

B-5287

Baltimore and Ohio (B&O) Railroad Baltimore Belt Line

Architectural Survey File

This is the architectural survey file for this MIHP record. The survey file is organized reverse-chronological (that is, with the latest material on top). It contains all MIHP inventory forms, National Register nomination forms, determinations of eligibility (DOE) forms, and accompanying documentation such as photographs and maps.

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Last Updated: 02-04-2016

**MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM**

NR Eligible: yes no

Property Name: B&O Railroad Baltimore Belt Line Inventory Number: B-5287
 Address: Camden Station to Bay View Junction at Orangeville Historic district: yes no
 City: Baltimore Zip Code: _____ County: Baltimore City
 USGS Quadrangle(s): Baltimore East
 Property Owner: CSX Transportation Company Tax Account ID Number: Not Available
 Tax Map Parcel Number(s): n/a Tax Map Number: Multiple
 Project: Baltimore and Potomac Tunnel Project Agency: Federal Railroad Administration
 Agency Prepared By: Dovetail Cultural Resource Group
 Preparer's Name: M. Chris Manning Date Prepared: 7/21/2015

Documentation is presented in: _____

Preparer's Eligibility Recommendation: Eligibility recommended Eligibility not recommended

Criteria: A B C D Considerations: A B C D E F G

Complete if the property is a contributing or non-contributing resource to a NR district/property:

Name of the District/Property: _____

Inventory Number: _____ Eligible: yes no Listed: yes no

Site visit by MHT Staff yes no Name: _____ Date: _____

Description of Property and Justification: *(Please attach map and photo)*

Opening Summary

The Baltimore and Ohio (B&O) Railroad Baltimore Belt Line, located in the City of Baltimore, Maryland, is a freight line constructed between 1891 and 1895 to connect the B&O's southern Baltimore terminus at Camden Station to Bay View Junction and a northern line to Philadelphia. The line begins at Camden Station in downtown Baltimore, runs north through a series of tunnels and bridges to 26th Street, then turns east-southeast, passing through additional cuts, tunnels, and bridges to Bay View Junction at Orangeville. Today the B&O Baltimore Belt Line is part of CSX Transportation Company's (CSXT) main freight line through Baltimore.

Location/Setting

The B&O Baltimore Belt Line is located in the City of Baltimore, Maryland in an area dominated by transportation infrastructure. From its southern terminus at Camden Yards, the railroad alignment passes under downtown Baltimore via the Howard Street and Mount Royal Tunnels, weaving through pre-existing transportation infrastructure and crossing the Jones Falls Valley via a six-plate

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Eligibility recommended Eligibility not recommended
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MHT Comments:

<u><i>Jim Talanum</i></u> Reviewer, Office of Preservation Services	<u>8/28/2015</u> Date
<u><i>B. Krutz</i></u> Reviewer, National Register Program	<u>9/2/15</u> Date

girder bridge, making an S-curve up the eastern side of the valley, turning sharply to the east at Huntingdon Avenue, and traversing several residential neighborhoods in northeast Baltimore via a series of short tunnels and plate girder bridges before arriving at its eastern terminus at Bay View Junction in Baltimore's heavily industrialized east side.

Historic Context

In the eighteenth century, the land in and around present-day Baltimore was home to a thriving tobacco economy supplemented by commercial wheat and iron production that resulted in a diversified economy with a strong industrial base. By the late-eighteenth century, Baltimore had emerged as a major port with numerous wharves, warehouses, shipping offices, banks, and shops concentrated along the waterfront of the Inner Harbor (Shellenhamer 2015). During the late-eighteenth and early-nineteenth centuries, commerce in Baltimore was intermittently disrupted by clashes with British forces and subsequent interruptions of trade networks. The city continued to grow and prosper, however, becoming the fourth largest and third richest city in the United States by the second decade of the nineteenth-century (Shellenhamer 2015; Toll 2006:12). Unsurprisingly, Baltimore's ever increasing industrial presence and expanding trade network stimulated the development of a growing transportation industry and improved transportation routes that facilitated the movement of resources and finished products in and out of the city (Shellenhamer 2015; Ward et al. 2006).

In 1827, the Maryland Legislature granted a charter to the B&O Railroad to establish a connection between Baltimore and the lucrative markets of the Ohio River Valley (Lee 2005:163-164). The railroad opened three years later to become the first operational railroad in the United States, although it did not complete its line to Wheeling until 1852 (Shellenhamer 2015; Wolmar 2012:19-20). In 1835, the B&O opened a southern branch to Washington, D.C., originally known as the Washington Branch and later as the Capital Subdivision. Initially, the B&O's eastern terminus was located at Mount Clare Station on the southwest side of Baltimore at Pratt and Poppleton Streets. In 1857, the B&O constructed the much larger Camden Station, situated closer to the center of Baltimore, which was substantially expanded in 1865 (Lee 2005:164).

The B&O did not remain the only railroad in Baltimore for long, however. Within a decade of the opening of the B&O, both the Philadelphia, Wilmington and Baltimore (PW&B) and the Baltimore and Susquehanna (later the Northern Central) had established lines to Baltimore (Lee 2005:164). In 1863, the Pennsylvania Railroad (PRR) gained control of the Northern Central Railway, followed in 1881 by the acquisition of the PW&B (Lee 2005:164). In 1873, the PRR constructed a 1.7-mile tunnel under Baltimore (actually a series of three tunnels with two short breaks for ventilation) to connect their newly constructed Union Station in the Jones Falls Valley to the B&P Railroad (a subsidy of the PRR) on the west side of town (Lee 2005:164). The PRR also constructed a second tunnel under Hoffman Street to connect Union Station to the PW&B's line to Philadelphia, thereby establishing a continuous north-south route through Baltimore to connect Washington, D.C. to Philadelphia.

