Brunswick Layover
Environmental Assessment (EA)

September 2013

Prepared pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 et. seq.

Lead Agencies

Federal Railroad Administration (FRA)

and

The Northern New England Passenger Rail Authority (NNEPRA)

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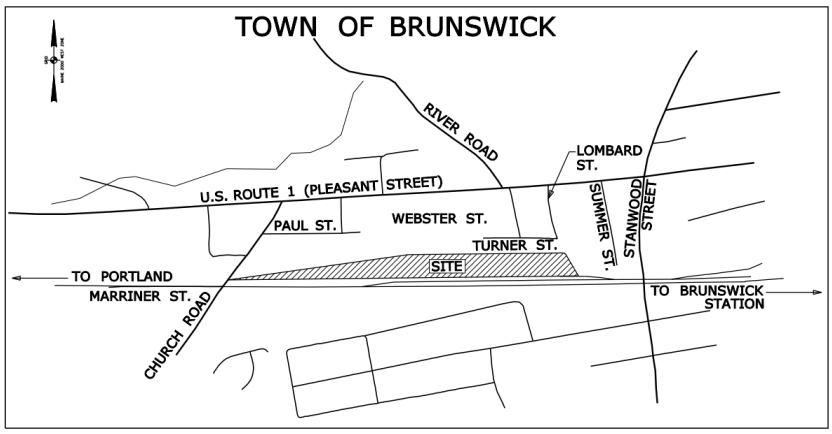
1 Introduction

The Northern New England Passenger Rail Authority (NNEPRA) is proposing to construct a passenger rail equipment layover facility in Brunswick, Maine to support the operation and expansion of *Amtrak Downeaster* passenger rail service. The proposed facility would consist of a main building, adjoining crew building and connecting tracks at the site of the Brunswick freight rail yard located between Church Road and Stanwood Street on property now owned by NNEPRA (Exhibit 1). The proposed site is approximately 0.6 miles west of Brunswick Station, which is the eastern terminus of *Amtrak Downeaster* service. The layover facility is intended to accommodate the overnight storage of a maximum of three (3) Amtrak diesel locomotive-powered passenger train sets used for the *Amtrak Downeaster* service. Dimensions of the single story main building are approximately 655 feet long by 70 feet wide with a maximum height of 37 feet. Offices, locker rooms, wash rooms and storage facilities will be incorporated in a 180 feet long by 26 feet wide structure attached to the north side of the proposed layover facility.

Exhibit 1: Locus Map



Not to scale

NNEPRA is funding all planning and design work for the proposed layover facility. However, NNEPRA intends to construct the proposed facility using a combination of state and federal funds, including state multi-modal and bond funds, and approximately $6 million in federal Congestion Mitigation and Air Quality (CMAQ) Improvement Program grant funds from the Federal Highway Administration (FHWA). The Federal Railroad Administration (FRA) is the lead Federal agency preparing this Environmental Assessment (EA) pursuant the National Environmental Policy Act (NEPA) because NNEPRA intends to request transfer of the CMAQ grant funds from FHWA to the FRA for administration.

This EA, which was prepared by NNEPRA and its consultants in consultation with the FRA, describes the purpose and need for the project and evaluates the potential effects on physical, biological and human resources that could occur as a result of the proposed action. The EA has been prepared in accordance with the National Environmental Policy Act of 1969, (NEPA), as amended, 42 U.S.C. §§ 4321 et. seq.; its implementing regulation, 40 Code of Federal Regulations (CFR) 1500-1508; and the FRA's *Procedures for Considering Environmental Impacts,* 64 FR 28545 (May 26, 1999).

1.1 NNEPRA Downeaster Background and History

NNEPRA is a public transportation authority created in 1995 by the Maine State Legislature to develop and provide passenger rail service between Maine and Boston, Massachusetts. As a result of NNEPRA's efforts, in December of 2001 Amtrak began operation of *Amtrak Downeaster* rail service linking Portland, Maine with Boston, Massachusetts following a $60 million investment to upgrade tracks, signal systems

and to build stations throughout the corridor. Various State and local agencies and Amtrak have made continuing investments in this corridor service since 2001 to improve service reliability and reduce travel times. Currently, 10 scheduled Downeaster passenger trains (five roundtrips) operate daily between Portland and Boston. Ridership in fiscal year 2013 was over 556,000 passengers, a 122 percent increase since 2005.

Included in the original plan for the *Amtrak Downeaster* service, but not possible until additional funding was secured, was the extension of the service beyond Portland to Freeport and Brunswick, Maine (Exhibit 2). This extension is important because it improves mobility for Maine residents, increases tourism and supports economic development along the rail corridor. In the spring of 2009, FRA awarded NNEPRA $35 million in funds from the High Speed Intercity Passenger Rail (HSIPR) Grant Program for construction of improvements enabling the extension of *Amtrak Downeaster* service to Brunswick. The State of Maine also agreed to cover any funding shortfalls. In June 2009, the FRA and NNEPRA prepared an EA covering improvements needed to extend *Amtrak Downeaster* Service to Freeport and Brunswick. The FRA issued a Finding of No Significant Impact (FONSI) in July 2009 and *Amtrak Downeaster* service to Brunswick was initiated in November 2012. Track capacity and usage agreements permit the extension of up to six one-way Amtrak Downeaster trips between Portland and Brunswick each day. However, only four *Amtrak Downeaster* trains travel between Brunswick and Boston each day. Because equipment is currently stored and serviced in Portland overnight, the remaining two train trips must be used just to position equipment between Portland and Brunswick at the start and end of the day.

Exhibit 2: Amtrak Downeaster Route Map

Service levels between Brunswick and Boston could increase from four to six trips daily if equipment was stored and serviced overnight in Brunswick because the two Portland to Brunswick equipment positioning moves no longer needed would be replaced by Brunswick to Boston revenue runs.

The level of service between Brunswick and Boston could potentially be increased from six to ten daily trips in the future, however additional passing track capacity between Portland and Freeport would be necessary to accommodate the additional trains. NNEPRA intends to pursue funding to construct that track.

1.2 Purpose and Need

The purpose of the Brunswick Layover project is to construct an indoor layover facility to store and provide routine servicing of *Amtrak Downeaster* passenger train sets near Brunswick Station, which in 2012 became the eastern terminus of the *Amtrak Downeaster* rail service. The layover facility proposed would be comprised of a main building for storage and servicing of equipment, an attached crew building, and ancillary track, access road and parking improvements as described in section 2.3 *Build Alternative*.

The proposed project is needed for several reasons:

- Amtrak requires a facility to store, restock and perform routine light maintenance such as cleaning and refueling of passenger rail equipment used for *Amtrak Downeaster* service.
- A layover facility in Brunswick is required to allow Amtrak train sets to power down during midday periods, reducing fuel consumption, emissions, vibration and noise otherwise produced by idling trains between scheduled service runs of the *Amtrak Downeaster*.
- An enclosed facility is needed to reduce wear and tear on Amtrak rolling stock and allow Amtrak's contractor to service and restock equipment overnight, particularly during harsh Maine winter months. The safety, efficiency and security of this operation will be significantly improved by providing an enclosed, climate-controlled facility. Such a facility will also facilitate snow and ice melt off of equipment during the winter.
- Crew quarters are needed to provide accommodations for Amtrak workers and contractors, such as a break room, restroom, briefing room, commissary and similar workplace amenities.
- A layover facility located near the terminus of *Amtrak Downeaster* service (Brunswick Station) is needed to reduce train movements between Brunswick and the current layover location in Portland that are required now to position equipment for the morning runs (as described in section 2.3). These trips back to Portland from Brunswick at night and then back from Portland to Brunswick in the morning carry very few passengers, increase fuel use and operating costs, and create additional night-time disturbances to abutters along the 28-mile Portland – Brunswick route.

1.3 Required Approvals and Permits

The Brunswick Zoning Ordinance, adopted by the Town Council in May 1997, establishes dimensional standards, including maximum building footprint. In the MU2 zone, where the proposed facility will be located, the maximum allowed building footprint is 20,000 square feet, unless a variance is granted. However, Federal law (see 49 U.S.C. § 10501(b)) generally preempts railroads from such ordinances where, as here, the facility is to be used in "transportation by rail carriers" and the "construction . . . of . . . facilities . . . ." 49 U.S.C. § 10501(b). The term "transportation" includes a "warehouse . . . yard, property, facility, instrumentality, or equipment of any kind related to the movement of passengers or property, or both, by rail" 49 U.S.C. § 10102. Hence, local zoning regulations are not applicable in this case, and a variance is not required. In addition, Federal law provides that "[n]o State or local building, zoning, subdivision, or similar or related law" shall apply in connection with the construction, ownership, use or operation of any "improvement" undertaken for the benefit of Amtrak as part of, or in furtherance of, Amtrak intercity rail service on routes such as the Downeaster (see 49 U.S.C. § 24902(j)). Because the proposed facility is such an "improvement," local zoning does not apply.

Prior to the determination that Brunswick's zoning regulations would not apply to the project, NNEPRA representatives attended the April 21, 2011 Brunswick Zoning Board meeting to request a dimensional variance for the construction of a layover facility. NNEPRA gave a presentation about *Amtrak Downeaster* service and outlined the initial concept to construct a layover facility at the Brunswick West rail yard. The variance was granted, though the Town of Brunswick subsequently determined that the proposed facility would be exempt from local zoning requirements and that the variance was therefore not required.

Prior to construction of the proposed project, NNEPRA would be required to obtain a Maine Multisector Industrial Stormwater Permit and file a Notice of Intent (NOI) to comply with Maine Construction General Permit (MCGP). Local utility permits will also be required.

2 Description of the Proposed Action and Alternatives

This EA considers two alternatives: a No Build Alternative and the Build Alternative, which would construct a layover facility at the Brunswick rail yard. NNEPRA initially considered a total of six locations for a layover facility. All except the Brunswick rail yard (Brunswick West) were eliminated from consideration as a Build Alternative in the EA because they did not adequately address the project's purpose and need with respect to having the operational or functional characteristics (size, topography, location) necessary to support the facility, or because they would create additional adverse environmental and cost impacts. The dismissed alternatives and the initial alternatives assessment process are described in section 2.2. The No Build Alternative also does not meet the project's purpose and need, but is included in this EA to provide a basis for evaluation and comparison of the Build Alternative.

2.1 No Build Alternative

Under the No Build Alternative, the proposed enclosed layover facility would not be constructed. Instead, Amtrak would continue to service and park *Amtrak Downeaster* trains overnight in Portland. To position equipment at the start and end of the service day, a train would continue to operate from Portland to Brunswick in the morning, with another returning to Portland at the end of the day (a distance of approximately 28 miles each way), generating little or no revenue. Between scheduled service runs during the operating day, trains would continue to idle outdoors in the Brunswick rail yard or on tracks between the rail yard and Brunswick Station. Brief daytime servicing activities such as restocking supplies in food service cars and coach cleaning would also take place out in the open at these locations during these times. Further details regarding service activities are detailed in section 2.4.

2.2 Alternatives Eliminated from Further Consideration

As articulated in the purpose and need statement, an enclosed, indoor layover facility is required to allow for storage, servicing and maintenance of equipment. Therefore, alternatives that did not include or allow for construction of an enclosed, indoor layover facility were not considered as viable alternatives.

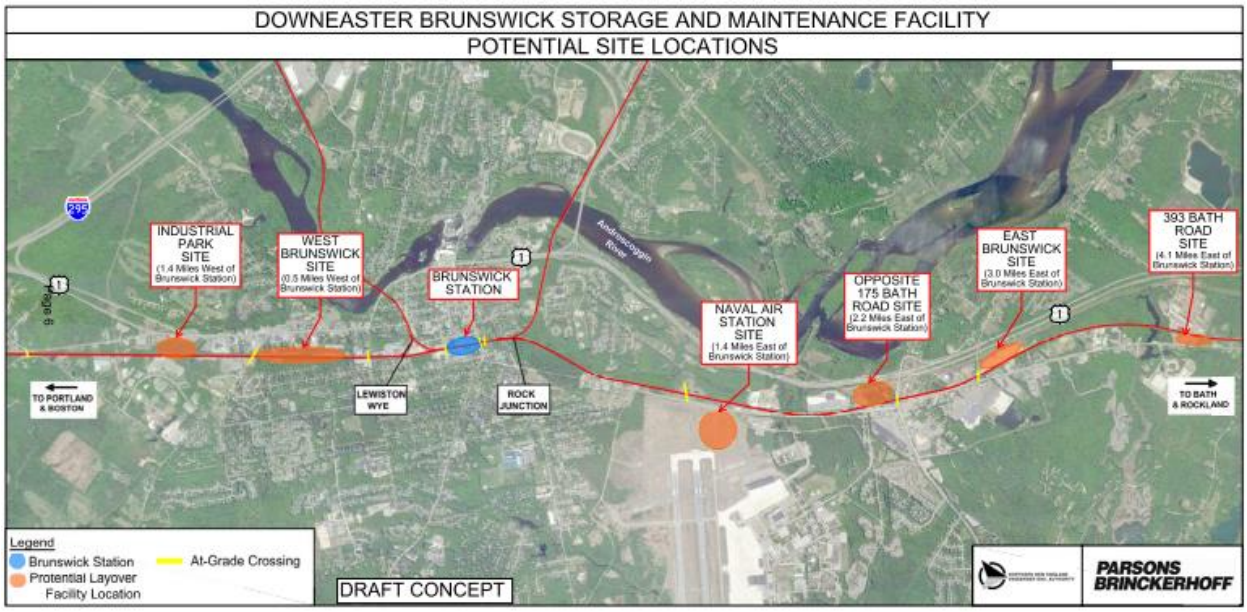
The purpose and need also describes the need for a layover facility in close proximity to Brunswick Station in order to minimize operating costs and rail corridor abutter effects associated with longer non-revenue trips needed to position or service equipment. Therefore, sites outside of Brunswick were not considered to be viable alternatives.

In total, NNEPRA identified six sites in Brunswick adjacent to the existing rail corridor as potential locations for the layover facility. NNEPRA eliminated five sites from further consideration. The six sites, depicted in Exhibit 3, are:

- Brunswick Industrial Park (1.4 miles west of Brunswick Station)
- Brunswick West (0.6 miles west of Brunswick Station)
- Naval Air Station Brunswick (1.4 miles east of Brunswick Station)
- Opposite 175 Bath Road (2.2 miles east of Brunswick Station)
- East Brunswick (3.0 miles east of Brunswick Station)
- 393 Bath Road (4.1 miles east of Brunswick Station)

The site noted as "West Brunswick" in Exhibit 3 is the Build Alternative described subsequently in section 2.3 and discussed in more detail in this EA.

Exhibit 3: Sites Initially Considered



NNEPRA conducted an initial alternatives assessment which compared the physical and functional merits of all six sites against the same criteria to evaluate their potential viability to be considered as a site for the proposed layover facility. This assessment is documented in the *Downeaster Layover Facility Project Siting Report (August 18, 2011)*, which is included as Appendix B of this EA. As part of the Alternative Analysis, NNEPRA conducted a series of public meetings, between June 23, 2011 and August 18, 2011, to give the public information about these alternatives. These and other outreach efforts are described in Section 4: *Agency and Public Involvement*.

Sites West of Brunswick Station

NNEPRA identified two potential sites west of the Brunswick Station: the Industrial Park Site and the Brunswick West Site (Build Alternative). Establishment of a layover facility at either site would result in train movements between Brunswick Station and the layover site for midday servicing and positioning train sets at the start and end of the operating day. These short trips would operate within signalized territory and over the same tracks used by scheduled *Amtrak Downeaster* service today.

Industrial Park Site

The Brunswick Industrial Park site refers to an undeveloped area of land situated to the north of the existing railroad main line and adjacent to the Brunswick Industrial Park. In addition to the initial site analysis, the Industrial Park site was further examined in 2012 by Parsons Brinkerhoff (see Appendix C) with respect to design, environmental, cost and constructability issues. The Maine Department of Transportation (MaineDOT) evaluated the cost and schedule implications associated with developing the Industrial Park site in comparison with the Brunswick rail yard (Brunswick West) site, determining that the Industrial Park site development would likely take 2.5 years and incur an additional cost of $2.75 million due to site constraints and environmental conditions (see Appendix C). The site is currently zoned Industrial 4 and Highway Commercial 1 by the Town of Brunswick.

Development of the site would require acquisition of undeveloped portions of five parcels of land, which are currently in private ownership. Moreover, significant costs and environmental remediation associated with site preparation work unique to this location would be involved. Specifically, the terrain at this site

slopes steeply down from the railroad track bed and consequently an extensive amount of filling and grading would be required in order to prepare the site for construction of the layover facility. Vehicular access to the site would require construction of a new roadway, either to the south –necessitating a new grade crossing - or to the north connecting to Route 1. Road construction to the north would necessitate additional grading, filling and disturbance of undeveloped land. Trains traveling between the station and this site would travel 1.4 miles in each direction, passing through three existing grade crossings.

