As this document is expected to be part of a Request For Qualifications, MassDOT requests that FRA keep this document confidential (to the extent possible) until the end of October, 2010.

It is being provided for the FRA's exclusive use for this application.

Boston South Station HSIPR Expansion Project
Preliminary Engineering and National Environmental Policy Act Compliance (PE/NEPA)

SCOPE OF SERVICES

Possible Use of Federal Funds

To maintain financial flexibility and preserve all options for the implementation of the project, MassDOT is considering the possibility of pursuing the use of federal transportation funding for the South Station Expansion. Should this option become a reality, MassDOT may require that the consultant selected through this procurement process prepare necessary submittal materials for the Federal Transit Administration New Starts program, and/or prepare submittal materials for federal funding programs not yet identified. Prospective consultants shall consider this possibility in assembling their proposals for this procurement.

Project Overview

This scope of services includes project management, public participation, data collection, preliminary engineering, preliminary capital and operating cost estimates, alternatives analysis, and preparation of an Environmental Notification Form (ENF) and a Draft Environmental Assessment/Environmental Impact Report (Draft EA/EIR) for the Boston South Station HSIPR Expansion Project. It is expected that the Draft EA/EIR will provide a reasonably complete and stand-alone description and analysis of the project, project alternatives, proposed action and environmental impacts, and will adequately address mitigation, such that the Draft EA/EIR may be reviewed as, and be deemed adequate by MEPA/NEPA as, a Final EIR for the project.
Elements of the overall project include the following:

- Construction of a new United States Postal Service General Mail Facility (USPS GMF)
  - To be constructed on land in Boston identified and acquired by MassDOT
- Site preparation at South Station
  - Demolition of the existing USPS GMF between Dorchester Avenue and Track 13
  - Installation of foundations to allow for future over-build
- South Station Construction
  - Installation of 4 (four) new platforms and approximately 7 (seven) new tracks
  - Re-work existing Interlockings to accommodate new tracks
  - Construction of a headhouse to accommodate new platforms and tracks
  - Construction of a pedestrian concourse linking the new headhouse with both the existing headhouse and Dorchester Avenue
  - Construction of a pedestrian concourse over the tracks to connect into the existing bus facility
  - Installation of elevators/stairs/escalators for vertical circulation and ADA accessibility to each platform
- Pedestrian and vehicular access improvements

- Construction on Dorchester Avenue to create a connection from Summer Street to South Boston.

- Site preparation and construction at proposed layover facility
  - Acquisition of parcels
  - Demolition of the existing structures on-site
  - Installation of new tracks to accommodate 38 trains
  - Re-work existing interlockings to accommodate new tracks

Massachusetts Department of Transportation (MassDOT) has developed the following work plan to accomplish the objectives of this Agreement:

TASK 1: PROJECT MANAGEMENT AND ADMINISTRATION

Objectives:

- Monitor, organize, and control manpower assignments, work effort, submission of deliverables, schedules, and costs associated with the team's effort.
- Maintain continual control of the progress of work as part of this agreement and to ensure that all elements are being coordinated among all interested parties in accordance with direction from the Massachusetts Department of Transportation, Office of Transportation Planning (MassDOT Planning).
- To ensure that the project is developed in a manner that is consistent with MassDOT Planning and the consultant's quality standards.

Work Elements:

1.1 Project Procedure Manual

Prepare a project procedures manual that defines project goals, assigns project responsibilities, provides project contacts, details the scope of services, defines the project schedule, and incorporates an overall Project Management Plan.

1.2 Kick-off Meeting

Prepare for and conduct a project kickoff meeting between the consultant, MassDOT and the MBTA, prepare conference notes and follow up with detailed minutes.

1.3 Project Management and Coordination Meetings

- Prepare for and conduct weekly project management and administrative coordination meetings with consultants, sub-consultants and other involved parties.
- Stakeholders may include (but may not be limited to): FRA, FTA, USPS, Amtrak, Department of Defense, MassDOT, MBTA/MBCR, MEPA/NEPA, Massport, CTPS, and The City of Boston.
- Prepare for and conduct weekly project coordination meetings with MassDOT Planning and other agencies. Develop agenda and detailed minutes for each meeting.

1.4 Issues/Action Logs

Develop and maintain an issues/action item list for tracking actions, information transfers, issue resolution, and decisions required for the execution of the project schedule. Present the Issues/Action Log weekly at each Project Management and Internal Coordination Meeting and monthly in the Progress Report.

1.5 Scope Management

Develop and maintain a scope change management system to track changes in scope and associated project schedule and budget implications. Present the scope management list weekly at each Project Management Meeting and Monthly in the Progress Report.

1.6 Project Scheduling

Develop and maintain a Preliminary Engineering Phase project schedule that identifies milestones for task deliverables. The schedule will include all design, permitting and procurement activities and milestones for work completed in this Agreement during the Preliminary Engineering phase. Track project progress against the schedule, update schedule and submit to MassDOT monthly as part of the Progress Report.

1.7 Cost Monitoring and Reporting

Develop a detailed professional services budget for tracking professional services costs against the established budget of this Agreement. Budgets will be tracked against project progress using earned value assessments of activity progress based on actual costs, estimates to complete activities and schedule progress. Any necessary changes in scope or anticipated underruns and overruns will be identified early to manage the overall Agreement budget and identify any potential change requests. Present cost monitoring results monthly as part of the Progress Report.

1.8 Progress Reports and Invoices

Develop a monthly invoice and progress report to MassDOT Planning. Progress report will include monthly updates of Sub-Tasks.

1.9 QA/QC

Develop a QA/QC Manual for submission to MassDOT for approval. All deliverables and materials submitted to any consultant and/or sub-consultant will adhere to the consultant's approved QA/QC Manual.