Faced with stiff competition from the PRR's B&P, it soon became clear that the B&O needed a north-south connection of their own through Baltimore (Lee 2005:164). However, the B&O was at a distinct disadvantage, having no direct access to the north side of town from either Mount Clare or Camden (Lee 2005:164). As a partial solution, a line was constructed from Canton on the east side of the Baltimore harbor north to Philadelphia. To connect Canton to Camden, a short spur was constructed from Camden to Locust Point on the west side of the harbor, where a specially designed ferry then transferred up to 10 passenger cars or 27 freight cars across the harbor to Canton (Lee 2005:165). At Canton, the line continued two miles north to Bay View Junction before heading northeast to Philadelphia (Lee 2005:165). Although it was the most viable option at the time, the B&O knew that this elaborate and time-consuming route was not a permanent solution.

Several options for an alternate connection through Baltimore were explored by the B&O, including a proposed elevated line that was unpopular with civic leaders (Lee 2005:165). The final plan called for the construction of a 1.4-mile (2.2-km) tunnel under

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Howard Street that would connect Camden Station to Baltimore's less populated north side, from which a connecting line to Bay View Junction and the B&O's Royal Blue Line to Philadelphia could be established. To accomplish this task, in 1888 the B&O joined with the Maryland Central Railroad (MCRR), a small, narrow-gauge line that had initiated the idea for the tunnel, to form the Baltimore Belt Railroad (Lee 2005:167). The MCRR soon failed, however, and the B&O took full control of the operation.

The plan was not without opposition, most prominently from the Baltimore city council, which was concerned about possible surface disruptions during construction of the tunnel. In addition, city officials wished to avoid the smoke and gas ventilation issues that plagued the B&P Tunnel, which posed a serious health hazard to Baltimore residents (Lee 2005:167). Several additional challenges complicated construction of the Baltimore Belt Line, including crossing the Jones Falls Valley and the tracks and rail yard of the PRR while avoiding major roadways, the North Avenue Bridge (under construction at the time), and the east portal of the B&P Tunnel. According to one historian, "The topography, tracks, and city streets presented a maze of obstacles at varying elevations, and Rea [the chief engineer] had to find a way to thread the new line," all four tracks of it at this point, "through it all" (Lee 2005:167-168). The final design "literally wove the Belt Line through these existing structures" (Lee 2005:168).

The plate girder bridge crossing the Jones Falls Valley has been aptly described as a "complicated arrangement" (Lee 2005:173) (Figure 1). The topography and existing infrastructure required that the bridge be constructed on a 10-degree curve, spanning the tracks of both the M&P and the PRR as well as Jones Falls and Falls Road (Lee 2005:168). At the southwestern end of the bridge, the adjacent tracks had to pass under the North Avenue Bridge through two stone-arch tunnels while simultaneously bridging the east portal of the B&P Tunnel. However, the roof of the tunnel could not support the weight of the trains that would pass overhead on the Baltimore Belt Line. Rea's ingenious solution was to construct two additional plate girder bridge sections inside the North Avenue Bridge tunnels that would carry the Belt Line over the B&P Tunnel, creating "a unique, three-level street and rail crossing" (Lee 2005:168).

The most prominent engineering accomplishment of the Belt Line was the 7,341-foot (2,237.5-m) Howard Street Tunnel (B-79), constructed between 1891 and 1895 (Stover 1987:175). Having experienced firsthand the problems caused by the soot, fumes, and smoke emitted by the steam engines passing through the B&P Tunnel, city officials were adamant that the B&O avoid similar problems with the Howard Street Tunnel. The B&O needed a source of clean power. Steam was not an option; the relatively steep grade inside the tunnel meant that northbound trains had to work exceptionally hard, producing large quantities of smoke and gas (Lee 2005:178). In 1892, the B&O took a substantial leap of technological faith, signing a contract with fledgling company General Electric (GE) for electric locomotives and an innovative electrified system, in which direct-current power was provided via an overhead rail, to power the Belt Line (Figure 2) (Lee 2005:178-179).

Survey for the new line was completed by the end of 1889, and construction began in 1891 (Stover 1987:174-175). When completed in 1895, the 7.2-mile, double-tracked Baltimore Belt Line ran north from Camden Station via the Howard Street Tunnel, past Mount Royal Station (B-26), through the shorter Mount Royal Tunnel, through the North Avenue Bridge Tunnels (passing over the B&P Tunnel portal), then across the Jones Falls Valley, winding north up the east side of the valley. After reaching a high point near Huntingdon Avenue and 26th Street, the line turned sharply east, passing through a long cut interspersed with several stone-arch tunnels of varying lengths and over several smaller plate girder bridges, connecting with the line to Philadelphia at Bay View Junction (Stover 1987:174). In total, the Belt Line included within its 7.2 miles of track, 10 tunnels totaling 9,605 feet (2,927.6 m) in length (Lee 2005:173).

The B&O Belt Line operated on the overhead electric rail system for several years. In 1902, it was replaced with a third electrified rail at ground level, which remained in use for several decades (Lee 2005:182). In the mid-1930s, the B&O began to convert from steam to diesel engines, with complete replacement of all steam locomotives after World War II, making the electrified rail system on the Baltimore Belt Line unnecessary (Lee 2005:186). Sections of electrified rail remained in place for several more years, but in

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1952 all remaining electrified engines were replaced with diesel and the third electrified rail was removed from the track shortly after (Lee 2005:186). In 1987, the B&O Railroad merged with and became CSX Transportation, which now operates a freight line along the former alignment of the B&O Baltimore Belt Line (Styron 2001:4).

Architectural Description

From its southwest terminus near Camden Station, the B&O Baltimore Belt Line alignment winds north through downtown Baltimore and the Jones Falls Valley for approximately 2.7 miles (4.3 km) (more than half of that underground via the Howard Street Tunnel), turns east at its northern apex near Huntingdon Avenue and 26th Street, continues for approximately 4,383 feet (1,335.9 m) to Loch Raven Road, then heads southeast for another 3.35 miles (5.4 km) before terminating at Bay View Yard just west of I-895/Harbor Tunnel Throughway. Along the way, it passes through at least 10 tunnels or underpasses totaling more than 9,605 feet (2,927.6 m) in length, over an equal number of bridges, and through multiple cuts lined with limestone or modern concrete retaining walls (Lee 2005:173).