An unnamed tributary to the Androscoggin River is located on the site. This waterway is a Class B freshwater stream that has been identified by the Maine Department of Environmental Protection (MaineDEP) on the 303(d) list of impaired waters (see Appendix G). The MaineDEP assessment identified measures that should be taken to improve water quality on this tributary, which include improvements to existing storm runoff deficiencies and installation of measures to prevent further degradation of the waterway. If NNEPRA built the layover facility at this site, water quality impacts related to storm water runoff, loss of habitat, and unstable stream slopes would be of foremost concern, and costly mitigation measures would be necessary. For these reasons, NNEPRA eliminated from further consideration the Industrial Park Site for the layover facility.

Brunswick West/Rail Yard Site (Build Alternative)

The Brunswick West Site is comprised of a portion of the former Brunswick rail freight yard located on the north side of the railroad corridor between Church Road and Stanwood Street. This site is long and linear in shape and located on level ground. It has been used for railroad activities for more than a century and is zoned Mixed Use 2 – Intown Railroad Corridor (MU2). The property is owned by NNEPRA, and is adjacent to the rail corridor currently used by the *Amtrak Downeaster*, which is owned by the Maine Department of Transportation. The site is easily accessed from the existing street network and is located close to Route 1. Trains would travel 0.6 miles through two existing grade crossings to access the site.

NNEPRA determined that the Brunswick West site would best meet the operational requirements of the *Amtrak Downeaster*, would fully address all the project's purpose and need, and would have the least environmental impact. The Brunswick West site is zoned as an Intown Railroad Corridor, has favorable topography and site conditions, would not require significant grading or fill, would not impact waterways, would minimize the duration of train movements, would require the least number of grade crossings because it is the closest site to the Brunswick Station, and would not require the acquisition of additional property (all other sites are currently under private ownership). This site was carried forward for evaluation in this EA as the Build Alternative, and is described in greater detail in section 2.3.

Sites East of Brunswick Station

NNEPRA identified four potential sites east of the Brunswick Station. In order to reach any site east of Brunswick Station, *Amtrak Downeaster* trains would have to proceed beyond the signalized territory, which is controlled and dispatched by Pan Am Railways, and enter onto a section of non-signalized territory on the Rockland Branch which is currently operated by the Maine Eastern Railroad under contract with MaineDOT. Operations over the Rockland Branch would be limited to slower speeds and subject to potential delays associated with receiving train orders from a separate dispatch authority. The time required to travel to the sites identified along this route would require upwards of 30 minutes in each direction, and would preclude the opportunity of performing any midday servicing at the facility. Layover operations east of Brunswick Station would also introduce additional trains into the downtown Brunswick area and increase grade crossings at Maine Street and other roadways to the east, as detailed in Appendix B: *Downeaster Layover Facility Project Siting Report.*

Freight service and seasonal passenger excursion service operates over the Rockland branch east of

Brunswick Station, which would complicate dispatching on this single track section. Any of the sites located east of Brunswick Station would require *Amtrak Downeaster* service to operate along with freight trains, and seasonal passenger excursion trains, over the single track, on the non-signalized Rockland Branch, resulting in slower travel. The situation could be compounded in the future should excursion or freight service increase. Conversely, layover sites west of Brunswick Station would not necessitate joint operation over the Rockland Branch, and would allow both *Amtrak Downeaster* and excursion services unencumbered access to Brunswick Station, which has passenger waiting areas, the mainline track, and a siding track, allowing accommodation of two trains simultaneously.

Brunswick Naval Air Station Site

The Brunswick Naval Air Station (BNAS) site is a former military base located south of Bath Road (Maine Route 24) east of downtown Brunswick, now owned by the Midcoast Regional Redevelopment Authority. The site is located within the BRU (Brunswick Naval Air Station Reuse District), and the reuse of the site is described by the BNAS Reuse Master Plan, which envisions professional office development and mixed use (retail and commercial) on the portions of the property closest to the existing mainline track- (i.e. – bordering Bath Road). About half of the frontage bordering Bath Road also lies within the town's Aquifer Protection Zone 2.

The BNAS site sits roughly 15 feet higher than the mainline track, which would mean that the new connecting track would need to be steeply graded and considerable regrading of the site itself would be required. In order to reach the Brunswick Naval Air Station Brunswick (BNAS) site, *Amtrak Downeaster* trains would enter onto a section of non-signaled tracks on the Rockland Branch. Access to the BNAS site would require construction of a new grade crossing at Bath Road (Maine Route 24), a busy road carrying approximately 12,200 vehicles` daily (MaineDOT, 2013). In addition, three additional existing grade crossings would be traversed by every train movement to and from a BNAS located facility, including Maine Street in downtown Brunswick. Development of a railroad storage and maintenance facility on the site is not in conformance with current redevelopment plans for the BNAS. NNEPRA eliminated this location from further consideration due to difficult site access from the existing mainline track, the need to introduce a new grade crossing on one of Brunswick's busier arterial highways, and incompatibility with redevelopment plans for the property.

Site Opposite 175 Bath Road

The site located behind 175 Bath Road presently includes a residential development (manufactured housing), parking and access from Bath Road for a retail mall located north of Bath Road, and undeveloped land near the interchange with US Route 1. The site is zoned CC (Cooks Corner Center), a commercial district where industrial uses are allowed only by Special Permit. A portion of the site is also covered by a Manufactured Housing Overlay District. NNEPRA found the 175 Bath Road site to be of insufficient size to accommodate necessary siding tracks and buildings. Additional property takings of developed residential and commercial sites would be needed to provide sufficient space to accommodate the required facility. NNEPRA eliminated this site from further consideration because it does not meet the project's need for a site suitable to construct the layover facility. Further, each train movement to the site would have to enter a section of non-signaled tracks on the Rockland Branch, and would traverse four additional grade crossings.

East Brunswick Site

The East Brunswick site is comprised of a presently vacant set of parcels located along Bath Road at the northeast corner of the intersection with Old Bath Road, also known as Cooks Corner. The flat graded site appears suitable for development as a railroad layover facility. The site is zoned CC (Cooks Corner Center), a commercial district where industrial uses are allowed only by Special Permit. The Cooks Corner Master Plan establishes a vision for a mixed use commercial hub in this area and Town staff has indicated that a layover facility would not be consistent with current zoning nor the Master Plan. (See Appendix A – Breinich) Accessing the site by rail is problematic for several reasons:

- This site has not been used for rail purposes in the past and the existing configuration of the single mainline track does not provide a lead into the property. Therefore, a second track would need to be constructed through the Old Bath Road grade crossing and a track switch would need to be installed just west of Old Bath Road to access the site.
- This site is three miles from the Brunswick Station and the time to traverse this route of non-signaled tracks on the Rockland Branch is estimated at thirty two minutes, which would adversely affect operating schedules and costs and could preclude the opportunity of performing midday "turnaround" servicing at the facility.
- Six additional grade crossings, which are not included in the *Amtrak Downeaster* route, would be traversed by every *Amtrak Downeaster* train movement to and from a Brunswick East facility, including Maine Street in downtown Brunswick and the ramp from US Route 1 (Cooks Corner), which carries approximately 21,120 vehicles daily (MaineDOT, 2013).

Given the operational difficulties associated with accessing the East Brunswick site, NNEPRA eliminated it from further study.

393 Bath Road Site

The 393 Bath Road site encompasses private property adjacent to a commercial facility north of Bath Road. A portion of the site is used for employee parking in a paved lot. The vehicle access route to the commercial facility from Bath Road through the parking lot would require relocation. The majority of the site is zoned I3 (Industrial 3), which allows industrial uses by right. The eastern end of a layover facility at this site would extend into the FF3 (New Meadows River Area) Rural zoning district, where industrial uses are specifically prohibited.

NNEPRA found the 393 Bath Road site to be of insufficient size to accommodate necessary siding tracks and buildings. Additional property takings of developed residential and commercial sites would be needed to provide sufficient space to accommodate the required facility. NNEPRA eliminated the site from further consideration because it does not meet the project's need for a site suitable to construct the layover facility. Further, each train movement to the site would have to enter a section of non-signaled tracks on the Rockland Branch, and would traverse eight additional grade crossings.

2.3 Build Alternative – Brunswick West

The Build Alternative (Brunswick West) site is located at the Brunswick rail yard between Stanwood Street and Church Road. The proposed layover facility would be constructed on NNEPRA-owned property (historically know as the Brunswick rail yard), located on the north side of the railroad main line corridor and situated 0.6 miles west of Brunswick Station (Exhibit 1), the terminus of expanded Downeaster service (Exhibit 2). The adjacent railroad main line and freight siding tracks are located on property owned by the

MaineDOT.

The project includes a layover facility constructed to support the overnight storage and turnaround servicing of *Amtrak Downeaster* rolling stock and includes the following components:

- A main building spanning three railroad tracks for storage and routine servicing of Amtrak equipment;
- An attached crew building;
- Three storage tracks accessing the main building;
- A fourth siding track along the south side of the proposed main building;
- A parking lot with space for approximately 35 vehicles;
- An access road connecting to Lombard Street; and
- Utility connections via Lombard Street, Turner Street and Church Road.

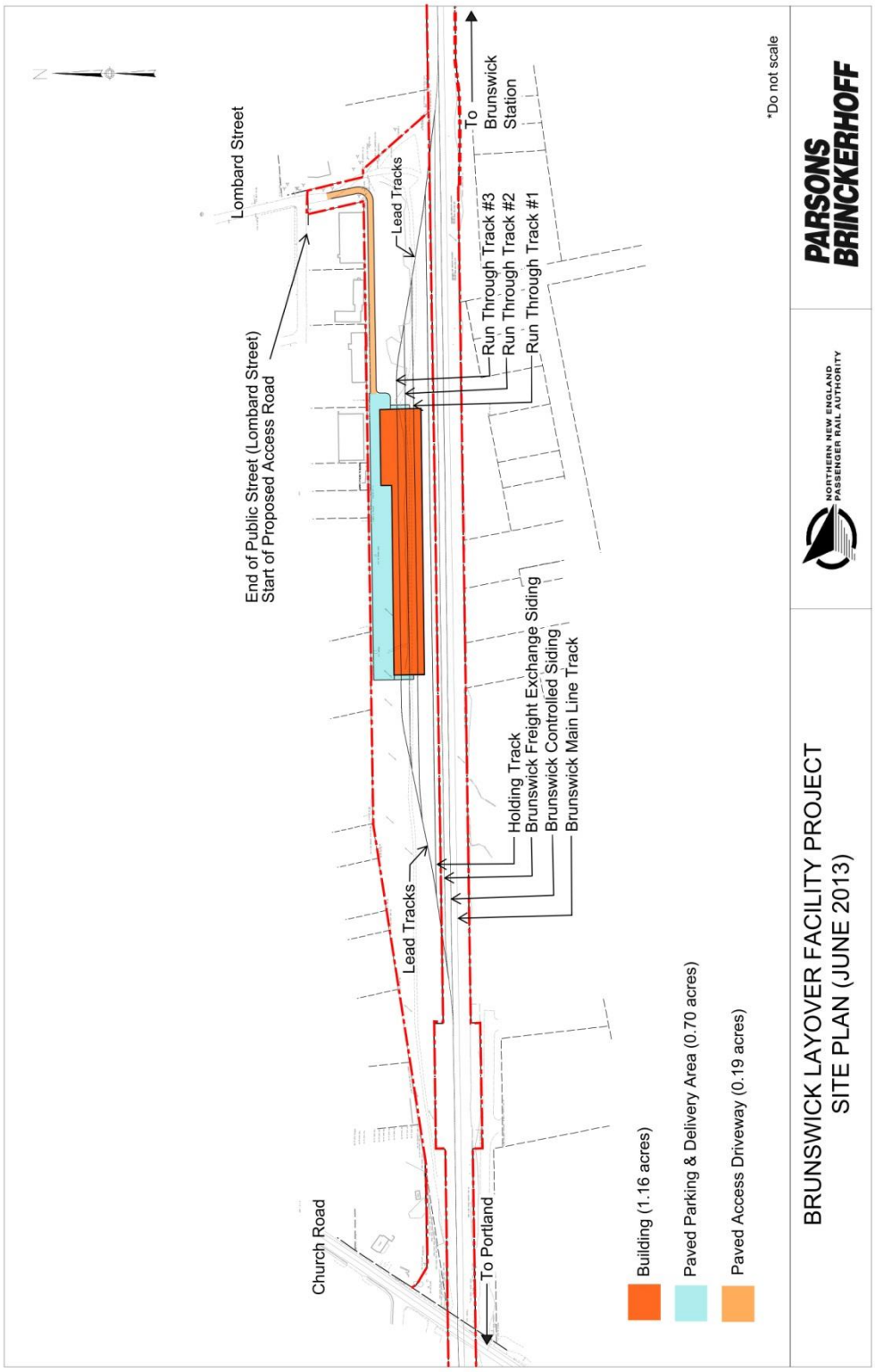
The proposed facility will be designed to accommodate the overnight storage of a maximum of three (3) diesel locomotive-powered passenger train sets used for the *Amtrak Downeaster* service. A typical train set is comprised of a locomotive, three to five passenger coach cars, a café car, and a non-powered control unit. The facility will include a main building that will span three railroad tracks, with approximate dimensions of 655 feet long by 70 feet wide and with a maximum height of 37 feet at the roof's peak. Offices, locker rooms, wash rooms and storage facilities will be incorporated through construction of an attached building on the north side of the main building, 180 feet long by 26 feet wide and with a maximum height of approximately 22 feet at its peak. The building will be equipped with a ventilation system designed to handle diesel locomotive exhaust and to keep workplace temperature within Occupational Safety and Health Administration (OSHA) compliant ranges.

The building will be used for overnight storage of *Amtrak Downeaster* train sets and allow for all cleaning, servicing and light repair work to be performed indoors. Trains will enter the building via "rollup" type overhead doors. One train set will be assigned to each of the three tracks. End doors of the facility may occasionally be opened to augment ventilation (cooling) of the building, but typically only when train locomotives are shut down.

Three tracks will also be constructed as part of the proposed action. These tracks will access the ends of the main building on both the east and west sides, connecting through a series of switches to the MaineDOT-owned railroad main line. A fourth siding track had been considered as part of the proposed action outdoors adjacent to the south side of the building to allow for the possible storage of spare passenger cars, but has since been eliminated from the facility design. The building and yard tracks will have a "double-ended" configuration to allow for trains to arrive or depart in either direction, though typical operations will involve trains entering and exiting from the east end of the building to minimize grade crossings at Church Road. The layout of the facility is depicted in Exhibit 4.

Office, accommodation and storage space will be provided within the building for Amtrak train crews, train maintenance workers and the café contractor's employees. Approximately thirty-five on-site parking spaces would be constructed as part of the proposed action for use by employees or occasional visitors. Improvements to the existing access road connecting the property to Lombard Street would provide access to the facility. A second, unpaved access way would be provided to Church Road.

Exhibit 4: Proposed Site Layout of Build Alternative



There will be no on-site storage of diesel fuel supplies. Locomotives will be re-fueled indoors by truck, with the tank truck discharging directly into the locomotive fuel tank via a hose connection.

The Build Alternative would be constructed by NNEPRA by means of a design-build procurement, with the selected contractor being responsible for developing the final design to meet established operational criteria, design criteria and specifications. NNEPRA will have review and approval authority for the design-build contractor's designs and construction procedures.

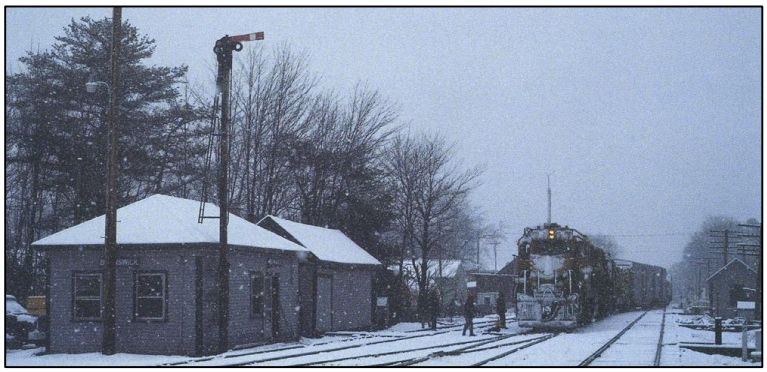
Following a public and competitive solicitation process for a design/build contractor, NNEPRA entered into an agreement with Consigli Construction of Portland, Maine to complete the design of the layover facility. Construction of the facility will not begin until the environmental review process has been completed and a Finding of No Significant Impact (FONSI) or further environmental review and Record of Decision (ROD) has been issued by the FRA.

