

CHAPTER IV

NATIONAL REGISTER ELIGIBLE RESOURCES

COMPLEX #5
THE PULLMAN PALACE CAR REPAIR SHOPS

Statement of Significance

Significant as an example of the growth of railroad car manufacturers during the nineteenth and early twentieth centuries in Wilmington, Delaware's Waterfront Analysis Area, the Pullman Palace Car Repair Shops are eligible for listing on the National Register of Historic Places under Criterion A, buildings associated with events contributing to broad patterns of history. Composed of seven buildings bordered by East Twelfth Street on the north, Rosemont Avenue on the east, the Brandywine River to the south and AMTRAK's Northeast Corridor Viaduct on the west (see Figure 11, p. 56), the Pullman Shops, erected c. 1905, help document the railroad industry's influence on the physical shape of Wilmington's riverfront areas and their subsequent impact on that city's economy. The Pullman Shops, through their association with George Pullman's national network of car factories and repair shops, also illustrate the rise of national corporations and monopolies in the early twentieth century.

Located within Delaware's Urban Geographic Zone (Zone V; see Figure 4, p. 9), defined by the Delaware Comprehensive Historic Preservation Plan as an area composed by the City of Wilmington's corporate limits, the Waterfront Analysis Area properly forms part of the Coastal Geographic Zone (Zone IV). The Coastal Zone encompasses land surrounding major and minor streams flowing into the Delaware River and Bay. This zone in Wilmington once supported a rich and diverse ecological habitat. A wide variety of vegetation, including arrowarum, spatterdock, water-willow, smartweed, and red and white oak sustained an environment suitable for turtles, muskrat, wood ducks, great blue herons, ospreys, turkey vultures and bald eagles. Some of these species of flora and fauna survive in less-developed sections of eastern and southern Wilmington that primarily contain marsh and wetlands. Soils throughout the Coastal Zone range from moderately well-drained and medium-textured soils to tidal marsh lands. Landfilling and other development activities since european settlement began in the early seventeenth century have obscured most of Wilmington's pre-colonization shoreline. The Waterfront Analysis Area, an area roughly described by land surrounding Wilmington's two major waterways, the Christina and Brandywine rivers, comprises a discrete geographical area defined by the City of Wilmington's Office of Planning.⁴⁴

The Pullman Palace Car Repair Shops relate to property type 6E in the Delaware Comprehensive Historic Preservation Plan

⁴⁴ Ames, et al., pp. 31-36.

