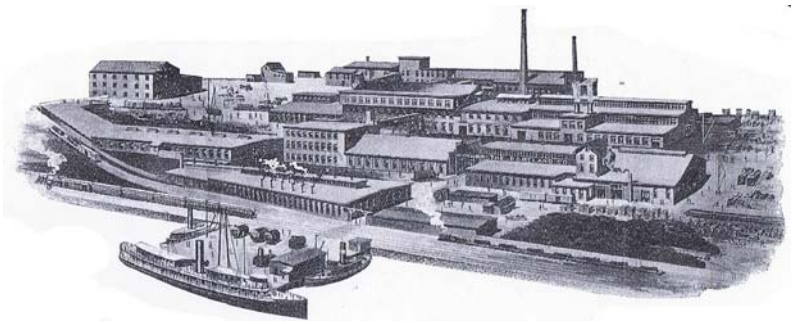


# The Portland Company
# Historic Significance and Integrity

Sutherland Conservation & Consulting
2014

Scott T. Hanson
Amy Cole Ives
Matthew Corbett

**The Portland Company: Historic Significance and Integrity**

## Introduction

Sutherland Conservation & Consulting (SCC) has been retained by the City of Portland to research, document and analyze the historic and architectural significance of the Portland Company complex. The historic assessment report is intended to address the place and significance of the Portland Company within the city of Portland, the state of Maine, and beyond; especially in the context of national trends in manufacturing and transportation during the company's years of operation (1847-1982).

This historic assessment report will:

- identify the areas of historic significance for the complex at the National, State, and Local levels
- identify the historic period(s) of significance for the complex
- use developmental modeling to analyze and assess the relative historic significance of the individual structures as well as the role each structure played in the manufacturing processes of the Portland Company and within the complex as a whole, and how each contributes to the ability to understand and appreciate the evolution of complex over time.

Additionally, SCC has been asked to assess the historic integrity of the individual buildings and the complex as a whole. Historic integrity is distinct from structural integrity. Historic integrity is based on the retention of sufficient essential physical features from the historic period, including location, design, setting, materials, workmanship, feeling, and/or association, to convey the significance of a property.

The work of this report does not duplicate the Inventory of Historic Buildings by Tremont Preservation Services dated January, 2014 or the Evaluation of Existing Buildings at the Portland Company Property by Becker Structural Engineers dated March 28, 2014, but it does utilize the same numbering system for the buildings in the complex to the greatest extent possible to facilitate cross-referencing the reports. The text of the Tremont report has been included as an appendix to this report with annotations that have been added to provide additional information and clarifications based on research completed by Sutherland Conservation & Consulting.

A summary history of the Portland Company has not been included in the body of this report because the Historical Context section of the Tremont report (pages 44-51) provides this information.

## Methodology

Primary and secondary sources were reviewed and utilized including extensive research in the Portland Company records at the Maine Historical Society and in depth research into the early history of railroad locomotive manufacturing in the United States. Using historic maps, site plans, building plans and numerous historic photographs, the historic development and evolution of the buildings of the Portland Company complex have been documented and compiled in a series of site plans and developmental models to illustrate how the complex has changed over time. A site visit was completed on July 23, 2014 to inspect and photo-document the interiors and exteriors of all the existing buildings to assess how much of the original design and materials remain intact for the buildings individually and the complex collectively.

The historic photographs and developmental models were compared to the existing conditions photographs to evaluate the historic integrity and significance of the buildings individually and the complex as a whole. The historic and architectural significance and integrity of the Portland Company complex has been assessed utilizing the criteria of the National Register of Historic Places, which is recognized as the standard for determining historic and architectural significance in the United States and is also the basis for the City of Portland's Designation Criteria.