Despite the existence of this contract, the location of a layover facility built with Federal funding is not determined until FRA has completed its NEPA-required review, including a decision document per 40 CFR 1508.13 (i.e., a FONSI following completion of this EA) or 40 CFR 1505.2 (i.e., ROD following the development of an environmental impact statement). If FRA does not agree with the Build Alternative and NNEPRA continues to advance the site, Federal funding would be withdrawn from the project.

2.3.1 Site History

The site is comprised of the former Brunswick rail freight yard located on the north side of the railroad corridor between Church Road and Stanwood Street. The yard, developed by the predecessors of the Maine Central Railroad in the 1850's, once consisted of numerous siding tracks with a total capacity of 95 freight cars (*Maine Central Railroad Operating Rulebook,* May 14, 1978). Several wood frame railroad office, storage, crew, equipment storage and rail car inspection buildings also once occupied the perimeter of the site. Exhibit 5 shows the site circa 1981. The Brunswick yard served as the interchange point for freight between the Maine Central's Lower Road main line and the Rockland and Lewiston Lower Branches. In the late 1980's, the railroad buildings were removed along with much of the yard track. However, the location continues to function as a freight interchange for Pan Am Railways and the Maine Eastern Railroad and is also a holdover location for *Amtrak Downeaster* trains.

Exhibit 5: Brunswick Rail Freight Yard circa 1981



2.4 Amtrak Service Assumptions

2.4.1 Current Service Levels

Current track usage agreements between NNEPRA, Amtrak and the freight railroads operating in the area and track capacity constraints limit the number of *Amtrak Downeaster* trains to six daily round trip train trips that can operate between Portland and Brunswick. As of November 2012, four of the ten *Amtrak Downeaster* passenger trains operating daily between Boston, Massachusetts and Portland have been extended to Brunswick. *Amtrak Downeaster* train sets that serve Brunswick are currently stored and

serviced in Portland overnight, with restocking of supplies occurring during the day in Brunswick. This arrangement requires a train movement between Brunswick and Portland at the start and end of each day to position equipment in Brunswick for the morning Brunswick – Portland – Boston run, as well as a return train movement at the end of the service day. While these two Portland – Brunswick trains are operated as passenger service, ridership is quite low and the trains operate primarily to position equipment at the start and end of the day. The first *Amtrak Downeaster* arrives at Brunswick Station at 6:45 AM, and the last train returns to Portland at approximately 8:30 PM. The current *Amtrak Downeaster* schedule is shown in Exhibit 6.

Two ancillary train movements to either the Brunswick rail yard or nearby track typically occur on a daily basis for midday layover of one train set.

No Build

At current service levels, the current operating parameters as described above would continue under the No Build.

Build Alternative

With the Build Alternative, trains would start and end the day at the Brunswick layover facility rather than in Portland. This would allow Amtrak to eliminate the two Portland – Brunswick train movements at the start and end of each service day, and instead operate six daily *Amtrak Downeaster* passenger trains over the entire Brunswick – Portland – Boston route.

Train movements in Brunswick would depend in part on which additional Boston – Portland trains were extended to Brunswick. These are likely to include a midday scheduled service leaving Brunswick at approximately 11:45 AM, and a late night return train arriving at approximately 2:30 AM. This late night train would allow passengers attending evening events in Boston to catch a returning train to Brunswick.

Under the Build Alternative, each of two train sets would idle indoors for up to 30 minutes each morning for equipment testing upon startup, occurring at 6:05 AM and 10:50 AM. The third *Amtrak Downeaster* train set would begin its day in Portland. A total of six ancillary train movements would occur between the proposed layover site and Brunswick Station between approximately 6:45 AM and 2:30 AM each day to allow for servicing of train sets. Midday servicing would occur indoors, and trains would shut diesel engines down and switch to electric power during this time.

2.4.2 Potential Future Service Levels

Additional *Amtrak Downeaster* trips could potentially be extended to operate between Portland and Brunswick Station. The potential service levels under either the No Build or Build Alternative should all ten scheduled *Amtrak Downeaster* trains be extended to Brunswick in the future are described below.

No Build

In order to accommodate ten scheduled daily *Amtrak Downeaster* trips under the No Build Alternative, an additional six train trips would be required to shuttle train sets to or from the overnight storage area in Portland. These would either operate as non-revenue service (carrying no passengers), or as scheduled passenger service expected to carry very few passengers.

Four additional ancillary movements between Brunswick Station and Brunswick rail yard would be necessary during the day to layover Amtrak train sets between scheduled service runs. These train sets would idle in the yard for up to two and a half hours daily, in total. Trains would operate through the area

Exhibit 6: Current *Amtrak Downeaster* Schedule

SCHEDULE

EFFECTIVE APRIL 29, 2013

Amtrak Downeaster

SOUTHBOUND	WEEKDAY SCHEDULE						WEEKEND SCHEDULE						
TRAIN NUMBER	680	682	684	686	688	676	690	692	694	678	696	698	676
DAYS OPERATING	M-F	M-F	M-F	M-F	M-F	M-F	Sat-Sun	Sat-Sun	Sat-Sun	Sat-Sun	Sat-Sun	Sat-Sun	Sat-Sun
DEPARTS Brunswick, ME		7:05 a			7:00 p	8:30 p		7:05 a		3:00 p		5:50 p	8:30 p
Freeport, ME		7:20 a			7:15 p	**F** 8:45 p		7:20 a		3:15 p		6:05 p	**F** 8:45 p
Portland, ME	5:25 a	8:00 a	12:45 p	2:35 p	7:55 p	9:20 p	5:35 a	8:00 a	12:45 p		3:45 p	6:45 p	9:20 p
Old Orchard, ME	5:40 a	8:15 a	1:00 p	2:50 p	8:10 p		5:50 a	8:15 a	1:00 p		4:00 p	7:00 p	
Saco, ME	5:46 a	8:21 a	1:06 p	2:56 p	8:16 p		5:56 a	8:21 a	1:06 p		4:06 p	7:06 p	
Wells, ME	6:02 a	8:37 a	1:22 p	3:12 p	8:32 p		6:12 a	8:37 a	1:22 p		4:22 p	7:22 p	
Dover, NH	6:20 a	8:55 a	1:40 p	3:30 p	8:50 p		6:30 a	8:55 a	1:40 p		4:40 p	7:40 p	
Durham, NH	6:27 a	9:02 a	1:47 p	3:37 p	8:57 p		6:37 a	9:02 a	1:47 p		4:47 p	7:47 p	
Exeter, NH	6:41 a	9:15 a	2:00 p	3:50 p	9:10 p		6:50 a	9:17 a	2:00 p		5:00 p	8:00 p	
Haverhill, MA	7:05 a	9:38 a	2:24 p	4:13 p	9:33 p		7:15 a	9:38 a	2:24 p		5:23 p	8:23 p	
Woburn, MA	**D** 7:31 a	**D** 10:04 a	**D** 2:50 p	**D** 4:39 p	**D** 9:59 p		**D** 7:41 a	**D** 10:04 a	**D** 2:50 p		**D** 5:54 p	**D** 8:54 p	
ARRIVES Boston N. Station	7:55 a	10:30 a	3:15 p	5:05 p	10:20 p		8:05 a	10:30 a	3:15 p		6:15 p	9:15 p	

NORTHBOUND	WEEKDAY SCHEDULE						WEEKEND SCHEDULE						
TRAIN NUMBER	679	681	683	685	687	689	679	691	693	677	695	697	699
DAYS OPERATING	M-F	M-F	M-F	M-F	M-F	M-F	Sat-Sun	Sat-Sun	Sat-Sun	Sat-Sun	Sat-Sun	Sat-Sun	Sat-Sun
DEPARTS Boston N. Station		9:05 a	11:35 a	5:00 p	5:40 p	11:20 p		9:05 a	11:35 a		5:00 p	8:00 p	11:20 p
Woburn, MA		**R** 9:23 a	**R** 11:53 a	**R** 5:18 p	**R** 5:58 p	**R** 11:38 p		**R** 9:23 a	**R** 11:53 a		**R** 5:18 p	**R** 8:18 p	**R** 11:38 p
Haverhill, MA		9:52 a	12:22 p	5:47 p	6:27 p	**F** 12:07 a		9:52 a	12:22 p		5:47 p	8:47 p	**F** 12:07 a
Exeter, NH		10:12 a	12:42 p	6:07 p	6:47 p	**F** 12:27 a		10:12 a	12:42 p		6:07 p	9:07 p	**F** 12:27 a
Durham, NH		10:25 a	12:55 p	6:20 p	7:00 p	**F** 12:40 a		10:25 a	12:55 p		6:20 p	9:20 p	**F** 12:40 a
Dover, NH		10:32 a	1:02 p	6:27 p	7:07 p	**F** 12:47 a		10:32 a	1:02 p		6:27 p	9:27 p	**F** 12:47 a
Wells, ME		10:50 a	1:20 p	6:45 p	7:25 p	**F** 1:05 a		10:50 a	1:20 p		6:45 p	9:45 p	**F** 1:05 a
Saco, ME		11:06 a	1:36 p	7:01 p	7:41 p	**F** 1:21 a		11:06 a	1:36 p		7:01 p	10:01 p	**F** 1:21 a
Old Orchard, ME		11:13 a	1:43 p	7:08 p	7:48 p	**F** 1:28 a		11:13 a	1:43 p		7:08 p	10:08 p	**F** 1:23 a
Portland, ME	6:00 a	11:40 a	2:05 p	7:35 p	8:10 p	1:45 a	6:00 a	11:45 a	2:00 p		7:35 p	10:25 p	1:45 a
Freeport, ME	**F** 6:30 a	12:10 p		8:05 p			**F** 6:30 a	12:15 p		3:30 p	8:05 p		
ARRIVES Brunswick, ME	6:45 a	12:25 p		8:20 p			6:45 a	12:30 p		3:45 p	8:20 p		

D STOPS TO DISCHARGE PASSENGERS ONLY **R** STOPS TO RECEIVE PASSENGERS ONLY **F** FLAG STOP, STOPS ON ADVANCE NOTICE ONLY

SPECIAL NOTE REGARDING HOLIDAYS:
Amtrak Downeaster trains will operate on the weekend schedule on the following holidays: Memorial Day, Independence Day and Labor Day. Schedules subject to change without notice. During periods of extreme heat delays can be expected.

The "Downeaster Shuttle" (Train 678 and Train 677) makes one round-trip between Brunswick and Freeport on Saturday and Sunday afternoons, so riders can visit both communities in one day! Check out the schedules section of our website for more info.

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Source: Retrieved May 2013 from http://www.amtrakdowneaster.com/schedule/full

on nearly a 24-hour basis, with the first train passing by the Brunswick rail yard at 4:00 AM each morning, and the last train returning to Portland at approximately 2:50 AM the following day.

Build Alternative

The Build Alternative would also accommodate ten scheduled *Amtrak Downeaster* trips, but would eliminate the need for the six Brunswick – Portland train movements needed to position train sets. Instead, trains would travel between the layover facility at the Brunswick rail yard and Brunswick Station, with a total of ten such movements needed during the course of the day.

Trains would operate at similar times as for the No Build, with the first train leaving the layover facility in the Brunswick rail yard at 4:00 AM each morning and the last train returning to the layover facility at approximately 2:50 AM the following day. Each train set would idle indoors for approximately 30 minutes each morning upon startup, occurring at 3:30 AM, 6:30 AM and 10:50 AM. Midday servicing would occur indoors, and trains would shut down and switch to electric power during this time.

2.4.3 Summary Comparison of Train Moves under the No Build and the Build Alternative

In summary, Exhibit 7 compares Amtrak train movements with and without the Build Alternative, while Exhibits 8 and 9 diagram the volume of Amtrak train traffic on segments between Portland and Brunswick Station. Under current service levels, the Build Alternative would not affect total train moves between Portland and Brunswick, though all six trains would operate as scheduled *Amtrak Downeaster* service for the full length of the Brunswick – Portland – Boston route, maximizing ridership potential. In total, twelve trains would operate over trackage between the Brunswick rail yard and Brunswick Station – a distance of about 0.6 miles – under the Build Alternative. This would include the six *Amtrak Downeaster* trains and six ancillary train movements. Under the No Build, eight trains would operate over this segment in total.

Under potential future service levels, the total number of train movements between Portland and Brunswick, a distance of 29 miles, would be ten with the Build Alternative, compared to 16 for the No Build, a reduction of six trains daily. The Build Alternative would increase the number of trips between Brunswick Station and the Brunswick rail yard, a distance of 0.6 miles, from four to ten. Hours of operation would be similar under either the No Build or Build Alternative.

Exhibit 7: Comparison of Amtrak Train Movements

	Current Service Levels		Potential Future Service	
	No Build	Build Alternative	No Build	Build Alternative
Brunswick - Portland – Boston *Amtrak Downeaster* Service	4	6	10	10
Brunswick – Portland *Amtrak Downeaster* Service	2	0	6	0
Total *Amtrak Downeaster* trips between Portland – Brunswick	**6**	**6**	**16**	**10**
Additional ancillary train movements between the Brunswick Yard and Brunswick Station	2	6	4	10

Exhibit 8: Daily Amtrak Train Moves by Segment – Current Service Levels

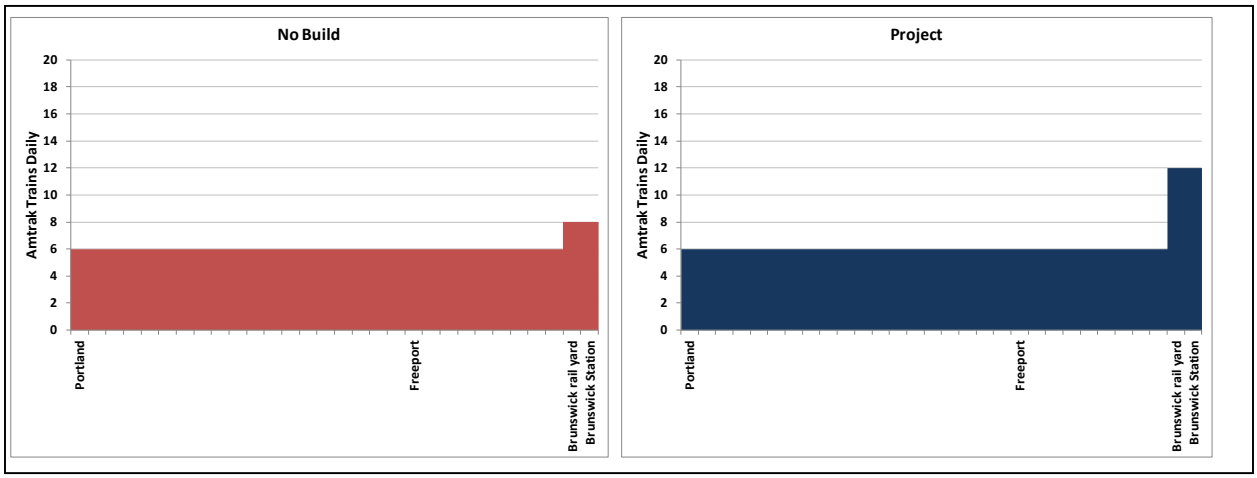
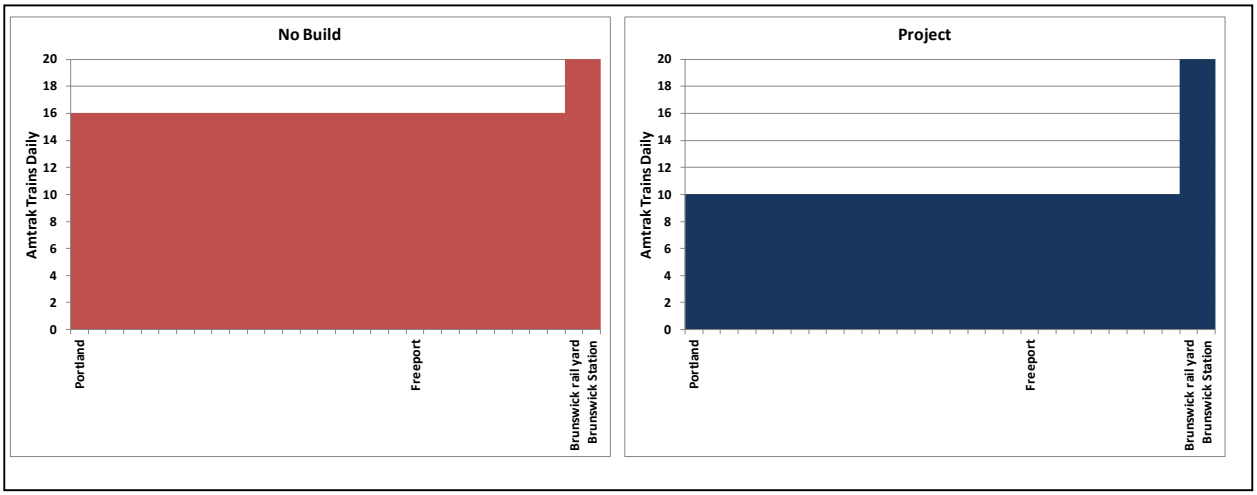


Exhibit 9: Daily Amtrak Train Moves by Track Segment – Potential Future Service Levels



3 Affected Environment and Environmental Effects

3.1 Physical Environment

3.1.1 Air Quality

Affected Environment

Under authority of the Clean Air Act of 1990, the United States Environmental Protection Agency (EPA) monitors pollutants of concern pursuant to National Ambient Air Quality Standards (NAAQS). Standards are established for average concentrations of ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10},$PM_{2.5}$), and lead (Pb).