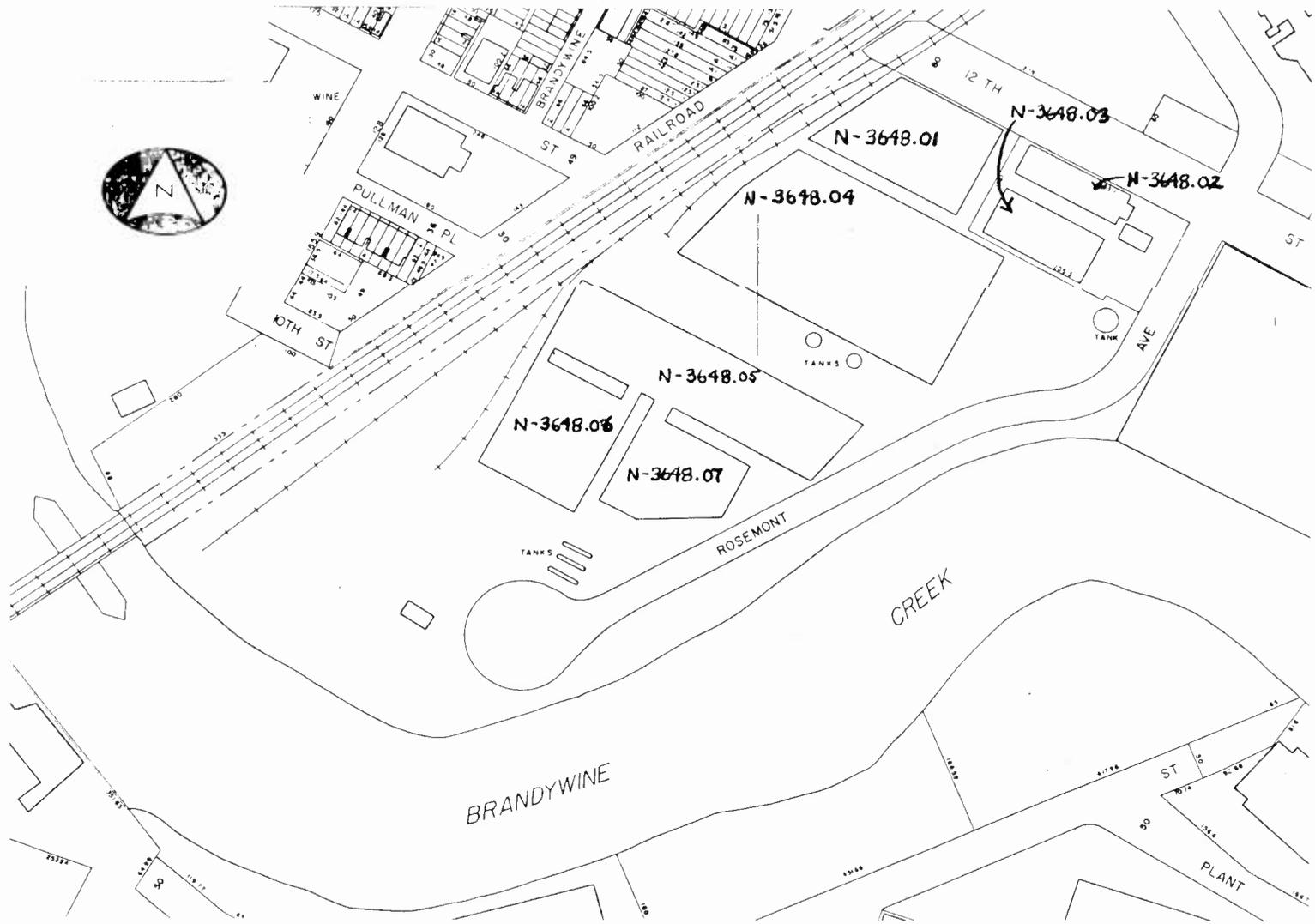


Figure 11: Site Plan of Complex #5
The Pullman Palace Car Repair Shops

(Manufacturing, 1880-1940 +/-: Urbanization and Early Suburbanization). Manufacturing defines establishments characteristically described as plants, factories or mills using power driven machinery and/or handling equipment involved in the mechanical or chemical transformation of inorganic or organic materials into new products.⁴⁵ Continued industrial growth typified the first few decades of the period of Urbanization and Early Suburbanization (1880-1940 +/-) in Wilmington. Although a diversity of manufacturing establishments persisted throughout Wilmington during the period, the Waterfront Area remained dominated by iron-shipbuilding, machine and tool manufacturers, and railcar factories. These trades had established dominion over the riverfront areas during the preceding period of Industrialization and Early Urbanization (1830-1880 +/-).

The railroad and its related industries, such as car, wheel and axle manufacture and railroad tool and machine making, have had a profound effect on Wilmington's economy and physical growth since the railroad's construction through the riverfront area in the 1830s. Erected in 1837 the Philadelphia, Wilmington and Baltimore Railroad (PW&B) transformed the physical face of Wilmington's Christina riverfront. Originally built at grade, the former PW&B tracks are now covered by the AMTRAK Northeast Corridor mainline viaduct that forms much of the western boundary of the Waterfront Analysis Area. As a result the PW&B created a prime industrial zone between the Christina River and the railroad tracks.⁴⁶

Railroad related industries in Wilmington began shortly prior to the completion of the PW&B's line to Philadelphia in 1838 and quickly multiplied. Bonney & Bush, predecessor to the Lobdell Car Wheel Co., began manufacturing railcar wheels in 1831 at the foot of Lombard Street. Harlan & Hollingsworth constructed the first railcar in Wilmington in 1836 at the corner of Front and Tatnall Streets. Edwin J. Horner started a locomotive and car wheel spring manufactory at the intersection of Eight Street with the PW&B tracks in 1844. The Diamond State Iron Company rolling mill and foundry spread on both sides of the Christina near the current Fourth Street Bridge producing a variety of railroad-related items including splice bars, track fastenings, and track spikes and bolts. Jackson & Sharp opened the Delaware Car Works on the south side of the Brandywine in 1863 directly opposite of the future location of the Pullman Shops. Jackson & Sharp eventually became one of the largest manufacturers of railcars in the country and constructed the first narrow gauge railcars in the world for the Denver and Rio Grande Railroad. In 1853 railcar manufacture and

⁴⁵ Ibid., pp. 26, 36-37.

⁴⁶ Seely, pp. 1-19.

rolled-iron and steel making employed 675 people in the city.⁴⁷

Besides the PW&B's impetus to the development of industry along Wilmington's riverfront the railroad also had a direct impact on the area's physical evolution. The PW&B maintained repair shops along Water Street and east of French Street between the tracks and the Christina as early as 1842. The railroad constructed a second repair facility in 1880 that stretched from the foot of Pine Street across the tracks to the area of Fourth and Church streets. These facilities included a large engine house, blacksmith and boiler shops, and car construction shops. The PW&B also had a station and train shed at the site of the present of AMTRAK Wilmington Station throughout the period.

The railroad and its related industries powered much of the Waterfront Analysis Area's development during the period of Urbanization and Early Suburbanization. In 1880 two of Wilmington's three largest employers, Harlan & Hollingsworth and Jackson & Sharp, manufactured railroad cars and streetcars. Railcar manufacturers ranked third amongst Wilmington's businesses in total number of workers employed that year. However, adding workers for railroad related manufacturers, such as the Lobdell Car Wheel Company, the Hilles & Jones Company (railroad machinists tools), and the James P. Hayes & Co. (locomotive and car springs), to the railcar figures would rank car and railroad related industries second with nearly 1,200 workers, only behind iron and wooden shipbuilding's 1,454. By 1890 railcar workers outnumbered shipbuilders, 2,347 to 1,752, comprising over 16% of Wilmington's employees and ranking first among the city's wage-earners. Car manufactures still led in 1900 with 2,897 employees raising its total share of Wilmington's workforce to 18%. All of Wilmington's railcar manufacturers and most of its rail-related industries were located in the Waterfront Analysis Area.⁴⁸

The Pennsylvania Railroad (PRR) dramatically impacted the physical shape of the Waterfront Analysis Area during the early twentieth century. Having acquired the PW&B in 1881, the PRR undertook a vast modernization program between 1902 and 1905. This program primarily consisted of the construction of a four mile long viaduct raising the tracks above grade and allowing rail traffic to speed through the city. This viaduct created a quasi-permanent physical barrier between the city and its historic industrialized riverfront and serves to define the western limit of the Waterfront Analysis Area. Simultaneous to the construction of the viaduct, the PRR erected extensive new repair and maintenance facilities north of

⁴⁷ Hoffecker, p. 27.

