessary based on results of the inspection. The MBTA shall be notified immediately, if a septic system or system component is found to require major repairs or replacement. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by the Operator or Environmental Subcontractor.

4.2.1.4 Environmental Subcontractor shall collect, characterize, and remove from the facility all waste materials generated during this work in accordance with applicable local, state and federal regulations.

4.2.1.5 Environmental Subcontractor shall perform this work on the frequency as described in Section 4.1.8 (Summary of Work) of this **Schedule 3.8** (Environmental Services). Environmental Subcontractor must supply a schedule to the MBTA specifying when disposal systems will be serviced. This schedule will be subject to MBTA approval, and once approved, cannot be changed without the consent of the MBTA (ODRL 3.8-025).

4.2.2 Minor Repairs

4.2.2.1 The Operator or Environmental Subcontractor shall perform minor repairs on septic system components including, but are not limited to, jetting/snaking of clogged or damaged building sewers, component piping, and distribution lines; replacement of septic tank, distribution box, and cesspool covers and tees; and replacement of pumps, and level float switches and sensors.

4.2.2.2 If the disposal system is found to require major repairs or replacement, the MBTA shall be contacted immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by the Operator or Environmental Subcontractor.

4.2.3 Disposal System Pumping

4.2.3.1 During pumping of disposal systems, Environmental Subcontractor shall remove in its entirety all water, sludge, scum, solids, and other materials contained in the disposal systems and transport these materials for off-site disposal at a facility approved to receive septage.

4.2.3.2 For each routine and emergency pumping service provided, Environmental Subcontractor shall complete a MassDEP-approved

system pumping form. Copies of completed pumping forms shall be provided to the MBTA's designated contact (ODRL 3.8-026).

4.2.4 Spare Parts and Emergency Repairs and Pumping Services

4.2.4.1 Environmental Subcontractor shall be responsible for the following services:

- (a) Respond immediately upon becoming aware of a malfunction or to requests by the MBTA for repairs of any nature.
- (b) Complete repairs to disposal systems, appurtenances, and associated equipment within a 24-hour period whenever possible.
- (c) Maintain an up to date inventory of tools and critical spare parts for maintaining the disposal systems.

4.2.4.2 Spare Parts List

(a) Environmental Subcontractor shall develop and submit to the MBTA for approval within 45 days of the Notice to Proceed, a list of spare parts recommended by the disposal system and associated equipment manufacturers for each disposal system, appurtenance, and equipment component (ODRL 3.8-027). For each spare part, Environmental Subcontractor shall provide the following information:

- (i) supplier name, address, telephone number
- (ii) emergency telephone number
- (iii) delivery time
- (iv) unit price

(b) Environmental Subcontractor shall maintain and keep current, the spare parts list.

4.2.4.3 Spare Parts Inventory

(a) Environmental Subcontractor shall develop and submit to the MBTA for approval within 45 days of the Notice to Proceed, a list of critical spare parts recommended by the disposal system and associated equipment manufacturers for each disposal system, appurtenance, and equipment component (ODRL 3.8-027). Environmental Subcontractor is responsible for maintaining in

inventory all items listed on the critical spare parts inventory list. This list shall include, but not be limited to the following items:

- (i) Septic tank, cesspool, and distribution box tees
- (ii) Septic tank, cesspool, and distribution box covers
- (iii) Level sensors and switches

4.2.4.4 Emergency Repairs

- (a) The Operator in coordination with Environmental Subcontractor shall ensure that emergency repairs are completed within 30 days (or sooner if necessary to address imminent hazard situations) of malfunction discovery. Environmental Subcontractor is responsible for completing an application for a Disposal System Construction Permit, local upgrade approval, an application for a variance, or obtain other applicable approvals/permits, if required, within 30 days of malfunction discovery. The Operator shall use new parts to make repairs and/or replacements to the MBTA's disposal system.

4.2.4.5 Emergency Pumping

- (a) Environmental Subcontractor shall respond within 24 hours to requests by the MBTA for emergency pumping services. Environmental Subcontractor shall provide emergency pumping services necessary to prevent backup or breakout. Environmental Subcontractor shall complete pumping reports on MassDEP-approved system pumping forms for each pumping event. Copies of the completed pumping forms shall be provided to the MBTA's designated contact.

4.2.5 Licenses and Permits

- 4.2.5.1 Environmental Subcontractor shall obtain all necessary permits, registrations, licenses, and/or certifications from federal, state, and/or local regulatory agencies required for inspecting and servicing disposal systems and pumping and transportation of septage to an approved disposal facility.
- 4.2.5.2 Environmental Subcontractor shall maintain up-to-date permits and registrations with the local Boards of Health for all localities through which Environmental Subcontractor will transport septage. Environmental Subcontractor shall maintain contractual agreements with the receiving facility/publicly owned treatment works (POTW) that will receive septage from Environmental Subcontractor.

4.2.6 Waste Containerization, Characterization, Transport and Disposal

- 4.2.6.1 Environmental Subcontractor shall transport septage and pumped materials in vehicles that meet all federal, state, and local regulations including markings, placards, and licenses. All equipment used to remove and transport septage must be MassDEP-approved for septage use, be maintained in good repair, and comply with the requirements of Title 5 of the State Administrative Code 310 CMR 15.505.
- 4.2.6.2 Environmental Subcontractor is responsible for all fees associated with the transport and disposal of septage including but not limited to fees from the local Board of Health and fees from the receiving facility/POTW.
- 4.2.6.3 Environmental Subcontractor shall ensure that septage is transported in a manner that does not create a nuisance or a health hazard.
- 4.2.6.4 Environmental Subcontractor shall ensure that septage collected under these specifications is transported to and disposed at a POTW that is properly equipped and approved by the MassDEP to receive the septage.
- 4.2.6.5 Environmental Subcontractor shall be responsible for collecting waste characterization samples as necessary to meet receiving facility requirements.

4.2.7 Training and Qualifications

- 4.2.7.1 Environmental Subcontractor shall provide at least one MassDEP Title 5 System Inspector to be onsite during disposal system inspection and servicing.
- 4.2.7.2 Environmental Subcontractor shall ensure that personnel who service the MBTA's septic systems and associated equipment and appurtenances are qualified to perform the services provided. Qualifications shall include demonstrated experience servicing sewer systems, lift stations, pumps and electrical systems.

5. TANK SYSTEM SERVICING

5.1 Description of Services

- 5.1.1 This specification defines the conditions and requirements for the inspection, routine service and maintenance/minor repairs, testing, and permitting and reporting of Tank Systems on the Service Property. Tank Systems include

Underground Storage Tank (UST) Systems and Vaulted Aboveground Storage Tank (AST) Systems with aboveground and below grade piping. All work shall be conducted to fulfill, and in accordance with, all applicable local, state, and federal regulations, policies, ordinances, or guidelines that are applicable to this work.

- 5.1.2 A Tank System is defined as the tank, associated piping, equipment, and appurtenances including overfill alarm systems. The UST Systems described herein include tanks and associated piping located below ground. The Vaulted AST systems described herein include vaulted tanks with aboveground and below grade piping.
- 5.1.3 Minor repairs to Tank Systems may include, but are not limited to, repair and/or replacement of piping and fittings, cathodic protection, cathodic protection motors, sensors and probes, flanges, reducers, inserts, test donuts, float switches, valves, fittings, tees, cable, electrical wire, manhole covers and accessories, tank sump accessories, and dispenser sump/pan accessories. The cost for repairs pursuant to this Section 5.1.3 of this **Schedule 3.8** (Environmental Services) shall be handled as if they constituted "Material Damage" pursuant to Section 7 (Repair of Damage to Commuter Rail Property) of **Schedule 4.1** (Obligations Concerning Commuter Rail Property). By way of clarification, and not limitation, the Operator shall be required to pay for the first \$25,000 of the cost of any repair work to Tank Systems (subject to the causality determination), and the MBTA shall be required to pay the balance of such cost (subject to Section 7.3 of **Schedule 4.1** (Obligations Concerning Commuter Rail Property)).
- 5.1.4 Major repairs to Tank Systems may include, but are not limited to, repair and/or replacement of a storage tank, leak detection system, corrosion protection system, stage II vapor recovery system, product pump, dispenser, control panels and consoles, overfill protection alarm system, tank sump, dispenser containment sumps and pans. The cost for repairs pursuant to this Section 5.1.4 of this **Schedule 3.8** (Environmental Services) shall be handled as if they constituted "Material Damage" pursuant to Section 7 (Repair of Damage to Commuter Rail Property) of **Schedule 4.1** (Obligations Concerning Commuter Rail Property). By way of clarification, and not limitation, the Operator shall be required to pay for the first \$25,000 of the cost of any repair work to Tank Systems (subject to the causality determination), and the MBTA shall be required to pay the balance of such cost (subject to Section 7.3 of **Schedule 4.1** (Obligations Concerning Commuter Rail Property)).
- 5.1.5 Environmental Subcontractor shall perform work at Tank Systems, located at five facilities. Table ES4-1 summarizes site specific data supplied by the MBTA and facility personnel for each Tank System included in this specification. Additional tanks on the Service Property include but are not limited to those listed in Table ES4-2. Environmental Subcontractor shall perform work at multiple above ground storage tanks located on the Service Property.

Table ES4-1 Tank System Information

Facility Location	Contents / Approximate Capacity (gallons)	Expected Tank Construction Material	Estimated Year of Installation	Stage II Vapor Recovery System	Leak Detection System on Tank and Piping	Corrosion Protection System on Tank and Piping
Boston Engine Terminal 70 Rear Third Avenue Somerville, MA	(5) Waste and Virgin Oil Vaulted ASTs/8000-gallon [w/ underground piping]	Steel	1996	NA	Tank – Unk Piping – Unk	Tank – Unk Piping – Unk
	(2) Diesel Fuel Vaulted ASTs/175,000-gallon [w/ underground piping]	Steel	1989	NA	Tank – Unk Piping – Unk	Tank – Unk Piping – Unk
	(2) 500 gallon and (1)- 2000 gallon waste oil ASTs for OWSs	Steel	1996	NA	Tank – Unk Piping – Unk	Tank – Unk Piping – Unk
	(5) 10,000 gallon waste oil AST Ground Water Remediation System	Steel	1996	NA	Tank – No Piping – No	Tank – No Piping – No
	500 gallon AST waste oil tank	Steel	1996	NA	Tank – No Piping – No	Tank – No Piping – No
	300 Gallon AST waste Coolant	Steel	1996	NA	Tank – No Piping – No	Tank – No Piping – No
	150 Gallon AST waste Anti-Freeze	Steel	1996	NA	Tank – No Piping – No	Tank – No Piping – No
	(2) 100 gallon Diesel Fuel ASTs	Steel	1996	NA	Tank – No Piping – No	Tank – No Piping – No
	285 gallon AST waste oil tank	Steel	2005	NA	Tank – No Piping – No	Tank – No Piping – No
Readville Track & Engineering 1664 Hyde Park Avenue Hyde Park, MA	Gasoline UST/2,500-gallon	DW Steel	1993	Yes	Veeder Root VR-350	Tank – STI-P3 Piping – Fiberglass; corrosion protection not required
	Gasoline UST/2,500-gallon	DW Steel	1993	Yes	Veeder Root	Veeder Root VR-350
	Diesel Fuel UST/5,000-gallon	DW Steel	1993	Yes	Veeder Root	Veeder Root VR-350
Widett Circle 110 Widett Circle South Boston, MA	Waste Oil UST/2,000-gallon	DW FRP	1991	NA	Tank – Yes Piping – No	Tank – NA Piping – Yes
	Lube Oil UST/3,000-gallon	DW Steel	1991	NA	Tank – Yes Piping – Yes	Tank – Yes Piping – Yes
	Diesel Fuel Emergency Generator AST 250	Steel	2003	NA	Tank – No Piping – No	Tank – NA Piping – NA

Facility Location	Contents / Approximate Capacity (gallons)	Expected Tank Construction Material	Estimated Year of Installation	Stage II Vapor Recovery System	Leak Detection System on Tank and Piping	Corrosion Protection System on Tank and Piping
	gallon					
	(2) Diesel Fuel Vaulted ASTs/250,000-gallon [w/ underground piping]	Steel	Unk	NA	Tank – Unk Piping – Unk	Tank – Unk Piping – Unk
	Waste Oil AST 200-gallon	Plastic	Unk	NA	Tank – No Piping – No	Tank – NA Piping – NA

DW Double-walled; FRP Fiberglass-Reinforced Plastic; NA Not Applicable to UST System; Unk Unknown

Table ES4-2 Additional Storage Tank Locations (not in Table ES4-1)

Location	Number of Above Ground Storage Tanks	Number of Under Ground Storage Tanks
Somerville (Mystic) Maintenance of Way Facilities	2 (+5 OS)	
Charlestown (“T Pad”) Maintenance of Way Facilities	4	
Fitchburg Layover Facility	1	
Lowell	1	
West Cambridge Work Equipment Repair Facility	2	
Readville Mechanical Facility	2	
Readville Engineering Facility	1	
Boston Engine Terminal - Somerville		3 OS
Widett Circle Facility		
Wilmington	1	

OS- Out of Service

5.1.6 Status of Facilities

5.1.6.1 The Operator acknowledges and agrees that the Operator shall be responsible for the maintenance, repair and operation of the tank systems, as in effect on the Agreement Services Commencement Date, in accordance with the provisions of Section 4 (Onsite Subsurface Disposal System Servicing) of this **Schedule 3.8** (Environmental Services) and the costs of all such services are included in the Annual Fee.

5.1.7 Summary of the Work

- 5.1.7.1 Work to be performed at each facility is described below. For purposes of preparing this specification, certain assumptions have been made as indicated below.
- 5.1.7.2 Boston Engine Terminal
- (a) Environmental Subcontractor shall perform inspections and routine service and maintenance of Vaulted AST Systems located at this facility, minor repairs as necessary, and provide emergency repair services as required by the MBTA. It is assumed for the purposes of this **Schedule 3.8** (Environmental Services) that there are leak detection and corrosion protection systems on each Tank System. It is also assumed that the corrosion protection system is a sacrificial anode cathodic protection system. Environmental Subcontractor shall perform testing of the leak detection and corrosion protection equipment on the three Tank Systems. All work must be done to fulfill, and in accordance with, all applicable local, state, and federal regulations.
- 5.1.7.3 Readville Track and Engineering
- (a) Environmental Subcontractor shall perform inspections and routine service and maintenance of three UST Systems located at this facility, minor repairs as necessary, and provide emergency repair services as required by the MBTA. It is assumed for the purposes of this specification that there are leak detection and corrosion protection systems on each Tank System and Stage II Vapor Recovery Systems on the two gasoline Tank Systems. It is also assumed that the corrosion protection system is a sacrificial anode cathodic protection system. Environmental Subcontractor shall perform testing of the leak detection and corrosion protection equipment on the three UST Systems and testing of the Stage II Vapor Recovery equipment on the two gasoline UST Systems. All work must be done to fulfill, and in accordance with, all applicable local, state, and federal regulations.
- 5.1.7.4 Widett Circle
- (a) Environmental Subcontractor shall perform inspections and routine service and maintenance of the AST and UST Systems located at this facility, minor repairs as necessary, and provide emergency repair services as required by the MBTA. It is assumed for the purposes of this **Schedule 3.8** (Environmental Services) that there are leak detection and corrosion protection systems on each Tank System. It is also assumed that the corrosion protection system is a sacrificial anode cathodic protection system. Environmental

Subcontractor shall perform testing of the leak detection and corrosion protection equipment on the UST Systems. All work must be done to fulfill, and in accordance with, all applicable local, state, and federal regulations.

5.2 Execution of Work

5.2.1 Inspections and Routine Service and Maintenance

5.2.1.1 Environmental Subcontractor's Class B or C operator shall inspect the Tank Systems in compliance with all Applicable Laws and, at a minimum, once per calendar month. Environmental Subcontractor shall prepare and submit to the MBTA, an inspection report for each inspection and routine service and maintenance call, on a form to be developed by the Environmental Subcontractor and approved by the MBTA (ODRL 3.8-028). The form shall include all inspection items required for this work, in accordance with applicable local, state, and federal regulations.

5.2.1.2 Typical items to be addressed for ASTs inspections shall include:

- (a) Is the Tank and piping in good condition and free of oil stains?
- (b) Is the concrete pad under and surrounding the tank and piping in good condition and free of oil stains?
- (c) Is the secondary containment free of oil?
- (d) Are all alarm systems working properly?
- (e) Are there spill containment supplies maintained in the area?
- (f) Typical items to be addressed for USTs shall include:
 - (i) Do all connecting pipes appear to be free from damage or leakage?
 - (ii) Are all flange joints, expansion joints, fittings, and pipeline supports undamaged and leak free?
 - (iii) Do the sump/manway and spill buckets appear to be free from water and /or oil?
 - (iv) Are all alarm systems working properly?
 - (v) Are there spill containment supplies maintained in the area?

- (vi) Do dispensers appear to be in good condition and free from damage and leakage?
- (vii) Do the dispenser sumps/pans appear to be free from water and /or oil?
 - (i) Environmental Subcontractor shall notify the MBTA's designated contact immediately to report any malfunctions of the Tank System, identification of high or low product conditions, the presence of water or other contamination in or around the Tank System, evidence of leakage or subsurface contamination, or other signs of defective system components.
 - (ii) Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs to the Tank System as necessary based on results of the inspection. Environmental Subcontractor shall remove any accumulated water or oil from sumps, manways, pans, dikes or spill buckets discovered during the inspection, and dispose of them in accordance with all local, state and federal regulations. If the Tank System is found to require major repairs or replacement, the MBTA shall be contacted immediately. The Operator is responsible for repairs or replacements associated with damages to the tank systems caused by the Operator or Environmental Subcontractor.
 - (iii) Environmental Subcontractor shall pump out as required based on inspection. Environmental Subcontractor shall collect, characterize, and remove from the facility any and all waste materials generated during this work in accordance with applicable local, state and federal regulations. Disposal of all waste materials generated during this work shall be disposed of by a licensed hazardous material waste operator.
 - (iv) Environmental Subcontractor shall supply a schedule to the MBTA specifying when Tank Systems will be inspected. This schedule will be subject to MBTA approval, and once approved, cannot be changed without the consent of the MBTA.

5.2.2 Leak Detection System Testing

- 5.2.2.1 Environmental Subcontractor shall test Leak Detection Systems (including an in-tank monitoring system, interstitial space monitoring system, statistical inventory reconciliation process, or a continuous in-tank leak detection system), monthly for the duration of the Agreement Services.
- 5.2.2.2 Environmental Subcontractor shall test leak detection systems on Tank Systems in accordance with the testing and equipment manufacturer's specifications and all applicable local, state and federal regulations. All tests shall be administered by qualified persons, and shall be performed in accordance with the most recent test protocols established by the testing equipment manufacturer. Environmental Subcontractor shall document test procedures and protocols on a form to be developed by Environmental Subcontractor and approved by the MBTA (ODRL 3.8-029). Results of leak detection system tests shall be maintained in the Operators files for the life of the system. The form shall be prepared to include all items required to document this work, in accordance with applicable local, state, and federal regulations. Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs on the system if found to be defective. Upon a failed test result, the MBTA must be contacted immediately. If the equipment is found to require major repairs or replacement, the MBTA shall be contacted immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by the Operator or Environmental Subcontractor.
- 5.2.2.3 If it is determined that, based on the type of leak detection system identified on the Tank System, more frequent testing is required than that described herein, testing frequency conducted by Environmental Subcontractor shall be done in accordance with the applicable regulations and/or manufacturer's specifications. Environmental Subcontractor shall supply a testing schedule to the MBTA specifying when each of the systems will be tested. This schedule will be subject to review and approval of the MBTA, and once approved, cannot be changed without the consent of the MBTA.

5.2.3 Corrosion Protection System Testing

- 5.2.3.1 Environmental Subcontractor shall test Corrosion Protection Systems at a minimum, once monthly, for the duration of Agreement Services.

- 5.2.3.2 Environmental Subcontractor shall test corrosion protection systems on Tank Systems in accordance with the testing and equipment manufacturer's specifications, a code of practice developed by a nationally recognized association or testing laboratory, and all applicable local, state and federal regulations. For purposes of this bid, it is assumed that the corrosion protection system is a sacrificial anode cathodic protection system. All tests shall be administered by qualified persons, and shall be performed in accordance with the most recent test protocols established by the testing equipment manufacturer. Environmental Subcontractor shall document test procedures and protocols on a form to be developed by Environmental Subcontractor and approved by the MBTA. The form shall be prepared to include all items required to document this work, in accordance with applicable local, state, and federal regulations. Operator or Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs on the system if found to be defective. Upon a failed test result, the MBTA must be contacted immediately. If the equipment is found to require major repairs or replacement, the MBTA shall be contacted immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by Operator or Environmental Subcontractor.
- 5.2.3.3 If it is determined that, based on the type of corrosion protection system identified on the Tank System, more frequent testing is required than that described herein, testing frequency conducted by Environmental Subcontractor shall be done in accordance with the applicable regulations and/or manufacturer's specifications. Environmental Subcontractor shall supply a testing schedule to the MBTA specifying when each of the systems will be tested. This schedule will be subject to the review and approval of the MBTA, and once approved, cannot be changed without the consent of the MBTA (ODRL 3.8-030).

5.2.4 Stage II Vapor Recovery System Testing

- 5.2.4.1 Environmental Subcontractor shall test Stage II Recovery Systems in compliance with all Applicable Law and, at a minimum, once per calendar year, through the Term of the Agreement. The Stage II Recovery Systems shall also be inspected at a minimum of weekly by trained personnel, for the duration of Agreement Services.
- 5.2.4.2 Environmental Subcontractor shall test Stage II Vapor Recovery systems on Tank Systems in accordance with the testing and equipment manufacturer's specifications and all applicable local, state and federal regulations. All tests shall be administered by

qualified persons, and shall be performed in accordance with the most recent test protocols established by the testing equipment manufacturer. Environmental Subcontractor shall document test procedures and protocols on a form to be developed by Environmental Subcontractor and approved by the MBTA. The form shall be prepared to include all items required to document this work, in accordance with applicable local, state, and federal regulations. Environmental Subcontractor shall fill out and submit to the MassDEP the Stage II Certification forms following each inspection. Environmental Subcontractor shall maintain the results of all Stage II testing forms on-site in the event of a MassDEP inspection (ODRL 3.8-031).

- 5.2.4.3 Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs on the system if found to be defective. Upon a failed test result, the MBTA must be contacted immediately. If the equipment is found to require major repairs or replacement, the MBTA shall be contacted immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by Operator or Environmental Subcontractor. Environmental Subcontractor shall supply a testing schedule to the MBTA specifying when each system will be tested (ODRL 3.8-031). This schedule will be subject to review and approval by the MBTA and once approved, cannot be changed without the consent of the MBTA.

5.2.5 UST System Tightness Testing

- 5.2.5.1 If UST systems meet the present code requirements with properly operating leak detection systems and a form of inventory reconciliation, the tank system does not have to be tightness tested. However, if there are problems or inconsistencies with the leak detection or inventory reconciliation, the local fire department or state fire marshal can request that a tightness test be conducted. Environmental Subcontractor shall perform any tightness testing as required by the MBTA, local, or state officials.
- 5.2.5.2 Environmental Subcontractor shall conduct tightness testing on Tank Systems as required by 527 CMR 9.00. The test shall be of both the tank and the piping. Testing shall be approved and administered by qualified persons, and shall be performed in accordance with the most recent test protocols established by the standard industry testing equipment manufacturers and all applicable local, state and federal regulations. Environmental Subcontractor shall document test procedures and protocols on a form to be developed by Environmental Subcontractor and approved

by the MBTA. The form shall be prepared to include all items required to document this work, in accordance with applicable local, state, and federal regulations. Prior to testing, it will be the responsibility of Environmental Subcontractor to ensure that the Tank System is filled to the capacity required to administer the test.

5.2.5.3 Operator or Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs on the UST system if found to be defective. Upon a failed test result, the MBTA and other applicable regulatory agencies must be contacted immediately. If the Tank System is found to require major repairs or replacement, the MBTA shall be contacted immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by the Operator or Environmental Subcontractor

5.2.5.4 Environmental Subcontractor shall collect, characterize, and remove from the facility any and all waste materials generated during this work in accordance with applicable local, state and federal regulations.

5.2.5.5 Environmental Subcontractor must supply a testing schedule to the MBTA specifying when each tank systems will be tested. This schedule will be subject to MBTA review and approval, and once approved, cannot be changed without the consent of the MBTA (ODRL 3.8-032).

5.2.6 Emergency Repairs and Inventory of Spare Parts

5.2.6.1 Operator or Environmental Subcontractor shall respond immediately upon becoming aware of a malfunction or at the request by the MBTA for minor emergency repairs to Tank Systems. The Operator in coordination with Environmental Subcontractor shall ensure that emergency repairs are completed within 30 days of the time the MBTA notifies Environmental Subcontractor or immediately upon notification if abatement measures are required. If the Tank System is found to require major repairs or replacement, the MBTA shall be contacted immediately. The MBTA is responsible for the cost of all major repairs associated with the tank systems fixed assets unless damage is caused by Environmental Subcontractor, in which case, Operator or Environmental Subcontractor shall be responsible for the repair/replacement, at no cost to the MBTA. Documentation of the work performed must be maintained and submitted to the MBTA. Reimbursement will be made pursuant to existing MBTA policies, state and federal law.

- 5.2.6.2 Environmental Subcontractor shall develop and submit for approval to the MBTA, a list of spare parts recommended by the Tank System and associated equipment manufacturers for each Tank System, appurtenance, and equipment component (ODRL 3.8-033). For each spare part, Environmental Subcontractor shall provide the following information: (a) Supplier name, address, telephone number; (b) Emergency telephone number; (c) Delivery time; and (d) Unit price.
- 5.2.6.3 Environmental Subcontractor shall maintain and keep current, the recommended spare parts list.
- 5.2.6.4 Environmental Subcontractor shall develop and submit for approval to the MBTA, a list of critical spare parts recommended by the Tank System and associated equipment manufacturers for each Tank System, appurtenance, and equipment component. Environmental Subcontractor is responsible for maintaining in inventory all items listed on the MBTA-approved critical spare parts inventory list. Environmental Subcontractor must submit the recommended spare parts list and the critical spare parts inventory list to the MBTA within 45 days of the Contract award date. Environmental Subcontractor must develop the recommended spare parts list and critical spare parts inventory list at no cost to the MBTA (ODRL 3.8-033). Environmental Subcontractor must use new parts manufactured by the original equipment manufacturer (OEM) to make repairs and/or replacements to the MBTA's Tank Systems, unless otherwise approved by the MBTA.

5.2.7 Tank Overfill Alarm Systems

- 5.2.7.1 On an annual basis, the Environmental Subcontractor shall test all Tank Overfill Alarm Systems on Tank Systems on the Service Property. Presently there are Tank Overfill Alarm Systems installed on two fuel tanks at the Boston Engine Terminal. Additional Tank Overfill Alarm Systems may be installed by the MBTA on other Tanks Systems on the Service Property.
- 5.2.7.2 Environmental Subcontractor shall test Tank Overfill Alarm Systems on Tank Systems in accordance with the testing and equipment manufacturer's specifications and all applicable local, state and federal regulations. All tests shall be administered by qualified persons, and shall be performed in accordance with the most recent test protocols established by the Alarm System equipment manufacturer. Environmental Subcontractor shall document test procedures and protocols on a form to be developed by Environmental Subcontractor and approved by the MBTA. The

form shall be prepared to include all items required to document this work, in accordance with applicable local, state, and federal regulation (ODRL 3.8-034).

5.2.7.3 Environmental Subcontractor shall perform immediate maintenance, adjustments, or minor repairs on the Overfill Tank Alarm System if found to be defective. If the Overfill Tank Alarm System is found to require major repairs or replacement, the MBTA shall be contacted immediately. The Operator is responsible for repairs or replacements associated with damages to the facilities' fixed assets caused by Operator or Environmental Subcontractor.

5.2.7.4 Operator and Environmental Subcontractor shall respond with appropriate personnel to Overfill Tank Alarm in order to prevent, contain, or manage any discharge of fuel from overfilling of tanks on the Service Property.

6. **CRMF WASTEWATER PRETREATMENT FACILITY OPERATIONS AND MAINTENANCE**

6.1 Description of Services

6.1.1 These specifications define the conditions and requirements for the operation and maintenance (O&M) of the existing wastewater pretreatment facility (Facility) located at the CRMF. Environmental Subcontractor shall furnish all labor, parts, and equipment necessary to operate, service, maintain, and repair the Facility, appurtenances, and associated equipment. Facility unit operations and primary system components are listed in Table ES5-1.

Table ES5-1 Pretreatment Facility Unit Operations

UNIT PROCESS	DESCRIPTION*
TREATMENT FACILITY OVERVIEW– Oil Skimmer & Settling Tanks Equalization and Process Tanks Ultrafiltration (UF) and Clean In Place (CIP) Carbon Adsorption Chemical Feed Systems Storage Tanks Lift Station Programmable Logic Controller	Design Flow Rate: 11,000 gallons per day MWRA under Sewer Use Discharge Permit No. 30 102003
OIL SKIMMERS & SETTLING TANKS	Two 3,500-gallon aboveground tanks each equipped with:

UNIT PROCESS	DESCRIPTION*
	Oil Skimmers Inc. Model 6V Floating Tube Oil Skimmer Two Settling Tank Pumps w/ Siemens Motors
EQUALIZATION TANK	One 16,000-gallon aboveground tank One Equalization Tank Pump w/ Siemens Motor
PROCESS TANK	One 16,000 gallon aboveground tank One Process Tank Pump w/ Siemens Motor
ULTRAFILTRATION & CIP	Zenon Municipal Systems Inc. 11,000 gpd UF Unit One UF Process Pump P-31 18 Permaflow Membrane Modules Two 120 gallon Water Heaters for CIP One 500-gallon CIP Tank
CARBON ADSORPTION	Two USFilter/Weststates Activated Carbon Units Approximately 2,000-pounds GAC each
CHEMICAL FEED SYSTEMS	Two Metering Pumps for pH adjustment to Process Tank & UF
STORAGE TANKS	One 8,000-gallon Aboveground Waste Oil storage tank One 10,000-gallon Sludge Storage Tank One Sludge Storage Tank Pump w/ Siemens Motor
LIFT STATIONS Building Sump Waste Oil Sump UF Sump	Two Building Sump Pumps One Waste Oil Sump Pump w/ Siemens Motor One UF Sump Pump w/ Siemens Motor
PROGRAMMABLE LOGIC CONTROLLER (PLC)	One ABB Instrumentation Advanced Process Recorder Several Drexel Brook Level Detectors One ABB Instrumentation pH Controller – UF Recycle
MISCELLANEOUS	One Bacharach H2S Monitor One ISCO 3700R/3740 Refrigerated Wastewater Sampler

*Environmental Subcontractor is responsible for verifying equipment specifications

6.1.2 Summary of Work

- 6.1.2.1 Facility operation and maintenance shall include operating, monitoring, testing, and maintaining unit operations, appurtenances, and associated equipment including, without restriction, pumps, oil skimmers, settling tanks, equalization and process tanks,

ultrafiltration unit, carbon adsorption units, chemical feed systems, piping, valves, storage tanks, and electrical controls and instrumentation. Environmental Subcontractor shall record data and maintain logs of monitoring, testing, and operations and maintenance activities performed under these specifications. Environmental Subcontractor is responsible for conducting sampling and laboratory analysis, and for submitting reports required under the MWRA Sewer Use Discharge Permit for the pretreated wastewater discharge from the Facility. Environmental Subcontractor is responsible for proper and legal handling and offsite disposal of wastes generated during the Facility operation and maintenance at the prices quoted. Environmental Subcontractor shall handle, transport, and dispose of all wastes in accordance with EPA and MassDEP rules and regulations and provide testing, manifesting, and reporting services specified in Section 2 (Stormwater Inspections and Catch Basin Cleaning) of this **Schedule 3.8** (Environmental Services).

6.1.3 Status of Facilities

6.1.3.1 The Operator acknowledges and agrees that the Operator shall be responsible for the maintenance, repair and operation of the CRMF pretreatment waste water facility systems, as in effect on the Agreement Services Commencement Date, in accordance with the provisions of Section 4 (Onsite Subsurface Disposal System Servicing) of this **Schedule 3.8** (Environmental Services) and the costs of all such services are included in the Annual Fee.

6.2 Execution of Work

6.2.1 Operation and Maintenance

6.2.1.1 General

(a) Environmental Subcontractor shall be responsible for the regular and routine operation, maintenance and repair of all treatment system equipment, including but not limited to, pumps, oil skimmers, settling tanks, equalization and process tanks, ultrafiltration units, carbon adsorption units, chemical feed systems, piping, valves, storage tanks, system controls, electrical controls and instrumentation. Environmental Subcontractor shall operate the Facility in a manner that maintains full compliance with all the conditions of the Facility MWRA Sewer Use Discharge Permit.

(i) Environmental Subcontractor is responsible for obtaining and/or maintaining applicable environmental permits for the

Facility and shall comply with all the requirements of the permits including, but not limited to conducting sampling and monitoring, preparing and submitting reports, and implementing corrective actions. Environmental Subcontractor shall forward copies of all reports submitted to the MWRA to the MBTA's designated contact (ODRL 3.8-035).

- (ii) Environmental Subcontractor shall staff the Facility 24 hours/day, 7 days/week, 52 weeks/year in accordance with the Operation and Maintenance requirements of this specification.
- (iii) Environmental Subcontractor is responsible for maintaining monitoring and operating and maintenance logs at the Facility. Environmental Subcontractor shall forward copies of all maintenance and operation reports prepared to the MBTA's designated contact (ODRL 3.8-036).
- (iv) Environmental Subcontractor shall staff the Facility in accordance with the Staffing Plan requirements of this Contract.
- (v) Environmental Subcontractor shall update and maintain an Operation and Maintenance Manual in accordance with the requirements of this specification (ODRL 3.8-038).
- (vi) Environmental Subcontractor shall notify the MBTA's designated contact immediately to report any Facility malfunctions observed or to report any permit excursions from, including but not limited to, the MWRA Sewer Use Discharge Permit. Environmental Subcontractor shall also immediately report any spills or releases from the facility to the appropriate agencies and to the MBTA's designated contact.

6.2.1.2 Treatment Chemicals

- (a) Environmental Subcontractor is responsible for purchasing and maintaining in inventory, wastewater treatment chemicals necessary for the operation of the wastewater treatment plant. Environmental Subcontractor shall store all chemicals in accordance with all applicable federal, state and local regulations. The following table presents treatment system chemicals and estimated quantities of chemicals based on current operational settings. This table is an estimate only and is based on current operating conditions. The

requirement of chemicals not listed or chemicals in quantities exceeding these amounts will not be the basis for additional payments.

Table ES5-2 Estimated Treatment Chemical Use

Chemical	Amount	Notes
Sodium Hydroxide (NaOH)	110 gallons per month	50% concentration
CARI 380	110 gallons per month	zinc chelate breaker
Sulfuric Acid	minimal	
MC1	125 kg per year	Zennon ultrafiltration cleaner
MC4	48 kg per year	Zennon ultrafiltration cleaner

6.2.1.3 Quality Control Monitoring and Sampling

- (a) Environmental Subcontractor is responsible for conducting quality control sampling to ensure that each unit process operation is meeting targeted removal/treatment objectives. QC monitoring and sampling includes, but is not limited to, visual observations of process operations and instrumentation, bench scale treatability testing to verify and/or set chemical feed rates, zinc analysis using atomic adsorption, carbon adsorption breakthrough monitoring, ultrafiltration pressure testing, and conducting diagnostic checks on treatment equipment. Records of QC monitoring and sampling shall be maintained on file at the Facility and shall be made available upon request by the MBTA.

6.2.1.4 Maintenance

- (a) Environmental Subcontractor shall conduct regular and routine maintenance inspections to verify that the wastewater treatment facilities and equipment are functioning properly and to diagnose potential malfunctions, which may cause system failure. Inspections shall be conducted in accordance with the Operation and Maintenance Manual requirements of this Contract with logs maintained by Environmental Subcontractor.
- (b) Environmental Subcontractor shall be responsible for providing the labor necessary for conducting all routine and emergency maintenance activities, including but not limited to; tank cleaning, pump and mixer repairs, chemical reagent filling, probe cleaning or change out, wastewater treatment equipment cleaning according to the manufacturer's specifications, plumbing modifications and repairs, equipment calibration, monitoring equipment cleaning,

activated carbon replacement, ultrafiltration membrane replacement, and oil/sludge pumping.

6.2.2 Operation and Maintenance Manual/Staffing Plan

6.2.2.1 Operation and Maintenance Manual

- (a) Environmental Subcontractor shall review the current Operation and Maintenance (O&M) Manual that shall be accordance with Massachusetts regulations (314 CMR 12) which specifies the standard operating procedures (SOPs) for each unit operation and provides a schedule for preventive maintenance (PM) for each unit operation and its appurtenances and associated equipment. SOPs and PM must be conducted in accordance with equipment manufacturer specifications. The O&M Manual must include, at a minimum, the following
 - (i) Facility Overview
 - (ii) System Operator Qualifications, Licensing, and Training Requirements
 - (iii) Instrumentation and Alarms
 - (iv) Building Support Systems (HVAC, Power, Plumbing, Lighting)
 - (v) Standard Operating Procedures
 - (vi) Preventive Maintenance Schedule
 - (vii) Sampling and Testing Requirements
 - (viii) Waste Identification, Characterization, and Management Requirements
 - (ix) Record-keeping Requirements
 - (x) Safety Requirements
 - (xi) Emergency Procedures and Contingency Plan
 - (xii) Facility Plans
 - (xiii) Tools and Spare Parts Inventory and Parts Supplier Contacts
 - (xiv) References to Manufacturer Service Manuals

- (b) Copies of the existing Operations and Maintenance Manuals that are available will be provided by the MBTA. Environmental Subcontractor may make use any of the existing manuals as much as possible, but it is Environmental Subcontractor's responsibility to assure that the current manual is complete and correct. Environmental Subcontractor is encouraged to identify and incorporate more efficient practices and procedures into manual for review and approval by the MBTA.

6.2.2.2 Staffing Plan

- (a) Environmental Subcontractor shall staff the Facility 24 hours/day, 7 days/week, 52 weeks/year using wastewater treatment plant operators certified by the Massachusetts Board of Certification for Wastewater Treatment Operators. Staffing of the Facility shall be based on the current Staffing Plan to be updated by Environmental Subcontractor and submitted for approval to the MBTA.
- (b) The Staffing Plan shall require that Environmental Subcontractor provide operators with current and valid certification at the Full Operator Status to operate Grade 3-Industrial treatment facilities pursuant to 257 CMR 2.00. The Staffing Plan shall updated in accordance with Massachusetts regulations (314 CMR 12) and shall specify the number and qualifications of personnel necessary to ensure proper and continuous operation of the facilities and shall address the following items:
 - (i) Number of operational days per week
 - (ii) Number of operational hours per week
 - (iii) Number of shifts per day
 - (iv) Required personnel per shift
 - (v) Saturday, Sunday, and Holiday staff coverage, and
 - (vi) Emergency operating personnel.
- (c) Environmental Subcontractor shall supply a copy of the O&M Manual and the Staffing Plan to the MBTA for MBTA approval within 45 days of the beginning of the contract term (ODRL 3.8-037). The MBTA shall have the right to comment on the O&M Manual and Staffing Plan, and Environmental Subcontractor must address any and all deficiencies noted by the MBTA and provide a final O&M Manual and Staffing Plan within 15 days of receipt of the MBTA's comments (ODRL 3.8-038). A copy of the final O&M

Manual and Staffing Plan must be provided to the MBTA and a copy maintained at the Facility. Up-to-date copies of manufacturer service manuals must be maintained at the Facility. Requirements of the O&M Manual and Staffing Plan cannot be changed without the approval of the MBTA.

6.2.3 Licenses, Permits, and Reporting

6.2.3.1 Environmental Subcontractor operate the treatment system in compliance with all applicable federal, state, and local regulatory programs including, but not limited to, the Federal Pretreatment Program (40 CFR 403), the MWRA Sewer Use Regulations (360 CMR 10), MassDEP Operation and Maintenance of Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers (314 CMR 12), and the Board of Registration of Operators of Wastewater Treatment Facilities (257 CMR 2).

6.2.3.2 Environmental Subcontractor is responsible for conducting annual reporting on chemical use as required under federal, state, and local regulations, including but not limited to, Tier II under Section 312 of the EPCRA, Form Rs under Section 313 of the Emergency Planning and Community Right To Know Act, Hazardous Waste Biennial Reports, and Form Ss under the Massachusetts Toxic Use Reduction Act (ODRL 3.8-036).

6.2.4 MWRA Sewer Use Discharge Permit

Environmental Subcontractor shall operate the Facility in compliance with the MWRA regulations. Environmental Subcontractor is responsible for complying with the MWRA Sewer Use Discharge Permit for the Facility including, but not limited to, the following requirements:

6.2.4.1 Sampling

(a) Sampling and analysis, in accordance with EPA Methods, shall be performed for the parameters listed in Table ES5-3 at Sampling Location 101 with the noted limits and sampling frequency being applicable:

Table ES5-3 MWRA Sewer Use Discharge Permit Sampling Requirements

Parameter	Sampling Frequency	Discharge Concentration Limit
TTO (VOA)	Semi-Annually	5.0 mg/l
Petroleum Hydrocarbons (PHC)	Quarterly	15.0 mg/l

pH	Quarterly	Between 5.5 and 10.5 standard units
Grab Flow Measured	Quarterly	Not Applicable
Lead	Quarterly	0.2 mg/l
Zinc	Quarterly	1.0 mg/l
Composite Flow Measured	Quarterly	

- (b) Environmental Subcontractor shall contract a MassDEP certified laboratory to collect samples, conduct the analysis, and submit analytical reports to the MWRA using the MWRA SMART Program.
- (c) Environmental Subcontractor shall continuously monitor effluent pH and flow and maintain logs to the specifications of the MWRA Sewer Use Discharge Permit. Environmental Subcontractor shall submit a copy of these logs to the MWRA with the quarterly sampling reports (ODRL 3.8-036).

6.2.4.2 Reporting

- (a) Environmental Subcontractor shall submit to the MWRA Quarterly Analytical Reports, with quality control information, by the last day of April, July, October, and January, for the preceding three-month period. Copies of the quarterly reports shall be forwarded to the MBTA's Environment Director.
- (b) Environmental Subcontractor shall submit to the MWRA Semi-Annual Analytical Reports, with quality control information, by July 31st and January 31st for the preceding six-month period. Copies of the semi-annual reports shall be forwarded to the MBTA's Environmental Director.

6.2.4.3 Record keeping

- (a) Environmental Subcontractor shall maintain logs of all monitoring activities and copies of all analytical reports and quality control information for a period of 3 years from the date of the monitoring activity or report and maintain original logs at the Facility.
- (b) Environmental Subcontractor shall maintain a daily log for the pretreatment system that satisfies the conditions of the MWRA Sewer Use Discharge Permit including recording operating and shut down times, hours of discharge to the sewer system, and any out-of-the ordinary occurrences.

6.2.4.4 Plans and Submittals

- (a) Environmental Subcontractor shall review the current Slug Control Plan that satisfies the MWRA Sewer Use Discharge Permit conditions. Any updates to the Plan shall be submitted to the Plan to the MWRA with a copy forwarded to the MBTA's Environmental Director designated contact within 30 days of the Notice to Proceed (3.8-039).
- (b) Environmental Subcontractor shall be responsible for renewing the existing MWRA Sewer Use Discharge Permit.
- (c) Environmental Subcontractor shall review the current Report on Pretreatment that satisfies the conditions of the MWRA Sewer Use Discharge Permit. The Report on Pretreatment must be completed and updated it necessary with the MWRA within 30 days of the Notice to Proceed with a copy forwarded to the MBTA's designated contact. Environmental Subcontractor shall notify the MWRA in writing with a copy forwarded to the MBTA's designated contact within 30-days of any change in the information provided in the Report on Pretreatment (3.8-039).
- (d) Environmental Subcontractor shall prepare and file a complete and accurate MWRA Sewer Use Discharge Permit Application for a renewal permit in accordance with 360 C.M.R. 10.007(6), a minimum of 90 days prior to the expiration of the existing permit. Upon issuance of a new MWRA Sewer Use Discharge Permit, Environmental Subcontractor is responsible for compliance with all conditions of the new permit (ODRL 3.8-036).

6.2.5 Spare Parts and Emergency Repairs

6.2.5.1 Services. Environmental Subcontractor shall be responsible for the following services:

- (a) Environmental Subcontractor shall respond immediately upon becoming aware of a system malfunction or to requests by the MBTA for repairs of any nature.
- (b) Environmental Subcontractor shall complete repairs to Facility unit operations, appurtenances, and associated equipment within a 24-hour period whenever possible.
- (c) Environmental Subcontractor shall maintain an up to date inventory of tools and critical spare parts at the Facility.

6.2.5.2 Spare Parts List

- (a) Environmental Subcontractor shall develop and submit to the MBTA for approval within 45 days of the Notice to Proceed, a list of spare parts recommended by the equipment manufacturers for each unit operation, appurtenances, and equipment component (ODRL 3.8-040). For each spare part, Environmental Subcontractor shall provide the following information:
 - (i) supplier name, address, telephone number
 - (ii) emergency telephone number
 - (iii) delivery time
 - (iv) unit price
- (b) Environmental Subcontractor shall maintain and keep current, the spare parts list at the Facility.

6.2.5.3 Spare Parts Inventory

- (a) Environmental Subcontractor shall develop and submit to the MBTA for approval within 45 days of the Notice to Proceed, a list of critical spare parts recommended by the equipment manufacturers for each unit operation, appurtenances, and equipment component (ODRL 3.8-040). Environmental Subcontractor is responsible for maintaining in inventory all items listed on the critical spare parts inventory list. This list shall include, but not be limited to, the following items:
 - (i) One (1) Pulsa-Feeder chemical injection pump (Model 4EAD-DP)
 - (ii) Three (3) gallons of Pulsa-Feeder hydraulic lube oil
 - (iii) One (1) hose for 1HP peristaltic pump
 - (iv) Three (3) hoses for 5HP peristaltic pumps
 - (v) One (1) hose for 7.5 HP peristaltic pump
 - (vi) Two (2) oil skimmer tubes
 - (vii) One (1) LMI metering pump (Model B141, 7 gph)
- (b) Environmental Subcontractor shall provide all materials necessary to operate and maintain CMRF Wastewater Pretreatment Facility,

including but not limited to, granular activated carbon replacements and ultra-filtration membranes.

6.2.6 Granular Activated Carbon Replacement

6.2.6.1 In the event that the MWRA or other appropriate regulator later requires the reinstallation of pretreatment carbon units, Environmental Subcontractor shall be responsible for the regular and routine influent and effluent monitoring of the primary activated carbon vessel to determine column breakthrough. Upon discovery of breakthrough, the primary vessel shall be taken off-line and the secondary vessel shall be made the primary vessel. Breakthrough monitoring shall commence immediately on the newly designated primary vessel. Within 7 calendar days, the granular activated carbon media from the off-line vessel shall be replaced and the vessel brought back on-line as the secondary vessel.

6.2.6.2 Environmental Subcontractor shall be responsible for the handling and disposal of waste granular activated carbon and shall handle this waste in accordance with all federal, state, and local regulations.

6.2.7 Ultrafiltration Membrane Replacement

6.2.7.1 Environmental Subcontractor shall be responsible for the regular and routine inspections of the ultrafiltration unit to determine the integrity of the eighteen Zennon ultrafiltration membranes. Upon discovery of membrane damage or based on the manufacturer's recommendation, Environmental Subcontractor shall contract, at no cost to the MBTA, Zennon representatives immediately to expedite the ultrafiltration membrane replacement. Wastewater shall not be discharged at any time while the ultrafiltration unit is off-line, unless Environmental Subcontractor conducts sampling and receives analytical results from a MassDEP-certified laboratory indicating that the effluent to be discharged is within the MWRA permit limits.

6.2.7.2 Environmental Subcontractor shall be responsible for the handling and disposal of damaged membranes and shall handle this waste in accordance with all federal, state, and local regulations.

6.2.8 Safety and Security

6.2.8.1 Environmental Subcontractor is responsible for maintaining a safe and secure work environment at the Facility. Environmental Subcontractor shall ensure that the Facility is maintained and operated in compliance with applicable OSHA regulations and that Environmental Subcontractor's personnel who work at the Facility

have received OSHA-required training. Environmental Subcontractor shall ensure that the Facility and its appurtenances and associated equipment are maintained in good operating condition and are provided with OSHA-required safety devices and markings. Environmental Subcontractor shall ensure that the Facility is staffed by at least one qualified operator at all times to prevent inadvertent access to the Facility by unauthorized and/or unqualified persons.

6.2.9 Training and Qualifications

6.2.9.1 Environmental Subcontractor shall ensure that personnel who work at the Facility and/or on MBTA property and who operate and/or maintain the Facility, appurtenances, and associated equipment are qualified to perform the services provided. Qualifications must include demonstrated experience in the operation and maintenance of wastewater pretreatment facilities. Wastewater treatment plant operators must have current valid certification to operate Grade 3-Industrial treatment facilities pursuant to 257 CMR 2.00.

7. **WIDETT CIRCLE TERMINAL WASTEWATER TREATMENT AND REUSE FACILITY OPERATIONS AND MAINTENANCE**

7.1 Description of Services

7.1.1 These specifications define the conditions and requirements for the operation and maintenance (O&M) of the existing wastewater Treatment and Reuse facility (Facility) located at the Widett Circle. Environmental Subcontractor shall furnish labor, parts, and equipment necessary to operate, service, maintain, and repair the Facility, appurtenances and associated equipment. The Facility unit operations and primary system components are listed in Table ES6-1 where available.

Table ES6-1 Pretreatment Facility Unit Operations

UNIT PROCESS	DESCRIPTION*
TREATMENT FACILITY OVERVIEW– Collection Sumps Oil/Water Separation Equalization Bag Filtration pH Adjustment Ultrafiltration (UF) and Clean In Place (CIP) Evaporation Carbon Adsorption (by-passed, not in service) Ion Exchange (by-passed, not in service) Chemical Feed Systems Storage Tanks Lift Station Programmable Logic Controller	Design Flow Rate: 10 gallons per minute Closed Loop System – for recycling train wash water.
COLLECTION SUMPS	Reclaim pit with submersible sump pump for wash water Oil/Water separator tank with submersible sump pump
SUMP and PUMPS	Wastewater Sump, T-101, with Oil collector and duplex submersible sump pumps, P-101 A&B
EQUALIZATION TANK and PUMPS	1,000-gallon Equalization Tank, T-102 with Duplex Horizontal Centrifugal pumps, P-102A&B
BAG FILTRATION	25 micron Bag Filter, F-101A 5 micron Bag Filter, F-102A
COALESCING UNITS	By-Passed, Not In Service
CAUSTIC pH ADJUSTMENT SYSTEM	Design Flow Rate: 30 gallons per minute Static Mixer, pH Adjustment Tank, T-103 with Mixer Caustic Metering Pump
WET WELL TANK AND PUMPS	Wet Well Tank, T-104 with Duplex Pumps, P-104A&B
CONCENTRATE TANK and PUMPS	3,600-gallon concentrate Tank, T-105 Air Operated Diaphragm Pumps, P-106A&B to feed evaporators Horizontal Centrifugal Pump. P-105 to feed UF System

UNIT PROCESS	DESCRIPTION*
ULTRAFILTRATION & CIP	Skid mounted Koch Membrane Systems, Konsolidator 252 RM Ultrafiltration System with High Pressure Horizontal Centrifugal Feed Pump One CIP Tank
PERMEATE TANK AND PUMPS	1000-gallon Permeate Tank, T-107 Duplex Horizontal Centrifugal Pumps feeding Acid Area
ACID pH ADJUSTMENT SYSTEM	Design Flow Rate: 30 gallons per minute Static Mixer, pH Adjustment Tank, T-107 with Mixer Acid Metering Pump
WET WELL TANK AND PUMPS	Wet Well Tank, T-108 with Duplex Pumps, P-108A&B
EVAPORATION	Small SAMSCO Water Evaporator Series 700 – Natural Gas with 60 gallons per hour evaporation rate Large SAMSCO Water Evaporator Series – Natural Gas with 120 gallons per hour evaporation rate
EVAPORATOR WASTE PUMP AND TANK	Transfer Pump T-109 and 500-gallon Waste Collection Tank, T-110 for small evaporator. Transfer Pump and Waste Collection Tank for Large Evaporator
CARBON ADSORPTION	Two Activated Carbon Units – Approximately 2000 pounds GAC each (BY-PASSED, NOT IN SERVICE)
ION EXCHANGE VESSELS	Six Ion Exchange units (BY-PASSED, NOT IN SERVICE)
CHEMICAL FEED SYSTEMS	Metering Pumps for pH adjustment of Process Tank & UF
STORAGE TANKS	One Aboveground Waste Oil storage tank Two Evaporator Sludge Storage Tank
PROGRAMMABLE LOGIC CONTROLLER (PLC)	

*Environmental Subcontractor is responsible for verifying all equipment specifications.

7.1.2 General Description of Treatment System

- 7.1.2.1 From the MWRA meter, water is manually added to the system at Tank # 109, the clean rinse tank. The water progresses through the several stages of the train wash, gray rinse detergent brushes, detergent arches and into the detergent recovery tank also known as Tank # 102. This tank serves both the train wash and closed loop

systems. Water may be reused in the wash process or introduced into the closed loop flow.

- (a) If the water is entering the closed loop process it is transported from this same Tank # 102 through filters F101B and F102B, into Tank # 103 (where its Ph is adjusted up by the addition of Caustic Soda to a base level required by the ultra filter for process purposes) through Tank # 104, then transported to Tank #105. From Tank #105 the water may flow to any one of three separate destinations, which include the following:

- (i) The Overflow to Tank # 101
- (ii) The Ultra Filter
- (iii) The evaporator

7.1.2.2 When more water is pumped into Tank #105 than can be accommodated, the overflow flows through a system of pipes through the foundation of the building into OW 101 located approximately 700 feet away at column 20.

7.1.2.3 Water is continually drawn off Tank #105 and fed through the Ultra Filter. Having passed through the Ultra Filter the water is either returned to Tank # 105 as “concentrate” or transported as “permeate” to Tank # 106.

7.1.2.4 Water heavy with contaminants is drawn off near the bottom of Tank # 105 and transported to the evaporators. At the evaporators, waste products from the train wash process are concentrated and the water is vaporized and boiled off into the atmosphere.

- (a) Water from Tank # 102 (also called detergent recovery tank in its train washing capacity) may, if it does not follow the route described in section 7.1.1 of this **Schedule 3.8** (Environmental Services) above, reenter the train wash process. In the train wash process water from the train wash remaining on the trains, drains onto the floor as the train moves through the building. This water is collected through a system of drains and is transported to OW 101 previously mentioned above in Section 7.1.2.1 of this **Schedule 3.8** (Environmental Services). From OW 101, water is transported through Tank #101, through filters F-101A and F-102A. The water is pumped past the coalescer units (currently by-passed) and on to the same Ph adjustment area mentioned in section 7.1.1 of this **Schedule 3.8** (Environmental Services) and continues on as previously described.

- (b) From Tank # 106, the water is transported to a second Ph adjustment area where Sulfuric Acid is mixed in to lower the base mixture required for Ultra Filtration. The water then passes through carbon beds (currently by-passed), resin beds (currently by-passed) and finally into the clean rinse Tank # 109 where it is mixed with water from the MWRA (if the level of water in the system is low) and is ready for re-use in the train wash process.

7.1.3 Summary of Work

- 7.1.3.1 Facility operation and maintenance shall include operating, monitoring, testing, and maintaining unit operations, appurtenances, and associated equipment including pumps, oil/water separators, filtration systems, equalization and process tanks, ultrafiltration unit, carbon adsorption units, chemical feed systems, piping, valves, storage tanks, and electrical controls and instrumentation. Environmental Subcontractor shall record data and maintain logs of monitoring, testing, and operation and maintenance activities performed under these specifications. Environmental Subcontractor shall conduct sampling and laboratory analysis required for normal operations and maintenance. Environmental Subcontractor is responsible for proper and legal handling and offsite disposal of wastes generated during Facility operation and maintenance. Environmental Subcontractor shall handle, transport, and dispose of wastes in accordance with EPA and MassDEP rules and regulations and provide testing, manifesting, and reporting services specified in Section 2 (Stormwater Inspections and Catch Basin Cleaning) of this **Schedule 3.8** (Environmental Services).

7.1.4 Status of Facilities

- 7.1.4.1 The Operator acknowledges and agrees that the Operator shall be responsible for the maintenance, repair and operation of the Widett Circle wastewater treatment and reuse facility systems, as in effect on the Agreement Services Commencement Date, in accordance with the provisions of Section 4 (Onsite Subsurface Disposal System Servicing) of this **Schedule 3.8** (Environmental Services) and the costs of all such services are included in the Annual Fee.

7.2 Execution of Work

7.2.1 Operation and Maintenance

7.2.1.1 General

- (a) Environmental Subcontractor shall be responsible for, the regular and routine operation, maintenance and repair of all treatment system equipment, including but not limited to, pumps, oil skimmers, bag filters, settling tanks, equalization and process tanks, ultrafiltration units, evaporator, carbon adsorption units, ion exchange columns, chemical feed systems, piping, valves, storage tanks, system controls, electrical controls and instrumentation. Environmental Subcontractor shall operate the Facility in a manner that adequately treats all the wastewater streams from the Facility for reuse. Environmental Subcontractor is prohibited from discharging treated or untreated wastewaters, including any residuals, backwashes, blow downs or waste materials, to the sewer or stormwater drainage systems.
- (i) Environmental Subcontractor shall obtain and/or maintain applicable environmental permits for the Facility, and shall comply with all the requirements of the permits, including but not limited to conducting sampling and monitoring, preparing and submitting reports, and implementing corrective actions. Environmental Subcontractor shall forward copies of all reports submitted to any agency to the MBTA's designated contact (ODRL 3.8-041).
 - (ii) Environmental Subcontractor is responsible for maintaining monitoring and operating and maintenance logs at the Facility. Environmental Subcontractor shall forward copies of all maintenance and operations reports prepared to the MBTA's designated contact (ODRL 3.8-041).
 - (iii) Environmental Subcontractor shall staff the Facility in accordance with the Staffing Plan requirements of this specification.
 - (iv) Environmental Subcontractor shall provide all materials necessary to operate and maintain Wastewater Treatment and Reuse Facility including, but not limited to, activated carbon replacement and ultrafiltration membranes.
 - (v) Environmental Subcontractor shall develop and maintain an Operation and Maintenance Manual in accordance with the requirements of this specification (ODRL 3.8-042).
 - (vi) Environmental Subcontractor shall notify the MBTA's designated contact immediately to report any Facility malfunctions observed or to report any excursions from the required treated reuse water quality. Environmental

Subcontractor shall also immediately report any spills or releases from the facility to the appropriate agencies and to the MBTA's designated contact.

(b) Prohibited Discharge

- (i) The train wash water treatment system is a closed loop recycling system. Environmental Subcontractor is prohibited from discharging wastewater, either treated or untreated, to the MWRA sewer, the ground surface, surface water collection systems, or underground injection wells. In addition, no residues, wash waters, blow downs shall be released, spilled or discharged to the MWRA sewer, the ground surface, surface water collection systems, or underground injection wells.

(c) Treatment Chemicals

- (i) Environmental Subcontractor shall for purchase and maintain in inventory, wastewater treatment chemicals expected to be necessary for the operation of the wastewater treatment plant. Table ES6-2 is an estimate of treatment chemical use and is based on current operating conditions. The requirements for chemicals not listed or chemicals in quantities exceeding these amounts will not be the basis for additional payments.

Table ES6-2 Estimated Treatment Chemical Use

Chemical	Notes
Sodium Hydroxide (NaOH)	Base; 50% strength; ph neutralization
Dow Corning 544	Anti foaming agent
Sulfuric Acid	Acid; pH neutralization
Koch Preparation (KLD)	Ultrafiltration cleaner
Microbiocide	Ultrafiltration

(d) Quality Control Monitoring and Sampling

- (i) Environmental Subcontractor shall conduct quality control sampling to ensure that each unit process operation is meeting targeted removal/treatment objectives. QC monitoring and sampling includes, but is not limited to, visual observations of process operations and instrumentation, bench scale treatability testing to verify

and/or set chemical feed rates, carbon adsorption and ion exchange breakthrough monitoring, ultrafiltration pressure testing, tracking evaporation rates, and conducting diagnostic checks on treatment equipment. Records of QC monitoring and sampling shall be maintained on file at the Facility and shall be made available upon request by the MBTA.

- (ii) The quality of the recycled water shall be monitored and reported on a regular basis (ODRL 3.8-041). The monitoring reports shall be submitted monthly to the MBTA's designated contact. Every reasonable effort shall be made to achieve the targeted removal/treatment objectives for the recycle water, which include the following criteria:

Total Suspended Solids (TSS)	Less than 5.0 mg/l
Petroleum Hydrocarbons (PHC)	Less than 15 mg/l
Total Dissolved Solids (TDS)	Less than 1,500 mg/l
Conductivity	Less than 2,500 μ mhos/cm ²

- (iii) The samples shall all be grabs and shall be taken at the intervals listed below:

TSS	Weekly
PHC	Weekly
TDS	Weekly
Conductivity	Daily

- (iv) The coalescing filters, the ion exchange systems and the activated carbon units are currently bypassed and not in operation. The results of the monitoring described above shall be used to determine if those units need to be operated or not. For example, the coalescing filter may be required if the PHC values are high or the ion exchange system may be required if the TDS values are high. Environmental Subcontractor is responsible for all costs associated with operation of the system with the goal of meeting the treatment criteria including any required filter changes (ion exchange, carbon, etc.)

(e) Maintenance

- (i) Environmental Subcontractor shall conduct regular and routine maintenance inspections to verify that the wastewater treatment operations are functioning properly and to diagnose potential malfunctions that may cause system failure. Environmental Subcontractor shall conduct the inspections specified in the Operation and Maintenance Manual. Environmental Subcontractor shall maintain all the logs required by this Specification.
- (ii) Environmental Subcontractor shall provide the labor necessary for conducting all routine and emergency maintenance activities, including but not limited to; tank cleaning, pump and mixer repairs, chemical reagent filling, probe cleaning or change out, wastewater treatment equipment cleaning according to the manufacturer's specifications, plumbing modifications and repairs, equipment calibration, monitoring equipment cleaning, activated carbon replacement, ion exchange resin replacement, ultrafiltration membrane cleaning and inspection, and oil/sludge pumping and disposal. Environmental Subcontractor shall also be responsible for the handling and safe disposal of all wastes and residues from the Facility in accordance with all federal, state and local regulations.

