October 2018

HISTORIC STRUCTURE REPORT

Harrisburg Transportation Center

Submitted to:
Pennsylvania Department of Transportation

THIS PAGE INTENTIONALLY LEFT BLANK

HISTORIC STRUCTURE REPORT

Harrisburg Transportation Center Preliminary Design Project
City of Harrisburg, Dauphin County, Pennsylvania

Report written by:

Christine Leggio, Senior Architectural Historian

Johnson, Mirmiran & Thompson
1600 Market Street, Suite 520
Philadelphia, PA 19146

Produced for:

Pennsylvania Department of Transportation
Bureau of Public Transportation

October 2018

THIS PAGE INTENTIONALLY LEFT BLANK

Contents

THIS PAGE INTENTIONALLY LEFT BLANK

EXECUTIVE SUMMARY

This Harrisburg Transportation Center (HTC) Historic Structure Report (HSR) is a synthesis of previous HSR documentation and existing conditions based on site visits completed by JMT staff between 2016 and 2018. The previous HSR by Harry Weese and Associates, LTD, entitled "*Pennsylvania Railroad Station, Harrisburg, Pennsylvania: Historic Structures Report,"* was completed in 1981. Renovation and restoration campaigns occurred at the HTC between 1982 and 1986. This HSR documents changes between the 1981 HSR, the 1982-1986 renovations, and current site conditions as a result of deterioration and alterations occurring at the station after 1986.

This study found that the building has remained in generally good condition following the 1982-1986 renovation but is in need of repairs and upgrades in certain key areas and continual maintenance to keep the structure in good condition. In general, upgrades are needed in order to increase the use of underutilized spaces within the existing station and to provide improved ADA accessibility, as well as to enhance customer amenities and improve security and safety.

The recommended approach for treatment of the building at this time is preservation.

INTRODUCTION

PURPOSE

PennDOT Bureau of Public Transportation plans to improve various aspects of the Harrisburg Transportation Center (HTC). These proposed improvements include, but are not limited to, enhancing overall ADA accessibility and passenger flow, improving customer comfort, re-purposing inadequate and underutilized or unoccupied spaces, maintaining a state of good repair, and modernizing general building systems and other supporting infrastructure.

The proposed HTC renovation program will include improvements to the building's exterior envelope, including masonry, roof, and windows repairs and ADA accessibility improvements. Changes to the building's interior include improvements to the main waiting area, concourse repairs, first floor retail and tenant space improvements, first floor public restroom renovations, Observation Room renovations, and second and third floor space improvements. Other exterior site improvements include cooling tower replacement, and renovations to the outdoor platform seating area and seating plaza.

The Harrisburg Passenger Station and Trainshed is nationally significant for its association with the history of American railroading and as well as for its architectural and engineering characteristics. In particular, its reliance on the Fink truss in the structure of the train shed is a significant engineering achievement of which few examples survive. The property was designated a National Historic Landmark in 1976. The purpose of this Historic Structure Report (HSR) is to provide a summary of previous work and studies conducted on the property and documentation of the current conditions of the Harrisburg Transportation Center (HTC) in order to create comprehensive recommendations for the treatment and ongoing preservation of the character defining features contained within the property. This HSR is an update to the previous HSR, completed by Harry Weese and Associates, LTD in 1981, entitled "*Pennsylvania Railroad Station, Harrisburg, Pennsylvania: Historic Structures Report.*"

APPROACH

This HSR is a synthesis of previous documentation and current conditions. JMT first identified the resource's character defining features by reviewing pertinent documentation of the passenger station and train sheds, including the 1975 National Register of Historic Places Nomination Form and the subsequent 1981 National Historic Landmark Nomination, and in consultation with the Pennsylvania Historical and Museum Commission. The 1981 HSR provided important information about the conditions of the historic resource prior to a multi-million-dollar renovation campaign that took place between 1982 and 1986. JMT identified other interior functions that have been altered and exterior upgrades that have been made subsequent to the 1980s renovations by comparing earlier documentation to existing conditions.

This document was created in accordance with the National Park Service's *Preservation Brief 43 – The Preparation and Use of Historic Structure Reports.* Recommendations for treatment are provided based on the proposed scope of work and the current preservation needs and standards, specifically, the National Park Service's *Secretary of the Interior's Standards and for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*. Material conservation recommendations are provided with the aim of protecting character defining features.

ADMINISTRATIVE DATA

LOCATION DATA

Current Name: Harrisburg Transportation Center
Historic Name: Pennsylvania Railroad: Harrisburg Station and Trainshed
Location: Aberdeen Street, Harrisburg, Pennsylvania 17101
SHPO Key No.: 000517

RELATED STUDIES

Berman, D.M.
1975 *Pennsylvania Railroad: Harrisburg Station and Trainshed, National Register of Historic Places Nomination.* Pennsylvania Historical and Museum Commission, Harrisburg.

Harry Weese and Associates, LTD.
1981 *Pennsylvania Railroad Station, Harrisburg, Pennsylvania: Historic Structures Report.* Prepared for the Harrisburg Redevelopment Authority. Harry Weese and Associates, LTD., Harrisburg.

Yearby, J.P., and H.F. Hambright
1987 HAER No. PA-85: Pennsylvania Railroad: Harrisburg Station and Trainshed, Market & South Fourth Streets, Harrisburg, Dauphin County, PA. Historic American Engineering Record, National Park Service, Washington, DC.

Zembala, D.M.
1981 *Pennsylvania Railroad, Harrisburg Station and Trainshed, National Historic Landmark Nomination.* Pennsylvania Historical and Museum Commission, Harrisburg.

CULTURAL RESOURCE DATA

National Register of Historic Places: Listed June 11, 1975
National Historic Landmark: Designated December 8, 1976
National Register Information System ID: 75001638
Period of Significance: 1875-1899; 1850-1874
Proposed Treatment: General Renovations and ADA Improvements

THIS PAGE INTENTIONALLY LEFT BLANK

PART I: PREVIOUS DOCUMENTATION (1981 HSR)

1.1: HISTORY AND DESCRIPTION

The following text (including footnotes) is largely adapted from the Pennsylvania Railroad Station, Harrisburg, Pennsylvania, Historic Structures Report *completed by Harry Weese and Associates, LTD in association with Buchard-Horn, Inc., George Ira Worsley, Jr. & Associates, and Barton, Butcher and Associates, Inc., 1981; with minor editing and reorganization by Christine Leggio.*

Harrisburg's Pennsylvania Railroad Station, formerly called the Harrisburg Passenger Station and now known as the Harrisburg Transportation Center, was completed in 1887 and underwent several campaigns of additions in the early 20th century. It remains in active use as a transportation facility.

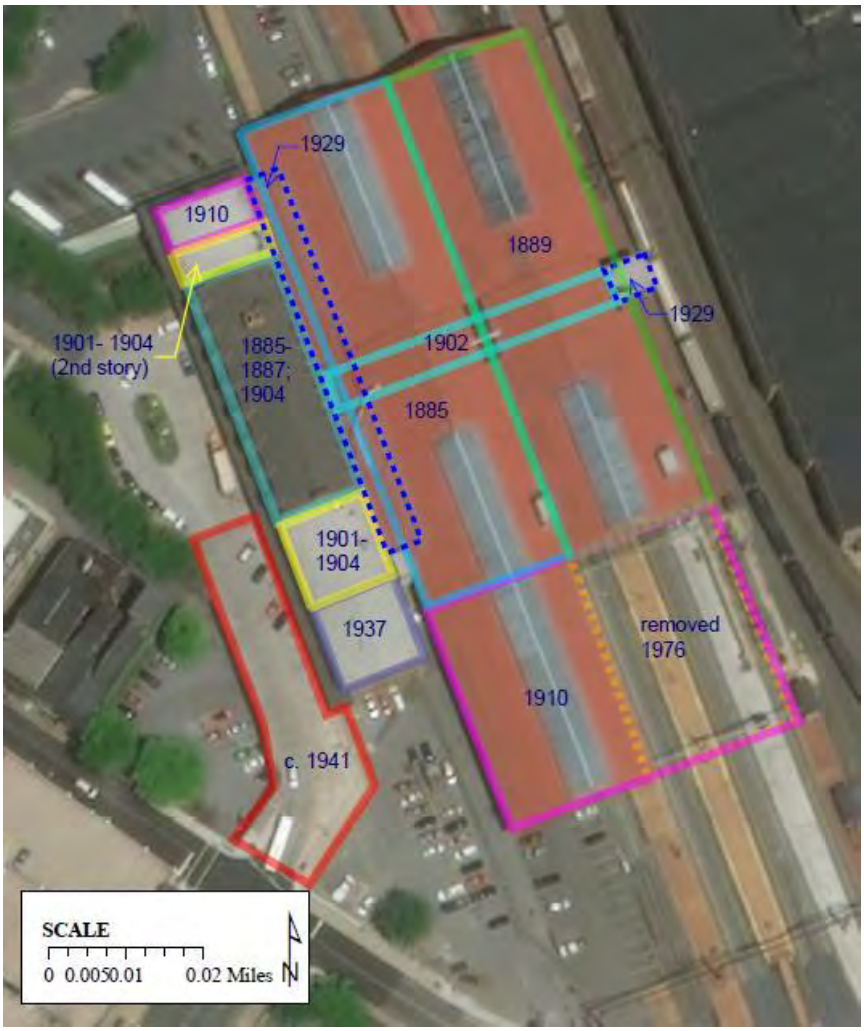


Figure 1: Building Chronology

1.1.1: Site Evolution

Harrisburg was founded by John Harris in 1725. Prior to European settlement, the land was occupied by tribes of indigenous Indians. The area surrounding the low hill on which the Pennsylvania Railroad would build its station was at that time rural; it consisted of hilly terrain and included the Susquehanna River to the west, as well as a large hill to the north upon which the state capitol would be built.

In the first half of the nineteenth century the station site was a "burying ground" with sections for Presbyterians, the "African" population (reported to be the first black cemetery in Harrisburg), and members of the Zion Lutheran Church (which was built at Fourth Street near Market). Several marble yards occupied land on the north side of the cemetery, which was sold in mid-century. By 1885 the Pennsylvania Railroad owned the land, but it is not known exactly when it was acquired.

Previous Stations

The Pennsylvania Railroad operated two passenger stations in Harrisburg prior to the construction of the current station. The first, located on Market Street, was a depot shared with the Harrisburg, Portsmouth, Mountjoy and Lancaster Railroad. The building was constructed in 1836 and was utilized until 1857, at which time it was torn down and replaced by a larger building on the same site.

The second station was constructed in 1857. It was a large building in the Italianate style, designed by Philadelphia architect Joseph C. Hoxie and constructed by Stephen D. M'Culla of Harrisburg at an expense of $58,266.20. The Pennsylvania Railroad shared the 1857 depot with the Reading, North Central and Cumberland Valley Railroad. The Pennsylvania's half of the building was distinguished by pedimented windows. A bracketed campanile stood between the north and south pavilions. The station was demolished to make way for the present station.

Current Station: History and Description

The Pennsylvania Railroad station at Harrisburg was built under the direction of William Henry Brown who was chief engineer of the railroad company at that time.[1] The passenger building was probably not designed by Brown, but the true architect may never be known because the original drawings are lost. Surviving drawings, documenting subsequent changes to the station from Brown's administration, all bear his signature of approval. The original shed (the one nearest to the passenger building) was designed by Brown and/or his office. The engineering of its trusses matches those at the Pennsylvania Railroad's 31st Street Engine House (1880) in West Philadelphia, which are known to be designed by Brown.[2] In addition,

[1] Walter Gilman Berg, Buildings and Structures of American Railroads (New York: John Wiley and Sons, 1904 prefaced dated 1893), p. 377.
[2] Berg, op. cit., p. 177, 309.

Harrisburg's far shed, built in 1889, duplicates the original shed and was erected from drawings signed by Brown.

The station was constructed between 1885 and 1887, with the construction of the trainshed nearest to the station building occurring first. The passenger station building was completed on November 1, 1887. It underwent extensive remodeling in various campaigns throughout its history.

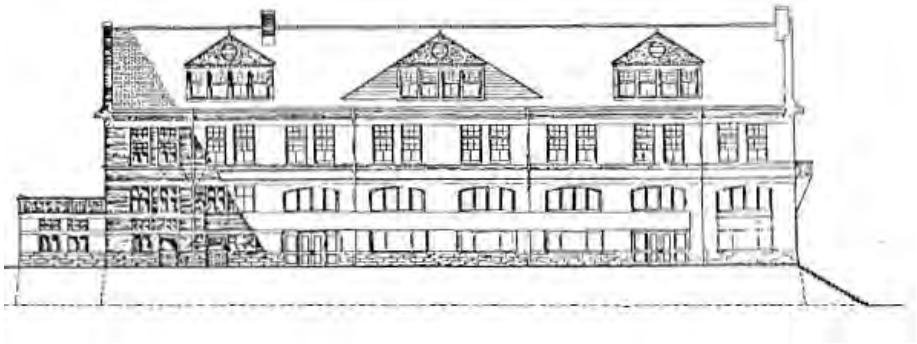


Figure 2: Illustration of passenger station, c. 1887 (H. Weese and Associates, 1981).

Original Passenger Building and Shed

Even though the original drawings are lost, the original design of Harrisburg's Pennsylvania Railroad Station can be approximated. A credible image can be pieced together using contemporary newspaper accounts,[3] old photographs and engravings, and information on drawings that detail major alterations to the station in 1902.[4]

The train shed was designed with the Fink truss as the basic structural unit. The trusses, spaced 20 feet on center, spanned four tracks to create a shed 420 feet long. This sophisticated system, composed of built-up bolted members, utilized both wrought iron and wooden cords to accommodate separate tension and compression conditions. Connections between members were pinned to permit movement. The stability of the total structure was assured by wooden "X" bracing, supported on iron brackets. The roof, with its partially glazed monitor, added to the overall stability. Painted sheet metal was nailed on a diagonally placed tongue and groove wooden substrate. The substrate was attached to purlins directly above the wooden upper cords of the trusses. Closing the ends of the shed brought extra stability to the structure.

The main (west) elevation was reconstructed in Figure 2 to show how the passenger station probably looked on opening day, November 24, 1887. Originally, the primary elevation was eight bays wide and two

[3] "The New Pennsylvania Railroad Station," Harrisburg Telegraph November 23, 1887, p. 1; "New Depot Occupied" The Harrisburg Patriot November 24, 1887, p.l.
[4] Drawing #17117 passenger Station at Harrisburg proposed alterations and additions dated March 8, 1902.

stories high with a pitched roof. There was a one-story extension to the north that served as a summer dining room for the restaurant. The base of the building was constructed of rock-faced brownstone and the upper stories were brick.

The slate roof had three dormers, parapets at both ends, and two brick chimneys. Each dormer included four windows with six over two panes. The windows acted visually as a unit to support a foliated triangular pediment with a round window. The raking cornices of the central dormer were extended to meet the roof, creating one large triangle. The dormer roofs, like the main roof, featured terra-cotta cresting on the ridges.

The facade was surmounted with a shallow terra-cotta cornice composed of a banded series of rope and half-round moldings. Terra-cotta griffins, perched at the ends of the cornice, silently "screeched." The facade was divided into two stories, separated by a molded string course similar to the cornice design. The second story had a pair of double-hung windows with transoms in each bay, with its panes matching those of the dormers. The first story had large, segmental arched windows for the six bays that defined the waiting room inside. At the north end, two bays were filled with rectangular windows similar to those in the second story. This change marked the restaurant and employee's dining room on the inside. A canopy overhung the six central bays offering protection from sun and rain for the passengers. The canopy, located just below the arched windows, created a clerestory which brought light and air to the main waiting room.

Architecturally the other elevations were treated similar to the main elevation except on the north and south, where a decorative terra-cotta tendril frieze was substituted for a cornice.

Subsequent Historic Alterations

In 1902, a major "modernization" of the passenger building radically altered its original configuration. The building was extended three bays (61 feet) to the south for a first-floor baggage room and second-floor superintendent's office. The extension was built with a flat roof. At the north end, a second story was added over the dining room for offices, plus a new canopy that wrapped around the building from the plaza to the track side. All architectural details for the new construction, the terra-cotta cornice, stringcourse, brickwork and brownstone, were meticulously duplicated to match that of the original building. A brownstone retaining wall was constructed in the plaza to accommodate the change in level resulting from the addition.

All floors on the main level were raised six feet to allow the installation of an open-air passenger bridge and a baggage bridge. The bridges, projecting under both sheds and over the tracks, were built to clear the height of the trains. Eight iron and steel staircases were installed from the bridges to the platform. The staircases were decorated with large wrought iron quatrefoils and cast-iron newel posts.

To accommodate the level changes at the plaza, three steps were added across the front elevation, except at the south end where a raised baggage platform had been built. The plaza side canopy was repositioned

seven feet higher and first floor windows had to be rebuilt to match the new floor height. On the interior, the waiting room was rebuilt and included a new ticket office, wall-mounted benches, and a wainscot.

In 1903, eight 21-by-24-foot skylights were installed in the train sheds roofs, four on each side of the passenger bridge. Their installation brought more light into the bridge, which by this time was enclosed and decorated with pressed metal sheeting. At this time the passenger bridge became a lobby.

In 1904, following a fire in the passenger station, a gambrel roof was added which increased the usable office area of the third floor. The sheathing material was black slate with copper flashing and ridge roll. The roof was punctuated with 16 dormers, 8 on each side. As a part of this reconstruction, the third floor was remodeled for Greyhound offices at the south end, doctors' offices complete with a surgery room in the center, as well as restrooms, a committee room, supply spaces, and a real estate office in the north end.

In 1910, the passenger building was extended 60 feet to the north to accommodate a lunch counter and dining room on the main floor, offices on the second, and a kitchen and trainman's room in the basement. This addition was built with a flat roof. A women's waiting room was remodeled from what was originally part of the restaurant in the north area of the original building. By this time a port cochere had been built on the plaza side of the passenger building. In the same year, the train sheds were extended five bays (120 feet) to the south.

In 1912, a drug store, barber shop, and boot black were added on the main floor, on the track side of the passenger building just north of the passenger bridge. The following year, a tubercular waiting room with an adjacent toilet room was built on the same side, just south of the passenger bridge.

In 1919, the floor of the passenger bridge was strengthened by the addition of riveted steel beams. Six beams were erected over each trackbed. Each beam spanned from an existing beam at the center of the bridge to an existing beam at the edge of the bridge. By this time a flagpole had been added to the passenger building roof.

Figure 3: Illustration of passenger station, c. 1920 (PA State Archives).

In 1929, the passenger bridge was extended on the east end over the new passenger track. The extension was built five steps higher than rest of the bridge. In addition to a new platform, a canopy with a composition roof shelter approximately 315 feet long was erected.