⁴⁸ U. S. Census, Manufacturing Schedules, 1880. Microfilm on file at EMHL; Report on ... the Eleventh Census, pp. 618-621; Hoffecker, pp. 167.

the city on portions of the former Cherry Island marshes near Edgemoor. The current AMTRAK Wilmington Station on Front Street, designed by noted Philadelphia architect Frank Furness, also formed part of the PRR's modernization program. Further modernization efforts included the electrification of the northeast corridor mainline during the 1920s and 30s, and the subsequent establishment of the Edgemoor repair shops as the primary maintenance facility for the PRR's electric locomotive fleet.

The Pullman Palace Car Repair Shops participated in Wilmington's industrial growth in the Waterfront Analysis Area during the late nineteenth and early twentieth centuries and helps to document the impact of the railroad and its related industries on the city's development. The manufacture and repair of railcars at the Pullman complex began in 1871 with the establishment of the Wilmington Car Works by the Bowers, Dure & Co. Thomas W. Bowers, a former master builder for the PW&B, and Henry F. Dure, described as an architect in a contemporary industrial history, erected four buildings at the site by May of 1872 (see Figure 12, p. 60). The complex consisted of a one-story, frame putting-up shop, a one-story, frame paint shop with an attached carriage shed, a two-story, frame planing mill and cabinetmakers shop, and a one-story, brick blacksmith shop with seven forges and an attached boiler room and dry kiln. Most of the buildings possessed tarred and graveled gable roofs with glazed, gable-roofed monitors. An 80-horsepower "locomotive style" steam engine powered four circular saws, two planers and two moulding machines. One hundred twenty-five employees worked during daylight hours manufacturing railroad and city passenger cars. The firm expected to erect three additional buildings and to double the number of employees by the end of the year. By 1880 the Wilmington Car Works employed 350 people manufacturing standard and narrow gauge cars for railroad and city passenger railways.⁴⁹

A Hexamer General Survey of the Wilmington Car Works undertaken in November of 1882 reveals the expansion of the Bowers, Dure & Co. plant (see Figure 13, p. 61). A one-story, frame machine shop with a one-story, frame extension had been added to the earlier brick blacksmith shop present in 1872. The 1872 putting-up shop and paint shop were now labeled erecting shops. A new large, two-story, frame building attached to the east end of the earlier paint shop contained an erecting shop, a joiner shop, a freight shop and a varnish shop. A wooden bridge connected the second floor of the new joiner shop to the second story of the 1872 cabinetmakers shop.

⁴⁹ Industries of Delaware. Historical and Descriptive Review, Richards Edwards, editor (Wilmington: Richard Edwards, 1880), p. 119 (Somewhat interestingly, the 1860 Census of Manufactures describes Dure as a carpenter and builder who had erected 22 brick dwellings and two brick manufactories in the preceding year); Hexamer General Surveys, No. 595 (May 1872). Microfilm on file at EMHL.