(f) Operation and Maintenance Manual

- (i) Environmental Subcontractor shall review and update, as necessary, the current Operation and Maintenance (O&M) Manual in accordance with Massachusetts regulations (314 CMR 12) that specifies the standard operating procedures (SOPs) for each unit operation and provides a schedule for preventive maintenance (PM) for each unit operation and its appurtenances and associated equipment (ODRL 3.8-043). SOPs and PM must be conducted in accordance with equipment manufacturer specifications. The O&M Manual must include, at a minimum, the following:
 - (v) Facility Overview
 - (vi) System Operator Qualifications, Licensing, and Training Requirements
 - (vii) Instrumentation and Alarms

- (viii) Building Support Systems (HVAC, Power, Plumbing, Lighting)
 - (ix) Standard Operating Procedures
 - (x) Preventive Maintenance Schedule
 - (xi) Sampling and Testing Requirements
 - (xii) Waste Identification, Characterization, and Management Requirements
 - (xiii) Record-keeping Requirements
 - (xiv) Safety Requirements
 - (xv) Emergency Procedures and Contingency Plan
 - (xvi) Facility Plans
 - (xvii) Tools and Spare Parts Inventory and Parts Supplier Contacts
 - (xviii) References to Manufacturer's Service Manuals
- (ii) Copies of the existing Operations and Maintenance manuals that are available will be provided by the MBTA. Environmental Subcontractor may make use of any existing manuals as much as possible but it is Environmental Subcontractor's responsibility to assure that the new manual is complete and correct. Environmental Subcontractor is encouraged to identify and incorporate more efficient practices and procedures into the manual for review and approval by the MBTA.

(b) Staffing Plan

- (i) Environmental Subcontractor shall staff the Facility using certified wastewater treatment plant operators based on a Staffing Plan to be prepared by Environmental Subcontractor and submitted for approval to the MBTA. Staffing shall ensure that the system is operated continuously in accordance with system design O&M requirements. Any automation, controls, alarms, etc. added by Environmental Subcontractor to reduce staffing requirements shall not be the basis for additional payments.

- (ii) At a minimum, the train washing facility shall be operated for one shift per day for 5 days per week. The wastewater treatment and reuse facility may operate automatically for up to 24 hours per day, 7 days per week. The facility is presently staffed one shift per day during the week and one-half shift per day on weekends. Environmental Subcontractor shall establish a proposed staffing plan to ensure that the system can be operated continuously.
- (iii) Environmental Subcontractor shall prepare a written Staffing Plan to provide operators with current and valid certification at the Full Operator Status to operate industrial treatment facilities pursuant to 257 CMR 2.00 (ODRL 3.8-034). Supervisors, foremen and operators shall hold valid Grade 3 or 4 Industrial Treatment Plant Operators Licenses. The Staffing Plan shall be written in accordance with Massachusetts regulations (314 CMR 12) and shall specify the number and qualifications of personnel necessary to ensure proper and continuous operation of the facilities and shall address the following items:
 - (i) Number of operational days per week
 - (ii) Number of operational hours per week
 - (iii) Number of shifts per day
 - (iv) Required personnel per shift
 - (v) Saturday, Sunday, and Holiday staff coverage, and
 - (vi) Emergency operating personnel.
- (iv) Environmental Subcontractor shall supply a copy of the O&M Manual and the Staffing Plan to the MBTA for MBTA approval within 45 days of the beginning of the contract term (ODRL 3.8-042). The MBTA shall have the right to comment on the O&M Manual and Staffing Plan, and Environmental Subcontractor must address any and all deficiencies noted by the MBTA and provide a final O&M Manual and Staffing Plan within 15 days of receipt of the MBTA's comments (ODRL 3.8-043). A copy of the final O&M Manual and Staffing Plan must be provided to the MBTA and a copy maintained at the Facility. Up-to-date copies of manufacturer service manuals must be maintained at the Facility. Requirements of the O&M Manual and

Staffing Plan cannot be changed without the approval of the MBTA.

7.2.2 Licenses and Permits

7.2.2.1 The wastewater treatment system has been designed as a closed loop recirculation system. Therefore, an MWRA Sewer Use Discharge Permit has not been obtained for this facility. It is Environmental Subcontractor's responsibility to ensure that wastewater is not discharged to the MWRA sewer system.

7.2.2.2 In the event Environmental Subcontractor shall wish to obtain permission to discharge to the MWRA sewer system, Environmental Subcontractor shall be responsible for obtaining the necessary permits and operating the treatment system in compliance with all applicable federal, state, and local regulatory programs including, but not limited to, the Federal Pretreatment Program (40 CFR 403), the MWRA Sewer Use Regulations (360 CMR 10), MassDEP Operation and Maintenance of Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers (314 CMR 12), and the Board of Registration of Operators of Wastewater Treatment Facilities (257 CMR 2). Discharge of wastewater to the MWRA shall not be the basis for additional payments.

7.2.2.3 Environmental Subcontractor shall be responsible for conducting annual reporting on chemical use as may be required under federal, state, and local regulations, including but not limited to, Tier II under Section 312 of the EPCRA, Form Rs under Section 313 of the EPCRA, Hazardous Waste Biennial Reports, and Form Ss under the TURA

7.2.3 Spare Parts and Emergency Repairs

7.2.3.1 Services. Environmental Subcontractor shall be responsible for the following services:

- (a) Environmental Subcontractor shall respond immediately upon becoming aware of a malfunction or to requests by the MBTA for repairs of any nature.
- (b) Environmental Subcontractor shall complete repairs to Facility unit operations, appurtenances, and associated equipment within a 24-hour period whenever possible.
- (c) Environmental Subcontractor shall maintain an up to date inventory of tools and parts in use at the Facility

7.2.3.2 Spare Parts List

- (a) Environmental Subcontractor shall develop and submit to the MBTA for approval within 45 days of the Contract award date, a list of spare parts recommended by the equipment manufacturers for each unit operation, appurtenances, and equipment component (ODRL 3.8-044). For each spare part, Environmental Subcontractor shall provide the following information:
 - (i) supplier name, address, telephone number
 - (ii) emergency telephone number
 - (iii) delivery time
 - (iv) unit price
- (b) Environmental Subcontractor shall maintain and keep current, the spare parts list at the Facility.
- (c) Spare Parts Inventory
 - (i) Environmental Subcontractor shall develop and submit to the MBTA for approval within 45 days of the Contract award date, a list of critical spare parts recommended by the equipment manufacturers for each unit operation, appurtenances, and equipment component (ODRL 3.8-044). Environmental Subcontractor is responsible for maintaining in inventory all items listed on the critical spare parts inventory list.
 - (ii) Environmental Subcontractor shall provide all materials necessary to operate and maintain Wastewater Treatment and Reuse Facility including, but not limited to, activated carbon replacement, ion exchange resin and ultrafiltration membranes.

7.2.4 Granular Activated Carbon Replacement

- 7.2.4.1 Environmental Subcontractor shall be responsible for the regular and routine influent and effluent monitoring of the primary and secondary activated carbon vessels to determine column breakthrough, if necessary to meet the treatment goals. Upon discovery of breakthrough, the primary vessel, the primary vessel shall be taken off-line and the secondary vessel shall be made the primary vessel. Breakthrough monitoring shall commence immediately on the newly designated primary vessel. Within 7

calendar days, the granular activated carbon media from the off-line vessel shall be replaced and the vessel shall be brought back on-line as the secondary vessel. Environmental Subcontractor is responsible for all carbon replacement.

- 7.2.4.2 Environmental Subcontractor shall be responsible for the handling and disposal of waste granular activated carbon and shall handle this waste in accordance with all federal, state, and local regulations.

7.2.5 Ultrafiltration Membrane Replacement

- 7.2.5.1 Environmental Subcontractor shall be responsible for the regular and routine cleaning and inspections of the ultrafiltration unit to determine the integrity of the Konsolidator ultrafiltration membranes. Upon discovery of membrane damage or based on the manufacturers recommendation, Environmental Subcontractor shall contact Konsolidator representatives immediately to expedite the ultrafiltration membrane replacement. Membrane replacement is considered a major repair; therefore, the MBTA must be notified prior to replacement of the membrane. The MBTA is responsible for the cost of the membrane and Environmental Subcontractor is responsible for installation of the membrane. Wastewater shall not be discharged to the sewer system at any time
- 7.2.5.2 Environmental Subcontractor shall be responsible for the handling and disposal of damaged membranes and shall handle this waste in accordance with all federal, state, and local regulations.

7.2.6 Ion Exchange Resin Replacement

- 7.2.6.1 Environmental Subcontractor shall be responsible for the regular and routine influent and effluent monitoring of the primary and secondary ion exchange resin trains to determine breakthrough, if necessary to meet the treatment goals. Upon discovery of breakthrough of the primary train, the primary train shall be taken off-line and the secondary train shall be made the primary train. Breakthrough monitoring shall commence immediately on the newly designated primary train. Within 7 calendar days, the ion exchange resin shall be replaced. Environmental Subcontractor is responsible for all ion exchange resin replacement.
- 7.2.6.2 Environmental Subcontractor shall be responsible for the handling and disposal of waste ion exchange resin and shall handle this waste in accordance with all federal, state, and local regulations.

7.2.7 Safety and Security

7.2.7.1 Environmental Subcontractor shall maintain a safe and secure work environment at the Facility. Environmental Subcontractor shall ensure that the Facility is maintained and operated in compliance with applicable OSHA regulations and that Environmental Subcontractor's personnel who work at the Facility have received OSHA-required training. Environmental Subcontractor shall ensure that the Facility and its appurtenances and associated equipment are maintained in good operating condition and are provided with OSHA-required safety devices and markings. Environmental Subcontractor shall ensure that the Facility is staffed by at least one qualified operator at all times that the maintenance facility is in regular operation and that a qualified operator is on-call for periods when the maintenance facility is not in regular operation.

7.2.8 Training and Qualifications

7.2.8.1 Environmental Subcontractor shall ensure that personnel who work at the Facility and/or on MBTA property and who operate and/or maintain the Facility, appurtenances, and associated equipment are qualified to perform the services provided. Qualifications must include demonstrated experience in the operation and maintenance of industrial wastewater treatment facilities. Wastewater treatment plant operators must have current valid certification to operate Grade 3-Industrial treatment facilities pursuant to 257 CMR 2.00.

8. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.8-001	Resumes for two full-time environmental compliance staff	30 days after NTP
ODRL 3.8-002	Draft Permit Management Program	30 days after NTP
ODRL 3.8-003	Final Permit Management Program	90 days after NTP
ODRL 3.8-004	Monthly Compliance Summary Example Report	30 days after NTP
ODRL 3.8-005	Monthly Compliance Summary Report	Monthly
ODRL 3.8-006	All Applications for Permits, Certificates, Licenses & Regulatory Agency Correspondence	Within 90 days before expiration
ODRL 3.8-007	Draft Emergency Spill Response / Spill Prevention Control and Countermeasure (SPCC) Plan	60 days after NTP
ODRL 12-008	Final Emergency Spill Response / Spill Prevention Control and Countermeasure (SPCC) Plan	90 days after NTP
ODRL 3.8-009	Fuel Usage Report	Monthly
ODRL 3.8-010	All EPA Reports for CRMF Facility-Wide Emissions Cap	Per Permit
ODRL 3.8-011	Draft Hazardous Materials Management Plan	60 days after NTP

ODRL	Description	Due Date
ODRL 3.8-012	Final Hazardous Materials Management Plan	Within 30 days of receipt of MBTA's comments
ODRL 3.8-013	Copies of All Waste Management Documentation	Immediately Upon Receipt
ODRL 3.8-014	Draft Environmental Services Work Plan	60 days after NTP
ODRL 3.8-015	Final Environmental Services Work Plan	Within 30 days of receipt of MBTA's comments
ODRL 3.8-016	Copies of all Correspondence with Regulatory Agencies	Immediately
ODRL 3.8-017	Copy of Inventory & Spare Parts/Tools List	Immediately
ODRL 3.8-018	Health & Safety Plan	90 days after NTP
ODRL 3.8-019	Drainage Inspection Forms	Immediately
ODRL 3.8-020	Draft Individual O&M Plans, Staffing Plans & Inspection Plans	45 days after NTP
ODRL 3.8-021	Final Individual O&M Plans, Staffing Plans & Inspection Plans	Within 15 days of receipt of MBTA's comments
ODRL 3.8-022	OWS Inspection Forms & Reports	Immediately
ODRL 3.8-023	NPDES Monitoring Reports	Per Permit
ODRL 3.8-024	OWS Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-025	On-site Disposal System Inspection Forms & Reports	Immediately
ODRL 3.8-026	On-site Disposal System Pumping Reports	Immediately
ODRL 3.8-027	On-site Disposal System Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-028	Tank System Inspection Schedule, Forms & Reports	Immediately
ODRL 3.8-029	Tank System Leak Detection Testing Schedule & Reports	Immediately
ODRL 3.8-030	Tank System Corrosion Protection System Testing Schedule & Reports	Immediately
ODRL 3.8-031	Stage II Recovery System Testing Schedule & Reports	Immediately
ODRL 3.8-032	UST System Tightness Testing Schedule & Reports	Immediately
ODRL 3.8-033	Tank System Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-034	Tank Overfill Alarm System Testing Schedule & Reports	Immediately
ODRL 3.8-035	CRMF MWRA Monitoring Reports	Per Permit
ODRL 3.8-036	CRMF MWRA O&M Logs & Reports	Immediately
ODRL 3.8-037	Draft CRMF O&M Manual, SOPs & Staffing Plan	45 days after NTP
ODRL 3.8-038	Final CRMF O&M Manual, SOPs & Staffing Plan	Within 15 days of receipt of MBTA's comments
ODRL 3.8-039	Slug Control Plan & Pretreatment Report	30 days after NTP
ODRL 3.8-040	CRMF Wastewater System Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-041	Widett Permit Monitoring Reports & Logs	Immediately
ODRL 3.8-042	Draft Widett O&M Manual, SOPs & Staffing Plan	45 days after NTP

ODRL	Description	Due Date
ODRL 3.8-043	Final Widett O&M Manual, SOPs & Staffing Plan	Within 15 days of receipt of MBTA's comments
ODRL 3.8-044	Widett Wastewater System Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-045	Open Environmental Site Report	Monthly

SCHEDULE 3.9 MANAGEMENT AND PERSONNEL

1. MANAGEMENT AND PERSONNEL

1.1 General

The Operator shall be solely responsible for the management of Operator Personnel, subject to the terms of this Agreement. In the performance of its obligations under this Agreement, the Operator is an independent contractor for, and not an agent of, the MBTA.

1.2 Meetings with the Operator's Corporate Officers

Each Operator officer shall be required to meet with the MBTA's Senior Director or any member of the MBTA senior management within 72 hours of the MBTA's request.

1.3 The Operator General Manager

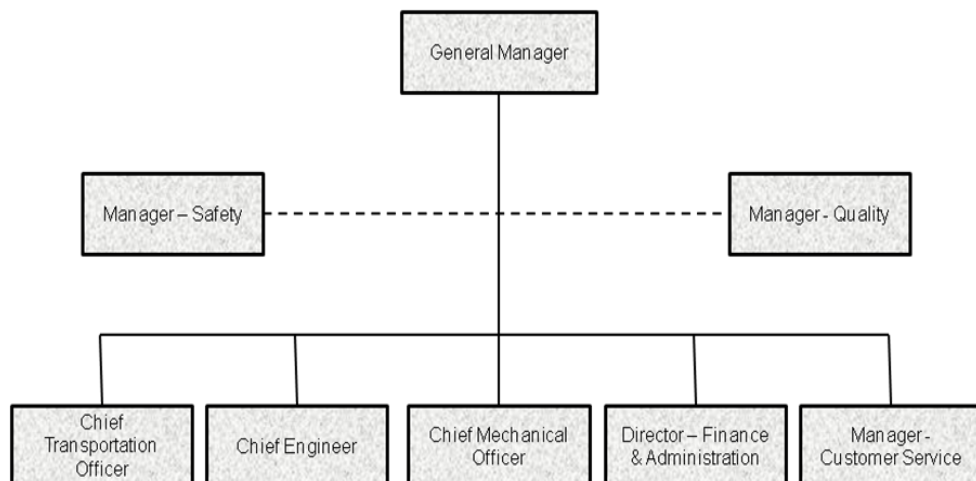
- 1.3.1 The Operator shall, subject to the prior approval of the MBTA, designate an Operator General Manager (the "**Operator General Manager**" or "**OGM**") who shall have professional experience commensurate with the scope of the Agreement Services.
- 1.3.2 The OGM should have demonstrated at least five years of recent experience (within the last 10 years) as a senior operating officer of a passenger railroad service, and must have 15 years experience in rail operations.
- 1.3.3 The OGM's experience must be working with passenger rail systems, preferably with an emphasis on commuter rail systems of a similar size and complexity of the MBTA's system.
- 1.3.4 The OGM's professional experience must include direct responsibility for passenger trains operating in compliance with the requirements of FRA regulations (49 Code of Federal Regulations Chapter II, Parts 200-269) as well as APTA's "Manual of Standards and Recommended Practices for Passenger Rail Equipment."
- 1.3.5 The OGM will act as the single point of contact for the MBTA regarding operational issues, reporting, performance and contractual issues. This individual will oversee the Agreement Services on behalf of the Operator, and all written correspondence concerning this Agreement will be addressed to this individual.
- 1.3.6 The OGM must be a resident of the Boston metropolitan area and available 24 hours/day, seven days a week and will serve as the Operator's representative in all meetings with the MBTA and/or its duly appointed representatives and designees.

- 1.3.7 The OGM shall be fully empowered to make all operating decisions on behalf of the Operator as necessary to maintain the safe and efficient operation of the Commuter Rail System and have full signing authority subject to the Operator's procedures.
- 1.3.8 The OGM must attend any meeting including, without limitation, public meetings with the MBTA's Senior Director or other senior staff, as requested by the MBTA, and be available at such other times as the MBTA may direct, to consult with MBTA representatives.
- 1.3.9 The OGM will be responsible for and empowered to make immediate decisions as necessary during the Mobilization Period. The Operator may elect to augment the OGM with additional dedicated personnel for Mobilization Services duties, but the OGM shall be the primary individual responsible for the Operator's performance during this phase.
- 1.3.10 The individual assigned to the OGM position must remain in that position for no less than 18 months after the Mobilization Commencement Date.
- 1.3.11 The OGM shall be assigned exclusively to perform the Agreement Services and shall not perform functions in connection with any other service or agreement.
- 1.3.12 The OGM shall have authority to enter into agreements with the MBTA for Supplemental Work with a value up to \$1 million per project, and have authority to approve purchases of up to \$1 million within five days. For Supplemental Work or purchases in excess of \$1 million, the Operator shall obtain the required corporate approval, if any, within 10 days of the MBTA's request for such approval.
- 1.3.13 The MBTA will continuously monitor the effectiveness of the OGM. The OGM shall continually demonstrate proficiency in this position for the duration of this Agreement. Failure to continually demonstrate proficiency in performing his/her duties in connection with this Agreement will be grounds for removal from the position of OGM by the MBTA.
- 1.3.14 The Operator shall fill any vacancy or absence in the OGM's position on an interim basis immediately in order to ensure uninterrupted access to the MBTA. By the Agreement Services Commencement Date, the Operator shall supply MBTA with a list of empowered designees including their names, resumes and phone numbers to be used as a point of contact at times when the OGM is unavailable (ODRL 3.9-001). At a minimum the three top operating officers, at least, must be able to fill vacancies in the OGM position at any time a vacancy occurs.
- 1.3.15 In the OGM's absence, the Operator will designate an Acting OGM who shall have full authority to discharge the responsibilities of the OGM.

- 1.3.16 In the event of an absence by the OGM in excess of 30 calendar days, the Operator will submit the name of the Acting OGM within two business days of the date on which the initial absence or vacancy occurs to the MBTA for approval, which approval shall not be withheld solely on the basis that the proposed Acting OGM does not meet all of the requirements of Sections 1.3.1 through 1.3.12 of this **Schedule 3.9** (Management and Personnel) (ODRL 3.9-002). A vacancy in the OGM position will be filled on a permanent basis, by an individual approved in advance by the MBTA with the same qualifications as listed in Sections 1.3.1 through 1.3.12 of this **Schedule 3.9** (Management and Personnel), within 60 days of the date on which the initial absence or vacancy occurs, unless such time period for approval is extended by the MBTA.

1.4 Management Personnel

- 1.4.1 The Operator shall submit a proposed organizational chart and list of functional responsibilities and required individual qualifications no later than 60 days after NTP. The proposed organizational chart shall reflect and comply with Sections 1.4.2 through 1.4.9 of this **Schedule 3.9** (Management and Personnel), which establish the minimum requirements for the Operator's Managers. The following organizational chart is recommended (ODRL 3.9-003):



- 1.4.2 The OGM shall have seven primary direct reports. They shall be (1) the Chief Transportation Officer, (2) Chief Mechanical Officer, (3) Chief Engineer, (4) Director – Finance & Administration, (5) Customer Service Manager, (6) Manager – Safety, and (7) Manager – Quality. These individuals selected to fill the positions as direct reports to the OGM shall be subject to prior MBTA approval. The Operator may choose to assign alternate position titles but the qualifications and responsibilities must be consistent with those described herein. The OGM’s direct reports shall have the following qualifications and responsibilities:

1.4.2.1 Chief Transportation Officer:

- (a) Shall have at least 10 years professional railroad transportation experience with emphasis in the following areas – railroad passenger transportation; Operating Rule Book qualified; direct responsibility for trains operating in compliance with FRA regulations (Code of Federal Regulations Title 49, Chapter II, Parts 200-299); direct responsibility in with dealing with unionized labor. In addition a four-year college degree is preferred.
- (b) Responsibilities include directing daily operation of all revenue and non-revenue trains; Train & Engine crews; terminals, yards and stations; transportation service planning; customer and employee safety and security; daily interaction and cooperation with partner railroads and other third parties including Positive Train Control system Contractors and consultants.

1.4.2.2 Chief Mechanical Officer:

- (a) Shall have at least 10 years professional railroad mechanical experience with emphasis in the following areas – Railroad mechanical operations; direct responsibility for maintaining railroad passenger equipment in compliance with FRA regulations (Code of Federal Regulations Chapter II, Parts 200-299) and APTA “Manual of Standards and Recommended Practices for Passenger Railroad Equipment”; direct responsibility for dealing with unionized labor. In addition a four year college degree is preferred.
- (b) Responsibilities include overseeing and directing all production planning activities as well as implementation of all Mechanical Department activities. This includes but is not limited to all inspection, maintenance, repair, and maintenance planning for all MBTA revenue and non-revenue rolling stock fleets, shops and yards; customer and employee safety and security; daily interaction and

cooperation with partner railroads and other third parties including Positive Train Control system contractors and consultants, integration of new rolling stock fleets into Commuter Rail Service; oversight of all mandatory and necessary training activities, oversight of all activities necessary to ensure delivery of quality Agreement services in compliance with MBTA goals and federal and other regulations.

1.4.2.3 Chief Engineer:

- (a) Shall have at least 10 years professional railroad engineering experience with emphasis in the following areas – Railroad engineering operations; direct responsibility for right of way, signal, infrastructure inspection and maintenance in compliance with FRA regulations (Code of Federal Regulations Title 49, Chapter II, Parts 200-299) and AREMA and American Railway Engineering Association (“Area”) Standards and Recommendations; direct responsibility in dealing with unionized labor; Professional Engineer’s License. In addition a four-year college degree is preferred.
- (b) Responsibilities include directing all inspection, maintenance, repair, and maintenance planning for all MBTA right of way track, moveable and fixed span bridges, culverts and drainage structures, signal systems, stations, facilities and other infrastructure; customer and employee safety and security; daily interaction and cooperation with partner railroads and other third parties including Positive Train control system Operators and consultants.

1.4.2.4 Customer Service Manager:

- (a) Shall have at least five years previous experience in customer service in the passenger transportation industry. A four year college degree is preferred.
- (b) Shall be responsible for oversight of the Operator’s customer service and public information efforts, including the supervision of conductor’s and assistant conductor’s Customer Service responsibilities, and investigating complaints as required by **Schedule 3.7** (Operator Customer Service Responsibilities) of this Agreement.
- (c) Shall be responsible for, directly or through subordinates, coordinating alternate transportation in the event of service disruption, inclement weather, accident or other

circumstances requiring bus substitution for commuter rail service. This shall occur under the guidance of Transportation Management or the Chief Dispatcher.

- (d) Shall be assigned exclusively to address customer service issues and be empowered with sufficient authority and resources to promptly investigate and resolve customer complaints. Shall maintain frequent contact and coordinate efforts with MBTA Railroad Operations and the MBTA's Customer Service department and the Operator's Manager – Safety and Manager - Accessibility.

1.4.2.5 Director - Finance, Accounting, and Administration:

- (a) Shall have working knowledge of the rail mass transit industry; knowledge of Generally Accepted Accounting Principles; business and financial planning; budget and production plan development and implementation; financial information collection and reporting; human resource management; thorough knowledge of all FTA and other public funding regulations and requirements; 4-year degree in a related field preferred.
- (b) Responsibilities include oversight of all financial activities and audits associated with Agreement Services; including implementation of corrective actions and recommendations deemed necessary and approved by the MBTA; financial reporting; handling all FTA and other public funding activities; oversight of all accounting activities associated with Agreement Services; prompt and accurate Annual Fee invoice preparation and delivery including accurate deductions as they occur; oversight of all administrative activities associated with Agreement Services. In addition, the individual shall be experienced with Generally Accepted Accounting Principles.

1.4.2.6 Manager - Safety:

- (a) Shall have at least six years of rail transit or rail transportation experience; be either a Certified Rail Safety Specialist (WSO Certification); or Certified Rail Safety/Security Director (WSO Certification); or Certified Transit Safety and Security Program (TSI Certification); or Certified Safety Professional; or have other certifications, combination of courses/programs or cumulative experience of similar merit and content in rail, transit or transportation; professional experience with administering all applicable regulations including, but not limited to FRA, FTA and

National Transportation Safety Board accident and incident investigation procedures and requirements , Occupational Safety & Health (OSHA) 29 CFR 1910 &1926 regulations. In addition a four year college degree is preferred.

- (b) Responsibilities include day-to-day management of the MBTA's System Safety Program Plan and resulting Operator's safety compliance plans; investigation and reporting of incidents, accidents, derailments, near misses, close calls, safety related complaints, safety critical rules violations, and other safety concerns; hazard management, risk reduction and corrective action plans; and other regulatory, MBTA and Operator safety initiatives, rules programs, orders, and processes.
- (c) Responsibilities also include the development, implementation and administration of the Operator's security compliance plans in accordance with the MBTA System Security Plan; management of all security risk mitigation for the Operator; interaction and cooperation with MBTA Transportation, Safety, Security and Third Party Railroads and MBTA Police Department and neighboring municipal police departments and emergency services.
- (d) Responsibilities further include developing and implementing and administering the Operator's security compliance plan in accordance with the MBTA System Security Plan; management of the Operator's security compliance program; management of all security risk mitigation for the Operator; interaction and cooperation with MBTA Transportation, Safety, Security; and Third Party Railroads and MBTA Police Department and neighboring municipal police departments; emergency services; and otherwise ensuring the Operator's compliance with its obligations set out in **Schedule 3.5** (Safety and Security).

1.4.2.7 Manager – Quality:

- (a) Shall have an American Society for Quality (“ASQ”) certification, or an MBTA-approved equivalent certification, and shall have a minimum of two years of relevant experience in a similar quality position and five years of relevant experience in managing or monitoring similar operations and maintenance contracts. College degree preferred.
- (b) Responsibilities include management of the quality of all aspects of the work performed under the Agreement,

adherence to all instructions, processes and procedures documented through the Quality Assurance Plan and shall be responsible for implementation and tracking of the Quality Assurance Plan, all quality control and auditing activities, engineering disciplines with emphasis on those areas directly associated with customer and employee safety and comfort, environmental engineering and compliance, all regulatory compliance without limitation, including FRA, OSHA, APTA, DEP, FTA; and overseeing the development of work procedures.

- 1.4.3 The individuals assigned as direct reports to the OGM must residents of the Boston metropolitan area and available 24 hours a day, seven days a week.
- 1.4.4 The OGM direct reports shall be assigned exclusively to perform the Agreement Services and shall not perform functions in connection with any other service or agreement. None of the direct report positions may be filled by a deputy to that position nor by another direct report manager who would then carry two titles.
- 1.4.5 By the Agreement Services Commencement Date, the Operator shall supply MBTA with a list of empowered designees including their names, resumes and phone numbers to be used as a point of contact at times when any of the direct reports are not available (ODRL 3.9-004).
- 1.4.6 The functions described in this Section 1.4.6 of this **Schedule 3.9** (Management and Personnel) must be included in the Operator's organizational chart. The Operator may assign position titles and specific responsibilities subject to MBTA approval. In addition, all candidates for these positions are subject to MBTA approval. However, each of the following functions must be included in that structure, having the following qualifications and responsibilities:
 - 1.4.6.1 Human Resources:
 - (a) This individual shall have a working knowledge of the rail mass transit industry; experience in dealing with the requirements of multiple collective bargaining agreements and utilizing union labor; 4-year college degree in a related field is preferred.
 - (b) Responsibilities include all human resource management duties; developing and implementing a hiring plan; interviewing; managing workforce diversity in compliance with Federal, state and local regulations and commitments; forecasting employee attrition, maintaining craft and supervisor availability statistics and maintaining headcount

in all crafts and management ranks; responding to and working with operating Chiefs to mitigate employee complaints (e.g. sexual harassment, etc.); maintaining employee attendance, qualification and discipline records; tracking job vacancies and posting craft and promotional bulletins in compliance with collective bargaining agreements; and ensuring Operator compliance with its affirmative action, equal opportunity and DBE obligations set out in this Agreement including, but not limited to, those obligations set out in **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE).

1.4.6.2 IT, Data Analysis & Reporting:

- (a) This individual will have at least five years professional experience as a manager and/or senior analyst with each of the following: account management, staff management, project management, customer relationship management, and process improvement. Must have a sound general knowledge of IT systems. Must have experience with recruiting, hiring, and managing staff effectively. A four year college degree in a related field is preferred.
- (b) Responsibilities include overseeing the overall Operator IT Services/MBTA customer relationship, managing and directing all Operator IT Services responsibilities and staff, communicating, tracking, coordinating, and enforcing the standards and best practices specified by this Agreement, expediting and reporting all MBTA IT mission activities, processing, problem resolution and escalation, projects, requests, and service levels. This function applies to all services including data centers, technical service centers, production systems, scheduling, help desks, communication networks (voice and data), computer program development, implementations, and computer systems operations. Responsible for monitoring, reporting and maintaining the integrity of the Operator IT Services delivery to the MBTA. This individual will coordinate, track and participate in all customer meetings and in-process reviews.

1.4.6.3 Labor Relations:

- (a) Shall have at least five years professional experience working in the railroad industry under Railway Labor Act guidelines. Four-year college degree in a related field is preferred.

- (b) Responsibilities include, but are not limited to daily oversight of the labor relations personnel and department (or group or division) activities; preparation for collective bargaining; participation in the collective bargaining under the Railway Labor Act (“RLA”); administration and interpretation of collective bargaining agreements (“CBAs”) including handling the dispute resolution process (grievances and discipline cases) up to and including arbitration; providing guidance to managers and supervisors as to proper interpretation of CBAs and arbitral decisions; participation in representation disputes in accordance with RLA procedures; and overseeing compliance with all CBA and labor related requirements of this Agreement.

1.4.6.4 Material Management:

- (a) Shall have familiarity with the procurement and materials needs of the rail mass transit industry; knowledge of the FTA procurement regulations and reporting requirements; college degree in a related field is preferred.
- (b) Responsibilities include oversight of all the Operator’s procurement activities; material storage, handling and distribution activities; all procurement documentation and tracking; data entry and use of material management information system; all procurement and material management reporting; developing, implementing and overseeing the monthly material meetings with end users and the MBTA; minimizing stock-outs; accurate and timely ordering, storage, handling, distribution and tracking of all project material; and required reporting to FTA and other funding agencies.

1.4.6.5 Training & Qualification:

- (a) This individual shall have a working knowledge of the rail mass transit industry; familiarity with railroad transportation, mechanical and engineering systems and apparatus; and knowledge of all federal training requirements, college degree preferred.
- (b) Responsibilities include developing, updating, administering and overseeing of all required training programs with emphasis on federally mandated programs and new vehicle fleet related training; ensuring complete attendance at all training sessions; timely advertising of all training opportunities; reporting all test scores and training

attendance information to the MBTA; and developing new training programs as required.

1.4.6.6 Accessibility:

- (a) This individual shall have working knowledge of ADA requirements and mitigation measures as they relate to mass transit; at least five (5) years of related professional experience; college degree in a related field is preferred.

Responsibilities include oversight of the Operator's compliance with ADA requirements.

1.4.6.7 Environmental Engineer:

- (a) Unless otherwise agreed to by the MBTA, this individual shall have thorough knowledge of all applicable environmental regulations from EPA, DEC Massachusetts DEP and all other environmental regulatory agencies; all reporting requirements; environmental infrastructure; and a working knowledge of the rail mass transit industry. In addition a four-year degree is preferred.

- (b) Responsibilities include maintaining awareness and planning for changes in environmental regulations that could impact Agreement Services; managing environmental waste removal, mitigation, remediation, and spill management & clean-up; maintaining all required environmental reporting and regulatory compliance; managing environmental agreements.

1.4.6.8 HVAC Engineer:

- (a) Unless otherwise agreed to by the MBTA, this individual shall have a thorough working knowledge of onboard HVAC systems on commuter rail or other passenger rail rolling stock and locomotives; working knowledge of 49 CFR regulations; technical writing skills; at least five (5) years related professional experience.

- (b) Responsibilities include monitoring performance of HVAC on MBTA rolling stock fleets; measuring and tracking HVAC performance trends; participating in hands-on troubleshooting with maintenance personnel; developing and writing associated work procedures; developing engineered solutions to HVAC related problems on rolling stock. In addition a four-year college degree is preferred.

1.4.6.9 Rolling Stock Mechanical Engineer:

- (a) Unless otherwise agreed to by the MBTA, this individual shall possess a working knowledge of applicable 49 CFR regulations; commuter rail experience; technical writing skills; 4 year Mechanical Engineering degree preferred.
- (b) Responsibilities include reviewing existing designs and drawings, identifying reliability issues, performing root cause analyses, and designing modifications to improve performance and reliability
- (c) System responsibilities include monitoring performance of diesel engines, auxiliary engine functions (cooling, fueling, etc), trucks, doors, HVAC, compressed air brake, and the control/monitoring/diagnostics capabilities of each system

1.4.6.10 Rolling Stock Electrical Engineer:

- (a) Unless otherwise agree to by the MBTA, this individual shall possess a working knowledge of applicable 49 CFR regulations; commuter rail experience; technical writing skills; 4-year Electrical Engineering degree preferred.
- (b) Responsibilities include reviewing existing designs and schematics, identifying reliability issues, performing root cause analyses, and designing modifications to improve performance and reliability
- (c) System responsibilities include monitoring performance of inverter controlled traction power, track signaling, cab signaling, communications, locomotive control, trainline control, auxiliary power distribution (high voltage and battery voltage), layover protection, and the control/monitoring/diagnostics capabilities of each system

1.4.6.11 Communications & Signal Engineer:

- (a) Unless otherwise agreed to by the MBTA, this individual shall have at least 15 years professional railroading experience with emphasis in Railroad Engineering Operations. A college degree in an engineering discipline is preferred as well as experience dealing with unionized labor.
- (b) Responsibilities include, but are not limited to planning, oversight and direction of all signal and communication inspection and maintenance activities in compliance with FRA regulations (49 CFR Chapter II, Parts 200-299) and

AREMA and AREA standards and recommendations including Positive Train Control (“PTC”) systems, contractors and consultants; dealing with unionized labor.

1.4.6.12 Track & Work Equipment Engineer:

- (a) Unless otherwise agreed to by the MBTA, this individual shall have at least 15 years professional railroading experience with emphasis in Railroad Engineering Operations. A college degree in an engineering discipline is preferred as well as experience dealing with unionized labor.
- (b) Responsibilities include, but are not limited to planning, oversight and direction of all track inspection, maintenance and repair activities in compliance with FRA regulations (49 CFR Chapter II, Parts 200-299) and AREMA and AREA standards and recommendations; dealing with unionized labor; coordination of efforts with PTC system installation.

1.4.6.13 Bridge, Building & Structures Engineer:

- (a) Unless otherwise agreed to by the MBTA, this individual shall have at least 15 years professional railroading experience with emphasis in Railroad Engineering Operations. A college degree in an engineering discipline is preferred as well as experience dealing with unionized labor.
- (b) Responsibilities include, but are not limited to planning, oversight and direction of all right-of-way moveable and fixed span bridge, station, facility, culvert, drainage structure and other infrastructure inspection, maintenance and repair activities in compliance with FRA regulations (49 CFR Chapter II, Parts 200-299) and AREMA and AREA standards and recommendations; dealing with unionized labor; coordination of efforts with PTC system installation.

1.4.6.14 Track Geometry Engineer:

- (a) Unless otherwise agreed to by the MBTA, this individual shall have a four-year Civil Engineering degree with at least 10 years professional experience with the components of track geometry including curvature, superelevation and underbalance. Must have extensive knowledge of FRA Track Safety Standards, strong knowledge of rail conditions, rail wear and special trackwork design. Must have strong knowledge in Microsoft (“MS”) Excel, MS Access, MS Word, MS PowerPoint, and Ensco GeoEdit computer software. Must be qualified or qualify (as a condition of

employment) on NORAC Operating Rules as well as MBTA physical characteristics of the entire Commuter Rail System.

- (b) Responsibilities include, but are not limited to managing the operation of the Track Geometry Data and Rail Defect Detection Vehicles; collection, interpretation, analysis, prioritization and reporting of all rail defect data recorded by the Vehicles listed above; review of track inspection records to ensure compliance with FRA regulations (49 CFR Chapter II, Parts 200-299); maintain and modify, as necessary, the MBTA MW-1 and CWR Plan; conduct training and review classes for the Track Department in MW-1 and CWR Plan; conduct investigations on derailment causes including the measurement of track geometry at derailment sites; conduct training for Track Department employees qualifying as Track Foremen.

1.4.6.15 Warranty Administration:

- (a) Responsibilities shall include the management of all warranty programs; development and implementation of warranty claim protocols and documentation; tracking all warranty claims; maximizing the value of warranty coverage, especially new vehicle warranties.

1.4.6.16 Compliance:

- (a) Responsibilities include knowledge of all the Operator's regulatory responsibilities and obligations, reporting, information collection and retention requirements; staying abreast and aware of all planned and pending regulatory changes, notices of Proposed Rulemaking and other applicable Federal Register items; the Operator notification and preparation for same.

1.4.7 The Operator shall submit to the MBTA for approval the names and resumes of the individuals it proposes to discharge the functions described above at least 100 days before each individual is to assume responsibility for such functions (ODRL 3.9-005). The MBTA shall not unreasonably delay written approval of such appointments.

1.4.8 The individual occupying each of the positions described above shall have professional experience commensurate with his or her job responsibilities and the scope of the Agreement Services. Each manager referred to herein shall attend all meetings, including public meetings, requested by the MBTA.

1.5 Changes in Management Personnel

- 1.5.1 The Operator management team stability is a critical element in successful performance under this Agreement. To achieve that objective, the Operator will not transfer the OGM for 18 months or any other manager listed above for 12 months after NTP, or the date of the MBTA's approval of such manager, whichever is later except under the following conditions:
- 1.5.1.1 As required by any provision of this Agreement, after providing notice to the MBTA;
- 1.5.1.2 In the event that the Operator terminates such manager for cause, in which case the Operator shall promptly provide notice to the MBTA; or
- 1.5.1.3 With the prior written consent or at the request of the MBTA.
- 1.5.2 The Operator shall submit to the MBTA for approval the names and resumes of the individuals it proposes to fill any vacancy in a management position listed in Section 1.4 (Management Personnel) of this **Schedule 3.9** (Management and Personnel) at least one day before the individual is to assume interim responsibility for such function or functions (ODRL 3.9-006).
- 1.5.3 The Operator shall submit for MBTA approval the names and resumes of individuals it proposes to fill any management vacancies for positions described in Section 1.4.2 of this **Schedule 3.9** (Management and Personnel) at least 14 days before the individual is to assume permanent responsibility for such function or functions (ODRL 3.9-007).
- 1.5.4 In the event an absence or vacancy in any such position occurs, the Operator shall fill such vacancy on an interim basis within three business days of the date on which the absence or vacancy began, and on a permanent basis within 60 calendar days unless the MBTA approves in writing an extension of such time.
- 1.5.5 The MBTA reserves the right at any time in its reasonable discretion to direct that the OGM or the managers listed in Section 1.4 of this **Schedule 3.9** (Management and Personnel) be removed from the performance of Agreement Services, or transferred to another position. Except as detailed in Section 1.5.6 of this **Schedule 3.9** (Management and Personnel) below, the MBTA shall not reimburse the Operator or any Operator Personnel for the costs of such employee's termination, reassignment, or relocation.
- 1.5.6 In the event that an employee of the Operator files a claim in connection with any action taken by the Operator at the MBTA's direction pursuant to Section 1.5.5 of this **Schedule 3.9** (Management and Personnel), and a court determines that the MBTA acted in violation of law in directing

the Operator to take such action in relation to such employee, the MBTA shall indemnify and hold the Operator harmless from and against any damages, fines, or penalties arising from such determination. The Operator shall notify the MBTA within 24 hours of the filing of any such claim (ODRL 3.9-008), and the MBTA may elect to participate in the defense of such claim.

1.6 Operator Personnel:

- 1.6.1 The Operator shall, except as otherwise provided in this Agreement, provide and furnish all labor, including administrative, professional, and supervisory personnel, necessary for the performance of Agreement Services none of whom shall be employees of the MBTA.
- 1.6.2 All Operator Personnel will be employees of the Operator and shall be subject to the direction, supervision, and control of the Operator, and not the MBTA. The sole exception to this policy may be during extreme emergency conditions when the situation requires management direction and a suitably qualified Operator manager is not on the scene.
- 1.6.3 Operator Personnel shall be assigned exclusively to the performance of Agreement Services and shall not perform functions in connection with any services or contact other than Agreement Services except where the Operator has obtained MBTA's prior written approval to have employees perform other such services.
- 1.6.4 The Operator shall identify any Operator Personnel who are temporarily reassigned to perform Non-Agreement Services within five days of assignment (ODRL 3.9-009).
- 1.6.5 The Operator shall reimburse the MBTA for each day or portion thereof any Operator Personnel is performing Non-Agreement Services.
- 1.6.6 The Operator and its Subcontractors will be solely responsible for the determination of and payment of wages and benefits and other terms and conditions of employment, except as otherwise provided in this Agreement. All obligations of the Operator for the payment of wages and benefits and compliance with terms and conditions of employment, including terms of a collective bargaining agreement, shall be obligations of the Operator and not the MBTA.
- 1.6.7 The Operator shall comply with any applicable Federal or state prevailing wage rates, or collective bargaining agreements.
- 1.6.8 The Operator shall use reasonable efforts through the collective bargaining process to perform the Agreement Services in a manner that improves the cost-effectiveness and quality of the Agreement Services.

1.7 Employment Laws and Regulations

- 1.7.1 The Operator shall be fully responsible for complying with applicable laws and regulations relating to an employer's liability; unemployment insurance; forms of social security or railroad retirement; and for paying all costs, taxes, and fees associated with such compliance.
- 1.7.2 Except as otherwise provided in this Agreement, and except as provided in Section 1.5.6 of this **Schedule 3.9** (Management and Personnel), the Operator will indemnify and hold harmless the MBTA in accordance with **Part 1**, Section 14.2 (Indemnification by the Operator) arising from alleged violations by the Operator or its Subcontractors of any such laws, regulations, rules or procedures.

1.8 Operator Personnel Conduct and Discipline

- 1.8.1 Operator Personnel shall be qualified for the work assigned to them and shall perform their duties in a courteous, efficient, safe, and competent manner.
- 1.8.2 Operator Personnel who fail to meet such requirements shall be deemed to have engaged in Conduct Unbecoming an Employee as described below.
- 1.8.3 Operator Personnel engaged in the provision of Agreement Services shall not deface, damage, destroy, vandalize or litter rolling stock, station areas, or any other part of the Service Property, Support Property or Service Equipment.
- 1.8.4 Operator Personnel shall not, while engaged in the performance of Agreement Services, smoke, read personal material, watch or listen to television or other video devices, or use other electronic devices (such as cellular phones, personal digital assistants, tablet computers) for personal reasons.
- 1.8.5 Operator Personnel shall not sleep or appear to sleep, or fail to perform duties in a timely fashion as assigned.
- 1.8.6 Uniformed Operator Personnel must avoid congregating in groups in public spaces used by Customers.
- 1.8.7 Any such conduct as cited in Sections 1.8.3, 1.8.4, 1.8.5 and 1.8.6 of this **Schedule 3.9** (Management and Personnel) will be considered Conduct Unbecoming an Employee.
- 1.8.8 In addition, Conduct Unbecoming an Employee shall include, but not be limited to, the following conduct or behavior:

- 1.8.8.1 Misconduct towards a Customer or other person on the Service Property, including abusive, hostile, harassing, discriminatory, argumentative, or demeaning behavior.
- 1.8.8.2 Failure to comply with the customer service standards, described in **Schedule 3.7** (Operator Customer Service Responsibilities) of this Agreement.
- 1.8.8.3 Negligent performance of the Agreement Services.
- 1.8.8.4 Use or possession of illegal drugs or alcohol.
- 1.8.8.5 Use or possession of firearms or other weapons.
- 1.8.8.6 Dishonesty, including without limitation (i) theft, and (ii) the willful failure to accurately complete required reports.
- 1.8.8.7 Disorderly conduct.
- 1.8.8.8 Fighting.
- 1.8.8.9 Insubordination.
- 1.8.8.10 Criminal activity or reasonable suspicion of criminal activity.
- 1.8.8.11 Failure to comply with the Operator's safety compliance plan or security compliance plan, or any other act evidencing disregard for safety or security.
- 1.8.8.12 Failure to collect Fares on-board commuter rail trains.
- 1.8.8.13 Vandalism or other intentional damage to Commuter Rail Property or Third-Party property.
- 1.8.8.14 Reporting for work more than 60 minutes prior to the start of a scheduled tour of duty or leaving Service Property more than 60 minutes after completing a scheduled tour of duty unless permitted or required by the MBTA.
- 1.8.8.15 Failure to comply with any regulation, rule, procedure or instructions required to comply with the ADA or other accessibility law or regulation.
- 1.8.8.16 Failure to make proper and/or required onboard announcements.
- 1.8.8.17 Any other instances of Conduct Unbecoming An Employee as may be defined in this Agreement, including but not

limited to the provisions of **Schedule 3.1** (Transportation Services) of this Agreement.

1.8.9 All Operator Personnel who interact with Customers or the public, including locomotive engineers who work on-board commuter rail trains, must conduct themselves with courtesy and decorum, dress appropriately for the provision of service to Customers, and wear a clearly visible identification badge containing the employee's first name and badge number at the breast pocket.

1.8.10 All Operator Personnel who interact with Customers or the public, while on duty, shall not eat or drink and shall be clean and attired in uniforms that clearly indicate that they are providing Agreement Services on behalf of the MBTA. Uniform designs for on-board Operator Personnel must be approved by the MBTA. Failure to comply with any requirement of Section 1.8.9 of this **Schedule 3.9** (Management and Personnel) shall be deemed Conduct Unbecoming an Employee.

1.8.11 The Operator shall develop and implement an audit plan and reporting protocols that target employee conduct and appearance (ODRL 3.9-028). The plan and protocols must be submitted for MBTA approval no later than 60 days after NTP.

1.8.12 The Operator shall promptly investigate all reports of Conduct Unbecoming an Employee, and shall institute appropriate corrective measures, which shall include:

1.8.12.1 Disciplinary action;

1.8.12.2 Barring such Operator Personnel from the Service Property;

1.8.12.3 Removing such Operator Personnel from the performance of Agreement Services; or

1.8.12.4 Transferring such Operator Personnel to a job that does not require interaction with Customers or the public.

The Operator shall include in its collective bargaining agreements appropriate provisions that recognize the right and obligation of the Operator to take corrective measures for Conduct Unbecoming an Employee, including provisions stating that such conduct may be "cause" for disciplinary action, including dismissal.

1.8.13 The Operator shall take steps to ensure that similar instances of Conduct Unbecoming an Employee do not occur in the future.

1.8.14 The Operator shall also, at the request of the MBTA, in addition to instituting the corrective measures identified in Section 1.8.12 of this

Schedule 3.9 (Management and Personnel) for any Operator Personnel who engage in Conduct Unbecoming an Employee, or who the MBTA deems unsatisfactory on any reasonable basis, prevent such Operator Personnel from entering the Service Property.

- 1.8.14.1 Such reasonable basis may include the receipt by the MBTA or the Operator of more than three verbal or written complaints regarding the conduct of any Operator Personnel.
- 1.8.14.2 Such complaints need not be documented by complainants in writing or in person if subsequent investigation by the MBTA or the Operator reveals credible evidence of the veracity of the complaint.
- 1.8.14.3 Any criminal conviction, or reasonable suspicion of criminal activity, that in the discretion of the MBTA or the Operator, indicates that any Operator Personnel poses a threat to Customers, MBTA employees or the Service Property, the Support Property or the Service Equipment, shall constitute Conduct Unbecoming an Employee.

1.8.15 In the event any Operator Personnel barred from the Service Property or the performance of Agreement Services pursuant to Sections 1.8.12 or 1.8.14 of this **Schedule 3.9** (Management and Personnel) disputes such action, through arbitration or other proceeding set forth in a collective bargaining agreement or through a judicial proceeding or other forum recognized by law or contract and such employee prevails in such proceeding, the MBTA shall pay due deference to the results of such proceeding and shall consult with the Operator regarding the appropriate resolution of such Operator Personnel status, taking into account whether restoration of any such Operator Personnel to the performance of certain Agreement Services may threaten the public safety, or the provision of Customer Service in a manner that is consistent with the requirements of this Agreement.

1.8.16 At all times, the Operator will satisfy its obligation to maintain adequate personnel, both in number and qualifications, to provide Agreement Services in conformance with the approved staffing plan, regardless of the number of employees held out.

1.9 Availability of Employee Records

1.9.1 The Operator shall maintain such records as may be necessary or desirable in order for the MBTA to determine the Operator's compliance with applicable laws and regulations, and to assist in future transitions to a Successor Operator. As of NTP, such records consist of:

- 1.9.1.1 Operator Personnel lists, including each employee's name, employee number, craft or position, and badge number (where applicable);
 - 1.9.1.2 Hire dates;
 - 1.9.1.3 Wage and benefit records;
 - 1.9.1.4 Records of Operator Personnel competency tests, qualifications, certifications, and training; and
 - 1.9.1.5 Records of all Operator Personnel regarding attendance, discipline, drug and alcohol testing, and criminal violations that directly relate to the performance of the Agreement Services.
- 1.9.2 All such records shall be available for inspection and copying by the MBTA upon its request during the Operator's normal business hours (ODRL 3.9-010).
- 1.9.3 The Operator shall provide to the MBTA on or before September 1 of each Agreement Year a report as to the matters referred to in Sections 1.9.1.1 thru 1.9.1.5 of this **Schedule 3.9** (Management and Personnel) above for the immediately preceding Agreement Year (ODRL 3.9-011).
- 1.9.4 The Operator shall also submit to the MBTA a monthly employment report containing authorized headcount by function and current Operator Personnel lists as described in Section 1.9.1.1 of this **Schedule 3.9** (Management and Personnel) above (ODRL 3.9-012). Any information received by the MBTA pursuant to this Section 1.9.4 of this **Schedule 3.9** (Management and Personnel) shall be accorded the requisite confidential treatment as required by law.
- 1.9.5 The Operator shall prepare an annual staffing report (ODRL 3.9-013). This shall be a cumulative report that includes staff at all levels in all departments. It shall include forecasts for attrition and a hiring plan. The goal of this report is to ensure that the Operator has an effective staff management process and hiring plan as well as a reasonable forecasting protocols.
- 1.9.6 The Operator must prepare for and participate in an annual staffing review and evaluation conference with the MBTA by October 1st each year. The purpose of this meeting is to discuss whether the Operator's staffing levels are appropriate to handle ongoing and planned work (ODRL 3.9-014). In addition, interim review sessions with the Operator and the MBTA shall be scheduled in advance on a quarterly basis in order to review progress and make adjustments to the plan. This meeting schedule will be included in the annual staffing report.

1.10 Competency Tests

- 1.10.1 All employees hired by the Operator or its subcontractors shall be qualified and experienced in the work for which they are engaged, and shall possess all necessary and current certifications from appropriate regulatory authorities.
- 1.10.2 No later than 120 days after NTP, the Operator shall submit to the MBTA a Training Program, as required by **Schedule 3.10** (Training of Operator Personnel) of this Agreement, that ensures that all Operator Personnel are capable of performing the Agreement Services for which they are responsible. This plan must include a plan to administer baseline competency testing for all mechanics and supervisors to verify specific training needs. Said training program shall include training for existing Service Equipment and any Service Equipment anticipated to be added (ODRL 3.9-015).
 - 1.10.2.1 All Operator Personnel identified as deficient in required qualifications will complete necessary training prior to performing Agreement Services.
 - 1.10.2.2 The Operator shall develop and establish appropriate competency tests and procedures for all Operator Personnel.
 - 1.10.2.3 The Operator shall determine, using competency tests or other procedures, that all Operator Personnel are competent to perform the jobs to which they are assigned.
 - 1.10.2.4 The Operator shall further require, to the extent permitted by relevant CBAs, that an employee's promotion or advancement to a higher pay grade be contingent on the employee passing a competency test tailored to that higher pay grade and experience level.

1.11 Work in Harmony

- 1.11.1 The Operator shall furnish labor that shall work in harmony with all other elements of labor employed in the provision of Agreement Services, and shall work in harmony with Other Contractors and Third Party Railroads.
- 1.11.2 The Operator shall make reasonable efforts to minimize disputes between itself and such Other Contractors.
- 1.11.3 The MBTA shall use reasonable efforts to cause Other Contractors engaged by it to work in harmony with the Operator, and shall use reasonable efforts to minimize disputes between the Operator and Other Contractors engaged by the MBTA.

- 1.11.4 All Operator Personnel shall conduct themselves at all times in an orderly and proper manner so as not to annoy or offend Customers or other persons using the Service Property or employees of the MBTA.
- 1.11.5 The Operator shall, at the request of the MBTA, prohibit from entering the Service Property any Operator Personnel, agent, consultant, supplier, and/or Subcontractor who should cause any annoyance or offense.
- 1.12 Damage to MBTA Property
 - 1.12.1 None of the Operator's Personnel, or agents, consultants, suppliers, Subcontractors or representatives of the Operator will not deface, damage, destroy, misuse, litter or vandalize rolling stock, stations, shops or shop equipment, track cars or machinery or any other part of the Commuter Rail Property. This includes the application of unauthorized or inappropriate decals, advertising or other artwork.
 - 1.12.2 The Operator shall assume liability for all such actions on the part of its Operator Personnel or agents, consultants, suppliers, subcontractors or representatives and shall indemnify and hold the MBTA harmless from and against all claims, damages, losses and expenses incurred by the MBTA arising out of such actions.

2. HIRING OF EXISTING WORKFORCE

- 2.1.1 Establishment and Filling of Union Positions. The Operator shall establish employment positions for the provision of the Agreement Services equal to the number of Commuter Rail Employee Positions in existence on December 31, 2012 with the Massachusetts Bay Commuter Railroad ("MBCR"), hereafter referred to as the "Workforce Positions." The number of Workforce Positions to be established by the Operator, by category, shall be as follows:*

- 2.1.1.1 Transportation -

- 2.1.1.2 Mechanical -

- 2.1.1.3 Engineering -

- 2.1.1.4 Administration -

*to be provided with final Agreement

- 2.1.2 The Operator shall initially offer employment for all Workforce Positions in seniority order from the rosters of Eligible Union Employees, and shall fill all vacancies (if the Operator elects to fill such vacancies) during the Agreement Term from the rosters of Eligible Union Employees if such rosters have not been exhausted. In the event that the Operator exhausts such rosters or such rosters do not provide employees who are qualified

to fill an initial position or a subsequent vacant position, the Operator may fill such positions with employees not on such rosters.

- 2.1.3 Beginning the fourth Friday after the NTP or on another schedule proposed by the Operator, but not less than weekly, the Operator shall provide weekly written reports to the MBTA on the status and progress of the hiring process (ODRL 3.9-016). Such weekly updates shall include, without limitation, a listing of the filled and open Workforce Positions and a list of the Eligible Union Employees by employee name and number, based on seniority rosters indicating whether the employee:
 - 2.1.3.1 Applied for a position,
 - 2.1.3.2 Was interviewed for the position,
 - 2.1.3.3 Was offered the position,
 - 2.1.3.4 Was not offered a position based on failure of a physical or drug or alcohol testing,
 - 2.1.3.5 Accepted or declined the position, or
 - 2.1.3.6 Was given a general physical examination and the outcome of any such examination.
- 2.1.4 The Operator shall also list and identify each individual who was offered and accepted a position on the Operator's workforce and who was not previously employed by MBCR, including a complete and detailed explanation regarding why the position was not filled by an individual who belonged to the existing MBCR workforce and was on a seniority roster (ODRL 3.9-017).
- 2.1.5 The Operator shall keep all MBCR employees who are on disability due to work-related injuries at the time of the workforce transition on the roster of Eligible Union Employees for 36 months starting on the Agreement Services Commencement Date. If at any point during that 36 months the employee passes a physical and drug/alcohol test as described in Section 5 (Drug and Alcohol Testing Requirements) of this **Schedule 3.9** (Management and Personnel) below, the Operator shall follow the applicable seniority rules in force at the time to determine the employee's eligibility for a position.
- 2.1.6 The Operator shall keep MBCR commuter rail employees who are on disability due to non-work related injuries or illness at the time of the workforce transition on the roster of Eligible Union Employees for 12 months from the Agreement Services Commencement Date. If at any point during that period the employee passes a physical and drug/alcohol test as described in Section 5 (Drug and Alcohol Testing Requirements)

of this **Schedule 3.9** (Management and Personnel) below, the Operator shall follow the applicable seniority rules in force at the time to determine the employee's eligibility for a position.

2.2 Hiring of Management Employees

- 2.2.1 Subject to Section 5 (Drug and Alcohol Testing Requirements) of this **Schedule 3.9** (Management and Personnel), the Operator shall offer employment in supervisory and management commuter rail positions to Eligible Management Employees (i.e., all management positions not reporting directly to the Operator General Manager) for a four month probationary period beginning on the Agreement Services Commencement Date during which the Operator will evaluate each individual's performance for consideration of future continued employment.
- 2.2.2 At the expiration of the four month evaluation period, each Eligible Management Employee's future employment by the Operator shall be at the discretion of the Operator and subject to the Operator's personnel policies and procedures.
- 2.2.3 Each employee working or hired under this subsection shall be provided pay, health and welfare, retirement, and other benefits substantially equivalent to those provided to such employee in his or her position with MBCR.

2.3 Workforce Management

- 2.3.1 The requirements of this **Schedule 3.9** (Management and Personnel) shall not be construed to:
 - 2.3.1.1 Impose a mandatory staffing level for the Agreement Services throughout the Term;
 - 2.3.1.2 Restrict the Operator's ability to manage the number of positions and size of workforce it determines to be necessary to perform the Agreement Services, as vacancies occur or as services are added or adjusted during the Term or
 - 2.3.1.3 Restrict the Operator's ability to dismiss employees for cause, including the failure to meet training requirements under **Schedule 3.10** (Training of Operator Personnel) and drug and alcohol testing as provided by **Schedule 3.5** (Safety and Security).
- 2.3.2 The Operator shall not offer employment to any person who fails to successfully complete (1) drug and alcohol testing and (2) a physical examination tailored to the particular demands or requirements of the

position being filled (e.g. a “color blind” condition would render a person ineligible to fill a position as a locomotive engineer).

- 2.3.3 If an Eligible Union Employee or Eligible Management Employee who is not on disability due to a work related injury fails a physical examination during the Mobilization Period, and the Operator does not offer employment to such employee, such employee shall remain on the roster listing eligible employees for 12 months following the Mobilization Commencement Date.
- 2.3.4 If such employee passes the physical examination during said 12 month period, the Operator shall follow the applicable seniority rules in force at the time to determine the employee’s entitlement to a position.
- 2.3.5 The Operator may take an individual’s criminal background history into account in making hiring decisions under this Agreement, as follows: Any hiring decision made on the basis of a prior felony conviction shall be made by the Operator on a case-by-case basis, taking into account the nature and gravity of the criminal offense committed, the relationship of such offense to the nature and requirements of the job involved, considerations of business necessity, the time elapsed since the commission of the offense and/or completion of the sentence, and other relevant factors set forth in applicable Equal Employment Opportunity Commission guidance.

3. LABOR OBLIGATIONS

3.1 General

The Operator shall establish its initial terms and conditions of employment in accordance with the mandatory labor terms and conditions set forth in Appendix 1 (Labor Provisions) to this **Schedule 3.9** (Management and Personnel).

3.2 Collective Bargaining

The Operator shall negotiate a collective bargaining agreement that includes, without limitation, the terms and conditions in Appendix 1 (Labor Provisions) to this **Schedule 3.9** (Management and Personnel) with each of the labor organizations identified in that Attachment, unless the Operator and a union agree to alternative terms.

3.3 Initial Discussions

At the time of NTP, the Operator shall

- 3.3.1 Provide written notification to each union listed in Appendix 1 (Labor Provisions) to this **Schedule 3.9** (Management and Personnel) that it has been selected as the Operator; (*ODRL 3.9-018*)

- 3.3.2 Provide each union with a copy of the mandatory labor terms and conditions set forth in Appendix 1 (Labor Provisions) to this **Schedule 3.9** (Management and Personnel) and a written assurance of the Operator's intention to fully comply with those terms; (*ODRL 3.9-019*)
- 3.3.3 Commence negotiations with each union.

4. **SECTION 13(c) OBLIGATIONS**

- 4.1.1 Except as provided in Section 4.1.2, the MBTA shall be administratively and financially responsible for claims and obligations arising under Section 13(c) of the Federal Transit Act (49 U.S.C. § 5333(b) ("**Section 13(c)**").
- 4.1.2 The Operator shall be administratively and financially responsible for any Section 13(c) claims or obligations concerning the commuter rail workforce that arise out of acts or omissions of the Operator that are not approved in writing by the MBTA or that are not otherwise directed by the MBTA, or that are based on an alleged failure to negotiate over terms and conditions of employment or failure to honor the terms of an existing collective bargaining agreement. The Operator shall consult with the MBTA on 13(c) obligations and claims for which the Operator has responsibility, shall vigorously defend any such claims and allegations, shall consult with the MBTA on the selection of counsel and the defense of claims and shall obtain MBTA approval for any settlement of claims or litigation concerning 13(c) issues. The MBTA reserves the right to assist in the defense of 13(c) claims and litigation, and commits to work cooperatively with the Operator on such matters.
- 4.1.3 The Operator shall cooperate with the MBTA (including, but not limited to, providing employee records and other requested information) in the resolution and defense of any Section 13(c) claims or disputes for which the MBTA has responsibility, and in the implementation of any Section 13(c) remedies.
- 4.1.4 The Operator shall not assist or encourage any Operator Personnel to file or otherwise pursue a Section 13(c) claim against the MBTA, or take any action which is contrary to the interests of the MBTA under Section 13(c), relating to the termination or conclusion of services under this Agreement, any future transition from the Operator to another service provider, or any other action or event relating to this Agreement or commuter rail service. If the Operator fails to comply with this obligation, the Operator shall be liable to the MBTA for all costs incurred by the MBTA (including attorneys' fees) associated with any Section 13(c) claims or disputes, or delays in the receipt of FTA grants.

5. DRUG AND ALCOHOL TESTING REQUIREMENTS

- 5.1 The Operator shall establish all drug and alcohol testing requirements and policies required by **Schedule 3.5** (Safety and Security) of this Agreement.

6. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.9-001	List of OGM Designees	Prior to NTCS
ODRL 3.9-002	Acting OGM	2 days after vacancy
ODRL 3.9-003	The Operator organization chart	Commencement
ODRL 3.9-004	List of ODGM Designees	Prior to NTCS
ODRL 3.9-005	Names of Officer Candidates	100 days before filling vacancy
ODRL 3.9-006	Names of Interim Officers	One day before filling vacancy
ODRL 3.9-007	Names of Replacement Officers	30 days before filling vacancy
ODRL 3.9-008	Wrongful Termination Suits	24 hours after suit is filed
ODRL 3.9-009	Contr. Personnel performing non-Agreement services	5 days after assignment
ODRL 3.9-010	The Operator Employee Records	Upon request
ODRL 3.9-011	Complete the Operator Employee Records	September 1 st , annually
ODRL 3.9-012	The Operator Employee Headcount Report	Monthly
ODRL 3.9-013	Annual Staffing v Work Report	September 1 st , annually
ODRL 3.9-014	Annual Staffing Review/Evaluation	October 1 st , annually
ODRL 3.9-015	Baseline Competency Test Plan	120 days after NTP
ODRL 3.9-016	Hiring Progress Report	Weekly during Mobilization
ODRL 3.9-017	Non-MBCR Workforce Hiring Explanations	Weekly during Mobilization
ODRL 3.9-018	Written Union Notification of the Operator Selection	10 days after NTP
ODRL 3.9-019	Labor terms & Pledge to Comply	10 days after NTP

Appendix 1 Labor Provisions

1. RESPONSIBILITIES

1.1 Union Representation

1.1.1 The Operator shall recognize each of the rail unions representing employees of the current MBTA commuter rail services provider (MBCR). These rail unions, by bargaining unit, are as follows:

1.1.1.1 American Railway and Airway Supervisors Association (ARASA)
(Maintenance of Equipment Division)

1.1.1.2 American Railway and Airway Supervisors Association
(ARASA)(Maintenance of Way Division)

1.1.1.3 Brotherhood of Locomotive Engineers and Trainmen (BLT)

1.1.1.4 American Train Dispatchers Association (ATDA)

1.1.1.5 Brotherhood of Maintenance of Way Employees Division/IBT
(BMWE)

1.1.1.6 Brotherhood of Railroad Signalmen

1.1.1.7 International Association of Machinists (IAM)

1.1.1.8 International Brotherhood of Boilermakers (IBB)

1.1.1.9 International Brotherhood of Electrical Workers (IBEW)

1.1.1.10 National Conference of Firemen and Oilers

1.1.1.11 Transport Workers Union and Brotherhood Railway Carmen
(TWU)

1.1.1.12 SMART Mechanical Department

1.1.1.13 Transportation Communications International Union (TCU)

1.1.1.14 UTV Transportation Div. SMART (Conductors)

1.1.2 The Operator shall carry out its labor relations in accordance with the provisions of the Railway Labor Act.

1.1.3 The Operator's workplace will be operated as a union shop. Employees who occupy job positions or classifications currently represented by a union will be

required to become members of the union representing their crafts or classes and to maintain membership in good standing, or to invoke the applicable agency fee alternative, as a condition of their employment. The Operator shall deduct, each month, union membership dues, fees (including alternative fees), and assessments from the wages of its union employees.

1.2 Initial Terms of Employment

The terms and conditions set forth in this Appendix 1 (Labor Provisions) to **Schedule 3.9** (Management and Personnel) shall constitute the initial terms of employment for union employees, unless the Operator and a union otherwise specifically agree.

1.3 Collective Bargaining

1.3.1 The Operator shall negotiate a collective bargaining agreement addressing all appropriate subjects of bargaining with each of the unions listed in Section 1.1 (Union Representation) of this Appendix 1 (Labor Provisions) to **Schedule 3.9** (Management and Personnel); provided that the Operator may enter into consolidated or multiple party agreements with more than one of such unions if the parties so agree.

1.3.2 Each collective bargaining agreement entered into by the Operator and a union must contain at a minimum all of the terms and conditions specified in this Appendix 1 (Labor Provisions) to **Schedule 3.9** (Management and Personnel); provided that the Operator and a union may establish alternative or modified terms and conditions by mutual agreement.

1.3.3 The Operator shall establish and set forth the collective bargaining terms and conditions required by this Appendix 1 (Labor Provisions) to **Schedule 3.9** (Management and Personnel) and otherwise agreed upon by the parties in a single, integrated, bound agreement with each union. The Operator shall provide the MBTA with three bound copies and with electronic copies of each agreement.

1.4 Wages

The Operator shall pay its union employees the hourly wages per job classification or position in effect on June 30, 2014. In the event that commuter rail union employees receive wage increases from MBCR between July 1, 2013 and the Agreement Services Commencement Date, or if the workforce has materially increased between December 31, 2012 and the Agreement Services Commencement Date, the MBTA shall compensate the Operator for the increased costs of such wages through a Service Change, as documented by the Operator through payroll records or other appropriate means. By way of clarification, and not limitation, the Operator shall not receive additional compensation from the MBTA for labor costs, other than what is included in its Financial/Price Proposal,

to the extent such additional compensation is based on wage increases taking effect at any time(s) between January 1, 2013 and June 30, 2013.

1.5 Job Classifications/Positions

The Operator shall establish and recognize the following job classifications/positions:

1.5.1 Transportation: Clerk Typist, Secretary, Train Dispatcher, Assistant Chief Crew Dispatcher, Crew Dispatcher, Train Director, Assistant Conductors, Conductors, Customer Service Ambassador, Passenger Engineers, Passenger Engineer Trainees , Assistant Train Director, Train Director, Assistant Chief Train Dispatcher, Train Dispatcher and Ticket Clerk.

1.5.2 Mechanical: Chief Clerk, Clerk Typist, Carmen, Coach Cleaners, Electricians, Foreman I, Foreman II, Foreman III, Laborer, Lead Equipment Operator, Motor Equipment Operator, Machinist, Utility Worker, Sheetmetal Worker – Mechanic A, Sheetmetal Worker – Mechanic B, Locomotive Technician, Locomotive Inspector, Boilermaker – Mechanic A, Boilermaker – Mechanic B, Layout and New Fleet Technician.

1.5.3 Engineering: Clerk Typist, Welder O/A, Welder Foreman, Foreman TLM, Work Equipment Operator, Electric Welder, Highway Crossing Guard, Night Test Foreman, Machinist, Road Mechanic, Foreman, Foreman II, Assistant Track Foreman, B&B Foreman, I&R Foreman, M.O. “A”, M.O. “B”, M.O. “C”, Track Foreman, Trackman, Truck Driver “A”, Truck Driver “B”, Welder, Welder Foreman, Watchman/Highway, B&B Mechanical Foreman, B&B Mechanic, Draw Bridge Operator, Sheetmetal Worker – Mechanic A, Sheetmetal Worker – Mechanic B, Inspector, Assistant Inspector, Inspector Foreman, Assistant Foreman, Electrical Technician, Electrical Technician Com., Maintainer, Radio Maintainer, Radio Maintainer LD, Signal TRN, Signalman and Electrician.

1.6 Health and Welfare

The Operator shall provide health and welfare coverage for its union employees that include substantially equivalent benefits as are provided under the following plans in effect for the existing commuter rail employees. (Plans will be made available during the procurement process.)

1.7 Hours of Service

The Operator shall comply with the provisions of the Hours of Service Act and the applicable FRA Hours of Service regulations (49 CFR Part 228) for the employees covered by the Hours of Service Act. Employees covered by the Hours of Service Act are (1) employees who are actually engaged in or connected with the movement of any train; (2) employees who dispatch, report, transmit, receive, or deliver train orders by any electrical

or mechanical device; and (3) employees who are engaged in installing, repairing, or maintaining signal systems.

1.7.1 In addition, the Operator shall establish and adhere to the following provisions relating to hours of work, overtime, and related matters:

1.7.1.1 Normal work will be five days of eight hours work per day.

1.7.1.2 Work weeks consisting of four days of 10 hours work are permissible.

1.7.1.3 Work in excess of the regular 8-hour work period or 40-hour work week will be paid for at the time and one-half rate.

1.7.1.4 Time worked on holidays will be paid for at the time and one-half rate.

1.7.2 The Operator shall develop, through collective bargaining with the unions, terms and conditions relating to shifts, starting times, meal periods, and related matters.

1.8 Railroad Retirement

The Operator's employees will be covered by the Railroad Retirement Act, and the Operator shall make required tax payments into the Railroad Retirement Fund.

1.9 Railroad Unemployment Insurance

The Operator's employees will be covered by the Railroad Unemployment Insurance Act, and the Operator shall make required contributions into the Railroad Unemployment Insurance fund.

1.10 Seniority

The Operator shall recognize the seniority rights of its union employees in accordance with existing commuter rail seniority rosters. (Rosters will be made available during the procurement process.)

1.11 Vacation/Leave

1.11.1 The Operator shall provide its union employees with vacation benefits that are based on a recognition of years of service in determining vacation time.

1.11.2 The Operator shall provide family and military leave in accordance with applicable law.

1.11.3 The Operator shall allow Eligible Union Employees who become Operator Personnel to take vacation days accrued in calendar year 2012 and not used from

January 1, 2013 through June 30, 2013. The Operator shall bear financial responsibility for the costs of wages for vacation days earned in the final Agreement Year but not taken before the Termination Date of this Agreement and shall pay employees for all such accrued vacation prior to the Termination Date.

1.12 Holidays

The Operator shall provide its union employees with the following paid holidays each year:

New Year's Day	Veteran's Day
Martin Luther King, Jr. Day	Thanksgiving
President's Day	Christmas
Memorial Day	Employee's Birthday
Fourth of July	Personal Holiday
Labor Day	

1.13 Bereavement Leave

The Operator shall provide three consecutive days of bereavement leave for its union employees in the case of the death of the employee's spouse, child, sibling, parent, or spouse's parent.

1.14 Jury Duty

The Operator shall provide its employees with time off to serve on jury duty as required under applicable law.

1.15 Discipline

The Operator shall develop, through collective bargaining with the unions, a procedure for employee dismissal and other disciplinary actions. The procedure shall include (1) a fair and impartial investigation process; (2) advance written notice to the affected employee; (3) an opportunity for a response by the employee (or his or her representative) before the proposed disciplinary action becomes final; and (4) a right to appeal. This procedure shall take into account the requirements of this Agreement relating to Conduct Unbecoming an Employee. This procedure must be in place by the Agreement Services Commencement Date.

1.16 Grievances

The Operator shall develop, through collective bargaining with the unions, a procedure for the consideration, appeal, and resolution of grievances. The procedure shall include (1) timeframes for filing of grievances and appeals; (2) consideration and written action on the grievance by supervisory personnel; and (3) a right to appeal. The grievance procedure

shall recognize the right of recognized union representatives to file and pursue grievances on behalf of the employees they represent. This procedure must be in place by the Agreement Services Commencement Date.

1.17 Uniforms

The Operator shall provide uniforms for employees to the extent required under its Operating Agreement with the MBTA.

1.18 Rule G Bypass

The Operator shall establish, through collective bargaining with the unions, procedures for encouraging mutual cooperation between labor and management in addressing alcohol and drug use problems in the railroad industry, similar to existing Rule G Bypass Agreements.

SCHEDULE 3.10 TRAINING OF OPERATOR PERSONNEL

1. TRAINING PROGRAMS

- 1.1 As part of its Annual Fee, the Operator shall establish and implement an Annual Training Program Plan to provide comprehensive ongoing training programs for all Operator Personnel involved in providing Agreement Services, including, without limitation, any **training required by the FRA** for the performance of Agreement Services. At all times, the Operator shall provide sufficient staffing such that training programs do not interfere with the performance of Agreement Services.
- 1.2 In addition to all other training required by Applicable Law and elsewhere in this Agreement, such training shall include specific training related to:
- 1.2.1 Engineering, including, but not limited to welding; Railroad Workplace Safety; Bridge Worker Safety; Roadway Worker Protection; Track Car Driver; NORAC Book of Rules (ops & non-ops classes); track inspection; Signalman qualification; system safety plan; safety-related; system security plan; emergency response & incident management; accident investigation; OSHA training; management training and derailment investigation training.
 - 1.2.2 Maintenance, including, but not limited to Qualified Maintenance Person (“QMP”) qualification; QMP refresher; welding; Refrigerant handling certification; craft competency; Carman skills & qualification; Machinist skills & qualification; Electrician skills & qualification; Pipefitter/Sheet Metal Worker skills & qualification; Laborer/Fueler skills & qualification; Supervisor skills & qualification; Locomotive Technician skills & qualification; Coach Technician skills & qualification; system safety plan; safety-related; system security plan; emergency response & incident management; accident investigation; **NORAC book of Rules (ops & non-ops classes)**; OSHA training; management training and derailment investigation training.
 - 1.2.3 Transportation, including, but not limited to NORAC Book of Rules; Locomotive Engineer Certification and Re-certification; Conductor Certification and Re-certification; Assistant Conductor qualification; Chief Dispatcher and Dispatcher qualification; Designated Supervisor of Locomotive Engineers qualification; communication; Emergency Preparedness; incident management; accident investigation; system safety plan; safety-related; system security plan; OSHA training; ADA training; management training and derailment investigation training.
 - 1.2.4 Customer Service, including, but not limited to communication; emergency response & incident management; Customer Service Representative qualification; system safety plan; safety-related; system security plan; ADA training; management training and derailment investigation training. Designated

Operator staff shall also participate in MassDOT or MBTA sponsored customer service training when notified by the MBTA of such schedules.

- 1.3 The Operator shall identify in the Annual Training Program Plan, all legally required training and discretionary training for each functional area of the Agreement Services.
- 1.4 The Annual Training Program Plan shall include a schedule for each class; instructor name; number of seats in each class; course syllabus; competency test questions; requirements for passing the course; and associated teaching materials.
- 1.5 All management-level Operator Personnel involved in providing Agreement Services shall receive a copy of this Agreement and shall attend an MBTA approved briefing by the Operator regarding the terms of this Agreement no later than 60 days after NTP (ODRL 3.10-023).
- 1.6 Operator Personnel must attend a refresher class regarding applicable terms (i.e. craft or job specific) of this Agreement at intervals no greater than two years apart (ODRL 3.10-024).
- 1.7 The Operator shall provide its training programs within the Service Area, unless it receives prior written approval from the MBTA to hold such training programs elsewhere.
- 1.8 The Operator shall schedule training activities so as to not interfere with its provision of Agreement Services, and in no event shall the number of employees performing Agreement Services in any functional area fall below the staffing levels provided in the MBTA-approved staffing plan for that functional area.
- 1.9 The Operator may provide training in excess of the training requirements for the performance of the Agreement Services and the Annual Training Program Plan, but additional training shall not impact the performance of the Agreement Services nor shall the Operator be compensated for such additional training in excess of the Annual Fee.
- 1.10 The Operator's Manager responsible for Training and Qualification pursuant to **Schedule 3.9** (Management and Personnel), or designee, in concert with other managers as needed, shall have the responsibility for formulating and coordinating all training activities, and shall be available to meet with the MBTA to review all training needs, programs and reports. In addition, this individual's duties shall include ensuring that all training seats are filled.
- 1.11 The Operator shall notify the Senior Director of all training for new hires, and the Senior Director, or his or her designee, may address the new hires during such training. The MBTA reserves the right to evaluate the effectiveness of the Operator's training and retraining programs.
- 1.12 The Operator shall forward to the MBTA and post all training schedules on the 1st day of each month (ODRL 3.10-001) prominently on the Service Property. The Operator

shall make 10 percent of the places in any Operator-sponsored training program available for individuals employed by the MBTA, Other Contractors, or Third Parties and approved by the MBTA to attend such sessions. The cost of training such individuals shall be included within the Annual Fee. Unused seats in training classes set aside for MBTA may be occupied by Operator Personnel if not reserved by the MBTA five days before class is scheduled to begin.

2. MBTA APPROVAL

- 2.1 All training programs or portions thereof (including the annual training schedule of all Operator Personnel) provided in connection with the Agreement Services shall be submitted in the Annual Training Program Plan (ODRL 3.10-002) for review and approval by the MBTA by August 1 of each Agreement Year, and will be designed, developed and implemented in accordance with established professional standards for performance-based instruction. The first draft of this plan shall be submitted for MBTA review and approval no later than 120 days after NTP (ODRL 3.10-026).
- 2.2 The Operator shall provide the MBTA with copies of course descriptions for training programs outlined in the Annual Training Program Plan.
- 2.3 In addition to those rights to all training plans, programs and other training materials set out in Section 2.6 (Grant of Rights in Documentation) of **Schedule 3.16** (Information Technology Requirements), the MBTA shall have the right to inspect and copy all training programs and other training materials used for Operator Personnel who are performing Agreement Services or that are otherwise used by the Operator.
- 2.4 The Operator shall arrange for an annual meeting with the MBTA to review the Annual Training Program Plan (ODRL 3.10-025) no later than 45 days after submission of the plan. The plan shall include a schedule for quarterly joint MBTA/Operator review of training program progress and a process to facilitate changes in the plan when necessary.

3. FAILURE TO COMPLETE TRAINING

- 3.1 The failure of any Operator Personnel to successfully complete legally required training included in the approved Annual Training Program Plan shall be the basis for removing such Operator Personnel from further performance of the Agreement Services requiring such training until the employee successfully completes the required training.
- 3.2 The Operator shall populate all seats in training classes designated for the use of Operator Personnel.

4. REPORTS

- 4.1 The Operator will provide the MBTA with a Monthly Training Report (ODRL 3.10-003), which will list and describe each training session conducted during the month; the number of hours of training completed by each employee; and the names of each employee who participated in each such training session as well as the employee's test

results. Additionally, the report shall include a summary of planned versus actual training classed conducted and planned versus actual attendance in training classes as well a recovery plan that outlines how the training schedule will be restored, if necessary. This report shall be cumulative beginning on January 1st of each year.

- 4.2 With respect to Third Party or MBTA-sponsored training, the MBTA will not pay for overtime or other means of back-filling vacancies created in rank-and-file for Operator Personnel in training if such employees do not produce satisfactory test results.

5. **OPERATING RULES, EMPLOYEE TIMETABLE, SPECIAL INSTRUCTIONS, SAFETY RULES, AND DISPATCHING MANUAL**

- 5.1 The Operator shall develop, maintain, and publish a set of NORAC-compatible operating rule books (the “**Operating Rule Book**”) and Train Dispatcher’s Manual, for all lines dispatched by the Operator under the Agreement Services to be consistent with Section 10 (Employee Timetable, Operating Rule Book & Train Dispatcher's Manual) of **Schedule 3.1** (Transportation Services) of this Agreement. Such operating rules shall be subject to review and approval by the MBTA, FRA and other regulatory bodies from time to time.
- 5.2 The set of rules and related materials must be approved, printed and ready for distribution to Operator Personnel prior to the effective date of the materials. The Operator shall provide 36 copies of the materials to the MBTA (ODRL 3.10-004).

6. **KNOWLEDGE OF RULES**

- 6.1 Train and engine crews, engineering and **mechanical personnel**, dispatchers and other **safety-sensitive personnel** critical to safe commuter rail operations shall be qualified on the applicable sections of **Operating Rule Book**, the Employee Timetable, the Special Instructions, the Safety Rules, Train Dispatcher’s Manual, Bulletin Notices, Division Safety Notices, the physical characteristics of the applicable routes, and every other document **required for the safe operation of the railroad.**
- 6.2 The Operator Personnel whose duties require that they perform such duties beyond the limits of the Service Property are required to be qualified on the Operating Rule Book, Employee Timetable, Special Instructions, Safety Rules, Train Dispatcher’s Manual, Bulletin Notices, Division Safety Notices, and physical characteristics of other railroads hosting Commuter Rail Service.
- 6.3 To be qualified as required herein, Operator Personnel shall be tested as determined by the Operator and approved by the MBTA. Consistent with the training plans scheduled in connection with Section 2.1 of this **Schedule 3.10** (Training of Operator Personnel), Operator Personnel whose familiarity and qualification are deemed acceptable by the Operator shall receive a written certification from the Operator.

7. OPERATION LIFESAVER

The Operator must provide two or more full-time Operation Lifesaver-qualified instructors who shall annually offer Operation Lifesaver training to the public, including “train the trainer” programs, to public safety officials, teachers, community groups, and others.

8. FIRST RESPONDER TRAINING

- 8.1 The Operator shall provide emergency response training to police, fire, emergency services and other municipal first responding entities whose jurisdiction may bring them in contact with Commuter Rail Services when emergencies occur.
- 8.2 First responder training shall be offered throughout the year and cover Service Equipment and Right of Way safety and emergency access procedures and protocols and MBTA and the Operator incident management protocols.
- 8.3 The Operator shall develop and implement a first responder training program and submit the proposed program to the MBTA no later than 60 days after NTP for MBTA approval (ODRL 3.10-005).
- 8.4 The first responder training program shall be updated annually and resubmitted to MBTA for approval by September 1st each year (ODRL 3.10-006).
- 8.5 The Operator shall develop an internal first responder training program in order to provide Operator Personnel with the ability to provide emergency medical aid to injured or sick Customers or Operator Personnel prior to the arrival of Emergency Medical Services. This shall include as a minimum, CPR (Cardiopulmonary Resuscitation) and AED (Automated External Defibrillator) training. This training shall be made available to all classes of Operator Personnel.

9. THIRD PARTY TRAINING

- 9.1 The Operator shall provide required safety training to Other Contractors or Third Parties who are approved by the MBTA to perform work on the Service Property. The cost of all such safety training shall be included in the Annual Fee. The Operator shall be responsible for obtaining the recovery, if any, of its cost for such safety training from such other Contractors or Third Parties.

10. ONGOING TRAINING

- 10.1 Except as permitted by the MBTA the Operator shall ensure all training programs are developed in accordance with APTA “Standard for Training of Rail Operations & Station Operations Personnel” (APT ART-S-OP-013-03) and APTA “Recommended Practice for Rail Transit Vehicle Inspection and Maintenance Training and Qualifications” (APTA RT-RP-VIM-011-03).

11. MANAGEMENT TRAINING

- 11.1 The Operator's managers shall be given all training necessary to qualify them to function effectively in their designated areas of responsibility as provided in Section 1 (Management and Personnel) of **Schedule 3.9** (Management and Personnel) of this Agreement.
- 11.2 The Operator's managers shall be subject to the provisions of Section 3 (Failure to Complete Training) of this **Schedule 3.10** (Training of Operator Personnel).

12. LOCOMOTIVE ENGINEER QUALIFICATION & CERTIFICATION

- 12.1 All locomotive engineers employed by the Operator shall be trained, qualified and certified to perform their duties safely and effectively in compliance with 49 CFR Part 240.
- 12.2 The Operator shall develop and implement a Locomotive Certification Training Program in order to ensure compliance with Section 12.1. The Operator shall submit the Locomotive Certification Training Program for MBTA and FRA approval no later than 60 days after NTP (ODRL 3.10-007).

13. CONDUCTOR QUALIFICATION & CERTIFICATION

- 13.1 All conductors employed by the Operator shall be trained, qualified and certified to perform their duties safely and effectively in compliance with 49 CFR Part 242.
- 13.2 The Operator shall develop and implement a Conductor Certification Training Program in order to ensure compliance with Section 13.1. The Operator shall submit the Conductor Certification Training Program for MBTA and FRA approval no later than 60 days after NTP (ODRL 3.10-008).

14. QUALIFIED MAINTENANCE PERSON TRAINING (QMP) TRAINING

- 14.1 QMP training and qualification shall be required of all Operator Personnel involved in the performance and oversight of Service Equipment inspection and maintenance. QMP training and qualification shall be required for managers charged with Service Equipment inspection and oversight. As with other training classes, seats shall be made available to MBTA managers under the terms of Section 1 (Training Programs) of this **Schedule 3.10** (Training of Operator Personnel).
- 14.2 All QMP training shall be done in compliance with 49 CFR Part 238.109. All QMP training shall include classroom training and practical "hands-on" training.
- 14.3 All tasks related to inspection and maintenance of Service Equipment in compliance with FRA regulations shall be defined in step-by-step written work procedures and included in training sessions.

14.4 All QMP refresher training shall be completed in compliance with 49 CFR Part 238.109.

14.5 The Operator shall develop and implement a QMP Training Program and a QMP Refresher Training Program in order to ensure compliance with Sections 14.1 through 14.4 of this **Schedule 3.10** (Training of Operator Personnel). The Operator shall submit the QMP Training Program for MBTA and FRA approval no later than 60 days after NTP (ODRL 3.10-09).

14.6 The Operator shall submit the QMP Refresher Training Program for MBTA and FRA approval no later than 60 days after NTP (ODRL 3.10-010).

15. **RAILROAD WORKPLACE SAFETY**

15.1 The Operator shall develop and implement all aspects of Railroad Workplace Safety training, including Bridge Worker Safety and Roadway Worker Protection Training Programs in compliance with 49 CFR Part 214.

15.2 The Operator shall submit the Railroad Workplace Safety Training Programs for MBTA and FRA approval no later than 60 days after NTP (ODRL 3.10-011).

16. **EMERGENCY PREPAREDNESS**

16.1 The Operator shall develop and implement an Emergency Preparedness Training Program in compliance with 49 CFR Part 214 and **Schedule 3.5** (Safety and Security) of this Agreement.

16.2 The Operator shall submit the Emergency Preparedness Training Program for MBTA and FRA approval no later than 60 days after NTP (ODRL 3.10-012).

17. **HVAC AND REFRIGERANT HANDLING TRAINING**

17.1 The Operator shall arrange for on-site EPA-approved refrigerant handling certification training suitable to address the skills and recordkeeping required for the use, re-use, recovery, replenishment, storage and disposal of R-407C and R-22 refrigerants or their future approved equivalents on transit vehicles.

17.2 This training shall be required for all Operator Personnel whose duties require them to work on climate control systems and handle refrigerants.

17.3 All Operator Personnel engaged in such training shall be required to pass standardized examinations in order to be certified to handle refrigerants.

17.4 Operator Personnel who undergo training and do not pass such tests shall be reassigned to other duties that do not require them to handle refrigerants.

- 17.5 Specific jobs that require personnel to handle refrigerants shall have such training and the completion and passing of such tests as a job qualification. Mechanics not in possession of a refrigerant handling certification shall not be awarded such positions.
- 17.6 The Operator shall develop and implement a Refrigerant Handling Training Program in order to ensure compliance with Sections 17.1 through 17.5 of this **Schedule 3.10** (Training of Operator Personnel). The Operator shall submit the Refrigerant Handling Training Program to the MBTA for approval no later than 60 days after NTP (ODRL 3.10-013).
- 17.7 The Operator shall develop and implement an HVAC System Troubleshooting and Repair Training Program for mechanics whose duties require them to perform work onboard HVAC systems on both locomotives and coaches. This program shall be submitted for MBTA review and approval no later than 120 days after NTP and updated whenever new Service Equipment goes into service (ODRL 3.10-027).

18. **CARMAN TRAINING**

- 18.1 The Operator shall develop and implement a Carman Training Program. The purpose of this program is to afford Carman candidates sufficient training to safely and effectively discharge their duties. This program must include basic skills training as appropriate based on pre-qualification testing of Carman candidates.
- 18.2 This program shall include periodic examinations in order to measure the proficiency of student and course materials.
- 18.3 This training must be on-site and the Operator shall recruit trainers and/or trainer assistants from among the Carman rank and file. This is an important element necessary to assist with practical aspects of course instruction and enhances the viability of the program on the shop floor. The Operator may only choose to utilize a Third Party trainer with prior MBTA approval.
- 18.4 The Operator shall the Carman Training Program for MBTA approval no later than 90 days after NTP (ODRL 3.10-014).

19. **SIGNALMAN TRAINING**

- 19.1 The Operator shall develop and implement a Signalman Training Program, consisting of a specific railroad signal system training course of no less than two years. This training shall include periodic examinations to measure the proficiency of students and course materials. The purpose of this training is to qualify mechanics as railroad signalmen able to inspect and maintain all commuter rail system signal equipment in compliance with FRA regulations (49 CFR Parts 234 & 236) and ensure high reliability of all signal systems.

- 19.2 Electricians, licensed or otherwise, are not qualified as signalmen until they have completed such training and passed the requisite examinations. This training must be on-site, but may be taught by a Third Party trainer with prior MBTA approval.
- 19.3 The Operator shall submit the Signaller Training Program to MBTA for approval no later than 90 days after NTP (ODRL 3.10-015).
- 19.4 The Operator shall develop a signal system specific, remedial training program for all signal staff and employees. This training shall also be made available to communications staff.

20. OTHER CRAFT TRAINING

- 20.1 The Operator shall submit any other craft training materials developed and intended to be implemented for Operator Personnel for MBTA approval no later than 90 days after NTP (ODRL 3.10-016).
- 20.2 No Operator Personnel or job applicant shall be awarded a mechanic position in these crafts without first taking and passing a standardized qualification test and practical skills examination.
- 20.3 The Operator shall submit such standardized qualification test and practical examination materials for MBTA approval no later than 90 days after NTP (ODRL 3.10-017).

21. NEW EMPLOYEE TRAINING

- 21.1 The Operator shall develop and implement new employee competency evaluation and orientation training, regardless of craft. This shall apply to management candidates, too.
- 21.2 The purpose of this training is to evaluate the suitability of craft candidates to safely and effectively discharge their duties. It also serves to ensure that management candidates are suited to and familiar with the oversight of the craftspeople for whom they are responsible.
- 21.3 The Operator shall submit the new employee competency evaluation and orientation training program for MBTA approval no later than 60 days after NTP (ODRL 3.10-018).

22. SPECIALIZED TRAINING

22.1 New Fleet Training

- 22.1.1 The MBTA may procure new rolling stock from time to time during the term of the Agreement for the Operator to deploy in the performance of Commuter Rail Services. New fleet training for designated rolling stock shall become part of the ongoing training obligation following the initial course taught by instructors provided by the OEMs. The Operator shall designate its own training personnel who shall undergo the OEM “train-the-trainer” instruction to ensure that this

occurs. OEM training will be taught to a limited number of employees pursuant to the terms of the relevant procurement. New Fleet training shall become a part of the ongoing training obligation following the initial courses taught by instructors provided by the OEMs. OEM training will be taught to a limited number of employees pursuant to the terms of the relevant procurement.

22.1.2 Operator Transportation Services staff, including all T&E personnel as well as supervision and management, shall receive MBTA-approved training on new fleet systems operation, diagnostics and troubleshooting.

22.1.3 Operator Mechanical Services staff, including supervision and management personnel, shall receive MBTA-approved training on new fleet systems operation, inspection, maintenance, repair, diagnostics and troubleshooting.

22.1.4 The Operator shall arrange for the continuation of new fleet training in all disciplines. No work may be performed on designated vehicles by Operator Personnel who have not passed this training.

22.2 New Fleet Mechanical Qualifications and Technician Classifications

22.2.1 The Operator shall through collective bargaining with the employees' union representatives develop qualifications and pay rates for more specially skilled new electrician and/or mechanical department employee positions (ODRL 3.10-019), either within existing crafts and classes or through the establishment of a new classification of electrician and/or mechanic, who will perform the following scope of work on designated vehicles in the commuter rail fleet: inspection, calibration, alignment, preventive and corrective maintenance and troubleshooting, removal and replacement of all electronic, high and low voltage electrical and mechanical systems, propulsion equipment (including prime mover engine), printed circuit boards, microprocessors, amplifiers, logic gates, thyristers, inverter drives, capacitors, relay switches, logic, static converters, motors, trucks and truck-mounted equipment, pneumatic or hydraulic brakes, compressors, HVAC systems and other vehicle components to ensure optimum efficiency, reliability and performance consistent with vehicle design requirements.

22.2.2 The job titles of these new positions and/or classifications, and the fleet maintenance duties to which they will be assigned, shall also be established in such collective bargaining. The MBTA suggests that the Operator and the affected unions consider titling such new positions such as "Electrical Specialist" and "Mechanical Specialist" or some variant thereof. Regardless of the specific structure or job titles agreed upon by the Operator and the affected unions, the Operator shall have a contractual obligation to the MBTA to train and provide employees having the skills and proficiencies described in this Section 22.2 (New Fleet Mechanical Qualifications and Technician Classifications) of this **Schedule 3.10** (Training of Operator Personnel).

22.2.3 The Operator shall develop and implement training courses for qualifying employees for these positions (ODRL 3.10-020). Qualification shall require written and practical examinations developed jointly by the Operator, OEM and MBTA management representatives. Subject matter shall include, but not be limited to all of the skills listed above. Courses shall be progressive with qualification examinations at each step, including qualifying exams for entry into the training program itself. The Operator should attempt to negotiate provisions with the affected unions that will require any employee that successfully completes such training to agree, as a condition of receiving such training, that he or she will bid any available job with this qualification and will remain on that job (or another job with equal qualifications) for a period of not less than 24 months, unless displaced by a more senior qualified employee.

22.3 Original Equipment Manufacturer Training

22.3.1 The Operator shall procure on-site OEM, or MBTA approved equivalent, technical assistance for all new locomotive and coach fleets for a period of no less than five years following the expiration of warranty on the last vehicle covered under an OEM warranty plan. Evidence of this arrangement shall be presented to the MBTA for review no later than the Notice to Commence Services (ODRL 3.10-021).

22.3.2 The Operator shall arrange for periodic (no less than annual) on-site OEM, or MBTA approved equivalent, technical assistance for all major shop equipment systems including, but not limited to wheel truing machines; rolling stock jacking systems; drop tables; overhead cranes; mobile wrecking vehicles and apparatus; oil-water separators; large scale pumping and filtration systems; shop and yard air supply systems; wayside 480vAC ground power systems; right-of-way maintenance vehicles and apparatus; signal and automatic train control systems. The purpose of this technical assistance is for periodic OEM assessment of infrastructure and machinery as well as mechanic and supervisory training. Evidence of this arrangement shall be presented to MBTA for review no later than the Notice to Commence Services (ODRL 3.10-022).

22.4 Positive Train Control Training

22.4.1 The Operator shall arrange for on-site training for all Signal Department staff including supervision and management as well as selected MBTA personnel on Positive Train Control systems and apparatus. This shall be treated as Supplemental Work with the final scope and schedule to be determined in accordance with the final design.

23. PENDING FRA MANDATED CRAFT TRAINING & QUALIFICATION

23.1 The Operator shall develop, or hire an MBTA-approved third party to develop, craft-specific training standards and programs including, but not limited to classroom training,

practical “hands-on” training, skills evaluation criteria and objective testing protocols in compliance with 49 CFR Part 243.

23.2 This training is required for all “safety-related” employees including, but not limited to any employee involved in the inspection of locomotives, coaches, non-revenue rolling stock; track cars including cranes, boom trucks and any vehicle fitted with hi-rail equipment; right of way including track and switches, signals and grade crossing protection, and bridges; automatic train control systems including positive train stop systems and apparatus.

23.3 The Operator shall develop and implement a process for overseeing the effectiveness of this training program through review and analysis of safety statistics and other key performance indicators and making adjustments to this training program based on the results of such analysis.

23.4 Non-Revenue Rolling Stock Training

23.4.1 The Operator shall develop and implement training courses for QMPs to inspect, service and repair all types of non-revenue rolling stock in compliance with FRA and any other applicable regulations as well as AAR Rules. This training must ensure that non-revenue rolling stock is maintained in Good Working Condition and is available in sufficient numbers to ensure that engineering maintenance and other necessary work is facilitated. All rolling stock subject to interchange with freight carriers must be maintained in a suitable manner.

23.4.2 The Operator shall submit this training program to the MBTA for review and approval no later than 120 days after NTP (ODRL 3.10-028) and update the program whenever new or additional non-revenue rolling stock is added to the MBTA rolling stock roster.

24. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.10-001	Training Schedules	1 st day of the month, monthly
ODRL 3.10-002	Operator Annual Employee Training Plan	August 1 st , annually
ODRL 3.10-003	Monthly Training Report	Prior to effective date
ODRL 3.10-004	Operator Book of Rules & Related Materials	Prior to effective date
ODRL 3.10-005	First Responder Training Program	September 1 st , annually
ODRL 3.10-006	First Responder Training Program Resubmission	September 1 st , annually
ODRL 3.10-007	Locomotive Engineer Certification	60 days after NTP
ODRL 3.10-008	Conductor Certification	60 days after NTP
ODRL 3.10-009	QMP Training Program	60 days after NTP
ODRL 3.10-010	QMP Refresher Training Program	60 days after NTP

ODRL 3.10-011	Railroad Workplace Safety Programs	60 days after NTP
ODRL 3.10-012	Emergency Preparedness Program	60 days after NTP
ODRL 3.10-013	Refrigerant Handling Training Program	60 days after NTP
ODRL 3.10-014	Carman Training Program	90 days after NTP
ODRL 3.10-015	Signalman Training Program	90 days after NTP
ODRL 3.10-016	Machinist/Electrician/Pipefitter/Sheet Metal Worker Training & Qualification Program	90 days after NTP
ODRL 3.10-017	Standardized Qualification Test and Practical Examination Materials	90 days after NTP
ODRL 3.10-018	New Employee Competency Evaluation and Orientation Training Program	60 days after NTP
ODRL 3.10-019	New Technician Qualification & Pay Rates	TBD
ODRL 3.10-020	New Technician Training Programs	TBD
ODRL 3.10-021	New Fleet OEM Technical Assistance	Prior to NTCS
ODRL 3.10-022	Shop Equipment OEM Technical Assistance	Prior to NTCS
ODRL 3.10-023	O&M Agreement Training Complete	60 days after NTP
ODRL 3.10-024	O&M Agreement Refresher Training	Every other year
ODRL 3.10-025	Annual Training Plan Review Meeting	45 days after Plan submitted
ODRL 3.10-026	Initial Training Plan	120 days after NTP
ODRL 3.10-027	HVAC System Troubleshooting and Repair Training Program	120 days after NTP
ODRL 3.10-028	Non-Revenue QMP Training Program	120 days after NTP, and updates as rolling stock added

SCHEDULE 3.11
CONSTRUCTION SUPPORT INCLUDING PTC

1. CAPITAL PROJECT SUPPORT

1.1 MBTA Capital Work

1.1.1 During the Term, the MBTA anticipates that a significant amount of design and construction work will be performed by Other Contractors on and adjacent to the Service Property (the “**MBTA Capital Work**”). The Operator shall furnish construction project support personnel and functions (“**Construction Support**”) for the MBTA Capital Work. Construction Support shall be funded wholly through the Capital Support Allowance as provided for in **Schedule 7** (Payments) of this Agreement, or as Supplemental Work for amounts required in excess of the Capital Support Allowance. A list of currently anticipated projects is included in Appendix 1 to this **Schedule 3.11** (Construction Support Including PTC). This project list and schedule is for guidance purposes only and is subject to change. Construction Support provided by the Operator will include some or all of the following functions:

- 1.1.1.1 Flag protection for Other Contractors’ employees and project equipment related to MBTA Capital Work.
- 1.1.1.2 Engineering reviews of plans and specifications submitted in connection with MBTA Capital Work.
- 1.1.1.3 Flag protection, service diversion planning and staffing, to address any situation that in any way may have the potential to disrupt service or create an unsafe condition and signal engineering support for all signal system modifications and for all cutovers and testing.
- 1.1.1.4 Perform signal cutovers and testing as needed to ensure proper operation, utilizing qualified signal personnel and signal engineering support for all signal, electrical, and communication system modifications and for all cutovers and testing.
- 1.1.1.5 Training of Operator Personnel, MBTA staff and Other Contractors’ employees as necessary to safely allow continued or expanded use of the Right of Way. This training includes but is not limited to: operating and physical characteristics for train and engineering personnel, dispatchers and maintenance of way forces. The training also includes transportation, coverage and back filling of positions and any other issues that need to be resolved so that employees are available to receive training.

- 1.1.1.6 Project management services to support MBTA Capital Work, including estimating and scheduling, including attendance at meetings as required by the MBTA.
- 1.1.1.7 Flag protection, service diversion planning and staffing and other support for MBTA Capital Work. The type of capital work that typically requires this support includes but is not limited to: refurbishment and/or replacement of moveable and fixed span bridges, track construction, electrical and signal cutovers, grade crossing installation, station construction, and other projects that may require or benefit from approved Service Disruptions.
- 1.1.1.8 Inspection and acceptance of work by Other Contractors.
- 1.1.2 Administration and payment of Construction Support not funded from the Capital Support Allowance shall be pursuant to **Schedule 9** (Supplemental Work) of the Agreement.
- 1.1.3 The Operator shall include all anticipated MBTA Capital Work support and the resultant operational, engineering, flag protection and other support functions necessary to support such project work in the development of the Operator's Annual Engineering Services Plan as provided for in **Schedule 3.2** (Engineering Services) of this Agreement.
- 1.1.4 The Operator shall include a detailed Construction Support section in the Annual Engineering Services Plan that addresses staffing, material and all other Construction Support needs. The Annual Engineering Services Plan shall be submitted on the dates required by section 2.2.2 of **Schedule 3.2** (Engineering Services) of this Agreement.
- 1.1.5 The Operator shall prepare and maintain records detailing the cost of Construction Support. The Operator shall inform the MBTA, in writing, immediately once the Operator has earned eighty percent (80%) expenditure level of the Capital Support Allowance.
- 1.1.6 Payment for Construction Support services shall be in accordance with **Schedule 9** (Supplemental Work).

2. POSITIVE TRAIN CONTROL

2.1 General

- 2.1.1 The MBTA is committed to adhering to the requirements of 49 CFR 236 subpart I and will be installing a Positive Train Control ("**PTC**") system to support the entire Commuter Rail System. The PTC system will be designed, built, installed and tested through an Agreement with a PTC System Design/Build Integrator (the "**PTC DBI**").

- 2.1.2 The MBTA shall manage the agreement with the PTC DBI through a dedicated MBTA project team.
- 2.1.3 The Operator shall coordinate and cooperate with the PTC DBI for the duration of this Agreement as directed by the MBTA.

2.2 PTC Coordination Agreement

- 2.2.1 The Operator and the PTC DBI shall enter into a coordination agreement (the **“PTC Coordination Agreement”**). This agreement is a requirement for both the Operator and the PTC DBI, the terms of which shall be subject to the written approval of the MBTA.
- 2.2.2 The PTC Coordination Agreement shall, at a minimum, define the obligations of the Operator and PTC DBI for the period of performance during which the PTC system is designed, built, installed and tested. The provisions of Sections 2.3 (PTC DBI Access to the Service Property) through 2.6 (PTC System Operation and Maintenance) of this **Schedule 3.11** (Construction Support Including PTC) shall be included in the PTC Coordination Agreement.

2.3 PTC DBI Access to the Service Property

- 2.3.1 The Operator shall provide the PTC DBI complete access to the Service Property. This access shall include, but not be limited to all of the following:
 - 2.3.1.1 Wayside signal equipment;
 - 2.3.1.2 Wayside switches and switch machines;
 - 2.3.1.3 Radio communications equipment;
 - 2.3.1.4 Backhaul communications equipment;
 - 2.3.1.5 Rolling stock;
 - 2.3.1.6 Hi-rail access to all track;
 - 2.3.1.7 Dispatch system equipment;
 - 2.3.1.8 Technical documentation for signal equipment;
 - 2.3.1.9 Technical documentation for rolling stock;
 - 2.3.1.10 Technical documentation for dispatch system equipment; and
 - 2.3.1.11 Technical documentation for communications equipment.

- 2.3.2 The Operator shall provide any access upon a schedule requested by the PTC DBI provided that such access that does not unreasonably interfere with the Agreement Services. Any access requested by the PTC DBI that is deemed to be unreasonable by the Operator may be over-ruled by the MBTA.

2.4 Roadway Worker Protection Training

In addition to its Roadway Worker Protection (“**RWP**”) training obligations provided by **Schedule 3.10** (Training of Operator Personnel) of this Agreement, the Operator shall provide RWP training for the PTC DBI for up to 20 people per year. This training shall be provided at the commencement of the PTC DBI’s agreement with the MBTA.

2.5 PTC Installation and Testing

- 2.5.1 There are three options for installation and testing of the PTC system:

- 2.5.1.1 Option 1 – PTC DBI performs all PTC installation and testing.

- 2.5.1.2 Option 2 – The Operator performs all PTC installation and testing under the technical guidance of PTC DBI.

- 2.5.1.3 Option 3 – PTC DBI and the Operator divide installation work into work elements to be handled by each entity, all under the technical guidance of the PTC DBI.

- 2.5.2 The MBTA shall make a determination regarding the option to use for the installation and testing of the PTC system and whether any alternative arrangement provides a better course of action.

- 2.5.3 The Operator shall be prepared to support any of the options listed above. All of the work performed by the Operator as the result of the chosen option shall be performed as Supplemental Work pursuant to **Schedule 9** (Supplemental Work) of this Agreement.

2.6 PTC System Operation and Maintenance

- 2.6.1 The requirements for operation and maintenance for the PTC system have yet to be defined. Once these requirements are known, the MBTA shall prepare a scope of work for this additional service that shall form the basis for a Service Change as set forth in **Schedule 8** (Changes) of this Agreement.

- 2.6.2 The operation and maintenance of the PTC system will be treated by both the MBTA and the Operator as a Service Change in conformance with the terms and conditions of this Agreement.

Appendix 1

Subtotal Green Line Extension Project	
PROJECT	SCHEDULE
COMMUTER RAIL PROJECTS	
YEARS 1 - 5	
Auburndale Accessibility	Through Dec. 2015
Winchester Center Station	Through Dec. 2015
Ruggles	Through Dec. 2015
Fitchburg Bridges - Phase 2 (Jacobs)	Through Dec. 2015
Fitchburg Track & Signal Phase 2 (Signal)	Through June 2016
Fitchburg Track & Signal Phase 2 (Track)	Through Dec. 2015
South Coast Rail	Jul. 2013 - Nov. 2022
Mansfield RR Station-Accessibility Improvements	12 months (TBD)
Blue Hill Ave CRS Project	Through Dec. 2016
YEARS 6 - 10	
Support years 6-10 (est.)	July 2018- July 2023
Subtotal Commuter Rail Projects	
FACILITY AND T.O.D. PROJECTS	
YEARS 1 - 10	
Salem Station and Parking Garage	Through Nov. 2014
Beverly Depot Parking Garage	Through Nov. 2014
50 miscellaneous small TOD efforts	TBD Years 1-10 (est.)
15 Large TOD projects	TBD Years 1-10 (est.)
Subtotal Facility and T.O.D. Projects	
BRIDGE PROJECTS	
YEARS 1 - 5	
Gloucester Drawbridge	March 2014 – Dec. 2016
North Station Drawbridge (Draw 1)	April 2014 – Dec. 2016
Shawsheen River (Wilmington)	March 2014 – Dec. 2016
Guild Street Bridge	Oct. 2014 – Oct. 2016
Beverly Draw	Sept. 2014 – Oct. 2014
Lagrange Street Bridge	Feb. 2014 – Dec. 2016
Shore Line Bridge	Oct. 2015 – Oct. 2016
Subtotal Years 1 - 5	
YEARS 6 - 10	
Bridge Design / Inspection Support	July 2018- July 2023
Bridge Construction Support	
Subtotal Years 6 - 10	
Subtotal Bridge Projects	
GREEN LINE EXTENSION PROJECT	

SCHEDULE 3.12 MOBILIZATION

1. MOBILIZATION SCOPE AND DURATION

- 1.1 Mobilization will begin when the Operator receives a Notice to Proceed from the MBTA. Mobilization will be from NTP to the Agreement Services Commencement Date and shall be no more than six months in duration.
- 1.2 During Mobilization the Operator shall prepare to transition all MBTA Commuter Rail Services operations and maintenance services and ensure that its employees are qualified and trained to assume their duties on the Agreement Services Commencement Date.
- 1.3 The Agreement Services Commencement Date is the date on which the Operator assumes full responsibility for all MBTA Commuter Rail Services.
- 1.4 The current operator shall continue to perform operations and maintenance during the Mobilization Period and perform all other Agreement Services in compliance with the current Agreement until the Operator is prepared to assume responsibility for Agreement Services, but no later than the Agreement Services Commencement Date.
- 1.5 The Operator shall prepare a Mobilization Plan (ODRL 3.12-001) that includes all the steps, activities, schedule and sequencing necessary for the Operator to assume all operations and maintenance services by the Agreement Services Commencement Date in a planned and orderly fashion. This Plan shall be the Mobilization Plan submitted to the MBTA as part of the Proposal and shall be submitted to the MBTA for final approval and acceptance as a condition to the issuance of the NTP, and the Parties shall negotiate in good faith to further memorialize the Mobilization Plan and the Parties' obligations during the Mobilization Period in a separate agreement relating to mobilization and compensation during the Mobilization Period (the "**Mobilization Agreement**").
- 1.6 The Operator General Manager shall lead the Mobilization effort. Other Operator managers may be designated to assist the Mobilization effort in various functions defined by the Operator.
- 1.7 The Operator shall prepare and present a Mobilization organization structure as part of the Mobilization Plan (ODRL 3.12-002). Each function required to ensure the success of the Mobilization and Transition Plan will be defined in the organization structure and an individual shall be assigned to perform the duties of each position. All responsibilities and reporting relationships must be clearly defined. The MBTA will not approve any Plan that includes designations such as "TBD" in the organization structure unless arrangements are made with MBTA by the Operator in advance of the beginning of the Mobilization period.
- 1.8 All Mobilization services that rely on Third Party contractors must be identified and scheduled as part of the Mobilization Plan (ODRL 3.12-003). Responsibility for each third party operator must be assigned to an individual on the Operator's Mobilization

team. Each third party contractor must be identified by name, address and other pertinent information.

- 1.9 All Mobilization services that rely on the prior operator of the Commuter Rail Services or Third Party Contractors to be performed shall be identified and scheduled (ODRL 3.12-004). Responsibility for each of these activities must be assigned to an individual on the Operator's Mobilization team. In addition, each Third Party Contractor must be identified by name, address, activity performed, and other pertinent information.
- 1.10 The Operator shall be prepared to address all FRA requirements. All plans, programs, testing and documentation must be included in the Mobilization Plan and accompanying schedule.
- 1.11 All transactions between FRA and other regulatory agencies shall be the responsibility of the OGM. Specific duties may be delegated to Operator designees, but primary responsibility will remain with the OGM.
- 1.12 The Operator shall designate responsibility for each part of the FRA requirements to specific individuals who will be in charge of the completion and submission of each task and document. This will be included on the agenda for each Mobilization Status Meeting described in Section 2 (Weekly Status Meetings) of this **Schedule 3.12** (Mobilization).
- 1.13 Each FRA and other regulatory agency deliverable must be compiled on a spreadsheet including title of document or task; associated rule number, if applicable; date required; the Operator employee responsible; FRA or other regulatory contact assigned responsibility; status; the Operator completion date; date forwarded to FRA or other regulatory agency; date of FRA or other regulatory agency approval and included in the Mobilization Plan (ODRL 3.12-005).
- 1.14 Deliverables required by each agency may be tracked on separate spreadsheets in order to simplify the management of deliverables.
- 1.15 The Operator must develop a list of all required environmental permits and a schedule for transferring those permits to the appropriate parties.
- 1.16 The Mobilization Plan must include provisions for completing any necessary training during Mobilization required in this Agreement, including but not limited to the requirements of **Schedule 3.5** (Safety and Security) and **Schedule 3.8** (Environmental Services) of this Agreement.
- 1.17 The Mobilization Plan must include a detailed schedule that identifies when each segment of Agreement Services are ready to be assumed by the Operator. (ODRL 3.12-006). The schedule must identify key milestone dates for deliverables and other critical events, tasks and other objectives. The schedule shall also include the critical path for achieving each milestone deliverable. The Plan shall show the assumptions of responsibilities as soon as practicable.

- 1.18 The Mobilization Plan must include a concise list of underlying assumptions that support each deliverable (ODRL 3.12-007). Every area of the Agreement Services must be considered and addressed in the Mobilization Plan. The MBTA will not approve a Plan that does not include all required elements of Agreement Services.
- 1.19 The Operator shall be responsible for completing the various work activities and submitting the designated ODRL items specified in other sections of this Agreement and compiled in **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE) of this Agreement, within the Mobilization period.
- 1.20 To effect a smooth transfer, Mobilization may require the Operator's managers and other employees to "shadow" the current operator's managers and employees performing their duties. The Operator shall identify all anticipated overlapping roles in the Mobilization Plan and describe how this transition will be accomplished with minimum disruption to Commuter Rail Services (ODRL 3.12-008).

2. **WEEKLY STATUS MEETINGS**

- 2.1 During Mobilization, the Operator will schedule weekly meetings, at a minimum, with the MBTA in order to review the progress of Mobilization and discuss any problems or anticipated problems. The Operator shall submit a meeting schedule that covers the duration of the Mobilization period no later than NTP. These meetings will also review Operator's progress with respect to the requirements of Section 2 (Hiring of Existing Workforce) of **Schedule 3.9** (Management and Personnel) of this Agreement. (ODRL 3.12-009)
- 2.2 The Operator shall be prepared to report on the development status of each plan, schedule, program, system, guideline, manual, and form required under the terms of the Agreement and in accordance with the ODRL schedule.
- 2.3 The OGM will be in attendance at each of these meetings along with his or her designees in order to ensure that all areas of concern are discussed.
- 2.4 Operator submittals (ODRLs) will be reviewed and approved by the MBTA during Mobilization. The status of this process will be discussed at each of these meeting and concerns addressed.
- 2.5 If the MBTA requires changes to a plan, schedule, program, system, guideline, manual, or form – whether in format or content – the Operator shall revise and re-submit it for the MBTA's review and approval within the timeframe established by the MBTA in the Agreement.

3. **DOCUMENTATION**

An Operator Deliverable Requirements List (ODRL) is provided at the end of each Schedule within **Schedule Three** (Agreement Services) of this Agreement. Many of these ODRLs are documents and document templates for use during the term of the Agreement.

- 3.1 The Operator shall prepare a spreadsheet listing each of these documents and document templates, their due dates and frequency of submittal. The Operator shall also include the person responsible for ensuring timely delivery of each document to the MBTA for review and approval. The spreadsheet shall include all documents used to enable data entry into the Commuter Rail IT Environment (ODRL 3.12-010). This spreadsheet shall be delivered to the MBTA for final review and approval no later than NTP.
- 3.2 This report shall be part of the agenda of the Weekly Status Meetings described in Section 2 (Weekly Status Meetings) of this **Schedule 3.12** (Mobilization). The Operator shall cite the ODRL number of each document and document template and due date.
- 3.3 Where there is overlap between the items on this spreadsheet and the items on the FRA and other regulatory agencies' spreadsheets, those items shall be tracked on the FRA and other regulatory agencies spreadsheets and referenced in this report.
- 3.4 All documents shall comply with FRA, FTA and other agency reporting requirements and use compatible coding, formats and definitions. The Operator may consider using an electronic format for some of these documents providing all other requirements are met, subject to MBTA approval.

4. **SERVICE READINESS**

- 4.1 The Operator must prepare and submit a Draft of the following: Operating Rule book, Employee Timetable and Special Instructions, and Train Dispatcher's Manual, Air Brake & Train Handling Instructions, Door & Trap Procedures, Customer Service Manual, Road Foreman Notices, Fare Collection & Remittance Manual, Commuter Rail Tariff and Transportation Safety Instructions in compliance with Section 10 (Employee Timetable, Operating Rule Book & Train Dispatcher's Manual) of **Schedule 3.1** (Transportation Services) of this Agreement.
- 4.2 The Operator's maintenance and operating plans must support continuous service, free of disruption, during mobilization and transition. All essential contracts for services related to service delivery, critical component supply (new parts; repair & return or rebuilt parts and assemblies) must be renewed or replaced by the Operator.

5. **EMPLOYMENT**

- 5.1 The Operator shall fill all Workforce Positions in compliance with the requirements of **Schedule 3.9** (Management and Personnel) of this Agreement, including the provision of weekly written reports to the MBTA, updating its status of the hiring process. This shall be an agenda item at the Weekly Status Meeting described in Section 2 (Weekly Status Meetings) of this **Schedule 3.12** (Mobilization).
- 5.2 The Operator shall submit to the MBTA a list of positions that the Operator defines as "Safety Sensitive" as provided for in Section 13 (Safety Sensitive Positions) of **Schedule 3.5** (Safety and Security) of this Agreement. (ODRL 3.12-011). This list shall include all subcontractor employees in "Safety Sensitive" positions. This list shall be furnished

prior to the commencement of the Mobilization and Transition period, but in no case later than NTP. All employees holding positions listed shall be subject to the Operator's Drug & Alcohol Policy.

6. MATERIAL MANAGEMENT

- 6.1 Pursuant to Section 5 (Physical Inventory and Audit) of **Schedule 3.4** (Materials Management and Procurement) of this Agreement, Operator and the MBTA will participate in an initial physical count of all Support Inventory and an Audit of all Support Property no later than ten (10) days prior to the Agreement Services Commencement Date.

7. OPERATOR'S COSTS FOR MOBILIZATION SERVICES

- 7.1 The Operator shall include an itemized price estimate for all Mobilization Services tasks with the Mobilization Plan submitted with its Proposal. The Parties, following execution of the Agreement, shall negotiate the scope and costs set forth in the estimate, as well as a price cap establishing a maximum amount of compensation payable to the Operator for Mobilization Services, which shall not be exceeded except with the written consent of the MBTA. Payment of Operator invoices during the Mobilization period shall be contingent upon the Operator having submitted to the MBTA all deliverables set forth in Section 8 (Operator Deliverable Requirements List) of this **Schedule 3.12** (Mobilization).
- 7.2 Unless otherwise agreed upon by the Parties in the Mobilization Agreement, the Operator shall invoice the MBTA each month during the Mobilization Period for Mobilization Services satisfactorily performed and for which the MBTA is responsible for paying (each, a "**Mobilization Invoice**"). Each Mobilization Invoice shall include information and backup sufficient to allow the MBTA to identify the listed charges and, upon request, the Operator shall provide the MBTA with additional supporting material for each Mobilization Invoice. The MBTA shall make payment to the Operator within forty-five (45) days of the MBTA's receipt of each Mobilization Invoice.

8. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.12-001	Mobilization Plan	At time of NTP
ODRL 3.12-002	Mobilization Organization	At time of NTP
ODRL 3.12-003	Third Party Mobilization Services List	At time of NTP
ODRL 3.12-004	MBCR Transition Services List	At time of NTP
ODRL 3.12-005	FRA/Regulatory Agency Deliverable Spreadsheet	At time of NTP
ODRL 3.12-006	Mobilization Milestone Schedule	At time of NTP
ODRL 3.12-007	Mobilization Plan Underlying Assumptions	At time of NTP
ODRL 3.12-008	Mobilization Overlaps & Mitigation	At time of NTP
ODRL 3.12-009	Mobilization Status Meeting Schedule	At time of NTP

ODRL 3.12-010	Document & Template Spreadsheet	At time of NTP
ODRL 3.12-011	Safety Sensitive Subcontractor Positions	At time of NTP

SCHEDULE 3.13
AFFIRMATIVE ACTION/EQUAL OPPORTUNITY/DBE

1. DIVERSITY REQUIREMENTS

The Diversity Requirements of the Agreement are comprised of two separate elements: Disadvantaged Business Enterprise (DBE) Requirements; and Affirmative Action, Equal Employment, and Nondiscrimination Requirements.

2. DBE OVERVIEW

It is the policy of the MBTA and the United States Department of Transportation (“**DOT**”) that Disadvantaged Business Enterprises (“**DBEs**”), as defined herein and in the federal regulations published at 49 CFR Part 26, shall have an equal opportunity to participate in DOT-assisted agreements. It is also the policy of the MBTA to:

- 2.1 Ensure nondiscrimination in the award and administration of DOT-assisted agreements;
- 2.2 Create a level playing field on which DBEs can compete fairly for DOT-assisted agreements;
- 2.3 Ensure that the DBE program is narrowly tailored in accordance with applicable law;
- 2.4 Ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs;
- 2.5 Help remove barriers to the participation of DBEs in DOT assisted agreements; and
- 2.6 Assist in the development of firms that can compete successfully in the marketplace outside the DBE program.

This Agreement is subject to 49 CFR Part 26. Therefore, the Operator is required to meet the requirements of 49 CFR Part 26 for DBE participation as set forth herein. These requirements are in addition to all other equal opportunity employment requirements of this Agreement.

3. DBE REQUIRED SUBMISSIONS THAT ARE INCORPORATED INTO THE AGREEMENT

The Operator is required to submit the following information:

- 3.1 A completed DBE Plan, attached as Attachment “A” to this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE), that meets the requirements of and ensures overall compliance with 49 CFR Part 26;
- 3.2 A completed DBE Utilization Certificate (in the form attached as Attachment “B” to this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE));

- 3.3 A completed DBE Participation Schedule (in the form attached as Attachment “C” to this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE)) listing those certified DBEs with which the Operator intends to contract for the performance of portions of the work under the Agreement during the initial three year period based on the Operator’s estimate of cost projections for years one through three of the Agreement (subsequent years will be submitted on an annual basis after year one and thereafter for the life of the Agreement). The completed DBE Participation Schedule must include:
- 3.3.1 The agreed price to be paid to each DBE for its work;
 - 3.3.2 Identifying in detail the Agreement items or parts to be performed by each DBE, including a proposed timetable for the performance or delivery of the Agreement item(s);
 - 3.3.3 Providing other information as required by the DBE Participation Schedule form;
- 3.4 A completed original DBE Letter of Intent (in the form attached as Attachment “D” to this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE)) signed by each DBE listed in the DBE Participation Schedule;
- 3.5 A copy of the most recent certification letter or document of each DBE listed in the DBE Participation Schedule; and
- 3.6 An original DBE Affidavit (in the form attached as Attachment “E” to this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE)) executed by each DBE listed in the DBE Participation Schedule stating that there has not been any change in its DBE status since the date of its last certification; and
- 3.7 A Certificate of Payment to DBEs to be completed and submitted monthly (in the form attached as Attachment “F” to this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE)).

4. **MONITORING OF CONTINUED COMPLIANCE**

- 4.1 The MBTA shall monitor the Operator’s DBE compliance during the life of the Agreement. It will be the responsibility of the Operator to submit monthly written reports to the MBTA that summarize the total expenditure through DBE firms under this Agreement. These reports shall provide the following details:
- 4.1.1 DBE utilization goal established for the Agreement and level of expenditure relative for that goal, expressed as a percentage for the month;
 - 4.1.2 Total value of expenditures with DBE firms for the month; and
 - 4.1.3 Total value of expenditures with DBE firms from inception of the Agreement.

- 4.2 Reports and other correspondence must be submitted to the DBE Liaison Officer with copies provided to the Senior Director and the Chief Procurement Officer. Reports shall continue to be submitted monthly until final payment is issued or until DBE participation is completed.
- 4.3 The Operator shall maintain:
- 4.3.1 All data/records pertaining to DBEs as stated in **Schedule 3.14** (Reporting and Submittals).
- 4.3.2 All data/records pertaining to non-DBE subcontracting and purchasing as required and reported to MBTA on a monthly basis.
- 4.4 The Operator shall permit:
- 4.4.1 The MBTA to have access to necessary records to examine information as the MBTA deems appropriate for the purpose of investigating and determining compliance with this provision, including, but not limited to, records of expenditures, invoices, and agreements between the Operator and DBE parties entered into during the life of the Agreement.
- 4.4.2 The authorized representatives of the MBTA, the U.S. Department of Transportation, the Comptroller General of the United States, to inspect and audit all data and records of the Operator relating to its performance under the Disadvantaged Business Enterprise participation provisions of this Agreement.
- 4.5 Counting DBE Participation – Participation will be counted toward fulfillment of the DBE goal as follows:
- 4.5.1 When a DBE participates in a Agreement, the Operator counts only the value of the work actually performed by the DBE towards DBE goals.
- 4.5.2 The DBE participation counted toward the DBE goal shall be as provided in the federal regulations (49 CFR Part 26) including 49 C.F.R. Section 26.55.