Task Deliverables:

- Project Procedures Manual (with Project Management Plan)
- Project Schedule
- Meeting Notices, Agenda, Materials and Conference Notes
- Issues/Action Item List with monthly updates

- Monthly progress reports
- Weekly Scope Management list
- Project invoices
- QA/QC Manual

TASK 2: DOCUMENT MANAGEMENT

Objectives:

- Monitor, organize, and control documents

Work Elements:

2.1 Document Management

Manage, track and archive all documents generated within a project. Managed documents include schedules, diagrams, drawings, plans, specifications, training material, annuals, requests for information, change requests, and all written daily project correspondence.

Task Deliverables:

- None

TASK 3: CIVIC ENGAGEMENT

Objectives:

- Provide an interactive, collaborative and credible public process.
- Solicit input from local citizens, local and regional government agencies and interest groups.
- Provide the design team with public ideas and recommendations that can inform the development of PE.

Work Elements:

3.1 Community Outreach Program

Prepare a program to efficiently share information between the design team and the public forum.

3.2 Public Information Meetings

Assist MassDOT Planning in holding 56 general public information meetings during the PE phase. The consultant shall consider, at a minimum, the following meetings:

- Public Information Meetings (8 meetings)
- Informal neighborhood meetings (8 meetings)
- Special briefings with local officials (8 meetings)
- Draft EA/EIR meetings (4 meetings)
- Pre-meeting coordination and strategy planning sessions with MassDOT (28 meetings)

3.3 Project Coordination/Interagency Meetings

Meet with stakeholders identified in 1.3 above, and other state and local public agencies such as MassDOT Highway, Department of Conservation and Recreation and local community organizations as required.

3.4 Project Website

Support MassDOT Planning by providing web content that supports the goal of maintaining a useful and up-to-date site. Monitor the website closely and use it as a tool for managing the public outreach process.

Ensure that materials prepared for and posted to the website are developed in accordance with Section 508 of the Rehabilitation Act, which requires that electronic information be made accessible to people with disabilities. All Word files shall fully comply, and the team shall work with MassDOT to develop a protocol for materials such as presentations and maps.

3.5 Project Newsletter

Design and produce up to 10 newsletters during the Preliminary Engineering Phase. The newsletters shall update communities of interest on the project's status. Included will be a project description, key contacts, a schedule and milestones, meeting announcements, project updates and interviews with stakeholders and MassDOT staff. Ensure that the newsletter is available in printed and PDF format for easy distribution. The newsletter shall be distributed to the project database, community centers, neighborhood groups and elected officials. The newsletter shall also be translated into Spanish.

Task Deliverables:

- Meeting handouts & graphics
- Meeting notes
- Up-to-date Project Website
- Up-to-date Project Newsletter

TASK 4: FEDERAL FUNDING MANAGEMENT

Objectives:

- Prepare submittals and documentation to assist MassDOT with Federal Funding process

Work Elements:

4.1 Federal Funding Management

Prepare necessary submittal materials for the Federal Transit Administration New Starts program or the Federal Railroad Administration process, and/or prepare submittal materials for federal funding programs not yet identified.

Task Deliverables:

- Federal Funding submittal materials

TASK 5: DATA COLLECTION - EXISTING CONDITIONS - SOUTH STATION/EXISTING USPS PROPERTY

Objectives:

- Gather information on existing conditions of South Station and the existing USPS property.
- Conduct field surveys to gather information not already compiled or no longer up-to-date, including traffic counts.

Work Elements:

5.1 Control Surveys

Prepare and include base control surveys by utilizing the following:

- New survey within the limits of work
- Most recent existing Hines overbuild survey compilation
- New/compiled survey of property lines and ownership.

Note: Project locus for all of Task 5 includes:

- Site features within 75′ around the existing USPS GMF
- Roadway survey 50′ outside the edge of pavement limits of Dorchester Avenue from the Summer Street intersection to Foundry Street
- Track limits from 100′ west of Shawmut Avenue Bridge and the southern end of the Fort Point Channel Bridge to the terminal building at South Station.

5.2 Major Utility Surveys

Prepare base utility surveys for the entire existing project locus.

5.3 Subsurface Geologic/Seismic Exploration

Prepare geologic/seismic exploration surveys for the entire existing project locus.

5.4 Soils

Prepare soil surveys for the entire existing project locus.

5.5 Site/Field Reviews for Existing Inventory

Prepare a site/field review of the existing inventory including systems, mechanical, electrical, plumbing, safety and security within existing South Station and the USPS GMF.

5.6 Existing Traffic Counts

Prepare a vehicular traffic count for the existing area roads of Atlantic Ave and Summer Street and adjacent to the project locus.

5.7 Existing Structural Analysis/Visual Inspection

Prepare and conduct a structural analysis and visual analysis of:

- The sea wall along Dorchester Avenue
- South Station structure
- Between grade turnouts
- Existing track infrastructure
- South Station bus station.
-

5.8 Assist CTPS with Ridership Forecast

Aide in CTPS' preparation of the ridership forecast for increased demand post-construction and through an alternative analysis.

Task Deliverables:

- Documented survey plans and reports (as applicable) for the site including surveys of soils, geological/seismic, major utilities, base, limit of work, and property lines and ownership
- Traffic counts for the area roads adjacent to the project locus
- Collaborative ridership forecast with CTPS
- Memorandum detailing structural integrity of structures identified

TASK 6: DATA COLLECTION - EXISTING CONDITIONS – PROPOSED LAYOVER FACILITY

Objectives:

- Gather information on existing conditions layover facility.
- Conduct field surveys to gather information not already compiled or no longer up-to-date, including traffic counts.

Work Elements:

6.1 Control Surveys

Prepare and include base control surveys by utilizing the following:

- New survey within the limits of work
- New/compiled survey of property lines and ownership.