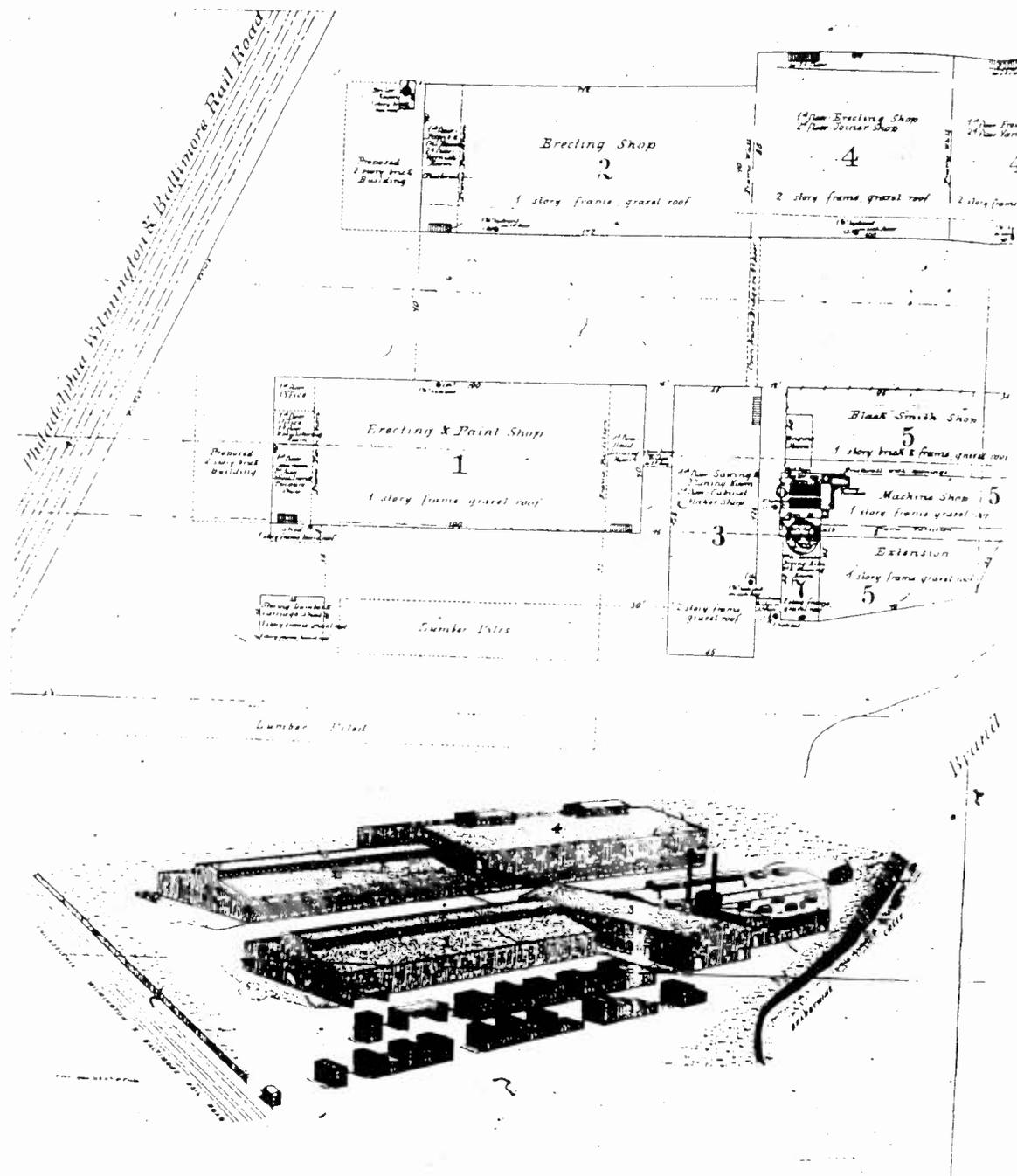


Figure 13: Detail of Bowers, Dure & Co.
 from Hexamer General Survey #1711
 (Reprinted courtesy of the Eleutherian Mills Historical Library)

South of the earlier putting-up shop stood a small combination lumber and carriage shed. Woodworking machinery in the planing mill and cabinetmakers shop included seven planers, six circular saws, two band saws, three shapers, six moulders, two boring machines, four mortising machines, 1 blind slat mortiser, three turning lathes and two gig saws. Two of the three buildings that Bowers and Dure expected to erect by the end of 1872 were not present in 1882. In 1886 the Pullman Palace Car Co. purchased the plant from Dure who had become sole proprietor of the car factory when Bowers retired a few years earlier.⁵⁰

George Pullman, during the late nineteenth and early twentieth centuries attempted to monopolize the national market for palace or sleeping cars. Although not originally developed by Pullman, or manufactured in greater numbers by his manufactories in the early years of their production, these sleeping cars were soon known as "Pullman coaches." As part of the establishment of a nationwide network for the manufacture, refurbishing and repair of Pullman-made coaches, Pullman began setting up regional centers throughout the nation. Additional branch shops were established in Elmira, New York, St. Louis, Denver, and Buffalo by 1889. The former Wilmington Car Works served as a branch workshop for the mid-atlantic region until the late 1950s.

Pullman may have erected five new buildings shortly after acquiring the Wilmington Car Works. By 1891 over 800 persons, ranging from blacksmiths to seamstresses, repaired and refinished between 60 and 75 Pullman cars per month. Further expansion of the physical plant during that year included a new laundry facility. Maps of the complex during this period indicate almost all buildings were constructed of wood (see Figure 14, p. 63) until the present buildings were erected in c. 1905 when insurance maps illustrate the present brick buildings. A 1908 history of the state described the rebuilding of the Pullman works where "a large industry in repairing and rebuilding is carried on, necessitating a large force of workmen and an equipment of the best machinery." Future research may reveal whether the PRR's modernization campaign necessitated or otherwise affected the re-construction of the Pullman plant.⁵¹

⁵⁰ Hexamer General Surveys, Nos. 1711-12, surveyed November 15, 1882. Microfilm on file EMHL.

⁵¹ The Industrial Advance of Wilmington (Wilmington: The James & Webb Printing Co., 1887, p. 30; Delaware's Industries, An Historical and Industrial Review (Philadelphia: Keighton Printing House, 1891), pp. 46-47; Wilmington, Delaware (New York: Sanborn Map & Publishing Co., 1884. Corrected to 1897); Baists Property Atlas of the City of Wilmington, Delaware (Philadelphia: G. W. Baist, 1901); Insurance Maps of Wilmington, Delaware (New York: Sanborn-Perris Map Co., Ltd., 1910. Corrected to 1914). Although