5. TERMINATION OR SUBSTITUTION OF DBE SUBCONTRACTOR

- 5.1 The Operator shall not terminate the DBE subcontractor(s) listed in the DBE Participation Schedule or an approved substitute DBE firm and then perform the work of the terminated DBE subcontractor with its own forces or an affiliate without first complying with the federal regulations (49 CFR Part 26), including 49 CFR Section 26.53(f) and without the MBTA's prior written consent. When a DBE subcontractor is terminated for good cause after written consent of MBTA or fails to complete its work on the Agreement for any reason, the Operator shall comply with 49 CFR Section 26.53 and make good faith efforts to find another DBE subcontractor to substitute for the original DBE and immediately notify the MBTA in writing of its efforts to replace the original DBE. These good faith efforts shall be directed at finding another DBE to

perform at least the same amount of work under the Agreement as the DBE that was terminated, to the extent needed to meet the Agreement DBE participation goal established for this Agreement.

- 5.2 Good cause to terminate a DBE subcontractor, as provided in 49 CFR Part 26.53(f), includes the following circumstances:
- 5.2.1 The listed DBE subcontractor fails or refuses to execute a written contract;
 - 5.2.2 The listed DBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the DBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Operator;
 - 5.2.3 The listed DBE subcontractor fails or refuses to meet the Operator's reasonable, nondiscriminatory bond requirements.
 - 5.2.4 The listed DBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;
 - 5.2.5 The listed DBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings pursuant 2 CFR Parts 180, 215 and 1,200 or applicable state law;
 - 5.2.6 The MBTA has determined that the listed DBE subcontractor is not a responsible contractor;
 - 5.2.7 The listed DBE subcontractor voluntarily withdraws from the project and provides to the MBTA written notice of its withdrawal;
 - 5.2.8 The listed DBE is ineligible to receive DBE credit for the type of work required;
 - 5.2.9 A DBE owner dies or becomes disabled with the result that the listed DBE contractor is unable to complete its work on the contract;
 - 5.2.10 Other documented good cause that the MBTA determines compels the termination of the DBE subcontractor. Provided, that good cause does not exist if the Operator seeks to terminate a DBE it relied upon to obtain the Contract so that the Operator can self-perform the work for which the DBE contractor was engaged or so that the Operator can substitute another DBE or non-DBE contractor after contract award.
- 5.3 Before transmitting to the MBTA its request to terminate and/or substitute a DBE subcontractor, the Operator must give notice in writing to the DBE subcontractor, with a copy to the MBTA, of its intent to request to terminate and/or substitute, and the reason for the request.

- 5.4 The Operator must give the DBE subcontractor five days to respond to the Operator's notice and advise the MBTA and the Operator of the reasons, if any, why the DBE subcontractor objects to the proposed termination of its subcontract and why the MBTA should not approve the Operator's action. If required in a particular case as a matter of public necessity (e.g., safety), the MBTA may provide a response period shorter than five days.

6. OPERATOR'S ASSURANCE TO IMPLEMENT 49 CFR PART 26

- 6.1 The Operator or any subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The Operator shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted agreements. Failure by the Operator to carry out these requirements is a material breach of the Agreement, which may result in the termination of this Agreement or such other remedy as the MBTA deems appropriate. The Operator shall cooperate with the MBTA in implementing the obligations concerning the DBE requirements. The Operator shall also cooperate with the MBTA and the FTA in reviewing the Operator's activities relating to implementing 49 CFR Part 26.
- 6.2 In each subcontract it awards under this Agreement, the Operator shall include the following

"The Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Subcontract. The Subcontractor shall carry out applicable requirements of 49 CFR Part 26 in the award of contracts under this Subcontract. Failure by the Subcontractor to carry out these requirements is a material breach of this Subcontract, which may result in the termination of this Subcontract or such other remedy as the Operator or MBTA shall deem appropriate."

7. PROMPT PAYMENT

The Operator agrees to pay subcontractors within ten calendar days of the receipt of all invoices unless there exists a genuine dispute as to the amount owed. In the event of a genuine dispute as to the amount owed to a subcontractor for any services or materials provided, only payment of the disputed portions may be delayed, while payment for any undisputed amounts owed must nevertheless be submitted within ten calendar days. The subcontractors' acceptance of such partial payment shall not in any way waive, excuse, or bar the right to any additional amount owed under the disputed invoice. The Operator shall not postpone or delay any undisputed payments owed subcontractors without good cause and without prior written consent of the MBTA. The Operator agrees to include in all subcontracts a provision requiring the Operator's compliance with the terms of this Section 7 (Prompt Payment) of this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE) and a provision requiring the use of appropriate alternative dispute resolution mechanisms to resolve payment disputes.

8. SANCTIONS FOR VIOLATIONS

If at any time the MBTA has reason to believe that the Operator is in violation of its DBE obligations under the federal regulations (49 CFR Part 26), the Agreement, and /or this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE) or has otherwise failed to comply with terms of the federal regulations (49 CFR Part 26), the Agreement, and/or this **Schedule 3.13** (Affirmative Action/Equal Opportunity/DBE), the MBTA may, in addition to pursuing any other available legal remedy, commence proceedings, which may include but are not limited to, the following:

- 8.1 Suspension of any payment or part due the Operator until such time as the issues concerning the Operator's compliance are resolved;
- 8.2 Suspension, termination or cancellation of the Agreement, in whole or in part, unless the Operator is able to demonstrate within a reasonable time that it is in compliance with the DBE terms stated herein.
- 8.3 Condition continuation of the Agreement, in whole or in part, upon a program for future compliance and corrective actions approved by the MBTA;
- 8.4 Debarment of the Operator from entering into any future contracts with the MBTA.
- 8.5 Any other remedies allowed for breach of an agreement as provided in this Contract or the federal regulations (49 CFR Part 26).

9. AFFIRMATIVE ACTION, EQUAL OPPORTUNITY, AND NONDISCRIMINATION:

The following affirmative action, equal employment opportunity and nondiscrimination requirements apply to this Agreement:

- 9.1 Affirmative Action, Equal Opportunity and Workplace Environment. In connection with the execution of the Agreement, the Operator shall not discriminate against any employee because of race, religion, color, sex, national origin, disability, or sexual orientation. The Operator shall take affirmative action to ensure that applicants are employed, and that employees are treated during their employment without regard to their race, religion, color, sex, national origin, disability, or sexual orientation. Such actions shall include, but are not limited to: employment, upgrading, demotion or transfer, recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
- 9.2 Dignity in the Workplace. The Operators and its employees shall comply with the MBTA Dignity in the Workplace requirement. The Operator's employees who violate this policy are to be removed from the MBTA Agreement and are not to be employed on another MBTA Agreement.

- 9.2.1 MBTA Dignity in the Workplace Policy. In accordance with governing statutes, regulations, and collective bargaining agreements, and consistent with its existing policies, the MBTA demands of itself and its employees that all work and work-related activities be conducted with complete respect for the dignity of all employees. In practice, this means that no action, inaction or language which would offend a reasonable employee or which any reasonable employee deems unwelcome will be tolerated. All personnel decisions will be based solely on objective consideration of relevant articulated factors. No personnel decision will directly or indirectly be based on consideration of an employee's age, race, sex, religion, creed, color, sexual orientation, national origin, disability/handicap, ancestry or Vietnam era veterans status.

These prohibitions on harassment and impermissible discrimination are absolute.

- 9.3 49 U.S.C. § 5332 (Nondiscrimination in Federal Public Transportation Programs);
- 9.4 Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. §§ 2000d *et seq.*, and with USDOT regulations, “Nondiscrimination in Federally-Assisted Programs of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act”, 49 CFR Part 21;
- 9.4.1 The Operator shall comply with all applicable requirements under Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d *et seq.*, with the Title VI Program of the MBTA, and with all applicable FTA Circulars (including FTA Circular 4702.1B) and federal regulations (including 49 C.F.R. Part 21) implementing Title VI, including general requirements of Title VI as follows:
- 9.4.1.1 Public participation plan including public outreach efforts and involvement activities to ensure meaningful access to activities;
- 9.4.1.2 Procedures for tracking and investigating Title VI complaints;
- 9.4.1.3 List of public transportation-related Title VI investigations, complaints and lawsuits;
- 9.4.1.4 Language assistance programs (for providing language assistance to persons with limited English proficiency);
- 9.4.1.5 Title VI notices to the public and instructions to the public regarding how to file a Title VI complaint (notifying public of their rights afforded to them by Title VI); and
- 9.4.1.6 Environmental Justice analysis.
- 9.5 The Age Discrimination Act of 1975, as amended, 42 U.S.C. §§ 6101 *et seq.*, and any U.S. Health and Human Services implementing regulations, "Nondiscrimination on the

Basis of Age in Programs or Activities Receiving Federal Financial Assistance", 45 CFR Part 90;

- 9.6 The Age Discrimination in Employment Act, 29 U.S.C. §§ 621 through 634 and any U.S. Equal Employment Opportunity Commission implementing regulations, "Age Discrimination in Employment Act", 29 CFR Part 1625;
- 9.7 All equal employment opportunity provisions of 49 U.S.C. § 5332, with Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e, and federal implementing regulations and any subsequent amendments thereto, except to the extent FTA determines otherwise in writing, and any applicable federal equal employment opportunity directives that may be issued from time to time; and
- 9.8 All applicable equal employment opportunity requirements of U.S. Department of Labor regulations, "Office of Federal Agreement Compliance Programs, Equal Employment Opportunity, Department of Labor", 41 CFR Parts 60 *et seq.*, which implement Executive Order No. 11246, "Equal Employment Opportunity", as amended by Executive Order No. 11375, "Amending Executive Order No. 11246 Relating to Equal Employment Opportunity", 42 U.S.C. § 2000e, and also with any federal laws, regulations, and directives that may in the future affect the operations and maintenance under this Agreement.
- 9.9 In addition, the Operator agrees to comply with any implementing requirements FTA may issue with respect to the above referenced laws, statutes, regulations, and executive orders.

**ATTACHMENT “A”
OPERATOR’S DBE PLAN**

[PLACEHOLDER FOR OPERATOR TO SUBMIT ITS DBE PLAN]

ATTACHMENT "B"
DBE UTILIZATION CERTIFICATE

In connection with the performance of this Agreement, the Operator will cooperate with MBTA in meeting its commitments and goals with regard ensuring opportunities for creating a level playing field on which DBEs can compete fairly for U.S. Department of Transportation assisted agreements. The Operator shall complete and submit this DBE Utilization Certificate with its proposal and as part of the Agreement.

1.1 What percentage and dollar value of the Agreement will be performed or supplied by certified DBEs? **TOTAL DBE UTILIZATION:** ____% = \$_____

NOTE: For each DBE supplying or performing a percentage of the Agreement amount, you must complete the attached DBE Participation Schedule.

1.2 If the Operator has not met the goal as specified above, the Operator shall attach documentation detailing its good faith efforts to meet the goals and justifying why the goal was not met. I hereby certify that the above information is true and accurate to the best of my knowledge:

NAME:_____

AUTHORIZED SIGNATURE:_____

TITLE:_____

DATE:_____

**ATTACHMENT “C”
DBE PARTICIPATION SCHEDULE**

The Operator shall complete the following information for each DBE for which a percentage is given in the attached DBE Utilization Certificate. Also, please furnish the name and telephone number of the appropriate contact person should MBTA have any questions in relation to the information furnished herein.

Name of Supplier or Subcontractor	Address & Contact Info	Description and Type of Service to be performed or Material to be supplied	NAICS Code(s)	Beginning	Duration	Agreed Price	Percent of DBE Participation

(Use additional sheet of paper, if necessary.)

Prime Company Name: _____

Name of Contact Person: _____

Telephone Number: _____

ATTACHMENT "D"

DBE LETTER OF INTENT (TO BE COMPLETED BY DBE FIRM)

The undersigned intends to provide goods and services in connection with the above-referenced RFP as a subcontractor or supplier for _____
(Proposer).

The Disadvantaged Business status of the undersigned is confirmed by the attached certification.

Description and type of work to be performed or material to be supplied by DBE firm: _____

The Proposer is committed to utilizing the below named DBE firm for the work described above.
The estimated dollar value of this work is \$ _____.

Name of Disadvantaged Business Enterprise: _____

**The above work will not be sublet to a non-disadvantaged business enterprise at any tier.
The undersigned will enter into a formal contract for the above work with the Proposer
conditioned upon the Proposer's award and execution of a Contract with the MBTA.**

Affirmation

The above-named DBE firm affirms that it will perform the portion of the Contract for the estimated dollar value as stated above.

If the Proposer does not receive award of the Contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

Signature and Title of Authorized Official

Date: _____

By: _____

Name

Title

(Proposer shall submit this page for each DBE subcontractor)

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF _____

Date: _____

COUNTY OF _____

The undersigned being duly sworn, deposes and says that he/she is the

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of _____
(Name of DBE)

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this _____ day of _____, 20____.

Notary Public _____

My commission expires: _____

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

ATTACHMENT "F"
CERTIFICATE OF PAYMENT TO DBEs

TO: MBTA Contract Administration
Compliance Office
Ten Park Plaza, 6th
Boston, MA 02116

Reporting Period* _____
Contract Date: _____

RE: MBTA Contract No. _____

Contract Name _____

The undersigned hereby certifies under penalty of perjury that the Operator has made the following payments to the named DBE for work performed on the above Agreement:

✓	DBE Firm Name	Work Performed	Subcontract Amount	Payment this Month	Cumulative Payments
			\$	\$	\$
			\$	\$	\$
			\$	\$	\$
			\$	\$	\$
			\$	\$	\$
			\$	\$	\$
			\$	\$	\$
			\$	\$	\$
			\$	\$	\$
			\$	\$	\$

Authorized Signature _____ Date _____

Print Name and Title _____

Telephone No. _____

* DBE payment reports are required for each month of the fiscal year for the MBTA Contract.

NOTICE: Intentionally submitting false information in this document may subject the Operator to criminal prosecution and/or debarment from public contracting

SCHEDULE 3.14 REPORTING AND SUBMITTALS

1. INCIDENT MANAGEMENT AND NOTIFICATIONS

- 1.1 In the event of an incident that results in delays or disruptions to the Commuter Rail Services, the Operator shall follow those procedures described in **Schedule 3.1** (Transportation Services) and **Schedule 3.5** (Safety and Security).

2. REPORTING AND RECORDKEEPING REQUIREMENTS

2.1 General

- 2.1.1 The Operator shall keep, store, and maintain full and accurate Records relating to all aspects of the Services.

- 2.1.2 The Operator shall furnish to the MBTA at the times specified in this Agreement, including **Part 1**, Section 12 (Examination and Audit), without limitation, all Records identified in or required to be maintained by the Operator under the provisions of this Agreement, including as set forth in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals).

- 2.1.2.1 The Operator shall maintain and furnish to MBTA the Records, in writing and in electronic format, in accordance with the delivery schedules established herein. The Operator's monthly invoice shall not be considered complete if any Records required to be submitted with the monthly invoice are not included. The costs of preparing, producing, furnishing and maintaining the Records shall be included in the Annual Fee.

- 2.1.3 The Operator shall provide to the MBTA, not less than 30 days prior to the Termination Date, written notice of the location at which the Records shall be maintained after the Termination Date during the period specified in **Part 1**, Section 12 (Examination and Audit). At the request of the MBTA, the Operator shall provide copies of any such Records to the MBTA prior to the Termination Date. The MBTA shall pay to the Operator the reasonable costs of making such copies.

2.1.4 Required Reports

- 2.1.4.1 Daily Reports, as designated in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), shall be received by the MBTA no later than 9:00 am on the next Business Day immediately following the day to which the Report relates.

- 2.1.4.2 Weekly Reports, as designated in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), shall be received by the MBTA no later than the close of business on the Monday of the following week.
- 2.1.4.3 Quarterly Reports, as designated in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), shall be received by the MBTA no later than the date of the submission by the Operator of its monthly invoice for the first month of the following quarter. The first quarter of each Agreement Year shall begin on July 1.
- (a) Annual Reports, as designated in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), shall be received by the MBTA no later than the date of the Operator's submission to the MBTA of the Operator's invoice for the first month of the subsequent MBTA fiscal year, unless otherwise specified.
- (b) "On Request" and "As Occurs" Reports as designated in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), shall be received by the MBTA no later than 24 hours after the occurrence triggering a report unless otherwise required.
- (c) "On Demand" Reports as designated in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), shall be directly available on a continuous basis to the MBTA in an MBTA supplied or approved system. Examples of these are accidents, injuries, fires, floods, derailments, fuel spills and other incidents of a critical nature and having the potential of serious impact on customers and/or the public at large and that require instant and continuous monitoring by the MBTA.
- (d) One Time and Initial Submittals designated in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), shall be received by the MBTA no later than 4:00 pm on the date specified.
- 2.1.4.4 Annual Program Plans and Deliverables
- (a) The Operator shall deliver to the MBTA for approval all Annual Program Plans including, without limitation, those designated in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), and other deliverables specified by as the date specified. Due dates for reports have been

selected based on fiscal year, seasonal considerations, and to balance the Operator's work flow. The MBTA shall review each such plan, and shall either approve such plan or, within 30 days of its receipt (unless otherwise required), and direct the Operator to revise such plan.

- (b) The Operator shall provide the MBTA with a plan revised accordingly within 30 days of receipt (unless otherwise required) of such revisions from the MBTA. Initial program plans shall be delivered during the Mobilization Period on the schedule identified in **Schedule 3.12** (Mobilization) of this Agreement.

2.1.4.5 National Transit Database Reporting Requirements

- (a) The Operator shall adhere to all reporting requirements as described in the National Transit Database ("NTD") Reporting Manuals found at the NTD website.
- (b) All information required for NTD reporting shall be delivered by the Operator electronically to the MBTA in the format and with all information required for review by the MBTA and suitable for forwarding to the NTD.

2.1.4.6 Notwithstanding anything to the contrary, the Operator shall be responsible for providing all reports, records and other submittals required pursuant to this Agreement (within the designated timeframes) regardless of whether such reports, records and other submittals are included in Appendix 1 (Operator Deliverable Requirements List) to this **Schedule 3.14** (Reporting and Submittals).

2.1.4.7 All Reports shall be filed and maintained in the Commuter Rail IT Environment unless, in the MBTA's sole discretion, the MBTA approves of or provides a separate system.

2.2 Operator Reporting Delivery Requirements

- 2.2.1 The Operator shall deliver all records, reports and other submittals that it is obligated to provide to the MBTA pursuant to this Agreement including, but not limited to, those identified in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), to the Director of Railroad Operations, with copies going contemporaneously to those individuals that the Director of Railroad Operations designates from time to time (collectively, the "**RRO Report Recipients**"). Notwithstanding anything to the contrary, in the event that a provision of this Agreement directs the Operator to deliver a record, report or other submittal to someone other than the RRO Report

Recipients, the Operator shall also contemporaneously deliver a copy of the applicable record, report or other submittal to the RRO Report Recipients.

- 2.2.2 In addition to delivering to the RRO Report Recipients all records, reports and other submittals that it is obligated to provide to the MBTA pursuant to this Agreement including, but not limited to, those identified in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), the Operator shall also contemporaneously deliver copies of such records, reports and other submittals to those additional recipients identified in this Agreement to receive the applicable record, report or other submittals. By way of example, and not limitation, the monthly report that the Operator is obligated to provide pursuant to Section 2.16 of **Schedule 3.5** (Safety and Security) shall be contemporaneously submitted to the MBTA Transit Chief of Police and the RRO Report Recipients.
- 2.2.3 The Operator shall work with the Director of Railroad Operations during the Mobilization Period to establish protocols to ensure timely distribution of all records, reports and other submittals to the RRO Reporting Recipients including, but not limited to, (i) identifying specific Director of Railroad Operations designees for receiving records, reports and other submissions, and (ii) mechanisms to ensure delivery and confirmation of receipt of all records, reports and other submittals. Notwithstanding anything to the contrary, the Operator acknowledges and agrees that, as between the Parties, the Operator is solely responsible for ensuring the delivery of all records, reports and other submittals required by this Agreement within the applicable timeframes.
- 2.2.4 By way of clarification, and not limitation, all records, reports and other submittals required to be provided pursuant to this Agreement including, but not limited to, those set out in Appendix 1 (Operator Deliverable Requirements Lists) to this **Schedule 3.14** (Reporting and Submittals), are subject to the Service Level Agreements and Service Credits included in Section 20 (Reports, Plans and Other Deliverables) of **Schedule 3.18** (Service Level Agreement and Service Credits).

3. OPERATOR DELIVERABLE REQUIREMENTS LIST

ODRL	Description	Due Date
ODRL 3.14-001	NTD Monthly Reporting	Monthly
ODRL 3.14-002	NTD Annual Reporting	Annually
ODRL 3.14-003	NTD Safety & Security Reporting	TBD

APPENDIX 1

OPERATOR DELIVERABLE REQUIREMENTS LISTS

NOTE: This Appendix 1 to **Schedule 3.14** (Reporting and Submittals) also is included as Appendix 1 to **Schedule 2** (Engineering Services).

This Appendix does not include submittals and other Deliverables required pursuant to **Schedules 3.15** (Intellectual Property; Ownership) through **3.18** (Service Level Agreement and Service Credits). Any such Deliverables shall be provided in accordance with such Schedules.

NTP = Notice to Proceed

NTCS = Notice to Commence Services

One Time, Non-Recurring Submittals

ODRL#	Description	Due Date
ODRL 3.9-003	The Operator Organization Chart	Commencement Date
ODRL 3.12-001	Mobilization Plan	At time of NTP
ODRL 3.12-002	Mobilization Organization	At time of NTP
ODRL 3.12-003	Third Party Mobilization Services List	At time of NTP
ODRL 3.12-004	MBCR Transition Services List	At time of NTP
ODRL 3.12-005	FRA/Regulatory Agency Deliverable Spreadsheet	At time of NTP
ODRL 3.12-006	Mobilization Milestone Schedule	At time of NTP
ODRL 3.12-007	Mobilization Plan Underlying Assumptions	At time of NTP
ODRL 3.12-008	Mobilization Overlaps & Mitigation	At time of NTP
ODRL 3.12-009	Mobilization Status Meeting Schedule	At time of NTP
ODRL 3.12-010	Document & Template Spreadsheet	At time of NTP
ODRL 3.12-011	Safety Sensitive Subcontractor Positions	At time of NTP
ODRL 3.3-01	Equipment List (ELIST) - Proposed	At time of NTP
ODRL 3.3-03	Maintenance Allocation Chart (MAC) - The Operator Proposed	At time of NTP
ODRL 3.3-05	Life Cycle Maintenance (LCM) Program - The Operator Proposed	At time of NTP
ODRL 3.3-07	Comprehensive Preventive Maintenance, Inspection and Cleaning Plan	At time of NTP
ODRL 3.3-09	Cleaning Standards - proposed	At time of NTP
ODRL 3.5-029	Inventory of Safety Sensitive Positions	At time of NTP
ODRL 3.3-23	Maintenance Management System Procurement Specification for review and approval	At time of NTP
ODRL 3.9-018	Written Union Notification of the Operator Selection	10 days after NTP
ODRL 3.9-019	Labor terms & Pledge to Comply	10 days after NTP
ODRL 3.3-26	Maintenance Operation and Fleet Performance Report format for review and approval	30 days after NTP
ODRL 3.8-001	Resumes for two full-time environmental compliance staff	30 days after NTP
ODRL 3.8-002	Draft Permit Management Program	30 days after NTP
ODRL 3.8-004	Monthly Compliance Summary Example Report	30 days after NTP
ODRL 3.8-039	Slug Control Plan & Pretreatment Report	30 days after NTP
ODRL 3.8-020	Draft Individual O&M Plans, Staffing Plans & Inspection Plans	45 days after NTP
ODRL 3.8-024	OWS Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-027	On-site Disposal System Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-033	Tank System Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-037	Draft CRMF O&M Manual, SOPs & Staffing Plan	45 days after NTP
ODRL 3.8-040	CRMF Wastewater System Spare Parts List & Inventory	45 days after NTP
ODRL 3.8-042	Draft Widett O&M Manual, SOPs & Staffing Plan	45 days after NTP
ODRL 3.8-044	Widett Wastewater System Spare Parts List & Inventory	45 days after NTP
ODRL 3.1-001	Transportation Service Plan	60 days after NTP

ODRL 3.1-021	Draft Policy and Procedure for Periodic Updates	60 days after NTP
ODRL 3.3-02	Equipment List (ELIST) - submitted for Final Approval	60 days after NTP
ODRL 3.3-04	Maintenance Allocation Chart (MAC) - submitted for Final Approval	60 days after NTP
ODRL 3.3-06	Life Cycle Maintenance (LCM) Program - submitted for Final Approval	60 days after NTP
ODRL 3.3-08	Comprehensive Preventive Maintenance, Inspection and Cleaning Plan - submitted for Final Approval	60 days after NTP
ODRL 3.3-10	Cleaning Standards - submitted for Final Approval	60 days after NTP
ODRL 3.3-12	Fleet Maintenance Plan - for Final Approval	60 days after NTP
ODRL 3.3-14	Weekly Maintenance Production Plan - proposed draft form	60 days after NTP
ODRL 3.3-16	Weekly Maintenance Production Report	60 days after NTP
ODRL 3.3-18	Maintenance Management System Plan	60 days after NTP
ODRL 3.3-19	Maintenance Standards Manual (MSM)	60 days after NTP
ODRL 3.3-20	Calibration Procedure Management Plan	60 days after NTP
ODRL 3.3-21	Rail vehicle non-revenue fleet - comprehensive preventive maintenance program	60 days after NTP
ODRL 3.3-22	Mobile wreck cranes - comprehensive preventive maintenance program	60 days after NTP
ODRL 3.3-24	FRA Defect Report - Rolling Stock	60 days after NTP
ODRL 3.3-25	FRA Compliance Management Plan	60 days after NTP
ODRL 3.3-28	Maintenance Cost per Vehicle per Year	60 days after NTP
ODRL 3.4-01	Materials Management Plan	60 days after NTP
ODRL 3.4-10	Scrap & Obsolete Material Handling	60 days after NTP
ODRL 3.4-13	Inventory Maintenance Plan	60 days after NTP
ODRL 3.4-14	None on Hand Material Action List	60 days after NTP
ODRL 3.4-15**	None on Hand Material Meeting Plan	60 days after NTP
ODRL 3.4-22	Fuel Accounting Plan	60 days after NTP
ODRL 3.5-001	Safety Incident Reporting & Review Process	60 days after NTP
ODRL 3.5-002	Emergency Action Process Improvement Plan	60 days after NTP
ODRL 3.5-019	Contingency Plan	60 days after NTP
ODRL 3.7-001	Lost & Found Procedures	60 days after NTP
ODRL 3.7-007	Alternate Transportation Protocols	60 days after NTP
ODRL 3.8-007	Draft Emergency Spill Response/Spill Prevention Control and Countermeasure (SPCC) Plan	60 days after NTP
ODRL 3.8-011	Draft Hazardous Materials Management Plan	60 days after NTP
ODRL 3.8-014	Draft Environmental Services Work Plan	60 days after NTP
ODRL 3.10-007	Locomotive Engineer Certification	60 days after NTP
ODRL 3.10-008	Conductor Certification	60 days after NTP
ODRL 3.10-009	QMP Training Program	60 days after NTP
ODRL 3.10-010	QMP Refresher Training Program	60 days after NTP
ODRL 3.10-011	Railroad Workplace Safety Programs	60 days after NTP
ODRL 3.10-012	Emergency Preparedness Program	60 days after NTP
ODRL 3.10-013	Refrigerant Handling Training Program	60 days after NTP
ODRL 3.10-018	New Employee Competency Evaluation and Orientation Training Program	60 days after NTP
ODRL 3.10-023	O&M Agreement Training Complete	60 days after NTP

ODRL 3.10-005	First Responder Training Program	60 days after NTP
ODRL 3.1-011	Operator Transportation Dept. Org Chart	90 days after NTP
ODRL 3.1-012	Train Staffing Plan	90 days after NTP
ODRL 3.1-022	Draft Employee Timetable, Operating Rule Book and Train Dispatcher's Manual	90 days after NTP
ODRL 3.1-023	Spreadsheet of Rule Books/Manuals	90 days after NTP
ODRL 3.1-024	Timetable Schedule Pages for Publication	90 days after NTP
ODRL 3.2-001	Engineering Services Plan	90 days after NTP
ODRL 3.2-024	Station Inspection Form	90 days after NTP
ODRL 3.2-026	Preliminary Support Property & Facilities Maintenance Plan	90 days after NTP
ODRL 3.2-028	Facility Inspection Form	90 days after NTP
ODRL 3.2-085	Lock Out / Tag Out Procedure	90 days after NTP
ODRL 3.2-087	Electrical Testing and Maintenance Plan	90 days after NTP
ODRL 3.2-091	Electrical Maintenance & Testing Report Template	90 days after NTP
ODRL 3.2-101	Annual Fuel Usage Audit Report Form	90 days after NTP
ODRL 3.2-109	Fire Protection System/Call Box Inventory	90 days after NTP
ODRL 3.3-11	Maintenance Interval Forms - submitted for Approval	90 days after NTP
ODRL 3.4-02	Critical Material List	90 days after NTP
ODRL 3.4-05	New Fleet Parts Lists	90 days after NTP
ODRL 3.4-06	Unique Parts/Safety Stock Lists	90 days after NTP
ODRL 3.4-19	Materials MIS Operational & Current	90 days after NTP
ODRL 3.4-20	MBTA Materials Management Data Upload	90 days after NTP
ODRL 3.4-21	Fuel Test Plan	90 days after NTP
ODRL 3.4-30	Locomotive Idle Time Minimization Plan	90 days after NTP
ODRL 3.4-33	Warranty Control & Administration Plan	90 days after NTP
ODRL 3.5-003	Operator System Safety Compliance Plan	90 days after NTP
ODRL 3.5-012	Operator System Security Compliance Plan	90 days after NTP
ODRL 3.5-015	Emergency Preparedness Plan	90 days after NTP
ODRL 3.5-017	Emergency Response Plan	90 days after NTP
ODRL 3.5-022	Drug Free Workplace Policy	90 days after NTP
ODRL 3.7-012	Customer Service Satisfaction Plan	90 days after NTP
ODRL 3.7-014	Media Communications Events List	90 days after NTP
ODRL 3.8-003	Final Permit Management Program	90 days after NTP
ODRL 3.8-008	Final Emergency Spill Response/Spill Prevention Control and Countermeasure (SPCC) Plan	90 days after NTP
ODRL 3.8-018	Health & Safety Plan	90 days after NTP
ODRL 3.10-014	Carman Training Program	90 days after NTP
ODRL 3.10-015	Signalman Training Program	90 days after NTP
ODRL 3.10-016	Machinist/Electrician/Pipefitter/Sheet Metal Worker Training & Qualification Program	90 days after NTP
ODRL 3.10-017	Standardized Qualification Test and Practical Examination Materials	90 days after NTP
ODRL 3.2-018	Temporary Speed Restriction Removal Schedule	120 days after NTP

ODRL 3.2-029	Rolling Stock Support Equipment (RSSE) Condition Assessment	120 days after NTP
ODRL 3.2-037	Preliminary Elevator & Escalator Inspection & Maintenance Program	120 days after NTP
ODRL 3.2-039	Preliminary Station, Building and Facility Maintenance Program	120 days after NTP
ODRL 3.2-050	Preliminary Bridge Maintenance Plan	120 days after NTP
ODRL 3.2-052	Preliminary Drawbridge Maintenance Plan	120 days after NTP
ODRL 3.2-054	Preliminary Drawbridge Operation Manual	120 days after NTP
ODRL 3.2-057	Preliminary Timber Bridge Deck Replacement Plan	120 days after NTP
ODRL 3.2-059	Preliminary Tunnel Operation and Maintenance Manual	120 days after NTP
ODRL 3.2-061	Preliminary Culvert Replacement Plan	120 days after NTP
ODRL 3.2-066	Preliminary Signal Failure Reduction Program	120 days after NTP
ODRL 3.2-074	Preliminary Grade Crossing Event Recorder Program	120 days after NTP
ODRL 3.2-078	Preliminary Interlocking Event Recorder Program	120 days after NTP
ODRL 3.2-080	Preliminary Switch Machine Replacement Plan	120 days after NTP
ODRL 3.2-082	Preliminary Pole Line Retirement and Replacement Program	120 days after NTP
ODRL 3.2-084	Preliminary Pole Replacement Program	120 days after NTP
ODRL 3.2-086	Electrical and Lighting Equipment Field Inspection & Asset Inventory Update	120 days after NTP
ODRL 3.2-097	Energy Consumption Strategy	120 days after NTP
ODRL 3.2-099	Non-Revenue Vehicle & Work Equipment Inspection Form	120 days after NTP
ODRL 3.2-110	Facility Condition Assessment	120 days after NTP
ODRL 3.6-001	Quality Assurance Program Plan	120 days after NTP
ODRL 3.6-002	Quality Control Manual for Transportation Services	120 days after NTP
ODRL 3.6-003	Quality Control Manual for Customer Service & Information	120 days after NTP
ODRL 3.6-004	Quality Control Manual for Engineering Services	120 days after NTP
ODRL 3.6-005	Quality Control Manual for Mechanical Services	120 days after NTP
ODRL 3.6-006	Quality Control Manual for Materials Management	120 days after NTP
ODRL 3.6-007	Calibration Standards, Processes, Procedures and Documentation	120 days after NTP
ODRL 3.6-008	Workmanship Standards	120 days after NTP
ODRL 3.6-009	Commuter Rail Function, Processes & Procedures Master List	120 days after NTP
ODRL 3.6-010	Configuration Management Plan	120 days after NTP
ODRL 3.6-011	Software Configuration Management Plan (SCMP)	120 days after NTP
ODRL 3.6-012	The Operator Audit Plan	120 days after NTP
ODRL 3.6-015	Quality Control Manual for Capital Support	120 days after NTP
ODRL 3.10-026	Initial Training Plan	120 days after NTP
ODRL 3.10-028	Non-Revenue QMP Training Program	120 days after NTP, and updates as rolling stock added
ODRL 3.1-007	Fare Collection Procedures	120 days after NTP
ODRL 3.5-027	Drug & Alcohol Test Guidelines	120 days after NTP
ODRL 3.9-015	Baseline Competency Test Plan	120 days after NTP
ODRL 3.4-18	Materials MIS Plan	135 days after NTP
ODRL 3.4-04	New Fleets Parts & Materials Plan	Prior to NTCS

ODRL 3.4-11	Obsolete, Surplus & Scrap Material Sales Escrow Account Report	Prior to NTCS
ODRL 3.9-001	List of OGM Designees	Prior to NTCS
ODRL 3.9-004	List of ODGM Designees	Prior to NTCS
ODRL 3.10-021	New Fleet OEM Technical Assistance	Prior to NTCS
ODRL 3.10-022	Shop Equipment OEM Technical Assistance	Prior to NTCS
ODRL 3.2-017	Tie Replacement Plan (becomes part of ODRL 3.2-002)	August 1 of Agreement Year 1
ODRL 3.2-096	Electric Service Database	90 days after NTCS
ODRL 3.4-07	Repair-and-Return List	6 months after Mobilization Commencement Date
ODRL 3.4-03	Kitting Plan	12 months after Mobilization Commencement Date

Daily Submittals

ODRL#	Description	Due Date
ODRL 3.1-003	On Time Performance	Daily
ODRL 3.1-005	Late, Terminated, Cancelled Trains	Daily
ODRL 3.1-006	On Time Performance, Customer Delays, Penalty Delays, Cancelled Trains	Daily, monthly, annual
ODRL 3.1-009	Revenue Report	Daily
ODRL 3.1-014	07:00 Train & Engine Staffing Report	Daily
ODRL 3.4-23	Fuel Report	Daily
Operations	Dispatcher's turnover sheets for each ACD during the course of prior day. Weather observation, safety rule, bulletins in effect, Speed Summary, etc.	Daily
Operations	Summary of unusual and extraordinary occurrences including discussion of major delays for prior day's operation	Daily
Operations	Detail report on all mechanical failures occurring in prior day's service, containing information on unit number, engineer, location, minutes delayed, supervisor notified, delay cause, and description	Daily
Operations	Listing of all incidents of vandalism reported during prior day's service, including trains affected, location, time, delays and injuries, if any	Daily
Operations	List of all trains where equipment assigned to train was not in normal scheduled equipment cycle sorted by Division, listed in order of departure time, showing train ID, cycle ID number of required seats, equipment assigned, and dispatcher's narrative	Daily
Operations	Check Sheet for each line showing each train, lead unit, minutes late, passengers carried, number of seats in consist, number of seats short, if any, number of standees based on difference between seating capacity of consist and reported passenger count	Daily
Operations	List of all consists assigned for the morning lineup with cycle ID, all units assigned, first train, time due for servicing, seating capacity sorted by consist ID	Daily
Engineering	List all locations with temporary speed restrictions, identifying line, mileposts, track(s) affected, passenger speed, freight speed, whether signs are posted, reason for restriction, and estimated time of cancellation	Daily
Engineering	Detail report on all incidents and equipment failures occurring in prior day's service.	Daily
Engineering	Listing of train delays for Engineering Department for prior service day, sorted by cause with duration, location, responsible party, and description of delays	
Mechanical	A report on the previous day's operations, including reports as to the performance of equipment, the availability of Service Equipment, mechanical delays and the causes thereof, information as to train consists and reports of unusual occurrences in the operation of the Service Equipment	Daily
Mechanical	Reports as to incidences of vandalism during the previous day	Daily
Mechanical	Reports as to failures of rolling stock that occurred during the previous day, and the Operator's analysis of the cause of such failures	Daily
Mechanical	Service Equipment assignments to trainsets for the current day's a.m. Peak Commuter Period and previous day's p.m. Peak Commuter Period	Daily
Mechanical	By noon on each day, a summary of the current day's morning equipment status report including: assignments, available for service spares, maintenance spares, long term holds, storage. For equipment not available for service, list date taken out of service, number of elapsed calendar days, and estimated date of return to service.	Daily

Weekly Submittals

ODRL#	Description	Due Date
ODRL 3.2-005	Track Outage Report	Weekly
ODRL 3.2-111	Manager System-Wide Service Property Inspection	Weekly
ODRL 3.3-15	Weekly Maintenance Production Plan	No later than 3:00 pm on each Friday
ODRL 3.3-17	Weekly Maintenance Production Report	No later than 10:00 am on each Monday
ODRL 3.4-24	Fuel Report	Weekly
ODRL 3.7-002	Customer Fliers & Bulletins	Weekly
ODRL 3.9-016	Hiring Progress Report	Weekly during Mobilization
ODRL 3.9-017	Non-MBCR Workforce Hiring Explanations	Weekly during Mobilization

Monthly Submittals

ODRL#	Description	Due Date
ODRL 3.1-006	On Time Performance, Customer Delays, Penalty, Late, Cancelled Trains and Terminated Trains	Daily, monthly, annually
ODRL 3.1-010	Unsold Monthly Passes	Monthly
ODRL 3.2-007	Supervisory Track & Right-of-Way Inspection Reports	Monthly
ODRL 3.2-008	Track Geometry Car Inspection Report	Each Jul 1, Oct 1, Jan 1 and Apr 1
ODRL 3.2-011	Turnout Inspection Report	Monthly
ODRL 3.2-012	Joint Switch Inspection Report	Monthly
ODRL 3.2-013	Track Inspection Summary Report	Monthly
ODRL 3.2-035	Station Cleaning Report	Monthly
ODRL 3.2-041	Station Building and Facility Services Staffing Plan Update	Monthly
ODRL 3.2-069	FRA Test Compliance Report	Monthly
ODRL 3.2-090	Electrical Maintenance & Testing Report	Monthly
ODRL 3.2-092	Electrical Maintenance & Testing Meeting Schedule	Monthly
ODRL 3.2-093	Electrical Maintenance & Testing Meeting Agenda	Monthly
ODRL 3.2-104	Winter Pre-Season Checklist	September 15th, annually & updated monthly
ODRL 3.3-13	Fleet Maintenance Plan – Real-time	Monthly and Upon Request
ODRL 3.3-27	Maintenance Operation and Fleet Performance Report	Monthly
ODRL 3.3-29	MTBSF Report	Monthly
ODRL 3.4-12	Obsolete, Surplus & Scrap Material Sales Escrow Account Report	Monthly
ODRL 3.4-25	Fuel Report	Monthly
ODRL 3.4-27	Fuel Apparatus Inspection, Maintenance, Calibration & Overhaul Report	Monthly
ODRL 3.4-28	Fuel Usage By Locomotive Report	Monthly
ODRL 3.4-29	Operator Fuel Purchases	Monthly
ODRL 3.8-005	Monthly Compliance Summary Report	Monthly
ODRL 3.8-009	Fuel Usage Report	Monthly
ODRL 3.8-045	Open Environmental Site Report	Monthly
ODRL 3.9-012	The Operator Employee Headcount Report	Monthly
ODRL 3.10-001	Training Schedules	1st day of the month, monthly
ODRL 3.14-001	NTD Monthly Reporting	Monthly

Quarterly Submittals

ODRL#	Description	Due Date
ODRL 3.1-013	Train Staffing Plan Update	Quarterly
ODRL 3.2-025	Quarterly Facility Inspection (uses ODRL 3.2-018)	Quarterly
ODRL 3.2-045	Quarterly Tunnel & Ventilation Inspection Reports	Quarterly, available on request
ODRL 3.2-047	Special Bridge Inspection Reports	Quarterly, available on request
ODRL 3.2-108	Engineering Services Plan Update	Annually starting February 1st with quarterly updates
ODRL 3.4-08	Damaged Inventory Report	Quarterly, 1st day of February, May, August & November
ODRL 3.5-008	Safety Performance Reports	Quarterly
ODRL 3.5-014	Security Issue & Incidents Report	Quarterly
ODRL 3.6-014	The Operator Audit Summary Report	Quarterly
ODRL 3.7-008	List of Alternate Transportation Bus Lines	90 days after NTP and quarterly thereafter
ODRL 3.7-010	Quarterly Customer Comment and Complaint Report	90 days after Commencement and quarterly thereafter
Schedule 13	Management Prepared Semi-Annual Financial Statements	Semi-Annually, within 60 days of FY Q2 end

Annual Submittals

ODRL#	Description	Due Date
ODRL 3.1-002	Transportation Service Plan Update	April 1st, annually
ODRL 3.1-006	On Time Performance, Customer Delays, Penalty Delays, Cancelled Trains	Daily, monthly, annual
ODRL 3.2-002	Annual Engineering Services Plan	July 1 of each Agreement Year
ODRL 3.2-004	Annual Recommended Capital Improvement Plan	February 1, annually
ODRL 3.2-009	Grade Crossing Inspection Report	Annually
ODRL 3.2-015	Rail Grinding Plan	February 1, annually
ODRL 3.2-016	Rail Replacement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-019	Grade Crossing Improvement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-020	List of Flood-Prone Locations & Mitigating Measures (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-021	Drainage Ditch Reshaping Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-022	Fencing Installation Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-023	Structural Inspection Report	Annually
ODRL 3.2-027	Support Property & Facilities Maintenance Plan (becomes part of Annual Engineering Services Plan, ODRL 3.2-002)	Annually
ODRL 3.2-030	RSSE Condition Assessment Update (becomes part of Annual Engineering Services Plan - ODRL 3.2-002)	Annually
ODRL 3.2-031	RSSE Good Working Order Program (becomes part of Annual Engineering Services Plan - ODRL 3.2-002)	Annually
ODRL 3.2-032	RSSE Normal Replacement Program (becomes part of Annual Engineering Services Plan - ODRL 3.2-002)	Annually
ODRL 3.2-033	Building & Facility Operating & Access Hours	As needed & annually
ODRL 3.2-034	Station Cleaning Schedule (becomes part of Annual Engineering Services Plan - ODRL 3.2-002)	Annually
ODRL 3.2-038	Elevator & Escalator Inspection & Maintenance Program (becomes part of Annual Engineering Services Plan - ODRL 3.2-002)	Annually
ODRL 3.2-040	Station, Building and Facility Maintenance Program (becomes part of Annual Engineering Services Plan - ODRL 3.2-002)	Annually
ODRL 3.2-042	Landscaping Plan	By March 1st of each Contract Year
ODRL 3.2-044	Annual Bridge, Tunnel, Culvert, Pedestrian Structure Inspection Reports	Annually, available on request
ODRL 3.2-048	Underwater Inspection Reports	Every 5 years, available on request
ODRL 3.2-049	Drawbridge Inspection Reports	Quarterly, available on request
ODRL 3.2-051	Bridge Maintenance Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-053	Drawbridge Maintenance Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-055	Drawbridge Operation Manual (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-056	Timber Bridge Deck Replacement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-058	Tunnel Operation and Maintenance Manual (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-060	Culvert Replacement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-065	Signal Failure Reduction Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-071	Line Plans, Track Charts, Interlocking Books (6 sets)	March 1st, annually
ODRL 3.2-073	Grade Crossing Event Recorder Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-077	Interlocking Event Recorder Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-079	Switch Machine Replacement Plan (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-081	Pole Line Retirement and Replacement Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-083	Pole Replacement Program (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-094	Thermo Graphic Survey	Annually

ODRL 3.2-095	Energy Conservation & Utilization Summary Report	Periodically, but not less than annually
ODRL 3.2-098	Update to Energy Consumption Strategy	Annually
ODRL 3.2-100	Annual Fuel Usage Audit Report	Annually
ODRL 3.2-102	Review of Operators' Licenses	Annually
ODRL 3.2-103	Snow Plan	Labor Day, annually
ODRL 3.2-104	Winter Pre-Season Checklist	September 15th, annually & updated monthly
ODRL 3.2-107	Five Year Work Forecast (becomes part of ODRL 3.2-002)	Annually
ODRL 3.2-108	Engineering Services Plan Update	Annually starting July 1 with quarterly updates
ODRL 3.4-09	Physical Inventory Count	June 30th, annually
ODRL 3.4-26	Fuel Report	Annual
ODRL 3.5-004	Operator Safety Compliance Plan Update	October 1st, annually
ODRL 3.5-013	Operator System Security Compliance Plan Update	October 1st, annually
ODRL 3.5-016	Emergency Preparedness Plan Update	May 1st, annually & 60 days before sent to FRA
ODRL 3.5-018	Emergency Response Plan Update	August 1st, annually
ODRL 3.5-020	Contingency Plan Update	August 1st, annually
ODRL 3.5-023	Drug Free Workplace Policy Update	August 1st, annually
ODRL 3.5-028	Drug & Alcohol Test Guidelines Update	August 1st, annually
ODRL 3.7-011	Annual Customer Service Improvement Plan	October 1, annually
ODRL 3.7-013	Customer Service Satisfaction Plan Update	March 12, annually
ODRL 3.9-011	Complete the Operator Employee Records	September 1st, annually
ODRL 3.9-013	Annual Staffing v Work Report	September 1st, annually
ODRL 3.9-014	Annual Staffing Review/Evaluation	October 1st, annually
ODRL 3.10-002	Operator Annual Employee Training Plan	August 1st, annually
ODRL 3.10-006	First Responder Training Program Resubmission	September 1st, annually
ODRL 3.10-024	O&M Agreement Refresher Training	Every other year
ODRL 3.14-002	NTD Annual Reporting	Annually
Schedule 13	Audited Financial Statements	Annually, within 120 days of Operator FY End

On Request & As Occurs Submittals

ODRL#	Description	Due Date
ODRL 3.1-008	Changes to Fare Collection Procedures	Prior to implementation
ODRL 3.1-017	Preliminary Incident/Accident Report	2 hours after service restored
ODRL 3.1-018	Interim Incident/Accident Report	24 hours after service restored
ODRL 3.1-019	Final Incident/Accident Report	2 weeks after service restored
ODRL 3.1-020	Final Incident/Accident Report Update	30 days after Final Incident/Accident Report
ODRL 3.2-003	Service Diversion Plan	As Required
ODRL 3.2-006	FRA Mandated Track & Right-of-Way Inspection Reports	As Required
ODRL 3.2-010	Special Track & Right of Way Reports	After Severe Weather
ODRL 3.2-014	Rail Testing and Corrective Action Report	After Testing
ODRL 3.2-033	Building & Facility Operating & Access Hours	As needed & annually
ODRL 3.2-036	Fire Protection System & Call Box Inspection Reports	Upon request
ODRL 3.2-043	Drainage System Designs	Before construction
ODRL 3.2-044	Annual Bridge, Tunnel, Culvert, Pedestrian Structure Inspection Reports	Annually, available on request
ODRL 3.2-045	Quarterly Tunnel & Ventilation Inspection Reports	Quarterly, available on request
ODRL 3.2-046	Emergency Bridge Strike Inspection Reports	Immediately, available on request
ODRL 3.2-047	Special Bridge Inspection Reports	Quarterly, available on request
ODRL 3.2-048	Underwater Inspection Reports	Every 5 years, available on request
ODRL 3.2-062	Crossing Plan, Layouts, Traffic Counts	Upon request
ODRL 3.2-063	Initial False Proceed Signal Indication Report	<24 hrs after incident
ODRL 3.2-064	Final False Proceed Signal Indication Report	<15 days after incident
ODRL 3.2-067	Train Control & Signal Inspection & Test Report	<24 hrs after inspection or test
ODRL 3.2-068	Final Train Control & Signal Inspection & Test Report	2 business days after first report (03-067)
ODRL 3.2-070	Signal System Modification/New Installation As-Built Drawings	30 days after installation
ODRL 3.2-072	Highway Rail Crossing Information	Upon request
ODRL 3.2-075	Grade Crossing Malfunction Report	<24 hrs after incident
ODRL 3.2-076	Wayside Signal Apparatus Test Reports	Upon request
ODRL 3.2-088	Planned Track Outage Notification	35 days before outage
ODRL 3.2-089	Unplanned Track Outage Notification	Immediately
ODRL 3.2-096	Electric Service Database	90 days after Commencement, available upon request
ODRL 3.2-105	Storm Plan	Before every storm
ODRL 3.2-106	Post Storm Fitness Report	After each storm
ODRL 3.3-13	Fleet Maintenance Plan – Real-time	Monthly and Upon Request
ODRL 3.4-16	None on Hand Material List	5 days after Material Meetings
ODRL 3.4-17	Truck Car Fluid Technical Specifications	Before placing order
ODRL 3.4-32	Capital Spare Component Usage Justification Report	15 days before use
ODRL 3.5-005	Operator Safety Compliance Plan Changes	45 days before effective date

ODRL 3.5-006	MBTA Requested Operator Safety Compliance Plan Changes	45 days after request
ODRL 3.5-009	Unsafe, Non-Secure Condition Notification	Immediate
ODRL 3.5-010	Hazardous Condition Report	One business day after discovery
ODRL 3.5-011	Unacceptable Hazardous Condition Report	One hour after discovery
ODRL 3.5-016	Emergency Preparedness Plan Update	May 1st, annually & 60 days before sent to FRA
ODRL 3.5-021	OSCP, OSSCP, EPP, ERP Violation Notification	Immediate
ODRL 3.5-024	Report of Drug/Alcohol Abuse	Within 24 hours
ODRL 3.5-025	Drug Free Workplace Policy Violation Report	5 days after incident
ODRL 3.5-030	OSCP, OSSCP, EPP, ERP Violation Incident Report	Immediately
ODRL 3.5-031	OSCP, OSSCP, EPP, ERP Violation Interim Written Report	24 hours after incident
ODRL 3.5-032	Violation Incident Final Written Report	30 days after incident
ODRL 3.5-033	Report of FRA or Other Regulatory Agency Visit	2 hours after arrival
ODRL 3.6-013	The Operator Audit Reports and Findings	30 days after audit completion
ODRL 3.7-003	Response to Customer Complaint	5 days after complaint
ODRL 3.7-004	Customer Complaint Reports to MBTA	5 days after complaint
ODRL 3.7-005	Customer Complaint Updates	Every 5 days after original complaint
ODRL 3.7-009	Independent Auditor Reports	Immediately
ODRL 3.8-006	All Applications for Permits, Certificates, Licenses & Regulatory Agency Correspondence	Within 90 days before expiration
ODRL 3.8-010	All EPA Reports for CRMF Facility-Wide Emissions Cap	Per Permit
ODRL 3.8-012	Final Hazardous Materials Management Plan	Within 30 days of receipt of MBTA's comments
ODRL 3.8-013	Copies of All Waste Management Documentation	Immediately Upon Receipt
ODRL 3.8-015	Final Environmental Services Work Plan	Within 30 days of receipt of MBTA's comments
ODRL 3.8-016	Copies of all Correspondence with Regulatory Agencies	Immediately
ODRL 3.8-017	Copy of Inventory & Spare Parts/Tools List	Immediately
ODRL 3.8-019	Drainage Inspection Forms	Immediately
ODRL 3.8-021	Final Individual O&M Plans, Staffing Plans & Inspection Plans	Within 15 days of receipt of MBTA's comments
ODRL 3.8-022	OWS Inspection Forms & Reports	Immediately
ODRL 3.8-023	NPDES Monitoring Reports	Per Permit
ODRL 3.8-025	On-site Disposal System Inspection Forms & Reports	Immediately
ODRL 3.8-026	On-site Disposal System Pumping Reports	Immediately
ODRL 3.8-028	Tank System Inspection Schedule, Forms & Reports	Immediately
ODRL 3.8-029	Tank System Leak Detection Testing Schedule & Reports	Immediately
ODRL 3.8-030	Tank System Corrosion Protection System Testing Schedule & Reports	Immediately
ODRL 3.8-031	Stage II Recovery System Testing Schedule & Reports	Immediately
ODRL 3.8-032	UST System Tightness Testing Schedule & Reports	Immediately
ODRL 3.8-034	Tank Overfill Alarm System Testing Schedule & Reports	Immediately

ODRL 3.8-035	CRMF MWRA Monitoring Reports	Per Permit
ODRL 3.8-036	CRMF MWRA O&M Logs & Reports	Immediately
ODRL 3.8-038	Final CRMF O&M Manual, SOPs & Staffing Plan	Within 15 days of receipt of MBTA's comments
ODRL 3.8-041	Widett Permit Monitoring Reports & Logs	Immediately
ODRL 3.8-043	Final Widett O&M Manual, SOPs & Staffing Plan	Within 15 days of receipt of MBTA's comments
ODRL 3.9-002	Acting OGM	2 days after vacancy
ODRL 3.9-005	Names of Officer Candidates	100 days before filling vacancy
ODRL 3.9-006	Names of Interim Officers	One day before filling vacancy
ODRL 3.9-007	Names of Replacement Officers	30 days before filling vacancy
ODRL 3.9-008	Wrongful Termination Suits [7.1.5(E)]	24 hours after suit is filed
ODRL 3.9-009	Contr. Personnel performing non-Agreement services	5 days after assignment
ODRL 3.9-010	The Operator Employee Records	Upon request
ODRL 3.10-003	Monthly Training Report	Prior to effective date
ODRL 3.10-004	Operator Book of Rules & Related Materials	Prior to effective date
ODRL 3.10-025	Annual Training Plan Review Meeting	45 days after Plan submitted

On Demand Submittals

ODRL#	Description	Due Date
ODRL 3.1-004	On Time Performance History	Operator retains, available on demand
ODRL 3.1-015	Dispatching Records	On demand
ODRL 3.1-016	FRA Required Logs & Records	Operator retains, available on demand
ODRL 3.1-025	Third Party Meeting Minutes	On demand
ODRL 3.1-026	Supplemental On Time Performance Report	On demand
ODRL 3.3-30	Supplemental MTBSF Report	On demand
ODRL 3.3-31	Supplemental Maintenance Operation and Fleet Performance Report	On demand
ODRL 3.4-31	Property Purchase & Tax Law Compliance Documentation	Operator retains
ODRL 3.5-007	The Operator Safety Audits	On demand
ODRL 3.5-026	Violator Return to Work Certification	On demand
ODRL 3.7-006	Complete Customer Complaints	On demand

TBD

ODRL#	Description	Due Date
ODRL 3.10-019	New Technician Qualification & Pay Rates	TBD
ODRL 3.10-020	New Technician Training Programs	TBD
ODRL 3.14-003	NTD Safety & Security Reporting	TBD

SCHEDULE 3.15
INTELLECTUAL PROPERTY; OWNERSHIP

1. IT OWNERSHIP

1.1 MBTA Ownership of Data

The MBTA owns all right, title and interest in and to all MBTA Data, including logs, reports, metrics, records and other data (and all associated Intellectual Property Rights).

1.2 MBTA Ownership of Specified Commuter Rail IT Environment Components

All portions of the Commuter Rail IT Environment inherited from the MBTA or purchased in connection with this Agreement are the property the MBTA.

1.3 Asset Listing for Full IT Environment; Transparency; MBTA Access to IT Contracts

In addition to the asset listing set out in Section 1.2 (MBTA Ownership of MBTA Internal IT Environment), in the event of a Termination of the Agreement, the Operator shall provide a complete asset list including location and current status (such as in service, under repair, retired) of all Components of the Commuter Rail IT Environment known to the Operator. Any license, subscription, support or other IT-related agreements, though maintained by the Operator, shall be in MBTA's name and an MBTA official shall be the primary point of contact on all such agreements. Upon Termination (or on the request of the MBTA) the Operator shall promptly provide copies of license, subscription, support and other IT-related agreements with respect to such assets, and take all commercially reasonable steps to transfer such agreements to the MBTA.

1.4 MBTA Ownership of Software

All Software inherited by the Operator from the MBTA or purchased by the Operator for this Agreement for use in its completion with respect to the Commuter Rail IT Environment and, where applicable, with respect to the MBTA Internal IT Environment, shall be fully licensed. These licenses shall be owned for their duration by the MBTA though maintained by the Operator. All licensee and account information on the Operator side shall list an MBTA designee as the primary owner and controller of the license. For convenience of execution of the Agreement, the Operator may be authorized to act on behalf of the MBTA in the usage and operation of the license to facilitate the completion of the Agreement.

1.5 Transfer of Possession upon Transition.

In the event of a transition pursuant to **Schedule 3.16** (Information Technology Requirements), the Operator shall transfer possession of all components of the Commuter Rail IT Environment to the MBTA in a form and format, and through a process, reasonably designated by the MBTA.

2. GRANT OF RIGHTS TO MBTA

2.1 Grant of Rights in Operator Software

Subject to Section 2.2 (Grant of Rights in Third Party Software) of this **Schedule 3.15** (Intellectual Property; Ownership), the Operator hereby grants to the MBTA a non-exclusive, paid-up, sublicensable, royalty-free license under its Intellectual Property Rights to access, execute, copy, display, use and otherwise exploit the Operator Software for all purposes specified in, or contemplated by, the Contract Documents, as well as for the MBTA's internal purposes. For the purposes only of this Section 2 (Grant of Rights to MBTA) of **Schedule 3.15** (Intellectual Property; Ownership), the term "Operator" shall include Affiliates of the Operator and the Operator shall cause its Affiliates to grant to the MBTA those rights set out in this Section 2 (Grant of Rights to MBTA) of **Schedule 3.15** (Intellectual Property; Ownership). It is agreed and understood that the licenses granted in this Section 2.1 (Grant of Rights in Operator Software) of this **Schedule 3.15** (Intellectual Property; Ownership) shall be irrevocable and perpetual with respect to Developed Software.

2.2 Grant of Rights in Third Party Software

In order to fulfill obligations under this Agreement, The Operator shall ensure that the MBTA is granted the same or better rights to Third Party Software that the Operator (and its Subcontractors) obtain in the same Third Party Software. The MBTA acknowledges and agrees that the Operator's grant of rights to the MBTA pursuant to this Section 2 (Grant of Rights in Third Party Software) of this **Schedule 3.15** (Intellectual Property; Ownership) is limited to the extent of the Operator's applicable Intellectual Property Rights in the Third Party Software. Upon the MBTA's reasonable request, the Operator shall (in good and sufficient detail) (i) identify Third Party licensors of applicable Intellectual Property Rights, and (ii) provide applicable license terms. Upon a transition, Operator shall transfer the Third Party Software licenses to the MBTA and use all best efforts to ensure the Third Party license terms permit the rights to transfer.

2.3 Grant of Rights in Software APIs

Subject to Section 2.2 (Grant of Rights in Third Party Software) of this **Schedule 3.15** (Intellectual Property; Ownership), the Operator hereby grants to the MBTA an irrevocable, non-exclusive, paid-up, sublicensable, royalty-free, perpetual license under its Intellectual Property Rights to install, execute, use, copy, modify, display, perform and otherwise exploit the Software APIs (including for purposes of clarity, the Operator Interfaces, Third Party APIs, system equipment Interfaces and hardware Interfaces) to (i) establish and maintain (a) interoperability between the Software, hardware, system equipment and other components and the Operator IT Infrastructure; (b) interoperability between the Commuter Rail IT Environment and the MBTA Internal IT Environment, and (ii) for all other purposes specified in, or contemplated by, the Agreement, as well as for the MBTA's internal purposes.

2.4 Grant of Rights in Hardware and Other Equipment Interfaces

The Operator hereby grants to the MBTA an irrevocable, non-exclusive, paid-up, sublicensable, royalty-free, perpetual license under its Intellectual Property Rights to install, execute, use, copy, modify, display, perform and otherwise exploit the hardware and other equipment Interfaces to (i) establish and maintain (a) interoperability between the Software, hardware, system equipment and other components and the Operator IT Infrastructure; (b) interoperability between the Commuter Rail IT Environment and the MBTA Internal IT Environment, and (ii) for all other purposes specified in, or contemplated by, the Agreement, as well as for the MBTA's internal purposes.

2.5 Grant of Rights in Design Documents

The term “**Design Documents**” means drawings, shop drawings, plans, specifications, logical, graphic depictions, bills of materials, and all other associated materials that relate to the design, IT architecture, implementation, provisioning, maintenance, improvement, end-of-life, and other aspects of the Commuter Rail Services. The Operator grants to the MBTA an irrevocable, non-exclusive, paid-up, sublicensable, royalty-free, perpetual license under its Intellectual Property Rights to use, copy, modify, distribute, display, perform and otherwise exploit Design Documents for all purposes specified in, or contemplated by, the Agreement, as well as for the MBTA's internal purposes.

2.6 Grant of Rights in Documentation

The Operator hereby grants to the MBTA an irrevocable, non-exclusive, paid-up, royalty-free, sublicensable, perpetual license under its Intellectual Property Rights to use, copy, modify, distribute, display, perform and otherwise exploit the Documentation for all purposes specified in, or contemplated by, the Agreement, as well as for the MBTA's internal purposes. By way of clarification, and not limitation, the term Documents expressly includes all training plans, training programs and all other training materials that the Operator uses to fulfill its obligations set out in this Agreement including, but not limited to, those obligations in **Schedule 3.10** (Training of Operator Personnel) and **Schedule 3.16** (Information Technology Requirements).