The project site is located in Cumberland County, Maine, which meets all applicable NAAQS and is therefore designated as an attainment area with regard to all NAAQS.

Activities in Brunswick and surrounding areas which contribute to air pollution include automobile traffic, train traffic, and light industrial uses. US Route 1 passes approximately 600 feet to the north of the project site, carrying 25,090 to 29,070 vehicles per day (MaineDOT, 2012) between Church Road and Stanwood Street. The MaineDOT Brunswick Branch mainline borders the project site to the south. Automobiles primarily generate CO and NO_2, whereas particulate matter and NO_2 are the primary emissions generated by diesel locomotives.

Freight train activity today is typically limited to two passing freight trains per week. Occasionally, freight locomotives will idle in the Brunswick rail yard. *Amtrak Downeaster* service consisting of six daily trips began in November 2012. The EA conducted for the *Amtrak Downeaster* service extension to Brunswick noted that the added passenger trains "would result in a negligible increase in emissions" and "would have no significant impact on current or future air quality standards or lead to the establishment of a non-attainment area." The EA also noted that the additional trains "would potentially improve the air quality in the region by diverting vehicles from the roads and highways between Portland and Brunswick." (EA for *Amtrak Downeaster* North Expansion Project, 2009). Subsequent analysis conducted for this EA, and included as Appendix D, confirms that emissions associated with *Amtrak Downeaster* operations are well below applicable NAAQS limits, as detailed in the *Environmental Effects* section below.

Environmental Effects

Air quality analysis demonstrates that projected emissions of criteria pollutants and non-criteria TAC's are well below acceptable thresholds. Foreseeable future service levels would not generate enough additional emissions to approach these thresholds. Further, assuming reductions in automobile emissions associated with increased ridership at future service levels, the Build Alternative may reduce total emissions regionally relative to the No Build.

Current Service Levels

EPA promulgated final general conformity regulations at 40 C.F.R. Part 93 Subpart B for all federal activities except those covered under transportation conformity. FRA activities are not covered under transportation conformity; therefore general conformity regulations apply. General conformity regulations apply to a federal action in a nonattainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutants caused by the federal action equal or exceed certain *de minimis* emission rates, thus requiring the federal agency to make a determination of general conformity.

Under the Build Alternative, the number of train trips between Brunswick and Portland would remain the same; six one-way trips daily. All six of these trips would operate as scheduled passenger service over the entire Brunswick – Portland – Boston route, compared to four under the No Build (with two trips operating only between Brunswick and Portland primarily to position equipment). Thus, the Build Alternative is likely to attract more ridership, diverting additional automobile trips to rail and in turn reducing automobile emissions.

The layover facility would service and store passenger rail cars and locomotives. Locomotive emissions associated with the facility would be generated mostly during locomotive start-up periods in the morning and while traveling the 0.6-mile distance route between Brunswick Station and the Brunswick rail yard to restock and clean train sets.

A screening-level air quality analysis was conducted in support of the *Amtrak Downeaster* Layover Facility Siting report in August 2011 (Appendix D). This was performed to determine if the proposed project could potentially result in emissions that exceed standards established by the NAAQS and EPA Acute Hazard Index. The analysis evaluated conditions consistent with the Build Alternative at current service levels (six scheduled *Amtrak Downeaster* trains). Criteria pollutants (i.e. pollutants for which NAAQS have been established) and non-criteria toxic air contaminants (TACs) for which health risk values were developed by the U.S. Environmental Protection Agency (EPA) were considered in this analysis of potential localized impacts.

The analysis shows that maximum estimated criteria pollutant concentrations at nearby sensitive land uses do not exceed the NAAQS (Exhibit 10). Because the increase in emissions will be well below the de minimus threshold, and it would not cause any exceedance of the NAAQS at nearby sensitive land uses, a general conformity analysis is not required.

Exhibit 10: Total Estimated Concentration of the Criteria Pollutants

Pollutant	Time Period	Estimated Impacts (ug/m3)	Background Conc. (ug/m3)*	Total Estimated Concentrations (ug/m3)	NAAQS (ug/m3)	Exceed NAAQS?
NO2	Annual	23.4	22.6	46	100	No
PM10	24-hr	4.0	56.0	60	150	No
PM2.5	24-hr	3.8	20.2	24	35	No
	Annual	0.8	10.42	11	15	No

*These are the highest values recorded at any of the State's ambient monitors in Portland Maine in 2008.

The maximum estimated concentrations of representative TACs were used to calculate cumulative cancer risks, chronic non-cancer and acute hazard indexes associated with layover facility operations. Pollutants considered were acrolein, formaldehyde, benzene, xylene, toluene, and diesel particulate (PM10). Three of these pollutants (benzene, acetaldehyde, and formaldehyde) are considered carcinogens by the EPA.

As summarized in Exhibit 11, the estimated concentrations of these TACs are well below applicable thresholds for determining impacts established by the United States Environmental Protection Agency's (EPA) Human Health Risk Assessment Protocol (HHRAP). Therefore, there are no significant impacts associated with TACs.

Exhibit 11: Total Estimated Concentration of the Criteria Pollutants

TAC Risk Category	Estimated Concentration	Applicable EPA Threshold Value	Threshold Exceeded?
Cumulative Cancer Risk (dCr)	0.052E-06	1.0E-6	No
Non-cancer Hazard Index (HQ)	0.0072	1.0	No
Acute Hazard Index (AHQ)	0.078	1.0	No

dCR individual lifetime cancer risk through direct inhalation of carcinogen (EPA HHRAP, Appendix C, Table C-2-1)

HQ hazard quotient for direct inhalation of non-carcinogen (HHRAP, Appendix C, Table C-2-2)

AHQ acute hazard quotient (HHRAP, Appendix C, Table C-4-1)

Potential Future Service Levels

Should scheduled *Amtrak Downeaster* service be expanded to ten trains as described under "Potential Future Service Levels" in section 2.3.2, increased emissions from diesel locomotive operations and further reduction in regional automobile emissions would likely occur relative to current service levels under either the Build Alternative or No Build. The Build Alternative would provide the same amount of passenger rail service as the No Build, but would reduce overall emissions from diesel locomotive operations since longer train movements between Portland and Brunswick required to position equipment at the beginning and end of the day would be replaced by shorter trips between Brunswick Station and the Brunswick rail yard.

The air quality analysis for initial *Amtrak Downeaster* service described previously demonstrates that projected emissions of criteria pollutants and non-criteria TACs are well below applicable thresholds. Foreseeable future service levels would not generate enough additional emissions to approach these thresholds. Further, because increased ridership would result in fewer automobile emissions at future service levels, the Build Alternative would likely reduce total emissions regionally relative to the No Build.

3.1.2 Water Resources

Affected Environment

Surface Waters

The project site is located within the Androscoggin River watershed (Maine Geographical Information System 2012). There are no surface waters within the project site. A two- to four-foot deep ditch, constructed along the northern perimeter of the project site, carries surface runoff to the east into a perennial stream. The unnamed, ditched, perennial stream crosses the railroad tracks east of the project site and flows north approximately 1,500 feet to the Androscoggin River. This stream is mapped by the Town of Brunswick as a Natural Resource Protection Zone (NRPZ), which includes land within 75 feet, horizontal distance, of the normal high-water line of the stream (Brunswick 2009 and 2013).

There are no watersheds or water bodies within the project vicinity that have been designated as most at risk from development under Maine Chapter 502. An unnamed tributary of the Androscoggin River near River Road, located west of the project site, is listed as an urban impaired stream (Maine Department of Environmental Protection 2006). The stream's watershed extends to Church Road and Paul Street but does not include the Build Alternative site (Maine Department of Environmental Protection 2012).

Groundwater

Public water supply areas and public water supply wells are protected by the Maine Department of Environmental Protection (Maine DEP) State Drinking Water Program, as part of the Federal Safe Drinking Water Act (42 U.S.C. 300 f et seq.; 6939b; 15 U.S.C. 1261 et seq.). Based on a review of available resource information, there are no public water supplies within or adjacent to the project site and the site is not within a public water supply watershed (Maine Center for Disease Control 2012 a,b).

Maine Geological Survey (MGS) prepares maps of significant sand and gravel aquifers in the state. The Build Alternative site is located within a mapped Significant Sand and Gravel Aquifer (Maine Geological Survey 1999). The aquifer is rated at 10-50 gallons per minute. A sand and gravel deposit is considered by the Maine Geological Survey (MGS) as significant when a well in that deposit is capable of being continuously pumped at a rate of 10 gallons per minute (gpm) or more. To sustain a yield of 10 gpm or more, a deposit must be permeable enough for water to flow readily into the well as it is pumped, and there must be a sufficient depth of water in the well so that it will not be pumped dry. The Town of Brunswick has enacted land use ordinances that protect natural resources. One of these is the Aquifer Protection District. The Build Alternative site is not within the Town's Aquifer Protection Zone (Brunswick, 2011).

Environmental Effects

The Build Alternative would not have any temporary or permanent impacts to surface or groundwater. Two geotechnical boring explorations (included in Appendix H) have been conducted on the Brunswick West site and the building design will incorporate the recommendations made based on the geotechnical considerations identified. NNEPRA would institute a spill containment plan at the site according to Federal regulations – EPA Spill Prevention, Control and Countermeasure (SPCC) Rules 40 CFR Part 112 and state regulations Title 38 MSRA s570 K(5) to ensure that there is no potential for surface and groundwater contamination. During construction of the Build Alternative, best management practices for erosion and sediment control would be used to protect off-site surface waters from runoff. There would be no impact to surface and groundwater by the No Build Alternative.

3.1.3 Floodplains

Affected Environment

Executive Order 11988, Floodplain Management, requires that all federally-funded projects determine whether a proposed project will occur in a floodplain and to consider alternatives to avoid adverse effects and incompatible development in floodplains. The Build Alternative site is not located within a mapped 100-year floodplain (Federal Emergency Management Agency 1986).

Environmental Effects

The Build Alternative would not impact floodplains. The No Build Alternative also would not impact floodplains.

3.1.4 Noise

Affected Environment

An operational noise and vibration analysis was performed to evaluate the potential effects associated with the introduction of the proposed layover facility for both current and potential future *Amtrak*

Downeaster service levels. Both the FRA[1] and Federal Transit Administration[2] (FTA) have published guidance manuals for the assessment of noise and vibration impacts from passenger rail and transit projects. This assessment is consistent with the guidance and procedures of both agencies. The Brunswick Layover Noise and Vibration Technical Report (March 2013), which is included as Appendix E of this EA, documents this assessment in detail. Noise assessment is described in this section, while vibration analysis is subsequently summarized in section 3.1.5 *Vibration*.

Existing noise sources in the vicinity of the proposed project site include motor vehicle traffic, commercial and industrial activity, noise from existing freight rail operations and *Amtrak Downeaster* passenger trains, and sounds generated from nearby neighborhoods. Existing train activity typically includes two passing freight trains per week with occasional idling and switching in the Brunswick rail yard. *Amtrak Downeaster* service, which began in November 2012, results in six passing trains daily, as well as noise from occasional Amtrak movements (typically two daily) in the Brunswick rail yard.

Community Receptor Sites and Ambient Noise Measurements

Three noise and vibration sensitive receptors were selected for evaluation purposes in this study as shown in Exhibit 12. The receptors were selected in order to represent the closest abutters surrounding the proposed project, with three locations being necessary to fully assess noise levels on all sides of the project site.

In order to establish existing noise levels in accordance with FRA/FTA requirements, existing ambient noise levels were measured at each of the three receptor locations from February 13, 2013 to February 20, 2013. Only noise data measured during periods of acceptable meteorological conditions (i.e. no snow, rain, or strong winds) were included in the results, which were then expressed as average noise levels for each of the 24 hours. Weather data were taken from the weather station located nearby at the Wiscasset Airport.

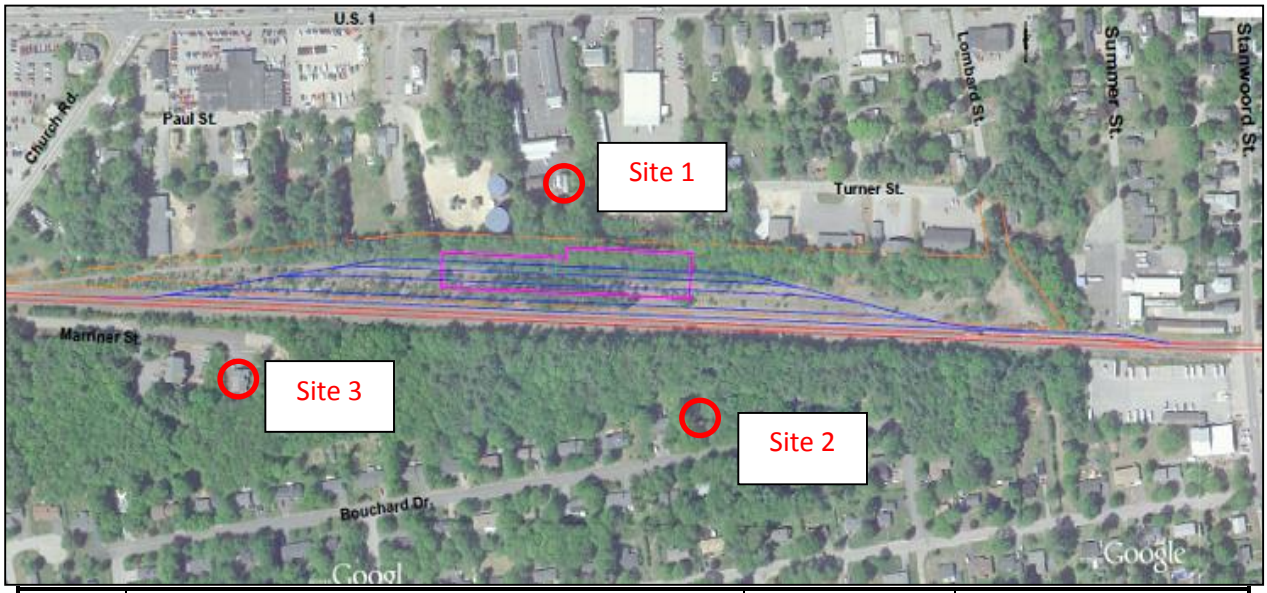
The noise metric of interest in performing a noise assessment in accordance with FRA/FTA guidelines is the Day-Night Sound Level (Ldn) for Category 2 land-use residential receptors. Ldn noise levels at the three receptor sites are also listed in Exhibit 12.

Amtrak Downeaster service was fully operational during the noise monitoring period, so noise from the existing *Amtrak Downeaster* service is part of the measured ambient noise levels. The existing *Amtrak Downeaster* service includes six scheduled *Amtrak Downeaster* trips between Portland and Brunswick daily. Five of the train trips occur during daytime hours (7 AM to 10 PM) and one occurs during the nighttime period (10 PM to 7 AM), with each passing train sounding its horn at both the Stanwood Street and Church Road at-grade crossings. A typical *Amtrak Downeaster* train set consists of a diesel locomotive with three to five passenger coach cars, a café car, and a non-powered control unit, all owned by Amtrak.

Currently, *Amtrak Downeaster* trains idle outside during midday hours at the Brunswick rail yard or on track between the rail yard and Brunswick Station. The Ldn noise levels shown in Exhibit 12 intentionally do not include noise from the idling train because they currently only occur at the Brunswick rail yard on an occasional basis. Further, higher ambient noise levels would generally lead to higher (less restrictive) noise impact criteria.

[1] FRA High Speed Ground Transportation Noise and Vibration Impact Assessment, September 2012.
[2] FTA Transit Noise and Vibration Impact Assessment, May 2006.

Exhibit 12. Community Receptor Sites and Measured Day-Night Ambient Sound Level



Site No.	Address	FRA/FTA Land-Use Category	Measured Noise Level (Ldn, dBA)
1	Knights Inn at 133 Pleasant Street, Apartment H8	2	53
2	Residence at 22 Bouchard Drive	2	53
3	Resource Systems Engineering at 30 Parkers Way	2	54

Environmental Effects

The FRA/FTA's detailed noise assessment procedure was followed in order to predict noise levels associated with the operation of the proposed layover facility at the three community receptor sites. This analysis demonstrates that the Build Alternative would not create significant noise impacts under current or potential future service levels.