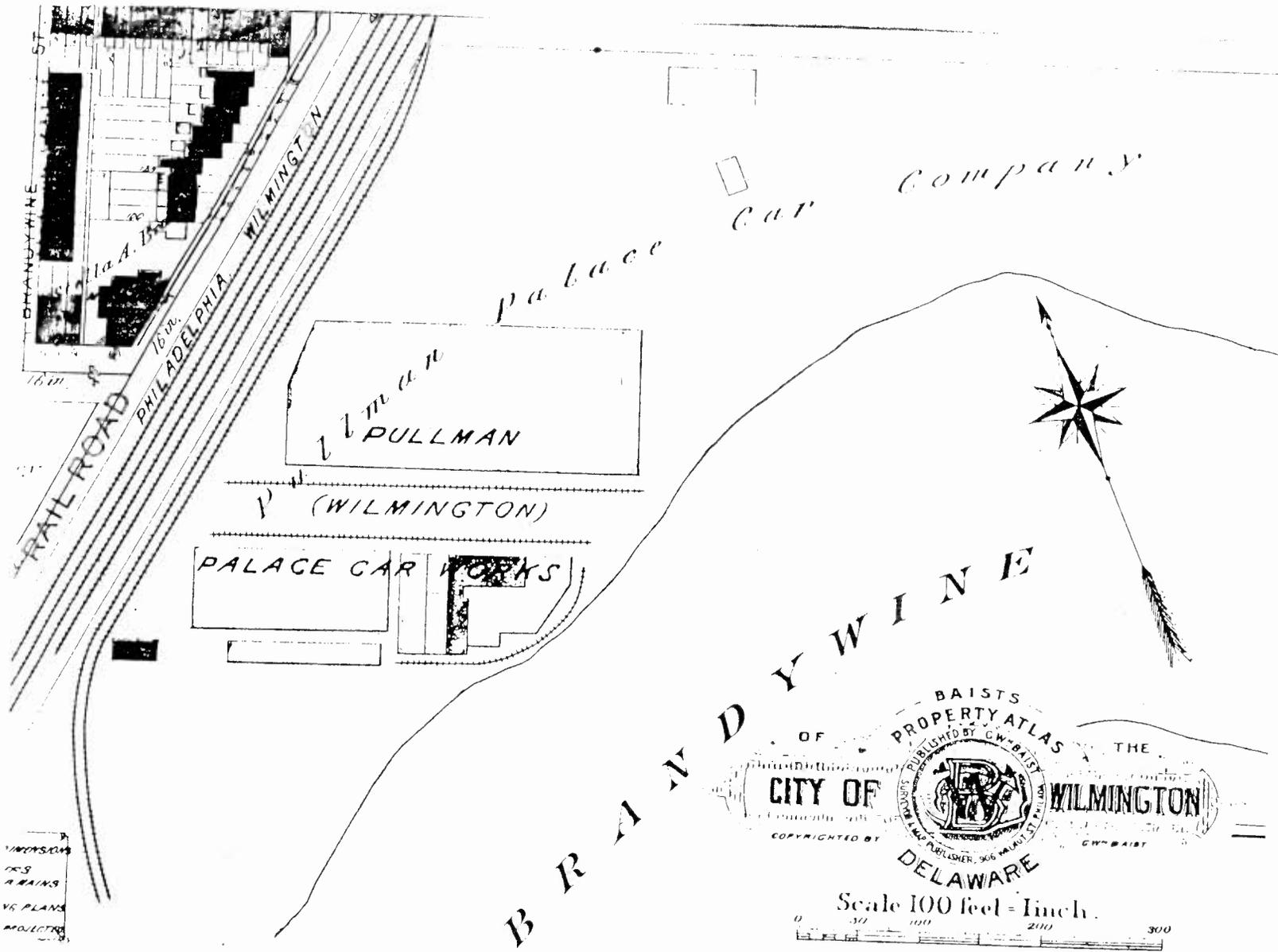


Figure 14: Detail of Pullman from
Baists Property Atlas of the City of Wilmington, Delaware, 1901
 (Reprinted courtesy of the Office of Planning)

The 1914 Sanborn insurance map indicated building usage throughout the Pullman complex. Building No. 1 (N-3648.01) consisted of upholstering, hair picking and sewing rooms. Building No. 2 (N-3648.02) contained a silvering and glass polishing room, and acid etching room, a laundry and a curtain repair room. A store room, repair shop and machine room stood directly south of No. 2 in building 2A (N-3648.03). Building No. 3 (N-3648.04) housed a "Minor Repair Shop" undertaking plumbing and tin repairs, painting, and brass re-finishing and buffing. A truck shop and varnishing rooms were located in building No. 4 (N-3648.05). A transfer pit between buildings no. 3 and 4 facilitated the movement of railcars between the two workshops. Building No. 5 (N-3648.06) possessed a cabinetshop with sawing and planing rooms while a machine shop, building No. 6 (N-3648.07), contained a blacksmith shop, a boiler room and the engine dynamo. Two buildings south of the complex and no longer standing enclosed a lumber shed and dry kiln. Railroad sidings extend down the western side of property between the buildings and the AMTRAK viaduct forming a holding yard southwest of the Pullman building complex. The proximity of the Brandywine River to the eastern side of the complex indicates that fill extended the shoreline in order to accommodate the construction of Rosemont Avenue.

A 1956 revision of the Sanborn map does not indicate any changes from the earlier 1914 map. Subsequent owners of the former Pullman plant have included the Container Corporation of America, manufacturers of cardboard and other cellulose paper products, and Smurfit Plastic Packaging Inc.

Associated with the historic theme Manufacturing during the period 1880 - 1940 +/- (Urbanization and Early Suburbanization) the Pullman Palace Car Repair Shops help document the growth of industry along Wilmington's Waterfront Analysis Area. The railroad and related car construction and repair facilities were one of the dominant industries along the riverfront areas beginning with the construction of the Philadelphia, Wilmington and Baltimore Railroad in 1837. Erected c. 1905 to replace a complex of several wooden buildings, the seven brick shops help illustrate the physical growth and expansion of railroad-related manufacturing in Wilmington. In addition, the Pullman Shops portray the evolution of large business corporations serving national markets in the late nineteenth and early twentieth centuries. Pullman's integration of the former Wilmington Car Shops into his nationwide network of regional service centers further outlines the growth of national conglomerates and monopolies in the early twentieth century. As such the Pullman Palace Car Repair Shops are eligible for inclusion

the 1910 Sanborns were corrected to 1914, the sheet containing the Pullman shops states "Add't Sheet 1905" and exhibits no changes; Henry C. Conrad, History of the State of Delaware (Wilmington: Wickersham Company, 1908) p. 373.

on the National Register of Historic Places under Criterion A, buildings associated with events contributing to broad patterns of history.

Architectural Description

Seven brick buildings bounded by the AMTRAK Northeast Corridor Viaduct on the northwest, East Twelfth Street to the northeast, Rosemont Avenue on the southeast and the Brandywine River on the southwest, form the physical remains of the Pullman Palace Car Repair Shops (N-3648.01-07). Despite a water tower proclaiming the CCA (Container Corporation of America) as the owner, Smurfit Plastic Packaging Inc. currently occupies the former Pullman Complex. The complex still possesses rail sidings along its northwestern border, reminiscent of its past association with railcar manufacture and repair (see Figure 11, p. 56).

Identified as Building 1 (N-3648.01) on insurance surveys, the painted-white brick building with stone foundation southeast of the AMTRAK Viaduct's bridge over East Twelfth Street stands two-stories high with a flat roof and a large rectangular one-story wing (see Plate 1, p. 67). The northwest elevation parallels the rail siding to the northwest instead of being perpendicular to the northeast and southwest elevation. The two-story section currently contains offices.