2.7 Grant of Rights in Deliverables

Subject to Section 2.2 (Grant of Rights in Third Party Software) of this **Schedule 3.15** (Intellectual Property; Ownership) and for the avoidance of doubt, in addition to those rights granted in Operator Software, Design Documents, Software APIs, and Hardware and Other Equipment Interfaces, the Operator hereby grants to the MBTA an irrevocable, non-exclusive, paid-up, sublicensable, royalty-free, perpetual license under its Intellectual Property Rights to use, copy, modify, distribute, display, perform and otherwise exploit all other Deliverables for all purposes specified in, or contemplated by, the Agreement, as well as for the MBTA's internal purposes.

2.8 MBTA Engagement of Third Parties

The term “**Authorized Vendor**” means a Third Party that meets the following two criteria: the third party (i) has agreed to protect Operator Confidential Information in a manner at least as protective as the Operator’s rights under the Agreement or applicable Statement of Work, and (ii) the MBTA has engaged the third party to provide goods or services. In consideration of the MBTA’s obligations under the Agreement, and notwithstanding anything to the contrary, the MBTA shall be entitled to permit Authorized Vendors to exercise the MBTA’s rights under this Section 2 (Grant of Rights to MBTA) of this **Schedule 3.15** (Intellectual Property; Ownership).

2.9 Further Acknowledgment

The Operator acknowledges and agrees that, notwithstanding anything to the contrary, the rights granted to the MBTA pursuant to this Section 2 (Grant of Rights to MBTA) of this **Schedule 3.15** (Intellectual Property; Ownership) are perpetual and irrevocable with respect to Developed Software, and that the MBTA shall continue to enjoy such rights regardless of the expiration or termination of the Agreement for any reason.

3. GRANT OF RIGHTS TO OPERATOR

3.1 Grant of Rights to Operator in MBTA Internal IT Environment

In consideration of the Operator fulfilling its obligations under the Agreement, the MBTA hereby grants to the Operator, under the MBTA’s Intellectual Property Rights, a limited, non-exclusive, non-transferable, non-sublicensable license to use the MBTA Internal IT Environment solely for the purpose of fulfilling the Operator’s obligations under the Agreement, and for no other purpose.

3.2 Grant of Limited Trademark Rights to Operator

In consideration of the Operator fulfilling its obligations under the Agreement, the MBTA, under its Intellectual Property Rights, hereby grants to the Operator (i) for as long as the Operator is providing Deliverables or Services on which MBTA Trademark Assets are to be affixed pursuant to (a) the Agreement, or (b) the MBTA’s request, or (ii) earlier if requested by the MBTA; a limited, non-exclusive, non-transferable, non-sublicensable license to affix MBTA Trademark Assets to applicable Deliverables for use as contemplated under the Agreement. The Operator acknowledges the value of the goodwill associated with MBTA Trademark Assets and further acknowledges that any and all use of MBTA Trademark Assets pursuant to the Agreement shall inure to the benefit of the MBTA. Notwithstanding anything to the contrary, in the event the Operator’s exercise of rights under this Section 3.2 (Grant of Limited Trademark Rights to Operator) of this **Schedule 3.15** (Intellectual Property; Ownership) threatens the goodwill or value of the MBTA Trademarks, the MBTA shall be entitled to immediately terminate the rights granted to the Operator pursuant to this Section 3.2 (Grant of Limited Trademark Rights to Operator) of this **Schedule 3.15** (Intellectual Property; Ownership) upon providing notice to the Operator and providing a reasonable transition period to permit the Operator to remove MBTA Trademarks from Deliverables.

3.3 No Implied Licenses

Any licenses granted to the Operator must be expressly provided herein, and there shall be no licenses or rights implied pursuant to the Agreement, based on any course of conduct, or other construction or interpretation thereof. All rights and licenses not expressly granted to the Operator are reserved.

4. DELIVERY OF CERTAIN MATERIALS THAT EMBODY IP RIGHTS

4.1 Delivery of Software APIs and Hardware and Equipment Interfaces

The Operator shall provide the MBTA with Software APIs and hardware and equipment Interfaces, in a form and format reasonable requested by the MBTA, upon any of the following events: (i) at least thirty (30) days prior to the implementation of the applicable portion of the Commuter Rail IT Environment in a production environment; (ii) upon reasonable request by the MBTA; (iii) in the event of a transition pursuant to **Schedule 3.16** (Information Technology Requirements); or (iv) upon the completed development of an Update to the applicable Software API or hardware and equipment Interface. The Operator acknowledges and agrees that any delivery of Software APIs and hardware and equipment Interfaces pursuant to this Section 4 (Delivery of Software APIs and hardware and equipment Interfaces) of this **Schedule 3.15** (Intellectual Property; Ownership) shall include related Source Code that (a) contains good and sufficient programmers' comments; (b) constitutes the preferred form of the Source Code for making modifications to such Code; and (c) includes all related software development kits necessary or desirable for making modifications to such Code. For the avoidance of doubt, the Operator shall be obligated to provide Source Code (as referenced immediately above) for Developed Software. The Operator shall be obligated to provide Source Code for other components of the Operator Software only to the extent the Operator obtains such rights pursuant to a Third Party's standard Software licensing terms.

4.2 Delivery of Design Documents and Documentation

The Operator shall provide the MBTA with Design Documents and Documentation, in a form and format reasonably requested by the MBTA, upon any of the following events: (i) within ten (10) days of the development of the applicable Design Documents and Documentation; (ii) upon reasonable request by the MBTA; (iii) in the event of a transition pursuant to **Schedule 3.16** (Information Technology Requirements); and (iv) upon any revision to Design Documents and Documentation that have been previously provided to the MBTA, or any IT change, modification, or add, with such delivery to include a good and sufficient support plan for such change, modification, or add.

5. OPERATOR SOFTWARE SOURCE CODE ESCROW

5.1 Source Code Definition

The Source Code (i) shall be in a form such that a programmer of ordinary skill in the applicable programming language(s) is able efficiently to print, display, and read Source Code; (ii) shall

include Source Code listings, Object Code listings, design details, flow charts, and related material that permit the Operator Software efficiently to be copied, maintained, updated, improved, and compiled; (iii) shall include related libraries, other source components, compilers, and linkers so that, when compiled, linked and otherwise manipulated to create the runtime/executable image for the Operator Software, such materials create a complete and fully operational run-time/executable version of the Operator Software; (iv) shall contain good and sufficient programmers' comments; and (v) shall constitute the preferred form of the Source Code for making modifications to such Code. The term “**Requisite Source Code**” means (A) Operator Software (including, for the avoidance of doubt, Developed Software) that meets such requirements and (B) Third Party Software that meets these requirements, to the extent the Operator obtains rights to such Source Code pursuant to a Third Party's standard Software licensing terms.

5.2 Delivery of Source Code to the MBTA

- 5.2.1 Deposit Materials. The term “**Deposit Materials**” means all Requisite Source Code that the Operator is obligated to provide to the MBTA pursuant to this Section 5 (Delivery of Source Code to the MBTA) of this **Schedule 3.15** (Intellectual Property; Ownership).
- 5.2.2 Initial Deposit. The Operator shall deliver to the MBTA Requisite Source Code within thirty (30) days of the introduction of the applicable Commuter Rail IT Environment component in a production environment.
- 5.2.3 Supplements to and Currency of Deposit Materials. Within ten (10) days of the release of any Update, the Operator shall supplement or replace the Deposit Materials to include such Update, all in Requisite Source Code form. Such Updates shall include the listing of all supplements or replacements on a new Deposit Log, which shall be signed by the Operator and delivered with the supplements or replacements to the MBTA.
- 5.2.4 Delivery of Deposit Materials in Transition. Notwithstanding anything to the contrary, the Operator shall immediately deliver to the MBTA a copy of all Deposit Materials in the event of a transition pursuant to **Schedule 3.16** (Information Technology Requirements).

5.3 Identification of Tangible Media.

Prior to the delivery of the Deposit Materials to the MBTA, the Operator shall conspicuously label for identification each document, magnetic tape, disk, or other tangible media upon which the Deposit Materials are written or stored (the “**Deposit Log**”).

5.4 Deposit Inspection.

Upon receipt of the Deposit Materials, the MBTA may conduct a deposit inspection by visually matching the labeling of the tangible media containing the Deposit Materials to the item

descriptions and quantity identified herein. In addition, the MBTA may elect to cause a verification of the Deposit Materials in accordance with Section 5.5 (Deposit Verification) below at Operator's expense. Operator shall have the right to be present at the verification.

5.5 Deposit Verification.

The MBTA may evaluate the deposit to verify the deposit of: (a) Deposit Materials required and fully complying with the Agreement; and (b)(i) the hardware and software configurations reasonably necessary to maintain the Deposit Materials; (ii) the hardware and software configurations reasonably needed to compile the Deposit Materials; and (iii) the compilation instructions.

5.6 Use of Deposit Materials.

The Deposit Materials shall be held by the MBTA in escrow and the MBTA shall be entitled to use such Deposit Materials upon the occurrence of one or more of the following events (collectively, "**Triggering Events**"): (a) failure of the Operator (i) to comply with the Service Levels; (ii) to remedy a material deviation in the Deposit Materials from the requirements set out in Section 5.1 (Source Code Definition); or (iii) to respond adequately, as determined by the MBTA in the exercise of reasonable judgment, to an Event of Default; (b) if (i) the Operator makes a general assignment for the benefit of creditors, (ii) the Operator files a voluntary petition in bankruptcy, (iii) the Operator petitions for reorganization or arrangement under the bankruptcy laws, (iv) if a petition in bankruptcy is filed against the Operator, (v) if a receiver or trustee is appointed for all or any part of the property and assets of the Operator, or (vi) if the Operator voluntarily winds-up or liquidates its business or that segment of its business pertinent to the Operator Software; or (c) in the event of a transition pursuant to **Schedule 3.16** (Information Technology Requirements).

5.7 Right to Use Deposit Materials Following Release.

Upon the occurrence of a Triggering Event, the MBTA (and its Authorized Vendors) shall have the rights to use, execute, copy, modify and otherwise exploit the released Source Code in order to provide corrections for, maintain, improve, and use the Operator Software (and applicable Third Party Software). The MBTA shall be entitled to engage Authorized Vendors to develop and modify Source Code contained in the Deposit Materials for such purposes. If the MBTA or an Authorized Vendor modifies the released Source Code and implements the modified Source Code in a production environment (each, a "**Post-Trigger MBTA Modification**"), the Operator shall not be responsible for non-compliance with a Service Level or a failure of warranty to the extent the Post-Trigger MBTA Modifications caused the Service Level non-compliance or the warranty failure.

5.8 Subcontractors.

The Operator acknowledges and agrees that it is solely responsible for ensuring that all subcontractors it engages to fulfill any of the Operator's obligations under the Agreement relating to the Deposit Materials agree to be bound by the provisions of this **Schedule 3.15**

(Intellectual Property; Ownership). By way of clarifying example, and not limitation, should the Operator engage a subcontractor to provide software, and such software constitutes Developed Software, then the subcontractor shall be obligated to treat the provided software as Deposit Materials and place it in escrow pursuant to this Section 5 (Operator Software Source Code Escrow) of this **Schedule 3.15** (Intellectual Property; Ownership).

5.9 Open Source.

The Operator represents and warrants that, as of the execution of the Agreement and during the term of the Agreement, Software Components within the Commuter Rail IT Environment do not and shall not include software licensed under a “reciprocal” or “copyleft” open source license (such as the GPL or MPL) that would require the MBTA to subsequently license or otherwise make available Source Code to a third party.

5.10 No Viruses.

The Operator represents and warrants that, as of the time of delivery, nothing within the Commuter Rail IT Environment contains any computer virus, spyware, malware, code of malicious intent, worm or other intentionally destructive code.

APPENDIX 1 TO SCHEDULE 3.15 DEFINITIONS

The following are additional definitions applicable to **Schedule 3.15** (Intellectual Property; Ownership); **Schedule 3.16** (Information Technology Requirements); **Schedule 3.17** (IT Security); and **Schedule 3.18** (Service Level Agreement and Service Credits). To the extent there is a conflict in language between (a) the definitions set out in this Appendix 1 (Definitions) to **Schedule 3.15** (Intellectual Property; Ownership) and (b) the definitions provided in **Schedule 1** (Definitions), then the definitions set out in this Appendix 1 (Definitions) to **Schedule 3.15** (Intellectual Property, Ownership) shall control, but only with respect to (i) intellectual property rights and obligations and (ii) information technology and information security rights, obligations and service levels.

“API” or **“Application programming interface”** means a source code interface that a computer system or program library provides in order to support requests for services to be made of it by other computer programs, and/or to allow data to be exchanged. By way of example, an API consists of a set of routines, data structures, object classes, protocols or any combination of these or other elements that is designed to assist in the development or interoperability of (i) Software, and (ii) Software with equipment. The term “API” includes Interfaces to other sources of input and data-exchanges, such as human operators, and thus includes graphical user interfaces. The term “API” includes internal APIs, external APIs and updates to such APIs.

“Authenticate” or **“Authentication”** means to verify the identity of a Person or the validity of an item of credit/debit media.

“Baseline IT Environment” means, collectively, the (i) Relevant Baseline IT Assets, and (ii) Operator IT Continuation Services.

“Cardholder Account Data” means (i) cardholder data, including (a) primary account number (PAN); (b) cardholder name; (c) expiration date; and (d) service code, and (ii) sensitive authentication data, including (a) full magnetic stripe data or equivalent on a chip; (b) card verification codes and values (CAV2/CVC2/CVV2/CID); and (c) PINs/PIN blocks. The term “Cardholder Account Data” is to be interpreted at least as broadly as the term “Account Data” is defined in the Payment Card Security Standards.

“Commuter Rail IT Assets” means, collectively, the (i) Relevant Baseline IT Assets; (ii) New IT Assets; and (iii) Operator-Provisioned IT Assets.

“Commuter Rail IT Environment” means, collectively, the: (i) Baseline IT Environment; (ii) New IT Component Environment; (iii) Operator-Provisioned IT Environment; and (iv) Operator IT Interfaces. The term “Commuter Rail IT Environment” expressly includes all Updates to the: (1) Baseline IT Environment; (2) New IT Component Environment; (3) Operator-Provisioned IT Environment.; and (4) Operator IT Interfaces.

“Commuter Rail IT Services” means, collectively, the: (i) Operator IT Continuation Services; (ii) New IT Services; and (iii) Operator-Provisioned IT Services.

“Compliance-Assurance Device” has the meaning set out in Section 3.3 (Compliance-Assurance Devices) of this **Schedule 3.16** (Information Technology Requirements).

“Computer Equipment” means the computer hardware, firmware and all related devices, articles, components, peripherals, control systems, integrated-circuit devices (including without limitation, such devices that reside on any of the Rolling Stock Fleet), printers, personal computers, work stations, materials and incidentals for executing and hosting Software, processing, transmitting and storing Data and performing other computing functions.

“Computer Network” means a system of interconnected computers, network servers, network operating systems, storage devices, backup devices, peripherals, cabling, routers, switches, wireless communications devices and incidentals that function together as a platform.

"Credit Card Transaction Fee" means those fees (typically referred to as "transaction fees" or "swipe fees") charged by a Payment Card Network or other payment processor specifically in consideration of payment for goods or services using a credit or debit card.

“Data” means information: (i) input into, stored within, processed by or transmitted through an IT Infrastructure, including all files, database records, reports, query-results and other inputs for, and outputs generated by Software; (ii) information maintained in paper-based records; and (iii) other information that the Operator receives in connection with its provision of services under this Agreement. The term “Data” includes Personal Information as well as both Confidential and non-confidential Data.

“Data Controller” means a Person that holds the right or ability to control the use, share or exploit Personal Information.

“Data Encryption Standard” means a method for encrypting information.

“Data Processor” means a Person processing, storing, manipulating or using Personal Information at the direction of a Data Controller.

“Data Subject” means the natural person identified by the applicable Personal Information.

“Deliverables” means all items, information or materials that the Operator is to provide or make available to the MBTA under the Agreement including, but not limited to: (i) Operator Software; (ii) Design Documents; (iii) Operator IT Interfaces; (iv) Documentation; (v) hardware; (vi) system equipment; and (vii) all other components of the Commuter Rail IT Environment not directly provided by the MBTA.

“Deposit Materials” means Source Code deposited into escrow with the MBTA in accordance with **Schedule 3.15** (Intellectual Property; Ownership).

“Design Documents” means drawings, shop drawings, plans, specifications, graphic depictions, bills of materials and all other associated materials that relate to the design, implementation,

provisioning, maintenance, improvement, end-of-life and other aspects of the Commuter Rail Services.

“Developed Software” means (i) software developed by the Operator pursuant to this Agreement (ii) software developed by the Operator independently of this Agreement and used by the Operator in the Commuter Rail IT Environment; and (iii) Operator-Commissioned Software.

“Documentation” means specifications, requirements documents, engineering manuals (including hardware, equipment, and software engineering manuals), end-user manuals, training materials, handbooks, data-flow and work-flow diagrams, diagrams of system and subsystem architecture, drawings, engineering changes and related materials.

“Encrypt” or **“Encryption”** means the transformation of data into a form in which meaning cannot be assigned without the use of a confidential process or key.

“Error” means a failure of the Commuter Rail IT Environment (or any portion therein) to conform in all material respects to the Documentation, applicable technical specifications, applicable warranties, applicable Service Levels, requirements of the Commuter Rail IT Services or the MBTA's reasonable expectations.

“Error Correction” means a modification or addition that, when made or added to the Commuter Rail IT Environment: (i) removes the Error; (ii) otherwise establishes material conformity of the Commuter Rail IT Environment to the applicable technical specifications and Documentation; or (iii) constitutes a procedure or routine that, when observed in the regular operation of the Commuter Rail IT Environment, eliminates the adverse effect on the MBTA of the Error without loss of performance, function or feature.

“Gateway” means an internet protocol (IP) address for a network interface on a router that leads to another website or network.

“Incident Communication” means MBTA system user's service requests, customer complaints, and other communications, as further defined in Section 8.2.1 (Operator Service Center) of **Schedule 3.16** (Information Technology Requirements).

“Information Security Policies and Procedures” has the meaning set out in Section 1.4 (Information Security Policies and Procedures) of **Schedule 3.17** (IT Security).

“Information Security Program” has the meaning set out in Section 1.4 (Information Security Policies and Procedures) of **Schedule 3.17** (IT Security).

“Information Security Regulations” means Applicable Law governing security practices and procedures designed to safeguard the confidentiality, security and integrity of Personal Information.

“Initial Joint Audit” means the audit of the Relevant Baseline IT Assets and other components of the IT Environment to be conducted by the Operator in connection with the bid process.

“In-Process Review” or “IPR” means a series of meetings with the MBTA and the Operator to ensure proper and informative communication between the parties.

“Intellectual Property Rights” means rights under patent law, copyright law, moral rights law, trade secret law or other similar law (whether such rights are registered or unregistered).

“Interface” means the points where two or more systems, subsystems or structures meet, transfer energy or transfer data or information.

“Interface Tools and Documentation” has the meaning set out in Section 5.5 (Open Configuration) of **Schedule 3.16** (Information Technology Requirements).

“Issue Tracking Portal” means the user and customer issue and ticket tracking portal defined in Section 4.3 (Issue Tracking Portal) of **Schedule 3.16** (Information Technology Requirements).

“IT Assets” means, collectively, the (i) Software, and (ii) IT Infrastructure.

“IT Change” has the meaning set out in Section 7.11 (Change Control and Configuration Management) of **Schedule 3.16** (Information Technology Requirements).

“IT Change Control Board” has the meaning set out in Section 7.11 (Change Control and Configuration Management) of **Schedule 3.16** (Information Technology Requirements).

“IT Environment” means, collectively, the (i) IT Assets, and (ii) IT Services.

“IT Infrastructure” means, collectively: (i) Computer Equipment; (ii) Computer Network; and (iii) all other hardware and tangible assets related to Computer Equipment and Computer Network.

“IT Operations Services” has the meaning set out in Section 7.1 (Overview of IT Operations Services) of **Schedule 3.16** (Information Technology Requirements).

“IT Project Management” means the discipline of planning, organizing, securing, managing, leading and controlling resources to achieve specific goals.

“IT Security Services” has the meaning set out in Section 11 (IT Security Services) of **Schedule 3.16** (Information Technology Requirements).

“IT Services” means, collectively, the: (i) IT Operations Services; (ii) IT Support and Maintenance Services; (iii) IT Security Services; (iv) IT Training Services; and (v) all other series necessary and desirable for the operation of the Commuter Rail IT Environment within the Service Levels and the MBTA's reasonable expectations.

“IT Support and Maintenance Services” has the meaning set out in Section 8.1 (General) of **Schedule 3.16** (Information Technology Requirements).

“IT Training Services” has the meaning set out in Section 9.1 (Overview of IT Training Services) of **Schedule 3.16** (Information Technology Requirements).

“**ITIL**” has the meaning set out in Section 7.9 (Information Technology Infrastructure Library) of **Schedule 3.16** (Information Technology Requirements).

“**MBTA Data**” means Data input into, processed by, stored in, accessed through or transmitted by the Commuter Rail IT Environment or the MBTA Internal IT Environment, whether by the MBTA, Operator, Authorized Vendors or service providers, MBTA customers or users authorized by the MBTA. The term “MBTA Data” includes any data or information derived from such MBTA Data, whether through de-identification, data mining, analytics, aggregating, profiling or other techniques that analyze, augment or otherwise manipulate such Data.

“**MBTA Internal IT Environment**” means the Software and IT Infrastructure used by the MBTA for MBTA purposes other than those components within the Commuter Rail IT Environment.

“**MBTA Security Policies and Standards**” means a set of standards governing security practices and procedures designed to safeguard the privacy and security of Personal Information and other subjects.

“**MBTA Trademark Assets**” means the names, symbols, mottos, designs and other designations of origin, the registered and unregistered rights to which are owned by the MBTA.

“**Mission Critical**” has the meaning provided in Section 11 (Baseline Relevant Software; System Applications; Mission Critical and Mission Support Service Levels) of **Schedule 3.18** (Service Level Agreement and Service Credits).

“**Mission Support**” has the meaning provided in Section 11 (Baseline Relevant Software; System Applications; Mission Critical and Mission Support Service Levels) of **Schedule 3.18** (Service Level Agreement and Service Credits).

“**New IT Assets**” means, collectively: (i) Compliance-Assurance Devices; (ii) Other MBTA-Designated IT Components; and (iii) Operator-Proposed IT Components that are integrated by the Operator into the Commuter Rail IT Environment.

“**New IT Component Environment**” means, collectively, the (i) New IT Assets, and (ii) New IT Services.

“**New IT Services**” has the meaning set out in Section 3.5 (New IT Services) of this **Schedule 3.16** (Information Technology Requirements).

“**Notice of Security Breach Regulations**” means Applicable Law governing: (i) the mitigation of a security breach or threatened security breach with respect to Personal Information; (ii) notification to Data Subjects concerning the breach or threatened breach; and (iii) other obligations imposed on Data Controllers and Data Processors concerning a breach or threatened breach of the security of Personal Information.

“Off-the-Shelf Software” means Software generally made available for commercial use, either for free or subject to licensing terms and conditions. The term Developed Software expressly excludes Off-the-Shelf Software.

“Operator” means the proposer awarded the contract under the RFP.

“Operator APIs” has the meaning set out in Section 5.3 (Open Architecture Standards; Interfaces) of **Schedule 3.16** (Information Technology Requirements).

“Operator-Commissioned Software” means Software that a Third Party develops on behalf of the Operator under this Agreement.

“Operator Feeds” has the meaning set out in Section 5.1 (Operator Obligations Concerning the MBTA Internal IT Environment) of **Schedule 3.16** (Information Technology Requirements). The term Operator Feeds expressly includes the Baseline Operator Feeds.

“Operator Hardware Interfaces” has the meaning set out in Section 5.3 (Open Architecture Standards; Interfaces) of **Schedule 3.16** (Information Technology Requirements).

“Operator Interfaces” has the meaning set out in Section 5.4 (Operator Interfaces; Versions) of **Schedule 3.16** (Information Technology Requirements).

“Operator IT Continuation Services” has the meaning set out in Section 2.7 (Operator IT Continuation Services) of **Schedule 3.16** (Information Technology Requirements).

“Operator IT Interfaces” means, collectively, the: (i) Operator Feeds; (ii) Operator Interfaces; and (iii) Interface Tools and Documentation.

“Operator-Proposed IT Components” has the meaning set out in Section 3.4.1 (Submission of Operator-Proposed IT Components) of **Schedule 3.16** (Information Technology Requirements).

“Operator-Provisioned IT Assets” means, collectively, the (i) Operator-Provisioned Software, and (ii) Operator-Provisioned IT Infrastructure.

“Operator-Provisioned IT Environment” means, collectively, the (i) Operator-Provisioned IT Services, and (ii) Operator-Provisioned IT Assets.

“Operator-Provisioned IT Infrastructure” means IT Infrastructure provided by the Operator that is independent of, or otherwise supplemental to, the Relevant Baseline IT Infrastructure, and that is necessary or advisable for the operation of the Commuter Rail IT Environment and the provision of the Commuter Rail Services. The term Operator-Provisioned IT Infrastructure includes all Updates to the same.

“Operator-Provisioned IT Services” means services related to the Operator-Provisioned IT Assets, as further set out in Section 4.2 (Operator-Provisioned IT Services) of this **Schedule 3.16** (Information Technology Requirements).

“Operator-Provisioned Software” means Software provided by the Operator that is independent of, or otherwise supplemental to, Relevant Baseline Software, and that is necessary or advisable for the operation of the Commuter Rail IT Environment and the provision of the Commuter Rail Services. The term “Operator-Provisioned Software” expressly includes Operator Software and all Updates to the same. The term “Operator-Provisioned Software” excludes Operator-Proposed IT Components, unless and until such Operator-Proposed IT Component has been accepted by the MBTA in accordance with Section 3.4.2 (Evaluation of Operator-Proposed IT Components) of **Schedule 3.16** (Information Technology Requirements).

“Operator Service Center” means the service center provided and maintained by the Operator, as further provided in Section 8.2 (Operator Service Center) of **Schedule 3.16** (Information Technology Requirements).

“Operator Software” means (i) Off-the-Shelf Software provided by the Operator that is necessary or advisable for the provision of the Commuter Rail Services, and (ii) Operator Developed Software that is necessary or advisable for the provision of the Commuter Rail Services (including, but not limited to, Operator-Provisioned Software and Software portions of Operator-Proposed IT Components). The term “Operator Software” includes: (a) Operator-Commissioned Software, and (b) all Updates to Operator Software. To the extent the Operator employs, within the Commuter Rail IT Environment, Software owned or licensed by an Affiliate of the Operator (the **“Affiliate-Sourced Software”**), such Affiliate-sourced Software is included in the definition of the term “Operator Software,” and such Software does not constitute Third Party Software.

“Other MBTA-Designated IT Components” means those Software and IT Infrastructure components that the MBTA directs the Operator to integrate into the Commuter Rail IT Environment.

“Payment Card Network” means a company such as Visa, MasterCard, Discover Financial Services or American Express, which: (i) owns and operates systems for the processing of Bankcard payments; (ii) establishes relationships with financial institutions to issue Payment Cards; and (iii) maintains standards and rules for Payment Card issuers and Card Processors. The term “Payment Card Network” is synonymous with the term “Card Association” and, to the extent the terms conflict, the term that provides the MBTA with greater protections and functionality shall control.

“Payment Card Security Standards” means: (i) the PCI DSS Standard; (ii) the PCI PED Standard; (iii) the PCI PA-DSS Standard; (iv) applicable information supplements and other supplements to, updates, new versions of and new requirements for the PCI DSS Standard, the PCI PED Standard or the PCI PA-DSS Standard that are implemented by the PCI SSC Council during the Term; and (v) any other security standards applicable to Cardholder Account Data or Payment Cards, such as the EMV Specifications. The term “Payment Card Security Standards” expressly includes additional or unique compliance standards established by individual card brands (such as VISA, MasterCard, and American Express) within a Card Association.

“Payment Card” means, collectively, (i) Bank-Issued Media, and (ii) other payment media that is or becomes subject to Payment Card Security Standards.

“PCI DSS Standard” means the Payment Card Industry Data Security Standard maintained by the PCI SSC Council with respect to merchants, processors and other entities that store, process or transmit Cardholder Data.

“PA-DSS Standard” means the Payment Application Data Security Standard maintained by the PCI SSC Council with respect to software developers and integrators of payment applications that store, process or transmit cardholder data as part of authorization or settlement.

“PCI-PED Standard” means the PIN Entry Device Security Standard maintained by the PCI SSC Council with respect to manufacturers of personal identification number (PIN) entry terminals used for payment card financial transactions.

“PCI-SSC Council” means the Payment Card Industry Security Standards Council, and any successors to the Payment Card Industry Security Standards Council.

“PCI-Compliant” means the adherence to the Payment Card Security Standards.

“PCI-DSS Vendor” means a subcontractor, service provider or other vendor of the Operator that either (i) stores, processes or transmits Cardholder Account Data, or (ii) otherwise falls under the Payment Card Security Standard.

“Personal Information” means a natural Person's (i) first name and last name, or first initial and last name, in combination with (ii) any one or more of the following data elements that relate to a particular Person: (a) Social Security number; (b) driver's license number or state-issued identification card number; (c) financial account number; (d) credit card number, debit card number, other cardholder account data; or (e) other smart media-holder data, and (iii) similar information whose unauthorized use would constitute or permit identity theft or other fraud, and (iv) medical information or other health insurance information.

“Physical Security Measures” has the meaning set out in Section 1.2 (Required Physical Security Measures) of **Schedule 3.17** (IT Security).

“Privacy and Security Regulations” includes, but is not be limited to, the: (i) Federal Trade Commission Act (15 USC §§41-58, as amended); (ii) Electronic Fund Transfer Act (15 USC §1693 et seq.); (iii) Federal Reserve Regulation E (12 CFR Part 205); (iv) Identify Theft and Assumption Deterrence Act (18 USC §1028); (v) Fair Credit Reporting Act (15 USC §1681 et seq.); (vi) “Red Flag” Rule (16 CFR Part 681 and analogous regulations, as applicable); (vii) Gramm-Leach-Bliley Act (15 USC §§6801-6809 and §§6821-6827); (viii) the Health Insurance Portability and Accountability Act of 1996 (“**HIPAA**”) and the Health Information Technology for Economic and Clinical Health Act (“**HITECH Act**”) (including regulations and rules under HIPAA and the HITECH Act; (ix) Financial Privacy Rule (16 CFR Part 313 and analogous regulations, as applicable); (x) Safeguards Rule (16 CFR Part 314 and analogous regulations, as applicable); (xi) USA PATRIOT Act (115 Stat. 272); (xii) Federal Regulation II (12 CFR Part 235); (xiii) Notice of Security Breach Regulations; (xiv) Information Security Regulations; and (xv) cyber threat/security network guidance, standards and regulations published by accepted

industry and federal agencies including but not limited to APTA, the U.S. Department of Human Services, the U.S. Department of Transportation and the Federal Bureau of Investigation.

“**Project**” has the meaning set out in Section 7.12.2 (Project Development; Guidelines) of **Schedule 3.16** (Information Technology Requirements).

“**Proprietary Software**” means Software that is not provided in source code form, and for which the owner (other than the Operator or an Affiliate of the Operator) has set or included restrictions on the Software's use, modification, copying or republishing.

“**QCP**” means a quality control plan.

“**Release**” means an issuance of Software within the Commuter Rail IT Environment that includes new functionality and is typically identified by the numeral to the left of the decimal point (*e.g.*, 3.0).

“**Relevant Baseline IT Assets**” has the meaning set out in Section 2.1 (Overview of Baseline IT Environment) of **Schedule 3.16** (Information Technology Requirements).

“**Relevant Baseline IT Infrastructure**” has the meaning set out in Section 2.3 (Relevant Baseline IT Infrastructure; Identification) of **Schedule 3.16** (Information Technology Requirements).

“**Relevant Baseline Software**” has the meaning set out in Section 2.2 (Relevant Baseline Software; Identification) of **Schedule 3.16** (Information Technology Requirements).

“**Risk Assessment**” has the meaning set out in Section 1.4 (Information Security Policies and Procedures) of **Schedule 3.17** (IT Security).

“**Security Incident**” means an incident involving (i) a potential or actual breach of Security with respect to Sensitive Assets, or (ii) a threatened breach of such Security.

“**Security**” or “**Secure.**” A “Secure” system, sub-system, data set or facility is one that is protected (i) through Physical Security Measures, or (ii) Technical Security Measures.

“**Security Standards**” has the meaning set out in Section 1.1 (General) of **Schedule 3.17** (IT Security).

“**Sensitive Assets**” means materials that contain or embody (i) Confidential Information, or (ii) Personal Information.

“**Service Levels**” means the performance standards for the Commuter Rail IT Environment set out on **Schedule 3.18** (Service Level Agreement and Service Credits).

“**Sites**” means those locations identified on Appendix 10 (Current Site List) to this **Schedule 3.16** (Information Technology Requirements), and as the same may be updated by the MBTA from time to time and otherwise identified during the Joint Audit and the Mobilization Period.

“**SLA**” means Service Level Agreement.

“**Software**” means applications software, communications software, operating systems software, database and database management systems software, and all other software and firmware, compilers, library routines, data files and related code, programs, procedures and rules.

“**Software Development Kits**” or “**SDKs**” means a set of software development tools that facilitate the creation of applications for software packages.

“**SOW**” has the meaning set out in Section 7.12.2 (Project Development; Guidelines) of **Schedule 3.16** (Information Technology Requirements).

“**System Applications**” means those Software portions of the Commuter Rail IT Environment identified in Section 11 (Baseline Relevant Software; System Applications; Mission Critical and Mission Support Service Levels) of **Schedule 3.18** (Service Level Agreement and Service Credits).

“**Technical Security Measures**” has the meaning set out in Section 1.3 (Required Technical Security Measures) of **Schedule 3.17** (IT Security).

“**Third Party Software**” means Software licensed by a Third Party, other than Operator-Commissioned Software.

“**Train-the-Trainer**” means a method through which a party trains trainees to allow subsequent training of others by such trainees.

“**Updates**” means, collectively: (i) Versions; (ii) Releases; (iii) Error Corrections; and (iv) all other improvements, enhancements, patches, additional systems and capabilities to the Commuter Rail IT Environment (or any portion therein).

“**Version**” means an issuance of Software within the Commuter Rail IT Environment that provides Error Corrections, minor updates or improvements. A Version is typically identified by the numeral to the right of the decimal point (*e.g.*, 3.1).

SCHEDULE 3.16 INFORMATION TECHNOLOGY REQUIREMENTS

1. INFORMATION TECHNOLOGY OVERVIEW

The Commuter Rail IT Environment is a core component of the Commuter Rail Services. The Operator shall be responsible for all facets of the Commuter Rail IT Environment, ranging from: (i) assuming responsibility for certain Relevant Baseline IT Assets; (ii) integrating Operator-Proposed IT Components and the Operator-Provisioned IT Environment into the Commuter Rail IT Environment; and (iii) providing all related operations, support and maintenance, security, training and other related services. This **Schedule 3.16** (Information Technology Requirements) provides detail on the Operator's obligations with respect to the Commuter Rail IT Environment and the MBTA Internal IT Environment. Additional details are set out throughout this Agreement including, but not limited to, **Schedule 3.15** (Intellectual Property; Ownership), **Schedule 3.17** (IT Security) and **Schedule 3.18** (Service Level Agreement and Service Credits).

1.1 Schedule 3.16 (Information Technology Requirements) Definitions.

Except as otherwise defined in context, capitalized terms used in this **Schedule 3.16** (Information Technology Requirements) have the meanings set out in (i) **Schedule 1** (Definitions), or (ii) Appendix 1 (Definitions) to **Schedule 3.15** (Intellectual Property; Ownership).

1.2 Operator Responsibility for Costs of Commuter Rail IT Environment.

1.2.1 Commuter Rail IT Environment Costs.

Except for Operator IT staff (covered by the bid price included in the Financial/Price Proposal), all costs that the Operator incurs to fulfill its IT obligations relating to the Commuter Rail IT Environment shall consist of either IT Mobilization Costs (as defined below) or IT Operations and Maintenance Costs (as defined below). Costs associated with the Operator's efforts during the Mobilization Period to ensure that the Commuter Rail IT Environment complies with the specifications by the Agreement Services Commencement Date shall be paid pursuant to Section 7 (Operator's Costs for Mobilization Services) of **Schedule 3.12** (Mobilization) to this Agreement (the "**IT Mobilization Costs**"). All costs that the Operator directly incurs to fulfill its IT obligations relating to the Commuter Rail IT Environment after the Agreement Services Commencement Date (collectively, the "**IT Operations and Maintenance Costs**") shall be treated as an allowance pursuant to **Schedule 7.1** (Fees) to this Agreement. By way of example, and not limitation, IT Operations and Maintenance Costs include costs associated with license, maintenance, support and subscription agreements related to the Commuter Rail IT Environment and costs associated with IT Training Services. Notwithstanding anything to the contrary, IT Changes shall be handled pursuant to Section 7.12 (Change Control and Configuration Management) of this **Schedule 3.16** (Information Technology Requirements) and Operator-Proposed IT Components shall be handled pursuant to Section 3.4 (Operator-Proposed IT Components) of this **Schedule 3.16** (Information Technology Requirements).

1.2.2 No Markup.

All IT Operations and Maintenance Costs shall be applied against the allowance at the Operator's cost on a pass through basis, and the Operator shall not be entitled to impose a surcharge or markup on the IT Operations and Maintenance Costs.

1.2.3 IT Cost Exclusions.

Under no circumstance shall either the IT Mobilization Costs or the IT Operations and Maintenance Costs include amounts incurred by, or imposed on, the Operator related to penalties, damages, or costs resulting from the Operator's failure to fulfill its obligations under this Agreement, non-performance or other breach of this Agreement or applicable law, and the Operator shall be solely responsible for these amounts.

2. BASELINE IT ENVIRONMENT.

2.1 Overview of Baseline IT Environment.

The MBTA acquired the Relevant Baseline Software and Relevant Baseline IT Infrastructure (collectively, the “**Relevant Baseline IT Assets**”) in connection with its historical operation of the Commuter Rail System. As set out in further detail in this Section 2 (Baseline IT Environment) of this **Schedule 3.16** (Information Technology Requirements), the MBTA shall provide the Operator with access to and control of certain portions of the Relevant Baseline IT Assets for the Operator’s use in connection with its provision of the Commuter Rail IT Environment and the Commuter Rail Services. In addition, the Operator shall be obligated to provide all IT Services for the Relevant Baseline IT Assets as further described herein. For the avoidance of doubt, such obligations include the Operator's obligation to maintain such assets in a state of good repair.

2.2 Relevant Baseline Software; Identification.

The MBTA has obtained rights in various Software applications that the current operator uses to provide services in connection with the Commuter Rail System (the “**Relevant Baseline Software**”). A list of current Relevant Baseline Software is included on Appendix 1 (Relevant Baseline Software) to this **Schedule 3.16** (Information Technology Requirements). Appendix 1 (Relevant Baseline Software) to this **Schedule 3.16** (Information Technology Requirements) also includes a high level description of required functionality for certain software within the Commuter Rail IT Environment (the “**Functionality Description**”). The Functionality Description supplements, and does not replace or supersede, other required IT functionality for the Commuter Rail IT Environment contemplated in the Agreement. In the event of a conflict between the Functionality Description and any other IT requirements established pursuant to this Agreement, the Proposer shall notify the MBTA, specify the requirement(s) that maximize performance, function and security, and the MBTA shall determine which controls.

2.3 Relevant Baseline IT Infrastructure; Identification.

The MBTA has obtained rights in various portions of IT Infrastructure that the current operator uses to provide services in connection with the Commuter Rail System (the “**Relevant Baseline IT Infrastructure**”). For the avoidance of doubt, such obligations include the Operator’s obligation to maintain such assets in a state of good repair, the MBTA’s reasonable expectations and to otherwise ensure that the Commuter Rail IT Environment meets the Service Levels set out in **Schedule 3.18** (Service Level Agreement and Service Credits) and otherwise performs as contemplated under the Agreement.

2.4 Operator Use of Relevant Baseline IT Assets.

Subject to Section 2.5 (MBTA Provision of Relevant Baseline IT Assets) of this **Schedule 3.16** (Information Technology Requirements), and unless the MBTA approves of the replacement of a component of the Relevant Baseline IT Assets with an Operator-Proposed IT Component pursuant to this **Schedule 3.16** (Information Technology Requirements), the Operator shall fully integrate the Relevant Baseline IT Assets, and all legacy data available in the Relevant Baseline IT Assets, into the Commuter Rail IT Environment prior to the Agreement Services Commencement Date and ensure no interruption in the continuity of operations during the transition from the current operator to the Operator.

2.5 MBTA Provision of Relevant Baseline IT Assets.

The Operator’s use of the Relevant Baseline IT Assets (and legacy data available in the Relevant Baseline IT Assets) as contemplated under this **Schedule 3.16** (Information Technology Requirements) is contingent upon the MBTA obtaining sufficient rights in the Relevant Baseline IT Assets in order grant the necessary rights to the Operator (the “**Baseline IT Asset Usage Rights**”). The MBTA shall make a reasonable effort to secure the Baseline IT Asset Usage Rights prior to the Mobilization Period. Notwithstanding anything to the contrary, the Operator shall be solely responsible for ensuring that it has sufficient rights in the Relevant Baseline IT Assets in order to integrate and use the same in the Commuter Rail IT Environment as contemplated under this Agreement. The Operator further acknowledges and agrees that it is accepting the Relevant Baseline IT Assets (if any) on an as-is and as available basis, and that the MBTA makes no representations or warranties regarding the Relevant Baseline IT Assets including, but not limited to, their condition, functionality or suitability. For the avoidance of doubt, such obligations include the Operator’s obligation to maintain such assets in a state of good repair.

2.6 Relationship Between Relevant Baseline Software and Operator-Provisioned IT Environment.

The Parties recognize that some portion or all of the Operator-Provisioned IT Environment might provide cost-savings, increased functionality, or other efficiencies. The Operator shall inform the MBTA of the Operator-Provisioned IT Environment before the Agreement Services Commencement Date.

2.7 Operator IT Continuation Services.

The Operator shall be responsible for providing all IT Services relating to the Relevant Baseline IT Assets throughout the Term of the Agreement (the “**Operator IT Continuation Services**”). Notwithstanding anything to the contrary, the Operator acknowledges and agrees that the Operator IT Continuation Services applies to the Baseline IT Environment in effect on the Agreement Services Commencement Date, and as the same may be changed throughout the Term including, but not limited to, as a result of Updates, IT Changes and other modifications to the Baseline IT Environment, Commuter Rail IT Environment or MBTA Internal IT Environment.

3. **NEW IT COMPONENT ENVIRONMENT.**

3.1 Overview of New IT Component Environment.

Prior to the Agreement Services Commencement Date, and throughout the Term of the Agreement, the MBTA expects both the Commuter Rail IT Environment and MBTA Internal IT Environment to change in response to technological advances, process revisions, new regulatory obligations and other unanticipated developments that could benefit the Commuter Rail System. This Section 3 (New IT Component Environment) of this **Schedule 3.16** (Information Technology Requirements) and related provisions in the Agreement sets out various processes to better ensure the Commuter Rail IT Environment’s flexibility through the introduction of new Software and IT Infrastructure components as well as revisions to existing components of the Commuter Rail IT Environment.

3.2 Other MBTA-Designated IT Components.

3.2.1 Overview of Other MBTA-Designated IT Components.

Throughout the Term, the Operator shall be obligated to integrate into the Commuter Rail IT Environment new Software, IT Infrastructure, systems, capabilities, services or processes identified by the MBTA (each, an “**Other MBTA-Designated IT Component**”). The Operator shall adopt and support Other MBTA-Designated IT Components as set out below. As part of its obligation in operating Commuter Rail IT Environment, the Operator shall be entitled to and, upon the MBTA’s reasonable request, be obligated to provide input and guidance with respect to Other MBTA-Designated IT Components. Subject to Section 3.2.2 (Minor Other MBTA-Designated IT Components) of this **Schedule 3.16** (Information Technology Requirements), the parties shall address any revisions to Service Levels based on an Other MBTA-Designated IT Component pursuant to the IT Change process set out in Section 7.12 (Change Control and Configuration Management) of this **Schedule 3.16** (Information Technology Requirements). Notwithstanding anything to the contrary, in no event shall the Operator impede the process or execution of the MBTA’s efforts with respect to Other MBTA-Designated IT Components. By way of clarification, and not limitation, the IT Change Control Board shall have no authority to reject an Other MBTA-Designated IT Component.

3.2.2 Minor Other MBTA-Designated IT Components.

Where an Other MBTA-Designated IT Component does not require material changes in the Operator's labor requirements or does not result in other material changes to the Commuter Rail IT Environment (including any components covered by a Service Level), the Operator shall promptly support such Other MBTA-Designated IT Component, in the same manner that the Operator supports and interacts with the Commuter Rail IT Environment in place immediately before the applicable Other MBTA-Designated IT Component.

3.2.3 Material Other MBTA-Designated IT Components.

Where an Other MBTA-Designated IT Component presents a significant and material impact on the operations, labor force or other aspects of the Operator's performance, such Other MBTA-Designated IT Component shall be handled under the IT Change process set out in Section 7.12 (Change Control and Configuration Management) of this **Schedule 3.16** (Information Technology Requirements).

3.3 Compliance-Assurance Devices.

The MBTA shall be entitled, in its discretion and at its expense (and in accordance with applicable law), to install or require the Operator to install monitoring and other compliance-assurance devices in the Commuter Rail IT Environment and with respect to the Commuter Rail Services generally (each, a “**Compliance-Assurance Device**”). The Operator shall obtain necessary consents from its personnel (and its subcontractors) to permit such activities; provided such activities comply with applicable law. In the event of a Persistent Failure of a Service Level that is measurable by a Compliance-Assurance Device, at the MBTA's option, the Operator shall be responsible for the costs of such Compliance-Assurance Device (and associated labor) that are installed to monitor compliance with such Service Level.

3.4 Operator-Proposed IT Components.

3.4.1 Submission of Operator-Proposed IT Components.

Throughout the Term, the Operator shall be entitled to submit to the MBTA for consideration Software, IT Infrastructure or IT Services that it believes, in respect to performance, functionality, ease-of-operation and ease-of-maintenance, is equivalent or superior to applicable Software, IT Infrastructure or IT Services within the Commuter Rail IT Environment (each, an “**Operator-Proposed IT Component**”). When submitting an Operator-Proposed IT Component, the Operator shall detail: (i) how the Operator-Proposed IT Component is equivalent or superior to the current component within the Commuter Rail IT Environment; (ii) changes or revisions to the Commuter Rail IT Environment that would be necessitated should the MBTA approve the Operator-Proposed IT Component; (iii) costs associated with the Operator-Proposed IT Component as well as savings to the MBTA in connection with adopting the Operator-Proposed IT Component; (iv) whether the Operator-Proposed IT Component constitutes Mission Critical or Mission Support material; (v) an SOW; and (vi) any other information that the Operator believes to be of use to the MBTA during its evaluation of the Operator-Proposed IT Component (each, an “**Operator Component Proposal**”).

3.4.2 Evaluation of Operator-Proposed IT Components.

The Operator shall submit all Operator Component Proposals to the IT Change Control Board for evaluation. The IT Change Control Board shall review and evaluate each Operator Component Proposal and provide a decision whether to accept the proposed Operator-Proposed IT Component; provided, however, that the IT Change Control Board shall have no obligation to accept an Operator-Proposed IT Component and its rejection of the same shall not remove or otherwise reduce the Operator's obligations under this Agreement. Once accepted, the Operator shall proceed as set out in the applicable Operator Component Proposal and comply with the PMI Guidelines and ITIL standards outlined in this **Schedule 3.16** (Information Technology Requirements).

3.5 New IT Services.

The Operator shall be responsible for providing all IT Services relating to the New IT Assets throughout the Term of the Agreement (the “**New IT Services**”). The Operator acknowledges and agrees that the New IT Services applies to the New IT Assets in effect on the Agreement Services Commencement Date, and as the same may be changed throughout the Term including, but not limited to, as a result of Updates, IT Changes and other modifications to the New IT Component Environment, Commuter Rail IT Environment or MBTA Internal IT Environment. Notwithstanding anything to the contrary, the Operator shall be solely responsible for the installation, integration, configuration, testing, training, support and maintenance and all other services related to the New IT Component Environment (including, but not limited to, those portions integrated into the Commuter Rail IT Environment throughout the Term).

4. OPERATOR-PROVISIONED IT ENVIRONMENT.

4.1 Overview of Operator-Provisioned IT Assets.

In addition to the Baseline IT Environment and New IT Component Environment, the Operator shall be responsible for providing all Software and IT Infrastructure necessary or advisable for the operation of the Commuter Rail IT Environment and provision of the Commuter Rail Services. The Operator-Provisioned IT Environment shall include all hardware, software, applications, firmware, desktops, smartphones, tablets, personal data assistants, smart devices for conductor use, tablet devices and other mobile devices, servers, network, network devices, security processes, IT appliances, the digital repository set out in Section 7.14.3 (Digital Repository) of this **Schedule 3.16** (Information Technology Requirements), terminals, wireless access systems, data processing nodes, gateway elements, security appliances, integration systems, other IT resources and all related services required for the Operator's performance of its obligations hereunder and to otherwise meet the Service Levels set out in **Schedule 3.18** (Service Level Agreement and Service Credits). The Operator shall fully develop, test and integrate the Operator-Provisioned IT Environment into the Commuter Rail IT Environment prior to the Agreement Services Commencement Date, and ensure that all components of the Operator-Provisioned IT Environment introduced into the Commuter Rail IT Environment after

the Agreement Services Commencement Date are fully tested prior to their integration into the Commuter Rail IT Environment.

4.2 Operator-Provisioned IT Services.

The Operator shall be responsible for providing all IT Services relating to the Operator-Provisioned IT Assets throughout the Term of the Agreement (the “**Operator-Provisioned IT Services**”). Notwithstanding anything to the contrary, the Operator acknowledges and agrees that the Operator-Provisioned IT Services applies to the Operator-Provisioned IT Assets in effect on the Agreement Services Commencement Date, and as the same may be changed throughout the Term including, but not limited to, as a result of Updates, IT Changes and other modifications to the Operator-Provisioned IT Environment, Commuter Rail IT Environment or MBTA Internal IT Environment.

4.3 Issue Tracking Portal.

4.3.1 Provision of Issue Tracking Portal.

The Operator shall be responsible for providing an enterprise customer service and ticket/issue tracking portal (the “**Issue Tracking Portal**”). The Issue Tracking Portal shall be made available to all organizations in the MBTA and to the Operator, and shall be utilized as the sole tracking portal; provided that the Operator shall be entitled to maintain a separate tracking system or systems so long as all Issues are tracked in the Issue Tracking Portal and the Issue Tracking Portal is utilized exclusively as the official source under this Agreement. Issues not tracked or included in the Issue Tracking Portal by the Operator shall be treated as not submitted per contractual obligations.

4.3.2 Issue Tracking Portal Configuration.

The Issue Tracking Portal shall be used to track all issues identified by the MBTA or the Operator including, without limitation: (i) mechanical complaints; (ii) customer complaints; (iii) trouble tickets; (iv) Incident Communications; (v) security incidents; (vi) support and maintenance activities; (vii) agreements from the IPRs; (viii) IT Changes; (ix) suggestions, inquiries and accommodations; (ix) open issues; (x) open issues, problems, inquiries, tickets, disputes, logs and claims; (xi) issues concerning safety of passengers, personnel, and all others; and (xii) other issues involving the Commuter Rail IT Environment and the Operator's provision of Commuter Rail Services (each, an “**Issue**”). The Issue Tracking Portal shall be configured to auto-generate tickets for tracking all Issues identified by the MBTA or the Operator (each, a “**Ticket**”). The Issue Tracking Portal shall also provide automated alerts and metrics tracking for all relevant topics. Status information shall be updated within the specified timelines provided for the applicable Severity Level in the applicable SLAs as set out in **Schedule 3.18** (Service Level Agreement and Service Credits). The Operator and the MBTA shall use the Issue Tracking Portal as their primary record source relating to Issues. The MBTA shall have full administrative access to the Issue Tracking Portal and shall have the right to determine the severity level and priority of Tickets. On a monthly basis, and promptly upon the MBTA's request, the Operator shall provide reports from the Issue Tracking Portal, in the format and

containing the content selected by the MBTA. The Operator shall be obligated to determine the severity level for each Ticket should the MBTA not make this determination; provided, however, that the MBTA shall have the right, in its sole discretion, to adjust the severity level and priority set by the Operator (each, a “**Severity Level Change**”). In the event of a Severity Level Change, the Operator's compliance with its obligations shall be based on the occurrence of the Severity Level Change. By way of clarifying example, if an Issue with a Severity Level 2 is created at time X, and a Severity Level Change revises the severity level to Severity Level 1 at time Y, then whether the Operator has complied its obligations associated with Severity Level 1 shall be based on time Y (and not time X). The MBTA shall have the right and ability to create Tickets using the Issue Tracking Portal and the Operator shall be obligated to address the underlying issue for such MBTA-created Tickets.

4.3.3 Issue Tracking Portal Technical Requirements.

The Issue Tracking Portal shall be a centrally based information repository for Issues relating to the Commuter Rail IT Environment and the Commuter Rail Services. The Issue Tracking Portal shall include a web based front end system to allow for the generation of Tickets through remote interfaces from the various sites and sources. The Issue Tracking Portal shall utilize an industry standard authentication system to ensure that only authorized personnel create Tickets and perform prioritization and other privileged functions within the Issue Tracking Portal. The Issue Tracking Portal shall include standard types of Issue and Ticket categories as determined based on the Operator's expertise that can be used to sort Tickets and Issues by their purpose and type, and shall also allow for the creation of custom Tickets should an Issue not be contained within a standard category. All Tickets within the Issue Tracking Portal shall be searchable by any field.

4.3.4 MBTA Auto-Generation of Report from the Issue Tracking Portal.

The MBTA shall have the right and ability to generate reports (both standard and custom) in addition to those reports from the Issue Tracking Portal that the Operator is obligated to create as contemplated under this Agreement in order to demonstrate the Operator's compliance with the applicable Service Levels, and such other reports as the MBTA may request throughout the Term of this Agreement. The Issue Tracking Portal shall be configured to utilize the high availability and backup systems that support the System Applications as well as the Commute Rail IT Environment generally. The Issue Tracking Portal shall utilize a non-repudiation and 100% logging method and approach to data handling for all Tickets, this shall apply to all changes to any ticket or issue, closed or open. By way of clarifying example, and not limitation, the Issue Tracking Portal shall record at least the creator and closer of each Ticket as well as the user modifying any Ticket. The Operator shall ensure that the Issue Tracking Portal is scaled properly based on observed usage metrics. Advanced issue tracking systems such as the Issue Tracking Portal have significant benefits and efficiencies that they are capable of through integration with other software and systems, the Operator shall consider this integration when planning future modernization or development/life-cycle efforts for its tools and services.

4.3.5 Ticket Retention.

The Issue Tracking Portal shall be configured to maintain a record of all Issues submitted and Tickets created. The Operator shall ensure that all Tickets created are automatically archived in perpetuity unless otherwise directed by the MBTA.

4.3.6 Issue Tracking Portal and Resolution Management System.

The IPR process outlined in Section 7 (IT Operations Services) of this **Schedule 3.16** (Information Technology Requirements) is designed to address high severity issues as logged in the Issue Tracking Portal. If the Operator requires additional tracking or updating of a Ticket stored in the Issue Tracking Portal, the Operator shall inform the MBTA through an IPR. Any Issue that has been approved by the parties within the Issue Tracking Portal shall be binding.

4.4 Radio Frequency Identification Tracking and Ticketing Responsibilities.

4.4.1 Mission Summary.

The MBTA is committed to modernization and efficiency enhancements across its operational scope. To this end, the MBTA shall be entitled to leverage technologies such as radio frequency identification (“**RFID**”) tracking and combine it with modern information technology systems to create an automation level in order to improve the environment for both the MBTA and the Operator. The RFID technology set out in this Section 4.4 (Radio Frequency Identification Tracking and Ticketing Responsibilities) of this **Schedule 3.16** (Information Technology Requirements), and the MBTA’s efforts related to the same, is a future project of the MBTA, and the Operator’s obligations to support such efforts shall be treated as an IT Change.

4.4.2 Standard Equipment.

All equipment purchased by the Operator in support of this requirement shall be compatible with multiple standard tags and be able to identify trains and cars. All equipment purchased by the Operator must comply with AAR and Federal ISO standards, as well as applicable local ordinances. Equipment purchased by the Operator must be able to automatically scan trains and cars as they enter and exit the maintenance and repair facility on the tracks. The scanner shall be able to produce a time stamped scan and inform network devices via a computer. The Operator shall ensure that its current equipment is compatible with: (a) AEI TAG Programmer, including (i) AP 4118 GEN II Programmer with Software, and (ii) PT 5780 Permission Tag, and (b) AEI TAGS & Accessories, including (1) AT 5118 GEN II Transponder Tag – Standard, and (2) Encompass 1 Handheld AEI Tag Reader.

4.4.3 Operator RF Scanning Responsibilities.

The Operator shall engineer, furnish, install, test and maintain the required systems to implement and operate the ability to scan and record time sensitive train entry and exit information at repair and maintenance facilities. All entry and exit tracks at repair and maintenance facilities shall be capable of identifying by RFID the train cars that enter/exit and time stamping their information. It shall be capable of automatically updating the Issue Tracking Portal upon scanning with a plain text transmission that contains the Train ID, timestamp and location of entry/exit. The

Operator shall be responsible for ensuring this information is transmitted to the MBTA upon scanning. In the event of a scanning failure, the Operator shall manually create the required Ticket until the Operator can repair the system.

4.4.4 RFID Integration into Issue Tracking Portal.

The Issue Tracking Portal shall automatically create a time-stamped Ticket for a train or car upon its entry into the repair and maintenance facility utilizing the plain text update. This Ticket will contain the location, time and train information but will be otherwise blank. The applicable Operator technician shall update the reason for entry into the Ticket within thirty (30) minutes of Ticket creation. The Operator technician shall continually update the Ticket as required to maintain a record of major issues and actions per their reporting requirements. The Issue Tracking Portal shall auto update the Ticket with the train or car's exit time upon scanning, and the Operator technician shall update the result or reason for exit within thirty (30) minutes of exit. The Operator foreman shall approve and close the Ticket within one (1) hour of the technician's final edit if all issues are resolved. If all issues are not resolved, then the foreman shall denote further required actions. The time stamps in the Issue Tracking Portal system are the authoritative source for time taken to fulfill the above requirements. The Operator shall provide for terminals or required systems to allow for the communication of the RF scans and the updates of required tickets as they require in order to fulfill the above requirements.

4.4.5 Future Repair and Maintenance Facilities.

All new repair and maintenance facilities shall include issue tracking capabilities and contain the communication and systems required to facilitate this requirement through the Issue Tracking Portal. This shall apply to new facilities both newly constructed and retrofitted. It is understood that the Operator may need to operate in manual record mode while facilities are being retrofitted or built, but this time period will be commercially reasonable and a status may be provided at the Monthly IPR.

4.4.6 MBTA Required Scanners.

The Operator shall furnish and provide a minimum of twelve (12) handheld scanners to the MBTA beyond what the Operator requires for its own use (each, a “**Handheld Scanner**”), which are capable of operating with the RFID system the Operator is installing and maintaining pursuant to this Section 3.5.2 (Radio Frequency Identification Tracking and Ticketing Responsibilities) of this **Schedule 3.16** (Information Technology Requirements). The MBTA shall operate and utilize the Handheld Scanners as it sees fit. The Operator shall provide, throughout the Term, additional Handheld Scanners at the MBTA’s request.

4.5 Operator Service Center.

As a component of the Operator-Provisioned IT Environment, The Operator shall furnish and maintain the Operator Service Center, as further provided in Section 8.2 (Operator Service Center) of this **Schedule 3.16** (Information Technology Requirements).

4.6 Costs.

Subject to Section 1.2 (Operator Responsibility for Costs of Commuter Rail IT Environment) of this **Schedule 3.16** (Information Technology Requirements), the costs of the Operator-Provisioned IT Environment shall be included in, and covered by, the IT Mobilization Costs.

5. **INTERACTION BETWEEN THE MBTA INTERNAL IT ENVIRONMENT AND THE COMMUTER RAIL IT ENVIRONMENT.**

5.1 Operator Obligations Concerning the MBTA Internal IT Environment.

The Operator shall develop, install, support and maintain all necessary and desirable Data (as well as any additional types of data as may be reasonably requested by the MBTA throughout the Term) inputs from the Commuter Rail IT Environment to the MBTA Internal IT Environment (collectively, the “**Operator Feeds**”). The Operator shall collect and compile Operator Feeds, and shall use best efforts to ensure the accuracy and completeness of such Operator Feeds. The Operator shall ensure that it duplicates at a minimum all current and existing feeds to the Internal MBTA IT Environment. It shall additionally supply any new Operator Feeds or configurations required by its proposal or required by its replacement of existing capabilities. The Operator shall input Operator Feeds into the MBTA Internal IT Environment, in the requisite format identified during IPRs, and in accordance with applicable Service Levels. During the Mobilization Period, the Operator shall provide all Operator Feeds necessary or desirable relating to the New IT Component Environment and Operator-Provisioned IT Environment included in the Commuter Rail IT Environment prior to the Agreement Services Commencement Date. The Operator shall provide additional Operator Feeds as the Commuter Rail IT Environment changes throughout the Term or as otherwise requested by the MBTA. Notwithstanding anything to the contrary, the Operator shall be responsible for connectivity, circuits, and bandwidth from the Commuter Rail IT Environment to securely transmit to and exchange data with the MBTA Internal IT Environment in a manner sufficient to meet its Service Levels.

5.2 Example Operator Feeds.

The Operator shall configure the Commuter Rail IT Environment to provide all information/data feeds between the Commuter Rail IT Environment and the MBTA Internal IT Environment as requested by the MBTA. In addition to those Operator Feeds contemplated in Appendix 1 (Relevant Baseline Software) to this **Schedule 3.16** (Information Technology Requirements), the following represent a sampled subset of required feeds:

- 5.2.1 Information/feeds from the Operator's internal payroll and human resource systems shall be inputted into the MBTA Internal IT Environment.
- 5.2.2 Information/feeds from the Operator's parts/inventory and warehouse systems shall be inputted into the MBTA Internal IT Environment.

- 5.2.3 Information/feeds that originate from the MBTA Internal IT Environment shall be inputted into the Commuter Rail IT Environment. The Operator will identify in their bid the required feeds to the Operator's systems.
- 5.2.4 Crew dispatching information/feeds shall be provided for the MBTA's TRMSII system.
- 5.2.5 The MBTA requires access to all Data pursuant to the completion and successful execution of the MBTA's mission.

5.3 Open Architecture Standard; Interfaces.

The Operator shall architect and implement the Commuter Rail IT Environment using open architecture and in a manner that allows adding, upgrading and swapping functionally equivalent hardware, software and other components from multiple suppliers, and in a manner that does not require undue development effort to achieve integration in and interoperability with components within the Commuter Rail IT Environment. Throughout the Term, the Operator shall provide all necessary and desirable APIs (i) between components within the Commuter Rail IT Environment, and (ii) between the Commuter Rail IT Environment, the MBTA Internal IT Environment and third party networks and components (collectively, the “**Operator APIs**”). Throughout the Term, the Operator shall also provide all interfaces for IT Infrastructure (collectively, the “**Operator Hardware Interfaces**”), and such Operator Hardware Interfaces shall use standard connectors or third party connectors available through multiple suppliers and no proprietary hardware or software that would restrict such addition, upgrade or swap out.