Note: Project locus for all of Task 5 includes:

- Site features within 75' of the limits of work around the layover facility

6.2 Major Utility Surveys

Prepare base utility surveys for the entire existing project locus.

6.3 Subsurface Geologic/Seismic Exploration

Prepare geologic/seismic exploration surveys for the entire existing project locus.

6.4 Soils

Prepare soil surveys for the entire existing project locus.

6.5 Site/Field Reviews for Existing Inventory

Prepare a site/field review of the existing inventory including track infrastructure, signal/communication equipment, and existing buildings.

6.6 Existing Traffic Counts

Prepare a vehicular traffic count for the existing area roads affected adjacent to the project locus.

6.7 Existing Structural Analysis/Visual Inspection

Prepare and conduct a structural analysis and visual analysis of:

- Existing track infrastructure
- Existing buildings to remain.

Task Deliverables:

- Documented survey plans and reports (as applicable) for the site including surveys of soils, geological/seismic, major utilities, base, limit of work, and property lines and ownership
- Traffic counts for the area roads adjacent to the project loci
- Memorandum detailing structural integrity of structures identified

TASK 7: DATA COLLECTION - EXISTING CONDITIONS - PROPOSED USPS LOCATION

Objectives:

- Gather information on existing conditions of proposed USPS property.
- Conduct field surveys to gather information not already compiled or no longer up-to-date, including traffic counts.

Work Elements:

7.1 Control Surveys

Prepare base control surveys that include a new survey of the surface of the proposed USPS site and a survey of the proposed USPS site of property lines and ownership.

Note: Project locus for all of Task 7 includes an approximate 10-acre site to be determined by MassDOT.

7.2 Major Utility Surveys

Prepare base utility surveys for the entire proposed USPS location.

7.3 Subsurface Geologic/Seismic Exploration

Prepare geologic/seismic exploration surveys for the proposed USPS location.

7.4 Soils

Prepare soil surveys for the entire proposed USPS location.

7.5 Existing Traffic Counts

Prepare a vehicular traffic count for the existing area roads adjacent to the proposed USPS location.

Task Deliverables:

- Documented survey numbers for the site including surveys of soils, geological/seismic, major utilities, base, limit of work, and property lines and ownership
- Traffic counts for the area roads adjacent to the project locus

TASK 8: OPERATIONS ANALYSIS AND SIMULATION

Objectives:

- Operations analysis on proposed expansion.
- Operations analysis on layover facility movements.
- Simulate the expanded South Station operations.

Work Elements:

8.1 Railroad Operations

Conduct an operational analysis and simulation based on existing operational and ridership data available from the MBTA's 2030 Master Plan, Amtrak's 2030 Northeast Regional and Acela Express NEC and In-land routing, and the Central Transportation Planning Staff (CTPS). For each alternative, develop and analyze a single operational concept. Reassess the operational concepts in concert with ridership projections to optimize service reliability and ridership potential. Based on the analysis, develop a refined operational concept for each alternative. The analysis will identify the following attributes:

- Vehicle running times
- Service frequencies
- Daily and annual vehicle hours of service
- Vehicle maintenance window requirements
- Operational capacity requirements
- Infrastructure needs to support the operating plan (including signal, communications, and power systems)
- Potential vehicle/service conflict points
- Operational feasibility at terminal and layover facility
- Operational impacts on the future transportation system

8.2 Bus Operations

Prepare a South Station Bus Operations analysis. Document the existing bus network in the corridor including MBTA and any privately operated services.

Changes should be designed to maximize transit ridership while maintaining the quality of bus service for local trips within the area.

8.3 Pedestrian Circulation and Existing Analysis

Prepare analysis of pedestrian movements and traffic flow in and around South Station. Document pedestrian flow and identify locations for improvement.

Task Deliverables:

- Railroad and Bus Operations Reports
- Pedestrian and Traffic Flow Report

TASK 9: PRELIMINARY ENGINEERING - SOUTH STATION TRACKWORK

Objectives:

- Rework the existing South Station tracks to meet the needs of the proposed expanded South Station to include additional platforms and tracks.
- Prepare preliminary engineering plans detailing proposed improvements.

Work Elements:

9.1 Track Layout/Engineering

Prepare track stick diagrams and preliminary engineering drawings for 4 (four) proposed South Station track layouts. Investigate improvements to Tower I, Cove, and Broadway Interlockings as applicable. Rework existing cross-overs and universals from the Ft. Point Channel Bridge and from Shawmut Avenue to South Station.

9.2 Architectural

Prepare preliminary architectural plans for the South Station catenary and signage.

9.3 Track and Station Structures

Prepare preliminary plans for South Station platforms, catenary structures over tracks and other structures over or around the proposed tracks.

9.4 Track Systems

Prepare train control/signaling systems including:

- Wayside signal
- Cab signaling systems
- CTEC central controls for Amtrak
- OCC central control monitors for MBTA and train supervision controls.

Prepare communication systems including:

- Fiber optics
- Telephone service
- SCADA - data transmission
- Passenger information systems/public address systems

- Security/cameras
- Fire detection alarms
- Cable systems
- Security/intrusion detection alarms.

Prepare traction power and distribution systems including:

- Existing power study
- Proposed design for substations
- Tie breaker equipment
- Power distribution.

Prepare electrical systems including:

- Existing electrical study and proposed design for lighting
- Alternative emergency power supply requirements
- Hotel power
- Other equipment
- Existing emergency generators in South Station
- Switch heaters.

9.5 Safety and Security

Propose a safety and security certification program. Prepare a preliminary hazard analysis. Prepare a threat and vulnerability analysis. Prepare a preliminary safety and security design criteria manual. Create a list of preliminary safety and security performance requirements. Get safety and security design reviews and approvals.