Although the proposed facility will not exceed federal noise regulations, local residents have expressed concern related to noise impacts associated with the facility. Therefore, NNEPRA has agreed to design the facility to include additional noise mitigation features such as enhanced insulation, the use of double sets of trackway doors (to achieve an STC level of 44) and low noise fans. In addition, tracks will be of welded rail construction to reduce rail joint noise and switch heaters are being installed to prevent delays to trains passing through switches during winter.

Current Service Levels

In accordance with FRA/FTA methods, the impact criteria levels for *moderate* and *severe* impact are based on the existing measured ambient noise level and the land-use category of each receptor site.

Current service levels reflect current track usage agreements and capacity constraints, which limit the number of *Amtrak Downeaster* trains that can operate between Portland and Brunswick to six daily train trips under either the No Build or the Build Alternative. These trains operate presently as noted under the Affected Environment discussion, and are part of the ambient noise levels.

The layover facility is expected to generate minimal sound of its own. No heavy equipment, major

maintenance, or major cleaning activities will be conducted at the facility. The trains and any light housecleaning equipment will be housed inside the facility building. It is assumed that two forklifts, two air compressors, and up to two pneumatic tools may be used inside the facility for a couple hours per day. At most, 40 staff and 8 service vehicles (trucks) may visit the facility over a 24-hour period. Parking will be located on the north side of the building with access from Lombard Street and Church Road.

Amtrak Downeaster train sets would make six daily trips between Brunswick Station and the layover facility. All trains will typically enter and exit on the *east side* of the facility, so the project will cause no additional horn blows at the Church Road crossing. Trains will travel at 10 mph within Brunswick yard. Four train movements between Brunswick station and the facility will occur during the daytime (7 AM to 10 PM) and two will occur at night (10 PM to 7 AM), each with an associated horn sounding at the Stanwood Street crossing.

Up to three trains at a time may be housed inside the layover facility. They will remain shut-off during servicing then be powered up to allow for about a half-hour warm up period before each run to test equipment. Train horns will then be tested briefly with a "short toot" inside the facility before exiting. The building's roll-up doors are expected to be closed while engines are running in the building, except to allow trains to enter and exit or to occasionally augment ventilation.

Noise analysis results demonstrate that the facility will meet applicable FRA/FTA noise regulations with a minimum composite STC[3] (walls and roof) rating of STC 21. However, in response to concerns expressed by the Building Advisory Group, the proposed building will be constructed to a higher composite STC 44 or greater rating (see section 4 *Agency and Public Involvement* for more information on the Building Advisory Group).

The ventilation system design will continue to evolve during the design process. For purposes of the noise assessment, it was assumed that four rooftop mounted ventilation fans will be required to provide adequate airflow inside the facility building. NNEPRA has agreed that these fans will be of the low-noise emission variety, which are typically about 10 decibels quieter than standard fans.

Exhibit 13 summarizes noise assessment findings for current service levels. Under the Build Alternative, project-generated noise levels are estimated at 43 to 49 dBA Ldn, which is below applicable FRA/FTA impact criteria. The Build Alternative is therefore not considered to have either a moderate or severe noise impact.

Exhibit 13. Summary of Predicted Noise Levels under Current Service Levels

Site No.	Measured Ambient Noise Ldn, dBA	FRA/FTA Project Noise Impact Criteria		Predicted Build Alternative Noise Ldn, dBA	Exceeds Impact Criteria?
		Moderate Ldn, dBA	*Severe* Ldn, dBA		
1	53	54	60	49	No
2	53	54	60	48	No
3	54	55	61	43	No

[3] STC (Sound Transmission Class) is defined by the American Society for Testing and Materials (ASTM) standard E-90. STC is an index number related to a wall's ability to block noise. Higher STC values correspond to less noise propagation.

Under the No Build, a layover facility would not be constructed. Ambient sound measurements at the Brunswick rail yard reflect the noise associated with current service levels under the No Build when the *Amtrak Downeaster* train set lays over elsewhere during the midday. Over the longer-term, it is possible that the rail yard would become the regular location for midday layovers under the No Build. The noise emission levels of the idling *Amtrak Downeaster* train set were measured in February 2013. A comparison of the two conditions revealed that noise levels at the three receptor locations were elevated by an average of 2 to 7 dBA while the train was idling in the Brunswick rail yard.

Potential Future Service Levels

The project-generated noise assumptions for future service levels include noise associated with the expanded *Amtrak Downeaster* service, the layover facility itself, and any trains accessing it. While the expansion of *Amtrak Downeaster* service is not a part of the proposed action (and service expansion could foreseeably occur with or without the proposed layover facility), noise associated with the expanded service has been included in the project-generated noise predictions to be conservative and allow for direct comparison to the Current Service Levels scenario.

Potential future service levels were assessed assuming ten daily *Amtrak Downeaster* trips between Portland and Brunswick. A typical *Amtrak Downeaster* train set consists of a diesel locomotive with three to five passenger coach cars, a café car, and a non-powered control unit. Eight of the train trips will occur during daytime hours and two will occur during the nighttime period (see section 2.4 for additional information regarding scheduled train times) with trains assumed to be traveling at 30 mph. Each passing train will sound its horn at both the Stanwood Street and Church Road at-grade crossings.

Noise from the existing *Amtrak Downeaster* service (six daily trips) is already accounted for in the ambient noise measurements and factored into the noise impact criteria. Therefore, the increase in operations associated with further expanding the *Amtrak Downeaster* service to 10 daily trips would be three daytime passbys and one nighttime passby, each with an associated horn sounding at the Stanwood Street and Church Road at-grade crossings.

Amtrak Downeaster train sets would also make ten trips between Brunswick Station and the proposed layover facility daily. Seven of these trips would occur during the daytime (7 AM to 10 PM) and three would occur at night (10 PM to 7 AM), each with an associated horn sounding at the Stanwood Street crossing. All trains will enter and exit on the east side of the facility and travel at 10 mph within Brunswick yard.

Exhibit 14 summarizes the predicted noise levels and noise impact assessment for future *Amtrak Downeaster* service levels relative to FRA/FTA criteria. The predicted project-generated noise level is 51 dBA Ldn at Sites 1 and 2, where the FRA/FTA noise limits are 54 and 60 dBA Ldn for moderate and severe impact, respectively. The predicted project-generated noise level at Site 3 is expected to be 50 dBA Ldn where the FRA/FTA noise limits are 55 and 61 dBA Ldn for moderate and severe impact, respectively. The predicted noise levels in all cases are three decibels or more below the threshold for moderate impact. The results show that project-generated noise levels are not predicted to exceed FRA/FTA noise criteria limits at any receptor site, even when considering the additional noise levels associated with potential *Amtrak Downeaster* service expansion.

Exhibit 14. Summary of Predicted Noise Levels under Potential Future Service Levels

Site No.	Measured Ambient Noise Ldn, dBA	FRA/FTA Project Noise Impact Criteria		Predicted Build Alternative Noise Ldn, dBA	Exceeds Impact Criteria?
		Moderate Ldn, dBA	*Severe* Ldn, dBA		
1	53	54	60	51	No
2	53	54	60	51	No
3	54	55	61	50	No

Comparison to State and Local Noise Regulations

While the relevant measurement of noise impact for purposes of NEPA is the Federal standard discussed above, the State of Maine Department of Environmental Protection (MaineDEP) and Town of Brunswick both also have regulations that govern noise. For purposes of comparison, NNEPRA calculated the noise impacts of the facility relative to the State and local noise regulations as well.

The MaineDEP and Town of Brunswick noise limits both apply to the hourly equivalent sound level (Leq(h)) noise metric. Exhibit 15 summarizes the applicable limits, as well as modeled project-related noise under the Build Alternative.

The noise levels associated with the Build Alternative are lower than MaineDEP standards at all receptor sites during the day, and at Sites 1 and 3 during the night. The projected highest hourly noise level during the night is three decibels higher than MaineDEP limits for nighttime at the property line of Site 2.

The noise levels associated with the Build Alternative are lower than Brunswick's standards at all receptor sites during the day. At night, the projected highest hourly noise level is seven decibels higher than Brunswick's standard at the property line of Site 1, three decibels higher at the building location of Site 2, and eight decibels higher than at the property line of Site 2. It should be noted that people would not be expected to be present near the property line during nighttime hours, so noise levels at building locations are better indicators of exposure to noise.

Other noise not related to the proposed project also occurs during nighttime hours, such as traffic noise, noise from existing train services (passenger and freight), wind, heating and cooling equipment, etc. Ambient noise measurements confirm that other activities already generate noises at higher levels at the three receptor sites than those that would be associated with the Build Alternative. Leq(h) readings exceeding 55 decibels were recorded at the building locations for Sites 1 and 2, and over 60 decibels at the building location for Site 3.

3.1.5 Vibration

Environmental vibration can be generated by transportation systems such as trains, subways, trucks, automobiles; construction activities such as heavy earth moving equipment, blasting, pile driving; power generation or other large mechanical systems; or by actual seismic motion. While vibratory motion can be generated in all directions, only the vertical component is addressed in environmental studies. Vertical vibration typically contains more energy than either the longitudinal or latitudinal directions.

The FRA/FTA's general method ground-borne vibration model was used to predict vibration levels potentially affecting the three receptor locations. The model predicts vibration velocity levels in units of

VdB based on a train's speed, distance to the receptor, number of events per day, coupling efficiency of the receptor's foundation to the ground, and any special track or ground conditions that may accentuate or diminish vibration. The vibration analysis is fully documented in the Brunswick Layover Noise and Vibration Technical Report (March 2013), which is included as Appendix E.

Ambient Vibration Measurements

Ambient vibration levels were measured in September 2011 with no *Amtrak Downeaster* train activity present, and again in February 2013 to document the levels with *Amtrak Downeaster* train service on the mainline. Both of these conditions represent ambient or existing vibration conditions as they are not generated by the proposed project. Measurements were conducted at the three receptor locations identified previously. As shown in Exhibit 15, vibration levels exterior to the buildings ranges from 44 to 48 VdB during non-event time periods, and can be as high as 63 to 65 VdB during passbys of an *Amtrak Downeaster* train.

Exhibit 15. Measured Exterior Ambient Vibration Level

Site No.	Address	Measured Exterior Ambient Vibration Level (VdB)	Measured Exterior Ambient Vibration Level (VdB)
		Non-event (no train)	***Amtrak Downeaster*** pass-by
1	Knights Inn at 133 Pleasant Street, Apartment H8	48	64
2	Residence at 22 Bouchard Drive	44	65
3	Resource Systems Engineering at 30 Parkers Way	47	63

Environmental Effects

The layover facility is expected to generate negligible vibration of its own. No heavy earth-moving equipment will be used at the facility, nor will any drilling, blasting or impact-type work be performed. As such, the only notable potential vibration generating source to consider is the movement of *Amtrak Downeaster* trains in/out of the layover facility at slow speed.

Exhibit 16 summarizes the findings of the vibration analysis. The predicted vibration associated with project-related train operations are generally similar to that experienced currently when *Amtrak Downeaster* trains pass by on the mainline (shown previously in Exhibit 16), but well below applicable FRA/FTA vibration criteria.

Exhibit 16: Predicted Vibration Levels

Site No.	Land-Use (FTA Category)	Modeled Distance from Train to Receptor (feet)	Predicted Interior Train Movement Vibration Level (VdB)	FRA/FTA Vibration Criteria (VdB)
1	Residential (Category 2)	200	73	80
2	Residential (Category 2)	490	66	80
3	Commercial (Category 3)	870	61	83

3.1.6 Geology and Soils

Affected Environment

The Maine Geological Survey (MGS) has mapped surficial and bedrock geology of the project site. The surficial geology consists of glaciomarine deposits, fine grained and medium grained. The dominant bedrock geology of the area is Precambrian-Ordovician, which includes a wide range of volcanic and marine sedimentary rocks that have been metamorphosed to gneiss and schist (Loiselle and Marvinney 2002).

The Natural Resource Conservation Service (NRCS) soil survey indicates that the dominant soil series within the site are Adams loamy sand and Au Gres loamy sand. Adams soils are deep, excessively drained, medium sands (Natural Resource Conservation Service 2012a). The Au Gres soils are somewhat poorly drained. Permeability is rapid in both series, although the seasonal high water table in the Au Gres series impedes internal drainage. Neither series is considered highly erodible by the NRCS. A rating of highly erodible indicates a potential to erode at a rate greater that what is considered tolerable soil loss (Natural Resource Conservation Service 2006, 2012b).

Au Gres soils are considered hydric, defined as being saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. However, an on-site review at the Build Alternative determined that the soils are somewhat poorly drained and therefore do not meet the hydric criteria.

Environmental Effects

The Build Alternative would disturb existing soils, covering them with a structure. These soils are not unique or regionally important. During construction of the Build Alternative, best management practices for erosion and sediment control would be used to protect off-site surface waters from runoff. Coal ash and stockpiled soils with contaminants are present on site. These will be managed in accordance with provisions specified by the Maine Department of Ecology, which are summarized in section 3.3.8 *Contaminated Sites and Hazardous Waste*.

The No Build Alternative would not affect geology or soils.

3.2 Biological Environment

3.2.1 Ecosystems

Affected Environment

The Build Alternative site is within the Casco Bay Coast Biophysical Region (Maine Forest Service 2000). The landscape is flat to gently-rolling terrain. The vegetation of the region reflects the moderating influence of the Gulf of Maine. The site is part of a pre-existing rail corridor with two siding tracks and a mainline track. Previous construction of the rail corridor included grading and ditching, which altered site vegetation. Shrubs and saplings have grown up along the perimeter of the right-of-way and unmanaged areas within the corridor. Common species within the site include white pine, red maple, locust, red oak, quaking aspen, black cherry and gray birch within the overstory. Herbaceous species include wild sarsaparilla; bracken, cinnamon and royal fern; milkweed; wintergreen; goldenrod species; Japanese knotweed (an invasive) and various species of grasses.

Environmental Effects

The Build Alternative would disturb small quantities of vegetation that have regrown within the existing footprint of past railroad activities.

The No Build Alternative would not cause further disturbance within the project site.

3.2.2 Wetlands

Affected Environment

MaineDEP has jurisdiction over wetlands and water bodies under the Natural Resources Protection Act (NRPA, 38 M.R.S.A §480-A to 480-HH). The NRPA identifies sensitive wetland areas as Wetlands of Special Significance (WSS), which include:

- Peatlands (including heaths);
- Critically imperiled or imperiled communities;
- Significant wildlife habitat;
- Locations near coastal wetland;
- Locations near Great Ponds Act (GPA) great ponds (GPA defined as water quality suitable for drinking water, recreation, etc., 38 M.R.S.A. §465-A);
- At least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water;
- Wetlands subject to flooding; and
- Wetlands located within 25-feet of a river, stream or brook.

Impacts to WSS require more rigorous review and permitting than non-WSS wetlands and frequently require compensation through restoration, enhancement or preservation. Significant wildlife habitat as defined by Chapter 335 of the NRPA includes seabird nesting islands, significant vernal pools, high and moderate value waterfowl and wading bird habitat. There are no significant wildlife habitats within or adjacent to the Build Alternative site (Appendix A, Maine Department of Inland Fisheries and Wildlife (MDIFW) 2012a,b).

Reviews of the Build Alternative site conducted on October 21, 2011 and April 20, 2012 found that no wetlands or potential vernal pools occur within the site. The US Fish and Wildlife Service (USFWS) National Wetlands Inventory (US Fish and Wildlife Service 2012) did not identify any wetlands within the site. No vernal pools have been mapped in the vicinity of the site (Appendix A, MDIFW, 2012c). Small areas of wetland occur off-site to the south and a ditched perennial stream crosses the rail corridor to the east of the site.

Environmental Effects

The Build Alternative would not impact wetlands or streams.

The No Build Alternative would not impact on wetlands or streams.

3.2.3 Threatened or Endangered Species

Affected Environment

Section 7 of the Endangered Species Act (ESA) requires that for any project in which there is a federal action that “may affect” listed species or their critical habitat, the action agency must consult with either

the US Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS). Critical habitat for the Atlantic Salmon Gulf of Maine Distinct Population Segment has been designated for the lower Androscoggin River watershed (National Oceanic and Atmospheric Administration 2012). The Build Alternative site is included within the mapped critical habitat. However, there is no suitable habitat for Atlantic salmon within the site (Appendix A, Dube 2012).

There are currently 33 species of fish and wildlife listed as endangered or threatened under Maine's Endangered Species Act (MDIFW 2012c). Three of those species are also federally listed species under the U.S. Endangered Species Act. There are no federally-listed, threatened or endangered species or critical habitat within the Build Alternative site (Appendix A, Zicari 2012). The bald eagle was removed from the federal threatened list on August 9, 2008 and is now protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act and reviewed under the 2007 National Bald Eagle Management Guidelines. No bald eagle nest sites were observed within the site. Additionally, there are no federally-listed or proposed threatened or endangered species and/or designated critical habitat for listed species within the site under the jurisdiction of the National Marine Fisheries Service (NMFS) (Appendix A, Colligan 2012).