Eleven bays stretch across the building's northeast elevation facing East Twelfth Street. Eight bays penetrate the one-story eastern portion while three bays puncture the upper floor of the two-story portion. Most windows, crowned by triple rowlock segmental arch lintels, contain concrete block infill. The three second-story windows possess pairs of hoppers. The first story of the two-story section contains a large steel door on its western end. A corbeled string course separates the two stories. A tin cornice wraps around the two story-section and continues along the length of the northwestern elevation.

The building's northwest elevation contains six bays on the second story and eight on the first story. The southern portion of the elevation is not as tall as the north corner. Triple rowlock segmental arch lintels top window openings, most infilled with brick. A steel door and entry similar to the northeast elevation pierces the northwest elevation's north end. Seven former windows, now filled with concrete block, extend along the one-story wing's southeast elevation.

Southeast of the Building 1 along East Twelfth Street stands Building 2 (N-3648.02; see Plate 2, p. 68). White paint covers the small, rectangular building on three sides. Only the southwestern elevation exhibits its natural red brick facade. One-story tall with a corrugated tin-roofed monitor, Building 2 displays ten bays along its southwestern elevation. The southwest elevation's bays all appear to have been former windows although four of the bays have been enlarged and now contain large loading doorways. The remaining windows possess sixteen-over-six sash with arched wooden heads, triple rowlock segmental arch lintels and sandstone sills.

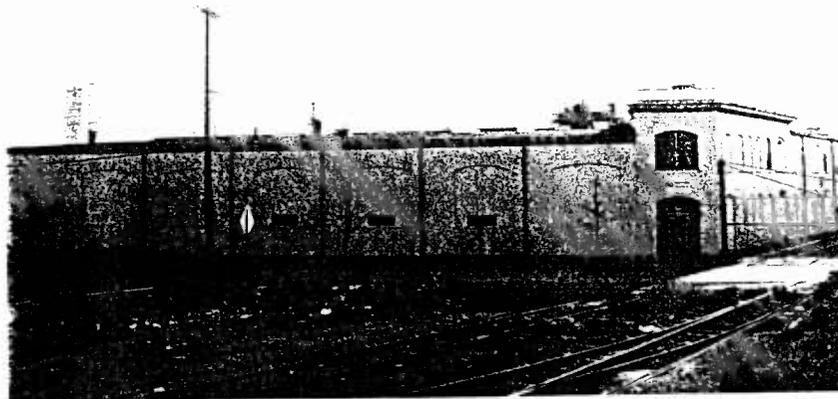


Plate 1: Northwest and northeast elevations of the
Pullman Palace Car Building No. 1 (N-3648.01) looking south
(Photograph by Stuart Dixon)

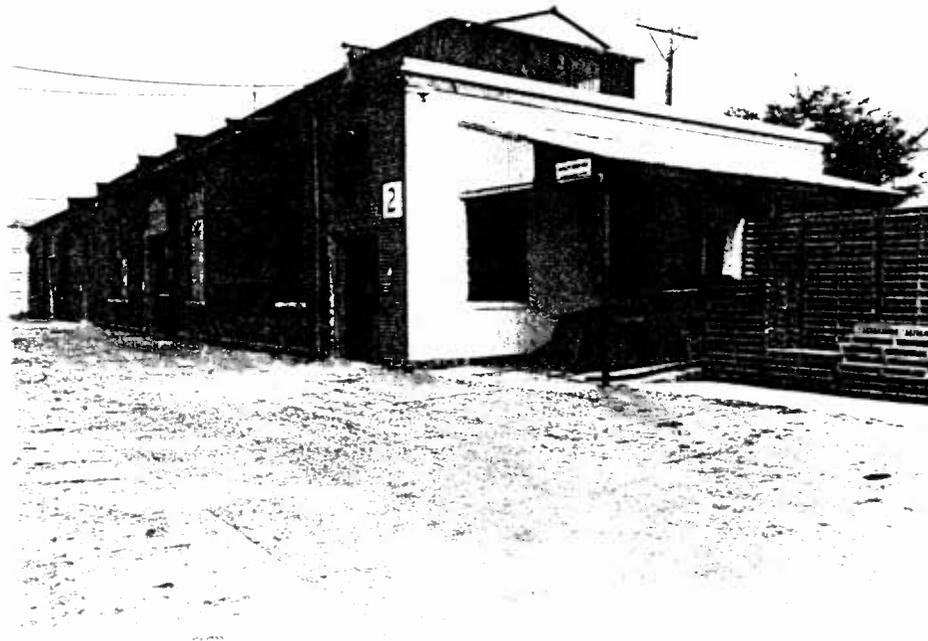


Plate 2: Southwest and southeast elevations of the Pullman Palace Car Building No. 2 (N-3648.02) looking north (Photograph by D. Gula)

Brick parapets capped by a terra cotta coping slice the roof and monitors indicating the placement of walls separating interior space. Monitor glazing consists of 12-light and four-light fixed sash composed of wireglass. Concrete block fills all seven northeast elevation windows and one of the southeast elevation's three bays.

The northwestern end of Building 2A (N-3648.03; see Plate 3, p. 70), directly southwest of Building 2, served as a wash room during Pullman's ownership. Two small monitors with shallowly-sloped gable roofs sit atop the northwestern half of the one-story building, perpendicular to the southeastern half's monitor with a similarly sloped roof. The two northwestern monitors possess three nine-light casements along their southwest and northeast faces and four casements along the southeast and northwest. Each monitor lights interior rooms three bays wide along the southwest and northeast. Brick walls separate the rooms and penetrate the roof forming parapets with terra cotta copings. The southeastern monitor contains 12 windows along its southwest and northeast and four windows on its southeast elevation. A brick parapet forms the northwest end of the southeastern monitor.