**Executive Summary**

The Portland Company was established in 1846 in conjunction with construction of the Atlantic & St. Lawrence Railroad which was built to connect Portland to Montreal. John A. Poor, the individual most responsible for Portland's successful bid over Boston to become Montreal's winter port via rail, was a Director of the Atlantic & St. Lawrence Railroad and became the first President of the Portland Company.[1] Other Atlantic & St. Lawrence Directors were also stockholders in the Portland Company, including Portland's wealthiest individual John Bundy Brown, who would become President of the company in 1864; Congressman and later Senator and U. S. Secretary of the Treasury William P. Fessenden; and Captain George Turner, who was given a seat on the railroad's Board between the regular annual Director's elections, shortly after selling property to the Portland Company for their works.

The period of significance for the Portland Company complex begins with the start of operations in 1847 and extends to the end of foundry work at the Portland Company in 1982. Within this period, specific periods of significance are identified for different areas of significance in Appendix G. During the period of significance, the plant experienced several substantial expansions and numerous small alterations. In 1873, fire destroyed several buildings at the south end of the property which were then rebuilt. No substantial changes have been made since 1920 except for the demolition of the wooden blacksmith and tin shop and the replacement of the late-19th century wooden boiler shop by a large modern steel building in the second half of the 20th century. A modern brick and wood office building was built on the site of earlier stables circa 1950. Through all of this, a number of the pre-Civil War buildings have remained largely intact and would be easily recognizable to John A. Poor and the original company directors and employees of the Portland Company.

The use of cast metals, particularly iron, was central to the rapid industrialization and expansion of the United States in the nineteenth century. Although the technology was ancient, the use of it at the scale undertaken during the period the Portland Company was founded was unprecedented. Cast iron has been called, "the plastic of the nineteenth century" for the way it transformed production and expanded the range of products available to industry and the public. Putting all of the stages of production for large machines, like steam locomotives, in one place was a radical advance over traditional practices. Combined with the use of patterned cast iron parts, as opposed to individually hand-crafted unique parts, this advance laid the foundation for Henry Ford's next step in the progression of efficient production, the assembly line. The Portland Company complex represents an important advance in this process and is possibly the only surviving example of such a complex documenting this stage of industrial production in the United States. Its survival in largely intact condition in 2014 is noteworthy and remarkable.

National, State and Local Historic Significance

The Portland Company has national historic significance because it appears to have been the first complex in this country built specifically for the manufacture of railroad equipment with all of the necessary shops and a foundry on a single site. The Portland Company complex as it stands today is a rare surviving example of a pre-Civil War foundry, machine shop, and car shop complex because it retains a number of its original and early buildings, whereas most, if not all, other pre-Civil War complexes have been substantially or wholly demolished. As such, the Portland Company complex contains the oldest surviving railroad shop buildings in the nation still within their historic manufacturing complex context. Recent research indicates the Portland Company appears to be the only surviving pre-Civil War locomotive manufacturing plant in the nation, making it the only one surviving where locomotives were built for the U.S. Government as part of that war effort.

The Portland Company has statewide historic significance because the company made a significant

1 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890

contribution to the development of Maine's railroads (including the state's iconic two-foot gauge lines) and maritime shipping industry. The locomotives, railroad cars, marine engines and boilers, and maritime navigation aids produced entirely or in part at the Portland Company were important to the development of rail and maritime transportation in the state of Maine from the middle of the nineteenth century into the twentieth century. Industrial expansion, natural resource extraction, commerce, and tourism all benefited from improved transportation made possible by products of the Portland Company.

The Portland Company was the state's largest nineteenth century foundry-machine shop, with those two shops combined in a way that was unprecedented in Maine. The company grew to be the state's most substantial engineering and machine manufacturing business, employing 150 of the 500 machinists in the state at one point. The Portland Company also played a significant role in the development of many important industries in Maine including the paper-making, textile, and canning industries. A number of industrial processes likewise benefitted from the research and development of electrical engineer and inventor William Chapman for the Portland Company and through the Chapman Electric Neutralizer Company at the Portland Company.