An on-site review for endangered species was not conducted, but due to the developed nature of the site and surrounding area, the likelihood that endangered species are present within the site is very low. Agencies responsible for state-listed species reviewed their databases and determined that there are no resources under their purview within the Build Alternative area (Appendix A, Swan 2012, Walker 2012).

The MDIFW oversees the Maine Endangered Species Act (12 MRSA Part 13, Subchapter 3), which designates mapped "Essential Habitat" for species listed as endangered or threatened, which includes habitats for least terns, roseate tern and piping plovers. These species require sandy beaches for nesting; as the Build Alternative site is located within the town of Brunswick, it does not provide habitat for any of these species.

The Maine Natural Areas Program (NAP) conducted a review of the Program's Biological and Conservation Data System files for rare botanical features in the Build Alternative area. Based on the information in the NAP files and the landscape context of the Build Alternative site, there is a low probability that rare or significant botanical features occur within the site (Appendix A, Cameron 2012).

Environmental Effects

Due to the disturbed nature of the site, rare, threatened and endangered species are not likely to occur on the site and therefore would not be impacted by the Build Alternative. Best management practices for erosion and sediment control would be utilized during construction of the proposed project to protect off-site habitats within the Androscoggin River.

The No Build Alternative would have no impact on rare, threatened or endangered species.

3.2.4 Fisheries

Affected Environment

A wild brook trout fishery is defined by MDIFW as a body of water that has not been directly stocked with brook trout in the previous 25 years. A review of available resource data found that there are no wild brook trout ponds or lakes within the Build Alternative site's vicinity or within the Build Alternative site (Maine Council of Trout Unlimited 2012). A review of the MDIFW database for rare, threatened, or endangered species determined that there are no documented occurrences within the Build Alternative site. MDIFW confirmed that there are no Essential or Significant Wildlife habitats or Fisheries Habitats

within the Build Alternative area (Appendix A, Walker 2012). A review of the National Marine Fisheries (NMFS) Habitat Conservation Division website confirmed that there are no Essential Fish Habitats within the Build Alternative area, and there is no fisheries habitat on the site.

Environmental Effects

There are no fisheries resources on the Build Alternative site; therefore, the Build Alternative would have no impacts to fisheries. Best management practices for erosion and sediment control would be utilized during construction of the proposed project at the Build Alternative site to protect off-site resources.

The No Build Alternative would not impact fisheries.

3.2.5 Wildlife Habitat

Affected Environment

Under Chapter 335 of the Maine Natural Resources Protection Act (NRPA), Significant Wildlife Habitat includes endangered or threatened species habitats; high and moderate valued deer wintering areas (DWA) and travel corridors; critical spawning and nursery areas for Atlantic salmon; vernal pools; MDIFW-mapped moderate and high value inland waterfowl/wading bird habitats and MDIFW-mapped shorebird nesting, feeding and staging areas. The Build Alternative site does not contain deer wintering habitat based on the developed nature of the site and surrounding area. The site does not provide Atlantic salmon habitat (National Oceanic and Atmospheric Administration 2012). A review of MDIFW significant wildlife habitat mapping (MDIFW 2012a,b,d) indicates that the Build Alternative site does not contain inland waterfowl/wading bird habitat, shorebird roosting, nesting habitat, or vernal pool habitat. A site review confirmed that there are no vernal pools within the site.

The Build Alternative site has limited wildlife value because it is surrounded by roads, residences and the railroad. The site could support some wildlife including songbirds and small mammals that reside in urban environments such as gray squirrel, mice, house sparrows, crows, and blue jay.

Environmental Effects

No impacts to significant wildlife habitat, as defined under Chapter 335 of the NRPA, would occur by the construction of the proposed project at the Build Alternative site. A small amount of wildlife habitat would be lost and wildlife displaced as a result of the Build Alternative. However, the site has low wildlife value due to past vegetation management activities.

The No Build Alternative would not impact wildlife habitat.

3.3 Human Environment

3.3.1 Transportation

Affected Environment

Rail Transportation

The Build Alternative site borders the Brunswick Branch, a rail line owned by the State of Maine that connects Brunswick to Royal Junction, where connections are made to main line tracks to Portland. Also adjacent to the proposed site is the Brunswick rail yard, which at present consists of two siding tracks. Freight service is operated by Pan Am Railways, which typically operates two trains per week (one round trip) over the Brunswick Branch between Brunswick and Royal Junction. West of Royal Junction, freight

service operates more frequently, with six daily trains typical between Portland and Royal Junction.

The siding track in the Brunswick rail yard facilitates interchanges between Pan Am Railways and Maine Eastern Railroad, which operates freight service between Brunswick and points east. These switching movements do not necessarily coincide, as one railroad will leave cars on the siding for pick up by the other at another time. Interchanges typically occur once per week.

Amtrak Downeaster passenger service to Brunswick began operation in November 2012. Six *Amtrak Downeaster* trains operate daily between Brunswick and Portland, four of which are extensions of Boston, Massachusetts – Portland *Amtrak Downeaster* service.

Highways and Roads

The Build Alternative site is located south of US Route 1 (Pleasant Street), which is a primary corridor connecting Brunswick to the interstate highway system. US Route 1 has four lanes and carries on average between 25,090 and 29,070 vehicles per day in the vicinity of the proposed site.[4] Access to the site would be by Lombard Street and Church Road. Lombard Street is a lightly traveled, dead-end road that provides local access from US Route 1 to three businesses, which also have access to other roadways, as well as six single family residences. Church Road is a local street that provides access to the proposed project site. Daily traffic on Church Road averages 6,680 vehicles. Church Road intersects US Route 1 at a signalized intersection.

Environmental Effects

Rail Transportation

NNEPRA, working with MaineDOT and Pan Am Railways, has determined that the existing rail infrastructure between Brunswick and Portland can support six daily passenger train trips. Under the No Build, the current schedule would continue, with four scheduled *Amtrak Downeaster* trains daily (two roundtrips) operating over the full length of the Brunswick – Portland – Boston route, with two additional trains operating between Brunswick and Portland only. Under the Build Alternative, the two Brunswick – Portland trains needed to position equipment at the start and end of each operating day could be eliminated, enabling two additional Portland – Boston *Amtrak Downeaster* trains to be extended to Brunswick. The extended services would likely include a midday train originating in Brunswick, and a late night return from Boston arriving in Brunswick at approximately 2:30 AM.

Any expansion of service beyond six trains daily would likely require construction of passing tracks at Royal Junction to increase capacity of the main line to operate efficiently. Future service expansion could potentially result in extension of all ten daily *Amtrak Downeaster* trains to Brunswick. Because trains would continue to layover in Portland overnight under the No Build Alternative, this would also require six additional trips between Portland and Brunswick to position equipment each day, for a total of sixteen trains daily between Portland and Brunswick.

The Build Alternative would allow all ten daily *Amtrak Downeaster* trains to be extended to Brunswick without requiring additional moves between Portland and Brunswick to position equipment. Train sets would instead overnight at the layover facility in the Brunswick rail yard. The potential to adversely affect freight operations is lower under the Build Alternative than the No Build since fewer trips between Brunswick and Portland would be required to support the same amount of Brunswick – Portland – Boston *Amtrak Downeaster* service.

[4] Maine Office of GIS, Roads - DOT (MEDOTPUBRDS) layer (8/11/2011).

Highways and Roads

The No Build would not affect transportation to the site or on area roadways.

Under the Build Alternative, access to the site would be provided from Lombard Street and Church Road, which connect to nearby US Route 1. Daily trip generation at the site is expected to include two to four truck trips for delivery of fuel and supplies or garbage/recycling pick up, as well as occasional visitor trips. Three shifts of employee arrivals and departures typically consisting of approximately ten to twelve vehicle trips each are expected. The project will not adversely affect traffic operations on area roadways.

The project would enable two additional Boston – Portland *Amtrak Downeaster* trips to be extended to Brunswick, replacing two trips that only operate between Portland and Brunswick today. The additional service is expected to result in increased ridership, which would attract additional automobile trips to Brunswick Station (likely on the order of 15 to 20 vehicles per day). Conversely, some decrease in auto travel between Brunswick and Portland on the I-295 corridor could be realized if the additional service results in drivers shifting to rail travel.

3.3.2 Land Use and Zoning

Affected Environment

The Build Alternative project site is an existing Brunswick rail yard located on the north side of the existing rail corridor between Church Road and Stanwood Street in Brunswick, Maine. The site is presently vacant of buildings, while the adjacent rail corridor functions as a freight interchange location for Pan Am Railways and Maine Eastern Railroad. Two siding tracks located in the rail yard are in use today.

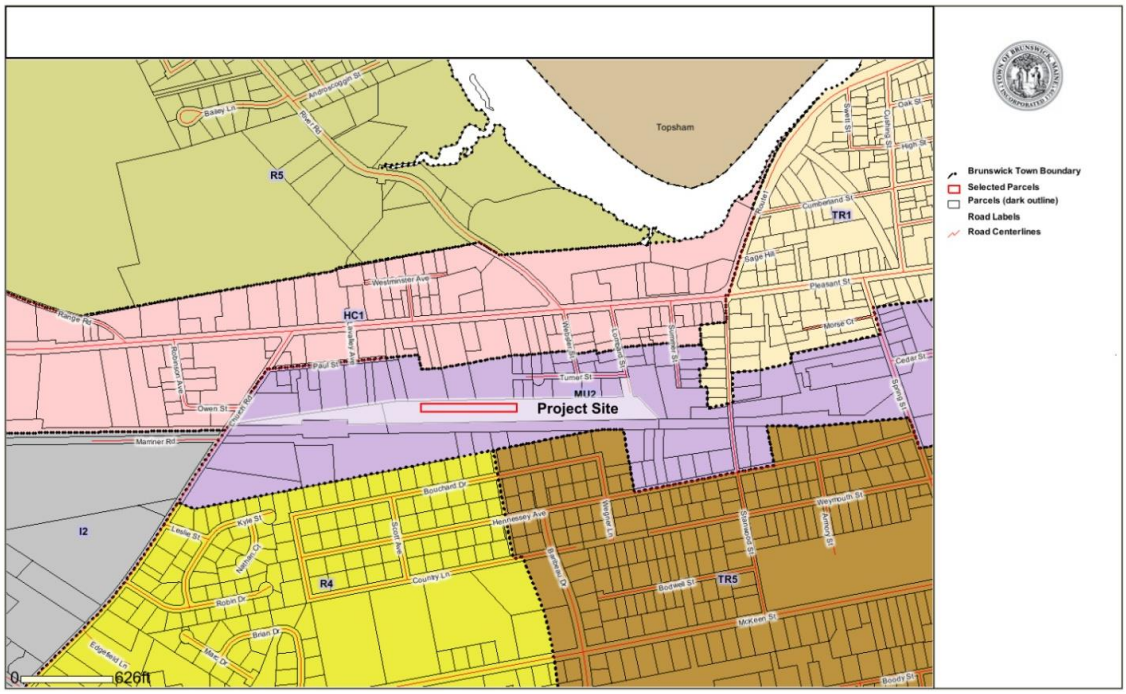
Properties to the north of the site are a mix of industrial, commercial and residential uses, including a fuel storage facility. Industrial and commercial uses are also present on Church Road to the west and on Stanwood Street to the east. A residential neighborhood was constructed on the south side of the site in the 1970's and 1980's on property directly adjacent to the railroad mainline which had been zoned industrial until the 1960's. This neighborhood includes approximately twenty single family houses on Bouchard Drive with building locations that range between 140 feet and 400 feet from the existing mainline tracks, and approximately 300 to 1000 feet from the proposed facility.

The site is located in an area identified as a Commercial Connector Growth Area in the Town's Comprehensive Plan, and is zoned Mixed Use 2 - Intown Railroad Corridor (MU2), as shown in Exhibit 17. A range of commercial, residential and industrial uses are permitted in the MU2 zone. The Comprehensive Plan specifies that non-residential uses are most appropriate for the Commercial Connector Growth Areas.

Environmental Effects

The Build Alternative would not have a significant impact on land use or zoning. The proposed project site is owned by NNEPRA and is zoned Mixed Use 2 – In-town Railroad Corridor (MU2). The site is functioning as a rail yard, has two siding tracks located in the rail yard that are in use today, and borders the State of Maine owned Brunswick Branch mainline tracks. Continued use and development of this site for railroad transportation activities is consistent with the Town of Brunswick's zoning and with its Comprehensive Plan. In addition, the Town determined that the contemplated layover facility is a permitted use and is consistent with its zoning and Comprehensive Plan (Appendix A, Breinich 2011).

Exhibit 17: Current Zoning



Source: Town of Brunswick

The proposed facility will be designed to accommodate the overnight storage of a maximum of three (3) diesel locomotive-powered passenger train sets used for the *Amtrak Downeaster* service. The facility will include a main building that will span three railroad tracks, with approximate dimensions of 655 feet long by 70 feet wide and with a maximum height of 37 feet at the roof's peak. Offices, locker rooms, wash rooms and storage facilities will be incorporated through construction of an attached building on the north side of the main building, 180 feet long by 26 feet wide and with a maximum height of approximately 22 feet at its peak. The building will be equipped with a ventilation system designed to handle diesel locomotive exhaust and to keep workplace temperature within OSHA compliant ranges.

The Brunswick Zoning Ordinance specifies dimensional standards which, with the exception of building footprint, would be met by the proposed facility. In the MU2 zone, the maximum allowed building footprint is 20,000 square feet, unless a variance is granted. However, Federal law (see 49 U.S.C. § 10501(b)) generally preempts railroads from such ordinances where, as here, the facility is to be used in "transportation by rail carriers" and the "construction . . . of . . . facilities . . . ." 49 U.S.C. § 10501(b). The term "transportation" includes a "warehouse . . . yard, property, facility, instrumentality, or equipment of any kind related to the movement of passengers or property, or both, by rail" 49 U.S.C. § 10102. Hence, local zoning regulations are not applicable in this case, and a variance is not required. In addition, Federal law provides that "[n]o State or local building, zoning, subdivision, or similar or related law" shall apply in connection with the construction, ownership, use or operation of any "improvement" undertaken for the benefit of Amtrak as part of, or in furtherance of, Amtrak intercity rail service on routes such as the *Amtrak Downeaster* (see 49 U.S.C. § 24902(j)). Because the proposed facility is such an "improvement," local zoning does not apply.

Prior to the determination that Brunswick's zoning regulations would not apply to the project, NNEPRA officials attended the Brunswick Zoning Board meeting of April 21, 2011 to request a dimensional variance for the construction of a layover facility. NNEPRA gave a presentation about *Amtrak Downeaster* service and outlined the initial concept to construct a layover facility at the Brunswick West rail yard. The

variance was granted, though the Town of Brunswick subsequently determined that the proposed facility would be exempt from local zoning requirements and that the variance was therefore not required.

The No Build would not have a significant impact on land use or zoning.

3.3.3 Prime Farmland

Affected Environment

The Farmland Protection Policy Act (FPPA, 7 U.S.C. 658) of 1981 mandates that Federal agencies consider the impact of their activities on farmland, including prime, unique and farmland of statewide importance. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage and fiber. Prime farmland cannot include developed or urban lands or areas of water. Unique farmland is land other than prime farmland used for the production of specific high value food and fiber crops. Farmland of statewide importance is farmland that is nearly prime farmland and that economically produces high yield crops when treated and managed according to acceptable farming methods (NRCS 2012).

There is no mapped prime farmland within the Build Alternative site. Adams (Windsor) loamy sand is considered Farmland of Statewide Importance and is a dominant soil type within the project site. The FPPA considers land that is within city limits to be "committed to other uses" and such land needs no further evaluation.

No further evaluation would be required under the FPPA for the proposed project.

Environmental Effects

The Build Alternative would not impact Prime or Unique Farmland, but is located over Farmland Soils of Statewide Importance. As the site is within a highly developed area, these soils are considered "committed to other uses". Therefore, the Build Alternative would not adversely affect farmland soils of any type.

The No Build Alternative would not impact Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

3.3.4 Socio Economic and Environmental Justice

Affected Environment

The Town of Brunswick was incorporated in 1739 and hosts a mix of retail, professional and art-related businesses, in addition to light and medium industry. Major employers include Bath Iron Works, Bowdoin College, L.L. Bean, and Mid Coast Hospital. Total population is 20,278 based on the 2010 US Census. The proposed project area is located approximately ½ mile west of the historic downtown centered along Maine Street. The proposed project area consists of residential properties interspersed with commercial and light industrial properties. Much of this commercial activity is focused along US Route 1 (Pleasant Street) along the northern portion of the project area, while neighboring residential uses are located south of the exiting mainline track.

Federal Executive Order 12898 requires that projects involving Federal agencies or receiving Federal funding not disproportionately impact minority or low income populations. These environmental justice

considerations are summarized in Exhibit 18. Minority populations are those persons identified in the 2010 US Census as having an ethnic/racial heritage other than non-Hispanic white.

