

## Table of Contents

### 1. INTRODUCTION AND PROJECT SUMMARY

1.1.	Introduction .....	1-1
1.1.1.	Project Purpose .....	1-1
1.1.2.	Project Need .....	1-1
1.1.3.	Project Review and Analysis .....	1-2
1.2.	Summary of Project Benefits .....	1-3
1.2.1.	Transportation .....	1-3
1.2.2.	Environment .....	1-4
1.2.3.	Public Amenities .....	1-5
1.3.	The Project .....	1-6
1.3.1.	Upgrade Existing Rail Infrastructure .....	1-6
1.3.2.	Expand South Station Terminal .....	1-6
1.3.3.	Reopen Dorchester Avenue and Extend the Harborwalk .....	1-12
1.3.4.	Acquire and Demolish the USPS Facility .....	1-12
1.3.5.	Construct Rail Layover Facilities .....	1-13
1.4.	Summary of Project Changes since the DEIR .....	1-18
1.5.	Status Updates on Project-Related Activities .....	1-19
1.5.1.	Update on Public Outreach Activities .....	1-19
1.5.2.	Update on the Section 106 Review Process .....	1-20
1.5.3.	Update on the South Station Air Rights Project .....	1-20
1.5.4.	I-90 Allston Interchange Project/Beacon Park Yard .....	1-20
1.5.5.	North/South Rail Link Project .....	1-21
1.6.	Anticipated Permits and Approvals .....	1-21

### 2. PROJECT DESIGN UPDATES, COST, FUNDING, AND SCHEDULE

2.1.	South Station Headhouse Design Updates .....	2-1
2.1.1.	Update on South Station Headhouse Design .....	2-1
2.1.2.	Pedestrian Level of Service .....	2-2
2.1.3.	Ventilation System Configuration .....	2-2
2.1.4.	Consistency with Updated Station Design Principles .....	2-3
2.2.	Consistency with Project Goals and Objectives .....	2-5

2.2.1.	Meet 95% On-Time Performance and Minimize Delays .....	2-5
2.2.2.	Provide Sufficient Track and Platform Capacity .....	2-6
2.2.3.	Accommodate Passenger Service Needs .....	2-7
2.2.4.	Provide Adequate Vehicle Layover Capacity .....	2-7
2.3.	Project Cost and Funding.....	2-7
2.4.	Project Phasing and Schedule.....	2-7
2.4.1.	Demolish the USPS Facility .....	2-8
2.4.2.	Construct South Station Rail.....	2-9
2.4.3.	Expand South Station Terminal .....	2-9
2.4.4.	Reconstruct Dorchester Avenue and Harborwalk.....	2-9
2.4.5.	Construct Rail Layover Facility Sites .....	2-10
3.	ENVIRONMENTAL ANALYSES	
3.1.	Introduction.....	3-1
3.2.	Summary of Potential Environmental Impacts.....	3-1
3.3.	Land Use and Property .....	3-7
3.3.1.	Impact Summary .....	3-7
3.3.2.	Existing Condition of Land to be Acquired .....	3-7
3.3.3.	Project Site Easements .....	3-13
3.3.4.	MassDOT’s Legal and Regulatory Obligations .....	3-14
3.4.	Wetlands.....	3-14
3.4.1.	Impact Summary .....	3-15
3.4.2.	Isolated Vegetated Wetlands .....	3-18
3.5.	Chapter 91 Waterways and Tidelands.....	3-18
3.5.1.	Impact Summary .....	3-18
3.5.2.	Chapter 91 Licensing Criteria.....	3-18
3.5.3.	Assessment of Public Benefits.....	3-19
3.6.	Water Quality and Stormwater .....	3-22
3.6.1.	Impact Summary .....	3-23
3.6.2.	Existing Drainage and Combined Sewer Systems.....	3-24
3.6.3.	Soil Conditions and Infiltration Capacity .....	3-26
3.6.4.	Stormwater Best Management Practices.....	3-26
3.6.5.	Potential Dedicated Drainage Systems .....	3-35