9.6 Mechanical and Electrical Plans

Prepare preliminary plans for station ventilation, communication signage, and elevators/escalators.

9.7 Site/Civil Plans

Prepare site/civil plans for the following aspects:

- USPS GMF Demolition plans
- Track Demolition
- Drainage/utility
- Grading
- Details
- Landscape
- Erosion & sedimentation control.

9.8 Pedestrian Circulation/Emergency Egress Evaluation

Prepare a pedestrian egress evaluation for during construction and post-construction.

9.9 Vehicular Access

Prepare a vehicular access plan for South Station.

Task Deliverables:

- South Station track diagrams
- South Station track structure plans
- South Station track system plans
- South Station safety and security plans
- South Station mechanical plans
- South Station site/civil plans
- South Station egress evaluation report
- South Station vehicular access plan

TASK 10: PRELIMINARY ENGINEERING – LAYOVER FACILITY TRACKWORK

Objectives:

- Prepare preliminary engineering plans detailing proposed improvements.

Work Elements:

10.1 Track Layout/Engineering

Prepare track stick diagrams and preliminary engineering drawings for 2 (two) proposed layover track layouts. Investigate improvements to adjacent Interlockings as applicable. Rework existing cross-overs and universals to enable access into the layover facility

10.2 Architectural

Prepare preliminary architectural plans for the on-site support structures, catenary and signage, as applicable.

10.3 Track Structures

Prepare preliminary plans for catenary structures over tracks and other structures over or around the proposed tracks.

10.4 Track Systems

Prepare train control/signaling systems including:

- Wayside signals
- Cab signaling systems
- CTEC central controls for Amtrak
- OCC central control monitors for MBTA and train supervision controls.

Prepare communication systems including:

- Fiber optics
- Telephone service
- SCADA - data transmission
- Passenger information systems/public address systems

- Security/cameras
- Fire detection alarms
- Cable systems
- Security/intrusion detection alarms.

Prepare traction power and distribution systems including:

- Existing power study in conjunction with South Station study
- Proposed design for substations
- Tie breaker equipment
- Power distribution.

Prepare electrical systems including:

- Existing electrical study and proposed design for lighting
- Alternative emergency power supply requirements
- Hotel power
- Other equipment
- Existing emergency generators in South Station
- Switch heaters.

10.5 Mechanical and Electrical Plans

Prepare preliminary plans for on-site support structure ventilation, communication signage, and elevators/escalators.

10.6 Site/Civil Plans

Prepare site/civil plans for the following aspects:

- Demolition plans of existing structures
- Track demolition
- Drainage/utility
- Grading
- Details
- Landscape
- Erosion & sedimentation control.

Task Deliverables:

- Layover Facility track diagrams
- Layover Facility track structure plans
- Layover Facility track system plans
- Layover Facility mechanical plans
- Layover Facility site/civil plans

TASK 11: PRELIMINARY ENGINEERING – HEADHOUSE, PLATFORMS AND CONCOURSES

Objectives:

- Create and prepare preliminary engineering plans and reports necessary for the proposed Future Build, Headhouse and Concourses

Work Elements:

11.1 Site/Civil Plans

Prepare preliminary plans for:

- Demolition
- Layout
- Drainage/utility
- Grading
- Details
- Landscape
- Erosion & sedimentation control.

11.2 Design Competition

Provide packaging for solicitation for proposals of South Station and T.O.D. design competition including:

- Prepare a solicitation package
  Provide technical assistance for design teams and selections panel.
- Coordination with Boston Redevelopment Authority to create Masterplan of the Station site.

11.3 Architectural Plans – Future Build

Prepare preliminary architectural plans that include:

- Program development
- Conceptual elevations
- Conceptual renderings pertinent to the Future Build.

11.4 Architectural Plans – Headhouse Concourses

Prepare preliminary architectural plans relative to the proposed Headhouse and Concourses that include:

- Program development
- Elevations
- Floor plans
- Roof plans
- Reflective ceiling plans
- Vertical access plans
- Building sections
- Typical wall sections

- Details
- Renderings.
- Extend the existing South Station pedestrian concourse to the new track expansion Headhouse and Dorchester Avenue
- Include an elevated pedestrian concourse, perpendicular to tracks, connecting the existing MBTA bus facility to Dorchester Avenue

11.5 Mechanical/Electrical/Plumbing (M/E/P)

Prepare a set of preliminary mechanical, electrical and plumbing plans for the new headhouse facilities that includes:

- Elevator/stair/escalator sizing
- M/E/P equipment
- Layout
- Details

11.6 Building Structural

Prepare preliminary structural plans with:

- Foundations
- Pedestrian concourse
- Service road extension from bus off-ramp
- Conceptual column schedules for the over-build location and preliminary Column schedules for the headhouse
- Braced frame elevations
- Wall sections
- Elevator/escalator/stair/ramp systems
- Details.

11.7 Leadership in Energy & Environmental Design (LEED)

Prepare a report on the LEED certifications and criteria to be met by the Future build and Headhouse. Prepare planning and engineering documents in a fashion that will allow for the designs to meet LEED Plus criteria, as determined by the State of Massachusetts.

11.8 Vehicular/Pedestrian Access Plans

Prepare preliminary engineering plans for the following:

- Dorchester Avenue. It is the intent that Dorchester Avenue will be reconstructed to allow for public access between South Boston and Summer Street.
- Include an extension of the Boston Harbor Walk along Dorchester Avenue
- Drop-off/Pick-up area for new headhouse building
- Evaluation of bus rerouting to serve Dorchester Avenue and bus stop locations and facilities along Dorchester Avenue

- Extend elevated existing bus off-ramp from current location above existing tracks to service area in existing triangle to provide service to South Station
- Summer Street and Atlantic Ave signal retiming.