Electrification of the rail line from Paoli to Harrisburg began in the 1930s, and in 1936 the passenger and baggage bridges were raised to create adequate catenary clearance. It was impractical to raise the passenger bridge independently of the trusses as was the case with the baggage bridge. The upper walls of the passenger bridge were framed around the lower chords of the shed trusses. The roof and roof purlins were cut, and the bridge was raised along with the roof. The actual lifting was accomplished by jacking up the columns, then inserting stub columns under the raised ends. Two 50-ton jacks were used per column and 150 men were required for the process. During the lift, which took over 2 hours, the passenger bridge remained in service. The temporary risers for the staircases that led down to the platform were eventually replaced with permanent steps that matched the earlier ones. Even the decorative quatrefoils of the staircases were meticulously reproduced. A few newel posts, though, were replaced with simple pipes.[5]

[5] "Raising Long Passenger Bridge of Traffic No Easy Task", Railway Age v. 107 (October 21, 1939).

In 1937, the last extension to the passenger building, a 60-foot addition to the south, was made. Since Harrisburg was a control point for electricity on the main line, the addition was made to house equipment and personnel. The addition was constructed three stories high, matching the flat roof of the previous extension. The main floor held interlocking equipment, instrument racks, and director's machinery. The second floor was devoted to power direction. The basement was left open with concrete docking facilities. The architectural details of the addition matched the historic building except on the main floor where pairs of double-hung 6 over 6-light windows were used in lieu of the arched fenestration in this location on the historic building. Late in the year, plans were drawn to install five elevators (9 x 17 feet) on the south side of the baggage bridge to facilitate mail and baggage handling.

Sometime before America's entry into World War II, c. 1941, plaza improvements were carried out, a move necessitated by the demands of an increasingly mobile society. A 12-foot-high viaduct deck was built to connect the plaza to the foot of the Mulberry Street bridge. Approximately 50 feet wide, the deck served as a nine-bay bus terminal and as a bridge for vehicular circulation in front of the passenger building. The deck, and the 27 columns that supported it, were constructed of reinforced concrete. The old brownstone retaining wall was cut off at the top and half buried. On Grace Street, this wall was supplanted by a new reinforced concrete retaining wall erected closer to the street to provide for additional taxicab parking in the plaza. The bus bays were protected by a flat roof canopy. At the northern perimeter of the viaduct, a wall was built from the passenger building to the Railway Express Agency building on Mulberry Street. The Agency's interior plan had to adapt to the level change caused by viaduct construction. Its second floor became the main floor. By this time most of the green space in the plaza had been usurped for automobile parking. The block between Grace and Aberdeen, once a park serving as an entrance to the station, was now a space only for cars. Shortly after, a bus dispatcher’s office was installed in the southwest corner of the passenger building in association with the bus terminal facilities. The office was reclaimed space from the train director's office. One window was removed and replaced by a glazed, projecting wooden bay with two doors.

Figure 4: Photograph showing bus terminal, c. 1950 (PA State Archives).

The war years brought many soldiers through the station and to the nearby hotels – the Bridge, Wayne, Alva, and the New Plaza. A U.S.O. room in a contemporary "Art Deco" style was built c. 1948, in the northeast corner of the passenger building.

Figure 5: 1981 photograph of USO Room (HAER No. PA 85-17).

Some minor remodeling was done to the passenger station in 1955. The drug store on the track side of the passenger building just north of the passenger bridge was turned into a telephone niche with sixteen booths and a directory stand. The women's waiting room was reduced in size by the addition of a long fountain counter. The restaurant was altered by the removal of a partition to accommodate a bar. A concession stand was constructed in what once was a window in the original east elevation to serve passengers in the main waiting room and the passenger bridge.

In 1973, the evening news published an article titled "Dingy Pennsy Station Due Renovation," and announced a $500,000 renovation project. Part of the plans under consideration at this time was the creation of an exclusive bus lane which would bring buses to the track level on an abandoned track roadbed. The bus lane would begin at South Second Street, run north along the railroad's right-of-way, and after leaving the station would parallel the tracks across the Market Street subway to either North Fifth or

Walnut Street.[6] A subsequent article, titled "Restoration of Pennsy Station Expected Soon," announced slated improvements for the station included a general "face-lifting" of its interior, repaving of the parking lot, installation of new outside lighting. It was expected that improvements could be completed over a 90-day period.[7]

In October of 1974, the “Harristown Plan” was adopted by the Harrisburg City Council. The plan was developed in response to the deplorable condition of Harrisburg's central business district. The downtown area had developed without the guidance of formal planning; much of the land was occupied by socially and economically undesirable uses. Downtown was collapsing as were the real estate values and tax base. Implementation of the Harristown Plan was to occur in two phases. Phase Two, (which was getting underway in 1981) projected the revitalization of the station plus a new city hall, new hotel/convention center, downtown residential developments and other civic improvements. (Phase I, nearly completed in 1981 included redevelopment of the area around Strawberry Square.)[8]

In March of 1975, a major report was released on the future of the station. “Transportation Center Study” was written by Bergers Associates for the City of Harrisburg Redevelopment Authority. The purpose of the Study was to provide an overview of the feasibility of revitalizing the station into a multi-modal transportation center. The report concluded that remodeling and rehabilitation of the existing structure into a functional facility was technically feasible and the existing facility was structurally sound. The existing heating and electrical systems would have needed to be replaced to meet modern environmental control requirements, additional loads, and then-current code requirements. Physical space requirements to meet user criteria could be provided by the addition of approximately 24,350 square feet gross area, the great majority of which could be obtained by enclosing areas within the existing structure at the track level. The estimated construction costs at current [1981] construction industry prices was $2,961,000. On June 11, 1975 the station and train sheds were listed in the National Register of Historic Places as a site of local significance. Particular emphasis was placed on the technological significance of the train sheds.

In 1976, 12 roof trusses and their columns were taken down from the south section of the east train shed. The full plan was to tear down all the train sheds. A concerned citizen called the State Historic Preservation Office which stepped in to halt the procedure. A report in a local preservation newsletter stated: "the demolition of the train sheds by Amtrak was the result of a series of oversights, accidents, and unfortunate timing. Shortly after Amtrak took over control of the station from the bankrupt Penn Central, they discovered that one or more of the main roof trusses had given way and the shed was unstable. The architect who was sent to inspect the roof was unaware of either the building's historic significance or the federal laws dealing with historic sites. It was his first week on the job. As a result of his inspection he recommended the demolition of all the sheds and the main terminal building as being structurally unsound

[6] Sarvey, Don, " 'Dingy' Pennsy Station Due Renovation", The Evening News (August 28, 1973) front page.
[7] Ibid. "Restoration of Pennsy Station Expected Soon", The Evening News (November 20, 1973) p.21.
[8] Dauphin County, Board of Commissioners, Dauphin County Overall Economic Development Program 1979-1980, September 1979; and Harristown Development Corporation for the City of Harrisburg, The Harristown Project, September 20, 1979.

and obsolete. His report was reviewed by people who should have been aware of the federal historic preservation procedures but were not."[9]

In July of 1978, a National Historic Landmark status report on the station was completed by the Heritage Conservation and Recreation Service in the Department of the Interior. In the report, concern was expressed for the highly deteriorated condition of the train sheds. The major threats were age and poor maintenance.[10]

Figure 6: 1981 photograph of the station building (HAER PA-85-3).

[9] Packard, Vance, "The Harrisburg Train Sheds" Harrisburg Heritage, v. 2 No. 7, (July 1976) p.4.
[10] From the files of the National Register of Historic Places, United States Department of the Interior, National Park Service, Washington, D.C .

1.1.2: Significance

The station, listed in the National Register of Historic Places,[11] and designated a National Historic Landmark, is historically and architecturally significant because of its design and engineering features as well as for its association with the history of American railroading. Constructed adjacent to the business district and the capital city's monumental core, the station acted as a symbolic portal until automobile travel became common.

Architecturally, the passenger building is significant as an excellent example of turn-of-the century railroad construction. The station was designed to be convenient and efficient - qualities reflecting the Pennsylvania Railroad's trains, which ran "to the minute." All parts of the station functioned as components in the organized "machine."

Although the building was extensively remodeled in various campaigns to meet changing demands in use and service, the basic characteristics of its Queen Anne Style,[12] which was popular in the last quarter of nineteenth century, remain. The style played on a contrast of materials; in Harrisburg, the passenger station's textured base is rock-faced sandstone, while the upper stories are pressed brick with slender mortar joints that emphasize the smoothness of the wall plane. Large medieval chimneys are silhouetted above the slate gambrel roof. Molded, specially shaped bricks are used decoratively in the first string course and cornice. The stair railings feature wrought iron quatrefoils, forms borrowed from medieval church fenestration, which are positioned where balusters would usually support the railings. Even though the building plan has been altered throughout the years, the interior still features asymmetrical spaces flowing freely into each other.

The Queen Anne-style details were duplicated when additions were made to the building in later years. Bricks and sandstone were carefully matched for texture, color, and size. When three steps were added to the concourse stairways in 1936, care was taken to reproduce accurately the quatrefoils above the stringer. Thanks to this concern for detail by subsequent architects, even a person with a well-trained eye might be unaware of the alterations when viewing the station today.

In terms of its engineering, Harrisburg's Pennsylvania Railroad Station is significant because of its two large train sheds. The iron and steel covers create cool shade and filtered light in summer; in winter they offer protection from the elements. The sheds are preserved unaltered and largely intact, unlike the passenger building which has been greatly modified from its original design. They represent a not-so-remote ancestor to America's skyscraper engineering.

---

[11] David M. Berman. National Register Nomination filled with the United States Department of the Interior, National Park Services, January 1975.
[12] Poppeliers, John, S. Allen Chamber, and Nancy B. Schwartz. What Style Is It? (Washington, D.C.: Preservation Press, 1977) p. 24-26.

The structural system of the sheds is based on the Fink truss which is unique in that it employs both wood and steel members. The prototype for this truss were patented for railroad bridges by Albert Fink when he was working for the Baltimore and Ohio Railroad in 1854. Albert Fink was also known as the "father of railway economics" because of his revolutionary approach to accounts and statistics which he developed for railway operation.[13] Fink described his iron bridge scheme as follows:[14]

> "The nature of my invention consists in combining different systems of triangular bracings ...so that a weight coming on one of the systems of the truss is not only carried over one or more other systems before it is carried back to the abutment, but the foot of the post of each triangle shall be capable of settling vertically or moving to the side, so that the tension rods of each system of the triangular bracings will be strained equally when the bridge settles under superincumbent weight."

Fink's truss was a milestone in structural design for industrial buildings. The use of the truss for Harrisburg's train sheds "are testimony to the soundness of his design, which endured for over seventy years in a field where new forms were patented almost weekly. This use of this form... shows that it was equally suitable after steel had replaced iron and riveted connections had superseded pinned panel points in American engineering practice.[15]

[13] Bureau of Railway Economics. Albert Fink, October 27, 1827 - April 3, 1897, Bibliographic Memoir of the Father of Railroad Statistics in the United States, (Washington, D.C.: Bureau of Railway Economics, 1927).
[14] United States Patent No. 10,887 dated May 9, 1854.
[15] Berman, op. cit ..

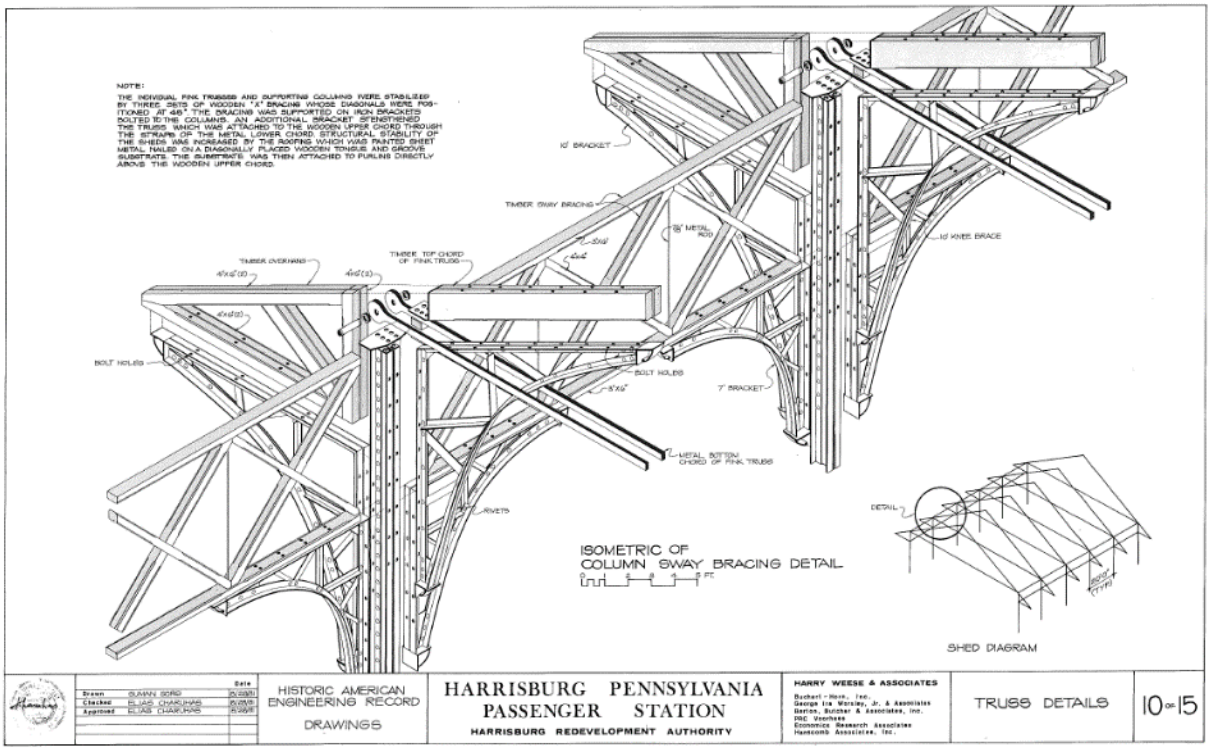


Figure 7: Train shed Fink truss detail drawing (HABS PA-85).

When erected, the sheds were among the largest of the time. Together, both sheds span 180 feet and join the ranks of the great sheds of the time:[16] London's St. Pancras Station span of 243 feet (1888); Jersey City's Pennsylvania Station span of 252 feet (1888); and Philadelphia's Reading Station span of 256 feet (1891). The experience Pennsylvania Railroad engineers gained by constructing Harrisburg's train sheds and others was applied in 1892 to the Broad Street Station in Philadelphia. That train shed spanned the impressive distance of 591 feet.[17] Like most other American examples, it perished under the wrecker's ball in the recent past. Harrisburg's train sheds are among the last of the type, making their future preservation all the more important.

[16] Burgess, George H. and Miles C. Kennedy. Centennial History of the Pennsylvania Railroad Company 1846 - 1946 (Philadelphia: Pennsylvania Railroad Company, 1949) p. 357.
[17] Ibid. p. 431 to 433.

1.1.3: Passenger Station: 1981 Description and Condition

The following text excerpted in its entirety from the Pennsylvania Railroad Station, Harrisburg, Pennsylvania, Historic Structures Report *completed by Harry Weese and Associates, LTD in association with Buchard-Horn, Inc., George Ira Worsley, Jr. & Associates, and Barton, Butcher and Associates, Inc., 1981; with the exception of 2018 commentary denoted by brackets and italicized text following each 1981 recommendation. All conditions and recommendations contained within pertain to 1981 conditions and do not reflect conditions in 2018.*

Exterior Masonry

Historic Fabric: The above-ground stories were built with two materials: Hummelstown brownstone and red pressed brick. The masonry of the foundation may be limestone. Decorative terra-cotta was used for the cornice and second story string course. Red cement was used for the pointing mortar. The building's sandstone base of uniformly sized and coursed stones was faced with a rock-cut finish. Joints were beaded. Large blocks were carved for the main floor window sills.

Smooth-finished brownstone was installed in string courses under the cornice, under second story window sills, and above the main floor windows. The south gable's parapet and the chimney coping is smooth-finished brownstone with tooled mortar joints. The upper stories and chimneys are of brick laid mostly in common bond. Headers were used in every eighth course and soldiers were placed under the cornice. All brick joints were tooled and were very small -- only 3/16-inch-thick on the average.

State of Preservation: Masonry inspection was carried out under wet and dry conditions; the visual inspection was supplemented by careful probing with an awl. Eighty-five percent of the surfaces were examined.

All surfaces are extremely soiled from car exhaust, atmospheric pollution, weathering processes and in some areas by roosting birds. The soiling includes: soot, dust, grease and salt deposits. The more textured, brownstone base has collected and held soil than the smooth upper stories of brick. The trackside facade is the most extensively soiled because of its exposure to the trains.

A serious masonry problem is the deteriorated pointing. Over 60 percent of the surfaces surveyed on the north, east, and west facades had entirely lost the pointing. This condition has exposed the masonry to the dangerous effects of water penetration and the freeze-thaw cycle. In some locations structural integrity has been jeopardized. In the south chimney, for example, water enters through an open joint in the brownstone coping. It then percolates into the bricks below, where it freezes in cold weather, expanding and pushing the masonry out of alignment. Today, the chimney is on the verge of collapse. The north chimney bricks on the south face have been shattered by the same destructive. On the north elevation the joints between the brownstone and brick at the second story window sills have opened nearly three inches.

The west facade has been repainted recently, perhaps within the last ten years. Unfortunately, the workmanship, pointing styles and mortar color was not up to historic standards. Haphazardly filled joints

have masked the original thin brick joints. This is not only an aesthetic consideration; brick joints filled too full allow water to penetrate which, in turn, causes spalling.

An irreversible form of masonry deterioration is the sheeting of the smooth-finished brownstone. This material failure is largely due to the nature of the brownstone itself and its positioning in the wall. "Brownstone" is really a brown sandstone -- a sedimentary rock formed in layered beds. The layers are cemented with silica and iron oxide, which produces the reddish color. The brownstone should be bedded in a wall with the layers positioned as they were formed in nature; if placed in a perpendicular pattern, they will sheet off. Sandstone is also sensitive to water penetration along these layers, which can accelerate this process. Deterioration of this sort was observed in at least five separate locations.

A critical brownstone problem, not specifically due to lost pointing, occurs on both hips of the gambrel roof on the south elevation. The coping flags have become dislodged due to an improperly designed architectural detail. The slabs were laid in such a manner that those on top of the gambrel pushed those on the face. This problem calls for a creative solution.

Recommendations: An in-depth masonry survey should be undertaken which documents specific deterioration; i.e. lost pointing, spalling, cracks, and dislocations. By locating these conditions graphically on elevation drawings, patterns might be identified. This could help in determining the cause, then solution to, the problems.

Stone units with noticeable deterioration should be replaced with matching material from the original sources, if possible, rather than being patched or repaired. Cause of the deterioration must be ascertained and corrected before any replacement takes place. Replacement pieces should be free from defects such as vents, cracks, fissures, sand or clay holes. Brownstone should be laid with the natural bed in a horizontal configuration. Damaged masonry should be carefully removed so as not to destroy surrounding pieces, using methods to not cause vibrations. To be visually congruent with the surrounding stones, the face should be finished with materials of matching textures, artificially weathered, if necessary. Adequately shoring must be provided during the replacement process.

At present there is no effective way to halt the deterioration of brownstone short of replacement. Patching with colored cement is usually suggested, but it has been proven unacceptable on other projects. This technique was employed in 1972 to repair the Renwick Gallery in Washington, D.C. (1859); because of the basic incompatibility of the materials, the cement patches are falling off the building today. An alternative to this technique, but still in the experimental stages, is silicon consolidation injections.