Tunnels, Bridges, and Cuts

The B&O Baltimore Belt Line, as originally surveyed, included 10 tunnels totaling more than 9,605 feet (2,927.6 m) in length (Lee 2005:173). All original tunnel portals and retaining walls along open cuts are faced with rough-faced, coursed limestone, although in most cases the tunnel barrels themselves are constructed of brick (Lee 2005:178). Original bridges generally consist of steel through-plate girders supported by stepped limestone abutments.

The longest tunnel on the alignment is the Howard Street Tunnel (B-79), completed in 1895, which currently measures approximately 1.7 miles (2.7 km) with a 4.8 percent grade (Miller 1972; Styron 2001:3). The original length of the tunnel was 7,341 feet (2,237.5 m), but in the 1980s the southern end was extended approximately 1,584 feet (482.8 m) to accommodate a parking lot at the Oriole Park at Camden Yards baseball stadium and the Maryland Transit Administration (MTA) Light Rail system (Styron 2001:3). The southern end of the tunnel now exits through a box-shaped portal of poured concrete wedged between the tracks of the MTA Light Rail. The north end of the tunnel exits just north of West Preston Street, where the original portal faced with cut limestone can be seen. The interior of the original portion of the tunnel is lined with brick.

After passing through a 556-foot (169.5-m) cut almost entirely sheltered by a trainshed at Mount Royal Station, the Belt Line enters the Mount Royal Tunnel, in actuality a pair of tunnels, each carrying one track and measuring approximately 264 feet (80.5 m) in length. Both the south and north portals are faced with cut limestone and the tunnel barrels are lined with brick.

The alignment then passes through a box-shaped tunnel of poured concrete measuring approximately 195 feet (59.4 m) in length. This modern tunnel, constructed between 1971 and 1994, carries the Belt Line under the MTA Light Rail and is a non-contributing resource to the B&O Baltimore Belt Line (Nationwide Environmental Title Research [NETR] 1971, 1994).

At the North Avenue Bridge (B-4521), constructed between 1893 and 1895, the Baltimore Belt Line passes through a pair of stone-arch tunnels that carry the tracks over the east portal of the B&P Tunnel via a set of plate girder internal bridges, creating a unique three-tier structure (Crampton and Abell 1994f).

The alignment next passes over the B&O Railroad Baltimore Belt Line Bridge over Jones Falls Valley (B-5288). The bridge is a 503-foot (153.3-meter), six-span bridge constructed on a 10-degree curve, comprised of two parallel sets of six spans--three through-plate girders and three deck-plate girders--constructed of steel and reinforced with steel cross-bracing. The plate girders are supported by a pair of limestone abutments and five limestone piers. The east end of the southern abutment is incorporated into

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the structure of the adjacent North Avenue Bridge, which is located 35–50 feet (10.7--15.2 m) from the southern end. In the 1950s, modifications were made to the B&O Baltimore Belt Line Bridge over Jones Falls Valley to strengthen it, which is likely when concrete components were added to the structure (Lee 2005:186). The bridge's capacity was also reduced from four tracks to two, possibly around the same time.

After crossing over the Jones Falls Valley and turning northwest, the Belt Line passes over a small limestone arch that formerly carried Glen Edwards Avenue under the tracks to Falls Road (Glen Edwards was officially condemned and closed by the City of Baltimore in 1957) (City of Baltimore 1957; Mongoose of Mystery 2011).

The next structure encountered is located at Sisson Street, where the Baltimore Belt Line passes under the three-span, concrete-encased, deck-plate girder bridge known as the Sisson Street over Chessie System (B-4586). According to one source, the current structure was built in 1914 and reconstructed in 1950 (Watts 1996). However, historic maps indicate that a wood bridge was located here by 1928 and that a bridge of unknown material was situated at this location as early as 1899 (Sanborn Map Company [Sanborn] 1915:701, 1928:631; United States Geological Survey [USGS] 1899).

After reaching the northern apex of the alignment near Huntingdon Avenue and 26th Street, the line turns sharply east and continues perpendicular to 26th Street. Between Huntingdon and Greenmount Avenues, a series of five tunnels ranging from 65 feet (19.8 m) to 893 feet (272.2 m) in length were constructed circa 1895 so that the Baltimore Belt Line would not interfere with existing streets. The first, known as the Huntingdon Avenue Bridge (B-4527), is a single-span, stone-arch tunnel constructed in 1895 (Crampton and Abell 1994e). Another stone-arch tunnel, constructed circa 1895 and measuring approximately 893 feet (272.2 m) in length, begins at North Howard Street (formerly Oak), running under Maryland Avenue before exiting just east of North Charles Street. The alignment then passes through another stone-arch tunnel constructed circa 1895 and measuring approximately 420 feet (128 m) in length, beginning at St. Paul Street and running under Hargrove Street and North Calvert Street. Smaller arched tunnels, each measuring approximately 65–70 feet in length, are found under Guilford Avenue (B-4526), Barclay Street (B-4525), and Greenmount Avenue (B-4524). The Guilford Avenue and Greenmount Avenue Tunnels, both stone-arch tunnels, were constructed in 1895 (Crampton and Abell 1994b, 1994c; Lee 2005:168). The tunnel under Barclay Street, which has concrete spandrels and abutments, was constructed circa 1924, as indicated on an inscribed date stone and on historic maps (Crampton and Abell 1994a; Sanborn 1915:710, 1928:642).

At Loch Raven Road (formerly Montebello), a two-span, concrete-encased, deck-plate girder bridge with steel support pier carries the alignment over the four-lane road. The original bridge in this location most likely resembled other bridges along the alignment but was replaced with the current structure in 1957, as determined by an inscribed date stone. While the western abutment is made of concrete, the eastern abutment is constructed of stepped stone, a remnant of the earlier bridge.

At both Kirk Avenue (formerly Taylor) and Garrett Avenue (formerly Kennedy), single-span, steel through-plate girder bridges carry the alignment over the roads. Both bridges have stepped stone abutments with concrete caps and other alterations and likely date to circa 1895. The bridge over nearby Aisquith Street is a single span, steel and concrete deck-plate girder bridge with concrete abutments. This bridge appears to have replaced an earlier one at this location.

At Harford Road, the alignment passes through another stone-arch tunnel (B-4523) built in 1895 and later substantially altered and reinforced with concrete, including the installation of a replacement concrete deck (Crampton and Abell 1994d).