Task Deliverables:

- Preliminary site/civil plans for the Headhouse, Dorchester Avenue, Pedestrian Concourse, and Service Road Extension
- Design competition solicitation package
- Conceptual Architectural plans for future over-build
- Preliminary Architectural plans for Headhouse and appurtenances
- Preliminary M/E/P plans for Headhouse and appurtenances
- Preliminary Structural plans for Headhouse, Pedestrian Concourse, Service Road Extension
- Preliminary report outlining steps taken to obtain LEED certification

TASK 12: PRELIMINARY ENGINEERING - PROPOSED USPS GMF

Objectives:

- Prepare preliminary architectural and engineering plans for proposed USPS GMF relocation area.

Work Elements:

12.1 Site/Civil Plans

Prepare preliminary engineering plans for:

- Demolition
- Layout
- Parking garage
- Drainage/utility
- Grading
- Details
- Landscape
- Erosion & sedimentation control.

12.2 Architectural Plans

Prepare preliminary architectural plans relative to the proposed Headhouse that include:

- Program development
- Elevations
- Floor plans
- Roof plans
- Reflective ceiling plans
- Vertical access plans
- Building sections

- Typical wall sections
- Details
- Renderings.

12.3 Mechanical/Electrical/Plumbing (M/E/P)

Prepare a set of mechanical, electrical, and plumbing preliminary engineering plans for the proposed USPS location that includes:

- Elevator/stair/escalator sizing
- M/E/P equipment
- Layout
- Details

12.4 Building Structural

Prepare preliminary engineering structural plans with:

- Foundations
- Column schedules
- Braced frame elevations
- Wall sections
- Elevator/escalator/stair/ramp systems
- Details.

12.5 Leadership in Energy & Environmental Design LEED

Prepare planning and engineering documents in a fashion that will allow for the designs to meet LEED Plus criteria, as determined by the USPS.

12.6 Roadway Plans

Prepare plans required to obtain and receive MassDOT Highway Access permit.

12.7 Land Acquisition Plans

Prepare land acquisition plans to show for all land to be acquired by the State.

Task Deliverables:

- Preliminary site/civil plans
- Preliminary Architectural
- Preliminary M/E/P plans
- Preliminary Structural plans
- Preliminary report outlining steps taken to obtain LEED certification
- Roadway plans for MassDOT Highway Access Permit
- Land Acquisition Plans

TASK 13: STAGING AND PHASING PLANS

Objectives:

- Prepare phasing plans to mitigate construction impacts. It is the intent to stage the phasing of the construction in order to limit the impact on the pedestrians, traffic, and Amtrak/MBTA passengers.

Work Elements:

13.1 Railroad Infrastructure Construction Phasing

Prepare a set of construction phasing plans for the railroad infrastructure. Phase track construction in order to minimize delays to MBTA and Amtrak trains.

13.2 Operating Phasing

Provide operating analysis and simulations for railroad infrastructure phasing plans in order to assess construction impacts.

13.3 Building Construction Phasing

Prepare a construction phasing plan for the demolition of the current USPS building and construction and extension of the South Station headhouse.

13.4 Pedestrian/Vehicular Access Phasing

Prepare a set of phasing plans to reroute pedestrian and vehicular access to South Station during construction times.

Task Deliverables:

- Construction phasing plans

TASK 14: ENVIRONMENTAL CLEARANCES

Objectives:

- Prepare, review, and analyze environmental data from existing and proposed conditions
- File plans and documentation to MEPA/NEPA for a Draft EA/EIR

Work Elements:

14.1 Environmental Analysis

The South Station Expansion environmental analyses will study a range of resources for the MEPA/NEPA review. The studies will include analysis of the proposed project's construction and operation impacts to environmental resources as follows:

- **Wetlands**
  - **Existing Conditions**

    Identify limits of wetland resources associated with the Fort Point Channel through field survey and existing mapping. Wetland resources

will be characterized by type, as identified by both state and federal regulations. Plans showing the surveyed limit of wetland resource areas will be prepared.

- **Environmental Consequences**
  Identify potential impacts to wetland resources from the proposed project.
- **Mitigation**
  Describe proposed actions to mitigate impacts to wetland resources, if required.

- **Regulatory Requirements**
  Discuss how the proposed project would comply with the U.S. Clean Water Act and the Massachusetts Wetlands Protection Act and other identified regulatory programs, as applicable.

❖ **Waterways**

- **Existing Conditions**
  Identify the limits of areas at each site within Chapter 91 jurisdiction using aerial photography and existing mapping (MassGIS and DEP's presumed jurisdictional maps for the City of Boston). Water-related interests of the public, as outlined in the Waterways Regulations at 310 CMR 9.55, will be identified.

- **Environmental Consequences**
  Identify potential work within tidelands subject to Chapter 91 from the proposed project.

- **Mitigation**
  Describe proposed actions to mitigate impacts to public water-related interests, if required.

- **Regulatory Requirements**
  Discuss how the proposed project would comply with Chapter 91, in particular, standards for nonwater-dependent infrastructure facilities.

❖ **Water Quality**

- **Existing Conditions**
  Determine the existing surface water classification of the Fort Point Channel near the South Station Expansion site based on the Massachusetts Surface Water Quality Standards (310 CMR 4.00). Existing on-site storm water infrastructure and connections to the City of Boston and Massachusetts Water Resource Authority's infrastructure will be described.

- **Environmental Consequences**
  Evaluate potential impacts of surface water discharge (quality and quantity) from the proposed project to surface and groundwater resources. Changes in impervious surface, sources of pollutants, and runoff rates will be calculated. This task assumes that all stormwater management facilities would be constructed in accordance with the Massachusetts Stormwater Policy Standards. Temporary (construction-period) impacts to water quality from expansion alternatives will be evaluated. Proposed pollution prevention measures, and sedimentation and erosion controls during construction will be described.