The Portland Company has local historic significance because it is the only intact nineteenth and early twentieth century industrial complex remaining in the city. Thirty-three manufacturing plants can be identified in the 1876 Bird's Eye View of Portland. Only the Portland Company complex remains largely intact 138 years later. Portland had 60 sizable companies engaged in industrial production of various sorts in 1924, occupying more than 85 buildings. Of these 85 buildings, fewer than a dozen survive outside the Portland Company, none as complexes.

The Portland Company has local historic significance for its association with several significant 19th century planning and development initiatives within the city of Portland. As part of John A. Poor's vision for creating a modern international port at Portland, he conceived of a wide new street along the waterfront which would contain railroad tracks to connect the Atlantic & St. Lawrence R. R. on the east end of the city to the Portland, Saco & Portsmouth R. R. on the west end while providing both railroads access to the numerous wharves between their terminals. The narrow original waterfront street, Fore Street, followed the natural landform, snaking along the shore around Clay and Broad coves. The new street would be built by filling between the existing wharves below Fore Street, far enough out into the harbor to allow the construction of large new warehouse buildings along the land side of the street. Broad Cove would be filled for construction of the Atlantic & St. Lawrence Railroad terminal and for the Portland Company works and Clay Cove would be filled for the street and new buildings. The Portland Company site alone is seven acres, the majority of it made by filling the mud flats and cove. This project was undertaken cooperatively by the two railroads, the Portland Company, and the city of Portland, with the railroads paying the cost of filling between the wharves and the City paying wharf owners for the value of their properties seized through eminent domain. The mile-long and one hundred foot wide street would be named Commercial Street.[2] This project was the largest urban planning initiative undertaken in the city of Portland in the nineteenth century and was transformative in its effects.

Historic Architectural Significance

The buildings of the Portland Company complex have historic architectural significance because they remain substantially unaltered from the time of their original construction and consequently show clearly the distinguishing characteristics (design and construction materials) of several distinctive types of industrial buildings constructed between 1847 and 1920. Additionally, the Portland Company buildings from the 1840s and 1850s are the only industrial buildings of that period remaining in the city of Portland today.

---

2 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890.
Records of the Atlantic & St. Lawrence Railroad, Maine Historical Society.

The buildings of the Portland Company also have historic architectural significance because each of the remaining buildings served distinctive function(s) in the historic manufacturing process. Collectively, the existing buildings encompass the complete historic manufacturing process of the Portland Company.

Historic Significance and Visual Character of the Portland Company Site

The primary entrance to the site off Fore Street is a curving roadway that follows the grade between the original shoreline at Fore Street and the filled mudflat land on which the complex is built. This has been the entrance to the property since 1847 and is historically significant as an original site feature that has not been substantially altered. This curving roadway leads to the historic entrance yard of the complex.

The entrance yard has historically been, and continues to be, an open space serving the function of entranceway to the linear manufacturing paths of circulation. It is the point from which these streets and alleys of the complex are accessed. Historically, it also served as a fire break between the manufacturing facilities, the paint shop and the pattern storage buildings. At different points in time a car shop and other buildings have projected into this space, especially prior to the construction of the much larger erecting shop (building 1) in 1918. The entrance yard has been in its current configuration for nearly 100 years.

The historic functional organization and placement of the Portland Company buildings in linear proximity to each other creates a visual character for the site that is unique for Portland in the way that the industrial buildings form private streets or alleys. The overhead pedestrian bridges spanning these private streets are also unique in Portland and contribute to the visual character and historic significance of the site.

To a large degree, the architectural significance of the Portland Company exists in the relationship of the buildings to each other within the complex. The proximity and orientation of the buildings to each other permitted related manufacturing processes to take place in a way that allowed for the efficient progression of stages in the production of the company's products.