Next, the alignment passes over a single-span, through-plate girder bridge with stepped stone abutments at Saint Lo Drive. At North Rose Street (formerly Mine Bank Lane), another single-span bridge with stepped stone abutments is found, but this structure has a concrete deck that replaced the original steel plate girder. At Belair Road/Route 1 (formerly North Gay Street), a three-span, steel through-plate girder bridge with stepped stone abutments and steel support piers carries the alignment overhead.

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At the intersection of Sinclair Lane and Edison Highway (formerly Loney's Lane), a circa-2014 concrete bridge carries vehicular traffic over the former Baltimore Belt Line alignment. The previous structure in this location was a reinforced concrete and metal plate girder bridge (B-4585), constructed circa 1935 by the Maryland State Roads Commission, which replaced an earlier, circa-1895 bridge of unknown design (Young 2006).

At Federal Street, a single-span bridge with a replacement deck of concrete can be found. The original abutments are constructed of stepped limestone with modern concrete caps and other repairs. At North Macon Street (formerly Lyon Street), the alignment passes over a stone-arch tunnel topped by a single-span, steel deck-plate girder. This bridge appears to have been altered and expanded from two tracks to three.

The final structure along the B&O Baltimore Belt Line is a two-span, steel deck-plate girder bridge with concrete piers and abutments that carries the alignment over Pulaski Highway/Route 40 (formerly Philadelphia Avenue). The bridge appears to have been constructed in the 1930s or 1940s.

Stations and Rail Yards

Camden Station (B-148) was built in 1853--1857 and substantially expanded in 1865 to serve as the B&O's central terminus in Baltimore (Lee 2005:164). Designed by architects Neirnsee & Neilson in the Italianate style, it included a tall central tower with flanking wings topped by cupolas (Lione 2002). The station was substantially altered between 1892 and 1904 to accommodate the increased traffic spurred by the B&O Baltimore Belt Line, which began at the station. The adjacent freight warehouse, measuring eight stories tall and three blocks in length, was designed by E. Francis Baldwin and constructed between 1899 and 1904 to accommodate freight traffic on the B&O Baltimore Belt Line (Lione 2002). Both buildings were rehabilitated in the 1980s; the station building was restored to its 1865 appearance, and the warehouse was incorporated into the design of the Camden Yards baseball stadium.

The B&O Mount Royal Station and Trainshed (B-26), located within the open cut between the north portal of the Howard Street Tunnel and the south portal of the Mount Royal Tunnel, was constructed in 1894--1896 and opened for service in 1896 (Shivers and Black 1972; Zembala 1976). Designed by architects E. Francis Baldwin and Josias Pennington, the building is three stories tall and constructed of granite trimmed in limestone, with a 150-foot (45.2-m) central clock tower. A gable-roofed trainshed with iron posts and iron roof trusses shelters the tracks (Sanborn 1901:151). The station was remodeled in 1965.

According to historic maps, a rail yard and turntable or roundhouse was located at Huntingdon between Sisson Street and Huntingdon Avenue in the early-twentieth century (Sanborn 1915:708). The roundhouse was gone by 1928, although several smaller buildings remained (Sanborn 1928:637). Today, none of these buildings remain and the space is occupied by a parking lot.

Prior to construction of the B&O Baltimore Belt Line, B&O trains coming from the ferry crossing at Canton passed through Bay View Junction to connect to the line to Philadelphia. After the construction of the Baltimore Belt Line, Bay View Junction was expanded to serve as the eastern terminus of the new line and to accommodate increased freight traffic. Several small buildings are shown at this location in the mid-twentieth century (Sanborn 1953:582; NETR 1957, 1966, 1971). In recent years, a new concrete block building was constructed at the site, replacing earlier buildings (NETR 2011, 2013).

Other Features

When originally constructed in the late-nineteenth century, an innovative third overhead rail system ran along a portion of the

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Baltimore Belt Line alignment from Camden to Waverly, providing power to the electric locomotives, although steam continued to be used on some portions of track. In the early-twentieth century, the overhead rail was replaced with an electrified third rail at ground level. This system was eventually replaced by diesel in the mid-twentieth century. No visible evidence of either of the two previous electrified systems was identified during the survey.

To provide the electricity needed to power the electric locomotives on the Belt Line, B&O had to build its own powerhouse, since no electric utilities existed in Baltimore at the time (Lee 2005:179). The B&O Baltimore Belt Line Power House, designed by E. Francis Baldwin, was located along Howard Street just south of Camden Yards (Sanborn 1901:54). It operated until 1914, when the B&O began receiving power from a local utility company instead. In later years the building was used as a repair shop for B&O train cars (Sanborn 1951:29). This building is no longer extant, having been demolished in the 1970s (Lee 2005:181).

Several interlocking towers have operated along the Baltimore Belt Line over the years (Brougham 2015a, 2015b). In 1928, five interlocking towers were in service, including towers at Bay View, Waverly, Huntingdon Avenue, North Avenue, and Mount Royal (Brougham 2015a) (Figure 3). Waverly, Huntingdon Avenue, and Mount Royal were all closed prior to 1958 (Brougham 2015b). No surviving interlocking towers were observed during the most recent survey.

Alterations

As an active freight line in operation for 120 years, the B&O Baltimore Belt Line has been continuously modernized and upgraded since its construction in 1891--1895. Most of the bridges, tunnels, and retaining walls have been reinforced, and in some cases partially or wholly replaced, with modern materials. The southern end of the Howard Street Tunnel was extended via a concrete box tunnel addition in the 1980s. In 1953, the B&O Belt Line Bridge over Jones Falls Valley was strengthened and the four tracks reduced to two (Lee 2005:186). The bridge carrying Sinclair Lane and Edison Highway over the alignment was replaced with a concrete bridge circa 2014. Substantial alterations to other bridges and tunnels have also occurred at Sisson Street, Loch Raven Road, Aisquith Street, Harford Road, Saint Lo Drive, and Federal Street. Many of these modifications occurred in the 1950s (Lee 2005:186). The overhead electric rail that initially provided power to the line was removed in 1902, and the succeeding third rail system was gradually replaced in the second quarter of the twentieth century, with complete removal of the electrified rail system circa 1952 (Lee 2005:179, 182, 186). In 1958, passenger service on the Baltimore Belt Line was eliminated; subsequently, much of the alignment was reduced to a single track (Lee 2005:186). Despite these modifications, the appearance of the line today is not essentially different from what it was when it opened for service in 1895. It follows the same alignment and almost all of the major engineering structures, as well as many of the smaller structures, remain largely intact.