Repointing should be undertaken to prevent water penetration of the joints. Disintegrated, deteriorated, and loose mortar should be removed from joints to a uniform depth sufficient to provide a good bonding condition. An adequate bond surface, between new and existing masonry is needed to prevent mortar "pop outs". Hand tools should be used exclusively to clean out joints to avoid irreversible damage to the edges of the stones or bricks. Before new mortar is installed, loose particles should be removed from the joints with a jet of air. Joints should be wet but not soaking prior to repointing.

It is suggested that pointing mortar with high lime content, which expands and contracts to compensate for temperature variations, be used. Mortars with a high percentage of Portland cement are too "hard", especially for historic brick. For compatibility between old and new material, the mortar should be based on the original formulation. Duplication of the original red color is particularly important. The styles, sizes, and textures of the original pointing should also be accurately reproduced.

Joints should be compacted and filled flush with the outer surfaces of the masonry. When the mortar is thumb-print hard, it should be tooled in a manner to match the appearance of the old mortar. Excess mortar should be removed from the edge of the joint by brushing it with a stiff, nonmetallic bristle brush. To match new mortar to the old, the joint should be "aged" by light brushing immediately after tooling. All joints should be durable and watertight after curing.

Cleaning of the masonry surface should be undertaken primarily for cosmetic reasons. (Certain types of atmospheric pollution, though, can aggravate brownstone's tendency to sheet). Cleaning should not be done by "mechanical" processes involving grit blasters, grinders, sanding discs, wire brushes, steel wool nor by any other abrasive means. No injurious acid, nor any ingredient independently or in combination in any compound, fluid, or solution which will cause damage should be used.

Potentially acceptable processes, each with benefits and disadvantages, include steam cleaning, water cleaning, and water cleaning with chemicals. Water soaking, water under pressure and water with brushes, each with or without detergents, are appropriate ranges of water-cleaning solutions. (See Part III, 3.3 Cleaning Treatment Analysis, for the results of test patches.) Hand or power-driven stiff fiber bristle brushes should be selected for their cleaning efficiency and gentleness. The surface should be scrubbed with detergents, cleaning components, liquid solutions and/or soap powders starting from the top continuing progressively down the face.

As a final step in the cleaning process, the masonry should be rinsed to dislodge dirt and foreign matter. Finished work should show no signs of stains, scratches, streaks or runs of discoloration, mortar damage, or other defects from use of cleaners. All surfaces should be left neat and clean.

***[2018 Update:** It appears that the recommendations for the treatment of the exterior masonry outlined in 1981 were generally followed during the subsequent renovation. 2018 masonry conditions suggest that a full-scale restoration, including cleaning, repointing, patching, and replacement in-kind was undertaken.]*

Roofs

Discussion of the roofs on the passenger building is divided into three sections: 1.) Historic, 2.) Extensions, and 3.) Canopies. These categories are keyed to the location plan in Figure 6. Each roof is discussed separately.

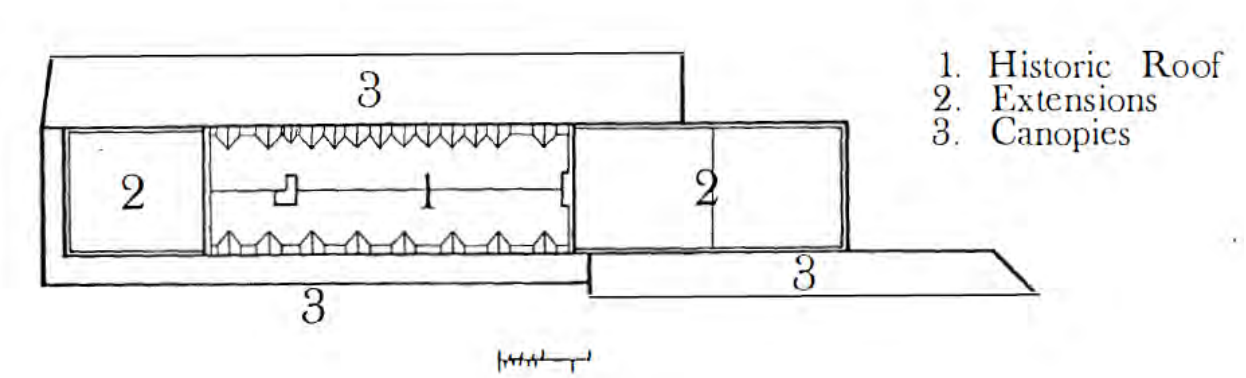


Figure 8: Passenger building roof location plan (H. Weese and Associates, 1981).

Historic Section Historic Fabric: The historic roof is the most important roof on the building because of its prominent visual character and by the fact that it covers the original section of the passenger building. The roof has been radically changed from its 1887 pitched design with large dormers. In 1904 it was made into a gambrel to increase the useable area of the third floor. In 1904, as in 1887, slate was used on all sides. Today the only slate surface remaining is the face under. the hip of the plaza side of the building. Here, 10 x 20-inch slate sheets were nailed to wood purlins with the necessary overlap to shed water. The remaining section including the dormers, is covered with asphalt shingles which could have been laid down in the late 19 50s. Terra-cotta coping was installed on the north parapet of the gambrel. The south coping of the gambrel is sandstone flags.

The roof has been penetrated at various times. Among the additions are the dormers, chimneys, piping, and large barnlike metal ventilators. There is a light cupola in the north which also vents the toilet room underneath. All points of penetration are flashed, for the most part in copper. The decorative fascia, leaders, and gutters are also fabricated in copper.

State of Preservation: Of all the roofs covering the passenger building, the historic roof is in the worse condition. The asphalt shingles are torn, worn, loose, broken; nail heads are exposed and missing in many areas. The slating is likewise deteriorated, although the individual slates are not damaged to any great degree. Pieces are not exfoliated, but slate sheets have fallen off into the gutters. The gutters themselves are blocked with soil and other debris, making the elimination of rain water nearly impossible. In heavy rainstorms, water is not carried away by the leaders, but instead flows over the cornice.

Some historic copper leaders have been replaced by galvanized steel downspouts. The fascia and gutters have been painted, thus masking the beautiful patina. Fortunately, flashing of the roof additions and parapets are well preserved and serves as intended to keep the water from under the roof.

Recommendations: Since a roof is the first line of defense against the elements, the historic roof should be given thoughtful attention. The surviving slate should be repaired and maintained by careful installation of new slate where the old is missing. A small cache of slate sheets, stored in the attic, might be adequate for repair purposes.

It is recommended that the asphalt shingles which are in poor condition, be replaced with more durable slate. New slate sheets should come from the original quarry, if possible, be free from defects, and visually congruent with the originals in size, color, and texture. Slate should be attached by unobtrusive, nonrusting hangers. Hangers should securely fix the slate so as not to allow water penetration. The slate sheets must be cut accurately to fit the roof at dormers, valleys, hips, and ridges. It is suggested that the historic face exposure, and the distance between slates and overlap, be reproduced with the sheets laid in regularly diminishing courses from the eaves to ridge. If necessary, proper substrate, purlins, and flashing should be provided. Once the new slate is installed, the roof should be inspected each spring and repaired as appropriate. A slate roof, even with a life of 40 to 60 years without maintenance, is susceptible to breakage by ice and snow and is subject to dislocation by the freeze-thaw cycle.

The gutters and leaders of the historic roof should be reused. Loose fascias should be repaired and reattached. All copper work should be carefully stripped of its paint in such a manner so as to reveal the patina. The barnlike ventilators on the ridge should be removed; the original ventilating slits in the gambrel end walls could be discreetly enlarged to increase air circulation in the attic, if appropriate.

*[**2018 Update:** It appears that the 1981 recommendations for the slate and asphalt shingled roofs of the passenger station were carried out in the subsequent renovation. Slate shingles were repaired or replaced in-kind on the dormers and front gambrel of the main section of the passenger station, while new asphalt shingles on the remaining faces of the gambrel roof were installed. At present, the roofs on the passenger station have reached the end of their service life and are need of repair and/or replacement.]*

Extensions Roofs Historic Fabric: The roofs to the passenger building's north and south additions are of similar flat roof design. Layers of tar paper set in bituminous mastic with gravel cover the south half of the south addition, with no gravel in the other areas. Roofs are sloped from the center towards the low parapets at the east and west elevations. The parapets, which served to prevent water from spilling over the cornice, are flashed and tarred. Drains at the parapet carry water to the leaders on the facades. The copper leaders and fascia match the design of the historic roof. The fascia is attached by copper nails to wooden sleepers set into the masonry.

State of Preservation: The flat roofs of the passenger building are in good repair. No major leaks were observed from underneath. Joints between the papers are apparently weather- tight. Penetrations and parapets are well flashed. Water run-off is good. Drains for the most part remain unclogged.
The only noticeable problem observed during this survey was the missing and dangerously loose fascias at the north extension on the plaza side and at the south extension on the track side. The problem is due partially to the rotten condition of the sleepers, a situation caused by moisture penetration at the top of the leaders.

Recommendations: Because the roof of the additions are in good condition, it is suggested that they be seasonally examined to assure their good maintenance.

An in-depth survey should be done which closely inspects the fascia. A foot-by-foot investigation should check for solidness of the attachments. Hidden water damage associated with the drain connection into the leaders may be present. Repairs to the fascia should be made by installing new sleepers and matching the existing fascia. Deteriorated brickwork should be rebuilt on the line of the original.

*[**2018 Update:** It is unknown whether the 1981 roof recommendations were undertaken in the subsequent restoration, however, it is likely, at minimum, repair work has been undertaken since that time. At present, the roofs on the passenger station have reached the end of their service life and are need of repair and/or replacement.]*

Canopies Historic Fabric: Many parts of both the plaza side canopy and the trackside canopy date from 1887. At that time the plaza side canopy extended only partially across the building. In the 1902 remodeling this canopy was raised, elegant wooden brackets and all, to accommodate the raised level of the station's main floor. The track side canopy was built from the passenger building second-story stringcourse, pitched 23 degrees down, to be supported on the nearest train shed.

In 1887 the canopies might well have been sheathed in painted metal or slate. Today, roofing material is layers of tar paper set in bituminous mastic with gravel for the track side canopy, and without gravel, for the other areas.

Over the years the canopies were enlarged as the building grew. Most extensions were made to match the original designs. For example, the canopy that wraps around the north part of the building has a similar bracket to that of the 1887 section.

The only canopy extension not matching the earlier models is the flat, reinforced concrete roof on the southwest side. This was constructed in 1941 for buses, as part of the new ramp to the station from Mulberry Street.

State of Preservation: The canopy roofing is, for the most part, maintained weather-tight. Most roof sheathing has been laid together so as to shed water. No problems with ponding water were observed. The tarred joints inhibit water penetration even though, aesthetically, their black blotches detract from the appearance of the rest of the building. The long lines of black mastic on the plaza canopy unfortunately reinforce the building's horizontal quality.

Where the canopies meet the walls, deteriorated flashing causes water problems in many locations. Shiny stainless-steel flashing was installed on the north instead of the original copper. The plaza canopy was penetrated by new downspouts and not flashed.

There is miscellaneous debris in all gutters such as the fragments of the asphalt shingles from the gambrel roof above. Strainers are missing from the drain downspouts, so debris is washed inside, causing clogs in the system.

A milkman's metal basket has been substituted for a strainer in the valley between the trackside canopy and the train shed. The valley is also littered with old bottles and cans.

Recommendations: Because of the high visibility of the historic canopy on the plaza, it should be resheathed, perhaps with slate matching the roof. Terne or any painted metal, with either flat or standing seams, would also be historically appropriate choices. The other canopies, because of their minimal impact to the building's historical image and because of their good state of preservation, need only be maintained. Gutters should be cleaned out and strainers installed. The few leaks could be sealed from on top. It is suggested that the trackside canopy be more closely inspected for potential leaks, especially where the skylights once existed.

*[**2018 Update:** It appears that the1981 recommendations for the canopy were generally followed. Based on current conditions, it appears the canopy's wood members were restored, and the asphalt roofing replaced in the course of the renovation. A large section of the canopy was recreated at the south end of the façade in the location of the former flat canopy dating to the mid-20th century which was removed during the renovation in the 1980s.]*

Fenestration
Historic Fabric: The passenger building has two types of windows -- flat headed and segmentally arched. Window frames are wood.

The only 1887 windows to survive are those flat headed windows on the second floor in the original part of the building. These are double-hung six over six lights with a six-pane transom. The six-pane configuration positions the individual panes on the long sides. All other flat-headed windows in the building additions match the original design.

The segmentally arched windows on the main floor date from 1902. The quad-partite transom has six nearly square panes each. The lower half of the window has a large, central hung sash, flanked by two fixed panes.

An important original feature in upper-story windows were the awnings. These not only controlled solar penetration, but the soft canvas contributed to the station's ambience. Awnings were in place until the 1930s.

State of Preservation: All fenestration has been mistreated over the years and is poorly maintained. Only the main floor windows have received a modicum of care. Many windows are filled with air conditioners and a few have been blocked up completely. Windows, especially on the upper stories, are seriously deteriorated. Typical problems include: broken glass, rotted sills, rotted lower rails, and peeling paint. Putty

holding the panes is either lost or dried out, and caulking has deteriorated. Water penetration aggregates the situation further during rain storms. Some sashes are "frozen" and out of. alignment.

Recommendations: It is suggested that the main floor windows, which are in a good state of preservation, be conserved in-situ. Paint should be removed from the panes and sash and the 1902 finishes should be restored. Blocked windows should be opened up and "frozen" sash should be freed. Window panes need cleaning with detergent and water. Caulking, weather stripping, and putty should be replaced where necessary. The windows should not be sealed shut; natural ventilation should be a component of the building's energy efficiency program.

The upper-story windows are, unfortunately, beyond repair and should be replaced. It is recommended that one of the better preserved 1887 windows be given to the Dauphin County Historical Society. If this is not possible, a drawing documenting the windows construction should be made for the archives. Replacement windows might be installed with wooden frames matching the old configuration of panes, if economically possible. Another choice would be to reproduce the windows with durable metal frames with a low maintenance finish of the appropriate historic color. Double glazing would be energy efficient and help control unwanted noise. Awnings should be installed to the building's energy efficiency and to restore the historically appropriate treatment.

*[**2018 Update:** It appears that the upper story windows were replaced in-kind in the 1980s renovation, and awnings based on historic photographs of the station were recreated. First story windows appear to have been conserved in-situ as recommended, with in-kind repair as needed. It is unknown whether the 1981 recommendation to preserve an 1887 window at the Dauphin County Historical Society was followed.]*

Entrance Vestibules
Historic Fabric: The three sets of entrance vestibules leading into the waiting room from the plaza date from 1902. They were designed in oak as part of the interior and exterior scheme, which has fielded panels matching those in the waiting room wainscot, and with proportions similar to the exterior windows. The vestibules are approximately 6 x 4 feet with two hinged sets of double doors. Each door is two-thirds glazed and has four nearly square panels at the bottom. The vestibules doors are flanked on the exterior elevation by single-hung windows with a paneled wainscot. The transom above the windows and doors match the design of the other first-floor windows -- all are divided vertically into four parts with six square panes each.

Figure 9: Detail of a 1981 photograph showing interior entrance vestibules (HAER PA-85-9).

State of Preservation: Even though modifications have been made to the entrance vestibules, they remain for the most part unchanged. The exterior pair of doors were replaced by visually incompatible doors. Historic hardware, such as hinges, kickplates, and "push-pull" signs have disappeared. All natural oak surfaces have been painted and panes of glass are soiled.

Recommendations: The entrance vestibules are important features; they create one of the first experiences for a passenger when entering and serve as an introduction to the station. Tactile senses are important in this experience. Therefore, it is suggested that the non-historic doors be replaced by those that match the originals. The use of metal frame doors should be discouraged. The hardware for both the replacement and the existing historic doors should be brass, designed for the high use which the doors suffer. The double door configuration should be maintained; it helps keep heated air in the building in winter and could keep cold air in during the air-conditioned summer. Paint should be stripped from the wood in a nonabrasive way and the natural oak finish should be restored. Window glass kept in spotless condition would increase, one hundred-fold, the general attractiveness of the station.

*[**2018 Update:** Based on the appearance of the current vestibules, it appears that the recommendations for their restoration was carried out in the subsequent renovation. The current doors are of oak and match the historic configuration and have brass hardware.]*

Waiting Room
Historic Fabric: The opening-day description is preserved in an account from the Harrisburg Telegraph, November 23, 1887:

> "On the first floor are the waiting rooms, which are separated by the ticket office and ladies' toilet room, between which there is a passageway from one waiting room to the other. Lofty ceilings composed of one hundred and forty-four panels of antique oak design materially enhance the general attractiveness of these rooms. The walls are of pressed brick of a straw color and the floor is of artificial stone. A wainscoting of 8½ feet of the same material and design as the oak ceiling relieves the walls. Five massive bronze pillars support the ceiling. At each end of the waiting rooms is a handsome fireplace, each fourteen feet long and eight feet high. They are made of highly polished granite, the aggregate weight being twenty-four tons. Some fancy terra cotta work adorns the walls above the mantel pieces."

Today the historic fabric in the waiting room dates primarily from 1902, when the main floor was raised 6 feet throughout the building as a part of a general "modernization" campaign. This modernization incorporated elements from 1887, but based on the available evidence, it is not possible to determine just how much 1887 material was reused. It is clear, though, that the ceiling, upper walls, and cast-iron columns with their gothic capitals date to 1887. These elements - plus the oak paneled wainscot, ticket-office, granite fireplace, and oak information booth - must be listed as historic fabric. The waiting room was conceived as a whole, and details of the historic elements were designed to harmonize with each other.

State of Preservation: In 1981, the waiting room is an ad-hoc collection of visually disorganized elements. Benches are pushed up to the fireplaces and fluorescent lights are inappropriately attached to the coffers. Signage is scattered about, hanging from the ceiling and attached to the walls in various locations. The historic features are in themselves intact, but obscured by such accretions as lockers, telephones, candy machines and layers of paint and soiling. The wainscot paneling has been masked or boarded over in a few areas and the original natural finish been painted. All window transoms, which functioned as a clerestory in 1887, are also boarded over and/or painted. Surface mounted piping and conduit are strung on the walls like spaghetti.

Figure 10: 1981 photograph of waiting room (HAER PA-85-10).

Accommodations in the space have not matched the quality of the original fabric. For example, the newsstand (built in the 1960s) along the east wall is a flimsy structure compared to the beautiful oak ticket office across the room. The newsstand was constructed into the wainscot, whose original finish can still be seen behind the magazine rack. The waiting room's concrete floor detracts from the spacious grandeur while creating a parking garage image. Entrances to the men's room and restaurant have been altered, covering historic fabric. The dirty condition of all surfaces is a general problem.

Most of these changes are minor and fortunately reversible. The basic integrity of the space has not altered. Suspended ceilings were not installed, and escalators were never punched in the floor to upset the harmony of the historic design.