5.4 Operator Interfaces; Versions.

The Operator shall maintain the currency of Operator APIs and Operator Hardware Interfaces (collectively, the “**Operator Interfaces**”), through timely Updates and in a manner that is fully consistent with the Operator's Service Level obligations for Lifecycle Management. Additionally, all web based applications and sites shall be .Net compatible.

5.5 Open Configuration.

The Operator shall fully document Operator Interfaces, and create and maintain all libraries, software tools, SDKs and other elements necessary to permit an individual of reasonable skill to use the Operator Interfaces to access all functionality within the Commuter Rail IT Environment without undue effort or experimentation for purposes of interoperability between: (i) the Commuter Rail IT Environment; (ii) the MBTA Internal IT Environment; and (iii) other networks, equipment and software (collectively, the “**Interface Tools and Documentation**”).

5.6 Provision of Operator Interfaces to the MBTA.

On a quarterly basis, and otherwise promptly upon request, the Operator shall provide all Interface Tools and Documentation to the MBTA. Throughout the Term, the Operator shall

assist the MBTA in its efforts to develop, maintain, modify and change Software, hardware and other components within the MBTA Internal IT Environment that interoperate with the Commuter Rail IT Environment (the “**Interoperability Work**”), and the Operator shall provide the MBTA with full access (including access to passwords) to the Commuter Rail IT Environment, Interface Tools and Documentation and other resources to permit and facilitate such Interoperability Work.

5.7 Interface Requests.

The Operator shall provide to the MBTA as part of its bid proposal all good and sufficient descriptions of all information flows that Operator requires or foresees requiring, between the Commuter Rail IT Environment and the MBTA Internal IT Environment.

6. **IT TECHNICAL DOCUMENTATION.**

The Operator shall provide detailed and accurate Documentation, and Design Documents for the Commuter Rail IT Environment to the MBTA for its records. This Documentation and these Design Documents shall be maintained on the document repository and shall be no more than two weeks out of date. This documentation shall include all industry standard and best practice Documentation and Design Documents for an IT Environment, for its procedures, and for policies. Because an architectural construct is specific to Operator's solution, Appendix 2 (IT Technical Documentation) to this **Schedule 3.16** (Information Technology Requirements) contains illustrative, non-exhaustive document types required to meet the documentation obligations of this Section 6 (IT Technical Documentation) of this **Schedule 3.16** (Information Technology Requirements).

7. **IT OPERATIONS SERVICES.**

7.1 Overview of IT Operations Services.

The Operator shall be solely responsible for the operation of the Commuter Rail IT Environment and the provision of the Commuter Rail Services. The Operator shall provide all services that are necessary or advisable for the provision of the Commuter Rail Services including, but not limited to, those specified in this Agreement. This Section 7 (IT Operations Services) of this **Schedule 3.16** (Information Technology Requirements) as well as other provisions of this Agreement provides an overview of the Operator's operations and management responsibilities with respect to the Commuter Rail IT Environment and the provision of the Commuter Rail Services (collectively, the “**IT Operations Services**”). By way of clarification, and not limitation, the Commuter Rail IT Services includes all IT Services related to the Commuter Rail IT Environment including the Baseline IT Environment, New IT Component Environment and Operator-Provisioned IT Environment, as well as all Updates to the same – all for which the Operator shall be responsible.

7.2 Integration of Components within the Commuter Rail IT Environment.

The Operator acknowledges and agrees that it is solely responsible for all installation, integration, configuration, testing, development, customization and other related services necessary or advisable to ensure that the Commuter Rail IT Environment, and all components within it, operate as intended and as reasonably expected by the MBTA. By way of clarifying example, and not limitation, the Operator shall be solely responsible for integrating all portions (including those portions introduced after the Agreement Services Commencement Date) of the New IT Component Environment into the Commuter Rail IT Environment.

7.3 Operator Chief Information Officer.

7.3.1 General Obligations.

The Operator Chief Information Officer (the “**Operator CIO**”) shall be accountable for all aspects of the Commuter Rail IT Environment including, without limitation, all data centers, technical service centers, production scheduling functions, help desks, communication networks (voice and data), computer program development and computer systems operations. The Operator CIO shall be responsible for, among other things, maintaining the security and integrity of all electronic and optical books and records of the Commuter Rail System under the Operator's control. The Operator CIO shall also be responsible for ensuring the Operator's continuing compliance with the Emergency Access provisions set out in Section 8.23 (Emergency Access Provisions) of this **Schedule 3.16** (Information Technology Requirements).

7.3.2 Review and Oversight.

The Operator CIO shall review all computerized and manual systems, storage and retrieval, IT Assets to be acquired in connection with this Agreement and the strategic direction of all information processing and communication systems and operations. The Operator CIO shall provide overall management and definition of all computer and communication activities within the Commuter Rail IT Environment, including responsibility for providing a leadership role in the day-to-day operations of the information technology functions within the Commuter Rail IT Environment as well as providing direction as the MBTA grows both internally and externally.

7.3.3 Cooperation with the MBTA.

The Operator CIO shall work closely and collaboratively with the MBTA in connection with the Operator's provision of the Commuter Rail IT Environment. The Operator CIO shall, in addition to the other responsibilities set out herein, be responsible for those roles set out on Appendix 3 (Operator CIO Responsibilities) to this **Schedule 3.16** (Information Technology Requirements).

7.4 Monthly In-Process Reviews.

7.4.1 The Operator shall conduct a monthly In-Process Reviews with the MBTA (each, a “**Monthly IPR**”). The Monthly IPR shall focus on the status and issues

of the Commuter Rail IT Environment and shall function as a session between the parties that provides guidance and issue resolution so as to support the successful operation of the Commuter Rail IT Environment. Attendance shall include higher management and relevant subject matter experts from each party for the issues being discussed and shall also include at least one representative from the MBTA Railroad Operations department. The Operator shall be responsible taking complete meeting minutes and promptly provided to both parties.

- 7.4.2 During the Monthly IPR, each party shall be entitled to raise any issue relating to the Commuter Rail IT Environment and the Commuter Rail System. The below list comprises a sample of topics to be covered: (i) status of the Commuter Rail IT Environment; (ii) currently open issues and recently resolved major issues; (iii) Root Cause Analyses, trending, tracking and resolution; (iv) disputes and issues between the parties and any Third Parties; (v) metrics and analyses focusing on compliance and performance; (vi) IT Changes and updates including, but not limited to, New IT Assets; (vii) recommended improvements; and (viii) other advisable topics and/or ad hoc items. The Operator shall be responsible taking complete meeting minutes and promptly provided to both parties.

7.5 Weekly IPRs.

The Operator shall conduct weekly meetings to discuss current operations and system health, as well as minor technical issues encountered in daily operation (each, a “**Weekly IPR**”). Issues unresolved during Weekly IPRs shall be escalated for discussion during the next Monthly IPR. The Operator shall ensure that (i) a representative from the MBTA IT Department and Railroad Operations staff are invited to every Weekly IPR, and (ii) complete meeting minutes are taken and promptly provided to both parties.

7.6 Other IPRs.

In addition to the Monthly IPRs and Weekly IPRs, the Operator shall conduct periodic IPRs at regular intervals, as determined by the MBTA, to ensure proper and informative communication between the Operator and the MBTA. Moreover, the Operator shall coordinate issue-specific IPRs as necessary or upon the MBTA's request (each, a “**Special IPR**”). The agendas for Special IPRs shall be set by the MBTA and shall include any topics that the MBTA deems necessary.

7.7 IPR Agendas.

Subject to Section 7.6 (Other IPRs) of this **Schedule 3.16** (Information Technology Requirements), the Operator shall be responsible for creating the agenda for each In Process Review and for providing supporting materials to all attendees of IPRs (each, an “**IPR Agenda**”). Prior to the circulation of each IPR Agenda, the Operator shall solicit input from the MBTA for topics to be discussed during the applicable IPR Agenda; provided, however,

that the Operator shall not be relieved of its obligation to create IPR Agendas should the MBTA not provide topics. The Operator shall include all topics suggested by the MBTA for each IPR Agenda. The Operator shall ensure that all IPR Agendas (and supporting materials) are circulated to attendees of each IPR within (i) three business days for Monthly IPRs, and (ii) one (1) business day for Weekly IPRs.

7.8 MBTA Attendance at In-Process Reviews; Required MBTA Approval of Material Decisions Subject to IPRs.

The MBTA shall designate at least two (2) MBTA employees to participate in the IPRs (the "**MBTA IPR Representatives**"). The MBTA shall use commercially reasonable efforts to ensure that the MBTA IPR Representatives are present during every IPR; provided, however, that the MBTA IPR Representatives' failure to participate in an IPR shall not waive or reduce in any way the Operator's obligation to hold IPRs. It is agreed and understood that the Operator shall take no material action based on matters subject to IPR review without first obtaining the MBTA's express written approval from the MBTA IPR Representatives, where the MBTA has not, for whatever reason, attended the IPR (or IPRs) where such material action was discussed or otherwise presented (irrespective of whether such material action was included in the associated IPR Agenda).

7.9 Information Technology Infrastructure Library.

The Operator shall be responsible for developing and maintaining the Information Technology Infrastructure Library Management Services (the "**ITIL**"). In connection with its performance hereunder, the Operator shall comply with and implement the ITIL standards set out in Appendix 4 (ITIL Services Breakdown Structure) to this **Schedule 3.16** (Information Technology Requirements), and as the same are modified over time as well as all other industry standard ITIL standards.

7.10 MBTA Policies and Standards.

In its provision of the Commuter Rail IT Environment, the Operator shall comply with applicable MBTA Policies and standards (as the same may be amended by the MBTA during the Term) including, but not limited to, those MBTA Policies identified on Appendix 5 (MBTA Policies) to this **Schedule 3.16** (Information Technology Requirements), as well as all relevant federal, state and local laws and regulations. In the absence of language in this Agreement, Applicable Law, or other MBTA-approved policy and/or guideline, the Operator shall utilize best practices in the performance of its obligations under this Agreement, and bring the absence of guidance, policy or direction to the attention to appropriate MBTA officials.

7.11 Operator Responsibilities for Site Operations.

7.11.1 Operator Commuter Rail IT Environment Site Obligations.

Among other obligations, the Operator shall engineer, install, furnish, test, operate and maintain all Commuter Rail IT Assets at all Sites as a service, and shall operate the Commuter Rail IT

Environment at all applicable Service Levels. Where Service Levels do not provide specific guidance, the Operator shall meet industry-standard performance regarding performance metrics, Commuter Rail IT Services, business continuity considerations and otherwise comply with the MBTA's reasonable expectations.

7.11.2 Operator Site Acknowledgment.

The Operator acknowledges and agrees that the number and nature of the Sites may change during the Term. Such changes shall be addressed in accordance with the process for IT Changes set out in Section 7.11 (Change Control and Configuration Management) of this **Schedule 3.16** (Information Technology Requirements). The Operator further acknowledges and agrees that components of the Baseline IT Environment as well as other portions of the Commuter Rail IT Environment are located on MBTA property and that the Operator shall be solely responsible for all related Commuter Rail IT Services including, but not limited to, the IT Security Services.

7.12 Change Control and Configuration Management.

7.12.1 IT Change Control Board.

In compliance with ITIL, the Operator shall establish a change control board (the “**IT Change Control Board**”) that shall have oversight authority and provisional approval authority over all system level changes, material changes, expenditures in excess of the allowance for IT Operations and Maintenance Costs in a particular year (subject to **Schedule 9** (Supplemental Work) of this Agreement), proposed revisions to the IT Operations and Maintenance Costs Plan, new system procurement efforts, schedule outages and other significant events or changes (each, an “**IT Change**”). The IT Change Control Board shall be led, directed and chaired by the Operator’s CIO and shall meet at least quarterly and at such other times as reasonably determined by the Operator and the MBTA. Such personnel shall be responsible for the generation of agendas, change requests and the tracking of items to closure of IT Changes. The MBTA shall provide at least two (2) members to the IT Change Control Board that shall represent MBTA mission interests, and the IT Change Control Board shall not convene without the presence of said MBTA members (collectively, the “**MBTA IT Change Control Board Representatives**”). These MBTA IT Change Control Board Representatives shall have ultimate veto authority over all IT Changes, and such veto authority shall be reasonably exercised. The IT Change Control Board shall not implement any IT Changes without first obtaining written approval from the MBTA IT Change Control Board Representatives. The MBTA shall use commercially reasonable efforts to ensure that the MBTA IT Change Control Board Representatives are present during every IT Change Control Board meeting.

7.12.2 Project Development; Guidelines.

The Operator shall be responsible for all aspects of IT Project Management with respect to the Commuter Rail IT Environment. The Operator shall be solely responsible for all IT Changes, projects and tasks related to information technology (each, a “**Project**”), and shall use best industry practices and the IPRs when undertaking a Project. All Projects shall be memorialized

in writing by the Operator outlining specific details regarding the Project (each, an “**SOW**”). Except for minor tasks that may be addressed in summary form, each SOW shall include: (i) a description of the work to be done and specifications of the expected deliverables; (ii) a milestone schedule and delivery dates for deliverables; (iii) completion criteria, quality testing and reports relating to deliverables; (iv) applicable Service Level Agreements; and (v) all other necessary or advisable QA documentation. The Operator’s work on Projects shall be conducted in accordance with the requirements and procedures set forth in the Agreement or applicable SOW. The Operator shall not undertake any Project until (a) the Project and associated SOW has been approved by the IT Change Control Board, and (b) the IT Change Control Board has provided the Operator with written notice to proceed. The Operator shall carry out each Project in accordance with the project management professional guidelines from the Project Management Institute (the “**PMI Guidelines**”) included on Appendix 6 (Project Management Institute Guidelines) to this **Schedule 3.16** (Information Technology Requirements). The IT Change Control Board may provide recommendations as to whether a Project should be treated as Supplemental Work pursuant to **Schedule 9** (Supplemental Work) of the Operating Agreement; provided, however, that determining the amount and value of a Project (if any) shall be governed by Section 1 (General) of **Schedule 9** (Supplemental Work) to the Operating Agreement.

7.12.3 Configuration Management.

The Operator shall comply with the configuration management procedures set out in Appendix 7 (Configuration Management) to this **Schedule 3.16** (Information Technology Requirements).

7.12.4 IT Operations and Maintenance Cost Plan; Submission and Review.

The Operator shall develop a written plan and budget for all costs that it intends to apply against the IT Operations and Maintenance Costs allowance (the “**IT Operations and Maintenance Costs Plan**”). The IT Operations and Maintenance Costs Plan shall include, at least: (i) a detailed description of each item to be applied against the IT Operations and Maintenance Costs allowance; (ii) the cost of each item; (iii) justification for the inclusion of each item within the IT Operations and Maintenance Cost Plan; (iv) other information that the Operator believes to be of use to the IT Change Control Board during its evaluation; and (v) other information reasonably requested by the IT Change Control Board. The Operator shall submit the IT Operations and Maintenance Costs Plan to the IT Change Control Board for evaluation no later than sixty (60) days after the Notice to Proceed. Within fifteen (15) days of its receipt, the IT Change Control Board shall either accept or reject the IT Operations and Maintenance Costs Plan. In the event of a rejection notice, the IT Change Control Board shall provide a detailed description of deficiencies to be corrected. Within ten (10) days of its receipt of a rejection notice (if any), the Operator shall correct all deficiencies noted and resubmit a revised IT Operations and Maintenance Costs Plan to the IT Change Control Board for further evaluation. The MBTA IT Change Control Board Representatives shall have ultimate veto authority (reasonably exercised) over the IT Operations and Maintenance Cost Plan, and the IT Operations and Maintenance Costs Plan cannot be approved by the IT Change Control Board without the agreement of the MBTA IT Change Control Board Representatives.

Notwithstanding anything to the contrary, the Operator shall not charge against the IT Operations and Maintenance Costs allowance, and the MBTA shall have no obligation to pay for, any IT Operations and Maintenance Costs that are not approved by the IT Change Control Board and included in the IT Operations and Maintenance Costs Plan.

7.12.5 Updates to the IT Operations and Maintenance Cost Plan.

Not later than June 1 of each year of the Agreement, the Operator shall submit an updated IT Operations and Maintenance Cost Plan to the IT Change Control Board (each, an "**Updated IT Operations and Maintenance Cost Plan**"). The Updated IT Operations and Maintenance Cost Plan shall identify (to the extent applicable): (i) any cost differences between the proposed Updated IT Operations and Maintenance Cost Plan and the then current IT Operations and Maintenance Cost Plan; (ii) justification for the cost difference; (iii) a detailed description of new items included in the proposed Updated IT Operations and Maintenance Cost Plan to be applied against the IT Operations and Maintenance Costs allowance; (iv) the cost of each new item; (v) justification for the inclusion of each new item in the Updated IT Operations and Maintenance Cost Plan; (vi) other information that the Operator believes to be of use to the IT Change Control Board during its evaluation; and (vii) other information reasonably requested by the IT Change Control Board. Within fifteen (15) days of its receipt, the IT Change Control Board shall either accept or reject the proposed Updated IT Operations and Maintenance Costs Plan. In the event of a rejection notice, the IT Change Control Board shall provide a detailed description of deficiencies to be corrected. Within ten (10) days of its receipt of a rejection notice (if any), the Operator shall correct all deficiencies noted and resubmit a revised Updated IT Operations and Maintenance Costs Plan to the IT Change Control Board for further evaluation. The MBTA IT Change Control Board Representatives shall have ultimate veto authority (reasonably exercised) over the Updated IT Operations and Maintenance Cost Plan, and the Updated IT Operations and Maintenance Costs Plan cannot be approved by the IT Change Control Board without the agreement of the MBTA IT Change Control Board Representatives. Notwithstanding anything to the contrary, the Operator shall not charge against the IT Operations and Maintenance Costs allowance, and the MBTA shall have no obligation to pay for, any IT Operations and Maintenance Costs that are not approved of by the IT Change Control Board and included in the Updated IT Operations and Maintenance Costs Plan.

7.13 Documentation.

The Operator shall provide the MBTA with all necessary and desirable Design Documents and Documentation concerning all components within the Commuter Rail IT Environment and the Commuter Rail IT Environment as a whole. Such Documentation shall provide sufficient detail for the MBTA to use, operate and maintain the Commuter Rail IT Environment. The Operator shall promptly supplement such Documentation for any Updates, improvements or other changes in or to the Commuter Rail IT Environment. The Operator shall additionally provide Source Code for Developed Software and web portals to the MBTA. Such Source Code shall be no more than six (6) months out of date, as provided in detail pursuant to **Schedule 3.15** (Intellectual Property; Ownership).

7.14 Engineering and Technical Documentation.

7.14.1 Overview of Engineering and Technical Documentation.

The Operator shall provide detailed and accurate technical drawings of, and all relevant Design Documents and technical Documentation concerning, the Commuter Rail IT Environment and technical infrastructure to the MBTA for its records.

7.14.2 Digital Policy.

7.14.2.1 The Operator shall digitize all Documentation, reports, deliverables, diagrams and other written or drawn information and materials (collectively, the “**Conversion Materials**”). The Operator shall create, maintain and comply with a policy for digitalization of all Conversion Materials into a digital format, as such digital format as may be reasonably determined by the MBTA (the “**Digitalization Policy**”). The Conversion Materials falling within the Digitalization Policy may be physical or hand written in their initial form, such as maintenance bay reports, but must ultimately be converted to a digital format pursuant to the Digitalization Policy. Conversion Materials shall remain on a shared repository indefinitely and once uploaded, all Conversion Materials shall be considered official delivered and changes to Conversion Materials shall be tracked. By way of clarification, and not limitation, the Operator shall be responsible for digitizing all Documentation, reports, deliverables, diagrams and other written/paper or drawn materials created or received in connection with this Agreement.

7.14.2.2 All Conversion Materials shall be scanned and uploaded within two weeks of creation. It is advised that the Operator develop and utilize a standard set of document formats and templates to make the digitization process easier and more efficient, subject to the MBTA's approval. The Operator timeline of digitization shall be extended to one month for large form factor or other Conversion Materials that require special considerations for scanning.

7.14.3 Digital Repository.

7.14.3.1 The Operator shall maintain a structured file repository system that can store all of the digitized Conversion Materials. The repository shall be capable of secure remote login and the MBTA shall have full access to all files and items stored within it. This access shall be on demand and contain full access for searches. This system shall incorporate logging of all files that

associates user identification and non-repudiation technology that ensures reports and files are not modified by either organization in a manner that is not tracked and logged at all times. The logs of access and modification shall be available to both organizations at any time in their entirety. The Operator shall maintain all aspects required for the complete operation of this tool and ensure that it is sized and supported to support to storage and access requirements. The MBTA envisions a Share Point or other similar off the shelf capability that meets all these capabilities. The Operator shall ensure that the repository is organized and searchable utilizing the searchable criteria of the digitized documents.

- 7.14.3.2 This is considered a Mission Critical Application. All documents stored in this application are property of the MBTA as per **Schedule 3.15** (Intellectual Property; Ownership). MBTA may reuse all documents as they see fit in any form. The Operator shall not be responsible for inaccurate changes made by the MBTA if they choose to modify a delivered document.
- 7.14.3.3 Documents uploaded to this share file repository are considered to be accurate within the required upload timeframe, and the Operator shall be responsible for such accuracy. They shall be acted upon in this manner for planning purposes and as such shall not be out-of-date more than the upload timeframe.
- 7.14.3.4 MBTA may request changes to templates and formats at its reasonable discretion. These may be stylistic, format based, file type based, or of a technical nature regarding the searchable material or included information. The Operator need not apply these changes to previously submitted documents. Technical and informational changes shall be discussed as an agenda item in the IPR. Significant changes shall follow the change control process.
- 7.14.3.5 Legacy documents shall be maintained indefinitely unless the MBTA determines that a certain type of report or document maybe removed. Lacking specific guidance from the MBTA, the Rail Operator shall assume that all documents need to be maintained indefinitely.

7.14.4 System Storage Device

The system storage device must utilize fault tolerant technology as its base to protect data identified in this Section 7.14 (Engineering and Technical Documentation) of this **Schedule 3.16** (Information Technology Requirements) against corruption or hardware failure. This

system must utilize a remote off-site backup solution that ensures the data's survivability in the event of a disaster or destruction of the original repository.

8. IT SUPPORT AND MAINTENANCE SERVICES

8.1 General.

This Section 8 (IT Support and Maintenance Services) of this **Schedule 3.16** (Information Technology Requirements) sets out the Operator's obligations with respect to various maintenance and support services related to the Commuter Rail IT Environment (collectively, the “**IT Support and Maintenance Services**”). Notwithstanding anything to the contrary, the Operator acknowledges and agrees that it shall be solely responsible for the support and maintenance of the Commuter Rail IT Environment and insuring that all components within the Commuter Rail IT Environment are maintained in good working order.

8.2 Operator Service Center.

8.2.1 The Operator shall provide, operate and maintain a service center approved by the MBTA (the “**Operator Service Center**”), fully staffed by qualified Operator personnel. The Operator shall use the Operator Service Center to receive and respond (i) to MBTA system users' questions, complaints, reports of problems and Issues, inquiries, requests for Error Corrections and Error-related calls and all other applicable service requests, and (ii) to complaints, reports of problems, and other service requests of customers of the MBTA, submitted to the Operator in accordance with Section 8.26 (Customer Complaints) of **Schedule 3.16** (Information Technology Requirements). Such service requests and other communications, identified in either subsection (i) or subsection (ii) immediately above, are each referred to as an “**Incident Communication**”. For purposes of clarification, and not limitation, the term Incident Communication expressly includes Customer Incident Communications (as that term is defined in Section 8.26 (Customer Complaints) of this **Schedule 3.16** (Information Technology Requirements)). The Operator shall field, manage and respond to Incident Communications received through the Operator Service Center, or entered into the Issue Tracking Portal, in accordance with applicable Service Levels and other requirements set out in this Section 8 (IT Support and Maintenance Services) of this **Schedule 3.16** (Information Technology Requirements).

8.2.2 The Operator shall maintain operational hours for the Operator Service Center equivalent to the required operation of the MBTA transit system, which is defined as between 06:30 to 20:00 hours, 7 days a week (the “**Operator Service Center Hours**”). The Operator Service Center Hours may only be modified by written agreement of the parties. The Operator shall be responsible for staffing the Operator Service Center sufficiently to meet the applicable Service Levels and other requirements set out in this Section 8 (IT Support and Maintenance Services) of this **Schedule 3.16** (Information Technology Requirements). The

Operator shall also provide after-hours support for emergency issues that arise outside of the Service Center Hours, with a response time of not less than one (1) hour for any after-hours support issue.

- 8.2.3 The Operator shall utilize the Issue Tracking Portal for all Incident Communications received through the Operator Service Center. The Issue Tracking Portal shall be configured to generate Tickets automatically upon call and e-mail receipt and it is the Operator's responsibility to Acknowledge the Incident Communication received and address the underlying issue. For purposes of this Agreement, the term "Acknowledge" means assigning a severity level and initial issue description to the Ticket via the Issue Tracking Portal.
- 8.2.4 In the event of a failure of the Issue Tracking Portal or an event that renders the Issue Tracking Portal inaccessible, the Operator shall undertake operational procedures necessary to continue to operate and shall manually record, create and update Tickets until the Issue Tracking Portal has been restored.
- 8.2.5 The Operator shall implement a call recording system to record all phone calls to and from the Operator Service Center (the "**Call Recording System**"). The Call Recording System shall be configured to (i) time stamp recorded calls, and (ii) maintain copies of recorded calls preserved from deletion. The MBTA shall be entitled to access, listen and review all calls at any time via their own dedicated logins to the Call Recording System. The recordings shall be linked to the related Ticket and, where possible, be maintained per retention requirements set out in Section 3.5.1.5 (Ticket Retention) of this **Schedule 3.16** (Information Technology Requirements). Notwithstanding anything to the contrary, the Operator shall comply with all applicable laws relating to the Call Recording System.
- 8.2.6 The Operator shall provide and maintain an interactive voice response system (the "**IVR System**") for use with the Operator Service Center, and such IVR System shall direct callers to the appropriate service area of the Operator Service Center.
- 8.2.7 In addition to the other requirements set out in this Section 8.2 (Operator Service Center) of this **Schedule 3.16** (Information Technology Requirements) and elsewhere in the Agreement, the Operator shall ensure that the Operator Service Center meets the requirements set out in Appendix 8 (Operator Service Center Requirements) to this **Schedule 3.16** (Information Technology Requirements).

8.3 Confirmation; Tracking.

The Operator shall confirm receipt of all Incident Communications and shall cause the same to be tracked through the Issue Tracking Portal. The MBTA shall be entitled to report Incident Communications to the Operator either via email, by accessing a website maintained by the

Operator for such purpose, by telephone or by creating a Ticket in the Incident Tracking Portal. The Operator shall log all Incident Communications into the Issue Tracking Portal. Upon receipt of an Incident Communication, the Operator shall issue an Incident Tracking Number (each, an “ITN”) to the MBTA via email. The ITN shall remain open until the issue underlying the applicable Incident Communication has been satisfactorily resolved in accordance with the problem tracking and response procedures set forth in this Section 8 (IT Support and Maintenance Services) of this **Schedule 3.16** (Information Technology Requirements).

8.4 Problem Inquiries; Responses.

Upon receipt an Incident Communication, the Operator shall: (i) evaluate the underlying issue; (ii) provide advice to resolve the problem described therein; and (iii) call in appropriate staff as reasonably necessary to respond to the situation in accordance with the Acknowledgement and Resolution Standards.

8.5 MBTA Assistance; MBTA Efforts.

The MBTA shall: (i) reasonably report Errors to the Operator on such form as may be reasonably prescribed by the Operator; (ii) submit such form via telephone, fax, e-mail or in any other format reasonably required by the Operator and approved by the MBTA; and (iii) provide other documentation, information or assistance reasonably requested by the Operator. Prior to seeking assistance from the Operator with respect to Errors, the MBTA shall use commercially reasonable efforts to perform problem definition activities, and limited remedial or corrective actions, as described in applicable Documentation provided to the MBTA by the Operator. Notwithstanding anything to the contrary, the MBTA's failure to provide the Operator assistance shall not alleviate the Operator of any of its obligations hereunder.

8.6 Error Corrections.

The Operator shall acknowledge requests for Error Correction and other Errors related to the Commuter Rail IT Environment within the target time frame for the priority level of such problem, as set out below in Section 8.9 (Acknowledgement and Resolution Times) of this **Schedule 3.16** (Information Technology Requirements). The Operator shall use best efforts to resolve reported Errors within the target time frame. In the event that the Operator reasonably foresees an inability to remedy the reported Error within the target time-frame applicable to its priority level, the Operator shall increase resources and shall continue its corrective efforts and, in the case of High and Medium priority problems, shall advise the MBTA at least every three (3) hours of the status of such efforts and the expected time such problem correction will be completed.

8.7 Assigning Priority.

The MBTA shall assign the appropriate severity level for Incident Communications. To the extent the MBTA has not provided a severity level for an Incident Communication at the time the ticket is entered, the Operator shall assign the appropriate severity level to such Incident

Communication, in accordance with the criteria for assigning severity levels set out in Section 9 (Severity Levels) of **Schedule 3.18** (Service Level Agreement and Service Credits).

8.8 Analysis; Reporting.

The Operator shall analyze each Incident Communication and verify the existence of the circumstances relating to the underlying issue. The Operator shall give the MBTA updates, direction and assistance in the course of the Operator's resolving the Incident Communication.

8.9 Acknowledgment and Resolution Times.

The Operator's acknowledgement and problem resolution times for all requests for Error Corrections and Error-related Incident Communications, and other Incident Communications (the "**Acknowledgement and Resolution Standards**") are as set out in Section 19 (Response and Resolution of Incident Communications) of **Schedule 3.18** (Service Level Agreement and Service Credits).

8.10 Closure of Issues.

The Parties acknowledge and agree that all Issues shall remain open and unresolved, and that the Operator shall continue to be solely responsible for said resolution, until both parties agree during relevant IPRs that the applicable Issue has been fully resolved.

8.11 Root Cause Analysis.

8.11.1 In the event of a service disruption, critical failure, physical injury, security breach, Severity 1 incident, Severity 2 incident or otherwise at the direction of the MBTA (each, an "**Urgent Event**"), the Operator shall perform a root cause analysis (each, a "**Root Cause Analysis**") and mitigation plan effort, as provided below (each, a "**Mitigation Plan**"). The Operator shall immediately notify the MBTA of the occurrence of an Urgent Event via personal calls and e-mail to designated MBTA contacts, and the Operator shall create a Ticket through the Issue Tracking Portal. The Root Cause Analysis and Mitigation Plan shall contain, at a minimum, the following information: (i) the event being analyzed; (ii) the reason for the analysis; (iii) the scope of the event and its impact; (iv) the damage and operations impact analysis; (v) method of exploitation or cause of the event; (vi) the impact on future operations and schedules; (vii) analysis of fundamental causes of the failure(s) that resulted in the event; (viii) a mitigation strategy to prevent the issue from reoccurring, including immediate actions and stop gap measures; and (ix) a permanent solution and remediation plan to address the fundamental and root cause of the issue, which shall be provided to the MBTA for approval within one (1) day of completion of the Root Cause Analysis.

8.11.2 The Operator shall initiate the Root Cause Analysis and Mitigation Plan immediately upon the occurrence of an Urgent Event and the Root Cause

Analysis and Mitigation Plan shall be a priority for the Operator. The Operator shall brief the MBTA within twelve (12) hours if the Urgent Event is a Severity 1 or 2 incident, and the MBTA shall dictate the subsequent resolution schedule. The Operator shall identify and implement preliminary actions and stopgap measures within three (3) days of the event. Permanent remediation measures identified in the Mitigation Plan shall be submitted to the MBTA no later than seventy-two (72) hours after completion of the Root Cause Analysis, and commenced by the Operator upon approval from the MBTA.

8.12 Updates.

IT Maintenance and Support Services shall include the timely provision of Updates for all components of the Commuter Rail IT Environment. The Operator shall integrate the Updates into the Commuter Rail IT Environment within a reasonable time of release of the applicable Update; provided, however, that the Operator shall promptly test and install security patches and other Updates necessary for the continued security and integrity of the Commuter Rail IT Environment. Throughout the Term, the Operator shall deliver, install, integrate and test new Updates of all components within the Commuter Rail IT Environment in order to: (i) meet its obligations in terms of Error Corrections; (ii) maintain the currency of the applicable Software and IT Infrastructure; and (iii) take advantage of software engineering and other relevant developments. Failure to provide Updates shall be handled pursuant to Section 14.8 (Provision of Updates) of **Schedule 3.18** (Service Level Agreement and Service Credits).

8.13 Updates; Costs.

The cost of Updates to Third Party Software shall be covered by the IT Operations and Maintenance Costs allowance, except for the cost of Updates to Developed Software (excluding only Operator-Commissioned Software), for which the Operator shall not be entitled to charge a fee to the MBTA. The Operator shall be responsible for all testing, integration, and implementation of all Updates (including Updates for Third Party Software and Developed Software). Under no circumstances shall the Operator acquire Updates at the MBTA's expense without the MBTA's prior express approval. For the avoidance of doubt, it is agreed and understood that upgrades to the Commuter Rail IT Environment that the MBTA requests under Section 3.2 (Other MBTA-Designated IT Components) shall be handled in accordance with such Section 3.2 (Other MBTA-Designated IT Components).

8.14 Support for Prior Versions.

During the Term, the Operator shall continue to provide IT Maintenance and Support Services for Versions of Software within the Commuter Rail IT Environment within one Release or Version prior to the most recent release (for example, support will continue for version 2.0 up through and including version 4.0). Notwithstanding anything to the contrary, the Operator shall obtain proper and current maintenance and support for Software and IT Infrastructure within the Commuter Rail IT Environment. The Commuter Rail IT Environment shall not include any software version that is no longer supported by its licensor.

8.15 No Sunsets.

The Operator shall not "sunset" or "end of life" (or announce the same) Software within the Commuter Rail IT Environment, or any part thereof. If a Third Party (i) "sunssets" or "end of lifes" (or announces the same) Third Party Software, or any part thereof, or (ii) replaces, develops or acquires any new product intended to replace such Third Party Software, the Operator shall timely replace such Third Party Software with other Third Party Software or Operator Software that meets the requirements of this Agreement and provides the same functionality, and implement such new Third Party Software or Operator Software within the Commuter Rail IT Environment subject to the process set out in Section 3.4 (Operator-Proposed IT Components) of this **Schedule 3.16** (Information Technology Requirements).

8.16 Revised Operator Documentation.

At no additional charge, the Operator shall provide updated Documentation in the form of new revision manuals or changed pages to current manuals (or updated "help screens") consistent with the original Documentation supplied or required, and reflecting changes embodied in an Update. The Operator shall also provide (at no charge) installation instructions, procedures and any installation program required by the installation.

8.17 Integration.

The Operator shall be solely responsible for in the installation, implementation, integration support and maintenance and operation of all Updates and new components (including, but not limited to, all New IT Component Environment and Operator-Provisioned IT Environment) to the Commuter Rail IT Environment.

8.18 Regulatory Changes.

The Operator shall develop Updates and license Third Party Software necessary to ensure that all components of the Commuter Rail IT Environment comply with regulatory requirements that impose new requirements or restrictions on the operation of the Commuter Rail System, on the use of MBTA Data, or on other aspects of the MBTA's activities with respect to the Commuter Rail System.

8.19 Migration of Commuter Rail Data Center.

The MBTA shall be entitled, upon reasonable notice to the Operator, to migrate all MBTA Data from the Commuter Rail IT Environment to either (i) an MBTA-controlled data center, or (ii) a Third Party hosted data center. Upon receipt of such notice, the Operator shall provide such migration services as directed by the MBTA. Costs for the migration services set out in this Section 8.19 (Migration of Commuter Rail Data Center) of this **Schedule 3.16** (Information Technology Requirements) shall be addressed pursuant to **Schedule 9** (Supplemental Work) of the Operating Agreement.

8.20 Lifecycle Management.

The Operator shall develop and execute a good and sufficient lifecycle management plan to support the Commuter Rail IT Environment (the “**Lifecycle Management Plan**”). The Lifecycle Management Plan shall cover all IT Infrastructure within the Commuter Rail IT Environment. All IT Infrastructure shall be functionally capable for their role. All IT Infrastructure shall be covered throughout their use by a warranty. IT Infrastructure out of warranty or no longer functionally capable for their role shall promptly be replaced. The Operator shall be solely responsible for maintaining the Lifecycle Management Plan and following the included Lifecycle management schedule. Moreover, other than the Baseline IT Environment, all IT Infrastructure provided by the Operator shall only be new (and not used or reconditioned, and not of such age or so deteriorated as to impair their usefulness or safety). If, at any time during its performance of hereunder, the Operator believes that the furnishing of material comprising the IT Infrastructure that is not new is necessary or desirable, the Operator shall notify the MBTA immediately, in writing, including the reasons therefore and proposing any consideration which will flow to the MBTA if authorization to use such non-new material is granted. The MBTA shall then make a determination regarding whether use of such non-new material is authorized and notify the Operator of the same.

8.21 Inventory; Operator-Conducted IT Audits.

On an annual basis, the Operator shall conduct a full inventory and audit of all IT Assets comprising the Commuter Rail IT Environment (each, an “**Annual IT Inventory**”). The Operator shall compile the Annual IT Inventory into an itemized list, with fields reasonably designated by the MBTA (the “**Inventory Listing**”). The Operator shall promptly update the Inventory Listing with incremental changes in the Annual IT Inventory.

8.22 Protection of Personal Information.

The Operator shall architect the Commuter Rail IT Environment such that the MBTA shall be entitled to access all functionality, including all Interface Tools and Documentation, without accessing Personal Information of Data Subjects who have not provided consent for such access. Where the Operator proposes to lock-out MBTA access to comply with the above requirement, the Operator shall provide a conceptual systems description of the functionality of that system, and the MBTA must approve such lock-out in writing before production use of the impacted system, and the MBTA shall have the right to withdraw such consent at any time and for any reason. For purposes of clarification, any lock-out implemented without the MBTA's prior written consent shall constitute the unavailability of a system application and shall be included in measurements relating to Section 14.1 (System Application Availability) of **Schedule 3.18** (Service Level Agreement and Service Credits) to the Operating Agreement.

8.23 Emergency Access Provisions.

The Operator shall maintain a set of access codes and passwords that have full rights and operational capability for the entirety of the Commuter Rail IT Environment, including system administrator privileges, core switch access codes, full database access codes, terminal and console access addresses and points and root access codes (collectively, the “**Passwords and Access Instructions**”). The Passwords and Access Instructions shall be no more than one hour

out-of-date. The Passwords and Access Instructions requirements shall apply to all systems including proprietary and otherwise restricted systems (including systems subject to permitted lock-out under Section 8.22 (Protection of Personal Information) of this **Schedule 3.16** (Information Technology Requirements)) including, but not limited to, the software domain, system administration for applications and network security. The Passwords and Access Instructions shall be maintained in a fireproof document safe at the MBTA, with access held by the MBTA's CIO. The MBTA shall not use these Passwords and Access Instructions unless in exigent circumstances, as reasonably determined by the MBTA.

8.24 Maintenance of MBTA Internal IT Environment; Operator Access.

The MBTA shall be responsible for the security, uptime, maintenance and support of the MBTA Internal IT Environment, less only those components provided by the Operator. Provided the Operator complies with all applicable MBTA security policies and procedures, the MBTA shall provide the Operator with necessary access to the MBTA Internal IT Environment, but solely for the purpose of the Operator fulfilling its obligations hereunder and for no other purpose.

8.25 Quality Assurance.

8.25.1 Quality Assurance Procedures.

The goal of the quality assurance procedures is to ensure that each component of the Commuter Rail IT Environment as well as applicable Projects are thoroughly tested for conformity with the applicable specifications before being integrated into the Commuter Rail IT Environment.

8.25.2 Operator QA Responsibilities; QA Documentation.

The Operator shall be responsible for: (i) controlling the quality of all components of the Commuter Rail IT Environment hereunder; (ii) ensuring that all vendors and suppliers of raw materials, parts, components, subassemblies, and other elements have an acceptable quality control system; (iii) ensuring the quality of all provided components of the Commuter Rail IT Environment hereunder; and (iv) maintaining substantiating evidence that the components of the Commuter Rail IT Environment conform to the applicable quality requirements and furnishing such information to the MBTA upon request. The Operator shall prepare and deliver good and sufficient QA documentation in accordance with best industry practices.

8.25.3 Qualifications.

The Operator employees shall have the knowledge, skills and certifications necessary to perform the required services in support of MBTA Infrastructure as reasonably determined by the MBTA. In furtherance of Time and Materials tasks, the Operator shall furnish proof of employee's qualifications with resumes or written certification, which is subject to review and concurrence by the MBTA. The Operator employees not meeting minimum qualifications shall not be considered unless a waiver is granted by the Operator and the MBTA. The MBTA reserves the right to restrict access or work under Projects to United States citizens only where the MBTA reasonably determines to be within its best interest.

8.25.4 Quality Assurance Requirements.

The Operator shall ensure that all components of the Commuter Rail IT Environment that have associated Service Levels shall be governed by the quality assurance requirements set out in this Agreement as well as industry-standard QA procedures.

The Operator shall be obligated to perform all internal QA procedures related to the Commuter Rail IT Environment and provide good and sufficient Documentation setting out the process and results of such quality assurance procedures to the MBTA. Such internal procedures shall include, but not be limited to, independent peer review by subject matter experts of the Project and impacted portions of the Commuter Rail IT Environment. For the avoidance of doubt, any QA procedures conducted in connection with a Project that identify a revision to an existing Service Level Agreement shall be identified and notice shall be provided to the IT Change Control Board in accordance with Section 7.12 (Change Control and Configuration Management) of this **Schedule 3.16** (Information Technology Requirements).

8.25.5 Quality Control Program

The Operator shall establish and maintain a complete Quality Control Plan (the “**QCP**”) to ensure the services performed conform to stated quality assurance requirements set out in this Agreement. The MBTA shall notify the Operator of acceptance or required modifications to the QCP. The Operator shall make appropriate modifications at no additional cost to the MBTA and obtain acceptance of the QCP by the MBTA before the Agreement Services Commencement Date. The Operator shall submit an updated QCP to the MBTA for approval six months after the Agreement Services Commencement Date, revised to reflect developments resulting from its provision of the Commuter Rail Services during such six month period. The Operator shall review, update and submit revised QCPs annually, or as changes occur for action by the MBTA as it deems necessary. The QCP shall describe the inspection system for the Commuter Rail IT Services and shall include, at least, the following:

- 8.25.5.1 A description of the Operator quality control system, which shall cover: (i) all services; (ii) specify work to be inspected on either a scheduled or unscheduled basis; (iii) frequency; and (iv) describe how inspections are to be conducted;
- 8.25.5.2 The name(s) and qualifications of individual(s) responsible for performing quality control inspections and the extent of their authority;
- 8.25.5.3 A description of the methods used to record the quality control inspection and corrective actions taken;
- 8.25.5.4 A description of the methods used for identifying and preventing defects in the quality of service performed; and

- 8.25.5.5 The approach for filling vacancies in a timely manner, providing qualified personnel and maintaining an ongoing training program to ensure that Operator employees acquire the knowledge and skills necessary for new or emerging technology, managing changes in workload requirements and providing timely and accurate invoices.

The Operator shall maintain a file of all scheduled and performed quality control inspections, inspection results and dates and details of corrective actions. The file shall be made available to the MBTA upon request.

8.25.6 MBTA Review of Operator Quality Assurance Obligations.

The MBTA shall have the right to evaluate and audit the Operator's performance of its obligations under Section 8 (IT Support and Maintenance Services) of this **Schedule 3.16** (Information Technology Requirements) in order to determine the Operator's compliance. The MBTA's quality assurance is not a substitute for quality control by the Operator. All findings of unsatisfactory or non-performed work will be resolved in accordance with the QCP.

8.26 Customer Complaints.

The Operator shall be responsible for responding and resolving Incident Communications that originate from MBTA Customers (each, a "**Customer Incident Communication**"), in accordance with this Section 8 (IT Support and Maintenance Services) of this **Schedule 3.16** (Information Technology Requirements) and applicable Service Levels. Customer Incident Communications will be submitted to the Operator through the following paths, and the Operator shall address each as follows:

- 8.26.1 The MBTA Service Center will receive Customer Incident Communications through its customer service center. The MBTA will enter such Customer Incident Communications in the Issue Tracker Portal and, upon issuance of the associated ticket, the Operator shall be responsible for responding to and resolving the Customer Incident Communication in accordance with applicable Service Levels.
- 8.26.2 Customers shall be able to enter Customer Incident Communications on an MBTA website page (or pages) linked to the Customer Complaint Website specified in Section 8.27 (Customer Complaint Website). The Operator shall be responsible for creating and maintaining such link, and all requisite interfaces to the MBTA Internal IT Environment for such purposes. Upon receipt of the Customer Incident Communication via the Customer Complaint Website, the Customer Incident Communication shall be entered into the Issue Tracking Portal in the manner set out in Section 8.27 (Customer Complaint Website). Upon receipt of the Customer Incident Communication via the Customer Complaint Website, the Operator shall be responsible for responding to and

resolving the Customer Incident Communication in accordance with applicable Service Levels.

- 8.26.3 The Operator receives Customer Incident Communications directly from Customers through any channel not otherwise described above. The Operator shall enter such Customer Incident Communications into the Issue Tracker Portal and, upon issuance of the associated ticket, the Operator shall be responsible for responding to and resolving the Customer Incident Communication in accordance with applicable Service Levels.

8.27 Customer Complaint Website.

The Operator shall establish and maintain a website designed to accept Customer Incident Communications and permit the Operator to ensure that such Customer Incident Communications are entered into the Issue Tracker Portal for response and resolution in accordance with Section 8.26.2 (Customer Complaints) of this **Schedule 3.16** (Information Technology Requirements) (the "**Customer Complaint Website**"). Apart from the function specified in this Section 8.27 (Customer Complaint Website) of this **Schedule 3.16** (Information Technology Requirements), the Customer Complaint Website need not contain further MBTA customer-facing functionality. The Operator shall ensure that the Customer Complaint Website complies with all applicable best practices with respect to terms of use and privacy policies.

8.28 Maintenance Contracts.

During the Term, the Operator shall obtain (and invoice against the IT Operations and Maintenance Costs allocation) all maintenance, support, subscription and other agreements that are necessary or advisable for the maintenance and support of Third Party Software, and of other third party components within the Commuter Rail IT Environment. The Operator shall provide copies of such agreements to the MBTA upon request.

9. IT TRAINING SERVICES.

9.1 Overview of IT Training Services.

Subject to Section (9.4) (Relevant Baseline Software; Operator Training Obligations) of this **Schedule 3.16** (Information Technology Requirements), the Operator shall be responsible for providing all good and sufficient training to MBTA personnel relating to all components of the Commuter Rail IT Environment (collectively, the "**IT Training Services**"). The IT Training Services shall be provided to current and new MBTA employees who work with portions of the Commuter Rail IT Environment or MBTA IT Internal Environment in connection with their job duties. The Operator shall also, at a minimum, prepare and provide in connection with the IT Training Services, the following: (i) the proposed target audience; (ii) the applicable program objectives; (iii) the subject material; (iv) classroom instruction; (v) the duration of the program (including maximums and minimums); (vi) a description of the materials (i.e. Documentation and user manuals) to be provided by Operator as well as the materials; (vii) the location of each training program; and (viii) the schedule for program development and delivery. For purposes

of clarification, and not limitation, the Operator shall be responsible for providing all IT Training Services related to any components of the Commuter Rail IT Environment other than those portions that consist of the Baseline IT Environment.

9.2 Training of the MBTA by the Operator.

The Operator shall also provide training and associated training materials for Updates implemented pursuant to this **Schedule 3.16** (Information Technology Requirements) and elsewhere as required under this Agreement. The Operator shall provide such training in a Train-the-Trainer format, where key personnel of the MBTA's selection shall be trained with the necessary information to take back and train their teams, implement and initiate utilization at the specified timeline requested by the MBTA.

9.3 Operator Use of Training Provided by the MBTA.

Requisite Operator personnel shall attend all training provided by the MBTA (if any), and such training shall be in a Train-the-Trainer format. The Operator trainers shall promptly roll-out such training to all necessary Operator personnel and its contractors. The timeline for provision of training shall be directed by MBTA mission complexity and operational needs. Before execution of any training session, collaborative planning session shall take place under an In-Process Review.

9.4 Relevant Baseline Software; Operator Training Obligations.

Except with respect to those portions of the Relevant Baseline Software included in the Commuter Rail IT Environment as of the Agreement Services Commencement Date, the Operator shall not be obligated to provide training to MBTA employees relating to the use of the Relevant Baseline Software; provided, however, that the Operator shall provide training to (i) current MBTA employees (and new hires) not familiar with the applicable Relevant Baseline Software and that are required to use said Relevant Baseline Software to fulfill their job duties, and (ii) all Updates to the Relevant Baseline Software.

10. INTELLECTUAL PROPERTY.

The Parties' Intellectual Property Rights are set out in **Schedule 3.15** (Intellectual Property; Ownership).

11. IT SECURITY.

The Operator shall be solely responsible for providing all security services for the Commuter Rail IT Environment (collectively, the "**IT Security Services**"). The Operator's obligations with respect to IT Security Services are set out in **Schedule 3.17** (IT Security).

12. SERVICE LEVEL AGREEMENTS AND SERVICE CREDITS.

The Operator shall comply with the Service Levels and Service Level Credit Structure set out in **Schedule 3.18** (Service Level Agreement and Service Credits). Notwithstanding anything to the contrary, the Operator shall be solely responsible for ensuring that the Commuter Rail IT Environment and its provision of all services pursuant to this Agreement comply with the applicable Service Levels and the MBTA's reasonable expectations.

13. MBTA MONITORING AND OVERSIGHT OF THE COMMUTER RAIL IT ENVIRONMENT.

13.1 Commuter Rail IT Environment Information Gathering and Assessment Methodology.

The Operator shall comply with the information gathering and assessment methodology set out in Appendix 9 (Commuter Rail IT Environment Information Gathering Methodology) to this **Schedule 3.16** (Information Technology Requirements), and as otherwise necessary for the MBTA to monitor and oversee the Commuter Rail IT Environment and the Commuter Rail Services.

13.2 Commuter Rail IT Environment Monitoring Oversight.

The Operator shall be responsible for all network connectivity and operations. With respect to Network connectivity and operations, the Operator shall be responsible for the following:

- 13.2.1 Establishing secure channels between the Network Operations Center (the “NOC”) and the MBTA, within in-scope environment elements only, to deliver managed infrastructure services using managed, end-to-end, IP Security (IPSec) encrypted VPNs or hardware-based stateful inspection firewalls.
- 13.2.2 Maintaining contractual responsibilities for Operator-managed network capabilities.
- 13.2.3 Maintaining network failover capabilities in the event of loss of connectivity.
- 13.2.4 Providing bandwidth sufficient to perform the environment management services at agreed upon Service Levels.
- 13.2.5 Providing event-management and continuous monitoring of all components within the Commuter Rail IT Environment based on predefined parameters and thresholds and feeding of events into fault management tools.
- 13.2.6 Monitoring systems across all components of the Commuter Rail IT Environment including identifying unauthorized to the network and reporting outages via the management tool set.
- 13.2.7 Providing event-correlation for fault managed devices and mapping of the relationship for multiple identified events.

- 13.2.8 Providing engineering support at agreed levels for addressing, mediating and managing critical hardware and software issues.
- 13.2.9 Maintaining and providing network documentation for the Commuter Rail IT Environment and participating with the MBTA in maintaining overall network documentation.
- 13.2.10 Maintaining and supporting network components within the Commuter Rail IT Environment including: (i) supporting network and server software required and provided protocols and security techniques as well as standard data access and transport techniques; (ii) providing hardware maintenance for environment servers, remote routers, operating system, database, middleware and application software products and ancillary components as required operating the systems; (iii) tracking, managing, communicating and supporting resolution of network exceptions; and (iv) evaluating and testing, in advance, network, hardware and interface equipment including the configuration and installation of equipment that will be attached to, and will communicate over, the MBTA network.
- 13.2.11 Upon the MBTA review and approval, supporting the provision of connectivity to the Commuter Rail Services and third party agency facilities and systems or other external networks.
- 13.2.12 Developing acceptance procedures for installation and changes to the network, and for verifying restoration of availability following problems with network circuits or equipment, all in compliance with ITIL, other applicable standards and best industry practices.
- 13.2.13 In consultation with the MBTA, and as set forth in applicable SOWs, developing and providing reports on the status of the Commuter Rail IT Environment and related networks.

14. **MBTA ACCESS TO COMMUTER RAIL IT ENVIRONMENT.**

The MBTA shall have full access to the Commuter Rail IT Environment including, but not limited to, all MBTA Data and Confidential Information (of either party) included in the Commuter Rail IT Environment; provided, however, that this access shall not apply to data that fall under the provisions Section 8.22 (Protection of Personal Information) of this **Schedule 3.16** (Information Technology Requirements). Any exclusion for these reasons must be justified in writing and approved by the MBTA.

The MBTA shall have the access rights and abilities to log into any non-excluded system any time it desires outside of a scheduled and approved downtime. The MBTA shall be entitled to utilize this access for any reason including, but not limited to, performing audits and inspections of the systems. The MBTA will not manage, trouble shoot, or operate the systems in any way. To ensure that all parties are only performing their functions, the systems shall enable logging of user access and actions. The logs shall not be modified or changed in any way once the

system creates them. The Operator shall come to an agreement with the MBTA during the IPRs to develop a log purge policy for these access logs.

MBTA shall be entitled to full system access, and this access shall extend both digitally as stated above and physically to site and hardware. The MBTA will conform to operating hours for such inspections but may at its discretion appear at any site and inspect/audit any hardware or system that support its operations and/or the Commuter Rail IT Environment. The MBTA shall be entitled to perform these audits unannounced and at a frequency of its determination, and the Operator shall treat these as random. The MBTA shall use all commercially reasonable efforts to avoid disrupting operations while performing these audits. The MBTA will (i) inform the Operator of the audit's occurrence, before, during, and immediately following the audit, as a courtesy, and (ii) provide in its discretion its findings or the results of the audit. The term “**Full Access**” means all access rights to all components of the Commuter Rail IT Environment.

15. AUDITS OF IT DATA AND RECORDS BY THE MBTA.

Promptly upon notice, the Operator shall permit the MBTA, or its designated representative, to examine and audit all records, reports, metrics, data and other information and materials relating to the Commuter Rail IT Environment and the Operator's performance hereunder (the “**Audit Materials**”). The Operator shall provide full and efficient access to all Audit Materials, and shall provide copies of such materials in the form reasonably requested by the MBTA (or its designee), it being understood that a request for Audit Materials in digital and fully searchable format, paper format or other industry accepted format shall be deemed reasonable. The expenses associated with such audits shall be borne by the MBTA unless the audit at issue discloses material inaccuracies in information provided by the Operator to the MBTA, in which event the Operator shall reimburse the MBTA for the costs and expenses of such audit. The Operator shall correct any material inaccuracy within thirty (30) days of the completion of such audit and immediately thereafter provide the corrected information to the MBTA.

15.1 Inventory and Audit of Commuter Rail IT Environment by the MBTA.

Promptly upon notice, the Operator shall permit the MBTA, or its designated representative, to conduct a physical inventory and audit of all components of the Commuter Rail IT Environment (or those designated by the MBTA). The Operator shall provide full and efficient access to all such components to permit this audit.

16. IT TRANSITION SUPPORT.

16.1 General.

In connection with the expiration or termination of this Agreement, the Operator shall take all actions necessary to accomplish a complete and timely transition from the Operator to the MBTA, or to any new operator (the “**New Operator**”) without material impact on the Commuter Rail IT Environment or provision of the Commuter Rail Services. The Operator shall provide personnel support, labor, Commuter Rail IT Services and other necessary or desirable transition services (collectively, the “**IT Close-of-Contract Transition Services**”) to

ensure successful and timely migration from the Operator to a New Operator. The Operator shall cooperate with the MBTA and its New Operator and otherwise take all steps reasonably required to assist the MBTA in effecting a complete and timely IT Close-of-Contract Transition Services. The Operator shall provide the MBTA and the New Operator with all information regarding the Commuter Rail IT Environment and related services and all other information as is otherwise needed for IT Close-of-Contract Transition Services, subject to the New Operator agreeing to maintain the confidentiality of Operator Confidential Information. The Operator shall provide for the prompt and orderly conclusion of all work, as the MBTA may direct, including completion of Projects currently underway, documentation of work in progress and other measures to assure an orderly transition to the MBTA or the New Operator. The Operator shall provide such IT Close-of-Contract Transition Services as the MBTA reasonably requests for a period of up to three hundred and ninety (390) days at the MBTA's cost, and such cost shall be determined pursuant to the IT Change control process set out in Section 7.12 (Change Control and Configuration Management) of this **Schedule 3.16** (Information Technology Requirements).

16.2 IT Close-of-Contract Transition Services Process.

The IT Close-of-Contract Transition Services process shall begin on the earlier of any expiration or termination of this Agreement or upon written notice of the MBTA that the IT Close-of-Contract Transition Services are to commence. The Operator and the MBTA shall discuss in good faith a plan for determining the nature and extent of the Operator's IT Close-of-Contract Transition Services obligations except, however, that the Operator's obligation under this Agreement to provide all IT Close-of-Contract Transition Services shall not be lessened in any respect. The Operator shall be required to perform its IT Close-of-Contract Transition Services on an expedited basis, as determined by the MBTA. Notwithstanding anything to the contrary, the IT Close-of-Contract Transition Services shall include the services described herein as well as any additional services reasonably requested by the MBTA to complete the transition to a New Operator.

16.3 Full Cooperation and Information.

From and after the commencement of the IT Close-of-Contract Transition Services, the Operator shall cooperate fully with the MBTA and its New Operator to facilitate a smooth transition of the Commuter Rail IT Environment to the MBTA or such New Operator. Such cooperation shall include the provision (both before and after the cessation of the Operator's providing all or any part of the Commuter Rail IT Environment) by the Operator to the MBTA of reasonably full, complete, detailed and sufficient information (including all information then being utilized by the Operator) to enable the MBTA's personnel (or that of the New Operator), to fully assume and continue without interruption of the provision of the Commuter Rail IT Environment in accordance with applicable Service Levels.

16.4 No Interruption or Adverse Impact.

The Operator shall cooperate with the MBTA, the MBTA's other Authorized Vendors and the New Operator to assist and reasonably effect a smooth transition at the time of IT Close-of-

Contract Transition Services, with no interruption of the Commuter Rail IT Environment (including, but not limited to, the Commuter Rail IT Services) or the MBTA's activities, no interruption of any services provided by Third Parties and no adverse impact on the provision of services provided by Third Parties relating to the Commuter Rail System. The MBTA and the Operator shall work together to ensure that their personnel, vendors and the New Operator cooperate and reasonably effect a smooth transition at the time of the IT Close-of-Contract Transition Services to provide for no interruption of the Commuter Rail IT Environment.

16.5 Third Party Authorizations.

Without limiting the Operator's obligations, the Operator shall, subject to the terms of any Third Party agreements, procure for the MBTA any third party authorizations necessary to grant the MBTA and any New Operator the use and benefit of any third party agreements between the Operator and third party operators relating to the Commuter Rail IT Environment.

16.6 Transfer of Subcontracts, Leases, Licenses and Agreements.

The Operator shall convey or assign to the MBTA or its designee such subcontracts, leases, licenses, maintenance and support agreements, subscription agreements, and other contracts used by the Operator, the MBTA or any other Person in connection with the Commuter Rail IT Environment, as the MBTA may select. The Operator's obligation under this Section 16 (IT Transition Support) of this **Schedule 3.16** (Information Technology Requirements) shall include the Operator's performance of all obligations under such subcontracts, leases, licenses and other agreements to be performed by it with respect to periods prior to the date of conveyance or assignment, and the Operator shall reimburse the MBTA for any claims, liabilities, losses, costs, damages and expenses with respect to the Operator's actions or inactions that arose prior to the date of such assignment or conveyance and resulting from any claim that the Operator did not perform any such obligations.

16.7 Delivery of Documentation.

At the time of any IT change, modification, or add, Within thirty (30) days of The Operator shall deliver to the MBTA or any New Operator during the IT Close-of-Contract Transition Services, and otherwise during the Term at the MBTA's request, all Documentation and data related to the MBTA, including in and on any media or form of any kind (as requested by the MBTA): (i) data or summaries or indices of data related to the MBTA or its customers, the Commuter Rail IT Environment, including data in the MBTA's databases or otherwise in the MBTA's possession; (ii) any Personal Information of the MBTA's customers; (iii) any Intellectual Property of the MBTA; and (iv) all other MBTA and Operator records, data, files, input materials, reports, forms and other such items that may be received, computed, developed, used or stored by the Operator, or by any subcontractor, in the performance of the Operator's duties under this Agreement and all materials specifically generated under this Agreement held by the Operator. The Operator shall destroy all other copies thereof not turned over to the MBTA, all at no charge to the MBTA.

16.8 Preparation for IT Close-of-Contract Transition Services; Complete Documentation.

At all times throughout the Term, the Operator shall provide to the MBTA sufficient information, including complete Documentation for the Commuter Rail IT Environment to enable the MBTA to fully assume the provision of the Commuter Rail IT Environment and related services as well as the operations, support, maintenance, repair and replacement of the Commuter Rail IT Environment. The Operator shall provide such documentation for all Updates to, or replacements of, the Commuter Rail IT Environment.

16.9 Facilitating Work with the MBTA and MBTA Vendors.

The Operator shall execute reasonable, industry standard non-disclosure agreements to permit it to meet obligations to migrate the Commuter Rail IT Environment from the current operator to the Operator. In addition, the Operator shall not enforce non-solicitation, non-competition and other restrictive employment (or independent contractor) provisions that would impede the MBTA's access to, or hiring of, Operator personnel. The Operator shall be entitled to require industry-standard confidentiality obligations from a New Operator in connection with the IT Close-of-Contract Transition Services, but shall not seek to impose higher confidentiality standards.

16.10 All Necessary Cooperation and Actions.

The Operator shall provide all cooperation, take such additional actions and perform such additional tasks as may be necessary to ensure the timely IT Close-of-Contract Transition Services in compliance with the provisions of this Section 16 (IT Transition Support) of this **Schedule 3.16** (Information Technology Requirements), including full performance, on or before the termination or expiration of this Agreement, of the Operator's obligations under this Section 16 (IT Transition Support) of this **Schedule 3.16** (Information Technology Requirements). The MBTA shall cause the New Operator to reasonably cooperate with the Operator to ensure a IT Close-of-Contract Transition Services in compliance with the provisions of this Section 16 (IT Transition Support) of this **Schedule 3.16** (Information Technology Requirements). Notwithstanding anything to the contrary, the Operator shall migrate and transition its operation of the Commuter Rail IT Environment from the current operator in accordance with **Schedule 3.12** (Mobilization) and as otherwise reasonably requested by the MBTA.