The southwestern elevation's 11 bays exhibit triple rowlock segmental arch lintels over concrete block. An entry door penetrates the concrete block of the eastern-most bay. Four brick piers divide the southeast elevation into three bays. All former openings along this elevation are currently closed with concrete block.

Building 3 (N-3648.04), a large one-story building with two gable-roofed monitors sheathed with aluminum on its roof (see Plate 4, p. 71), stretches southwest of Building 2A and Building 1. A third monitor once penetrated the northeastern portion of the roof. Currently painted white, Building 3 possesses 20 bays along its southwestern elevation and 15 bays along its southeastern elevation. Most southwest elevation bays, now filled with concrete block, once possessed large openings for the movement of railcars in and out of the building. Triple rowlock segmental arch lintels and concrete sills ornament most visible wall openings. The southeast elevation contains a large loading bay, an entry door and a four-light hopper window. Three silos for chemical storage stand southwest of the southeast corner of the building. Two additional silos stand southeast of the building's southwest corner. Rail sidings and a vacuum-powered loading and unloading pump apparatus sits northwest of the building. Remnants of a transfer table that once moved railcars between Building 3 and Building 4 to the southwest have been covered with concrete and macadam.

Building 4 (N-3648.05), an elongated rectangular, one-story building with two monitors (see Plate 5, p. 72), stands southwest of Building 3 across the concrete and macadam lot. A stone foundation supports the six-to-one common bond brick construction.



Plate 3: Southeast and northeast elevations of the
Pullman Palace Car Building No. 2A (N-3648.03) looking west
(Photograph by D. Gula)

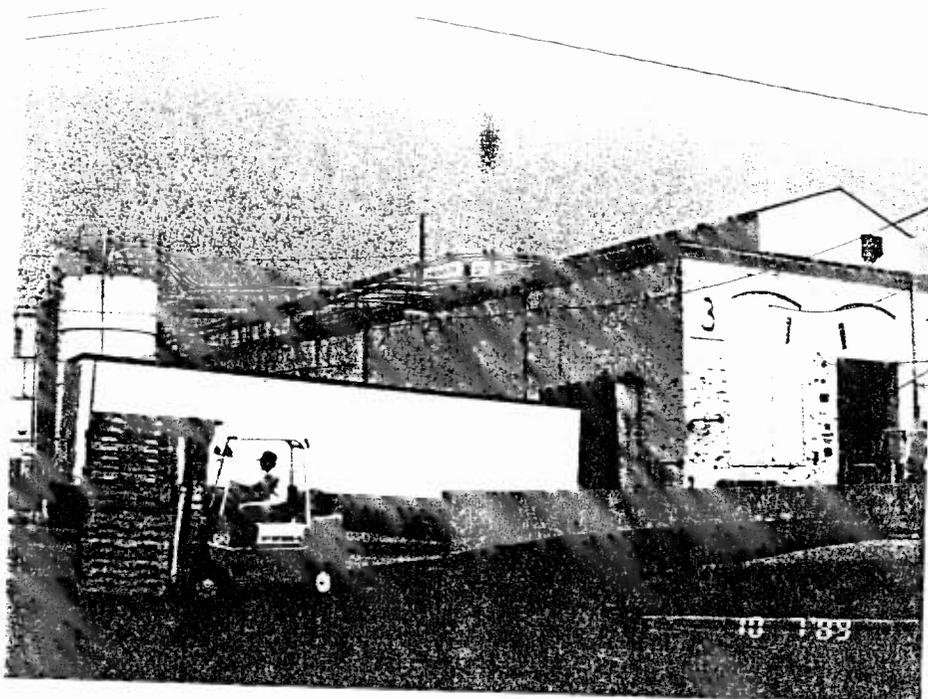


Plate 4: Southwest and southeast elevations of the Pullman Palace Car Building No. 3 (N-3648.04) looking north (Photograph by D. Gula)

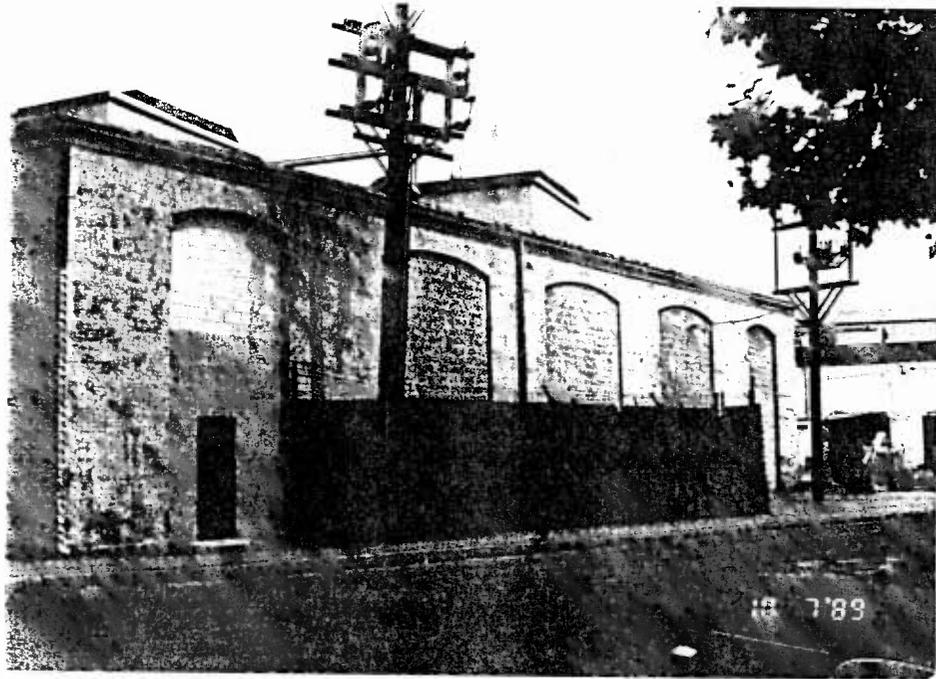


Plate 5: Southwest and southeast elevations of the Pullman Palace Car Building No. 4 (N-3648.05) looking north (Photograph by D. Gula)