Recommendations: The waiting room is the most important space in the passenger building because its architectural qualities and its basically good state of preservation. The public associations and the fact it has remained in use for its original designed function also make it significant. The waiting room warrants special respect and sensitive consideration in the plans for the revitalization of the station. The potential of a historically unique, yet up-to-date and efficient waiting room, is tremendous.

The waiting room visual disorganization can be changed by reevaluating circulation patterns and by the removal of the various accretions. Lockers, telephones and vending machines should be accommodated nearby in special rooms. A uniform signage system should be employed for the whole station. Signs should

be appropriately designed, surface-mounted panels, not hanging pieces of plastic. Information should be clearly expressed without falsely historic images. A centrally located arrival and departure board should in installed which describes all the transportation facilities available at the station, including local buses and taxi services.

It is recommended that the historic features be conserved and reintegrated into the space. The oak wainscot, ticket office, information booth and ceiling beams should be carefully stripped of paint to reveal their sharp details and plaster coffers should be maintained. The granite fireplace should be cleaned by nonabrasive methods to reestablish its prominent position in the design. The cast iron columns should be cleaned by low-pressure blasting (60- 80 psi) with glass beads or fine grit. Windows should be stripped of paint and reglazed to increase the light level. The fluorescent lights should be removed, and a more appropriate lighting system installed. As part of the new electrical system, the wall-mounted conduit and miscellaneous piping should be taken down. A new floor with appropriate pavers would enhance the ensemble.

Lastly, because of the waiting room's significance, it is suggested that its overall finish scheme be thoughtfully considered. It is proposed that the natural wood finishes and warm, earth-color painted surfaces be restored as they existed in 1902.

*[**2018 Update:** It appears that the recommendations for the waiting room were generally carried out in the subsequent renovation. The entire space was restored, including the ceiling, oak wainscot, fireplaces, and cast-iron columns. Non-historic additions to the room were removed, and a new faux-stone floor was installed.]*

Ticket Office

Historic Fabric: The ticket office was built along the waiting room west wall between the plaza doors. The ticket office is defined on three sides by a 15-foot high wood partition composed of fielded panels whose design matches those of the waiting room wainscot, which date from 1902.

Figure 11: 1981 photograph of ticket office (HAER PA-85-11).

The partition is divided vertically into three parts. The lowest has tall panels and a baseboard. The middle has large, glazed one-over-one light ticket windows alternating with a set of three panels, At the top are small slightly rectangular panels over large square panels that perhaps were glazed originally. There is no crowning cornice.

The east side of the partition has nine ticket windows, while the north and south have three and two, respectively. Access to the interior of the office is provided from a door in the southwest corner. The office apparently had no internal partitions, since the work stations are defined by the furniture.

State of Preservation: Over the years various accretions have been accrued to the ticket office partition. Among the array of incongruent features are down lights, bulletin and schedule boards, telephones, and miscellaneous signs. Most of the ticket windows have been blocked in and all the originally natural finished wood has been painted. Fortunately, none of the above interventions have altered the partition in such a way as to be irreversible.

Recommendations: It is suggested that this important artifact be restored. The removal of the accretions would enhance not only the experience of buying a ticket, but the whole ambience of the waiting room.

*[**2018 Update:** The ticket office was reconfigured during the mid-1980s renovation, possibly using some original wood members, to recreate a historic appearance in keeping with the overall appearance of the*

waiting room. The overall height, and number and appearance of the windows and some wood panels were altered in the recreation. The feature is currently utilized by Amtrak Police.]

Passenger Bridge (Concourse)

Historic Fabric: The passenger bridge, also called the concourse, was built perpendicular to the passenger building into the structure of the train sheds and over the track beds. The original 189 x 40 foot section dates from 1902; in 1929 a 32 foot extension was added at the east end. Both the original and addition were treated in an architecturally similar manner.

The bridge is open on the interior, except down the center where four low partitions support columns, which in turn support the roof. The floor is concrete.

The walls of the bridge have a wood tongue-and-groove wainscot. The upper walls have metal Doric pilasters alternating with large one-over-one light double hung windows. The walls are crowned by a metal denticulated entablature. Over each of the 10 doorways, and below the entablature, are rectangular metal panels. The doors themselves were originally wood paneled with glass light that slid open from the center. The design of the upper walls matches the coffered metal ceiling.

All metal work is light-gauge steel sheets interlocked and nailed to furring strips and the structural members. At the turn of the century, such "paneled iron" or "stamped steel ceilings and walls", as they were called, were available from many manufacturers as a catalogue item. Moldings and decorative patterns were impressed into sheets which were already cut to standard sizes. The term "tin ceiling" which is used today to describe such a system, was not commonly used in the past.

Benches in three different styles sit on the passenger bridge. Two of these, perhaps dating from 1897 and 1904, are free standing and have distinguishing characteristics such as turned legs and fluted woodwork. The third bench style, dating from a more recent remodeling, is an unadorned wall-mounted type.
The exterior of the passenger bridge has pressed metal above the structural girder similar to that on the interior. The girder is unsheathed as originally designed. Notable only on the extension is the metal acroteria.

Decorative wrought iron and steel staircases lead down to the platforms from the original part of the bridge. Less elaborate steps were constructed at the extension.
The roof of the extension is a flat design, composed of layers of tar paper set in bituminous mastic without gravel. The original section of the passenger bridge roof is unknown. Early drawings show a shallow-pitched design with metal roof ventilators crested on the ridge.

State of Preservation: The concourse is a well-preserved space; only a few interventions have been made which have changed the original intentions.

The extension has been partitioned off from the rest of the bridge to create a storage room. The wainscot, originally with a natural finish, has been painted. Many window panes have been removed and boarded over or painted, which makes the space dark. The cast iron newels of the stairways have been replaced by pipes in some locations. The east set of stairs are closed because of the severe deterioration of the treads. The benches have only minor nicks and scratches, although some have been painted. The doors that led to the stairways have been replaced by an aluminum vestibule.

Figure 12: 1981 photograph of passenger bridge/concourse (HAER PA-85-16).

The beautiful pressed metal is in the worst condition of any details. On the exterior, the paint is peeling, and the surfaces are grimy. There are a few areas where sheets are not attached. On the interior, all surfaces were painted last spring after first removing the old paint layers. Insensitively, this removal process involved the hammering of the metal work to loosen the old layers, which has seriously dented the surfaces. The beating of the once smooth panels and profiled moldings has destroyed its original character.

Recommendations: Aside from the waiting room, the passenger bridge is the second most important space in the building. It deserves special consideration in the revitalization plans for the station. It is suggested that all the historic fabric be retained and returned to its original condition, including removal of the partition between the extension and the original bridge, refinishing the wainscot, installing new window panes, repairing the stairways, and removing aluminum vestibules to install appropriate wood doors. Special attention should be given to the architectural metal work. Creative solutions, perhaps drawing inspiration from automobile body repair, must be developed to assure the preservation of the metal work.

*[**2018 Update:** It appears that some of the 1981 recommendations outlined for the concourse/passenger bridge were undertaken. The metalwork, including the coffered ceiling, was refinished, and appropriate wood vestibules were installed to replace the aluminum vestibules. The partition between the original concourse and the extension was not removed.]*

Passenger Building Second Floor

Historic Fabric: The opening-day description includes the following account:

> "On the Second Floor are the offices, which are reached by an easy flight of stairs from the front. There is also a shaft for an elevator, which will be introduced later on. A wide corridor separates the offices into east and west departments. At the end of the corridor, overlooking the Cumberland Valley railroad depot and the tracks through South Harrisburg, is the office of Superintendent McClellan, a quite luxurious apartment. It is richly furnished and exceedingly comfortable. A door leads to the piazza, which is seen in the engraving. Adjoining the superintendent's office is that of the train master. Then come in order on the west side of the examination rooms and assistant engineer's corner, on the east side, at the extreme eastern corner, is the superintendent's general office, a large, airy apartment. Next in order are the rooms for the ticket receiver, conductors, supervisor, train runner and telegraph offices. Each of the offices are divided by ground-glass partitions, making the rooms light and comfortable. A large room at the north end is fitted up for railroad telegraph purposes and here Mr. A. R. Kiefer is in charge. There are also on this floor many closets and other conveniences."

State of Preservation: The second floor, within the historic section of the building, has been closed and unoccupied due to code violations. Basically, that section has remained unchanged since 1887. The most obvious additions to the spaces are the subsequent office partitions. Peeling paint, loose plaster, litter and abandoned furniture from the last occupants describe the typical conditions.

The open wood staircase survives with its worn treads, carved hand rail, turned balusters, and newels with sphere finials at each landing. Surfaces have been painted and some finials are missing. U-shaped in plan, the staircase surrounds an enclosed hydraulic elevator from the York-Gregg Elevator Company, York, Pennsylvania (model no. 1500). The elevator, designed for 10 passengers and installed in 1956, is inoperable.

The corridors are a spacious 14 feet high and 7.5 feet wide. Windows on both sides which at one time let in light from the adjacent offices, are painted. They pivoted open with the use of brass rods. No original lighting fixtures exist; they were either hung from the ceiling or wall mounted. Many original wood doors with glazed and fielded panels still open into the offices. The doors, originally finished naturally have been painted, as have their glazed movable transoms.

Architecturally the offices were simply treated. There were no lavish decorations embellishing these purely functional spaces. Walls are plaster on wood lath with a wood base and chair roll. Projecting corners are protected by turned wood guards. The walls have no cornices, Original chases for heating piping and electrical systems can be seen in the exterior walls. Surface-mounted conduit is also exposed on many wall surfaces.

Figure 13: 1981 photograph of a typical second floor office (HAER PA-85-23).

The offices wood floors may have been varnished, although linoleum was available as a durable alternative. No original lighting fixtures were discovered in the offices. Porcelain enamel sinks are still in place.

A men's toilet room, near the staircase, has existed since 1887. At that time few women worked for the railroad, so the men's room was the only facility on the second floor. When the north addition was built in 1910, the toilet room was cut down to provide for an access corridor. A single flight of stairs, similar to the main staircase, leads to the third floor.

Recommendations: The second floor should be upgraded to modern code requirements utilizing the existing historic fabric, if possible. Corridor and office ceiling heights should be maintained. The non-historic partitions should be removed. New partitions should not be permanently mounted, New electrical wiring such as the recently developed flat conductor cable system might be inexpensively installed without damage to historic fabric. Such a system can be face-mounted under carpeting, which is not an inappropriate floor covering.

It is recommended that "modernizations" involving exposure of brick that was never meant to be seen be avoided, Future tenants can be offered unique spaces through creative designs that do not involved a total gutting of the second floor.

*[**2018 Update:** The offices of the second floor were extensively remodeled in the 1980s renovation. Some original fabric, including doors and transoms, were retained.]*

THIS PAGE INTENTIONALLY LEFT BLANK

1.2: SUMMARY OF PREVIOUS STUDIES

The 1981 *Pennsylvania Railroad Station, Harrisburg, Pennsylvania, Historic Structures Report* completed by Harry Weese and Associates, LTD, et al. (1981 HSR), summarized the existing 1981 structural conditions and general condition deficiencies of historic elements throughout the station. The survey divided the passenger station into sections based on its construction chronology: 1.) Original Building, 2.) North Addition, 3.) South Addition, 4.) East Addition.

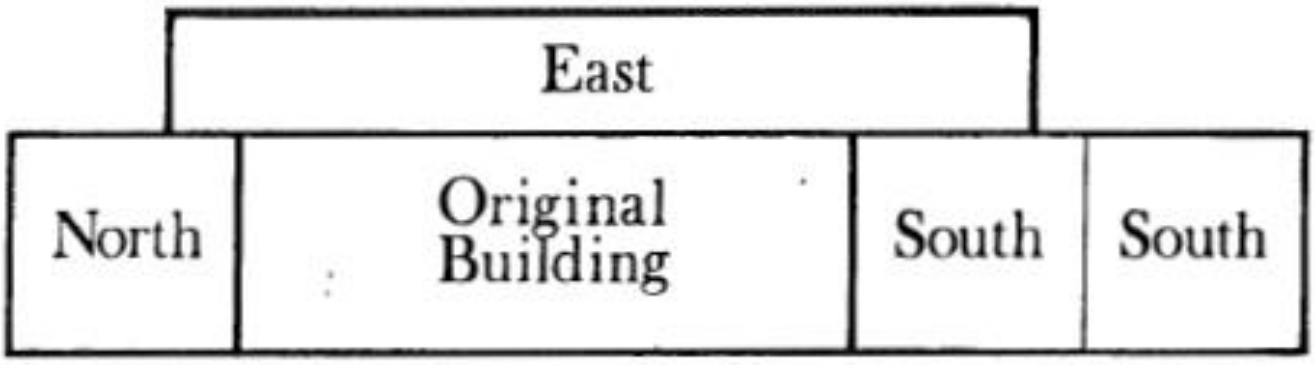


Figure 14: Diagram of the passenger building sections (H. Weese and Associates, 1981).

The report also summarized the conditions of the mechanical and electrical systems and outlined the results of a finishes analysis and a cleaning treatment analysis. The existing conditions of the train sheds, passenger bridge, and baggage bridge, were not evaluated in the report, and the results of a mortar analysis, apparently performed, were not included in the report.

1.2.1: Passenger Station Structural Analysis

In the Original Building section, the 1981 evaluation noted extensive deterioration of structural components supporting a portion of the sidewalk adjacent to the lobby (including wood decking and framing, brick arches between steel beams, and concrete deck over steel beams) due to penetration of salts and water from the sidewalk above. It was noted that “Many of the steel members in this area will have to be replaced or reinforced by the addition new members. Water penetration must be eliminated to prevent deterioration of any old or new structural members in this area” and that “Other areas of the lobby floor framed by steel with brick arches are in much better condition and present no major problems.”

The evaluation also noted damage at roof and dormer locations where water penetration was evident and noted that “proper façade repairs” could eliminate the leaks which had caused the damage. The report noted that all other structural elements in the Original Building section were in good condition.

The evaluation of the North Addition noted deterioration to the bases of the columns supporting the canopy roof at the exterior of the north elevation, and recommended repair and/or rebuilding. It also noted that the steel framed floor system in this area, consisting of wood decking with an asphalt wearing surface spanning small beams, bearing on masonry at one end and steel columns on the other, were "in an advanced state of deterioration and are almost ineffective structurally." It also noted rotted and missing wood decking, as well as corrosion of the supporting columns and their concrete piers.
It was recommended that temporary supports be erected at the northeast corner of the building to rectify the deficient structural support in that location, and that the canopy floor in that location be made inaccessible until further repairs could be made. It stated that:

> "In conjunction with this problem, the bridge connecting the north elevation to adjacent unoccupied brick buildings is of immediate concern. Several of the bridge columns and bases are severely deteriorated. At least one column base has lost the ability to resist lateral forces. Therefore, the possibility exists for this structure to become unstable under wind loading and collapse. This structure should be removed or provided with adequate temporary bracing until a more permanent solution can be implemented."

The condition of the South Addition, the latest constructed, was noted as "relatively good." Minor spalling of concrete members was noted, and repair was recommended. It was noted that the exterior brick was in need of repointing and other minor repairs, particularly in the location of the concrete bus canopy "where bricks were removed and broken to construct the canopy."

In the East Addition, it was noted that "various steel columns" in the floor structure "in this section present some structural concern." Damage to the columns due to "impact from the equipment at the track level" was noted, and repair was recommended, in addition to the cleaning and repainting of all columns, as well as the repair or replacement of rotted and otherwise damaged wood soffits.

1.2.2: Mechanical and Electrical Systems

The 1981 HSR recommended a complete replacement of all interior mechanical systems in order to "provide an interior environment which is conducive to health, safety, and comfort for those using or working at this facility." The assessment was based on the "age of the heating equipment and piping systems" as well as "the reliance of the station on natural ventilation for air circulation and summer cooling" as well as the "absence of adequate fire protection systems" and "the presence of galvanized water piping and interior drainage systems of unknown age."

The evaluation of the electrical systems noted that many of the devices in the system were found to be inoperable. Emergency lighting and power systems were found to be incomplete, in violation of the Pennsylvania Fire and Panic Code. It was noted that "The system is completely beyond restoration" and that "Most of the distribution system does not conform to the current National Electrical Code and state safety requirements."

1.2.3: Paint and Finishes Analysis

The 1981 HSR included a “paint and color analysis” completed by Historic Paint Consultant Frank S. Walsh, in which “Small representative samples were removed for microscopic inspection to determine the color, type, gloss and/or kind of period architectural surface coating.” Both the interior and exterior finishes were investigated, with a concentration on color matching with the Munsell Color System to the 1885 through 1904 finishes, with the intent that “This evidence may be used to assist in the preparation of a paint-color schedule for the restoration/preservation of these 19th- and 20th-century finishes.” Chemical composition was not analyzed, and pigments were not identified in the study.

The analysis concluded by stating that “the choice of restoration colors and finishes will not be an easy one because there are many features from different periods standing side by side.” Use of the c. 1902 period colors for the station interior and exterior and the use of “c. 1896” colors for the trainshed was recommended as a potential option.

1.2.4: Cleaning Treatment Analysis

Chemical cleaning tests were undertaken in four locations on May 12, 1981. The testing was carried out by Mr. Dave Boyer of Pro So Co Inc., South Plainfield, New Jersey and Messrs. Tom Lahoski, Ed Rusnock, and Frank Jan of Clean America, Allentown Pennsylvania, and observed by Mr. Alan Walmer, architect of the Pennsylvania Office of Historic Preservation. Two exterior and two interior locations, representing a variety of conditions, were tested.

Location 1 consisted of exterior brown sandstone on the east elevation at track-side under the passenger bridge, chosen because it represented the most extreme soiling condition. The test cleaning with a variety of chemical solutions resulted in the recommendation that “if the station is cleaned, the brown sandstone can be safely and efficiently cleaned by a hydroflouric acid solution.”

Location 2 consisted of painted brick and rock-faced brownstone at the exterior east wall of the 1887 section of the passenger station, to the right of the north doorway on the side near the passenger bridge. Test cleaning with several proprietary paint strippers and chemical cleaning solutions resulted in the recommendation that “chemical stripping products (both benzine and nonbenzine) can be effectively used, with little damage to historic fabric.”

Location 3 corresponded to the polished granite fireplace on the main floor in the north section of the lobby. Following cleaning tests utilizing a “nonabrasive poultice composed of specially blended fuller’s earth with wetting agents,” it was recommended that “the granite be cleaned first by ‘dusting’ with soft cloths, then water washed to remove surface soiling, and then the application of a poultice.”

Location 4 consisted of areas of painted oak wainscot and brick upper wall located in the lobby between the two north entrance doors from the plaza. Following testing using chemical strippers and cleaning

solutions, it was recommended that “If paint is to be removed from the waiting room's oak wainscot, benzine and non-benzine type strippers are both appropriate materials.”

PART II: POST-1981 ALTERATIONS

2.2: 1982-1986 RENOVATION

Following the completion of the 1981 HSR, Harrisburg Station underwent a multimillion-dollar renovation, completed between 1982 and 1986. Utilizing funds secured by Amtrak and the Harrisburg Redevelopment Authority from the U.S. Urban Mass Transit Administration (today the Federal Transit Administration), the Pennsylvania Department of Transportation, the Pennsylvania Department of Community Affairs, and the Pennsylvania Historical and Museum Commission in 1981, the $13.4 million restoration was undertaken in four phases.