**Appendix 1 to Schedule 3.16:
Relevant Baseline Software**

M Indicate s Module	<u>Relevant Baseline Software</u>	<u>Version</u>	<u>Description</u>	<u>Operating Department</u>
	<u>Conductor Companion</u>	V 1.5	IPhone Application for Conductors	Transportation
	<u>Trapeze (Formerly AssetWorks/Maximus)</u>		Enterprise Asset Management System that tracks all repairs, preventive maintenance, equipment information, vehicle availability, work orders that capture labor and parts usage/rolling stock.	
M	Trapeze EAM – Revenue Vehicle/Rolling Stock	Enterprise 12	RailFocus tracks all functions related to the maintenance of equipment for revenue vehicles. It manages rolling stock and linear assets throughout their Lifecycles, from pre-acquisition to post-disposition. RailFocus also ensures equipment reliability, regulatory compliance and cost containment.	Mechanical
M	Trapeze EAM – Non- Revenue and Work Equipment	Enterprise 12	FleetFocus tracks all functions related to the maintenance of equipment. This includes non-revenue vehicles and equipments as well as work equipment.	Engineering and Mechanical

<u>M</u> Indicate s <u>Module</u>	<u>Relevant Baseline</u> <u>Software</u>	<u>Version</u>	<u>Description</u>	<u>Operating Department</u>
M	Trapeze EAM – Tracking Linear Assets	Enterprise 12	LinearFocus manages the data necessary to link maintenance and inspection activities to RailFocus, which enables rail operations to identify how those activities, will affect train scheduling and performance throughout the rail system. It also helps rail organizations plan and track history of inspections, defects, repairs and maintenance of linear assets.	Engineering
M	Trapeze EAM – Tracking Facility Assets	Enterprise 12	EquipmentFocus tracks all functions related to the maintenance of equipment, including the following functions: Processing repair and PM work orders. Tracking operating expenses and licensing. Tracking and billing for equipment usage	Engineering
	<u>TRMS II</u> - Train Resource Management System. Designed specifically for MBTA Commuter Rail Replaces ROSS system	V 1.14	TRMSII organizes and simplifies day-to-day operations and record keeping tasks, provides the information required to incidents and operations, and gives the user a look at the operation's past and present performance. It facilitates the timely management of delays and incidents. TRMSII also provides an up-to-the-minute view of transit operations. Test & Observations is also maintained within TRMS.	All

<u>M Indicate s Module</u>	<u>Relevant Baseline Software</u>	<u>Version</u>	<u>Description</u>	<u>Operating Department</u>
	<u>ROSS</u> - The Rail Operations Software Solutions (ROSS) is an integrated suite of software modules designed specifically for use in rail operations. Replaced by TRMSII	V 2.1.6	Currently used only for Historical Reporting. Stores historical day-to-day operations and information required for incidents and operations, and gives the user a look at the operation's past performance.	All
	<u>Permits & Licensing</u>	V 1	Permits and License application is a Microsoft Access Database developed by Earthtech to track permits and license's to perform actions which may affect the environment, i.e. Wash trains and or fuel tanks etc.	Engineering
	<u>AIRG – FRA Safety Reporting Application</u> - for all passenger and employee injuries and accidents.	V 4.0.0.12	The AIRG system is the Accident/Incident Report Generator System. It contains FRA accident/incident and injury/illness reporting forms to allow for data entry. Every month the reports are transmitted to Virginia.	Safety
	<u>AutoCAD Software</u> – Allows vendor to create, manage, and share drawing file information related to a project.	2013	The Operator uses the AutoCAD software to track charts and create the following: Grade Crossing Plans, Track Design Plans, Bridge Tie Plans, Construction Plans, Floor Plans, Site Plans	Engineering

<u>M</u> Indicate s <u>Module</u>	<u>Relevant Baseline Software</u>	<u>Version</u>	<u>Description</u>	<u>Operating Department</u>
	<u>ArcGIS - ArcInfo/ArcView –</u> The software is used to map all environmentally sensitive areas and environmental concerns on or near the rail system.	V 10	A geographic information system for management, analysis, and display of geographic knowledge, which is represented using a series of information sets. It helps identify where the critical environmental areas are, or if there is some type of environmental emergency. Also, it allows the Operator to plan ahead for environmental permits.	Engineering
	<u>CROCC - Commuter Rail Operations Control Center – It is a self contained computer network isolated from the MIS department's networks.</u>	V 5.2	The rail-transit dispatching system used on the CROCC network is the ARINC's AIM (Advanced Information Management) Platform. The software governs train movement such as aligning switches and controlling signals. Used for Northside and Greenbush lines.	Transportation
	<u>Ortec Harmony Crew Dispatch Schedule</u>			
M	Ortec Harmony Crew Dispatch Schedule – Train and Engine Crew Dispatch System used to schedule all Train and Engine personnel and track their actual shift duration.	V 2010.2.2.2	The software is used to schedule and track Train & Engine personnel shifts. The schedule and actual time recorded by Crew Dispatch is imported to the Kronos WorkForce Central system daily for time and attendance recording for payroll pre-processing.	Transportation/Crew Dispatch

M Indicate s Module	<u>Relevant Baseline Software</u>	<u>Version</u>	<u>Description</u>	<u>Operating Department</u>
M	Ortec Crew Run Optimization - Automate the creation of daily duties to satisfy the train schedule and staffing requirements.	TBD - Compatible with Harmony 2010.2.2.2	Generates and Optimizes daily duties based on MBTA Train Schedule, Staffing requirements, FRA HOS rules, and variables (e.g. Duties must start and end at same location, transfer times, ...).	Transportation/Crew Dispatch
M	Ortec Job Creation - Generates weekly jobs of daily duties.	TBD - Compatible with Harmony 2010.2.2.2	Generates weekly jobs of 5 duties. These weekly jobs will be created based on duties created by the Optimizer and Rules in compliance with all FRA regulations.	Transportation/Crew Dispatch
M	Ortec Employee Portal - Provides web based end user access to assignments, schedules, and employee information	TBD - Compatible with Harmony 2010.2.2.2	Provides T&E employees with access to Ortec scheduling, realization, and employee information.	Transportation/Crew Dispatch
	<u>TRAC - Ticket Revenue Accounting Channel</u> – A web-based application used to track ticket sales.	V 3.2.4330.23334	The South Station, North Station, and Back Bay ticket offices track ticket printed stock assigned to the Ticket Sellers and the actual sales of printed and TOM tickets on a daily basis. Revenue Accounting produces monthly sales revenue reports for the MBTA.	Finance/Revenue Accounting

M Indicate s Module	<u>Relevant Baseline Software</u>	<u>Version</u>	<u>Description</u>	<u>Operating Department</u>
	<u>CTEC – South side's rail-transit dispatching system. Supported by Amtrak</u>	Amtrak Mainfram e Applicati on	The software governs train movement such as aligning switches and controlling signals.	Transportation
	<u>Claims - A web-based application for claims management.</u>	V 2.0.8	This application is used for claims management.	Claims
	<u>ITM – An inventory transaction management application.</u>	V 4.2.2.224 00	Provides an user interface to the Great Plains Inventory module primarily used by the Inventory storerooms to issue and return inventoried items to physical inventory.	All
	<u>Engineering Certificate Tracking</u>	V 2.0.1	This application provides the ability to track significant Engineering qualifications. Letters and the certificate can be printed and alerts can be set, etc.	Transportation
	<u>Parature- Customer Service</u>	V 12.1	This application provides the necessary tools to track, report, and respond to commuter rail concerns. Additionally statistical reports are produced regarding customer issues.	Customer Service
	<u>MSDS On-line</u>		Material safety data sheets	All

M Indicate s Module	<u>Relevant Baseline Software</u>	<u>Version</u>	<u>Description</u>	<u>Operating Department</u>
	<u>Bentley Microstation</u>	V 8i	Software used to support Signal Design	Engineering
	<u>Gas Boy PC/FCN Fuel Management System</u>	3.1.0.7	Monitors / Tracks fuel dispensing for Locomotives at Widette, CRMF and Readville.	Engineering
	<u>ARINC CIAS – Customer Information & Announcement System</u>	V 2.5.4.1.6	Control system for South Station, North Station, and Back Bay electronic signage and announcements.	Customer Service
	<u>American Messaging Paging System</u>	V7	Used to page personnel in emergencies.	Transportation
	<u>GE AVL - Auto Vehicle Locator. Currently Supported by GE</u>	V 2.8.2.11.8	Controls on-board announcements. (Part of PTIS).	Transportation
	<u>GE Rail Edge - Supported by GE</u>	V7.0.25.6 5	Controls electronic signage at remote passenger stations. (Part of PTIS).	Transportation

Functionality Descriptions

Several components of the Commuter Rail IT Environment shall share common data to perform required functions. For example, Trapeze EAM system will require data from the human resources systems and data from the rolling stock systems and other systems to produce invoices associated with Supplemental Work. The Operator shall be solely responsible for identifying all necessary linkages between various systems. At a minimum, Operator shall adopt a design in which common data (e.g., on-hand quantities for specific parts) are stored in separate database

files within each applicable system, and these files are updated through automated processes on a daily basis.

1. **Rail Operations Software Suite (TRMS II).** TRMS II is the primary asset that the Operator will use in the operation of Agreement Services. Using TRMS II, the Operator shall record information that includes, but is not limited to, information about train movements including train number, date, equipment, crew members, detailed delay information and causes, and number of passengers carried. Further information about the Operator responsibilities in this area is set out in the Operating Agreement.
2. **Dispatching Systems.** The two dispatching systems, located at CROCC and CETC, are the primary tools that will be used to provide train dispatching services for all lines in the Service Property that are under the dispatch control of the MBTA. Using CROCC and CETC, the Operator shall direct, supervise and control the movement of all trains on such lines, including but not limited to MBTA commuter rail trains, freight railroad trains, and Amtrak's inter-city passenger trains. The Operator shall be responsible for operating and maintaining the existing dispatching system, including all software and hardware components, at CROCC. The Operator shall operate the existing dispatching system, including all software and hardware components, at CETC, while Amtrak shall continue to maintain such system.
3. **Trapeze EAM.** Trapeze EAM is the primary system that the Operator will use related to activities at maintenance facilities on the Service Property. Using Trapeze EAM, the Operator shall perform activities including, but not limited to: (i) maintaining an inventory of maintenance facilities on the Service Property (including buildings, layover facilities, and components) with a unique identifying number and digital photograph, where applicable; (ii) recording required tests and inspections; (iii) recording preventive, predictive and corrective maintenance activities; (iv) scheduling and control of predictive, preventive, and corrective maintenance programs and associated labor and materials; (v) issuing work orders and purchase orders; (vi) issuing facility status and repair reports; (vii) retaining up to three (3) years worth of information on predictive, preventive and corrective maintenance for each facility or component to produce and analyze trends; (viii) recording information necessary for warranty administration and then generate individual warranty claims that itemize labor and material.
 - a. Trapeze EAM is also the primary tool that the Operator will use for the inspection and maintenance of all Service Property other than the CRMF, Readville and S&I maintenance facilities. Using this tool, the Operator shall perform activities including, but not limited to: (i) maintaining an inventory of each component of railroad infrastructure on the Service Property (including stations, structures, track, Right-of-Way and associated components; grade crossing systems; signals and communication systems; and electrical systems) with a unique identifying number and digital photograph, where applicable; (ii) recording required tests and inspections; (iii) recording preventive, predictive and corrective maintenance activities; (iv) scheduling and control of predictive, preventive, and corrective

maintenance programs and associated labor and materials; (v) issuing work orders and purchase orders; (vi) issuing status and repair reports for railroad infrastructure components; (vii) retaining a minimum of ten (10) years worth of information on predictive, preventive and corrective maintenance for each railroad infrastructure component to produce and analyze trends; (viii) recording information necessary for warranty administration.

- b. Trapeze EAM is also the primary tool that will be used for fleet management and the Operator maintenance of the Service Equipment. Using Trapeze EAM, the Operator shall perform activities including, but not limited to: (i) recording vehicle histories, including dates and serial numbers of components inside-and-out, to be used for fleet performance analysis; (ii) recording the maintenance work on systems and components for reliability and warranty analysis; (iii) tracking the warranty of individual components and complete vehicles; (iv) providing hardcopy reports of vehicle histories to improve field troubleshooting; (v) providing a vehicle-specific work order system for vehicle maintenance including the reporting of open work orders; (vi) recording and tracking defects by date, train, location, symptom, defect, and action; (vii) recording and tracking in-service failures by date, time, train, location, symptom, failure, and action; (viii) recording and tracking mileage of each vehicle; (ix) providing labor and material detail required for warranty claims; (x) providing status of modification and retrofit programs; (xi) recording multiple programs and cost roll up; and (xii) demonstrating compliance with FRA and other regulatory requirements.
 - c. Trapeze EAM is also the primary tool that the Operator will use for maintenance of non-revenue vehicles and other Support Property used in performance of the Agreement Services. Using Trapeze EAM, the Operator shall perform activities including, but not limited to: (i) maintaining an inventory of each non-revenue vehicle and piece of equipment, with a unique identifying number and digital photograph, where applicable; (ii) recording required tests and inspections; (iii) recording preventive, predictive and corrective maintenance activities; (iv) scheduling and control of predictive, preventive, and corrective maintenance programs and associated labor and materials; (v) issuing work orders and purchase orders; (vi) issuing status and repair reports for each non-revenue vehicle or piece of equipment; (vii) retaining a minimum of three (3) years worth of information on predictive, preventive and corrective maintenance for each non-revenue vehicle and piece of equipment to produce and analyze trends; (viii) recording information necessary for warranty administration.
4. **Materials Management.** The Commuter Rail IT Environment shall include a materials management tool that will be used to monitor Operator materials control and handling. Using this tool, Operator shall perform activities including, but not limited to: (i) maintaining an inventory of all existing materials and parts, including capital spares and materials used for Supplemental Work; (ii) optimizing stocking of materials and parts; (iii) calculating the costs of materials and parts used for work orders and Supplemental

Work; (iv) tracking the status of all materials sent to vendors for repair and return; (v) controlling the ordering of materials and parts; and (vi) tracking specific materials, serialized components, budgets and project costs. The tool shall also: (a) automatically calculate the appropriate order level and order quantity for an inventory item, based upon inventory turnover, order frequency and expected delivery time, and (b) have the capability for the automatic calculation to be overridden by manual input for each inventory item. The tool shall record, at a minimum, the following types of information:

- (1) Inventory identification and description, including serial numbers where appropriate
- (2) Location identification and description
- (3) Manufacturer
- (4) Number of units on hand
- (5) Unit cost
- (6) Main supplier and alternative supplier
- (7) DBE status of suppliers
- (8) Number of units ordered and total cost per MBTA Fiscal Year
- (9) Total dollar value paid to each supplier during each MBTA Fiscal Year
- (10) Delivery time from when order is placed
- (11) Level at which an order shall be placed
- (12) For spare parts, list the equipment items(s) for which they are spares
- (13) Inventory issues to work orders and Force Account Work projects

5. **Human Resources.** The Commuter Rail IT Environment shall include a human resources application, that shall be the primary tool used by the Operator for management of its personnel involved in performing the Agreement Services. Using this tool, the Operator shall record information that includes, but is not limited to: employee certifications and qualifications; training received; disciplinary actions; drug and alcohol program status; and employee roster and assignments.

6. **Financials.** The Commuter Rail IT Environment shall include a financial tool that the Operator will use for financial activity related to the performance of the Agreement Services. Using this tool, the Operator shall perform activities including, but not limited to: (i) recording daily ticket sales, and revenues collected and deposited by the Operator; (ii) recording direct costs and producing invoices associated with Supplemental Work; (iii) recording direct costs and producing invoices associated with Service Changes until such time as a fixed price for the Service Change is established; (iv) reporting on DBE compliance; and (v) tracking receipts from sale of scrap materials, and purchases of supplies and materials from same.

**Appendix 2 to Schedule 3.16:
IT Technical Documentation.**

1. **Inventory documents:** (i) Complete asset inventory; (ii) Current by-site list, role-based and sortable list of IT assets; (iii) Owner and serial list inventory; and (iv) History of retired or destroyed equipment, tied to asset control and Ticket information, detailing disposal reason and purpose.
2. **Systems documents:** (i) Build guides; (ii) System lists; and (iii) Configuration documents.
3. **Networks:** (i) Logicals; (ii) Connection diagrams; (iii) Site diagrams; (iv) Inter-site diagrams; (v) Ports, protocols and services (PPS) listing for site integration; and (vi) Interface diagrams.
4. **Storage:** (i) Configuration logicals; (ii) Replication diagram; (iii) Access controls; and (iv) Backup and restore procedure.
5. **Access:** (i) Access control list; (ii) Covers rights and level of access; and (iii) Approval process and procedure for gaining and revoking access.
6. **Logical:** (i) Complete systems diagram; (ii) Complete site diagrams; and (iii) Aggregate logical diagrams.
7. **Architecture:** (i) Security posture; (ii) Compliance mechanisms; (iii) Growth direction and support plan; (iv) Capacity guidelines; and (v) Security Architecture and Stance.
8. **Baseline:** (i) Configuration; (ii) Images; and (iii) Template forms and documents.
9. **Compliance Scans**
10. **Policy and operational guidance documents**
11. **Methodologies:** (i) Operator will provide operational methodologies; and (ii) Operator will provide workflow and process documents for all actions.

**Appendix 3 to Schedule 3.16:
Operator CIO Responsibilities**

Responsibility	Operator CIO Role
Strategy & Planning	<ul style="list-style-type: none"> ▪ Define, Update, and implement IT strategy ▪ Manage IT across the Commuter Rail IT Environment ▪ Align IT objectives and programs to enter
Control	<ul style="list-style-type: none"> ▪ Align the IT team with performance objectives ▪ Control performance objectives and overall IT budget ▪ Define metrics based on overall business objectives
Service	<ul style="list-style-type: none"> ▪ Acquire software/hardware ▪ Select, manage, and control IT providers ▪ Manage outsourced services ▪ Maximize the mix of in-house versus outsourced services ▪ Establish strategic service provider partnership
Risk Management	<ul style="list-style-type: none"> ▪ Align IT risk management within IT productivity objectives ▪ Align IT risk management with MBTA wide risk management
Business Process	<ul style="list-style-type: none"> ▪ Defer to MBTA requirements ▪ Follow IT system development methodology ▪ Optimize and design MBTA process via IT ▪ Define and adjustment IT standards and technologies
Strategic IT Initiatives	<ul style="list-style-type: none"> ▪ Plan and manage strategic initiatives ▪ Manage IT application portfolio ▪ Manage IT projects and systems ▪ Include governance with business process executives
Commuter Rail IT Environment	<ul style="list-style-type: none"> ▪ Define standards and architecture ▪ Consolidate the IT process across the Commuter Rail IT Environment ▪ Optimize costs of services through a mix of internal and external resources ▪ Oversee network connectivity ▪ Oversee information and connection security

Appendix 4 to Schedule 3.16: ITIL Services Breakdown Structure

1. Service Strategy

The Operator will set the strategic direction of its IT services.

1.1 Business Relationship Management.

The Operator shall have a process to build a relationship between the Operator and the MBTA by identifying MBTA needs and ensuring that the Operator is able to meet these needs as they change over time and in different circumstances.

1.2 Service Portfolio Management.

The Operator shall have a process for managing the MBTA set of services throughout the lifecycle and approving business cases for their investment in IT services. Service portfolio management enables the Operator's IT organization to manage the Commuter Rail IT Environment. This means the Operator can understand where its assets are being used and which services consume most assets, both resources and capabilities.

- 1.2.1 The Service Portfolio shall represent a complete list of the services managed and performed by the Operator. The Service Portfolio contains present contractual commitments, new service development and retired services. It also includes third-party infrastructure services which are an integral part of the service offerings to the MBTA.

The Service Portfolio shall be divided into three sections: Service Pipeline, Active Services (Service Catalogue), and Retired Services. Services should be clustered according to Lines of Service based on common business activities supported. Only active services should be visible to the MBTA.

- 1.2.1.1 Customer Portfolio: the Operator shall have a process to produce an MBTA portfolio that is a database or structured document used to record all services provided by the Operator. The portfolio will be a resource that provides details of all the components within the MBTA to whom the Operator provides services to.
- 1.2.1.2 Project Portfolio: the Operator shall have a process to produce a database or structured document used to manage MBTA projects throughout their lifecycle,; it will be used to coordinate the project(s).
- 1.2.1.3 Customer Agreement Portfolio: the Operator shall have a process to produce and manage its agreement portfolio. It will be a database or structured document used to manage service contracts or agreements between an the Operator and the MBTA

as well as those entered into by and between the Operator and any third party. Each IT service delivered to the MBTA should be called out in a contract or other agreement that is listed in the agreement portfolio.

- 1.2.1.4 Application Portfolio: The Operator shall have a process to produce and manage an application portfolio. It will be a database or structured document used to manage applications throughout their lifecycle, and it will contain the key attributes of all applications.

1.3 Financial management.

The Operator shall have a process for managing budgeting and accounting for the Commuter Rail IT Environment, and identifying the cost of providing the Commuter Rail IT Environment.

1.4 Demand Management.

The Operator shall have a process for managing and understanding the patterns of business activity and how these relate to the use of Commuter Rail IT Environment.

1.5 Strategy Management for Commuter Rail IT Services:

The Operator shall have a process for identifying, developing and managing a strategy that will enable the MBTA to achieve its business outcomes by providing and managing services that are matched to these outcomes.

2. Service Design.

The Operator shall have a process to design of the new or changed MBTA services for introduction into the live environment.

2.1 Design Coordination.

The Operator shall ensure that the goals and objectives of the service design stage are met, by providing a single point of coordination and control.

2.2 Service Level Management.

The Operator shall ensure that a defined level of service is agreed and delivered.

2.3 Service Catalogue Management.

The Operator shall ensure that a service catalog exists and is a reliable source of information about the Commuter Rail IT Environment.

2.4 Supplier Management.

The Operator shall have a process for managing third party suppliers and the products and services they supply.

2.5 Availability Management.

The Operator shall have a process for managing the availability of services to ensure they are available to the MBTA as agreed.

2.6 Capacity Management.

The Operator shall have a process for managing service capacity to ensure it is sufficient as well as fast enough.

2.7 IT Service Continuity Management.

The Operator shall have a process for managing the recovery of the services when affected by a disaster or an event with a large impact on the MBTA.

2.8 Information Security Management.

The Operator shall have a process for ensuring that the integrity of the information and data that is contained in and used in connection with this Agreement and that service is maintained at the appropriate level to meet the business needs.

3. Service Transition.

The Operator shall have a process that helps the MBTA plan and manage changes to services and deploy releases (install software, hardware and related components and documentation) into the live environment successfully.

3.1 Transition Planning and Support.

The Operator shall have a process for providing coordination of all service transition activities.

3.2 Change Management.

The Operator shall have a process for managing and controlling IT Changes from request through to closure.

3.3 Service Asset and Configuration Management.

The Operator shall have a process for maintaining source(s) of information and the services, their component parts, and the other assets required to deliver the services and associated equipment into the live environment.

3.4 Release and Deployment Management.

The Operator shall have a process for managing the physical introduction of new or changed services and associated equipment into the live environment.

3.5 Knowledge Management.

The Operator shall have a lifecycle-wide process to ensure the right information and data are available throughout the service lifecycle.

3.6 Change Evaluation.

The Operator shall have a process for ensuring that an independent view of any unexpected effects of a change has been evaluated, and that the MBTA's expectations are met.

3.7 Service Validation and Testing.

The Operator shall have a process for ensuring that components and services are tested and will provide the value in terms of utility and warranty that has been agreed with the MBTA.

4. Service Operation.

The Operator shall coordinate and carry out the activities and processes required to deliver the services to the MBTA and manage them at agreed levels. Service operation also covers the ongoing management of the technology used to deliver and support services. The Operator shall ensure services are working, and fix them quickly when something goes wrong.

4.1 Event Management.

The Operator shall have a process for identifying electronic notifications that come from IT equipment and using them to ensure that the services are operating normally, and responding appropriately if services are behaving abnormally.

4.2 Incident Management.

The Operator shall have a process for managing interruptions to or reductions in the quality of services as well as ensuring that the service is restored within agreed timeframes.

4.3 Request Fulfillment.

The Operator shall have a process for managing requests that come from MBTA users; these may be simple questions about how to use and application, or requests for new equipment or software.

4.4 Problem Management.

The Operator shall have a process for investigating and identifying the cause of incidents when considered necessary, as well as recommending permanent solutions.

4.5 Access Management.

The Operator shall have a process for making sure that MBTA users have usernames and passwords for the equipment and using them to ensure that the services are operating normally, and responding appropriately if services are behaving abnormally.

5. Continual Service Improvement (CSI).

The Operator shall have a process for managing continually alignment and realignment of IT services to changing MBTA needs. The Operator shall identify and implement approved improvements to IT services that support the MBTA processes. CSI will ensure that the IT services align with changing MBTA needs and continue to provide value.

**Appendix 5 to Schedule 3.16:
MBTA Policies**

1. MBTA External Connections Standards
2. MBTA Firewall and Router Standards
3. MBTA Personal Firewall Requirements Policy
4. MBTA Wireless Policy and Standards
5. MBTA Wireless Network Policy
6. MBTA Acceptable Use Policy
7. PCI-DSS 2.0
8. MBTA Enterprise Security Incident Handling and Response Procedures and policies
9. MBTA Information Technology Security Policy
10. Enterprise Website Cookie Policy
11. MBTA Information Systems (IS) Policy
12. Mobile device management policy, MBTA Policy
13. Policies cited in the References Section, below
14. Commonwealth of Massachusetts Executive Order 504, 21 CMR 17.00, and other regulations and laws concerning personal information
15. Commonwealth of Massachusetts Enterprise Web Accessibility Standard
16. Privacy and Security Regulations
17. Other Applicable Laws

**Appendix 6 to Schedule 3.16:
Project Management Institute Guidelines**

1. Initiation.
 - 1.1 Evaluation & Recommendations
 - 1.2 Identify project stakeholders
 - 1.3 Develop Project Charter
 - 1.4 Deliverable: Submit Project Charter
 - 1.5 Project Sponsor Reviews Project Charter
 - 1.6 Project Charter Signed/Approved
2. Planning.
 - 2.1 Develop Project Management Plan
 - 2.2 Collect Requirements, Define Scope, and create Work Break Down Structure (WBS)
 - 2.3 Define Activities and Develop Schedule and identify critical path
 - 2.4 Estimate Costs and Determine Budget
 - 2.5 Develop Human Resource Plan
 - 2.6 Develop Communications Management Plan
 - 2.7 Develop Risk Management Plan
 - 2.8 Develop Procurement Management Plan
3. Execution.
 - 3.1 Acquire and Develop Project Team
 - 3.2 Project Kickoff Meeting and Project Staff Assignments
 - 3.3 Distribute communication and Manage Stakeholder Expectations Design System
 - 3.3.1 Conduct and Administer Procurements
 - 3.3.2 Execute task list in the WBS and Project Plan that will include: Design and Development
 - 3.3.3 Install Live System

- 3.3.4 Testing Phase(s)
- 3.3.5 Documentation User Training(s)
- 3.3.6 Go Live
- 3.3.7 On-going maintenance
- 4. Control.
 - 4.1 Iterative Project Management Plan Updates
 - 4.2 Administer Procurements
 - 4.3 Verify and Control Scope through performance metrics
 - 4.4 Control Schedule and deliverables
 - 4.5 Project Status Meetings
 - 4.6 Monitor and Control through Integrated Change control
 - 4.7 Monitor and Control Risks
- 5. Closeout.
 - 5.1 Final product or service or result transition
 - 5.2 Close Procurement
 - 5.3 Document Lessons Learned
 - 5.4 Update Files/Records
 - 5.5 Archive Files/Documents
 - 5.6 Gain Formal Acceptance
 - 5.7 Close Project phases or Projects

Appendix 7 to Schedule 3.16: Configuration Management

1. Change/Configuration Management.

In the context of this RFP, Change Management shall also include organizational change management and cultural change management.

1.1 Configuration Management.

Configuration management shall consist of process and database tools that track individual Configuration Items in the MBTA's service catalog. Basic activities which must be enabled include:

- 1.1.1 Planning: The Operator's Configuration Management plan must cover a rolling three month period in detail, and the subsequent nine months in outline. Such plan shall be subject to MBTA review (if desired by the MBTA) twice a year, or upon request, and must include any impacts to strategy, policy, scope, objectives, roles and responsibilities, the Configuration Management processes, activities and procedures, the database, relationships with other processes and third parties, as well as tools and other resource requirements.
- 1.1.2 Identification: This must cover the recording of information by the Operator, including hardware and software versions, documentation, ownership and other unique identifiers. Records must be maintained by the Operator in a Configuration Management Database covering the selection, identification and labeling of all configuration of every item in the Operator provided infrastructure and systems.
- 1.1.3 Control: This must assure that only authorized and identifiable configuration items are accepted and recorded by the Operator from receipt to disposal. The Operator must also ensure that all Operator provided infrastructure and systems are under Change Management control.
- 1.1.4 Monitoring: Accounting and reporting by the Operator must provide a view regarding current and historical data (data collection begins following the Operator implementation) concerned with each Operator provided item throughout its life-cycle. Changes to items and tracking of their records through various statuses, e.g. ordered, received, under test, live, under repair, withdrawn or for disposal, must be provided.
- 1.1.5 Verification: the Operator shall provide reviews and audits that verify the physical existence of items, and checks that they are correctly recorded in the Configuration Management Database. Verification must also include the process of validating Release Management and Change Management documentation before changes are made to the MBTA's live environment.

1.2 Change Management Plan.

The Operator shall create and maintain a plan that describes the strategies, processes, steps, and communications needed to implement change by the organization and the stakeholders in the services delivered.

1.3 Governance.

Governance sets the tone for the execution of the overall Configuration Management Process. The following are high-level requirements on the Operator for the MBTA Configuration Management Process:

- 1.3.1 The Operator shall have a single Configuration Management Process and Process owner.
- 1.3.2 The Operator shall define the Roles and responsibilities and insert within the Configuration Management Process (“**ConMP**”).
- 1.3.3 The Operator shall store All Configuration-Items within a repository according to pre-defined MBTA standards.
- 1.3.4 The Operator shall perform quarterly audits to evaluate and improve the effectiveness of Configuration Changes and the ConMP.
- 1.3.5 Configuration Item categories have been defined and are found in Section 2.1 (Overview of Operational Assessment Methodology) of this Appendix 7 (Configuration Management) to **Schedule 3.16** (Information Technology Requirements) below.
- 1.3.6 Configuration Standards must be continuously developed, employed and maintained by the Operator to provide accuracy and consistency of the Configuration Items Repository (“**CIR**”).
- 1.3.7 The Operator shall provide a Configuration Item Repository update for all completed changes, including transfers, replacements and thefts, to hardware and software, are followed by.
- 1.3.8 Each physical IT Configuration Item to be tracked shall have a unique identifier tag by the Operator.
- 1.3.9 Configuration Items owned or leased by the MBTA are managed by the Operator.
- 1.3.10 The Operator shall continuously manage and improve the ConMP as it will be a living document and subject to constant change.
- 1.3.11 The ConMP will be developed by the Operator to manage all of the MBTA Configuration Items.
- 1.3.12 All problems result in the creation of trouble tickets by the Operator.

- 1.3.13 The Operator shall implement the Configuration Item Repository such that it will be universally accessible via Remote Access and Intranet.
- 1.3.14 The Operator shall develop a Standard Operating Environment to update any configuration change.
- 1.3.15 The MBTA holds the right to perform periodic reviews in order to maintain the integrity of the Configuration Item Repository.
- 1.3.16 The Operator will collect configuration data and automate whenever possible to minimize the manual updates as required.
- 1.3.17 Automated inventory frequency is determined by requirements of individual platforms.
- 1.3.18 The Operator will provide baseline information for equipment procurement and investment forecasting. Such records will include location attributes and an up-to-date status field while having pre-defined records and attribute layouts.
- 1.3.19 The Configuration Management System will be scalable to accommodate the anticipated growth in customers and MBTA infrastructure.

1.4 Configuration Items.

The Operator shall provide all Configuration Items listed below prior to transition to Operations and Maintenance (“**O&M**”):

- 1.4.1 Hardware and Software
- 1.4.2 Service
- 1.4.3 Lifecycle Support Documentation
- 1.4.4 Rack Elevation Diagrams
- 1.4.5 Floor Diagrams
- 1.4.6 Supplemental Drawings
- 1.4.7 Test Artifacts
- 1.4.8 Installation and Configuration Specifications
- 1.4.9 Vendor Documentation and media
- 1.4.10 Security Documentation

Appendix 8 to Schedule 3.16: Operator Service Center Requirements

1. Operator Service Center Technical Requirements.

The Operator shall ensure that the Operator Service Center meets the following requirements. This Appendix 8 (Operator Service Center Requirements) to **Schedule 3.16** (Information Technology Requirements) sets out the technical requirements for the systems maintained by the Operator relating to the Operator Service Center.

1.1 Operator Service Center Technical Requirements

- 1.1.1 The Operator Service Center shall efficiently integrate the Issue Tracking Portal with the MBTA Internal IT Environment for handling calls pertaining to the Commuter Rail IT Environment and Commuter Rail Services.
- 1.1.2 The Operator shall conduct necessary testing to ensure backward compatibility of its solutions and their integration with the MBTA Internal IT Environment, and such changes shall be conducted for any changes, upgrades to hardware or patches applied.

1.2 Operator Service Center Integration.

- 1.2.1 The Operator must ensure that the Operator Service Center staff are properly trained on any major changes in the solutions and programs that they provide support on before the changes are effective.
- 1.2.2 The Operator must submit detailed Documentation to the MBTA concerning the Operator Service Center including, but not limited to the following:
 - 1.2.2.1 Plan for maintaining the Operator Service Center
 - 1.2.2.2 Plan for making sure that the Operator Service Center remains current on necessary or desirable Updates
 - 1.2.2.3 Plan for deploying changes to the Operator Service Center
 - 1.2.2.4 Testing requirements for changes in the Operator Service Center
 - 1.2.2.5 Plan for ensuring backward compatibility with respect to Updates to the Operator Service Center
 - 1.2.2.6 Plan for business continuity
 - 1.2.2.7 Detailed description of the technical and database architecture of the solution

Appendix 9 to Schedule 3.16:
Commuter Rail IT Environment Information Gathering Methodology

1. BASELINE METHODOLOGY FOR INFORMATION GATHERING.

1.1 Overview of Baseline Methodology.

The Operator shall provide a proven, working baseline methodology and tools to capture accurate baseline specifications (including, but not limited to, service components as well as fully loaded costs for those service components) for all components of the Commuter Rail IT Environment. By way of clarifying example, and not by way of limitation, such components shall include, but not be limited to, hosting and data center services; voice/video/data networking services; desktop and end user computing services; Operator Service Center services; print services; and all other services related to the Commuter Rail IT Environment (collectively, the “**Baseline Methodology**”).

1.2 Collection of Data and Data Aggregating.

The Baseline Methodology shall facilitate the collection of Data and all other necessary or reasonably desirable data and information related to the Commuter Rail IT Environment and the Operator’s performance of its obligations, and shall permit the aggregation of all information relating to the Commuter Rail IT Environment and related systems and services. The Baseline information gathering must include information in the format needed for comparing and benchmarking the MBTA’s Baseline information to the Commuter Rail IT Environment and the Operator’s performance (including, but not limited to, the Operator’s performance cost analysis).

1.3 Sequencing of Implementation.

The Operator shall provide a draft template for a transition and implementation approach that includes a high-level timeline (sequencing and order of work elements). The Operator shall provide the development of a transition and implementation approach and timeline to be iteratively developed and updated throughout the Term of this Agreement including the initial draft of a template in support of Deliverables.

1.4 Consistency of Collection.

The Operator shall gather data in a consistent manner across the Commuter Rail IT Environment including the usage of verification methods. The Operator shall retain responsibility for any physical counting that may be required as well as verifying the integrity of any data collected.

1.5 Non-Exhaustive Deliverables.

Deliverables required of the Operator in this regard shall include, but not be limited to:

- 1.5.1 Documented Baseline Methodology for Baseline development
- 1.5.2 Documented data gathering strategy
- 1.5.3 Detailed list and description of data elements to be collected
- 1.5.4 Timeline. Draft a template for a transition and implementation approach and high-level timeline which includes processes for the consolidation of the Operator's training on using data collections tools if applicable Baseline information gathering tools.

2. Operational Assessment Methodology.

2.1 Overview of Operational Assessment Methodology.

The Operator shall provide a proven, working methodology for providing the Commuter Rail IT Environment. The methodology must take into consideration unique MBTA situations as well as IT industry standards and measures to provide the framework and set the criteria for cost effective and efficient IT infrastructure operations.

2.2 Required Elements.

The Operational Assessments must include, but not be limited to:

- 2.2.1 ITIL process implementation assessment for IT infrastructure services, functions and processes
- 2.2.2 IT Business Continuity/Disaster Recovery process assessment
- 2.2.3 IT assets and data center facilities assessment
- 2.2.4 Outcome/deliverables must include, but not be limited to:
 - 2.2.4.1 Documented methodology with framework criteria for Operational Assessments
 - 2.2.4.2 Documented data gathering strategy
 - 2.2.4.3 Detailed list and description of data elements to be collected
 - 2.2.4.4 Training to the MBTA on using data collections tools if applicable
 - 2.2.4.5 Operational Assessment information gathering tools
- 2.2.5 Execute the Baseline Methodology for the MBTA.
- 2.2.6 Conduct information gathering to create an independent, objective current Baseline for the participating Operators using the aforementioned methodology.

2.3 Required Baseline Elements.

The Operator's Baseline must include, but not be limited to:

- 2.3.1 Service content associated with the IT infrastructure service being provided including scale and scope of service utilization, customers served and volume of usage. This must include the identification of functions/services performed by affected IT personnel which may not be components of the IT infrastructure services/functions.
- 2.3.2 Service performance costs including all cost components and fully loaded personnel cost information.
- 2.3.3 Service performance quality including performance metrics.
- 2.3.4 Outcome/deliverables must include, but not be limited to:
 - 2.3.4.1 Individual Baseline report for the MBTA
 - 2.3.4.2 Aggregated (roll-up) Baseline report for the MBTA
 - 2.3.4.3 Electronic copy of all data collected and/or used for the MBTA

2.4 Required Description of Baseline Assessments.

The Operator shall describe its preferred approach for conducting Baseline assessments and include a description of the assessment(s) methodology with a list of the key components. The response shall include, but not be limited to, a description on electronic tools used for data collection if applicable; indicate all information needed from the MBTA on this activity and ensure roles and responsibilities are clearly illustrated.

**Appendix 10 to Schedule 3.16:
Current Site List**

Site	Address	City	Bandwidth	Conduit	Connected to
Abington	120 Monroe St.	Abington	10MB	Wireless	
Ayer		Ayer	25MB Comcast		
Ayer Trailer		Ayer	25MB Comcast		
Back Bay Station	145 Dartmouth St.	Boston	100 Meg	Cisco Mux-Fiber	South Station
Beverly	2 Congress St.	Beverly	DSL	DSL	
Bradford	10 Railroad Ave.	Bradford	2-6 MEG	DSL	I-NET Cobble
Braintree	197 Ivory St.	Braintree	1.54MB	TUT	South Station
Canal St.	89 Canal St.	Boston	2-6 MEG	Earthlink-VPN	Cobble Hill
CRMF (BET)	70R 3 RD Ave.	Somerville	100MB	Fiber	Cobble Hill
Fitchburg	100 Main St.	Fitchburg	100k	Air Card	I-NET Cobble
Franklin	1000 W. Central St.	Franklin	2-6 MET	DSL	I-NET Cobble
Greenbush					
Kingston	194 Marion Dr.	Kingston	100 MEG	LAN	
Lowell	101 Thorndike St.	Lowell	2-6 MET	DSL	I-NET Cobble
MBCR Corp.	89 South St.	Boston	100MB	Microwave Circuit	South Station
MBCR Corp.	89 South St.	Boston	1.54MB	T-1	South Station
MBCR Corp. II	186 South St.	Boston	100MB	Microwave Circuit	89 South St.
Middleboro	125 Commercial	Lakeville	100 MEG	LAN	
Mystic	132 Washington St.	Somerville	100MB	Fiber	Cobble Hill
Needham	95 West St.	Needham	T1	LAN	
Newburyport	25 Boston Way	Newburyport	100 MEG	LAN	
North Station	135 Causeway St.	Boston	100MB	Fiber	Cobble Hill
Pawtucket	100 Gaspee St.	Princeton, RI	T1	LAN	
Readville	1664 Hyde Park Ave.	Readville	50/10MB	Comcast Business-VPN	Cobble Hill
Rockport	17 Railroad Ave.	Rockport	2-6 MEG	DSL	I-NET Cobble
Roland St. & T-PAD		Somerville	1.54MB	TUT	Cobble Hill
Salem	252 Bridge St.	Salem	1.54MB	T-1-Fiber Circuit	Cobble Hill
Scituate	777 Country Way	Scituate	DSL	LAN	
South Station	2 South Station	Boston	100MB	Fiber	Cobble Hill
Totten Pond		Waltham	2-6 MEG	DSL-Cisco-VPN	General T1-CH
Tower A (North Station)		Boston	100MB	Fiber	Cobble Hill
Walpole	275 West St.	Walpole			
Waltham Tower	75 Carter St.	Waltham	2-6 MEG	DSL-Cisco-VPN	General T1-CH
West Cambridge	89 Cambridge Park Dr.	Cambridge	35MB	Microwave via Fiber	South Station
Widett Circle	110 Widett Circle	Boston	100MB	Fiber	South Station
Wilmington			2-6 MEG	DSL-Cisco-VPN	Cobble Hill
Woburn (Anderson)	Atlantic Ave + Commerce Way	Woburn	2-6 MET	DSL-Cisco-VPN	General T1-CH
Worcester	45 Shresbury St.	Worcester	S-6 MET	DSL (and Wireless)	I-NET Cobble
South Station Wi-Fi					
Bet Wi-Fi					
North Station Wi-Fi					
South Street Wi-Fi					
32 Cobble Hill	Hub				

SCHEDULE 3.17

IT SECURITY

This **Schedule 3.17** (IT Security) relies on the definitions set out in **Schedule 1** (Definitions) and on the definitions set out in Appendix 1 (Definitions) to **Schedule 3.15** (Intellectual Property; Ownership).

1. SECURITY.

1.1 General.

Throughout the Term, the Operator shall implement and maintain security standards with respect to the Commuter Rail IT Environment (the “**Security Standards**”). It is understood that in the event of any security breach or compromised system, Operator shall immediately notify the MBTA and the Operator shall conduct a Root Cause Analysis and develop a Mitigation Plan, regardless of severity or topic, as provided in Section 8.11 (Root Cause Analysis) of **Schedule 3.16** (Information Technology Requirements). The MBTA CIO shall have the final authority to determine whether a Security issue has been resolved.

1.2 Required Physical Security Measures.

The Operator shall implement and maintain, throughout the Term, safeguards and other protections to control and prevent Physical Access to Sensitive Assets (including Sensitive Assets that constitute Personal Information) (collectively, the “**Physical Security Measures**”). Physical Security Measures include (i) badge requirements for visitors; (ii) requirements that visitors be accompanied and overseen by authorized personnel; (iii) requirements that visitors be identified through appropriate means (provision of driver’s license or other appropriate credentials) and logged on entry and exit; (iv) badge requirements for employees and other authorized non-visitor personnel (such as retained consultants and independent contractors); (v) monitoring of visible activities within the facility at issue (such as through security cameras and video-feeds); (vi) locked file cabinets, storage areas, offices, and other repositories for Sensitive Assets; and (vii) other measure to ensure the physical Security of Sensitive Assets. These required Physical Security Measures shall include the secure transportation of Sensitive Assets outside (i) from Operator, Subcontractor, or The MBTA computing facilities or other premises; and (ii) from Third Party computing facilities or other premises, where such Third Party is under the control or direction of the Operator.

1.3 Required Technical Security Measures.

The Operator shall implement and maintain throughout the Term safeguards and other protections to control and prevent access to Sensitive Assets, where such access does not constitute Physical Access (collectively, the “**Technical Security Measures**”); Technical Security Measures include the following:

- 1.3.1 User Authentication. The Operator shall implement and follow Secure user authentication protocols including: (i) control of user IDs and other identifiers; (ii) a secure method of assigning and selecting passwords, or use of unique

identifier technologies, such as biometrics or token devices; (iii) control of data security passwords to ensure that such passwords are kept in a location and/or format that does not compromise the security of the data they protect; (iv) restricting access to active users and active user accounts only; and (v) blocking access to user identification after multiple unsuccessful attempts to gain access or the limitation placed on access for the particular system.

- 1.3.2 Access Controls. The Operator shall implement and follow Secure access control measures to (i) restrict access to records and files that contain or constitute Sensitive Assets to those who need such information to perform their job duties; and (ii) assign unique identifications plus passwords, which are not vendor supplied default passwords, to each person with access to the Commuter Rail IT Environment, that are reasonably designed to maintain the integrity of the Security of the access controls. The Operator shall require complex password control parameters, including but not limited to at least the following criteria: the password (i) must be at least 8 characters in length, (ii) cannot contain any portion of the user's name, (iii) must have at least 3 of the following 4 characters (a) one uppercase letter, (b) one lowercase letter, (c) one number 0 to 9, and (d) one non-alphanumeric character (!, @, #, \$, etc.); and (iv) must not repeat past passwords. The MBTA shall be entitled to conduct audits of system access to the Commuter Rail IT Environment.
- 1.3.3 Encryption. The Operator shall cause the Encryption of Sensitive Assets (including Personal Information) (a) that will be transmitted across public networks, (b) that will travel outside the premises of a Secure facility, or (c) that will be transmitted wirelessly. In addition, Sensitive Assets stored on laptops or other portable devices shall be Encrypted utilizing a Data at Rest Encryption standard.
- 1.3.4 Host/Server Protections. For all IT Assets resident on a component of the Commuter Rail IT Environment, the Operator shall maintain up-to-date firewall protection, operating system security patches, up to date anti-virus and spyware protection, and full logging/audit capabilities to maintain the integrity and Security of Sensitive Assets. Up-to-date versions of system security agent software must include malware protection and up-to-date patches and virus definitions, or a version of such software that can still be supported with up-to-date patches and virus definitions, and is set to receive the most current security updates on a regular basis.
- 1.3.5 Point of Presence and Gateway Protection Security. The Operator shall be responsible for ensuring the security of Commuter Rail IT Environment. The Operator shall provide Point of Presence and Gateway Protection Security for the Commuter Rail IT Environment. The Operator shall control Points of Presence and Gateways to all sites where it provides connectivity and internet connectivity. The Operator shall implement at a minimum a sufficient firewall, a packet inspection system, an intrusion prevention system, and an intrusion

detection system. The MBTA shall be entitled to access and audit all logs and event tracking. The Operator shall configure the Commuter Rail IT Environment to provide an automatic alert to the MBTA in the event of a breach or attempted breach via a group mailbox established by the MBTA or its Authorized Vendor and provided to the Operator upon commencement of the IT Services. In the event of a breach, the Operator shall execute all commercially reasonable steps to protect the MBTA Data and operations including, but not limited to the complete shutdown of affected portions of the Commuter Rail IT Environment, if necessary (each, a “**Security Shutdown**”). The Operator shall not be penalized for availability of systems Service Levels based upon a Security Shutdown, if such Security Shutdown was warranted. The Operator shall conduct a full Root Cause Analysis and develop a Mitigation Plan, as required in **Schedule 3.16** (Information Technology Requirements). MBTA Security personnel shall be entitled to access all Security systems within the Commuter Rail IT Environment. The Operator shall comply with IT Change procedures and the IT Change Control Board for all Security-related IT Changes to rules and security systems. Operator shall conduct appropriate testing of any such IT Changes to ensure full functionality of the Commuter Rail IT Environment with the MBTA Systems.

- 1.3.6 WAN/LAN Architecture Guidance. The Operator shall incorporate an isolation metric into the design and operation of site networks within the Commuter Rail IT Environment by the implementation of DMZs and VLANs, as relevant. The Operator shall only locate web based systems that require interaction over the Internet and real addressable configurations in the DMZs. The Operator shall isolate database servers and data storage/processing systems from greater internet presence. The Operator shall implement tunnels and controlled routed connectivity to ensure the connection of internal systems between sites within the Commuter Rail IT Environment. The Operator shall ensure that internal systems within the Commuter Rail IT Environment shall not be directly addressable from non-MBTA associated Internet sources. The Operator shall leverage this protection at the firewall level by subnet/VLAN utilizing an ALLOW by exception White list concept.
- 1.3.7 The Operator shall maintain all logs and events for the prescribed period of time based on severity, as provided in **Schedule 3.16** (Information Technology Requirements). The Operator shall maintain all logs and events in a searchable and indexed format accessible to the MBTA and shall link such logs and events to applicable Root Cause Analysis efforts. The Operator shall maintain all Issue logs and events preserved from deletion for the 1st year, and Issue logs and events for subsequent years for Severity 1 and 2 Issues, in addition to any logs/events designated by the MBTA, shall be archived and preserved from deletion automatically.

1.4 Information Security Policies and Procedures.

The Operator shall develop and implement, and throughout the Term maintain and follow, a comprehensive information security program (the “**Information Security Program**”), including information security policies and procedures, in accordance with the requirements set out in this Agreement, Applicable Law and industry best practices (collectively, “**Information Security Policies and Procedures**”). Such Information Security Policies and Procedures at a minimum shall include the following:

- 1.4.1 Risk Assessments. The Operator shall conduct and update a risk assessment, identifying and assessing reasonably foreseeable internal and external risks to the security, confidentiality, and/or integrity of any electronic, paper or other records containing or embodying Sensitive Assets, and evaluating and improving, where necessary, the effectiveness of the current safeguards for limiting such risks, including but not limited to: (i) ongoing employee (including temporary and contract employee) training; (ii) employee compliance with policies and procedures; and (iii) means for detecting and preventing security system failures (each a “**Risk Assessment**”). The Operator shall review and update its Risk Assessment as provided.
- 1.4.2 Monitoring and Continuous Improvement. The Operator shall review its Information Security Program (including its Risk Assessment, Physical Security Measures and Technical Security Measures) (i) at least quarterly, or (ii) whenever there is a change in its business practices or the design, build, deployment, operation, or maintenance of the Commuter Rail IT Environment that implicates the security or integrity of Sensitive Assets embodied in or related to the Commuter Rail IT Environment. The Operator shall update its Information Security Program (including its Risk Assessment, Physical Security Measures and Technical Security Measures) regularly to ensure that the Information Security Program is operating in a manner calculated to prevent unauthorized access to or unauthorized use of Sensitive Assets.
- 1.4.3 Employee Practices. The Operator shall develop and implement, and throughout the Term maintain and follow practices to ensure its employees comply with the Information Security Program (including its Physical Security Measures and Technical Security Measures). Such practices shall include (i) educating and training employees (i) on the proper use of the Security systems and compliance with the Security Standards; and (ii) on the importance of Security for Sensitive Assets including, in particular, Personal Information; (ii) imposing disciplinary measures for violations of the Information Security Program and its rules; and (iii) preventing terminated employees from accessing Sensitive Assets (including Personal Information).

1.5 Subcontractor Security Obligations.

The Operator shall include the requirements of Section 1 (Security) to this **Schedule 3.17** (IT Security) in all subcontracts under this Contract. To the extent an applicable subcontractor has access to, or otherwise supports the Operator's services that are governed by the Payment Card Security Standards, the Operator shall also include the requirements of Section 2 (Payment Card Security Standard) of this **Schedule 3.17** (IT Security) in all subcontracts under this Contract. The Operator shall oversee Subcontractors' compliance with such requirements and shall select and retain only those Subcontractors that are capable of meeting or exceeding, and that in fact meet or exceed Security Standards.

1.6 Third Party Security Obligations.

In addition to its obligations concerning Subcontractors, as set out in the Subsection entitled “**Security / Subcontractor Security Obligations**”, the Operator shall select and retain only those Third Parties for work on the Commuter Rail IT Environment that are capable of meeting or exceeding, and that in fact meet or exceed Security Standards.

1.7 Operator Responsibility for Subcontractor and Third Party Compliance with Security Obligations.

The Operator shall be directly responsible to the MBTA for a Subcontractor's or Third Party's breach of Security Standards, and a breach of Security Standards by such Subcontractor or Third Party shall be deemed a breach by the Operator for all purposes under this Contract.

1.8 Disaster Recovery and Business Continuity.

During the Term, The Operator shall implement and maintain a business continuity plan and disaster recovery plan, as provided in Appendix 1 (Disaster Recovery (DR) and Business Continuity (BC) Support Services) to this **Schedule 3.17** (IT Security) (collectively, the “**Business Continuity Plan**”). Under the Business Continuity Plan, the Operator shall ensure the timely resumption of applications, data, hardware, communications (such as networking) and other IT infrastructure in the event of a disaster or outage. The Operator shall regularly test the Business Continuity Plan, and train MBTA users for contingencies under such Plan.

1.9 Incident Response Plan; Incident Response.

The Operator shall prepare and, by the Agreement Services Commencement Date, deploy an incident response plan to address and handle a Security Incident (the “**Incident Response Plan**”), as set out in the Technical Specification and in this Section 1.9 (Incident Response Plan; Incident Response) of this **Schedule 3.17** (IT Security). The Incident Response Plan shall include the following:

- 1.9.1 Notice of Intrusion; Implementation of Plan. In the event of a Security Incident, the Operator shall immediately implement the approved Incident Response Plan and notify the MBTA. The Operator shall (i) document responsive actions taken in connection with any Security Incident, (ii) preserve system logs and electronic evidence, and (ii) conduct mandatory post-incident review of events

and actions taken to make changes in business practices in response to a Security Incident.

- 1.9.2 Contain Exposure. In the event of a Security Incident, the Operator shall immediately contain and limit the exposure, in order to prevent further loss of data. Among other steps, the Operator shall (i) isolate compromised systems from the network; (ii) log all actions taken; (iv) alert all necessary parties immediately; (v) identify any compromised Payment Card accounts, and any Data Subjects whose Personal Information may have been compromised; (vi) prepare an incident report; (vii) compile information to determine whether or not an independent forensic investigation will be initiated; and (viii) with the consent of the MBTA, conduct such forensic investigation.
- 1.9.3 Costs. Operator shall be financially responsible for the costs resulting from a security incident involving Personal Information, including (i) the costs of required notifications to data subjects; (ii) the costs of a call center to assist such data subjects in mitigating the effects of the security incident; and (iii) the costs of associated credit monitoring for such data subjects.

1.10 Privacy and Security Regulations.

Without limiting the requirements set out in this Contract Section entitled “**Security**,” during the Term the Operator shall comply with, and be responsible for the Commuter Rail IT Environment's compliance with, all Privacy and Security Regulations.

1.11 SSAE 16 Audit.

In addition to its other obligations under this Contract, Operator shall cause an audit to be conducted with respect to the Commuter Rail IT Environment, the Services, and the performance of other obligations pursuant to this Contract, by a certified public accountant registered with the Public Company Oversight Board based on the Statement on Standards for Attestation Engagements (SSAE) No. 16 (or such industry equivalent which was previously a “SAS 70”) and have a “Type 2” report prepared in connection therewith.

- 1.11.1 Timing. With respect to each such audit, Operator shall (i) confer with the MBTA as to the scope and timing of each such audit, and (ii) accommodate the MBTA's requirements and concerns to the extent practicable. Unless otherwise agreed by the Parties, such audit shall be conducted so as to result in a final audit opinion not later than 120 days following the close of the Operator's fiscal year.
- 1.11.2 Provision of Report to the MBTA. Operator shall provide a copy of such Type 2 report and any other reports issued as a result of such audit to the MBTA and its independent auditors as soon as reasonably possible after the conclusion of such audit, and in all events within thirty (30) days of completion. Further, Operator shall provide any updates to any audit reports to the MBTA promptly

after they are received by Operator. Operator shall promptly correct any deficiencies identified in any such audit. At the MBTA's request, Operator shall confirm in writing that there have been no changes in the relevant policies, procedures and internal controls since the completion of such audit other than the correction of any deficiencies as provided above. If Operator becomes certified in other programs intended to evaluate security, Operator shall also provide information regarding such certification to the MBTA consistent with this Section 1.11 (SSAE 16 Audit) of this **Schedule 3.17** (IT Security).

- 1.11.3 Operator Inability to Deliver. If Operator is unable to timely deliver the required SSAE 16 report, Operator shall (a) provide the MBTA, on or before the date such report is delivered or due to be delivered, a written statement describing the circumstances giving rise to any delay or any qualification, (b) take such actions as shall be necessary to resolve such circumstances as soon as practicable, and (c) permit the MBTA and its external auditors to perform such procedures and testing as are reasonably necessary for their assessment of the operating effectiveness of Operator's policies, procedures and internal controls.

1.12 Additional Requirements Concerning Sensitive Security Information.

The Operator must protect, and take measures to assure that its Subcontractors protect, "sensitive information" made available during the course of administering an MBTA Contract or Subcontract in accordance with 49 U.S.C. Section 40119(b) and implementing DOT regulations, "Protection of Sensitive Security Information," 49 CFR Part 15, and with 49 U.S.C. Section 114(s) and implementing Department of Homeland Security regulations, "Protection of Sensitive Security Information," 49 CFR Part 1520.

1.13 Operator Designation As Data Controller or Data Processor.

Operator shall be designated in regards to such response as a Data Controller or a Data Processor, as determined by the MBTA in the exercise of its reasonable discretion.

2. **PAYMENT CARD SECURITY STANDARD**

The following Section (entitled "**Payment Card Security Standard**") governs required payment card security standards and procedures under this Contract.

2.1 Compliance with Standard.

As of the Notice to Proceed, and without interruption through the Term, the Operator shall comply with Payment Card Security Standards (i) in providing Services or Deliverables to the MBTA under this Contract (ii) in storing, processing, or transmitting Cardholder Account Data; and (iii) in engaging in any other activities for any purpose relating to this Contract.

2.2 PCI-DSS Vendors.

The Operator shall ensure that all PCI-DSS Vendors comply with Payment Card Security Standards (i) in providing Services or Deliverables to the MBTA under this Contract (ii) in storing, processing, or transmitting Cardholder Account Data; and (iii) in engaging in any other activities for any purpose relating to this Contract. As between the Operator and the MBTA, the Operator alone shall be responsible for a PCI-DSS Vendor's non-compliance with Payment Card Security Standards.

2.3 Validation.

The Operator shall validate (i) its compliance with the Payment Card Security Standards and (ii) the compliance of its PCI-DSS Vendors, and shall obtain validation in the manner (or manners) required under the applicable Payment Card Security Standard at issue (through use, for example, of a Qualified Security Assessor, an Approved Scanning Vendor, a Self-Assessment Questionnaire, or through other expressly permitted means), and at the frequency required by such Standard.

2.4 Reports and Confirmations To The MBTA.

The Operator shall report in writing the results of such validations, and any evidence of non-compliance, immediately to the MBTA.

2.5 MBTA-Requested Validation.

Independent of the Operator's validation obligations set out immediately above, the MBTA shall have a right (but no obligation) to conduct a review and audit of the Operator's (and its PCI-DSS Vendors') payment card related systems, policies, practices, complaints, data, and other information to assess continued compliance with the Payment Card Security Standard (each, an "**MBTA-Requested Validation**").

2.5.1 Process. The MBTA shall provide reasonable notice of an MBTA-Requested Validation, except in the case of exigent circumstances, where minimal notice shall be required. The MBTA shall be entitled to conduct such MBTA-Requested Validations, using MBTA or Third Party personnel (provided such Third Party personnel agree to reasonable confidentiality provisions) (each, a "**Third Party Examiner**"). MBTA-Requested Validations shall take place on the dates and at the frequency reasonable designated by the MBTA.

2.5.2 No Effect On Operator Obligations. Action or inaction by the MBTA under this subsection (entitled "MBTA-Requested Validation") shall not effect the Operator's obligations to ensure compliance with Payment Card Security Standards, and the Operator shall continuously maintain such compliance.

2.5.3 Costs of MBTA-Requested Validation. Each Party shall bear its own costs of an MBTA-Requested Validation; provided, however, that if the process reveals non-compliance with the Payment Card Security Audit, the Operator shall promptly reimburse the reasonable costs incurred by the MBTA and any Third

Party Examiner in conducting MBTA-Requested Validation (without prejudice to other rights and remedies of the MBTA for such non-compliance).

2.6 Remediation.

In the event of any revealed non-compliance, whether through the standard validation process or an MBTA review, the Operator shall take all necessary steps to immediately mitigate such non-compliance. Without prejudice to the MBTA's other rights and remedies, the Operator shall provide the MBTA with a written mitigation plan, with milestone dates, and shall timely update the MBTA during the resolution of the non-compliance.

2.7 Notice to Payment Card Networks.

The Operator shall arrange for immediate notice to Payment Card Networks of a Security Incident affecting a Payment Card and, after obtaining the MBTA's approval (which can be withheld for just cause), shall cause such notice to be provided to the Payment Card Networks.

2.8 Responsibility for Penalties.

Without limiting any other obligations of the Operator under this Contract, the Operator shall be responsible in full for any penalties, fines, levies, audit fees, or other fees, remedies, or damages imposed by a Third Party, including by a Card Association, Card Processor, issuer of Payment Cards, Merchant Acquirer, or others in connection with Security Incident or other non-compliance with Privacy and Security Regulations.

2.9 Relationship to Other Data Security Provisions.

This Section 2 (Payment Card Security Standards) of this **Schedule 3.17** (IT Security) addresses security issues for Cardholder Account Data and compliance with Payment Card Security Standards. This Section 2 (Payment Card Security Standards) of this **Schedule 3.17** (IT Security) supplements, but does not detract from, or act as a substitute for, other sections in this Agreement that address data security, information technology security or other security-related matters ("**Other Security-Related Contract Provisions**"). In the event of a conflict between (a) this 2 (Payment Card Security Standards) of this **Schedule 3.17** (IT Security) and (b) Other Security-Related Contract Provisions, the particular standard that affords greater security and protection shall control; provided, however, that the Operator notifies the MBTA immediately of any conflict prior to taking action with respect to a conflict.

3. **OPERATOR SECURITY POLICIES AND STANDARDS.**

The Operator shall develop, implement, comply with throughout the Term of the Agreement, maintain and, as necessary, update the following policies and standards with respect to the Commuter Rail IT Environment:

3.1 Commuter Rail IT Environment Access Control Policy.

This policy articulates the access controls that are required to meet the security objectives set out herein and as otherwise defined by the MBTA. Access control management is paramount to protecting MBTA Data and requires implementation of controls and continuous oversight to restrict access.

3.2 Enterprise Electronic Messaging Communications Security Policy.

Electronic communication includes any communication that is transmitted, acknowledged, stored, downloaded, displayed or printed by an electronic communication system or service. Given the ubiquitous nature of electronic communication, this policy shall focus on the specific category of electronic messaging (i.e., email, instant messaging, etc.) communication and related threats that, if left unmitigated, may lead to a loss of data and/or system integrity, confidentiality or availability.

3.3 Information Security Policy.

This policy articulates requirements that assist management in defining a framework that establishes a secure environment. This framework provides the overarching structure for safeguarding the Commuter Rail IT Environment, achieving confidentiality, integrity and availability of the Commuter Rail IT Environment and MBTA Data.

3.4 Data Classification Standards

3.4.1 These standards provide minimum requirements for:

3.4.1.1 Evaluation and classification of MBTA Data

3.4.1.2 Assessing the impact of compromise to MBTA Data

3.4.1.3 Establishing security controls commensurate with data classification

3.4.1.4 The data classification standards are organized into four sections:

3.4.2 The Data classification Standard's shall be organized as follows:

Section	Summary
1: Classification Scheme	<ul style="list-style-type: none">Requires agencies to classify MBTA Data into at least one of three levels of classification: Low Sensitivity, Medium Sensitivity and High Sensitivity.
2: Required Considerations for Classification	<ul style="list-style-type: none">Provides the baseline to consider in evaluating MBTA Data.