**Findings:**

- The Portland Company complex is historically significant within local, state and national historic contexts related to industry, transportation, community planning and architecture.
- The buildings individually and the complex as a whole retain a high degree of architectural integrity to the period of significance for the complex (Portland Company production 1847 – 1982).
- All of the buildings of the complex constructed over 50 years ago contribute to the historic significance and integrity of the Portland Company complex.
- Collectively, the existing buildings encompass the complete historic manufacturing process of the Portland Company with the exception of one shop for the construction of boilers.
- Together, the historic significance and historic integrity of the Portland Company complex make it one of the most historically important sites in the city of Portland.
- The removal of any of the historic buildings existing in the complex will diminish the ability of the complex to demonstrate the historic manufacturing process of the Portland Company.
- The Portland Company was the largest business in the city in the mid-nineteenth century and is the only remaining intact nineteenth and early twentieth century industrial complex in the city of Portland today.
- The Portland Company buildings remaining from the 1840s and 1850s are the only industrial buildings of that period surviving in the city of Portland.

- The outstanding nature of the architectural integrity of the complex and exceptional historic value of the Portland Company as the first self-contained complex in the nation built specifically for the manufacture of railroad equipment may make it a strong candidate for National Historic Landmark eligibility consideration.

- The historic Portland Company complex is a compact manufacturing facility characterized by two distinct areas, the entrance yard and the manufacturing corridors.

- The historic functional organization and placement of the Portland Company buildings in linear proximity to each other along the manufacturing corridors creates a visual character for the site that is unique for Portland in the way that the industrial buildings form private streets or alleys. This is similar to the character found in large textile mill complexes in Maine cities like Lewiston, Biddeford, and Sanford but not found elsewhere in Portland.

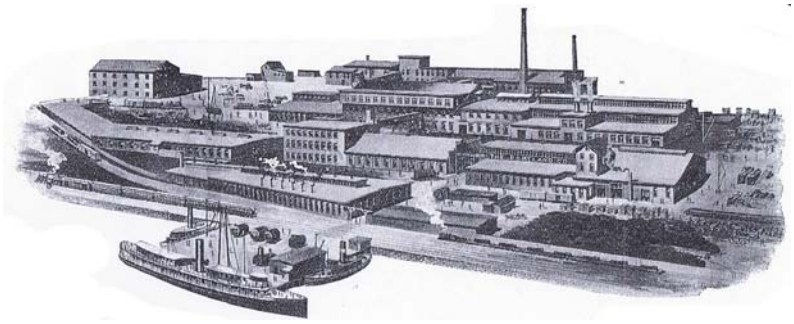
- The compact nature, visual continuity and circulation routes of the historic manufacturing facility of the Portland Company are significant character defining features of the site. The removal of any contributing building would adversely impact the historic significance and character of the whole complex.

- Currently the only modern intrusion into the visual continuity of the complex is building 5, located on the northeast side of the foundry building (building 4).

- In considering the redevelopment of the property for new uses while retaining the essential physical features that give it integrity, a large city-owned vacant parcel to the southwest of the site might provide an opportunity for a connection from the site to Thames Street, allowing enhanced access without altering the historic entrance to the site or the visual character of the entrance yard and "streets" between the historic buildings.

- A large area of vacant land on the east end of the site abuts the largest building on the property, the not-historically-significant modern building wrapping around the two sides of the Foundry. Removal of the modern building could allow access to new development at the east end of the site in a way that maintains the visual character of the "street" between the Erection Shop, Machine Shop, and Foundry and the Car Shop and Blacksmith Shop.

- Compatible new buildings on the sites of the demolished Boiler Shop and Tin and Smith Shop could reinforce the historic character of the site's "streets."

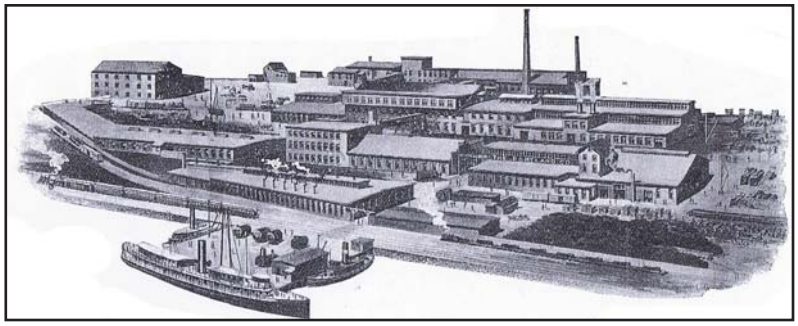


Section I:
Historic Significance of the Portland Company

**National Historic Significance of the Portland Company**

The Portland Company complex is a rare surviving example of a pre-Civil War foundry, machine shop, and car shop complex built for the manufacture of railroad equipment in 1847. It appears to have been the first such self-contained complex in the nation built specifically for that purpose, with all of the necessary shops and a foundry on a single site. It also contains the oldest surviving railroad shop buildings in the nation.