The exterior work consisted of cleaning and repointing the masonry; repairing the roof, including the removal of non-original ventilating monitors; as well as the repair and restoration of terracotta and brass ornaments. The work also included the replacement of broken window glazing, repairs to window frames, and the replacement in-kind of some full window units. The bus viaduct at the south end of the building, constructed in 1941, was removed, including the flat canopy over the south end of the plaza, with the historic wood canopy replicated in its place.

The interior work consisted of restoring the natural finish to the oak wainscoting, window sashes, and ceiling beams in the lobby, and fabricating new oak millwork to match the original in sections where it had been previously removed. The fireplaces were cleaned, polished, and their mantles were repaired. Repairs were made to the cast iron columns, and reproduction chandeliers were installed. The marble floor with Greek key design was installed in the lobby.

The train sheds were restored. The work included roof replacement and rebuilding, including replacement in-kind where necessary to columns and trusses which were also cleaned and painted.

2.3: SUBSEQUENT ALTERATIONS

Alterations to the station following the 1980s program have generally involved modifications to interior functions and exterior upgrades. A restaurant and kitchen, as well as a snack bar constructed in the main waiting area during the 1980s renovation have been removed. These features were replaced by the observation room and current news stand.

Additional renovations were undertaken in 2007. These included the construction of the roadway at the front of the station as well as the existing flowerbeds and flagpoles. The fire systems were upgraded, and repairs were made to the station’s roofing, plumbing, and air handling units. Repairs were also made to some of the station’s interior finishes, including oak panels, ceilings, and partition walls.

In early 2018, the ca. 1937 baggage bridge, which was condemned ca. 2013, was demolished. The bridge had been in poor condition for some time, with the 1981 HSR describing its condition as follows:

> "The majority of the main structural members are between 80 and 95 years old and have not been even marginally maintained. Although there is considerable evidence of previous repairs to the columns and metal truss members, there has obviously been no routine maintenance program for a long period of time. It is most unfortunate that the roof was allowed to deteriorate completely and expose the members to the elements."

Figure 15: 1981 photograph showing the passenger bridge and elevators (HAER PA-85-30).

PART III: EXISTING CONDITIONS AND RECOMMENDATIONS

3.1: GENERAL CONDITIONS

The building has remained in generally good condition following the 1982-1986 renovation and subsequent alterations but is in need of repairs and upgrades in certain key areas. In general, upgrades are needed in order to increase the use of underutilized spaces within the existing station and to provide improved ADA accessibility, as well as to enhance customer amenities and improve security and safety.

While the majority of the building's fabric is in fair to good condition, several areas requiring intervention have been identified. The conditions of those areas are as follows:

3.1.1: Exterior Condition Description

Station Roofs

The station roofs are composed of a combination of materials. These include slate shingles on the dormers and front side of the gambrel roof, asphalt shingles on the other faces of the gambrel roof and the first-story canopy, rolled modified bitumen on the flat roofs of the north and south additions, and standing seam metal panels and skylights on the section adjoining the station building with the train sheds. These roofing materials and associated skylights have reached the end of their serviceable life and as a result, have allowed water infiltration in some areas of the station. The majority of the water infiltration issues are a result of the station's poorly pitched and incorrectly flashed gutter system. This is particularly evident at the juncture of the train shed and station roofs.

Windows

The existing windows are glazed with single pane glass, limiting thermal efficiency. Additionally, the exterior wood window sills and decorative trim have significantly deteriorated due to weathering and general wear and tear and are in need of repair and/or replacement.

Awnings

The fabric awnings covering the windows at the second story level and on the dormers, installed in the 1980s to mimic the appearance of earlier historic canvas awnings, are nearing the end of their serviceable life. The awnings have visually deteriorated as a result of sustained ultraviolet fading and general wear and tear and are in need of repair and/or replacement.

Masonry

The building's exterior masonry is in generally good condition. No major damage or signs of deterioration have been observed, however, cleaning and repointing is required to maintain the building's appearance and the sound condition of the envelope.

Train Sheds

The train sheds were not specifically surveyed for condition in association with this HSR, however, they appear to be in sound condition following the 1980s renovation and subsequent history.

3.1.2: Exterior Photographs

Photograph 1: View of the passenger station and train sheds, looking southeast.

Photograph 2: View of train sheds, looking northwest.

Photograph 3: View of landscaping and drive to passenger station, looking west.

Photograph 4: View of plaza at front of passenger station, looking south.

Photograph 5: View of passenger station with 1937 south addition in the foreground, looking northeast.

Photograph 6: View of passenger station's south elevation, looking north.

Photograph 7: View of passenger station and viaduct, looking northeast.

Photograph 8: View of passenger station, looking southeast.

Photograph 9: Detail of passenger station facade, showing upper story windows and dormers, looking east. Note the terra cotta dentil molding details.

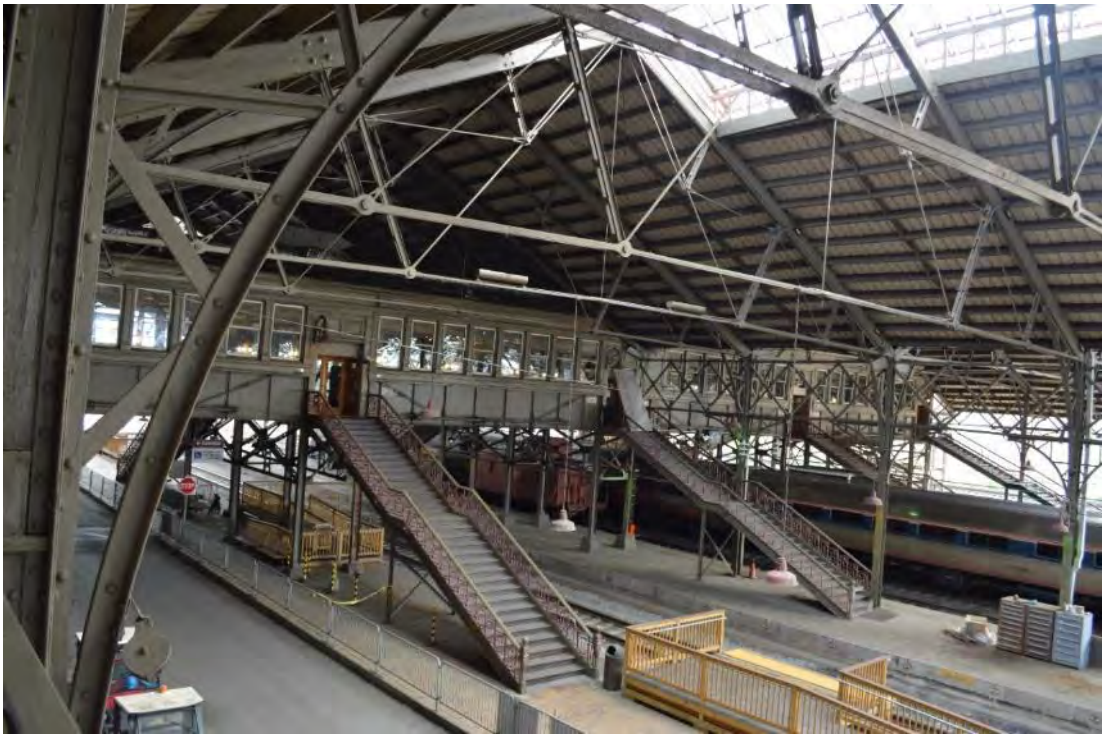
Photograph 10: Detail of passenger station facade showing first story windows and canopy support brackets, looking north-northeast. Note the brownstone watertable.

Photograph 11: View of the north facade of the passenger station, showing the current bus terminal, looking south.

Photograph 12: Detail view of the north facade of the passenger station, showing the train shed trusses and the station canopy, looking south.

Photograph 13: Detail view of train sheds, looking east.

Photograph 14: View of the south facade of the passenger station at track level, looking east.



Photograph 15: Exterior view of passenger bridge, looking northeast.

Photograph 16: View of former location of baggage bridge, demolished 2018, looking east.

Photograph 17: Detail view of passenger bridge stair, looking northeast.

3.1.3: Interior Condition Description

Main Waiting Area

The main waiting area is in good overall condition, as upkeep and maintenance following the 1980s renovation has been consistent and sufficient. This area contains well-maintained character defining features, including the coffered ceilings, fireplaces, and the reproduction mosaic floor dating to the 1980s restoration. Additional features dating to the 1980s restoration include the Amtrak Police Station, which constitutes a recreation of the station's 1902 ticket office which had been substantially altered prior to the restoration; the oak doors and sidelights set into the original 1887 openings in the masonry wall between the waiting area and the concourse; and the wainscoting, bulkheads, and windows creating the storefront of the Transit News shop.

Passenger Bridge/Concourse

The passenger bridge/concourse is in good overall condition, as upkeep and maintenance following the 1980s renovation has been consistent and sufficient. This area contains well-maintained character defining features, including the coffered ceilings, central partition, and wood benches. The vestibules leading to the track stairs date to the 1980s renovation and were designed to harmonize with the original features in the building.

Observation Room

The observation room is in generally good condition with the exception of a leaking roof and insufficient HVAC system. Features in this room, including carpeting and glass curtain walls generally date to the 1980s restoration.

Second and Third Floor Access Pavilions

The second and third floors are accessed by an elevator and two stair towers. Features and finishes of these spaces are in good condition and generally date to the 1980s, however, existing egress hardware at the stair towers are not code compliant.

Second and Third Floor Offices

The second and third floor offices spaces are in generally good condition. While the general layout of the spaces dates to the period of significance and is associated with use by the Pennsylvania Railroad, the finishes generally date to the 1980s renovation.

Rail Operations Control Room and Power Director's Room

The Rail Operations Control Room and Power Director's Room, dating to the late 1930s, with equipment dating generally to the mid-20th century, are in generally good condition. The existing equipment has been maintained in the approximately 10 years following its abandonment c. 2005. The rooms' layout and finishes have been largely unchanged since the 1960s.

3.1.4: Interior Photographs

Photograph 18: View of the main waiting room showing the Amtrak Police Office (former ticket office), looking north-northwest.

Photograph 19: View of the main waiting room, looking southeast.

Photograph 20: View of main waiting area, looking northeast.

Photograph 21: Detail of main waiting room doors between waiting room and concourse, looking east.

Photograph 22: Detail of main waiting room windows between main waiting room and concourse, looking east.

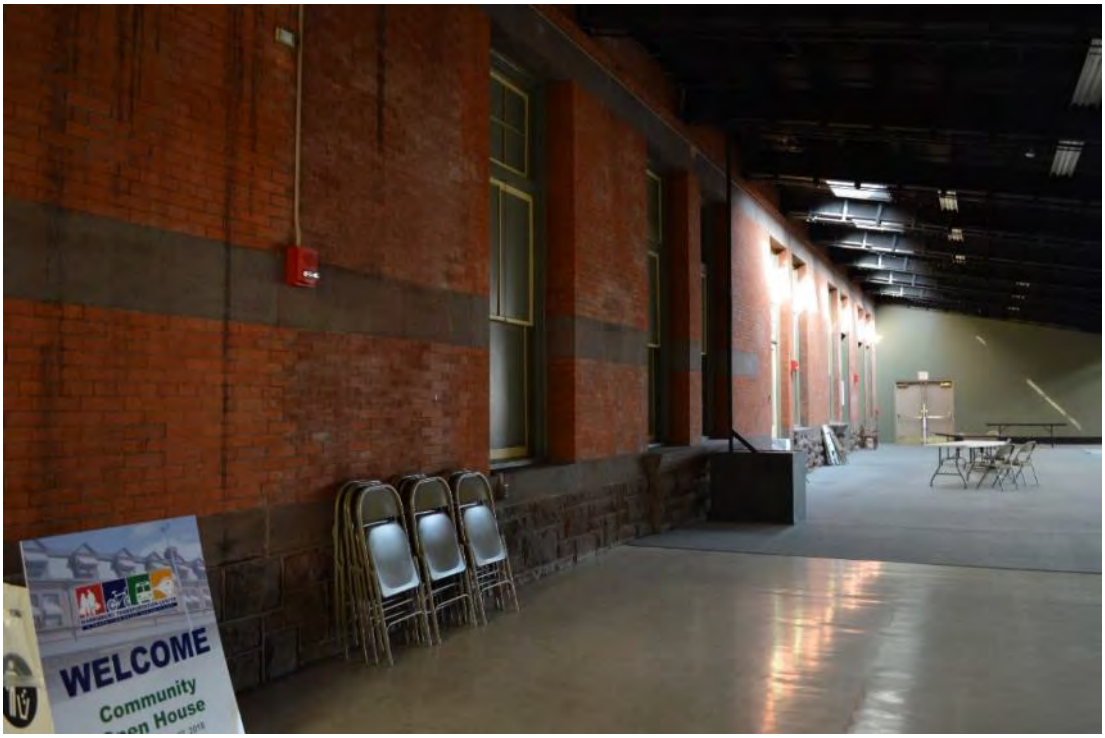
Photograph 23: View of news stand in main waiting room, looking north.

Photograph 24: Detail of interior vestibule in main waiting room, looking southwest.

Photograph 25: View of main waiting rooms, showing pay phones and north stair hall, looking northwest.

Photograph 26: View of main waiting area, looking north.

Photograph 27: Fireplace detail, looking north.



Photograph 28: View of observation room, showing a historic rear wall of the passenger station, looking northwest.

Photograph 29: View of observation room, looking south.

Photograph 30: View of wall between concourse and waiting room, looking southwest.

Photograph 31: View of wall between concourse and waiting room, looking northeast.

Photograph 32: View of hall between waiting room and concourse, looking north.

Photograph 33: View of hall between waiting area and concourse, showing skylights, looking north.

Photograph 34: View of passenger bridge/concourse, looking west.

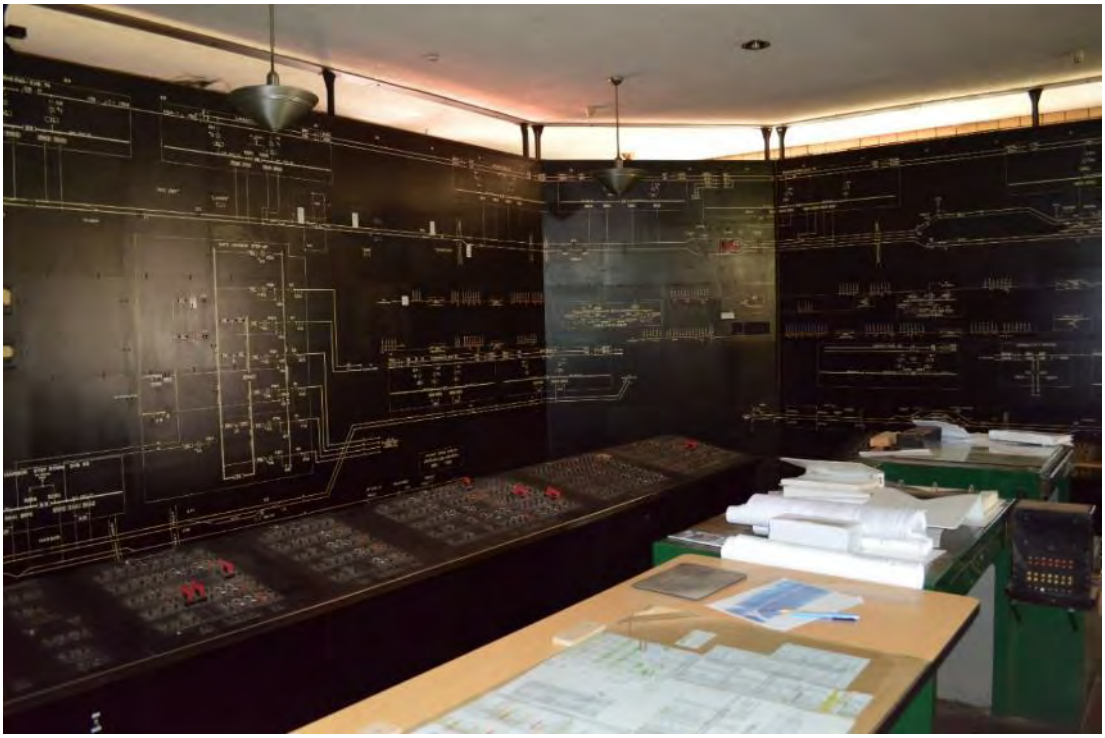
Photograph 35: View of vestibule to stairway to track level, looking southwest.

Photograph 36: View of concourse partition wall, looking northwest.

Photograph 37: View of concourse, looking east.

Photograph 38: View of free standing benches in concourse, looking northwest.

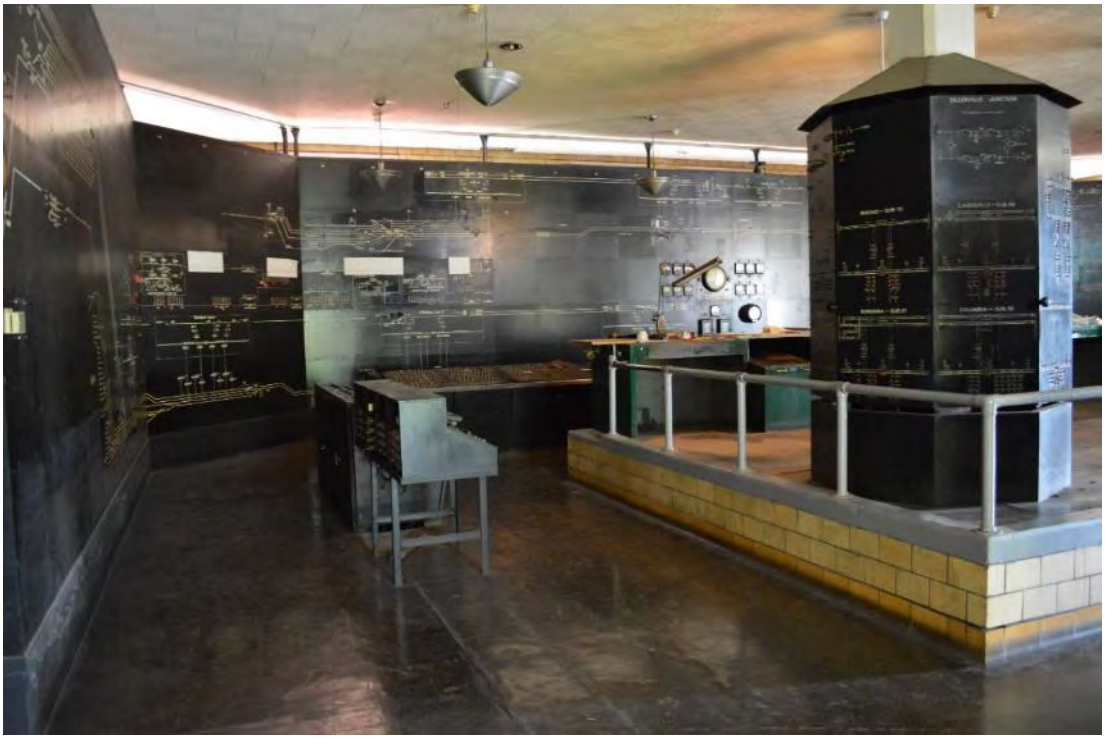
Photograph 39: View of interlocking equipment, first floor of the 1937 addition, looking northeast.