Census tract 112.01 encompasses the proposed project site and surrounding neighborhoods. Minorities comprise 5.9 percent of the population within this area, compared to 9.0 percent for Brunswick as a whole and 8.2 percent for Cumberland County. The share of minorities statewide is 5.6 percent. According to the American Community Survey, 5.3 percent of the population in the project area has a household income below the poverty line. This compares to 11.0 percent for the entire town, 10.5 percent for Cumberland County, and 12.6 percent statewide.

Exhibit 18: Envionmental Justice Populations

	Percent Minority (2010)	Percent below Poverty Level (2006-2010)
Census Tract 112.01	5.9%	5.3%
Brunswick	9.0%	11.0%
Cumberland County	8.2%	10.5%
Maine	5.6%	12.6%

Source: US Census Bureau, 2010 Census and 2006-2010 American Community Survey

Environmental Effects

The Build Alternative is proposed to be located adjacent to the north side of an active rail line on property which has been used for railroad purposes since the late 1850's. The site contained numerous tracks and buildings through the late 1980's and currently serves as a freight car storage and interchange location for Pan Am Railways and Maine Eastern Railroad, as well as a day-time hold-over location for *Amtrak Downeaster* trains. Moreover, the proposed layover facility has been designed to mitigate the potential impacts of noise and lights on the nearby residents, and therefore would not significantly alter the character of the locality. Therefore, no significant change to the local residential or business economic community is anticipated.

In addition, the Build Alternative would support ongoing efforts to improve mobility by rail for residents of Brunswick and neighboring communities, as well as support efforts to improve access to the Brunswick region for business, recreational and educational activities. The Build Alternative will create short-term work opportunities during the construction period, as well as support long-term employment positions involving train maintenance activity and train operating personnel. Operation of the Build Alternative will result in the purchase of consumables from local suppliers, including cleaning supplies, fuel and food service supplies.

There are no affected minority or low income populations near the proposed project site. Therefore, the Build Alternative would also not disproportionately affect minority or low income populations.

The No Build would not disproportionately affect minority or low income populations.

3.3.5 Cultural and Historic Resources

Affected Environment

The proposed project site has been in use as a rail yard since the early 20th century. The rail yard originally

consisted of numerous siding tracks and several wood frame railroad office, storage, crew, car inspection and equipment storage buildings. The railroad buildings have previously been removed along with much of the yard track by the early 1990's. There are no structures or features of historic interest on the site. Neighboring sites to the north are a mix of commercial, industrial and residential uses. A single family residential subdivision was built adjacent to the south border of the railroad right-of-way in the 1970's and 1980's with houses located approximately 140 to 500 feet from the mainline track.

The Maine Historic Preservation Commission (MHPC) was contacted to initiate consultation for the project. The MHPC requested additional information on the project including proposed site plans and elevation drawings of the facility, photos of any buildings that are 50 years or older that are either in or adjacent to the site, and whether federal and/or state permitting, funding, or licensing will be required for the project (Appendix A, Reed 2011). Town files were reviewed (assessor and code enforcement) to identify potential structures that are 50 years or older (built prior to 1962) within the proposed Build Alternative project site and abutting parcels. There are no structures that are 50 years or older within or immediately adjacent to the proposed facility. The oldest structures included a building (Map U23 Lot 47) built in 1969 and a house (Map U28 Lot 7) that was estimated to have been built in 1968. The results of this "preliminary assessment" were submitted to the MHPC on May 10, 2012 (Appendix A). On July 25, 2012, MHPC requested additional clarification on the project funding and lead agency. Normandeau provided additional information on May 22, 2013. MHPC requested that the lead Federal agency submit a finding of effect (for Section 106 of the National Historic Preservation Act) for the proposed project.

A request was submitted to the five Maine Indian Tribes for a review of their databases. Two Tribes – The Penobscot Tribe and the Aroostook Band of Micmacs – responded. No response was received from the other three Tribes. The Penobscot Tribe found no resources of historic, architectural or archaeological significance within the proposed project site (Appendix A, Newsom 2012). The Aroostook Band of Micmacs indicated that they have no knowledge of any specific sites or cultural features within the proposed project site. They did request that if during the course of excavation/construction activities, human remains, artifacts, or any other evidence of Native American presence are encountered, that site activities in the vicinity of the discovery immediately cease, pending notification to the Tribe. The Tribe also requests that if any wetland mitigation is proposed that black ash (*Fraxinus nigra*) be planted as it has great value to the Tribe and to wildlife yet is in decline in the northeast (Appendix A, Dennis 2012).

Environmental Effects

The Build Alternative would not affect any historically-significant resources. Consultation was initiated with the State Historic Preservation Office, who concurred with this finding (Appendix A: Mohney concurrence with letter from Quinn 2013). There are no archeological resources on the proposed project site; therefore, the Build Alternative would have no adverse effects.

The No Build Alternative would not impact cultural or historic resources.

3.3.6 Section 4(f) and 6(f) Resources

Affected Environment

Section (4f) Resources

Section 4(f) (recodified as 49 U.S.C. 303) of the Department of Transportation Act requires consideration of:

- Parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public.
- Publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge.
- Historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public (*See* 23 U.S.C. § 138(a) and 49 U.S.C. § 303(a)); Historic properties are evaluated under the Section 106 process (see section 3.3.5 *Cultural and Historic Resources*).

No parks or recreation areas are located in the proposed project area. No wildlife or waterfowl refuges are located within the proposed project area.

As described in section 3.3.5 *Cultural and Historic Resources*, no properties of historic significance have been identified in or abutting the proposed project area.

Section (6f) Resources

Section 6(f) of the Federal Land and Water Conservation Fund (LWCF) Act of 1964 provides financial assistance for the acquisition and development of public lands to create parks and open spaces; protect wilderness, wetlands and refuges; preserve wildlife habitat; and enhance recreational opportunities. Lands acquired or improved with these funds are subject to Federal regulations administered by the US Department of the Interior (USDOI). Pursuant to these regulations, any land subject to Section 6(f) cannot be "converted" to another use for purposes inconsistent with the Act without the approval of the USDOI and without being replaced with other land that is of equal use and value to the land proposed for conversion.

The Maine Department of Conservation (MDC) Community Grants Program response found no LWCF properties within or adjacent to the project site (Appendix A, Rogers 2011). A review of the Maine Bureau of Parks web data confirmed that there are no State, Federal or private conservation lands within or adjacent to the project site (MDC 2012).

Environmental Effects

The Build Alternative would not affect any Section 4(f) State, Federal or private conservation lands, refuges, parks, or other national, state or locally significant publically owned lands. Therefore, a 4(f) statement for this project is not required. There are no Section 6(f) public lands or recreation areas within the project site; therefore, the Build Alternative would not impact these resources.

The No Build Alternative would not impact 4(f) or 6(f) resources.

3.3.7 Coastal Zone Management

Affected Environment

Section 307 of the Coastal Zone Management Act, the federal consistency provision, provides a mechanism for states to manage the use of coastal resources and to facilitate cooperation and coordination with federal agencies. In Maine, activities affecting the coastal zone that are proposed by federal agencies require federal licenses or permits, or are conducted in a manner consistent with the

enforceable policies of the Maine Coastal Program (MCP). The enforceable policies of the MCP are contained in various state laws and implementing regulations (Maine State Planning Office 2006). Although the project is within the Coastal Zone, it is not required to file for federal consistency review as the activity is not listed in the MCP (Appendix A, Leyden 2012).

Environmental Effects

The project is not required to file for consistency review under the MCP.

3.3.8 Contaminated Sites and Hazardous Waste

Affected Environment

A Phase I and Limited Phase II assessment were completed and submitted to the Maine Department of Environmental Protection (MaineDEP). These assessments and on-site sampling determined that coal ash and stockpiled soils with contaminants were present on the Build Alternative site, which is consistent with the prior rail use of the site. The Phase I report also indicated the presense of underground piping of undetermined origin or use.

Environmental Effects

The Build Alternative would remediate existing contamination as specificed by a recommended action plan, which the MaineDEP concurred with (Appendix A, Firth September 12, 2011), as follows:

- Coal ash and stockpiled contaminated soils will either be removed to an appropriate disposal/remediation site or capped on site.
- If contaminated materials remain on site, a soils maintenance plan must be submitted and approved by the MaineDEP.
- Underground piping will be investigated further to determine whether remedial actions are necessary.
- Deed restrictions prohibiting groundwater extraction and adherence to the soils maintenance plans shall be established.

Activities conducted at the site would not further contribute to contamination of the site. Trains will be refueled on site by fuel trucks. Fuel for trains will not be stored on site. Small quantities of gasoline may be stored on site for incidental use (e.g. – lawnmower) or if an emergency generator is provided. Floor drains will be installed inside of the main building to catch any materials that drip, melt or fall from the train sets. These will be collected into a containment tank and removed from the site as necessary.

No heavy maintenance, external washing, or painting of train sets will occur on site.

The No Build would neither disturb nor remediate exisiting contaminants at the site.

3.3.9 Utilities

Affected Environment

Utilities are available nearby to the Build Alternative site in the Church Road, Turner Street and Lombard Street corridors, including electric, gas, sanitary and water. There are no existing utilities on the proposed

project site that would need to be relocated.

Environmental Effects

Proposed water connections will be made under Church Road. Electric connections will be made to existing overhead service on Turner Street. Sewer connections to existing service lines will be made under Lombard Street. Temporary impacts and local disruptions may be necessary during construction to splice into existing services.

3.3.10 Public Health and Safety

Affected Environment

The Build Alternative site is located on vacant land adjacent to an active rail line and rail yard. Nearby uses are a mix of industrial, commercial and residential uses.

Environmental Effects

The Build Alternative would not have an adverse impact on public health or safety. Instead, it would move maintenance and storage of train sets currently stored outside during the daytime hours, to an inside area secure from the environment and access by the public. Moreover, no air quality or other ill health effects are anticipated as a result of the project.

Grade crossings along the 30-mile right of way between Brunswick and Portland have been updated as a result of prior work detailed in the EA for the *Amtrak Downeaster* Portland North Expansion Project (2009). Train activity, including use of grade crossings, would depend on whether the Build Alternative is constructed. The Build Alternative would increase passenger train activity between Brunswick Station and the layover site at the Brunswick rail yard from eight to 12 trains daily under current service levels. Under potential future service levels, the amount of service operated between Brunswick rail yard and Portland would decrease relative to the No Build; ten trains compared to 16. Activity between Brunswick Station and Brunswick rail yard would be the same under potential future service levels; 20 trains daily for either the No Build or Build Alternative. In neither case would the amount of train activity have an appreciable impact to public health or safety because the increase in grade crossing activity is not significant and will continue to occur at slow speeds.

Under the No Build, midday storage and some light service of equipment would occur outdoors in the Brunswick rail yard.

3.3.11 Visual and Lighting

Affected Environment

The site is cleared, undeveloped property that was previously used as a rail yard (Exhibit 19). It sits adjacent to an active rail line and siding track. A canopy of trees and brush separate the site from abutters to the north, as well as neighboring properties to the south that abut the rail line.

Exhibit 19: Existing Site Conditions (looking West along Adjacent Rail Line)

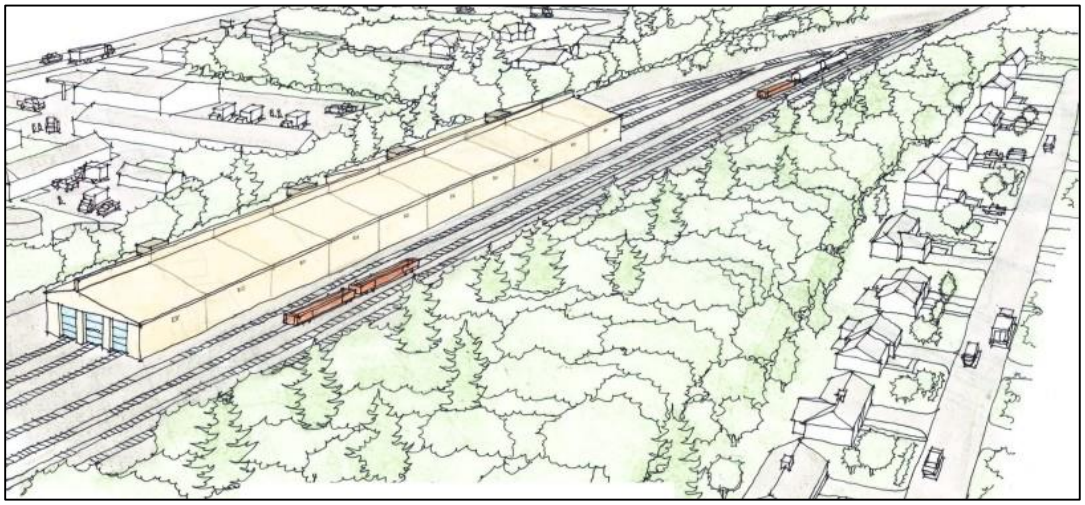
Environmental Effects

The Build Alternative would not degrade the visual appearance of the site, nor would lighting of the property at night impact neighbors. The Build Alternative would construct an approximately 655-foot long by 70-foot wide main building, with an attached 180-foot by 26-foot crew building. The main building will have a peaked roof of approximately 37 feet maximum height. The building will be constructed in an area that is largely cleared of vegetation today. Existing vegetation would screen views of the building from neighboring areas, especially when deciduous plants have leaves during spring, summer and autumn (Exhibit 20). In addition, NNEPRA will plant vegetation (arborvitae or similar) along an approximate 240-foot section of the access road to Church Road to further provide vegetative cover for the project.

External lighting at the facility will be provided for the roadway and parking areas, as well as on the exterior of the building where activity is expected (doorways, walkways) and will not have an adverse impact. Lighting will be mounted on poles and/or the side of the building and will be designed to direct light downward. NNEPRA's contractor will design a lighting plan that illuminates these exterior areas as required for safety, and will utilize cut-off lighting fixtures to avoid or minimize light spillover from the site.

The No Build would not affect the appearance of the site.

Exhibit 20: Layover Facility Concept Sketch



Note: Conceptual illustration, not to scale.

3.4 Construction Impacts

Construction is anticipated to require approximately 9 to 12 months. During this time, temporary impacts associated with construction are expected, including noise, dust, and emissions from construction equipment (e.g. - Backhoes, graders, cranes, air compressors, track laying equipment).

The initial construction activity would be to clear and grub the area of tree and shrub growth within the footprint of the proposed building and pavement of the project site. A new access road would be constructed from both Church Road (unpaved) and Lombard Street (paved) to the building. This would require grading, and installation of aggregates, sub base and pavement, as applicable.

The foundations for the building would be excavated. All excess excavated material would remain and be reused on site. The concrete footings would be poured, and then the building slab. The building structure would be erected, followed by fit-out of the building interior, including partitions, ceilings, doors and windows, mechanical and electrical systems, and finishes.

The site work would include new utility connections to the existing lines in the public streets. Water, sewer and gas would be underground pipes and trenches would be excavated and backfilled. Disturbance to existing roads and utilities would be minimal, primarily localized where the new access roads meet Church Road and Lombard Street. Electrical service and communications are anticipated to be overhead, and new utility poles would be installed and the lines strung on the poles.

Utilities would be installed to the building, which will require trenching and backfilling. A paved area would be provided on the north side of the building, which will also require grading, and installation of aggregates, sub base and pavement. A perimeter fence with visual screening would be installed around the site.

New tracks would be installed to connect the main building to the rail yard, including grading, and installation of ballast, ties and rails. No impact to services operating on the mainline are expected.

Best management practices to be employed during construction would include:

- Prior to the start of any construction activities, sedimentation and erosion control measures would be installed.
- Dust control measures would be used.
- The contractor would be required to fence in the site during construction to secure the site.
- Construction activities would only take place between 7:00am and 7:00pm.

The project would not impinge on any party's access to their property, as it is located in the interior of the project site and the site access from Church Road and Lombard Street would be new access roadways that would not interfere with others' access to their properties.

3.5 Future Additional NNEPRA Projects

Amtrak Downeaster service to Freeport and Brunswick began in November 2012. Current service frequencies are four scheduled one-way trips each day operating over the full route between Brunswick, Portland and Boston. In addition, two additional trains operate daily between Portland and Brunswick, primarily to position equipment at the start and end of the day.

NNEPRA is planning other track improvements and upgrades separately from the proposed project. These

actions are separate and independent from the proposed Brunswick Layover project evaluated in this EA, and each may be constructed with or without the Brunswick Layover facility.

Ultimately, NNEPRA's goal is to extend all ten scheduled daily *Amtrak Downeaster* trips to Brunswick when funding becomes available to construct the passing track between Portland and Freeport, which is required to support additional frequencies. NNEPRA plans to construct this second mainline track section at Royal Junction in Yarmouth, Maine, establishing a double track section that would allow trains traveling in opposite directions to pass at speed. The Royal Junction project would provide the needed passing capacity to allow for reliable operation if all ten scheduled daily *Amtrak Downeaster* trains were extended to Brunswick. There is currently no funding identified for the Royal Junction project.