Summary and Statement of Significance

The B&O Railroad Baltimore Belt Line is a 2.7-mile (4.3-km) railroad constructed between 1891 and 1895 to connect B&O's Camden Station to Bay View Junction and its line to Philadelphia. Along the way, it passes through at least 10 tunnels or overpasses, over as many bridges, and through multiple cuts lined with stone or modern concrete retaining walls (Lee 2005:173). In addition to containing several impressive engineering structures, most notably the Howard Street Tunnel, the three-level tunnel and internal bridge arrangement at the North Avenue Bridge, and the B&O Baltimore Belt Line Bridge over Jones Falls Valley, the line also represents the first electrified railroad in the nation.

For listing in the National Register of Historic Places (NRHP), a property must be demonstrated as significant under one or more criteria and must also possess most, if not all, of the seven aspects of integrity set forth by the NRHP: location, design, setting, materials, workmanship, feeling, and association. Overall, the B&O Baltimore Belt Line retains some degree of integrity of all seven aspects, although integrity of design, materials, and workmanship have all been negatively affected by alterations to

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some structures.

The B&O Baltimore Belt Line is eligible for listing in the NRHP under Criterion A for its association with the transportation industry. Specifically, it is nationally significant as the first electric railway in the United States and for its role in providing the B&O with an all-rail route from Washington, D.C. to Philadelphia, thereby allowing it to more effectively compete with the PRR. Buildings and structures associated with the B&O Baltimore Belt Line that have been previously and individually determined eligible for the NRHP under Criterion A include Camden Station and B&O Warehouse, Howard Street Tunnel, Mount Royal Station and Trainshed, North Avenue Bridge, Huntingdon Avenue Bridge/Tunnel, Guilford Avenue Bridge/Tunnel, Barclay Street Bridge/Tunnel, Greenmount Avenue Bridge/Tunnel, and the Harford Road Bridge/Tunnel.

The B&O Baltimore Belt Line is not eligible for NRHP listing under Criterion B for its association with a person of importance at the local, state, or national level.

The B&O Baltimore Belt Line is eligible for listing in the NRHP under Criterion C because it embodies distinctive characteristics of a late-nineteenth-to-early-twentieth-century railroad, including resources that are individually notable for their architecture and/or engineering. Buildings and structures associated with the B&O Baltimore Belt Line that have been individually determined eligible for the NRHP under Criterion C include Camden Station and B&O Warehouse, Howard Street Tunnel, Mount Royal Station and Trainshed, North Avenue Bridge, Huntingdon Avenue Bridge/Tunnel, Guilford Avenue Bridge/Tunnel, Greenmount Avenue Bridge/Tunnel, Harford Road Bridge/Tunnel, and the Sinclair Lane/Edison Highway Bridge (no longer extant). In addition, at least three structures associated with the railroad were designed by a notable American architect, including the freight warehouse at Camden and the B&O Power House, both designed by E. Francis Baldwin, and the Mount Royal Station and Trainshed, designed by E. Francis Baldwin and Josias Pennington.

Investigations were not conducted to determine whether the B&O Baltimore Belt Line has the potential to yield information important in history or prehistory; therefore, NRHP Criterion D was not assessed.

In conclusion, it is recommended that the B&O Railroad Baltimore Belt Line is eligible for listing in the NRHP under Criteria A and C.

References:

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Brougham, Allen 2015a B&O Towers in 1928. The Bull Sheet Monthly News. Electronic document, <http://bullsheet.com/towers1928.html>, accessed May 2015.

2015b B&O Towers in 1958. The Bull Sheet Monthly News. Electronic document, <http://bullsheet.com/towersclosed.html>, accessed May 2015.

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City of Baltimore

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Eligibility recommended				Eligibility not recommended									
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Reviewer, Office of Preservation Services							Date						
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Reviewer, National Register Program							Date						

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Eligibility recommended _____

Eligibility not recommended _____

Criteria: A B C D Considerations: A B C D E F G

MHT Comments:

Reviewer, Office of Preservation Services

Date

Reviewer, National Register Program

Date

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MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended _____

Eligibility not recommended _____

Criteria: A B C D Considerations: A B C D E F G

MHT Comments:

Reviewer, Office of Preservation Services

Date

Reviewer, National Register Program

Date

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MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended _____

Eligibility not recommended _____

Criteria: A B C D Considerations: A B C D E F G

MHT Comments:

Reviewer, Office of Preservation Services

Date

Reviewer, National Register Program

Date

B&O Railroad Baltimore Belt Line (B-5287)
Baltimore, Maryland



Figure 1. Circa-1977 Aerial View of the B&O Baltimore Belt Line as it Winds Through the Jones Falls Valley and Surrounding Transportation Infrastructure, Looking Northwest (Boucher 1977).

B&O Railroad Baltimore Belt Line (B-5287)
Baltimore, Maryland



Figure 2. Circa-1901 View of the B&O Railroad Baltimore Belt Line's Overhead Third-Rail System, Looking towards the Guilford Avenue Tunnel (Smithsonian Institution Collection 1901).

B&O Railroad Baltimore Belt Line (B-5287)
Baltimore, Maryland



Figure 3. Undated Photograph of the Huntingdon Interlocking Tower (HU) Along the B&O Baltimore Belt Line, Looking Southwest Towards the Sisson Street Bridge from the Huntingdon Avenue Tunnel (John W. Barriger III National Railroad Library [Barriger Library] 2015).

B&O Railroad Baltimore Belt Line (B-5287)
Baltimore, Maryland



B&O Railroad Baltimore Belt Line (B-5287), USGS Baltimore East, Maryland and Baltimore West, Maryland Quads (United States Department of Agriculture [USDA] 2001).