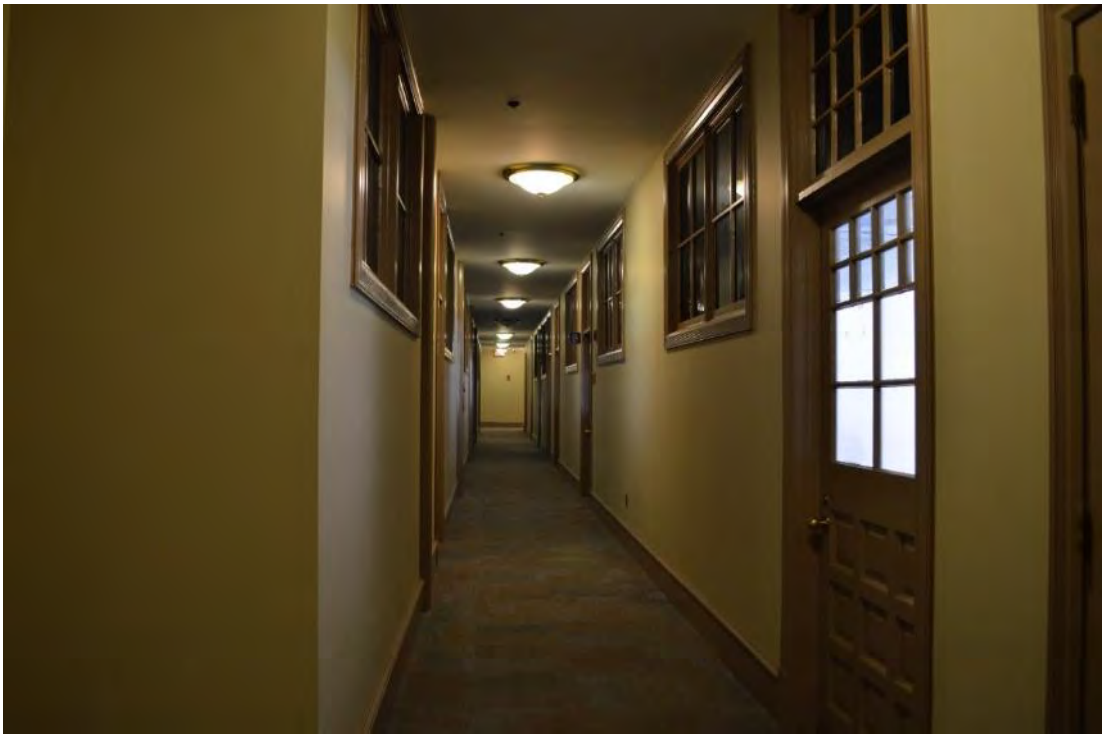
Photograph 40: View of Power Director's Room, second floor of passenger station, looking east.

Photograph 41: View of Power Director's Room, second floor of passenger station, looking northeast.

Photograph 42: View of Power Director's Room, second floor of passenger station, looking northwest.



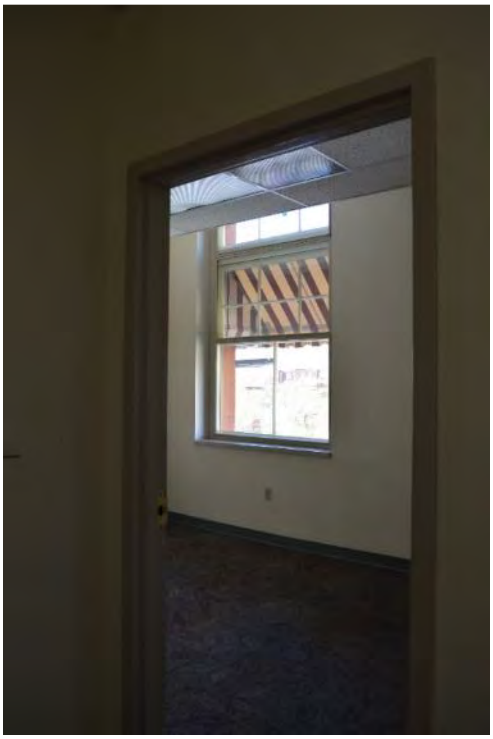
Photograph 43: View of Power Director's Room, second floor of passenger station, looking north.



Photograph 44: View of second floor corridor, looking north.

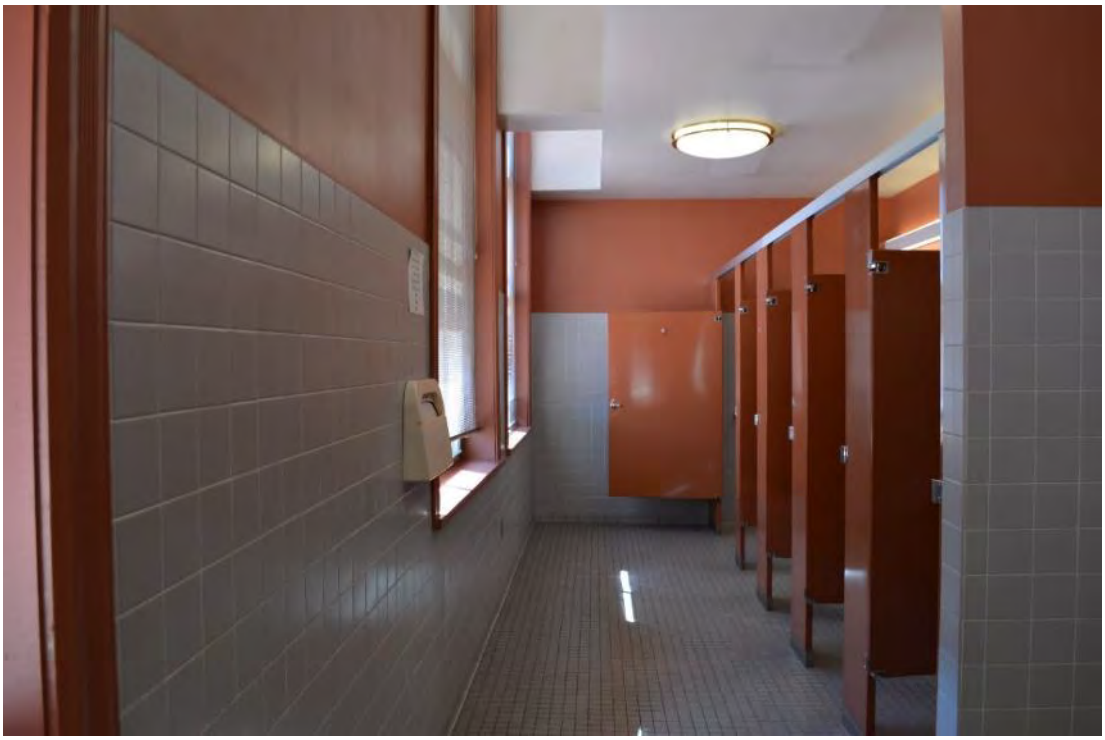
Photograph 45: View of a second-floor office, looking north.

Photograph 46: View of a second-floor office, looking north.

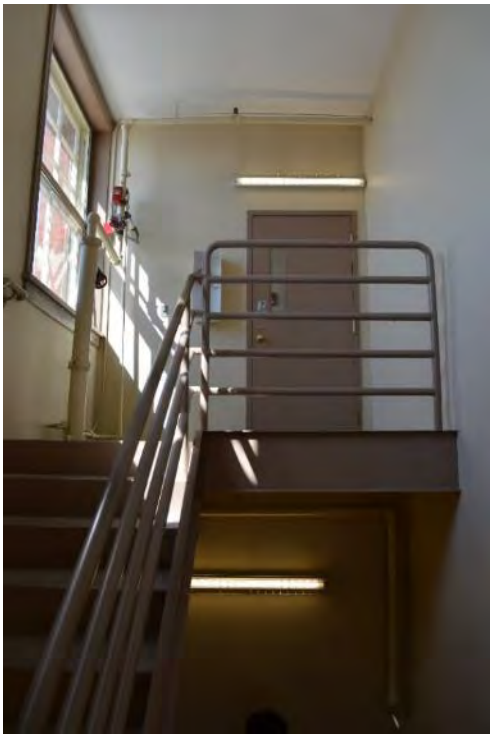


Photograph 47: View of a second-floor office, looking west.

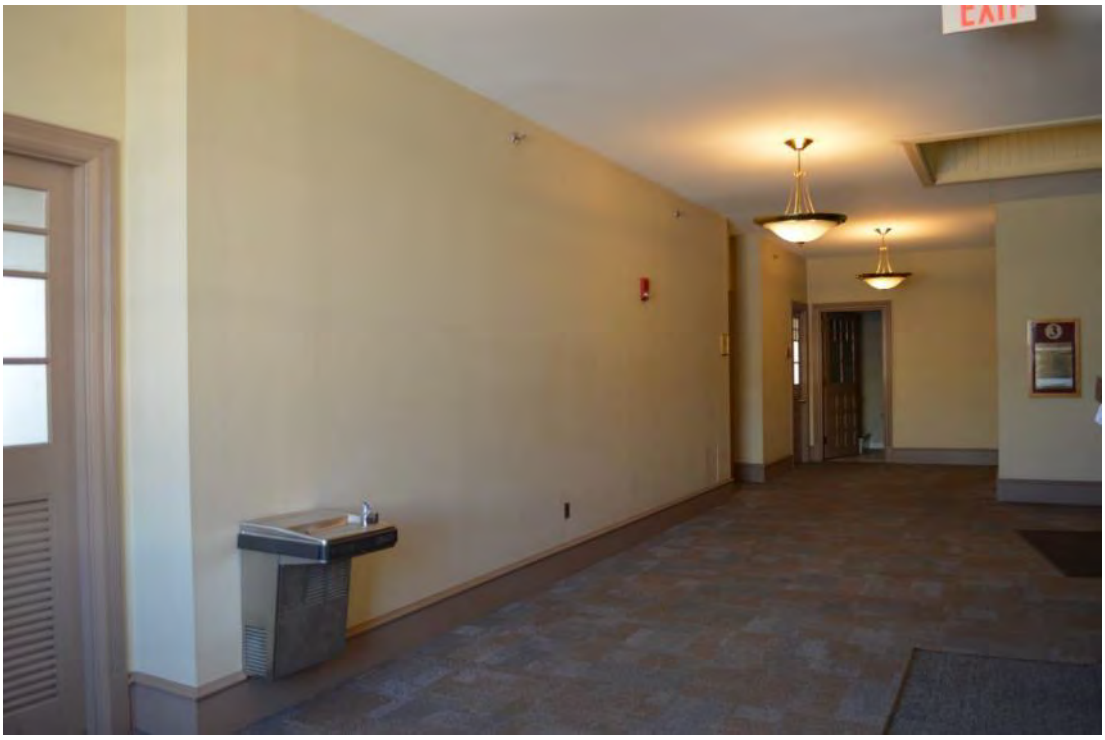
Photograph 48: View of second floor men's room, looking south.



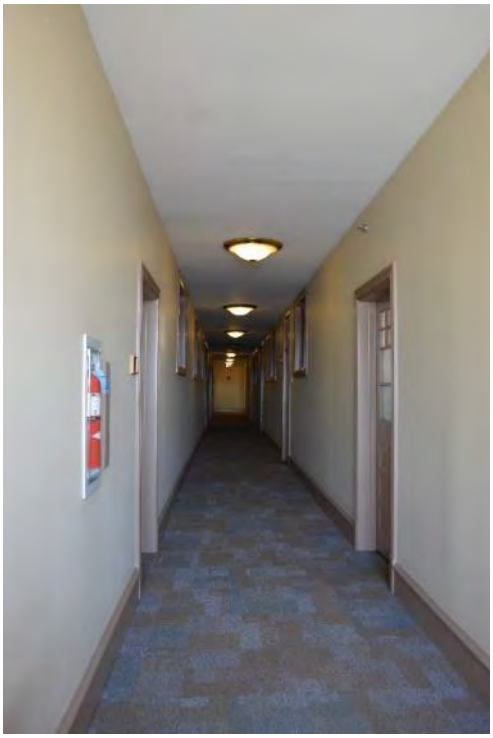
Photograph 49: View of second floor ladies' room, looking south.



Photograph 50: View of stairway between second and third floor, looking north.



Photograph 51: View of third floor corridor, looking south.



Photograph 52: View of third floor corridor, looking north.

Photograph 53: View of third floor ladies' room, looking southwest.

Photograph 54: View of third floor office, looking northwest.

Photograph 55: View of third floor office, looking northeast.

3.2: PRESERVATION RECOMMENDATIONS

3.1.2: Historic Preservation Objectives

The preservation objectives for HTC are to provide an upgraded station with improved ADA accessibility while preserving the building's historic character defining features. The building's character defining features have been identified in consultation with the Pennsylvania Historical and Museum Commission and are as follows:

Exterior:

- Brick Construction
- Horizontal Massing
- Wood Windows
- Window Awnings
- Dormers
- First-Floor Overhang
- Train Sheds

Interior:

- Fireplace
- Coffered ceiling
- Mosaic Tile Floor
- Brick Wall Between the Waiting Area and Concourse (Pedestrian Bridge)
- Partial-height Wall and Wood Benches in Concourse
- Second and Third Floor Office Space

3.2.2: Historic Preservation Requirements

The Pennsylvania Railroad: Harrisburg Station and Train Shed was listed in the National Register of Historic Places in 1975 and was designated a National Historic Landmark in 1976. As such, treatments and alterations to the property should be guided by the Secretary of the Interior's Standards for the Treatment of Historic Properties, which outlines four treatment approaches for historic properties (Preservation, Rehabilitation, Restoration and Reconstruction) and provides guidelines for each approach.

The treatment approach utilized in the 1980s program at the station appears to have been a combination of all four approaches. Original fabric in good condition was maintained or restored as appropriate, and some features (including some doors, vestibules, the terrazzo floor in the main waiting area, and the ticket counter) were reconstructed in a design mimicking that of the original fabric or newly designed to be compatible with the historic fabric which was extant throughout the building at the time of the work.

The recommended approach for treatment of the building at this time is preservation. Because the building is in generally good condition, the existing from, integrity, and materials of the original historic features as well as those dating to the 1980s work should be maintained.

The following section outlines recommended guidelines for material conservation of the above listed character defining features.

3.3: GUIDELINES FOR MATERIAL CONSERVATION: FEATURE-SPECIFIC RECOMMENDATIONS

Because the features of the station and train sheds are in generally good condition as a result of sustained maintenance of the resource following the 1980s renovation, the recommendations for material conservation are generally limited to preserving character defining features in situ. Minimal intervention is required to preserve these features.

3.3.1: Exterior Features

Station Roofs

The station roofs are composed of a combination of materials including slate shingles on the dormers and front side of the gambrel roof, asphalt shingles on the other faces of the gambrel roof and the first-story canopy, rolled modified bitumen on the flat roofs of the north and south additions, and standing seam metal panels and skylights on the section adjoining the station building with the train sheds. It is recommended that the existing roofing materials are retained and preserved, or, where condition warrants full replacement, replaced in-kind.

Windows

Harrisburg Station contains a variety of windows, of different configurations dating to different periods of the building's history. On the first story of the original section of the building, the segmentally-arched windows date to the 1902 building campaign, according to the 1981 HSR. All other windows appear to date to the 1982-1986 renovation and are in-kind replacements of the windows in place at that time, which were noted in the HSR to be "beyond repair." While double glazing was recommended at that time for thermal efficiency, the windows were replaced with single glazed reproductions in the original configurations. The historic configurations consist of six-lights over two lights within the dormers, six-over-six-over-two light windows on the second story, and a mix of segmentally-arched windows, one over-one double hung, and fixed single pane windows on the first story.

The 1981 HSR also noted that window sills and trim of the upper story windows were found to be in poor condition due to weathering and deferred maintenance. It is therefore apparent that the current sills and trim date to the 1980s renovations.

It is recommended that the first story windows, which largely date to 1902, be conserved in situ and remain unaltered. Ongoing maintenance to keep the windows operational and in good condition, including periodic cleaning, painting, and minor repairs should continue. Replacement in-kind of 1980s replacement windows where needed due to condition is permissible under the Secretary of the Interior's Guidelines for Rehabilitation, however, special attention should be given to maintaining the scale, proportion, materials, and configuration of the historic windows, including the proportions and profile of the muntins.

Window Awnings

The window awnings present on the upper story windows date to the 1980s renovation campaign and were installed based on historic images of the station in earlier periods. The existing awnings should be maintained and repaired as needed. If replacement is found to be necessary due to condition, care should be taken to retain their appearance by maintaining the scale, proportion, materials, and pattern of the awnings.

Dormers

The station building's dormers are character defining features. In addition to maintaining the windows and associated trim and awnings, the overall massing and configuration of the dormers should be maintained. This includes the roof pitch, as well as the slate shingles at the front faces of the gables, below the window sills, and on the dormer cheeks.

Masonry

The brick construction of the passenger station is considered a character defining feature of the resource. The red brick of the original, 1887 portion of the façade is laid up in a common bond pattern with eight stretcher courses between each header course. The joints are thin and pointed with a brown tinted mortar, which is flush with the brickface and untooled. The brickwork on the additions (the northernmost dating to 1910, the second story addition immediately north of the original section dating to 1904, and the addition immediately south of the original section dating to 1904) generally matches that of the original work, with some variation in bond pattern in some locations. On the southernmost addition, dating to 1937, the joints are slightly wider, however, tooling and mortar color are uniform with the other building sections.

The brownstone watertable which at the base of the brick masonry consists of quarry faced ashlar laid in a random coursed pattern. The mortar matches that of the brick in color and has an extruded profile which is tooled to have a faceted appearance. Where this brownstone feature is present on the building, it was constructed to match the original construction.

It is recommended that the mortar color, tooling, and profile be maintained. Repointing mortar mixtures should be replicated to match the existing mortar for each section of the building, as bricks from different construction periods are likely to have different characteristics (particularly hardness and compressive strength) and require mortars with different properties. This is particularly important for the softer bricks used in the older sections of brick masonry.

Horizontal Massing

A major characteristic of Harrisburg Station's architecture is its long, horizontal massing, which is formed by the central, original portion of the building, and enhanced by its historic additions at the north and south

ends. In order to maintain this characteristic, additions and demolitions to the building should generally be avoided.

First Floor Overhang

The canopy which overhangs the first story at the exterior of the façade of the building and wraps to the north façade is a character defining feature. According to the analysis in the 1981 HSR:

> "Part of the historic canopy located on the west elevation of the station extends around the north elevation of this section. On this side, the support system changes from wooden arch members to steel columns with arch braces. In addition, the floor changes from concrete slab on grade to a steel framed system.
>
> The steel columns supporting the canopy roof on the north elevation are constructed of four angles riveted together with spacer plates. The base of several of these columns are badly deteriorated and will require repair and possible rebuilding. At present, the deteriorated columns appear to present no immediate danger."