- **Mitigation**
  Identify measures to mitigate potential short-term (construction period) and long-term impacts to surface or groundwater quality (potential dewatering during construction) from the proposed project, in accordance with the Massachusetts Stormwater Policy Standards. Proposed actions to mitigate impacts (additional storm water flows and potential alterations) to City of Boston and Massachusetts Water Resource Authority's infrastructure will be described, if required. Additional storm water management measures proposed to improve existing conditions will be included, as required by Stormwater Management Standard 7 for redevelopment projects.

- **Regulatory Requirements**
  Discuss how the proposed project would comply with the National Pollutant Discharge Elimination System permit for the City of Boston, Massachusetts Surface Water Quality Standards, Massachusetts Stormwater Management Standards, and the City of Boston Sewer Regulations and other associated permits and requirements. Compliance with the NPDES Construction General Permit will be discussed. Proposed storm water management measures to meet water quality standards will be included.

❖ **Contaminated Soils or Groundwater**

- **Existing Conditions**
  Conduct Phase I Environmental Site Assessments to assess the potential for oil and hazardous materials (OHM) to be present from historical or current activities at the South Station Expansion site. Recognized Environmental Conditions (RECs) that could present an environmental liability will be identified. Optionally, a hazardous materials survey of the existing USPS facility may be conducted. Further evaluation of subsurface contamination may be conducted, based on the findings of the

Phase I Environmental Site Assessments, as Phase II Subsurface Investigations.

- **Environmental Consequences**
  Confirm the presence of OHM, if present, which could impact construction and/or operation. Also, identify potential effects of construction on existing areas of environmental contamination. Conditions that may pose a Significant Risk to human health, safety, public welfare or the environment will be identified.

- **Mitigation**
  Identify specific response actions that are required to be in compliance with the Massachusetts Contingency Plan (MCP) within areas of identified soil or groundwater contamination.

- **Regulatory Requirements**
  Discuss compliance with the MCP with regard to the identification and evaluation of contaminated soils and groundwater discovered at the site. Compliance with the Massachusetts Hazardous Waste Regulations will also be included regarding the storage, collection, transport, treatment, disposal, use, reuse, and recycling of hazardous waste found on the property and during construction.

❖ **Historic and Archaeological Resources**

- **Existing Conditions**
  Review and obtain existing cultural resource information including Massachusetts Historical Commission (MHC) Inventory of Historic and Archaeological Assets of the Commonwealth forms, State Register of Historic Places, National Register of Historic Places, and MHC archeological files to identify known or potential archaeological resources within the South Station Expansion site. Previously designated and inventoried cultural resources will be identified and mapped. An evaluation of resources not previously identified will also be included. Fieldwork for archeological resources would involve limited testing to determine the presence of archeological resources. Prior to this fieldwork, a State Archeologist permit will need to be obtained from MHC. Any resources documented during fieldwork will be mapped using GIS.

- **Environmental Consequences**
  Determine the nature and extent of potential impacts within areas that have a moderate to high likelihood of containing archaeological resources. Impacts to cultural resources will be evaluated taking into

consideration direct construction impacts, vibration impacts, and changes in setting that adversely affect resources.

- **Mitigation**
  Describe proposed mitigation measures for impacts to archeological resources.

- **Regulatory Requirements**
  Discuss compliance with Section 106 of the Historic Preservation Act (36 CMR 800) and MGL Chapter 254 (950 CMR 71) with the MHC. Consultation with MHC would also occur regarding the preparation of a permit application.

❖ **Traffic**

- **Existing Conditions**
  Summarize existing traffic conditions within the South Station project area.

- **Environmental Consequences**
  Summarize the positive and negative traffic impacts of the proposed project. The analyses will include traffic volume impacts, level-of-service analysis, and traffic circulation around the proposed South Station Expansion.

- **Mitigation**
  Describe proposed mitigation measures for impacts to traffic and parking.

- **Regulatory Requirements**
  Discuss compliance with MassDOT Highway and City of Boston traffic and parking ordinances.

❖ **Noise**

- **Existing Conditions**
  Determine noise sensitive receptor locations at and near the South Station Expansion site based on plans, USGS maps, aerial photographs, site visits, and following the procedures contained in the FTA guidance manual "Transit Noise and Vibration Impact Assessment." Noise projections (background, transit and construction) and impact assessment details will be explained.

- **Environmental Consequences**

Identify locations that would be adversely affected by noise during construction and post-construction (operations) of the proposed project, following FTA guidance and procedures.

- **Mitigation**
  Describe mitigation measures for noise impacts from transit operations and the construction-period (short-term). Recommendations for any proposed restrictions on construction or operations will be included.
- **Regulatory Requirements**
  Explain how the proposed project would comply with the City of Boston Noise Ordinance standards for construction and post-construction conditions.

❖ **Vibration**

- **Existing Conditions**
  Identify vibration sensitive receptor locations at and near the South Station Expansion site based on USGS maps, aerial photographs, site visit and following the procedures contained in the FTA guidance manual. Details regarding vibration impact criteria and existing vibration conditions will be provided.

- **Environmental Consequences**
  Identify locations that would be adversely affected by vibration during construction and post-construction (operations) of the proposed project, following FTA guidance and procedures.

- **Mitigation**
  Describe mitigation measures for vibration impacts from transit operations and the construction-period (short-term). Recommendations for any proposed restrictions on construction or operations will be included.

❖ **Air Quality**

- **Existing Conditions**
  Obtain DEP's air quality monitoring data to determine the study area's attainment status for the transportation-related pollutants. A hotspot analysis will be conducted to calculate existing carbon monoxide (CO) and particulate matter (PM) concentrations. Existing Air Toxic and Greenhouse Gas emissions will be presented and evaluated, based upon FTA's, EPA's and DEP's guidance manuals.