Section	Summary
3: Risk Assessment and Security Controls	<ul style="list-style-type: none"> ▪ Requires the Operator to conduct and document risk assessments in evaluation of MBTA Data. ▪ Requires the Operator to determine security controls needed based on assigned classifications and risk assessments. ▪ Promotes minimum security controls across the Commuter Rail IT Environment.
4: Data Management Lifecycle	<ul style="list-style-type: none"> ▪ Requires the protection of MBTA Data at all stages of its lifecycle through the proper maintenance of classifications and controls.

3.5 Commuter Rail IT Environment and Risk Management Policy

This policy articulates requirements for performing periodic reviews and audits of the Commuter Rail IT Environment, determining appropriate data classifications and controls, and assessing and reacting to risks in order to safeguard those assets. The Operator shall institute periodic reviews and risk assessments based on changes in the Commuter Rail IT Environment including new threats, vulnerabilities and consequences to ensure the continued effectiveness of the implemented controls. The purpose of employing such a process is to institute remediation where warranted to reasonably ensure that planned and deployed controls meet the security goals of the agency and the Commonwealth enterprise.

3.6 Commuter Rail IT Environment Physical & Environmental Security Policy

This document articulates requirements that management must address in defining a policy to implement adequate physical and environmental security controls at the Operator to secure and protect the Commuter Rail IT Environment and all MBTA Data. All Federal and Applicable Laws shall be adhered to.

3.7 Enterprise Security Incident Handling and Response Procedures and Policies.

This policy articulates how the Operator shall identify, report and resolve security incidents in a manner that mitigates current and future risk to themselves and other potentially affected entities.

3.8 Information Technology Security Policy

This policy describes requirements for the Operator and its staff for addressing data security considerations. It also addresses appropriate information security awareness and training to reduce the risk of theft, fraud, or misuse of the Commuter Rail IT Environment and MBTA Data.

4. SECURITY; INFORMATION ASSURANCE.

4.1 Information Assurance.

- 4.1.1 The Operator shall protect and safeguard sensitive MBTA Data from inadvertent disclosure, access, acquisition, misuse, display, theft or other unauthorized actions (each, an “**Unauthorized Disclosure**”).
- 4.1.2 The Operator shall implement and maintain throughout the Term safeguards to protect the confidentiality, security and integrity of MBTA Data and the Commuter Rail IT Environment in a manner fully consistent with the protection requirements set out in this Agreement, Applicable Law and best practices (the “**Information Protection Safeguards**”). The Operator shall maintain such Information Protection Safeguards until such time that the MBTA deems that the applicable MBTA Data is no longer sensitive and provides corresponding written notification to the Operator.
- 4.1.3 Notwithstanding anything to the contrary, the Operator shall ensure that the Information Protection Safeguards comply with then-current applicable MBTA security and information assurance policies, regulations, standards, guidelines and Applicable Laws.
- 4.1.4 The MBTA’s Enterprise Access Control effort is a comprehensive effort to consolidate and reorganize many of the MBTA’s enterprise security access policies and standards and align them with the structure of Section 11 “**Access Control**” of the ISO/IEC 27002:2005, “**Information technology - Security techniques - Code of practice for information security management**”. The Enterprise Access Control Policy and supporting standard, Enterprise Access Control Security Standards have been drafted together as a suite with sections that are aligned with each other as well as with ISO 27k. The Policy is generally higher level and relies on the associated Standards to elaborate into the detail required for further technical use. The Operator is required to comply with this policy and the supporting standards in addition to any agency or third party that connects to the MBTA’s wide or local area networks.
- 4.1.5 The Operator shall provide and ensure that it, its personnel and MBTA employees with access to the Commuter Rail IT Environment or the MBTA Internal IT Environment shall complete initial information assurance awareness and annual refresher training in MBTA policies governing security, information assurance and workforce management, and such trainees shall certify to said training.
- 4.1.6 The Operator shall perform actions in support of MBTA Security by following National Institute of Standards and Technology (“**NIST**”) Special Publications SP800-18 Guide for Developing Security Plans for Federal Information Systems, NIST SP800-100 Information Security Handbook: A Guide for

Managers, NIST SP800-44 Guidelines on Securing Public Web Servers, NIST SP800-45 Guidelines on Electronic Mail Security, NIST SP800-81 Secure Domain Name System (DNS) Deployment Guide, NIST SP800-48 Wireless Network Security (802.11, Bluetooth, and Handheld Devices), NIST SP800-92 Guide to Computer Security Log Management for Certification and Accreditation Process of MBTA Systems; NIST SP800-14 – Generally Accepted Principles and Practices for Security Information Technology Systems; and NIST SP800-18 – Guide for Developing Security Plans for Information Technology Systems.

- 4.1.7 The Operator shall update the Information Protection Safeguards as necessary or desirable, with updates included as necessitated by IT security notifications, the information assurance vulnerability management program, as required by officially appointed information assurance personnel or Applicable Law.
- 4.1.8 The Operator shall comply with the appropriate security notifications within the Commuter Rail IT Environment. The Operator shall promptly acknowledge receipt of all security notifications and test and install security patches per component of the Commuter Rail IT Environment within ninety (90) days.

4.2 Operator Training and Certification.

- 4.2.1 The Operator shall ensure that personnel accessing the Commuter Rail IT Environment have the proper and current information assurance certification in its performance of information assurance functions in accordance with the MBTA security policies and industry standards. Such information assurance certification requirements shall include (i) MBTA-approved information assurance workforce certifications appropriate for each category and level as listed in the current version of NIST Special Publications SP800-100 chapter 4 Security Awareness, and (ii) appropriate operating system certification for information assurance technical positions as required by NIST SP800-18 and NIST SP800-37.
- 4.2.2 The Operator shall provide documentation supporting the information assurance certification status of personnel performing information assurance functions.
- 4.2.3 The Operator shall ensure that its personnel who do not have proper and current certifications are denied access to the Commuter Rail IT Environment.

4.3 Security Assurances for the Commuter Rail IT Environment.

- 4.3.1 The Operator shall prepare and provide by the Agreement Services Commencement Date, documentation on security policies and procedures in support of the Commuter Rail IT Environment and provision of the Commuter Rail Services including server hardening, patches, updates, operations and maintenance within the existing Commuter Rail IT Environment.

- 4.3.2 The Operator shall develop Information Assurance Certification and Accreditation Process structure using NIST Special Publications NIST SP800-12, 18, 37, 53, and 100 preliminary “as is” artifacts submission and other industry standard information assurance policies and procedures for the Commuter Rail IT Environment on or before the Agreement Services Commencement Date.
- 4.3.3 The Operator shall conduct an initial and annual security risk assessment through the Term of the Agreement. The Operator shall ensure that total system security services effectively and efficiently incorporate IA/security provisions and implementation in accordance with the security risk assessment, the security and contingency plan, related documentation developed in previous test phases and all Applicable Laws and industry best practices. The product/service/system must adhere to all Program System Security Authorization Agreement (SSAA) and Security Technical Information Guide (STIG) requirements while keeping integrity intact.

**Appendix 1 to Schedule 3.17:
Disaster Recovery (DR) and Business Continuity (BC) Support Services**

1. Disaster Recovery (DR) and Business Continuity (BC) Support Services.

1.1 Overview of DR/BC.

Based on the current capabilities of the MBTA, the overall complexity of the MBTA's computing applications and services portfolio, and existing agency provisions for DR/BC, the Operator's responsibilities shall in general: (i) apply to in-scope environments located in the MBTA NOC; (ii) the MBTA NOC itself in consideration of existing capabilities and, following implementation, Operator improvements to the facility; (iii) existing implemented methods to support MBTA specified DR/BC for MBTA applications and systems; (iv) not apply to the MBTA Internal IT Environment.

1.2 Operator Responsibilities Regarding DR/BC Services.

The Operator's responsibilities with respect to the DR/BC services shall include the following:

- 1.2.1 The Operator will retain sole responsibility for overall business continuity plans, application and network recovery, and recovery process management activities with MBTA oversight.
- 1.2.2 The Operator must support business continuity plans as they relate to in-scope environment elements (i.e., in-scope infrastructure and facility elements only) as specified by the MBTA and participate in and support the regular testing and improvement of the business continuity plans. Unless otherwise agreed to by the MBTA, such testing shall take place on a quarterly basis.
- 1.2.3 To the extent agreed appropriate, support MBTA IT standards and upon request participate in planning sessions, testing review sessions and other meeting activities between MBTA IT and participating MBTA staff for in-scope environment elements.
- 1.2.4 Support implementation of business continuity plans as agreed in statements of Work between Operator and MBTA for in-scope environments as they pertain to the support of the implementation, testing and remediation of agency DR/BC plans for in-scope environment elements;
- 1.2.5 Support MBTA activities, processes and procedures for in-scope work and environments to support MBTA disaster recovery capabilities.
- 1.2.6 Timely update applicable business continuity plans and testing procedures in light of any Commuter Rail IT Environment changes, modifications, or adds.
- 1.2.7 Support the MBTA's potential future specification, design and implementation of infrastructure disaster recovery plans for in-scope environments and

environment elements, but exclusive of middleware, application or presentation software as agreed based upon the following principles:

- 1.2.7.1 Leverage a State provided offsite and geographically diverse alternate disaster recovery site that has sufficient computing and network capabilities which are adequate to process the MBTA's transactions and to provide systems access to end-user personnel during an outage period
- 1.2.7.2 Document requirements and support design reviews to facilitate transfer of operations to disaster site for in-scope environment elements to occur within 48 hours of failure of MBTA primary site
- 1.2.7.3 Document procedures to restore primary operations for in-scope environment site operations (once available) within 24 hours
- 1.2.7.4 Identification of redundant processing environment requirements to ensure 24x7 operations for MBTA critical infrastructure components
- 1.2.7.5 Specification of redundant power requirements to ensure 24x7 operations for MBTA critical infrastructure components
- 1.2.7.6 Specification of redundant networking requirements (network devices and telecommunications access) to ensure 24X7 operations for MBTA critical infrastructure components
- 1.2.7.7 Specification of fire detection and suppression requirements to comport with service levels contained elsewhere in this document with regard to systems availability, failover and service levels as agreed for in-scope environment elements.

1.3 Operator Responsibilities Regarding Testing.

- 1.3.1 Support MBTA IT in establishing joint test objectives with an agency designed to verify that the in-scope environment elements will be available within the agreed upon timeframes contained in an agency business continuity plan as they pertain to in-scope environment elements.
- 1.3.2 Support MBTA IT in scheduling and testing in scope environment elements of the disaster recovery and business continuity plans relating to in-scope environment elements at least annually in support of the agency, its designees, any testing and recovery providers, and relevant MBTA third party Operators/Contractors.

- 1.3.3 Continuing to operate and manage the in-scope environment elements during periodic disaster recovery tests
- 1.4 Operator Responsibilities Regarding Communications.
 - 1.4.1 Notifying impacted MBTA personnel as soon as practicable upon becoming aware of a disaster or outage affecting the contracted Services.
 - 1.4.2 Supporting with the MBTA to support an agency disaster recovery and business continuity plan. In such regard, the Operator will:
 - 1.4.2.1 Perform necessary migrations of the software code and data as defined in the MBTA disaster recovery plan to reinstate the in-scope environment elements so that they are functional at a backup location designated by an agency in accordance with the established procedures.
 - 1.4.2.2 Coordinate with the MBTA personnel to support the reinstatement of the in-scope Environment(s) at such backup location for in-scope environments.
 - 1.4.2.3 Maintain provision and ongoing operation of the Services for unaffected areas.
 - 1.4.2.4 Following any disaster, at the MBTA's request, the Operator will support MBTA IT and staff in the reinstallation of any in-scope environment elements affected by such disaster in accordance with the process for such re-installation set forth in an MBTA disaster recovery plan and business continuity plan.
 - 1.4.2.5 Following any disaster, conducting a post-disaster meeting with the MBTA for the purpose of developing or enhancing plans to mitigate the adverse impact of future occurrences as they relate to in-scope environment elements.
 - 1.4.2.6 To the extent applicable to the in scope environment elements, maintain compliance with MBTA documented disaster recovery policies, standards, and procedures contained in a provided disaster recovery and business continuity plan.
 - 1.4.2.7 Support an annual test, documented results and feedback procedures contained the MBTA provided disaster recovery and business continuity plan for in-scope Infrastructure environment elements.
 - 1.4.3 The Operator shall not be responsible for, or quote or specify services associated with:

- 1.4.3.1 Providing alternate data processing facilities or capabilities to the MBTA inclusive of data centers, networking, redundant or failover equipment and associated software; and
- 1.4.3.2 Develop detailed disaster recovery or business continuity plans for MBTA applications; these plans shall remain the sole responsibility of the MBTA agency that owns the applications.

SCHEDULE 3.18

SERVICE LEVEL AGREEMENT AND SERVICE CREDITS

1. GENERAL OVERVIEW.

Service Level Agreements (SLAs) play an important role in defining and managing the expectations of Commuter Rail IT Environment performance. A successfully implemented service level management discipline ensures that information systems function smoothly while fulfilling the business needs of the MBTA and their stakeholders. The following Service Level Agreements set out in this **Schedule 3.18** (Service Level Agreement and Service Credits) provide the requirements for performance. All components of the Commuter Rail IT Environment shall be sufficiently scalable to comply with the applicable Service Levels throughout the Term of the Agreement.

This **Schedule 3.18** (Service Level Agreement and Service Credits) sets forth certain quantitative Service Levels and key measurements against which the Operator's performance of the Commuter Rail Services shall be measured, as well as procedures relating to Service Credits and related provisions. Capitalized terms not otherwise defined in this **Schedule 3.18** (Service Level Agreement and Service Credits) or Appendix 1 (Definitions) to **Schedule 3.15** (Intellectual Property; Ownership) shall have the meaning ascribed to them in **Schedule 1** (Definitions). The Operator shall perform the Commuter Rail Services and provide the Commuter Rail IT Environment at or above the performance levels described in this **Schedule 3.18** (Service Level Agreement and Service Credits).

2. FREQUENCY AND TYPE OF MONITORING; REPORTING.

Unless otherwise specified in this **Schedule 3.18** (Service Level Agreement and Service Credits), each Service Level shall be measured, recorded and reported by the Operator, as directed by the MBTA, either (i) on a daily basis beginning on the date specified in the Service Levels for any particular Service ("**Continuous Monitoring**"); (ii) on a sampling basis, with the frequency, target, and duration of the monitoring and measurement set by the MBTA (with such sampling to include "surprise inspection" monitoring and review) ("**By-Sample Monitoring**"); or (iii) through a mix of Continuous Monitoring and By-Sample Monitoring. The MBTA shall be entitled to conduct independent monitoring and measurement of the Operator's compliance with Service Levels, at the frequency and levels set out in the preceding sentence, or through such other auditing and monitoring structure as permitted in the Agreement (collectively, "**MBTA Monitoring**"). The results of such monitoring and measurement of Service Levels (whether conducted by the MBTA or by the Operator) shall be in the form of a report (each a "**Service Level Report**").

By the fifteenth (15th) day of each month, the Operator shall provide to the MBTA, as part of the Operator's monthly performance reports, a set of hard and soft copy of its Service Level Reports concerning its Continuous Monitoring to verify the Operator's performance and compliance with the Service Levels during the preceding month. The Operator shall provide a

Service Level Report concerning an instance of By-Sample Monitoring conducted by the Operator promptly after completion of such By-Sample Monitoring,

The MBTA shall timely provide the Operator with Service Level Reports resulting from MBTA Monitoring, subject to the Operator's right to contest such results in accordance with the dispute resolution procedures of the Agreement.

Upon request, the Operator shall provide supporting information (including applicable raw data) for a Service Level Report in machine-readable form suitable for use on a personal computer, and as may otherwise be reasonably requested by the MBTA. The raw data and supporting information shall be the MBTA's property and the MBTA's Confidential Information, and the Operator shall provide the MBTA with access to such information online and ad-hoc during the Term and any transition period.

3. **REPORTING FORM.**

The Operator shall provide reports that demonstrate its compliance with SLAs. Such reports shall be provided in a consistent and complete form and manner. The Operator shall, based on the SLAs and other information it is obligated to collect and disseminate, generate a standard set of templates and forms that allow it to efficiently and uniformly report and communicate the required information to the MBTA. These templates shall be of a standard digital type and uploaded to the Document Repository by the Operator upon delivery. The MBTA may require stylistic or format changes to the templates and forms in order to allow for greater integration and understanding. As with all other documents on the repository, the reports shall be searchable digitally and organized. Under no circumstances will the Operator modify a report once submitted. In the event of an error the Operator will justify the occurrence to the MBTA and the MBTA shall make the approved changes if they agree. The MBTA may require the Operator to disclose its method or means of monitoring and measurement at any time. The MBTA may conduct an audit anytime on any aspect of a report, measurement systems, monitoring system, or other aspect of the SLA.

4. **ROOT CAUSE ANALYSES; RESOLUTION OF FAILURES.**

The Operator shall identify root causes for, correct problems leading to, and minimize recurrences of, all missed Service Levels, in accordance with the severity of the Service Level failure (as identified in Section 7 (Severity Levels)). The Operator shall promptly investigate and correct failures to meet the Service Levels, all in accordance with the provisions of this **Schedule 3.18** (Service Level Agreement and Service Credits), and keyed to the severity of the Service Level, by:

- Promptly initiating problem investigations, including root cause analysis ;
- Reporting any problems to the MBTA in accordance with the escalation process set forth in this **Schedule 3.18** (Service Level Agreement and Service Credits);

- Correcting any problems and beginning to restore Service Levels;
- Advising the MBTA of the root cause of problems and the status of remedial efforts being undertaken with respect to such problems;
- Providing documentary evidence to the MBTA (i) that the causes of such problems have been or will be corrected, and (ii) of steps for prevention of future related problems (where applicable); and
- Making written recommendations to the MBTA for improvement and preventive measures (where applicable) in procedures related to Service Levels and correcting Service Level problems.

5. **SERVICE LEVEL MEASUREMENT PERIOD.**

The Operator shall begin to provide the Services at the Service Levels specified herein as of the Agreement Services Commencement Date unless another date is specified in the row titled “Time to Meet Service Level” in the tables set forth below in the section entitled “Service Level Designations” and Metrics for Commuter Rail IT Environment, in which case the applicable Service Level shall be measured and become effective as specified in such row.

6. **AUTHORIZED SERVICE INTERRUPTIONS.**

Throughout standard operation it will become advisable for the Operator to take systems down and out of service for routine and standard maintenance, for upgrades, and for other reasons (each, an “**Authorized Service Interruption**”). In the interest of promoting the greatest operational ability and operation of its system, the MBTA shall authorize, on a per event basis, an Authorized Service Interruption to facilitate what it considers necessary actions. Legitimate force majeure events, caused by circumstances outside the control of the Operator (“**IT Force Majeure Events**”), shall also constitute Authorized Service Interruptions.

The MBTA shall not be entitled to Service Credits from the Operator for a system's or application's lack of availability during the Authorized Service Interruption.

7. **REQUESTING AN AUTHORIZED SERVICE INTERRUPTION.**

The Operator shall request an Authorized Service Interruption via the IPR no less than one month prior to the required interruption, though the MBTA may expedite this timeline in the event of critical security patches or other emergency work. The request will include at a minimum the following:

- The purpose and reason for the action;
- Authorization from the IT Change Control Board and MBTA representative;
- The systems and users to be affected;

- Actions to be undertaken;
- A roll back and recovery plan in the event of a failure;
- A schedule demarcating the outage window; and
- An after-action report (to be submitted upon completion).

The Operator shall submit the above to the IPR and add it as an agenda item for that month's discussion in order to enable communication of the event and coordination of dependent services and organizations. Upon approval of the outage by the MBTA and the monthly IPR, the Operator shall inform affected users and system operators prior to the outage and shall then execute the approved outage in the timeframe approved by the MBTA.

8. **AVAILABILITY SERVICE LEVEL AGREEMENTS EXCEPTIONS.**

Authorized Service Interruptions that have been approved by the MBTA and the monthly IPR and that follow all communication requirements for user awareness shall not count negatively against the required Service Level. This exception shall only apply to planned and approved Authorized Service Interruptions and to IT Force Majeure Events. For example, if a Service Level permitted 1 hour of downtime per month for a particular service, and the Authorized Service Interruption permitted an outage for 2 hours to upgrade the system over the course of that month, then the Service Level would not be considered unfulfilled for that month.

9. **SEVERITY LEVELS.**

Service Levels are categorized by severity. The more critical the Service Level, the higher the severity the MBTA has assigned to that Service Level, and the higher the Service Credit due for non-compliance with that Service Level. The following provides the criteria employed by the MBTA in setting Severity Levels, and such criteria shall be used in modifying, adding, or removing Service Credits and/or Service Levels, as provided in Section 13 (Revisions to Service Levels and Service Credits):

Severity Level	Description
Severity Level 1	A Severity Level 1 (Sev 1) event reflects a failure of Commuter Rail IT Services or the Commuter Rail IT Environment that (i) results in a critical impact on the functionality, use, availability, or performance of the Commuter Rail, or (ii) threatens bodily harm or a security breach. The Operator shall immediately brief the MBTA on any Severity Level 1 event, and shall perform a root cause analysis and create a mitigation plan.

Severity Level	Description
Severity Level 2	A Severity Level 2 (Sev 2) event reflects a significant and critical outage of the Commuter Rail IT Environment or loss of Commuter Rail IT Services, where a workaround or mitigation is or should be available to promptly mitigate or remove the outage or loss of service. The Operator shall immediately brief an MBTA official on any Severity Level 2 event, and shall perform a root cause analysis and create a mitigation plan.
Severity Level 3	A Severity Level 3 (Sev 3) event reflects a medium adverse effect or inconvenience. The Operator need not immediately alert an MBTA official, but shall report the event in a daily summary to the presiding MBTA official. If the event was due to a failure of a system or technical aspect of standard operation, then the Operator shall perform a root cause analysis and create a mitigation plan.
Severity Level 4	A Severity Level 4 event, incident or ticket reflects a minor adverse effect or inconvenience. The Operator need not immediately alert an MBTA official, but shall report the event in a weekly summary to the MBTA. These events are understood to represent the standard difficulties that are encountered in the provision of Commuter Rail IT Services or operation of the Commuter Rail IT Environment and that require a low level of effort to alleviate. The MBTA may direct the Operator to perform a root cause analysis and create a mitigation plan for Severity Level 4 events, for example in cases of unusual, odd, or repeating Severity Level 4 events, but these actions are not automatically required.
Severity Level 5	A Severity Level 5 (Sev 5) event reflects a minor adverse effect or inconvenience. The Operator need not immediately alert an MBTA official, but shall report the event in a weekly summary to the MBTA. These events are understood to represent the standard minor difficulties that are encountered in the provision of Commuter Rail IT Services or operation of the Commuter Rail IT Environment that require a minimal level of effort to alleviate.

10. **SEVERITY LEVEL FOR CUSTOMER INCIDENT COMMUNICATIONS.**

Severity Level 5 shall generally apply to Incident Communications from MBTA customers (provided such Incident Communication does not involve bodily harm or a security breach, as set out in Severity Level 1), unless such Incident Communication is related to an event otherwise reported by a source other than an MBTA customer, such as by the MBTA or by the Operator (a “**Confirming Report**”), in which case the customer Incident Communication shall be assigned the same severity level as that assigned to the event identified in the Confirming Report.

11. **BASELINE RELEVANT SOFTWARE; SYSTEM APPLICATIONS; MISSION CRITICAL AND MISSION SUPPORT SERVICE LEVELS.**

The term “**System Applications**” means (i) the Relevant Baseline Software, (ii) the Operator-Provisioned IT Environment, (iii) those components within a New IT Component Environment provided in accordance with Section 3 (New IT Component Environment); and (iv) those components within the Operator-Proposed IT Components approved by the MBTA in accordance with Section 3.4 (Operator-Proposed IT Components (for purposes of this Section 11 (Baseline Relevant Software; System Applications; Mission Critical and Mission Support Service Levels) of this **Schedule 3.18** (Service Level Agreement and Service Credits), items (ii) through (iv) immediately above are referred to as “**IT Environment Improvements**”). The table below denotes the MBTA’s determination of whether a Software application within the Relevant Baseline Software is “Mission Critical” or “Mission Support” (as identified below).

Where Relevant Baseline Software applications have been replaced or otherwise impacted by Software applications with IT Environment Improvements, the “Mission Critical” or “Mission Support” designation for such each such Software application shall be the designation originally applied to the functionally equivalent Relevant Baseline Software application, unless the MBTA reasonably designates otherwise.

<u>Relevant Baseline Software Designations</u>	Mission Critical	Mission Support
Trapeze/ Maximus/ Asset Works	X	
AIRG – FRA Safety Reporting	X	
American Messaging Paging System	X	
ArcGIS – ArcInfo/ArcView used to map all environmentally sensitive areas and environmental concerns on or near the MBCR system		X
ARINC CIAS -- Customer Information & Announcement System	X	

<u>Relevant Baseline Software Designations</u>	Mission Critical	Mission Support
AutoCAD Software – Allows MBCR to create, manage and share drawing file information		X
Bentley Microstation – Material safety data sheets		X
Claims - application for claims management		X
Conductor Companion		X
CROCC – Commuter Rail Operations Control	X	
CTEC – South side’s rail-transit dispatching system (supported by Amtrak)	X	
Engineering Certificate Tracking		X
Gas Boy PC/FCN Fuel Management System	X	
GE AVL – Auto Vehicle Locator. Currently Supported by GE		X
GE Rail Edge – Supported by GE	X	
ITM – An inventory transaction management application.		X
MSDS On-line		X
Ortec Harmony Crew Dispatch Schedule		X
Parature – Customer Service		X
Permits & Licensing		X
TRAC – Ticket Revenue Accounting Channel – application used to track ticket sales for MBCR.	X	
TRMS II – Train Resource Management System	X	

12. SERVICE CREDITS.

12.1 Service Credits Associated with Severity Level.

Severity Level	Amount of Service Credit
Severity 1 Service (Sev 1) Level Credit	\$200,000
Severity 2 Service (Sev 2) Level Credit	\$50,000
Severity 3 Service (Sev 3) Level Credit	\$25,000
Severity 4 Service (Sev 4) Level Credit	\$10,000
Severity 5 Service (Sev 5) Level Credit	\$5,000

12.2 Service Credits.

Service Credits are a representation of a value of service required by the Operator, where the Operator failed to provide the level of agreed-upon service. These agreed upon standards are defined in the Service Levels. Service Credits vary among Service Levels based upon the impact of the Operator's failure to meet the required Service Level. As such, failure to meet the standards of a Service Level of higher severity carries a proportionally higher Service Credit. Certain Service Levels, for example, Section 22.1 (Notification of Security Breach) and Section 22.2 (Forensic Review of Security Breach) of this **Schedule 3.18** (Service Level Agreement and Service Credits), do not carry Service Credits, but instead rely on a direct damages structure.

12.3 Resolving Service Credits.

Service Credits are allocated to the month in which they occur. Each Service Level Report shall be tallied by the MBTA and officially reported to the Operator and to the IPR (each a "**Service Level Failure List**"). The totaled Service Credits shall then be applied to the Monthly Fee that next-follows the date of the Service Level Failure List at issue. The appropriate MBTA department director maintains the right to officially omit or delay credits, either completely or conditionally.

12.4 Cap on Service Credits.

In no event shall the Service Credits applied in any Reporting Period exceed the amount set forth in Appendix 1 (Operator Available Profit and Allocation) to **Schedule 6.1** (Performance Evaluation).

12.5 Addressing Root Problems; MBTA's Option to Waive Service Credits In Connection with an Approved Resolution Plan.

To facilitate successful operation of the Commuter Rail System within the Service Levels, the MBTA, in its discretion, shall present the Operator with an opportunity to resolve the root issues

surrounding a Service Level failure, in exchange for waiving some or all of the associated Service Credits. To request such a waiver, the Operator shall prepare and submit a plan to the MBTA that includes, at a minimum: a schedule for resolution of the root cause, a trial period after completion to test the effectiveness of the proposed solution, objective targets, methodology, and other necessary details. If the MBTA, in the exercise of its reasonable business judgment, approves the plan, the MBTA shall have the option of delaying application of some or all of the associated Service Credits, conditioned upon the Operator's future compliance with the associated Service Level. At the end of the approved schedule and trial period, if the problem is successfully remediated as evidenced by the lack of associated Service Level failures during the trial period, then the MBTA shall waive all the designated Service Credits. This effort allows problems with the system to be resolved, thereby improving the overall operation of the MBTA and the successful completion of its mission, while providing an incentive and opportunity to the Operator to address the root cause of recurring issues.

13. REVISIONS TO SERVICE LEVELS AND SERVICE CREDITS.

During the Term and subject to the provisions of the Contract, the MBTA shall at all times have the right to:

- (i) add new Service Levels consistent with applicable industry standards and based on changes to the Commuter Rail IT Environment in place as of the Agreement Services Commencement Date;
- (ii) increase Service Levels in accordance with applicable industry standards; and
- (iii) revise or add to Service Credits.

Upon such event, the Parties shall negotiate in good faith the metrics and measurements associated with such new Service Levels and Service Credits, and the additional charges (if any) associated with the incremental cost of implementing such new Service Levels, as determined under the IT Change Control process set out in Section 7.12 (Change Control and Configuration Management) of **Schedule 3.16** (Information Technology Requirements). The Operator shall implement such new Service Levels in the time period agreed by the Parties pursuant to such negotiation.

SERVICE LEVEL DEFINITIONS AND METRICS FOR OPERATOR IT ENVIRONMENT

The following Service Levels and Service Credits apply to Commuter Rail IT Services.

14. COMMUTER RAIL IT ENVIRONMENT AVAILABILITY.

14.1 System Application Availability.

System Application Availability	
Service Level Specification	
Service Category	Availability
Objective	To measure the percentage of time during a reporting period that the System Applications are fully available to the MBTA and its Authorized Vendors.
Definition	N/A
	METHOD
Data Capture	The Operator system logs and the designated Issue Tracking Portal or approved monitoring tools set out in Schedule 3.16 (Information Technology Requirements) or as otherwise determined by the MBTA.
Measurement Interval	Daily
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7*24*365 excluding only MBTA-approved scheduled downtime established in accordance with Section 6 (Authorized Service Interruptions) of Schedule 3.18 (Service Level Agreement and Service Credits).
	SERVICE LEVEL
Service Level	System Applications Availability $\geq 99.9\%$
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit per System Application.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of the Commuter Rail IT Environment.

14.2 IT Infrastructure Availability.

IT Infrastructure Availability Service Level Specification	
Objective	To ensure IT Infrastructure performs in accordance with Service Levels and to initiate Issue Tracking Portal and escalation procedures in the event of performance or Availability failures.
Definition	IT Infrastructure.
	METHOD
Data Capture	System-monitoring tools and Issue Tracking Portal.
Measurement Interval	Daily
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	Mission Critical Availability $\geq 99.99\%$ Mission Support Availability $\geq 99.99\%$
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 2 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

14.3 Software Availability (Other than System Applications).

Software Availability Service Level Specification	
Objective	To ensure Software within the Commuter Rail IT Environment (other than the System Applications) meets applicable performance criteria and the MBTA's reasonable expectations.
Definition	Software within the Commuter Rail IT Environment (other than the System Applications), including Software required for security, system authentication, log on, monitoring, routing, remote access and other functionality.

	METHOD
Data Capture	System-monitoring tools and Issue Tracking Portal.
Measurement Interval	Daily
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7 ^x 24 ^x 365
	SERVICE LEVEL
Service Level	Availability \geq 99.99%
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

14.4 LAN/WAN Availability.

LAN/WAN Availability Service Level Specification	
Service Category	Network Services
Objective	To ensure Availability of all LANs and WANs established by the Operator such that end-user accessibility to Software and servers is not interrupted.
Definition	LANs are those local area networks providing an infrastructure and network type service. WANs are those wide area networks providing an infrastructure and network type service.
	METHOD
Data Capture	System-monitoring tools and Issue Tracking Portal which will monitor that portion of the Network for which the Operator has responsibility.
Measurement Interval	Daily
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7*24*365
Resource Range	LANs and WANs.
	SERVICE LEVEL
Service Level	LAN/WAN Availability for Priority Sites is 99.9% or greater.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level for Priority Sites, the MBTA shall be entitled to recover a Sev 2 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

14.5 Network Response Time.

Network Response Time and Connection Health Service Level Specification	
Service Category	Network Services
Objective	To ensure that network performance for any network or segment of the System established by the Operator satisfies the MBTA's business needs.
Definition	Network Response Time is the delay in time between any two points of connectivity within the Commuter Rail IT Environment (or between the Commuter Rail IT Environment and the MBTA Internal IT Environment) network infrastructure. The amount of time that elapses between (a) a user-initiated remote request, and (b) the response to said request received from the destination component. The elapsed time constitutes a roundtrip event. Utilization is defined as the current percentage of aggregate traffic over a circuit relative to the total capacity of the circuit.
	METHOD
Data Capture	Network Response Time shall be measured by the network monitoring and performance tools and periodic manual checks for that portion of the Commuter Rail IT Environment. Utilization metrics shall be determined from the network components themselves. Peak moments shall be defined as limited bursts of extreme traffic that is temporary, less than two (2) minute duration, and random.
Measurement Method	Burst test on demand by the MBTA or as regularly scheduled. Testing method shall ensure sufficient checks over a period of time, one (1) hour minimum, to rule out peak occurrences.
	RESPONSIBILITY
Reporting Period	Daily, Weekly, Monthly
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	<p>99.99% up time ≤ links supporting Mission Critical Availability 99.9% up time ≤ links supporting Mission Support Availability</p> <p>Network Response Times are less than 60 milliseconds. If there is a failure of this Service Level, then a Sev 2 Service Credit.</p> <p>The network is considered unhealthy if the average non-peak utilization is above 60% or if Peak utilization exceeds 80% of aggregate capacity. This is deemed a Sev 2 Service Credit.</p>

	If the Network is confirmed unavailable, then a Sev 1 Service Credit.
	If there is Permitted Downtime, then no Service Credit will apply.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

14.6 Response Time - Commuter Rail IT Environment Access Times.

Response Time - Online Service Level Specification	
Service Category	<i>Commuter Rail IT Environment:</i> Capability of the Operator's internal network to respond to user activity.
	METHOD
Measurement Interval	Number of hours that the Website is operational and is capable of displaying all required links, screens and forms; accepting, processing and recording all required patron input; processing all valid payment types for MBTA Fare Media purchases; initiating order fulfillment for MBTA Card purchases; and generic use of web services/applications via mobile devices or network-provided medium.
	RESPONSIBILITY
Reporting Period	Daily service
Hours of Support	7*24*365
	SERVICE LEVEL
Service Level	Mission Critical Availability $\geq 99.99\%$ Mission Support Availability $\geq 99.99\%$
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

14.7 Aggregate Network Latency.

Aggregate Network Latency Service Level Specification	
Service Category	Latency for the aggregate network.

	METHOD
Data Capture	Operator system logs and the designated Issue Tracking Portal.
Measurement Interval	Latency will be measured by averaging samples taken during a calendar month.
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	Aggregate network latency will not exceed a core data center network latency of thirty (30) milliseconds plus an advance hosting provider internal backbone network latency of fifty (50) milliseconds, or a total of eighty (80) milliseconds.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

14.8 Provision of Updates.

Timely Integration of Updates Service Level Specification	
Objective	To ensure timely implementation of Updates to the Commuter Rail IT Environment.
Definition	The time between (a) the date upon which the Update is made available for installation, and (b) the date the Operator completes the implementation of the applicable Update into the Commuter Rail IT Environment.
	METHOD
Data Capture	Audit
Measurement Interval	Daily
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7x24x365

	SERVICE LEVEL
Service Level	High Risk or Survivability-Related Updates: 2 days All other Updates: 90 days
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 2 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

15. DATA

15.1 MBTA Data Access

MBTA Data Access Service Level Specification	
Objective	To provide the MBTA with timely access to information from the Operator.
	METHOD
Measurement Interval	Begins when the Operator receives an official request for information from the MBTA. Ends when the Operator sends a response, provided that the MBTA's request is for information that is not the subject of a database query.
	RESPONSIBILITY
Reporting Period	Monthly
	SERVICE LEVEL
Service Level	The Operator responds within six (6) business days with the requested information.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 2 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

15.2 Query Response Time

Query Response Time Service Level Specification	
Objective	To provide the MBTA with timely access to data stored in databases hosted by the Operator.
	METHOD
Measurement Interval	Begins on the submission of the query to the database; Ends upon a return acknowledgement.
	RESPONSIBILITY
Reporting Period	Monthly
	SERVICE LEVEL
Service Level	One-hundred (100) milliseconds from submission of query until return acknowledgement.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

15.3 Timely Data Entry by the Operator

Timely Data Entry by the Operator Service Level Specification	
Objective	To ensure data and records are up-to-date. The Operator shall accomplish data entry, ticket entry and other necessary inputs to the Commuter Rail IT Environment of the Operator and the MBTA.
	METHOD
Measurement Interval	Begins on the Operator's receipt of the information at issue; Ends on upload of the information to the relevant system.
	RESPONSIBILITY
Reporting Period	Monthly

Timely Data Entry by the Operator Service Level Specification	
	SERVICE LEVEL
Service Level	90% of entries completed within twenty-four (24) hours of the Operator's receipt of applicable information.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

15.4 Data Subject Access Requests

Data Subject Access Requests Service Level Specification	
Service Category	Data Subject Access Requests.
Objective	To timely respond to requests by data subjects to access records containing their personal information, either (a) in accordance with the Privacy Policy of the MBTA or (b) in accordance with applicable law. To timely and correctly modify or delete information of a data subject upon the data subject's proper request.
	METHOD
Measurement Interval	On occurrence.
	RESPONSIBILITY
Reporting Period	Monthly
	SERVICE LEVEL
Service Level	Within two (2) days from request.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL

Data Subject Access Requests Service Level Specification	
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

15.5 Notice and Takedown

Notice and Takedown Service Level Specification	
Service Category	Notice and Takedown.
Objective	To timely respond to an objection to content by locating and taking-down from applicable website pages (a) infringing content in accordance with the Digital Millennium Copyright Act or (b) other content as provided in the MBTA's Acceptable Use Policy and Terms of Use.
	METHOD
Measurement Interval	On occurrence.
	RESPONSIBILITY
Reporting Period	Monthly
	SERVICE LEVEL
Service Level	For each response period, to locate and take down infringing website material within five (5) business days of compliant request.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 5 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

16. OPERATOR WEBSITE.

16.1 Web Application Availability

Web Application Availability Service Level Specification	
Service Category	<i>Web Application Availability:</i> Capability for a customer, a customer agent or an MBTA customer service agent using a Website or other network-provided medium to access a provided service.
	METHOD
Measurement Interval	Number of hours that the Website is operational and is capable of displaying all required links, screens and forms; accepting, processing and recording all required patron input; processing all valid payment types for MBTA Fare Media purchases (if any); initiating order fulfillment for MBTA Card purchases (if any); and generic use of web services/applications via a network-provided medium.
	RESPONSIBILITY
Reporting Period	Daily service
Hours of Support	7 ^x 24 ^x 365
	SERVICE LEVEL
Service Level	Mission Critical Availability $\geq 99.99\%$ Mission Support Availability $\geq 99.99\%$
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

16.2 Web Application Responsiveness.

Web Application Responsiveness Service Level Specification	
Service Category	<i>Web Application Responsiveness:</i> Time required for the Website to respond to a request initiated by a customer or user, a customer agent or an MBTA customer service agent to access web services using the Website or other network-provided medium.
	METHOD
Measurement Interval	Average time (for the total number of measurements recorded in a single day) required from the instant the Website menu option is selected to the instant when the first response screen (other than a status or error message) is displayed recorded. Measurement to be conducted for MBTA access three (3) times each Business Day at the MBTA's discretion.
	RESPONSIBILITY
Reporting Period	Daily
Hours of Support	7 ^x 24 ^x 365
	SERVICE LEVEL
Service Level	≤ 3 seconds
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

17. OPERATOR SERVICE CENTER

17.1 Service Center Requirements

Service Center Availability Service Level Specification	
Service Category	<i>Service Center General Requirements:</i> All services, via phone and e-mail, from MBTA users shall be tracked in the Service Center System for purposes of availability, call wait time, and other Service Levels set out in this Section 17 (Operator Service Center) of this Schedule 3.18 (Service Level Agreement and Service Credits). All assignments of the Services/tickets, acknowledgement, resolution, comments, vehicle numbers, date and time stamp, and the agent and representative shall be recorded. Such records shall be maintained in the Issue Tracking Portal, and subject to other applicable Service Levels for response and resolution (among other Service Levels), as set out, for example, in Section 19 (Response and Resolution of Incident Communications) of this Schedule 3.18 (Service Level Agreement and Service Credits).
	METHOD
Measurement Interval	All inbound services to the Service Center will have tickets/Services in the system with the details of each one.
	RESPONSIBILITY
Reporting Period	Daily
Hours of Support	Customer Service Center Operating Hours 7 days a week, 0630-2000
	SERVICE LEVEL
Service Level	Mission Critical Availability $\geq 99.99\%$ Mission Support Availability $\geq 99.99\%$
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of the Operator Service Center.

17.2 Operator Service Center Average Wait Time

Operator Service Center Average Wait Time Service Level Specification	
Service Category	<i>Operator Service Center Average Wait Time:</i> The average time required for a Operator Service Representative (each, an " OSR ") to answer an MBTA user's service request, via phone or e-mail, during required business hours.
	METHOD
Measurement Interval	<p>The average response time required from the instant that the connection is made to the Operator Service Center to the time that the Service is answered by an OSR ("OSR Response Time").</p> <p><i>Calculation:</i></p> $\frac{\text{Total of all OSR Response times}}{\text{Total Number of inbound Incident Communications answered by OSRs within timeframe to respond (by type).}}$
	RESPONSIBILITY
Reporting Period	Weekly
Hours of Support	Customer Service Center Operating Hours 7 days a week, 0630-2000
	SERVICE LEVEL
Service Level	Initial Response Time \leq 3 minutes via Phone Initial Response Time \leq 2 hours via e-mail Initial Response Time \leq 30 minutes via web portal (by ticket assignment)
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Operator Service Center.

17.3 Operator Service Center Abandonment

Operator Service Center User Abandonment Service Level Specification	
Service Category	<i>Operator Service Center Abandonment: A user abandoned by an OCR.</i>
	METHOD
Measurement Interval	Whether the abandonment occurred. A user shall only be considered abandoned if the user had waited at least the prescribed average wait time.
	RESPONSIBILITY
Reporting Period	Daily
Hours of Support	Operator Service Center Operating Hours
	SERVICE LEVEL
Service Level	≥3% of Volume
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Operator Service Center.

18. INTERACTIVE VOICE RESPONSE

18.1 Interactive Voice Response General Availability.

Interactive Voice Response General Availability Service Level Specification	
Service Category	<i>IVR System General Availability:</i> Percentage of time at least one IVR trunk is available for use in connection with the Operator Service Center.
	METHOD
Measurement Interval	Number of hours that at least one (1) in-bound phone line to the Operator provided IVR is open and available to receive a call during the month divided by the total number of hours in that month
	RESPONSIBILITY
Reporting Period	Daily
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	Mission Critical Availability $\geq 99.99\%$ Mission Support Availability $\geq 99.99\%$
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Operator Service Center.

18.2 Interactive Voice Response System Availability.

Interactive Voice Response System Availability Service Level Specification	
Service Category	<i>IVR System Availability:</i> Capability for a caller to perform a self-service transaction using the IVR System.
	METHOD
Measurement Interval	Number of hours during the month that the IVR System is operational and is capable of: (1) playing the recorded menus; (2) accepting, processing and validating all required caller input; and (3) reading a response to any self-service transactions as appropriate for that transaction, divided by the total number of hours in that month.
	RESPONSIBILITY
Reporting Period	Daily
Hours of Support	7*24*365
	SERVICE LEVEL
Service Level	99.9%
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of the Operator Service Center.

18.3 Interactive Voice Response System Maximum Response Time

Interactive Voice Response System Maximum Response Time Service Level Specification	
Service Category	<i>IVR System Maximum Wait Time:</i> The maximum time required for a OSR to answer a call during required business hours.
	METHOD
Measurement Interval	The maximum time from the instant that the connection is made to the Operator Service Center to the time that the call is answered by IVR System.
	RESPONSIBILITY
Reporting Period	Daily
Hours of Support	7 ^x 24 ^x 365
	SERVICE LEVEL
Service Level	≤ 2 minutes
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of the Operator Service Center.

19. RESPONSE AND RESOLUTION OF INCIDENT COMMUNICATIONS

19.1 First Call Resolution of Computing Problems

First Call Resolution of Computing Problems Service Level Specification	
Service Category	Support Desk Services
Objective	To maximize the resolution of reported computing problems reported to the Operator Service Center, during the first call to the Operator Service Center, with no further follow up communication.
Definition	The percentage of computing problems that are resolved with one Call to the Operator Service Center staff and require no follow up communication. These service requests shall be considered "first call resolution," whether solved by an agent or automated system. Examples of common resolutions of this type are password resets, access modifications, and status updates.
	METHOD
Data Capture	The Operator will track and report statistics for the resolution of computing problems via its Issue Tracking Portal.
Measurement Interval	Monthly
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7x24x365
Resource Range	N/A
	SERVICE LEVEL
Service Level	≥ 85% of computing problems are responded to and resolved between user and the Operator Service Center on the first Call. Severity 1 and 2 level incidents are excluded from this percentage, as the MBTA recognizes and expects additional effort and time to be taken to address those issues.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
	TIME TO MEET SERVICE LEVEL

First Call Resolution of Computing Problems Service Level Specification	
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

19.2 Incident Communication Acknowledgement

Incident Communication Acknowledgement	
Service Level Specifications	
Service Category	Problem Resolution.
Objective	To ensure timely acknowledgement and resolution of Incident Communications.
Definition	<p>95% of Incident Communications should be acknowledged per the below, and fully resolved within five (5) days. The Issue Tracking Portal shall be the authoritative source for the time of report.</p> <p>For Customer Incident Communications submitted by MBTA Customers under Section 8.26 (Customer Complaints) of Schedule 3.16 (Information Technology Requirements) the time of report shall be (i) for Incident Communications received from the MBTA customer service center, the time at which the Ticket is entered by the MBTA (via automated means or otherwise); (ii) for Incident Communications received by the Operator customer complaint website (as provided in Section 8.27 (Customer Complaint Website) of Schedule 3.16 (Information Technology Requirements)), the time at which such website receives the Incident Communication; and (iii) for Incident Communications received by the Operator through other means, the time at which the applicable Incident Communication is received.</p>
	METHOD
Data Capture	Issue Tracking Portal will capture data. Severity assignment to a ticket vs. its automatic creation delta time shall be utilized to determine compliance.
Measurement Interval	Monthly
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7*24*365
Resource Range	N/A
	SERVICE LEVEL
Service Level	≥ 95% of the total number of aggregate incidents are acknowledged within (15) minutes of being reported. Acknowledgement is defined as

	a ticket existing with an initial severity level and description in the Issue Tracking Portal.	
	100% of Severity Level 1 incidents are acknowledged within 5 minutes of being reported	Failure generates a Sev 1 Service Credit
	95% of Severity Level 2 incidents are acknowledged within 15 minutes of being reported	Failure generates a Sev 2 Service Credit
	90% of Severity Level 3 incidents are acknowledged within 15 minutes of being reported	Failure generates a Sev 3 Service Credit
	80% of Severity Level 4 incidents are acknowledged within 30 minutes of being reported	Failure generates a Sev 3 Service Credit
	75% of Severity Level 5 incidents are acknowledged within 30 minutes of being reported	Failure generates a Sev 3 Service Credit
	TIME TO MEET SERVICE LEVEL	
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.	

19.3 Severity Level 1 Resolution or Temporary Fix

Severity Level 1 Resolution or Temporary Fix Service Level Specification	
Service Category	Problem Resolution
Objective	To ensure timely and accurate diagnosis and resolution (or acceptable temporary fix) of incidents affecting the Commuter Rail IT Environment.
Definition	A Severity Level 1 incident is successfully addressed when the incident has been fixed or a temporary workaround acceptable to the MBTA is implemented within two (2) hours of being reported.
	METHOD
Data Capture	Issue Tracking Portal will capture data.
Measurement Interval	Monthly
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7*24*365
Resource Range	N/A
	SERVICE LEVEL

Service Level	98% of Severity Level 1 incidents are fixed or a temporary work around acceptable to the MBTA is in place within two (2) hours.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 1 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

19.4 Severity Level 2 Resolution or Temporary Fix

Severity Level 2 Resolution or Temporary Fix Service Level Specification	
Service Category	Problem Resolution
Objective	To ensure timely and accurate diagnosis and resolution (or acceptable temporary fix) of incidents affecting the Commuter Rail IT Environment.
Definition	A Severity Level 2 incident is successfully addressed when the incident has been fixed or a temporary workaround acceptable to the MBTA has been implemented within four (4) hours of being reported.
	METHOD
Data Capture	Operator-designated Issue Tracking Portal will capture data.
Measurement Interval	Monthly
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	98% of Severity Level 2 incidents for Supported Systems are fixed or a temporary work around acceptable to the MBTA.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 2 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

19.5 Severity Level 3 Resolution or Temporary Fix

Severity Level 3 Resolution or Temporary Fix Service Level Specification	
Service Category	Problem Resolution
Objective	To ensure timely and accurate diagnosis and resolution (or acceptable temporary fix) of incidents affecting the Commuter Rail IT Environment.
Definition	A Severity Level 3 incident is successfully addressed when the incident has been fixed or a temporary workaround acceptable to the MBTA has been implemented within two (2) Business days of being reported.
	METHOD
Data Capture	Operator-designated Issue Tracking Portal will capture data.
Measurement Interval	Monthly
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7*24*365
Resource Range	N/A
	SERVICE LEVEL
Service Level	≥ 95% of Severity Level 3 incidents for Supported Systems are fixed or a temporary workaround acceptable to the MBTA has been implemented within two (2) Business days of being reported.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 2 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

19.6 Severity Level 4 Resolution or Temporary Fix

Severity Level 4 Resolution or Temporary Fix Service Level Specifications	
Service Category	Problem Resolution
Objective	To ensure timely and accurate diagnosis and resolution (or acceptable temporary fix) of incidents affecting the Commuter Rail IT Environment.
Definition	A Severity Level 4 incident is successfully addressed when the incident has been fixed or a temporary workaround acceptable to the MBTA has been implemented within three (3) Business days of being reported; provided, however, that where a response and resolution of an Incident Communication by an MBTA customer is at issue, the MBTA shall have reasonable discretion to modify such three (3) Business day period, and the applicable period shall be as directed by the MBTA.
METHOD	
Data Capture	Operator designated Issue Tracking Portal will capture data.
Measurement Interval	Monthly
RESPONSIBILITY	
Reporting Period	Monthly
Hours of Support	7*24*365
Resource Range	N/A
SERVICE LEVEL	
Service Level	≥ 90% of Severity Level 4 incidents for Supported Systems are fixed or a temporary workaround acceptable to the MBTA has been implemented within three (3) Business days of being reported.
SERVICE CREDITS	
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
TIME TO MEET SERVICE LEVEL	
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

19.7 Severity Level 5 Resolution or Temporary Fix

Severity Level 5 Resolution or Temporary Fix	
Service Level Specifications	
Service Category	Problem Resolution
Objective	To ensure timely and accurate diagnosis and resolution (or acceptable temporary fix) of incidents affecting the Commuter Rail IT Environment.
Definition	A Severity Level 5 incident is successfully addressed when the incident has been fixed or a temporary workaround acceptable to the MBTA has been implemented within five (5) Business days of being reported; provided, however, that where a response and resolution of an Incident Communication by an MBTA customer is at issue, the MBTA shall have reasonable discretion to modify such five (5) Business day period, and the applicable period shall be as directed by the MBTA.
METHOD	
Data Capture	Operator designated Issue Tracking Portal will capture data.
Measurement Interval	Monthly
RESPONSIBILITY	
Reporting Period	Monthly
Hours of Support	7*24*365
Resource Range	N/A
SERVICE LEVEL	
Service Level	≥ 90% of Severity Level 5 incidents for Supported Systems are fixed or a temporary workaround acceptable to the MBTA has been implemented within five (5) Business days of being reported.
SERVICE CREDITS	
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
TIME TO MEET SERVICE LEVEL	
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

19.8 User Satisfaction Survey

User Satisfaction Survey Service Level Specification	
Service Category	Operator Service Center and Incident Communications Response and Resolution
Objective	The Operator will ensure that Operator Service Center and Incident Communications Response and Resolution are provided at all times with high quality and consistency and in accordance with applicable Service Levels set out in Section 17 (Operator Service Center), Section 18 (Interactive Voice Response), and Section 19 (Response and Resolution of Incident Communications) of this Schedule 3.18 (" Service Center SLAs "). A Satisfaction Survey will measure the efforts of the Operator to deliver a consistently high level of telephone and other support for such purposes.
Definition	The "Satisfaction Survey" will rate User satisfaction and quality of the Services provided by the Operator.
	METHOD
Data Capture	The Satisfaction Survey will be based on a scale of one (1) to five (5), with one (1) being worst and five (5) being best level of satisfaction. The results will be calculated by the Operator and audited by the MBTA for accuracy. The target audience of this survey will be every fifth User of Services provided by the Operator, selected automatically by the Service Desk system. The Operator will make the raw Satisfaction Survey data available to the MBTA upon request. The MBTA shall provide the questions for the survey to the Operator, though the Operator may add additional questions with MBTA approval. Scale definition is as follows: 5 = highest possible score 1 = lowest possible score
Measurement Interval	Statistically significant, random sample of Incident Communications on a monthly basis, or at the MBTA's direction.
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7 ^x 24 ^x 365
Resource Range	N/A
	SERVICE LEVEL

User Satisfaction Survey Service Level Specification	
Service Level	The total average score for Satisfaction Survey is 4.5. In the event that the number of surveys received is deemed statistically insufficient (i.e., if the number of surveys is less than 25% of the total number of resolved tickets), then Service Center SLAs shall be used as a proxy. In the event that the number of surveys is insufficient as above then the Operator shall be assumed to have failed this SLA if it fails to meet over 50% of all Service Center SLAs.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 4 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

20. REPORTS, PLANS AND OTHER DELIVERABLES.

20.1 Timeliness

Timeliness Service Level Specification	
Service Category	Applies to any report, plan, required written information or other contractual deliverable with a specified due date and/or time (each, a " Time-Constrained Report ") including, but not limited to, those set out in Appendix 1 (Operator Deliverable Requirements Lists) to Schedule 3.14 (Reporting and Submittals). The period of delay in delivery (in hours during a Business Day) of a Time-Constrained Report, unless the Operator has obtained a written extension of the applicable deadline for the Time-Constrained Report.
	METHOD
Measurement Interval	24 hour period from morning to evening.
	RESPONSIBILITY
Reporting Period	Daily
Hours of Support	7 ^x 24 ^x 365
	SERVICE LEVEL AND SERVICE CREDITS
Service Level and Failure to Achieve Service Level	<div>A delay in delivery of any Time-Constrained Report of more than 2 hours and less than 6 hours</div> <div>Sev 5 Service Credit</div>

	A delay in delivery of any Time-Constrained Report of 6 or more hours	Sev 4 Service Credit
	TIME TO MEET SERVICE LEVEL	
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.	

20.2 Accuracy

Accuracy Service Level Specification		
Service Category	Percentage of errors allowed in the Operator's report.	
	METHOD	
Measurement Interval	The number of errors in any Time-Constrained Report as well as any other report, plan, required written information or other contractual deliverable (excluding typographical errors) that involve substantive content and meaning (" Content Errors "). The term "Content Errors" expressly excludes obvious typographical errors.	
	RESPONSIBILITY	
Reporting Period	Monthly	
Hours of Support	7x24x365	
	SERVICE LEVEL	
Service Level	100% (i.e., No substantive content missing and no material errors present)	Sev 1 if Content Error involves safety, bodily harm, or security
	100% (i.e., No substantive content missing and no material errors present)	Sev 3 otherwise
	TIME TO MEET SERVICE LEVEL	
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.	

21. DISASTER RECOVERY

21.1 System Restore and Backup Testing

System Restore Test Service Level Specification	
Service Category	General Services
Objective	Ability to test restoration and backup of the Commuter Rail IT Environment (or relevant portion) in the event of a disaster or major system failure.
Definition	Testing of restoration capability is deemed successful when the system passes a minimal scope test (for example, selecting certain random files for restoration and log examination) and full coverage is assured.
	METHOD
Data Capture	Random file tests; and log extractions and functional/operational tests of the Commuter Rail IT Environment.
Measurement Interval	Monthly
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	Successful tests 100%
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 1 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

21.2 System Restoration

System Restoration Service Level Specification	
Service Category	General Services
Objective	Restoration of the Commuter Rail IT Environment (or relevant portions) in the event of a disaster or major system failure (each, a "System Failure")
Definition	Restoration deemed successful when the system is operational in compliance with the Documentation and applicable Service Levels after a disaster occurs.
	METHOD
Data Capture	Full operation of the system in compliance with all applicable Service Levels and otherwise meets the MBTA's expectations.
Measurement Interval	Per incident.
	RESPONSIBILITY
Reporting Period	Per incident.
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	Successful restoration of operational capability within two (2) hours of the disaster incident.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 1 Service Credit per System Failure.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

22. SECURITY

22.1 Notification of Security Breach

Notification of Security Breach Service Level Specification	
Service Category	Problem Resolution
Objective	To identify and assess a security breach affecting any electronic records containing personal information, and to take necessary steps to notify those individuals affected.
	METHOD
Measurement Interval	Immediate and Continuous Notification to the MBTA.
	RESPONSIBILITY
Reporting Period	Within five (5) minutes of discovery of event, provided the Operator is in compliance with all security obligations. Operator shall be responsible for all costs of notification and remediation for the security breach.
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	100%
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

22.2 Forensic Review of Security Breach

Forensic Review of Security Breach Service Level Specification	
Service Category	Problem Resolution
Objective	To engage a cyber security forensic vendor for forensic review of a known security breach upon discovery of the security breach promptly after discovery of a security breach, provided the Operator is in compliance with all security obligations.
	METHOD
Measurement Interval	Immediate and Continuous Notification to the MBTA
	RESPONSIBILITY
Hours of Support	7x24x365
	SERVICE LEVEL
Service Level	Notify the MBTA immediately and continuously after the discovery of a security breach and engage a forensic vendor within twelve (12) hours of notification of the MBTA. The forensic vendor must commence analysis within twenty-four (24) hours of such notification to the MBTA (pending MBTA approval of such vendor).
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

22.3 Provision of Data for PCI-DSS Validation

Provision of Data for PCI-DSS Validation Service Level Specification	
Service Category	Compliance Services.
Objective	To timely report PCI-DSS validation data to the MBTA for compliance with PCI-DSS reporting and validation requirements. To permit the MBTA to validate its compliance with the Payment Card Security Standards and the compliance of its relevant vendors, either via a Qualified Security Assessor, an Approved Scanning Vendor, or a Self-Assessment Questionnaire (as those positions are detailed in Section 2.3 (Validation) of Schedule 3.17 (IT Security)).
	RESPONSIBILITY
Reporting Period	Submit PCI Quarterly Scan results to the MBTA. All other obligations as required under PCI-DSS, or as requested by the MBTA. Completed Annual PCI-DSS Attestation documentation is due to the MBTA annually on April 1 to CISO and continuous compliance is required (7x24x365).
Hours of Support	7x24x365
Resource Range	N/A
	SERVICE LEVEL
Service Level	100% Compliance
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

22.4 Provision of Data for SSAE16 Auditing

Provision of Data for SSAE16 Auditing Service Level Specification	
Service Category	Compliance Services.
Objective	To timely report SSAE16 Auditing data to the MBTA for compliance with SSAE16 standards (if applicable).
	METHOD
	RESPONSIBILITY
Reporting Period	As required under SSAE16 standards.
Hours of Support	7x24x365
Resource Range	N/A
	SERVICE LEVEL
Service Level	≥ 99.00% of data reports are provided to auditor within twenty-four (24) hours of due date.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

23. GUARANTEED ASSET INVENTORY AND CONNECTION DIAGRAMS

Guaranteed Asset Inventory and Connection Diagrams Service Level Specification	
Objective	To ensure accurate accounting for and tracking of IT assets and configurations, the Operator shall prepare and update an asset inventory and connection diagrams.
	METHOD
Measurement Interval	Monthly
Data Collection	Spot checks, auditing, scans, and other reviews ("Reviews").
	RESPONSIBILITY

Guaranteed Asset Inventory and Connection Diagrams Service Level Specification	
Reporting Period	Monthly
	SERVICE LEVEL
Service Level	In 98% of the Reviews, the inventory and connection diagrams reported accurately reflect the actual inventory and connections.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

24. **BUSINESS CONTINUITY AND CONTINUATION OF OPERATIONS**

Business Continuity and Continuation of Operations Service Level Specification	
Objective	To ensure business continuity, the Operator shall have a fail-over disaster recovery plan, and shall test this failover twice per year.
	METHOD
Measurement Interval	Two (2) tests per year
	RESPONSIBILITY
Reporting Period	6 months
	SERVICE LEVEL
Service Level	The system shall failover without incident; Operator shall maintain an updated failover disaster recovery plan
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 2 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

25. **RFID**

RFID Service Level Specification	
Objective	To ensure accurate reporting of maintenance and repair efforts.
	METHOD
Measurement Interval	Time of ticket update vs. automatic ticket creation.
Test Method	<p>Ticket needs an update of the issue description by a technician within thirty (30) minutes of the train / car entering a repair facility.</p> <p>Ticket needs an update of the issue resolution by a technician within thirty (30) minutes of the train / car leaving a repair facility.</p> <p>Foreperson must close tickets within one hour of final technician update if the issue is resolved with appropriate data as directed by the MBTA.</p>
	RESPONSIBILITY
Reporting Period	As required
	SERVICE LEVEL
Service Level	98% completion within the parameters outlined above.
	SERVICE CREDITS
Failure to Achieve Service Level	In each case of a failure to achieve this Service Level, the MBTA shall be entitled to recover a Sev 3 Service Credit.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

26. SERVICE LEVEL DEFINITIONS AND METRICS FOR AGREEMENT SERVICES OTHER THAN OPERATOR IT SERVICES

The following Service Levels and Service Credits apply to Agreement Services other than Commuter Rail IT Services:

26.1 Warranty Requirements

Warranty Requirements Service Level Specification	
Service Category	All work completed for vehicles deemed under warranty need to have a work order history that includes: date of failure, in-service date, vehicle class, vehicle number, mileage, major component serial number, complaint, cause, correction, labor details, and parts usage details.
	METHOD
Measurement Interval	Complete capture of all repairs that for vehicles that are deemed warrantable.
	RESPONSIBILITY
Reporting Period	Monthly
Hours of Support	7 ^x 24 ^x 365
	SERVICE LEVEL AND SERVICE CREDITS
Service Level and Failure to Achieve Service Level	100% generation of warranty claims for warrantable maintenance.
	TIME TO MEET SERVICE LEVEL
Time to Meet Service Level	Upon Activation of Commuter Rail IT Environment.

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