B&O Railroad Baltimore Belt Line (B-5287)
Baltimore, Maryland



West Half of the B&O Railroad Baltimore Belt Line (B-5287), Showing Previously Surveyed Resources, Baltimore City Aerial Imagery (Esri 2015).

B&O Railroad Baltimore Belt Line (B-5287)
Baltimore, Maryland



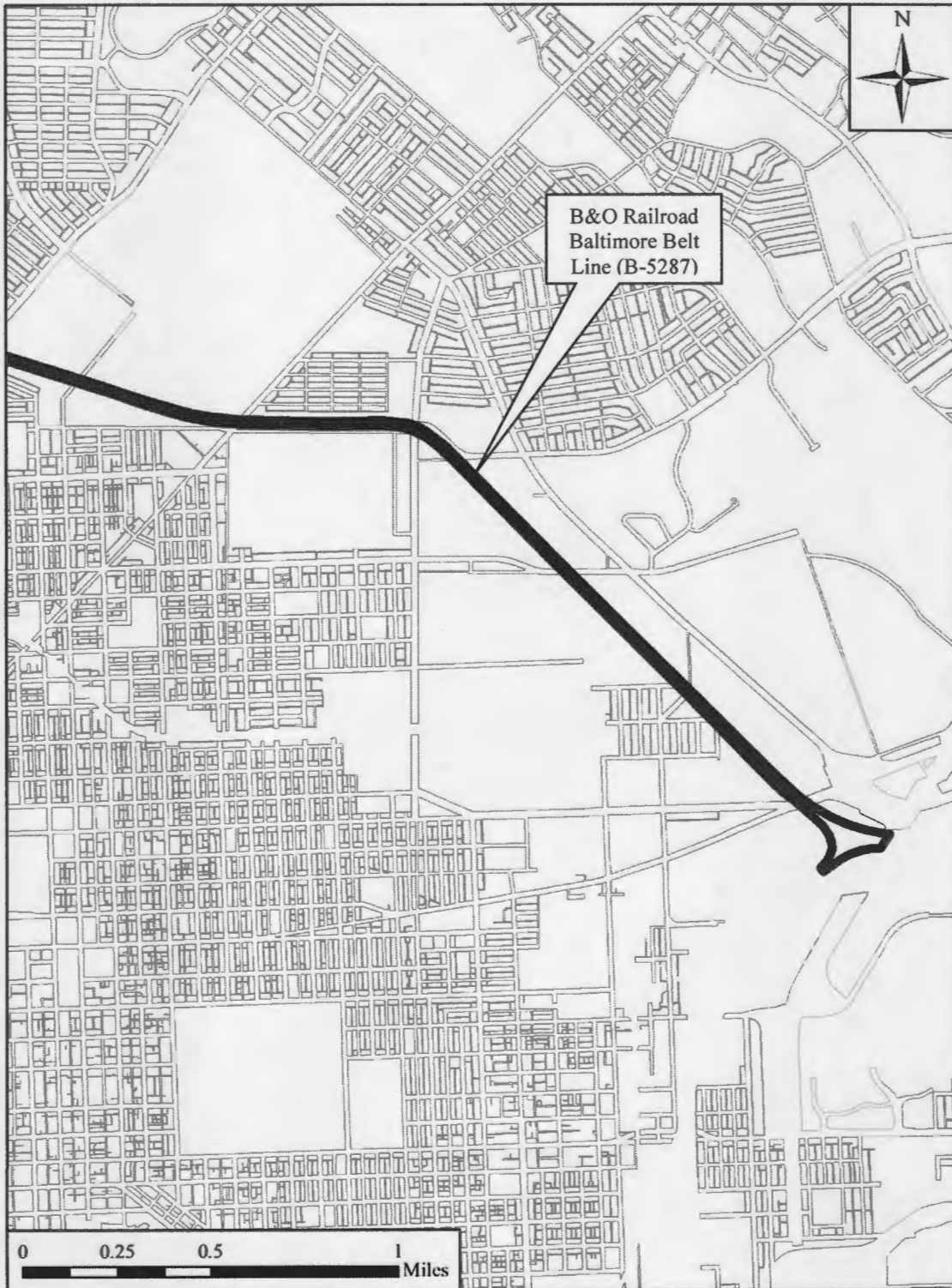
East Half of the B&O Railroad Baltimore Belt Line (B-5287), Showing Previously Surveyed Resources, Baltimore City Aerial Imagery (Esri 2015).

B&O Railroad Baltimore Belt Line (B-5287)
Baltimore, Maryland



West Half of the B&O Railroad Baltimore Belt Line (B-5287), Baltimore City Parcel Map (City of Baltimore 2010).

B&O Railroad Baltimore Belt Line (B-5287)
Baltimore, Maryland



East Half of the B&O Railroad Baltimore Belt Line (B-5287), Baltimore City Parcel Map (City of Baltimore 2010).

B-5287, B&O Railroad Baltimore Belt Line, B&P Tunnel Project

TIFF Image File Name	Description	Date Taken	Ink	Paper	Brand, Make & Dye Type of CD
B-5287_2015-05-14_01.tif	B&O Railroad Baltimore Belt Line (B-5287), North Portal of Mount Royal Tunnel, Looking Southeast	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_02.tif	B&O Railroad Baltimore Belt Line (B-5287), Southeast Portal of Concrete Tunnel Under MTA Light Rail, Looking Northwest	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_03.tif	B&O Railroad Baltimore Belt Line (B-5287), Northwest Portal of Concrete Tunnel Under MTA Light Rail, Looking Southeast.	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_04.tif	B&O Railroad Baltimore Belt Line (B-5287), Tracks under I-83/Jones Falls Expressway, Looking South	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_05.tif	B&O Railroad Baltimore Belt Line (B-5287), South Portal of Tunnels Through North Avenue Bridge, Looking Northeast	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_06.tif	B&O Railroad Baltimore Belt Line (B-5287), Bridge over Jones Falls Valley, Looking North	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_07.tif	B&O Railroad Baltimore Belt Line (B-5287), East Elevation of Bridge Over Jones Falls Valley, Looking West	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_08.tif	B&O Railroad Baltimore Belt Line (B-5287), 10-Degree Curve at North End of Jones Falls Valley, Looking Southwest	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_09.tif	B&O Railroad Baltimore Belt Line (B-5287), Location of Former Huntingdon Yard, Looking Northeast	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_10.tif	B&O Railroad Baltimore Belt Line (B-5287), View Towards West Portal of Howard Street to Charles Street Tunnel, Looking Northeast	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR

B-5287, B&O Railroad Baltimore Belt Line, B&P Tunnel Project

B-5287_2015-05-14_11.tif	B&O Railroad Baltimore Belt Line (B-5287), East Portal of Howard Street to Charles Street Tunnel, Looking West	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_12.tif	B&O Railroad Baltimore Belt Line (B-5287), West Portal of Tunnel Under Barclay Street, Looking East	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_13.tif	B&O Railroad Baltimore Belt Line (B-5287), View Towards East Portal of Tunnel Under Guilford Avenue, Looking West	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_14.tif	B&O Railroad Baltimore Belt Line (B-5287), East Portal of Tunnel Under Guilford Avenue, Looking West	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_15.tif	B&O Railroad Baltimore Belt Line (B-5287), Bridge Over Loch Raven Road, Looking North	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_16.tif	B&O Railroad Baltimore Belt Line (B-5287), Bridge Over Garrett Avenue, Looking South	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_17.tif	B&O Railroad Baltimore Belt Line (B-5287), Bridge Over Saint Lo Drive, Looking South	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_18.tif	B&O Railroad Baltimore Belt Line (B-5287), Single Track to Double Track East of Saint Lo Drive, Looking Southeast	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_19.tif	B&O Railroad Baltimore Belt Line (B-5287), Bridge Over North Rose Street, Looking North	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_20.tif	B&O Railroad Baltimore Belt Line (B-5287), Bridge Over Belair Road/Route 1, Looking Southwest	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_21.tif	B&O Railroad Baltimore Belt Line (B-5287), Detail of Bridge Over Belair Road/Route 1, Looking South	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_22.tif	B&O Railroad Baltimore Belt Line (B-5287), Replacement Bridge Carrying Edison Highway and Sinclair Lane, Looking Northeast	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR

B-5287, B&O Railroad Baltimore Belt Line, B&P Tunnel Project

B-5287_2015-05-14_23.tif	B&O Railroad Baltimore Belt Line (B-5287), Alignment Looking Southeast from the Sinclair Lane/Edison Highway Bridge	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_24.tif	B&O Railroad Baltimore Belt Line (B-5287), Bridge Over Federal Street, Looking West	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_25.tif	B&O Railroad Baltimore Belt Line (B-5287), Bridge Over Pulaski Highway/Route 40, Looking Northeast	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_26.tif	B&O Railroad Baltimore Belt Line (B-5287), Western Approach to Bay View Yard, Looking Northwest	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR
B-5287_2015-05-14_27.tif	B&O Railroad Baltimore Belt Line (B-5287), Bay View Yard (5105 Pulaski Highway), Looking East	5/14/2015	Dye-based HP Vivera Ink	HP Premium Photo Paper, Gloss	Memorex 80 min./700MB 52x Pro Gold Archival CDR



B-5287

B+O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DO DETAIL CULTURAL RESOURCE GROUP
NORTH PORTAL OF MOUNT ROYAL TUNNEL,
LOOKING SOUTHEAST



B-5287

B+O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

SOUTHEAST PORTAL OF CONCRETE TUNNEL UNDER
MTA LIGHT RAIL, LOOKING NORTHWEST





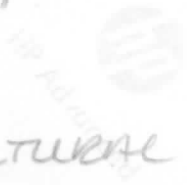
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B+O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DETAIL CULTURAL RESOURCE GROUP

NORTHWEST PORTAL OF CONCRETE TUNNEL UNDER
MTA LIGHT RAIL, LOOKING SOUTHEAST



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BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

TRACKS UNDER I-83/JONES FALLS EXPRESSWAY
LOOKING SOUTH



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B+O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DODETAIL CULTURAL RESOURCE GROUP

SOUTH PORTAL OF TUNNELS THROUGH NORTH
AVENUE BRIDGE, LOOKING ~~NORTHEAST~~



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B & O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

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5/14/2015

DOODLETAIL CULTURAL RESOURCE GROUP

BRIDGE OVER JONES FALLS VALLEY, LOOKING NORTH



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B & O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

EAST ELEVATION OF BRIDGE OVER JONES FALLS
VALLEY, LOOKING WEST



B-5287

HP Advanced

B+O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

HP Advanced

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DOVETAIL CULTURAL RESOURCE GROUP
10-DEGREE CURVE AT NORTH END OF JONES
FALLS VALLEY, LOOKING SOUTHWEST



HP Advanced



HP Advanced



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BALTIMORE, MARYLAND

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HP Advanced



5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

LOCATION OF FORMER HUNTINGDON YARD, LOOKING
NORTHEAST



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BALTIMORE, MARYLAND

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5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

VIEW TOWARDS WEST PORTAL OF HOWARD STREET
TO CHARLES STREET TUNNEL, LOOKING NORTHEAST



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B-5287

B + O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP
EAST PORTAL OF HOWARD STREET TO CHARLES
STREET TUNNEL, LOOKING WEST



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BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

WEST PORTAL OF TUNNEL UNDER BARCLAY STREET,
LOOKING EAST



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B+O RAILROAD BALTIMORE BELT LINE