Scheduled *Amtrak Downeaster* service levels are independent of the proposed action to construct a layover facility in Brunswick. All ten current *Amtrak Downeaster* trips could feasibly be extended to Brunswick with or without the proposed action. However, the specific movements of trains for any given service level would differ if the facility was constructed in the Build location. Further details regarding operations with or without the layover facility are provided in section 2.4.

NNEPRA had proposed to construct a Brunswick Yard holding track at the site, but subsequent design on the proposed layover facility has determined that the holding track will not be needed. Other track/roadbed improvements between Portland and Brunswick that were proposed at the same time as the holding track are proceeding. The FRA completed a Categorical Exclusion on these projects in 2012 (Appendix F).

3.6 Indirect Effects

Indirect effects are foreseeable potential consequences of an action that occur later in time or at greater distance than those direct impacts described previously. The potential for indirect effects under the Build Alternative includes improved mobility by rail for residents of Brunswick and neighboring communities, as well as access to the Brunswick region for business, recreational and educational activities. Over time, a greater share of employees who work at the layover site or are otherwise associated with operating the *Amtrak Downeaster* service may choose to reside in Brunswick or nearby communities, slightly increasing demand for housing.

The Build Alternative would improve transportation mobility to and from Brunswick under current service levels by allowing two additional revenue service *Amtrak Downeaster* trips. Further, establishment of a layover facility may increase the probability of eventually achieving the higher service levels described under potential future service levels, since operating costs and scheduling complications associated with train movements needed to position equipment would be reduced compared to the No Build. To the extent that the Build Alternative improves transportation mobility to and from Brunswick, it may contribute to a more favorable environment for economic development and potential to induce some additional residential or commercial growth.

Because the proposed site for the Build Alternative is an existing rail yard, it is not anticipated that the project would have any long term indirect negative impact on the surrounding community.

3.7 Cumulative Impacts

Cumulative impacts are the results of the combined implementation of foreseeable individual actions, which may have effects that differ from the implementation of each individual action.

No other planned or proposed projects have been identified near the project site. NNEPRA plans to construct a second mainline track section at Royal Junction in Yarmouth, Maine, establishing a double track section that would allow trains traveling in opposite directions to pass at speed. The Royal Junction project would provide the passing capacity to increase the number of scheduled daily *Amtrak Downeaster* trains to Brunswick from six to ten. The discussion of effects relative to potential future service levels of ten revenue roundtrips (under the heading "Potential Future Service Levels" where relevant) captures the cumulative effects of the Build Alternative and other NNEPRA actions. No significant impacts were identified.

3.7.1 Summary of Project Commitments

Project commitments/mitigations measures agreed to by NNEPRA for the proposed facility are summarized below.

Noise

- In response to concerns expressed by the Building Advisory Group, the project specification for the proposed building will be established requiring an overall net Sound Transmission Class (STC) 44 or greater.
- The project will employ low-noise generating fans or similarly quiet ventilation apparatus.
- Tracks will be of welded rail construction to reduce rail joint noise.
- Switch heaters will be installed to prevent delays to trains passing through switches during winter.

Visual and Lighting

- On-site lighting will be designed to illuminate the project area sufficiently for safety and security purposes, but will to the extent practical employ fixtures and light placement that limits light spillover onto adjacent parcels.
- The project will plant vegetation (arborvitae or similar) along an approximate 240-foot section of the access road to Church Road.

Construction

- The project will follow the action plan specified by the State Department of Environmental Protection for management of hazardous materials (see section 3.3.8).
- The project will employ construction best practices, such as:
  - Prior to the start of any construction activities, sedimentation and erosion control measures will be installed.
  - Dust control measures will be used.
  - The contractor will be required to fence in the site prior to starting construction to secure the site.
  - Construction activities will only take place between 7:00am and 7:00pm.

4 Agency and Public Involvement

Correspondence with agencies regarding technical aspects of the proposed project are detailed in relevant sections of this document and are compiled in Appendix A.

The project proponent, NNEPRA, has coordinated with the public and federal, state and local agencies throughout the development of the proposed project. This included NNEPRA Board meetings and three public meetings held in Brunswick to describe the proposals and solicit public feedback. The public meetings were well attended and publicized in the local media (newspaper, cable television). In addition, an advisory group comprised of officials from the Town of Brunswick, the Brunswick Town Council, the MaineDOT, Amtrak, and members of the Brunswick community was convened in December 2011 and has met on three occasions.

A summary of public and agency meetings is presented below.

April 21, 2011 – Brunswick Zoning Board Meeting

NNEPRA Executive Director Patricia Quinn, NNEPRA Project Manager James Russell and NNEPRA attorney Nathaniel Rosenblatt attended the public Brunswick Zoning Board meeting to request a dimensional variance for the construction of a layover facility. Ms. Quinn gave a PowerPoint presentation about *Amtrak Downeaster* service and outlined the initial concept to construct a layover facility at the Brunswick West rail yard. The variance was granted, though the Town subsequently determined that the proposed facility would be exempt from local zoning requirements and that the variance was therefore not required.

April 25, 2011 – NNEPRA Board Meeting

Ms. Quinn reported that the dimensional variance for a layover was granted by the Brunswick Zoning Board and that NNEPRA staff would begin the process of developing design specifications for a Brunswick Layover facility.

May 23, 2011- NNEPRA Board Meeting

Ms. Quinn reported that a procurement process for an engineering consulting firm to assist in the design and development of a layover facility in Brunswick had begun. Brunswick residents in attendance at the meeting asked if other sites had been considered. Ms. Quinn responded that the engineering firm to be selected would be responsible for site evaluations (including consideration of alternatives), environmental assessments, and facility design development. She also stated that once a firm was retained, it was NNEPRA's full intention to hold public meetings to discuss plans for the facility to get input from neighbors. When asked specifically about a site in the industrial park, Ms. Quinn reiterated that a preliminary evaluation of other sites had been conducted, but that the engineering consultant would be responsible for a full site assessment, including alternatives.

June 23, 2011 – NNEPRA Hosted Public Meeting, Brunswick, Maine

NNEPRA provided an overview of the layover facility project, and introduced the consultant team from Parsons Brinckerhoff (PB). The PB project manager discussed the consultant's scope of work and schedule for the project. Mention was made of NNEPRA's intention to "stand down" from proceeding with advanced design of the layover facility, and instead provide an opportunity to consider alternative sites and review the basic facility configuration and operating needs with the public and elected officials at a series of meetings. Consultant staff called attention to the fact that because presently there was no federal involvement with the layover facility, a formal environmental assessment under NEPA would not be required. However, the Consultant's scope of work included preparation of an Environmental Report,

which would be performed in a manner akin to a federal environmental document.

The overall operating needs and functions of the layover facility were explained by the consultant team and by the Amtrak General Superintendent, emphasis being made as to the overnight storage and servicing function of the facility, with traditional maintenance, inspection and repair work being performed by Amtrak at established remote locations such as Boston. It was explained at the meeting that PB would be performing an analysis of potential site locations during the next ten weeks, and Brunswick residents were provided an opportunity to ask questions and present their thoughts and opinions about the facility. Many questions addressed the process and schedule, which were responded to by staff with an indication of alternatives analysis lasting through August 2011, with site recommendation and a transition to design occurring in September 2011. Meeting participants were encouraged to contact NNEPRA and PB staff with suggestions for potential sites. A follow-up public meeting was scheduled for July 14, 2011.

June 27, 2011 – NNEPRA Board Meeting

Ms. Quinn provided an overview of the June 23rd meeting and explained that once a site was selected, an environmental review including noise and air quality analyses would be conducted.

Brunswick residents attended the meeting and had an opportunity to ask questions and state concerns.

July 14, 2011 – Public Meeting, Brunswick, Maine

The PB Team provided an overview of six potential sites for a layover facility within a four mile vicinity of the Brunswick Station. During PB's presentation, consultant staff outlined the potential footprint of the facility and the land requirements. By virtue of being a railroad yard with its required track work geometry, the layover facility has a long, narrow rectangular configuration and needs to be adjacent to the railroad main line. PB staff noted that they had investigated several potential sites including those identified by real estate representatives of the present owners.

Based on further analysis, four sites were eliminated due to unsuitable configuration of the available/offered property and the resultant need for additional property takings and relocations. It was explained that the three sites remaining after this initial screening; East Brunswick, Brunswick West and the Brunswick Industrial Park; would be evaluated in greater detail and that PB would provide their recommendations to the NNEPRA Board and the public for review and comment.

Public comments and questions centered on the specifics of Amtrak maintenance facility operations and on how non-quantitative issues, such as quality of life, would be addressed in the recommendation process and on the manner in which NNEPRA would act on the recommendations. The materials presented at this meeting were posted on the NNEPRA website for public review.

August 17, 2011 – Press Conference

A Press Conference was held at the NNEPRA office in the afternoon to publicize the release of the Brunswick Layover Siting Analysis Report prepared by PB so that it would be available to the public in advance of the next public meeting.

August 18, 2011 – Special NNEPRA Board Meeting, Brunswick, Maine

The NNEPRA Board hosted a special meeting in Brunswick at which time the PB consultants provided a PowerPoint presentation, directed to the public and the NNEPRA Board, of their findings and recommendation that the Brunswick West rail yard was the best location for the *Amtrak Downeaster*

layover facility. The presentation was a summarization of a "Siting Report" and included a listing of design, operational and environmental issues, renderings of the facility at each proposed site and a set of project evaluation criteria. The presentation also included a two-part narrated video presentation which provided an on-site overview of existing *Amtrak Downeaster* layover operations at Portland and an on-the-ground tour of each of the three Brunswick sites still under consideration. The public was provided the opportunity to comment and ask questions of the NNEPRA Board, staff and consultant staff. The entire proceedings were broadcast over local community television.

August 22, 2011 – Regular meeting of the NNEPRA Board of Directors, Portland, Maine

The NNEPRA Board voted unanimously to accept the PB recommendation to continue with the development of a layover facility at the West Brunswick rail yard location. The Board also voted to establish a Building Advisory Group comprised of officials from the Town of Brunswick, the Brunswick Town Council, the MaineDOT, Amtrak, and members of the Brunswick community to participate with NNEPRA and PB on the development of a layover facility at that location.

September 8, 2011 – NNEPRA meeting with Brunswick residents, Portland, Maine

NNEPRA Executive Director, Patricia Quinn and Passenger Services Manager, Brian Beeler, met with three residents from the Brunswick West neighborhood at the Portland Layover Facility to provide more information about the building development process and explain the operations of a layover facility. The meeting concluded with a "tour" of the facility, conducted by Amtrak Assistant Superintendent Steve Corcoran. The residents were able to watch an *Amtrak Downeaster* train arrive into the station/layover.

September 2011

Brunswick West neighbors were notified when and where noise receptors were to be placed for the purposes of noise and vibration analyses in September 2011. Mr. Charles Wallace, the neighborhood group's resident sound engineer, was specifically included in the notification of noise receptor placement. Mr. Wallace accompanied the PB noise engineer, Mr. Erich Thalheimer, for much of the placement process and was provided an opportunity to place independent receptors to verify findings, which he did.

December 2, 2011 – Brunswick Building Advisory Group Meeting

At the first Building Advisory Group meeting, PB's noise engineer Erich Thalheimer provided an in-depth presentation of PB's noise and vibration analysis and its findings. A brief overview of the layover facility site design and the building's functions and systems was also provided. Ken Macumber of PB presented design plans for the facility, which were still in development. The group was advised that preparation of the design-build specifications was well underway, with a package of materials being planned for distribution to the group for review in late December.

December 29, 2011 – Building Specification Outline released

An outline of the specifications for the layover facility was provided to members of the Building Advisory Group for review and comment.

January 12, 2012 – Brunswick Building Advisory Group Meeting

PB's engineering team, including Rachel Burckardt, Ken Macumber and Jan Okolowicz, provided an in-depth presentation covering the design-build process, schedule, and the requirements and specifications that would be included in the design-build specifications for the Brunswick layover facility. The PB engineering team provided an opportunity for members to ask questions and provide comments.

February 6, 2012 – Brunswick Town Council Meeting

At the request of neighbors to the rail yard, the Brunswick Town Council deliberated whether or not to send a letter to NNEPRA to ask that NNEPRA agree to develop a facility which meets State and local noise requirements, in addition to FTA requirements, and to request that NNEPRA bring an *Amtrak Downeaster* train to the Brunswick West rail yard so that the neighbors could take noise measurements. NNEPRA's Executive Director, Patricia Quinn, attended the meeting to answer questions. Because the Town had determined that State and local guidelines did not apply to the *Amtrak Downeaster* project and that the building would be built in compliance with FTA/FRA regulations, the discussion was tabled.

February 23, 2012

In direct response to questions regarding whether layover noise impacts would be within MaineDEP and Town of Brunswick noise limits, a technical memorandum prepared by PB was released to the public which re-evaluated noise impacts of the Brunswick layover using the MaineDEP and Brunswick Town noise guidelines.

February 27, 2012 – Brunswick Town Council Meeting

NNEPRA Executive Director, Patricia Quinn, was invited to make a presentation to the Brunswick Town Council. Ms. Quinn reported at that meeting that although it was not a requirement, NNEPRA asked PB to re-evaluate the noise and vibration associated with the layover based relative to State and Town noise requirements. Based on operating assumptions established at this point, it was determined that the facility was not expected to exceed those limits. It was reiterated that efforts would be made to bring a train to Brunswick for measurements in the spring.

March 2, 2012 – Brunswick Building Advisory Group Meeting

Mr. Thalheimer again reviewed the Draft Noise & Vibration Analysis dated October 2011, focusing on the elements of the report which provided the essential assumptions which could be used to reproduce an independent noise analysis to validate his findings. He specifically referenced the future ambient noise assumptions (outlined on page 5), explained the tables, and reviewed the project-related noise assumptions (found on page 11) including train movements, staff vehicles and service vehicles outside the facility plus rooftop fans, three idling trains, forklifts and three horn tests occurring within the facility simultaneously.

He further provided a detailed review of his February 23, 2012 memo, explaining that the assumptions in this re-evaluation also included the noise of three idling train sets, two forklifts, four fans, employee vehicles and service trucks running simultaneously. He explained that the new analysis considered hourly (not daily) noise impacts and measured those impacts from property boundaries, not structures. He further explained that train movements outside the building were based on the assumption that trains would be moving through the yard at 10 mph at an engine notch of 3. The memo concluded that a Brunswick layover facility was not expected to exceed Federal (FRA/FTA), MaineDEP or Town of Brunswick noise limits given anticipated service levels and current assumptions.

Amtrak General Superintendent Fred Fournier, who was present at all Building Advisory Group meetings, illustrated the operation of trains into and out of the layover facility, provided an overview of operations that would take place within and outside of the facility, and concurred that the assumptions used in the noise analyses were consistent with the proposed operational plan. Both gentlemen answered all questions from the group.

May 14, 2012

Brunswick West neighbors asked for the opportunity to take noise and vibration measurements from an Amtrak train on the mainline adjacent to the location of the proposed layover facility. They were granted this opportunity and took measurements while a Downeaster train set idled in the rail yard.

December 2012 – January 2013

Brunswick West neighbors contacted MaineDOT expressing concern that the Industrial Park site had not been fully considered. In response, Parsons Brinkerhoff provided additional information regarding the Industrial Park site as a potential Build alternative, and MaineDOT conducted an independent investigation of the site (see Appendix C: *MaineDOT Investigation of Industrial Site Alternative for Layover Facility*). NNEPRA assisted by providing MaineDOT with information regarding the project requirements and prior analysis of alternatives (Appendix B: *Downeaster Layover Facility Project Siting Report*). NNEPRA also reconfirmed the findings documented in section 2.2 *Alternatives Considered but Eliminated from Detailed Evaluation*.

July 9, 2013

A meeting of the Brunswick Layover Advisory Group was held at the NNEPRA office. At this meeting, the Consigli design-build team presented the group with a detailed overview of the proposed facility design to date and answered questions. Representatives from the Brunswick West neighborhood requested additional information about facility operations. NNEPRA staff prepared a detailed overview of layover functions and activities which was made available, along with other information and pertinent reports, on the NNEPRA.com website.

July 23, 2013

A meeting of the Brunswick Layover Advisory Group was held at the Brunswick Town Council Chambers. At this meeting, members representing the Brunswick West neighborhood raised questions including concerns about air quality and noise impacts associated with the operation of trains in the area and proposed facility. They also requested that safety fencing be considered by MaineDOT between the railroad right-of-way and private abutting property to alleviate trespassing through the rail yard and asked for verification that the facility would not impact the local water table. A subsequent meeting was scheduled for August 20, 2013, but postponed due to schedule conflicts to September 12, 2013.

5 References

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