A reinforced poured-concrete loading dock extends across the northeast elevation's 22 bays. The two eastern and four western bays formerly contained windows. The rest of the bays possessed large openings for railcars utilizing the former transfer table. Concrete sills and triple rowlock segmental arch lintels ornament each bay. Three wooden horizontal roll doors and one steel entry door currently penetrate the northeast elevation. Other openings now exhibit concrete block infill. A parapet with a terra cotta coping tops the central portion of the elevation.

The northwestern elevation of Building 4 contains five bays currently plugged by concrete block. Segmental arch lintels imitate the lintels on other buildings of the Pullman Complex. The center three bays once contained windows while the other two enclosed doors. A concrete block wall connects the northwest elevations of Building 4 and Building 5 (N-3648.06), approximately 15 feet to the southwest. Train rails protrude from under the concrete wall. The southeastern elevation's five bays displays treatment similar to the northwest elevation.

Building 5 (N-3648.06) stands one-story high (see Plate 6, p. 74). Constructed of six-to-one common bond brick and a stone foundation, a new shallowly-sloped gable roof has replaced the building's original roof possessing four monitors. Nine bays stretch along the northwest and southeast elevations while eight bays extend along the southwest. The northwest elevation's two north and two south bays formerly served as railcar entrances. The other bays probably functioned as doors for pedestrian traffic since they are thinner than the other railcar entrances. Concrete block fills all of the openings.

A macadam driveway and concrete loading dock projects southwest of the southwest elevation. The driveway slopes approximately three feet below grade at the building's foundation allowing trucks to unload directly into the building. Concrete block walls extend southwestward forming bulkhead walls on the northwest and southeast side of the macadam driveway. Five loading bays have been enlarged from the building's original openings. The fifth loading dock located on the southeast end of the southwest elevation lays at grade level instead of below grade.

Directly southeast of Building 5 stands Building 6 (N-3648.07), a one-story five-sided brick building with two roof monitors and a stone foundation (see Plate 7, p. 75). Eleven bays extend along the northwest elevation. Concrete block fills the six former window openings and five railcar entries of the northwest elevation. The southwest elevation possesses two windows featuring pairs of 15-light industrial sash with six-light hoppers. A small door penetrates the east end of the southwest elevation.



Plate 6: Southwest and southeast elevations of the Pullman Palace Car Building No. 5 (N-3648.06) looking north (Photograph by D. Gula)

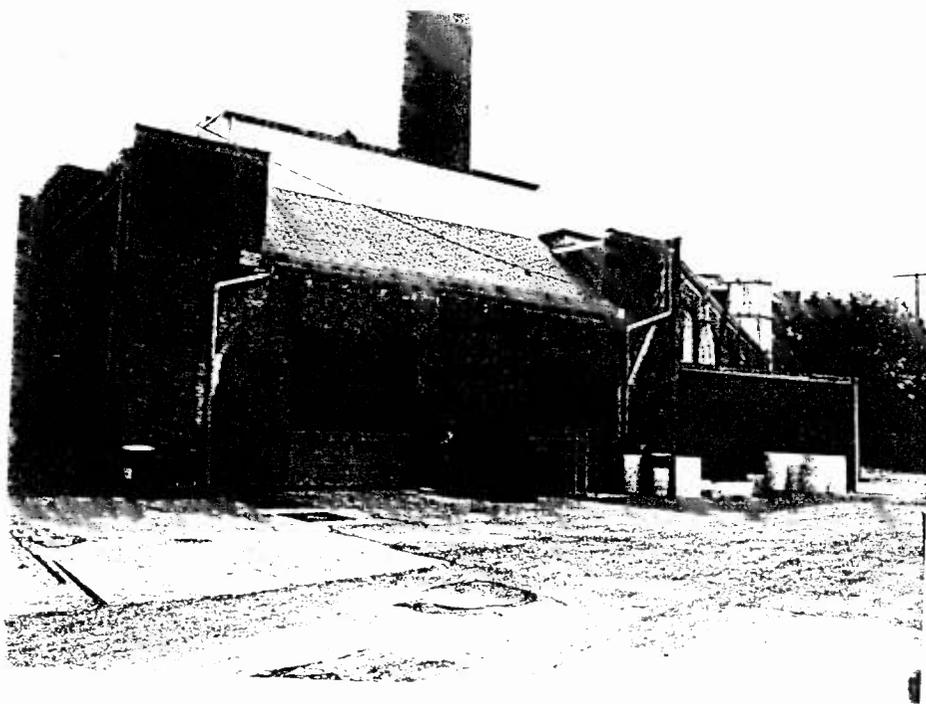


Plate 7: Northwest and southwest elevations of the
Pullman Palace Car Building No. 6 (N-3648.07) looking east
(Photograph by D. Gula)

Building 6's south elevation contains six bays overlooking Rosemont Avenue and the Brandywine River. The eastern ends of the two roof monitors match the angled southern elevation. A small concrete block addition with a tin roof adjoins the building along the south elevation. The southeast elevation contains four bays filled with concrete block. Four silos stand southeast of the elevation.