- **Environmental Consequences**
  Obtain the latest mobile source emission factors, and SIP activity related to the study area, and evaluate the proposed project's impact on local and

regional emissions. Changes in traffic and rail emissions will be incorporated into the regional emissions. A local hotspot analysis will be conducted to evaluate CO and PM concentrations for each alternative. Future Air Toxic and Greenhouse Gas emissions from the proposed project will be evaluated, based upon FTA's, EPA's and DEP's guidance manuals.

- **Mitigation**
  Describe mitigation measures for short-term (construction-period) impacts from construction equipment, and for any long-term effects of the proposed project.

- **Regulatory Requirements**
  The consultant will describe how the proposed project conforms to the State Implementation Plan (SIP) and the 1990 Clean Air Act Amendments (CAAA).

❖ **Economic**

- **Existing Conditions**
  Characterize the general social and economic conditions within the South Station Expansion area and the adjacent neighborhoods (Fort Point, Leather District) using information provided by the U.S. Census, Metropolitan Area Planning Council, and other sources (aerial photography, municipal mapping). Summaries of important socioeconomic data such as population statistics, housing income and trends, employment statistics, and property tax rates may be included.

- **Environmental Consequences**
  Potential beneficial or detrimental socioeconomic impacts from the proposed project would be analyzed including property tax revenue loss, business displacement, and job loss/gain.

❖ **Environmental Justice**

- **Existing Conditions**
  Obtain state environmental justice census data (census block and block-group) to determine locations of minority, low-income and Hispanic populations near the South Station Expansion site. Maps showing locations of environmental justice populations within ½ mile of the sites will be included. Potential impacts to these communities will be identified based on changes in noise, traffic, air quality, or other resources.

- **Environmental Consequences**

Describe any potential impacts from the proposed project that would disproportionately affect environmental justice populations.

- **Regulatory Requirements**
  Describe compliance with the Massachusetts Executive Office of Energy and Environmental Affairs Environmental Justice Policy, Executive Order 12898, and US Department of Transportation (DOT) Order 5610.2.

- **Cumulative Impacts**
  - **Impacts of South Station Expansion**

Assess cumulative impacts of the proposed project in combination with reasonably foreseeable future projects on the neighborhoods surrounding the site (Fort Point Channel, Leather District, and South Boston). The purpose of the analysis is to ensure that federal decisions consider the full range of consequences of actions. Narrow the focus of the analysis to important issues of local and regional significance. The timeframe for the cumulative impacts analysis will include two components: the time period covering past, known effects and a period covering future, predictable effects. Information on land uses and future development in these neighborhoods will be solicited from the Boston Redevelopment Authority and the Metropolitan Area Planning Council. Relocation of the USPS Facility, as part of the proposed project, will be considered in the cumulative effects analysis of future actions. CEQ's *Considering Cumulative Effects under the National Environmental Policy Act* (CEQ 1997) will be used to guide the cumulative impacts analysis.

  - **Impacts of New Layover Facility**

Assess cumulative impacts of the proposed project in combination with reasonably foreseeable future projects on the neighborhoods surrounding the site. The purpose of the analysis is to ensure that federal decisions consider the full range of consequences of actions. Narrow the focus of the analysis to important issues of local and regional significance. The timeframe for the cumulative impacts analysis will include two components: the time period covering past, known effects and a period covering future, predictable effects. Information on land uses and future development in adjacent neighborhoods will be solicited from the Boston Redevelopment Authority and the Metropolitan Area Planning Council. CEQ's *Considering Cumulative Effects under the National Environmental Policy Act* (CEQ 1997) will be used to guide the cumulative impacts analysis.

  - **Impacts of Overbuild**

The consultant will specifically assess cumulative impacts of the potential overbuild development that could be constructed above the proposed

platform tracks, as a reasonably foreseeable future project, on the neighborhoods surrounding the proposed project area. Assessment of the cumulative impacts of the air rights development would be made on a conceptual basis, given that a proposal for such development does not exist at this time.

❖ **Summary**

Summarize cumulative impacts of the proposed project and potential overbuild in combination with reasonably foreseeable future projects on the neighborhoods surrounding the proposed project.

14.2 Environmental Documentation

14.2.1 Prepare and File ENF

Prepare a full ENF for internal review and page-through.

- Prepare a full ENF for client submittal and review.
- Incorporate client comments on the ENF and prepare a final draft for distribution.
- Print and distribute an ENF as required by MEPA regulations via hard copy and on MassDOT's website. Distribution of the hard copy version of the document and/or CD will be achieved using the USPS regular first class mail service

14.2.2 Prepare and File Draft EA/EIR

Develop an outline for the Draft EA/EIR based on the Executive Office of Energy and Environmental Affairs (EEA) Secretary's Certificate on the ENF and requirements of FRA's NEPA regulations.

- **Internal Draft**

  Prepare a full EA/EIR for internal review and page-through, in accordance with the EEA Secretary's Certificate on the ENF. The Draft EA/EIR will address all points in the DEIR Scope contained in the Certificate. Draft copies of the Draft EA/EIR will be submitted to MassDOT and the MBTA for review and approval prior to completing the Final EA/EIR.

  The Draft EA/EIR may contain the following elements:

  - Table of Contents
  - Executive Summary
  - Project History
  - Description of the alternatives considered for the South Station Expansion.
  - Description of the proposed project and rationale.
  - Description of construction methods and staging for the proposed project.
  - Project cost and funding.