3.6.6.	Readville – Yard 2 Storm Drain Condition .....	3-35
3.7.	Water Use and Wastewater .....	3-36
3.7.1.	Impact Summary .....	3-36
3.7.2.	Impacts to Existing Combined Sewer Overflows.....	3-38
3.7.3.	Industrial Wastewater .....	3-38
3.8.	Transportation.....	3-38
3.8.1.	Impact Summary .....	3-39
3.8.2.	Terminal Track Configuration Alternatives Analysis.....	3-40
3.8.3.	Track Layout Capacity and Future Ridership.....	3-45
3.8.4.	Preferred Layover Facility Operations Assessment.....	3-45
3.8.5.	Layover Location and Operations Impacts on Rail Services .....	3-45
3.8.6.	Activities at Layover Facilities.....	3-46
3.8.7.	Layover Phasing Plan.....	3-46
3.9.	Traffic – Vehicles, Pedestrians, and Bicycles .....	3-46
3.9.1.	Impact Summary .....	3-47
3.9.2.	Intersection Mitigation Feasibility Analysis.....	3-47
3.9.3.	Transportation Demand Management Commitments.....	3-50
3.9.4.	Traffic Monitoring.....	3-50
3.9.5.	Trip Diversion to Dorchester Avenue .....	3-50
3.9.6.	Curbside Drop-Off/Pick-Up Area Design .....	3-52
3.9.7.	Use of Dorchester Avenue by MBTA Buses.....	3-52
3.9.8.	Pedestrian and Bicycle Connections.....	3-52
3.9.9.	Bicycle Parking.....	3-52
3.9.10.	Maintenance of Public Realm Infrastructure .....	3-52
3.9.11.	Water Transportation.....	3-53
3.10.	Climate Change.....	3-53
3.10.1.	Vulnerability Assessment Comparison .....	3-53
3.10.2.	Selection and Implementation of Adaptation and Resiliency Measures .....	3-64
3.10.3.	Timing of Adaptation Measures .....	3-64
3.10.4.	Stormwater Management Adaptation and Resiliency Measures .....	3-64
3.10.5.	Mitigating the Impact of Sea Level Rise on Combined Sewer Overflows .....	3-65
3.11.	Air Quality.....	3-65

3.11.1. Impact Summary .....	3-65
3.11.2. Concentration of Air Pollutants.....	3-66
3.12. Noise and Vibration .....	3-66
3.12.1. Impact Summary .....	3-67
3.12.2. Modeled Noise and Vibration Characteristics.....	3-68
3.12.3. Potential Mitigation Measures.....	3-69
3.12.4. Noise and Vibration Operational Best Management Practices.....	3-70
3.12.5. Noise and Vibration Monitoring.....	3-70
3.13. Greenhouse Gas Emissions.....	3-73
3.13.1. Impact Summary .....	3-73
3.13.2. Building Energy Modeling Details.....	3-75
3.13.3. Feasibility of Veolia Steam Use .....	3-78
3.13.4. Feasibility of Solar Photovoltaic Installation .....	3-79
3.13.5. Feasibility of Solar Hot Water Installation.....	3-80
3.13.6. On-Site Combined Heat and Power.....	3-83
3.13.7. Effect of Locomotive Plug-Ins.....	3-84
3.13.8. Indirect Emissions from Amtrak Trains .....	3-85
3.13.9. Applicable Energy Codes, Standards, and Rating Systems.....	3-85
3.14. Historic Resources .....	3-85
3.14.1. Impact Summary .....	3-86
3.14.2. Preliminary Determinations of Effect.....	3-88
3.15. Site Contamination and Hazardous Materials.....	3-90
3.15.1. Impact Summary .....	3-90
3.15.2. Site Specific Health and Safety Plan .....	3-91
3.15.3. Impacts on Construction Techniques .....	3-92
3.15.4. Implications of the Activity and Use Limitation at Readville – Yard 2.....	3-92
3.16. Construction Impacts.....	3-92
3.16.1. Impact Summary .....	3-93
3.16.2. Potential Service Modifications.....	3-94
3.16.3. Construction Period Access Locations and Laydown Areas .....	3-95
3.16.4. Revised Construction Management Plan (CMP) .....	3-95

4. PROPOSED SECTION 61 FINDINGS AND MITIGATION	
4.1. Introduction.....	4-1
4.1.1. Project Description.....	4-2
4.1.2. MEPA History.....	4-2
4.2. Proposed Draft Section 61 Finding.....	4-3
4.3. Project Mitigation.....	4-4
4.3.1. Overview of Project Mitigation Commitments.....	4-5
5. RESPONSE TO COMMENTS ON THE DEIR	
5.1. Introduction.....	5-1
5.2. Secretary’s Certificate on the DEIR.....	5-3
5.3. DEIR Comment Letters.....	5-73
5.4. Response to Comments on the DEIR.....	5-211
6. FEIR CIRCULATION LIST	
6.1. Federal Agencies.....	6-1
6.2. State Agencies.....	6-1
6.3. Railroad Operators.....	6-3
6.4. Regional Organizations.....	6-3
6.5. Federal Elected Officials.....	6-4
6.6. State Elected Officials.....	6-4
6.7. Local Elected Officials.....	6-6
6.8. Local Government.....	6-7
6.9. Libraries.....	6-8
6.10. Organizations and Businesses.....	6-9
6.11. Individuals.....	6-12
7. ACRONYMS.....	7-1
APPENDICES	
A. Stormwater Analysis Technical Report	
B. Greenhouse Gas Analysis Documentation	
C. Hazardous Materials Documentation	
D. Track Configuration Alternatives Analysis – Tier 2 Screening Technical Report	
E. Rail Operations Analysis Technical Report	

- F. Transportation Documentation
- G. Construction Management Plan
- H. DEIR Web Links