The overall appearance of the canopy, its support members, and the decorative steel railing on the north side, should be maintained. Particularly important is the configuration, design, and materials of the steel trusswork and wood framing members. Alterations to these members, including the permanent addition, removal, or replacement of such members should be avoided.

Train Sheds

The train sheds at Harrisburg Station are particularly significant in the area of engineering for their structural system based on the Fink truss, which utilize both wood and steel members. The overall massing of the train sheds should be maintained, as well as the design, materials, scale, proportion, and configuration of the trusses and supporting columns.

3.3.2: Interior Features

Main Waiting Area

Fireplaces
The granite fireplaces located at each end of the feature terra cotta details and cast brass surrounds at the openings. Both fireplaces are in good condition, though they are not in operation. It is recommended that the fireplaces remain unaltered and continue to go periodic maintenance to include periodic dusting to maintain the clean appearance of the brick elements and terra cotta ornaments, as well as periodic polishing of the polished granite and brass elements.

Coffered Ceiling
The coffered ceiling in the main waiting room is a character defining features of the station building. It is recommended that this feature be maintained in situ its current condition, which is in good repair. Periodic cleaning, as well as general maintenance of the finishes in order to protect the underlaying substrate is recommended.

Mosaic Tile Floor
The mosaic tile floor in the main waiting room dates to the 1980s renovation and is considered a character defining feature of the station building. The floor is in good condition and should be maintained.

Passenger Bridge/Concourse

Wall Between the Waiting Area and Concourse
The brick wall between the waiting area and concourse/pedestrian bridge dates to the 1887 construction of the building and is the original rear wall of the station. The wall is a character defining feature and is in good condition. While the masonry construction and configuration of the segmentally-arched openings date to the building's original design, the oak doors and sidelights currently installed in the openings date to the 1980s renovation. The transoms and surrounds, however, appear to date to the building's 1902 alterations.

The appearance of the original station wall should be maintained. Particularly, the locations and proportions of the openings, the historic transoms, and the appearance of the brick and stone work, should be retained.

Partial-Height Wall and Wood Benches
The partial-height wall and wood benches in the concourse/pedestrian bridge are character defining features. According to the 1981 HSR, both the double-sided and the single-sided freestanding wood benches date to a period early in the building's history – likely 1887 or 1902. The simple, wall-mounted benches which are positioned against the tongue and groove boards of the partial-height wall are presumed to date to a later period, likely the 1930s. It is recommended that both the portion walls and the early benches be retained and maintained to keep up their current, historic appearance.

Observation Room

The majority of the finishes in the Observation Room are non-historic, with the exception of the masonry wall, which represents the historic exterior rear wall of the station. It is recommended that the materials and configuration of that wall be maintained and preserved, including the historic openings, windows, doors, and masonry.

Second and Third Floor Stair Pavilions and Office Space

The majority of the finishes in the second and third floor stair pavilions, offices, and corridors date to the 1980s and subsequent renovations, though some details, including doors and transoms, and the general layout of the partition walls date to earlier periods. It is recommended that the historic doors and transoms, and other historic woodwork in the space be maintained, or preserved ex-situ to facilitate potential reuse if future renovations to the space requires their removal.

Rail Operations Control and Power Directors Rooms

The Rail Operations Control Room and Power Directors Room are both in generally good condition. It is recommended that general maintenance of the equipment contained within these rooms, including periodic dusting, cleaning, and protection from moisture infiltration, be performed regularly to ensure the preservation of this equipment.

THIS PAGE INTENTIONALLY LEFT BLANK

SOURCES

Berman, D.M.
1975 *Pennsylvania Railroad: Harrisburg Station and Trainshed, National Register of Historic Places Nomination.* Pennsylvania Historical and Museum Commission, Harrisburg.

Bureau for Historic Preservation (BHP)
n.d. *Researcher's Guidelines for Documenting and Evaluating Railroads*. Harrisburg: Pennsylvania Historical & Museum Commission. From http://www.portal.state.pa.us/portal/server.pt/community/research_tools/20176/guidelines_for_documenting_and_evaluating_railroads/943356 (Accessed August 25, 2014).

Froio, Michael
2012 *State Interlocking.* Web: http://michaelfroio.com/blog/2012/08/02/state-interlocking. Accessed 5/25/2018.

Harry Weese and Associates, LTD.
1981 *Pennsylvania Railroad Station, Harrisburg, Pennsylvania: Historic Structures Report.* Prepared for the Harrisburg Redevelopment Authority. Harry Weese and Associates, LTD., Harrisburg.

Pennsylvania Department of Transportation
2016 *Harrisburg Train Station: Transforming an Enduring Landmark into a Modern Multimodal Transportation Center.* Harrisburg: Pennsylvania Department of Transportation. Web: http://www.planthekeystone.com/Documents/09.02.16%20-%20Booklet%20-%20History%20of%20the%20Harrisburg%20Train%20Station.pdf. Accessed 4/25/2018.

Slaton, Deborah
2005 *Preservation Brief 43: The Preparation and Use of Historic Structure Reports.* Washington, DC: National Park Service, US Department of the Interior.

Yearby, J.P., and H.F. Hambright
1987 HAER No. PA-85: Pennsylvania Railroad: Harrisburg Station and Trainshed, Market & South Fourth Streets, Harrisburg, Dauphin County, PA. Historic American Engineering Record, National Park Service, Washington, DC.

Zembala, D.M.
1981 *Pennsylvania Railroad, Harrisburg Station and Trainshed, National Historic Landmark Nomination.* Pennsylvania Historical and Museum Commission, Harrisburg.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX A

CURRENT AND HISTORIC PHOTOGRAPHIC COMPARISON

Image 1: View of northwest approach, showing existing parking lot in front of passenger station and bus staging area. (HAER 1985)

Image 2: Same view, 2017.

Image 3: View of southwest approach, showing area in front of the passenger station and relationship of parking lot under viaduct. (HAER 1985)

Image 4: Same view, 2017.

Image 5: View of front (west) elevation. (HAER 1985)

Image 6: Same view, 2017.

Image 7: View of north elevation, showing bridging connecting the station building with the Hoffman House at upper left. Note balcony which meets the front plaza level at right. (HAER 1985)

Image 8: Same view, 2017.

Image 9: View of south elevation, showing viaduct connecting to parking lot and bus staging area at plaza level over staff parking area at track level. Note corrugated metal housing of mail conveyor across building façade. (HAER 1985)

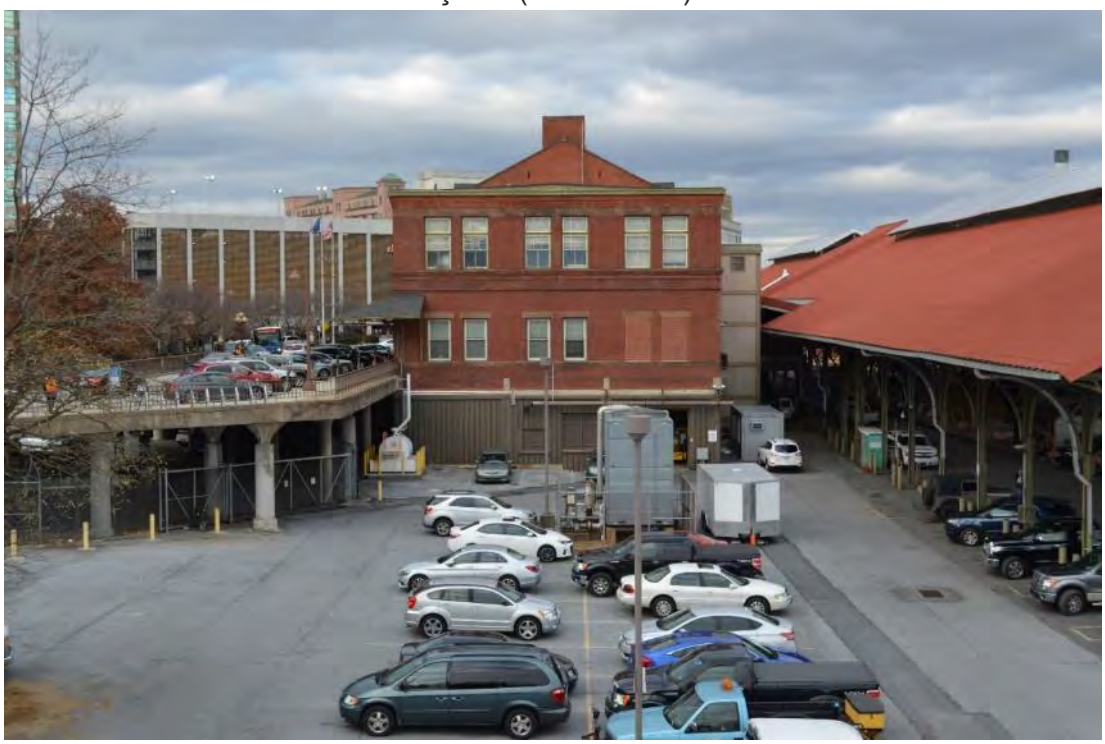


Image 10: Same view, 2017, from the Mulberry Street bridge.

Image 11: View under viaduct at south end of station building, showing staff parking area and loading dock. (HAER 1985)

Image 12: Similar view, 2017.

Image 13: View, looking southwest of main lobby, first floor, showing front entrances and ticket booth. Note wooden beam ceiling and cast-iron columns. (HAER 1985)

Image 14: Same view, 2017.

Image 15: View, looking northeast, of main lobby, first floor, showing portals to new lobby. (HAER 1985)

Image 16: Same view, 2017.

Image 17: Ticket booth elevation, main waiting room, first floor. (HAER 1985)

Image 18: Same view, 2017.

Image 19: Detail view of north wall, main waiting room, first floor. Note fireplace and luncheonette entrance. (HAER 1985)

Image 20: Same view, 2017.

Image 21: View, from northwest corner, of luncheonette floor. (HAER 1985)

Image 22: Same view, 2017.

Image 23: View of train schedule and information board, new lobby, first floor. (HAER 1985)

Image 24: Same view, 2017.

Image 25: View, from south end, of new lobby, first floor. Note exterior walls of the original section at left. (HAER 1985)

Image 26: Same view, 2017.

Image 27: View, from new lobby, of concourse, first floor. Note exits to platforms. (HAER 1985)

Image 28: Same view, 2017.

Image 29: Interior view of power directors room, second floor (this is the control center for direction of electric power for trains across the state). Note display boards. (HAER 1985)

Image 30: Overall view of power directors room, second floor. (HAER 1985)

Image 31: Interior view of power directors room, second floor, 2017.

Image 32: Interior view of power directors room, second floor, 2017.

Image 33: Overall view, from south, of Mulberry Street bridge, showing both sheds, mail conveyor connecting post office building to loading dock under west shed (right side), platform canopies and catenary system. Note State Capitol dome visible beyond station building. (HAER 1985)

Image 34: Same view, 2017.

Image 35: Oblique view of concourse (north side), plaza level, looking toward station building, showing passenger access stairs. Note typical shed column brackets. (HAER 1985)

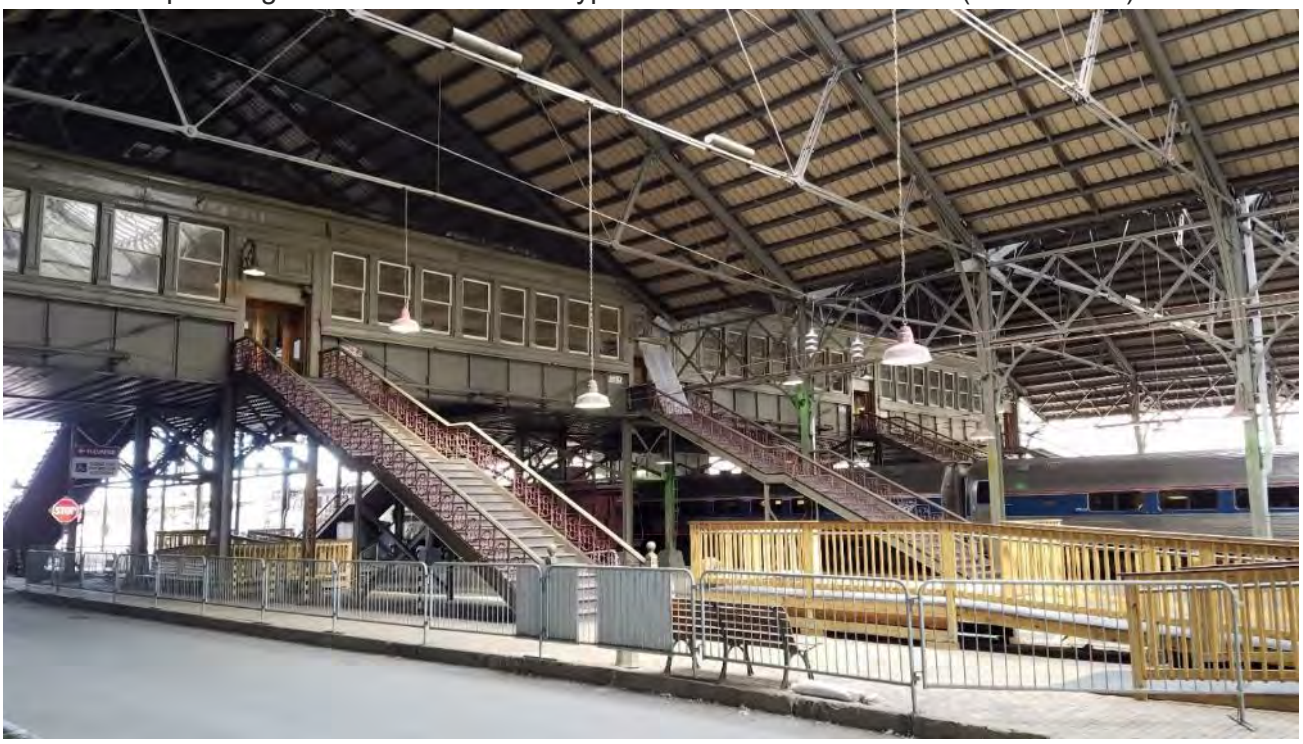


Image 36: Similar view, looking east, 2017.

Image 37: Partial view of rear (west) façade, showing masonry base and lattice columns at basement (track) level. Note acanthus keystone detail over doorway. (HAER 1985)

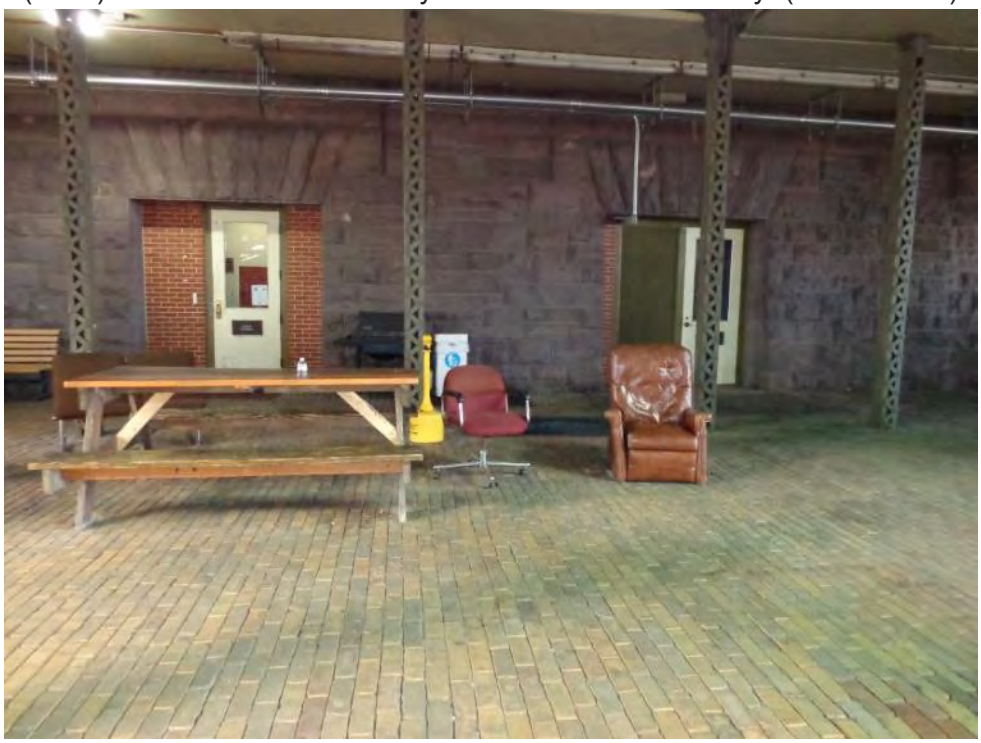


Image 38: Similar view, showing masonry base and lattice columns at the basement (track) level, 2017.

Image 39: Partial view. Looking from shed roof, of rear (east) elevation, showing second and third stories of original section. (HAER 1985)

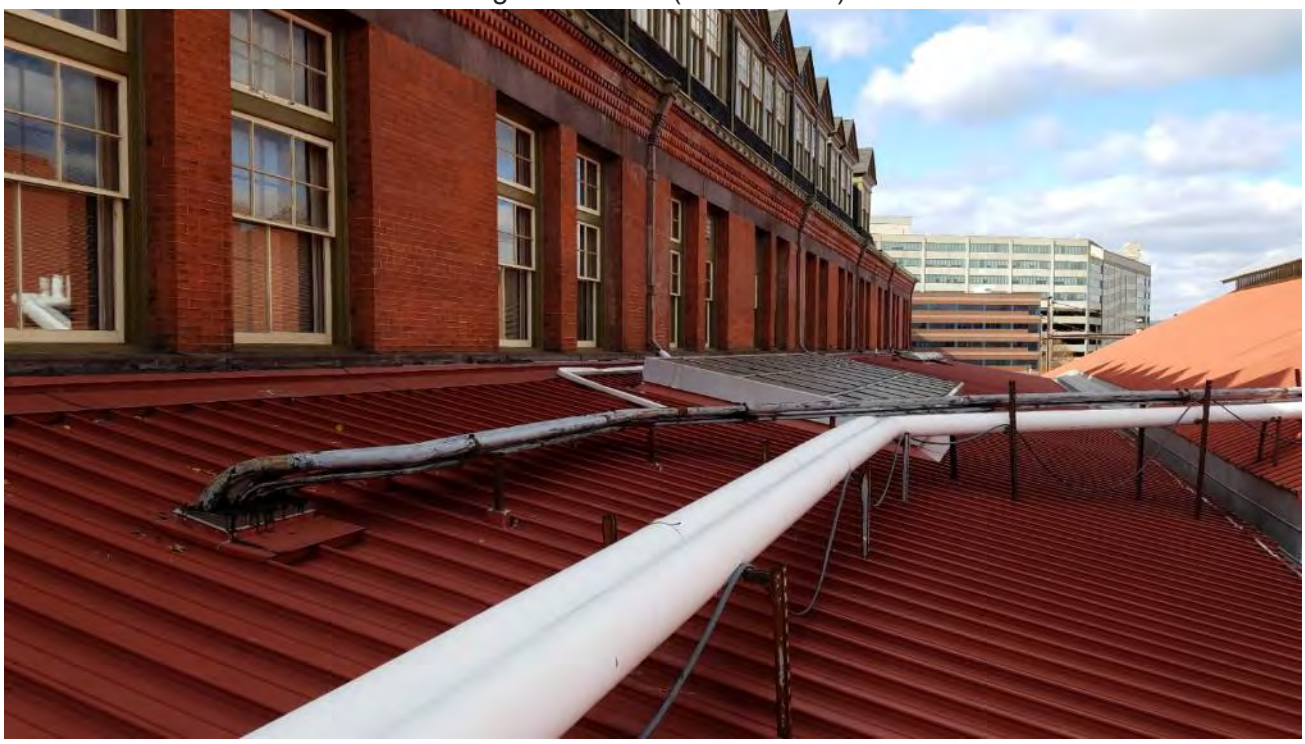


Image 40: View from roof of rear (east) elevation looking north, showing second and third stories of original section, 2017.