- Project phasing and schedule.
- Description of the existing environment for each affected resource.
- Description of proposed project impacts to each environmental resource.
- Consistency with regulatory standards regarding affected environmental resources.
- Description of all proposed mitigation measures.
- Proposed Section 61 Findings.
- Comment letters on the ENF, the ENF Certificate, and responses to comments
- Supporting graphics.
- Technical Appendices, as necessary.
- Appendix of Responses to Comments on the ENF. The consultant will prepare a catalog and index of substantive comments on the ENF and will mark comment letters with sequential numbers for each letter and comment. The consultant will also develop responses to the comments.

▪ **Client Review Draft**
Prepare a full EA/EIR for client submittal and review.

▪ **Publication Version**
Incorporate client comments on the Draft EA/EIR and prepare final draft for distribution.

Distribution: Print and distribute the Draft EA/EIR document, CD, and Executive Summary in compliance with Section 508 and the MEPA regulations via hard copy and on MassDOT's website. Distribution of the hard copy version of the document and/or CD will be achieved using the USPS regular first class mail service.

14.2.3 Prepare and File Final EA/EIR

Develop an outline for the Final EA/EIR based on the Certificate on the Draft EIR. Conduct additional technical studies specified in the Certificate.

▪ **Internal Draft**
Address the Certificate elements regarding the Draft EA/EIR and agency feedback. The consultant will also prepare a catalog and index of substantive comments on the Draft EA/EIR. Comment letters will be marked with sequential numbers for each letter and comment. The consultant will develop responses to the comments. The consultant will prepare a Final EA/EIR for internal review and page-through.

- **Client Review Draft**
  Prepare a Final EA/EIR for client submittal and review.

- **Publication Version**
  Incorporate client comments on the Draft EA/EIR and prepare the final draft for distribution.
  Distribution: Print and distribute the Final EA/EIR document, CD, and Executive Summary to be compliant with Section 508 and MEPA regulations via hard copy and on MassDOT's website. Distribution of the hard copy version of the document and/or CD will be achieved using the USPS regular first class mail service.

14.3 Meetings and Agency Coordination

- Coordinate with MassDOT and other agencies (such as the MEPA office, MassDEP Waterways, MassDEP Air Quality, City of Boston Environment Department, and EPA)_ regarding NEPA/MEPA compliance. The consultant will assume at least four environmental agency meetings will occur during preparation of the Draft EA/EIR, and twenty meetings with MassDOT staff. Meeting agendas, meeting minutes, and graphics will be prepared for each of the meetings.
- Assist MassDOT with the coordination of public hearings on the ENF and Draft and Final EA/EIR and attend meetings with the appropriate presentation materials.
- Prepare for and conduct coordination meetings with interested and affected parties to inform the public, solicit input and feedback, and coordinate among agencies, including stakeholders identified in 1.3 above.
- Meet with City of Boston and DEP representatives to discuss compliance with Waterways Regulations and the City of Boston Municipal Harbor Plan. The consultant will assume at least four consultation meetings will occur.
- Attend City of Boston meetings regarding the City of Boston Municipal Harbor Plan renewal or amendment process for the Fort Point Channel and participate in the process, if possible. The consultant will assume attendance at approximately six planning meetings.

Task Deliverables:

- Provide Technical reports for each of the environmental topics studied
- Draft EA/EIR
- Final EA/EIR

TASK 15: PRELIMINARY COST ESTIMATING

Objectives:

- Prepare necessary cost estimate documents.

Work Elements:

15.1 Baseline Cost Estimate

Prepare a baseline cost estimate for the proposed redesigns of South Station and the USPS proposed relocation.

15.2 Claims Avoidance Reviews

Prepare a review of the claims avoidance for the proposed redesigns of South Station and the USPS proposed relocation.

15.3 Intermediate, Pre-Final and Final Cost Estimates

Prepare intermediate, pre-final and final cost estimates for the proposed redesigns of South Station and the USPS proposed relocation.

Task Deliverables:

- Baseline cost estimate
- Claims avoidance review
- Intermediate, pre-final, and final cost estimates

TASK 16: FLAGGING AND RAILROAD PROTECTIVE INSURANCE

Objectives:

- Prepare agreements for complying with liability and insurance requirements
- Prepare a schedule of flagging services

Work Elements:

16.1 Right of Entry Agreement

Prepare a set of Right of Entry agreements that comply with the MassDOT, MBCR, and other involved agencies standards.

16.2 Scheduling of Flagging Services

Prepare a schedule of necessary flagging services agreed on by the contractor and MassDOT, MBCR, and other involved agencies standards

Task Deliverables:

- A Right of Entry Agreement
- A schedule of Flagging Services

TASK 17: ON-CALL SUPPORT SERVICES

Objectives:

- Compile and prepare an estimate of the amount to be allotted to On Call Support Services

Work Elements:

17.1 On-Call Estimate

Prepare an estimate for the amount to be allotted to On-Call Support Services

Task Deliverables:

- An estimate for the amount to be allotted to On-Call Support Services

TASK 18: PREPARATION/PACKAGING OF SOLICITATION/RFP

Objectives:

- Preparation of a solicitation/RFR for final engineering of the Project

Work Elements:

18.1 Prepare a RFR

- Prepare documentation/memorandum outlining next steps to the project
- Develop a solicitation/RFR for Final Engineering portion of Project
- Provide all deliverables electronically to MassDOT and attach to the solicitation.

Task Deliverables:

- Request for Responses

TASK 19: SPECIFICATIONS

Objectives:

- Collaborate and create a set of specifications and agreements for the project areas

Work Elements:

19.1 Project Specifications and Requirements

Prepare a complete set of outline specifications, for MassDOT review for the Project. Outline specifications shall include all Divisions, including Division 1 specifications, as provided by the State.

Task Deliverables:

- A set of contract specifications between the contract and the state and federal agencies, as well as any other participants