## List of Figures

### CHAPTER 1

1-1	SSX Project Benefits .....	1-5
1-2	Project Location Plan.....	1-8
1-3	South Station Site – Existing Conditions .....	1-9
1-4	South Station Site – Proposed Platform Level .....	1-10
1-5	South Station Site – Proposed Elevated Concourse Level .....	1-11
1-6	Dorchester Avenue – Typical Cross-Section.....	1-12
1-7	Widett Circle Layover Facility Site – Existing Conditions .....	1-14
1-8	Readville – Yard 2 Layover Facility Site – Existing Conditions .....	1-15
1-9	Widett Circle – Concept Plan .....	1-16
1-10	Readville – Yard 2 – Concept Plan.....	1-17

### CHAPTER 2

2-1	Existing Conditions Schematic Track Layout .....	2-6
-----	--	-----

### CHAPTER 3

3-1	Property Ownership and Proposed Property Acquisitions – South Station .....	3-10
3-2	Property Ownership and Proposed Property Acquisitions – Widett Circle .....	3-11
3-3	Property Ownership and Proposed Property Acquisitions – Readville – Yard 2.....	3-12
3-4	Wetlands Resources – South Station & Widett Circle Layover Facility.....	3-16
3-5	Wetlands Resources – Readville – Yard 2 Layover Facility.....	3-17
3-6	Existing Stormwater Infrastructure – South Station .....	3-25
3-7	Stormwater Management – South Station .....	3-27
3-8	Stormwater Bioretention BMP Details.....	3-28
3-9	Stormwater BMP Details.....	3-29
3-10	Stormwater Management – Dorchester Avenue Plan View .....	3-30
3-11	Stormwater Management – Dorchester Avenue Section .....	3-31
3-12	South Station Track Drainage Concept Plan.....	3-32
3-13	Stormwater Management – Widett Circle Layover Facility .....	3-33

3-14	Stormwater Management – Readville – Yard 2 Layover Facility .....	3-34
3-15	Constrained Rail Alternative 2 – Streamline Operations .....	3-43
3-16	Constrained Rail Alternative 3 – Minimize Disruptions to Operations .....	3-44
3-17	South Station Site – Traffic Mitigation Measures .....	3-49
3-18	Proposed Key Routes to South Station .....	3-51
3-19	FEMA Floodplain Existing Conditions – South Station and Widett Circle .....	3-57
3-20	Area Susceptible to Flooding with Two Feet of Sea Level Rise .....	3-58
3-21	Boston Harbor Flood Risk Model 1% Exceedance 2013, 2030 and 2070.....	3-60
3-22	Boston Harbor Flood Risk Model 1% Flood Depths 2013 .....	3-61
3-23	Boston Harbor Flood Risk Model 1% Flood Depths 2030 .....	3-62
3-24	Boston Harbor Flood Risk Model 1% Flood Depths 2070 .....	3-63
3-25	South Station Proposed Noise Barrier .....	3-71
3-26	Readville – Yard 2 Expansion of Existing Noise Barrier .....	3-72
3-27	Monthly eQUEST Building Model Results – Baseline Case .....	3-81
3-28	Monthly eQUEST Building Model Results – Proposed Case.....	3-82

## List of Tables

### CHAPTER 1

1-1	Anticipated Permits, Approvals and Notifications .....	1-21
-----	--	------

### CHAPTER 2

2-1	Proposed Construction Sequencing .....	2-8
-----	--	-----

### CHAPTER 3

3-1	Summary of Potential Environmental Impacts.....	3-2
3-2	Widett Circle Properties .....	3-8
3-3	Existing and Proposed Land Use Cover.....	3-23
3-4	Estimated Existing and Proposed Water Usage and Wastewater Generation for South Station.....	3-36
3-5	Estimated Wastewater Generation and Water Usage for Widett Circle.....	3-37
3-6	Estimated Wastewater Generation and Water Usage for Readville – Yard 2 .....	3-38
3-7	Comparison of No Build and Build Alternative Overall Intersection LOS .....	3-48
3-8	Flood Vulnerability Comparison: South Station.....	3-54
3-9	Flood Vulnerability Comparison: Widett Circle .....	3-54
3-10	Calculated Total Project-Related Stationary Source GHG Emissions.....	3-74

3-11	Project-Related CO <sub>2</sub> Emissions by Alternative .....	3-75
3-12	2035 Potential GHG Emissions Summary .....	3-75
3-13	Comparison of Program Space: DEIR and FEIR .....	3-75
3-14	Key Building Energy Model Inputs for South Station.....	3-76
3-15	Historic Resources within the South Station APE .....	3-86
3-16	South Station Determinations of Effect.....	3-89
3-17	Layover Facility Determinations of Effect.....	3-90
CHAPTER 4		
4-1	Required State Agency Actions.....	4-4
4-2	South Station – Summary of Impacts and Project Mitigation Commitments .....	4-6
4-3	Widett Circle – Summary of Impacts and Project Mitigation Commitments .....	4-10
4-4	Readville – Yard 2 – Summary of Impacts and Project Mitigation Commitments.....	4-12
CHAPTER 5		
5-1	List of DEIR Commenters .....	5-73
5-2	Response to Comments .....	5-211
5-3	Amtrak Growth Summary.....	5-278
5-4	MBTA Growth Summary .....	5-278