Image 41: View from roof of rear (east) elevation looking south, showing second and third stories of original section, 2017.

Image 42: View of a typical office, third floor. Note dormer offset of rear façade. (HAER 1985)

Image 43: View from an office of a dormer window, third floor, 2017.

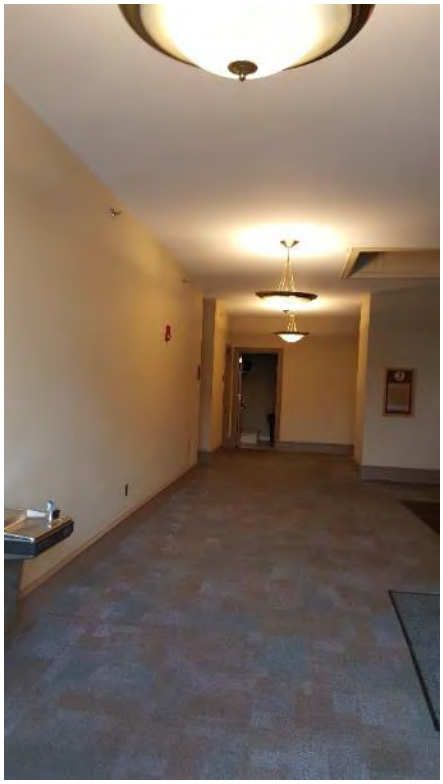


Image 44: View of the third-floor elevator lobby, 2017.

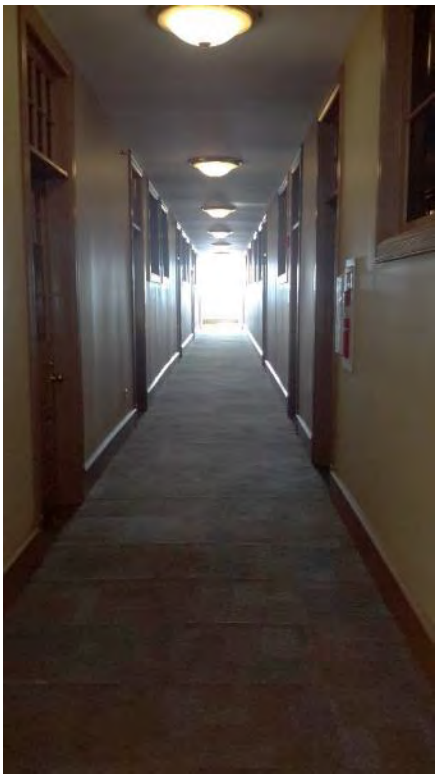


Image 45: View of the third-floor hall, 2016.

Image 46: View of a third-floor office space, 2016.

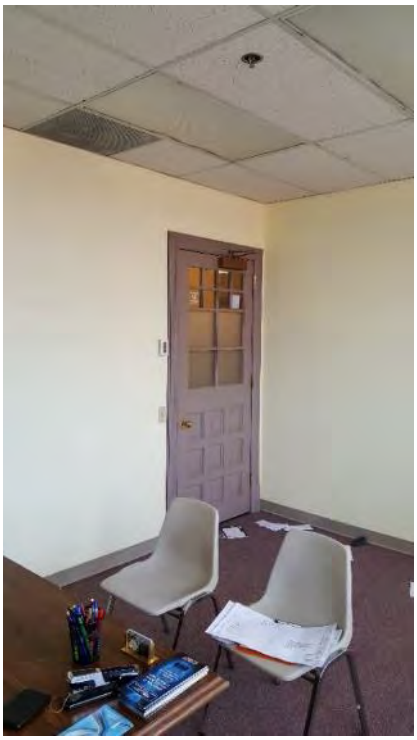


Image 47: Detail view of a door at the third floor, 2017.

Image 48: Detail view from west of the east wall of the main lobby, 2017.

Image 49: Detail view of façade (west), showing vestibule, 2017.

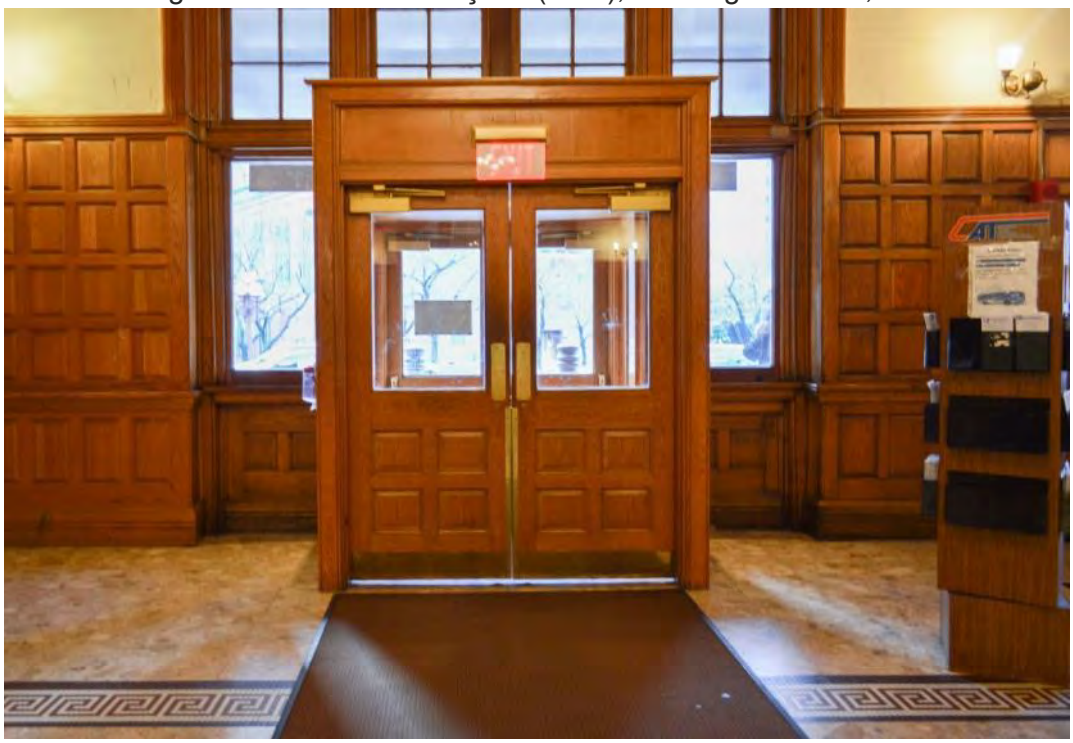


Image 50: Detail view of vestibule from main lobby, 2017

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX B

POWER DIRECTOR'S ROOM INVENTORY

The Power Director's Room is located on the second floor of the 1937 addition to the passenger station building. The main floor of the addition held interlocking equipment, instrument racks, and other machinery, while the second floor is dedicated to power direction equipment. The Power Director's Room was constructed in conjunction with the 1937 electrification of the system and was the hub for controlling power to the mainline system. Utilizing the switchboards and display panels in this room, the power dispatchers were able to monitor and control electrical loads for both trains and signals along the route from Thorndale west to Harrisburg.

The system is illustrated on display panels on three walls of the room, with substation installations and interlockings illustrated on the schematic with indicator lights displaying the power supply status. The corresponding control panels functioned as circuit breakers and phase breaks and allowed the power dispatchers to direct the power to the system.

The equipment was abandoned in favor of a computerized system in recent years, though the vast majority of the historic equipment and associated furniture has remained in situ.

Power Director's Room Equipment:

<u>General Electric Model Board (Photographs 1-5)</u>

- General Electric Eastern Standard Time Clock
- Indicator lights for Power Failure and Fire Alarms
- 16 General Electric Voltage Gauges
- Frazer – Sub 64
- Morrisville – Sub 34
- Langhorne – Sub 61
- Horsham – Sub 62
- Thorndale -- Sub 65
- Ernest Junction SW Station
- Earnest – Sub 63
- Parkesburg – Sub 66
- Kinzer – Sub 67
- Bart – Sub 51
- Landisville – Sub 69
- Rheems – Sub 70
- Safe Harbor Step-Up
- Safe Harbor Step Down - Sub 55

- Fishing Creek - Sub 54
- Columbia – Sub 56
- Royalton – Sub 71
- Harrisburg – Sub 72
- Landisville – Sub 69
- Rowenna – Sub 57
- Goldsboro – Sub 58
- Lemoyne SW Station
- Enola – Sub 59

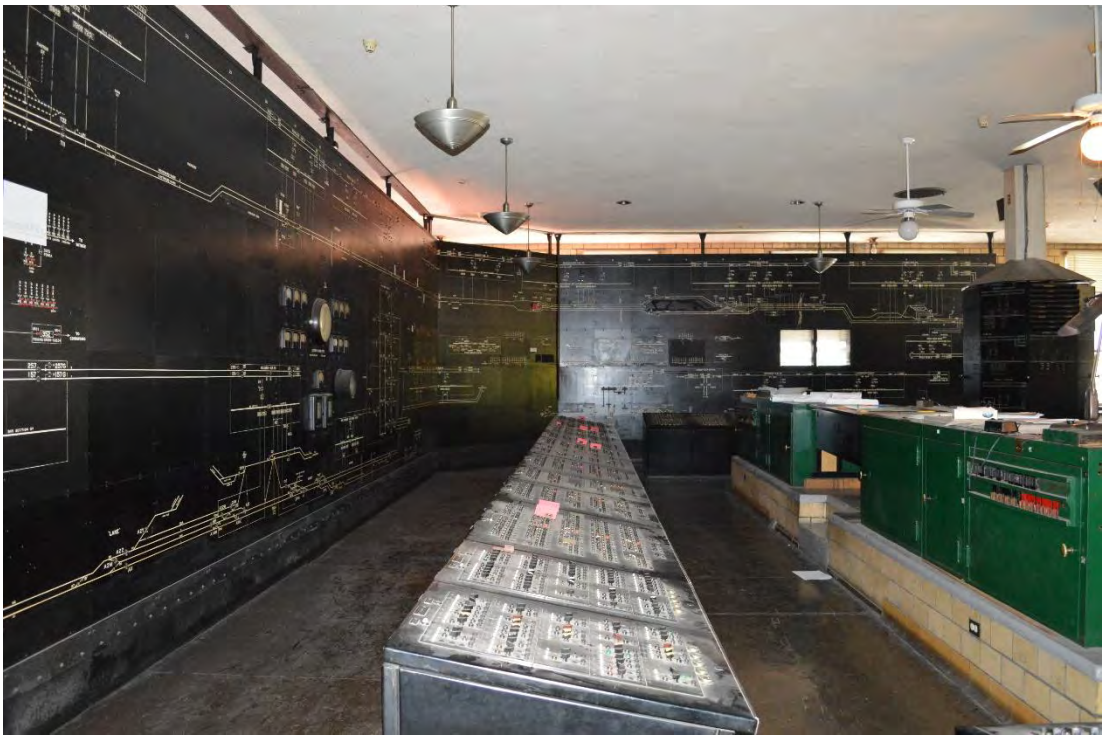
Two General Electric Freestanding, Rotating Octagonal Displays with control knobs for the corresponding above listed locations (Photographs 6 and 7).

Consoles

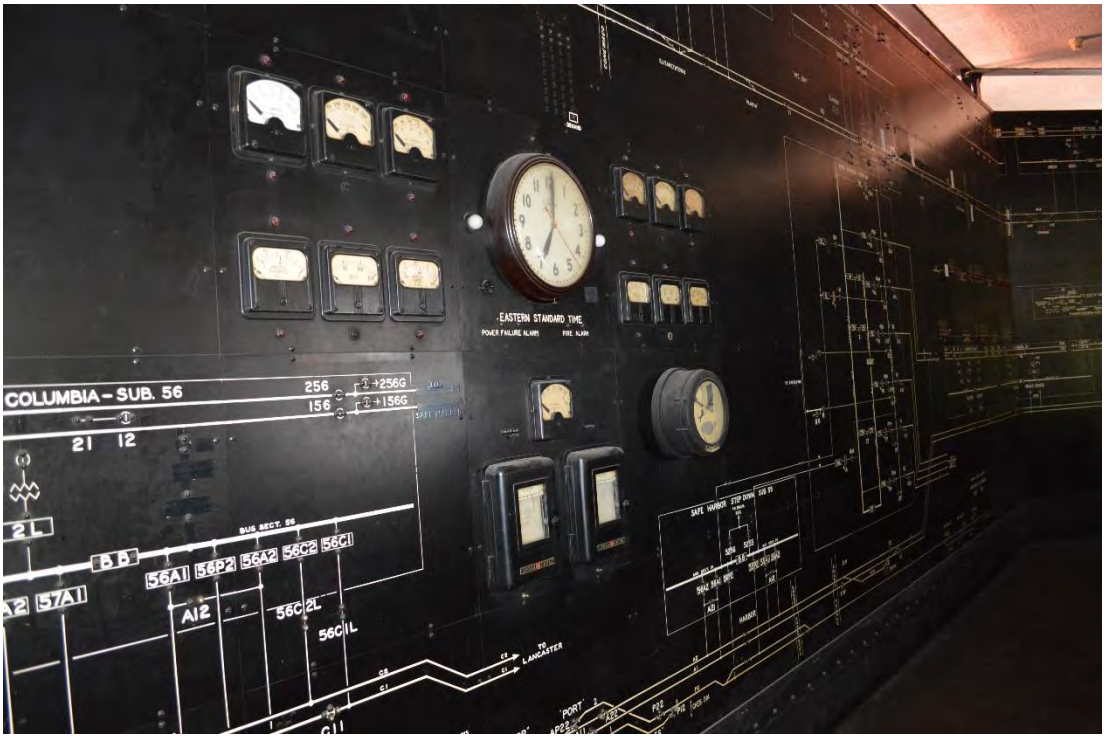
- One, four-panel Westinghouse 60-cycle console with switchboard controls for Langhorne, Horsham, Bart, and Providence (Photograph 8).
- One, 12-panel Westinghouse 60-cycle console with switchboard controls for Frazer, Thorndale, Parkesburg, Kinzer, Witmer, Dillerville, Landisville, Rheems, Royalton, Harrisburg, Safe Harbor, Columbia, and “Line Selection” (Photograph 9).
- One, 3-panel Westinghouse 60-cycle console with switchboard controls for Enola, Goldsboro, Lemoyne, and Rowenna (Photograph 10).
- One Westinghouse Polaricode JR. Supervisory Control unit, with labels “Conestoga East” and “Conestoga West” (Photograph 11).
- Two Kellogg Switchboard & Supply Co. signal control units (Photographs 12 and 13).

General Electric Equipment Cabinets (Photographs 14-16)
Five rows of telemetering equipment, telephone equipment, and relay cabinets

Photograph 1: General Electric Model Board.



Photograph 2: General Electric Model Board.



Photograph 3: General Electric Model Board with clock, meters, and gauges.


Photograph 4: General Electric Model Board, showing the back of the Model Board.

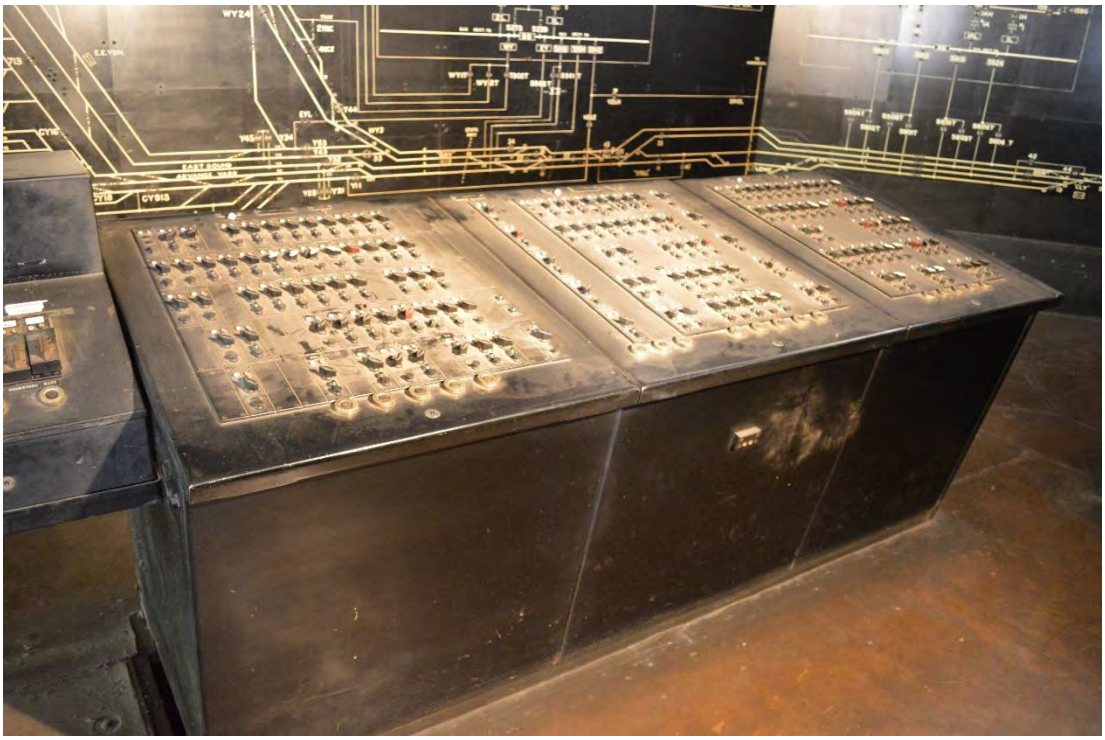
Photograph 5: General Electric Model Board, showing the back of the Model Board.

Photograph 6: General Electric Octagonal Display (1 of 2).

Photograph 7: General Electric Octagonal Display (2 of 2).

Photograph 8: Westinghouse four-panel console.

Photograph 9: Westinghouse twelve-panel console.



Photograph 10: Westinghouse three-panel console.

Photograph 11: Westinghouse Polaricode JR console.

Photograph 12: Two Kellogg Switchboard & Supply Co. signal control units.

Photograph 13: Detail of Kellogg Switchboard & Supply Co. signal control unit.

Photograph 14: Five rows of General Electric equipment cabinets (left).

Photograph 15: Detail of General Electric Equipment Cabinets.

Photograph 16: Detail of General Electric Equipment Cabinets.