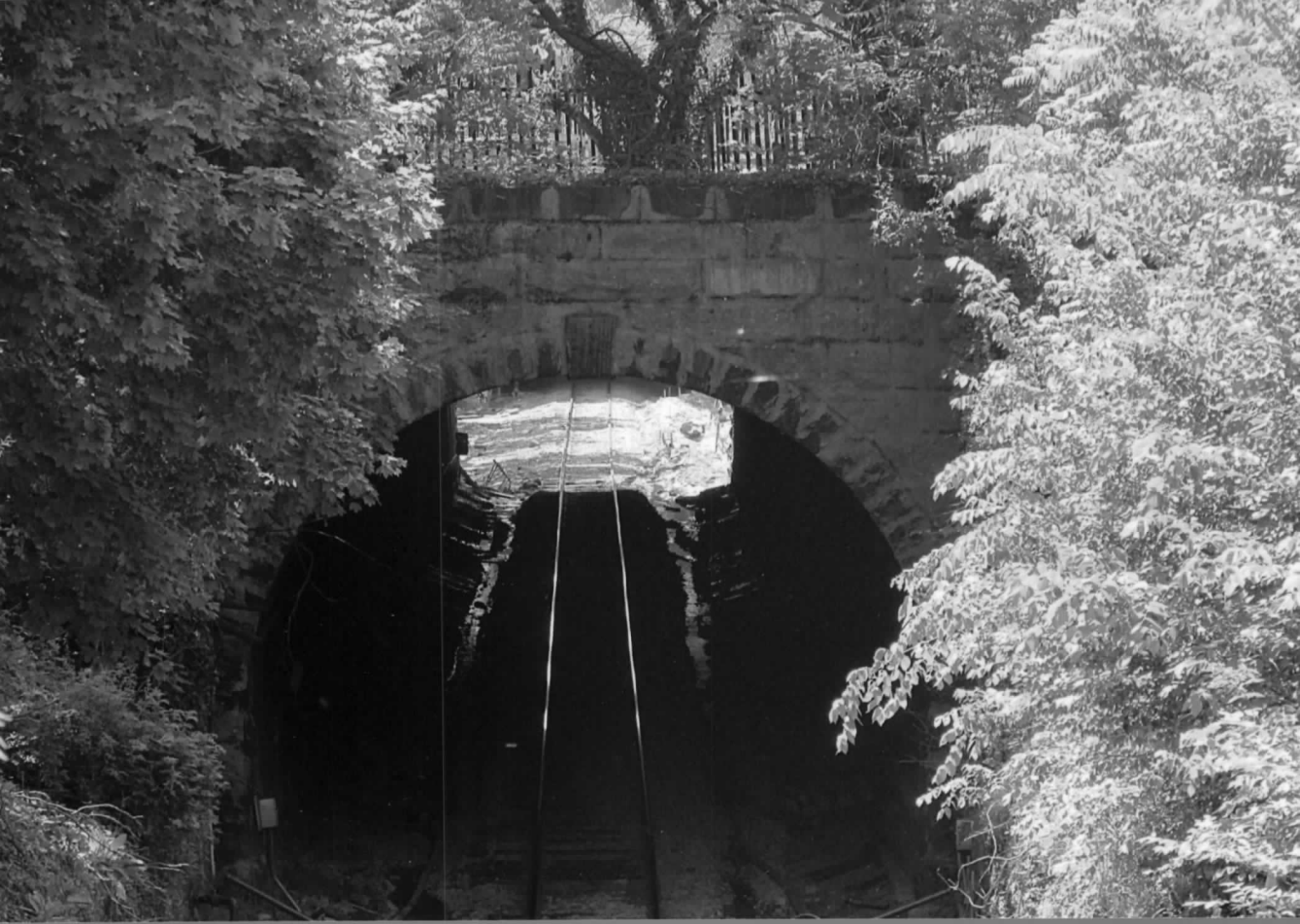
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DO DETAIL CULTURAL RESOURCE GROUP

VIEW TOWARDS EAST PORTAL OF TUNNEL UNDER
GUILFORD AVENUE, LOOKING WEST



14 of 27

B-5287

B+O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

EAST PORTAL OF TUNNEL UNDER GUILFORD AVENUE
LOOKING WEST.



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B-5287

B+O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DODETAIL CULTURAL RESOURCE GROUP

BRIDGE OVER LOCH RAVEN ROAD, LOOKING NORTH



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B+O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DETAIL CULTURAL RESOURCE GROUP

BRIDGE OVER GARRETT AVENUE, LOOKING SOUTH



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B-5287

B+O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROOKS

BRIDGE OVER SAINT LO DRIVE, LOOKING SOUTH



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B+O RAILROAD BALTIMORE BELTLINE

BALTIMORE, MARYLAND

C. MANNING

5/4/2015

DOUETAIL CULTURAL RESOURCE GROUP

SINGLE TRACK TO DOUBLE TRACK EAST OF SAINT
LO DRIVE, LOCKING, SOUTHEAST



19 OF 27

B-5287

B+O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOETAIL CULTURAL RESOURCE GROUP

BRIDGE OVER NORTH ROSE STREET, LOOKING NORTH



B-5287

B + O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOUETAIL CULTURAL RESOURCE GROUP

BRIDGE OVER BELAIR ROAD/ROUTE 1, LOCKING,
SOUTHWEST



B-5287

B+O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DETAIL CULTURAL RESOURCE GROUP

DETAIL OF BRIDGE OVER BELAIR ROAD/ROUTE 1,
LOOKING SOUTH



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B+O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

PODETAIL CULTURAL RESOURCE GROUP

REPLACEMENT BRIDGE CARRYING EDISON HIGHWAY
AND SINCLAIR LANE, LOOKING NORTHEAST



B-5287

B+O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

ALIGNMENT LOOKING SOUTHEAST FROM THE
SINCLAIR LANE/EDISON HIGHWAY BRIDGE



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B + O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/4/2015

DOVETAIL CULTURAL RESOURCE GROUP

BRIDGE OVER FEDERAL STREET, LOOKING WEST



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25 of 27

B-5287

B&O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOUETAIL CULTURAL RESOURCE GROUP

BRIDGE OVER PULASKI HIGHWAY/ROUTE 410,
LOOKING NORTHEAST



STOP

2008 CA 1234

B-5287

B+O RAILROAD BALTIMORE BELT LINE
BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DO DETAIL CULTURAL RESOURCE GROUP
WESTERN APPROACH TO BAY VIEW YARD, LOOKING
NORTHWEST



STOP

CSX



B-5287

B+O RAILROAD BALTIMORE BELT LINE

BALTIMORE, MARYLAND

C. MANNING

5/14/2015

DOVETAIL CULTURAL RESOURCE GROUP

BAY VIEW YARD (5105 Pulaski Highway) LOOKING EAST