The first companies to produce railroad locomotives in the United States beginning in 1830 were existing machine shops and/or foundries which adapted existing machinery and practices to build steam locomotives. The few companies established specifically to produce locomotives in the 1830s and early 1840s used outside foundries for the necessary castings. This included the Norris Steam Carriage Company (later Norris Locomotive Works) in Philadelphia and the Baltimore & Ohio Railroad shops at Mount Clare, Maryland, which were begun in 1829. The first foundry at the Mount Clare Shops, now a National Historic Landmark, was not constructed until after the Civil War. The earliest surviving shop building at Mount Clare dates from 1869-70. A number of early locomotives were manufactured by the West Point Foundry in New York, established after the War of 1812 to produce armaments and ammunition for the American forces. This plant exists now only as fragmentary ruins in a state park Baldwin Locomotive Works, which would become America's largest producer of steam locomotives, began when former watchmaker Mathias Baldwin built a working model steam locomotive for the Peale Museum in Philadelphia in 1831. Baldwin and a partner had established a machine shop in 1825 to manufacture bookbinding tools and textile printing cylinders. In 1832, they built the first full scale Baldwin locomotive, again using an outside foundry. The original Baldwin works were demolished in 1937, after a new plant was built at another location. The neighboring Norris Locomotive Works buildings had been demolished in 1896. Surviving railroad locomotive foundries and shops from before the Civil War are extremely rare today. It appears from recent research that except for a possible few individual buildings that were once part of locomotive manufacturing complexes, the pre-1860 Portland Company buildings are the only ones remaining. As mentioned above, the Portland Company complex was apparently the first fully self-contained complex built specifically for locomotive construction. It is also the only surviving plant where locomotives were built for the U.S. Government for the use of the Union Army as part of the Civil War effort.[1]



Sketch of the Portland Company c. 1910. Courtesy of the Maine Historic Preservation Commission.

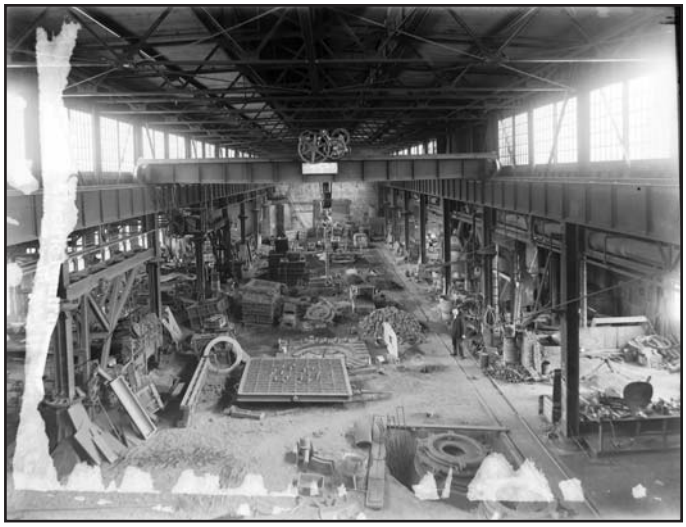

Locomotive rendering, 1851. Courtesy of the Maine Historical Society.

1 Information contained in this paragraph was compiled from numerous sources, the most important being:
Meyer, David R. *Networked Machinists: High-Technology Industries in Antebellum America*.
Converse, John H. "Locomotive Building in the United States," *Cassier's Magazine*, Volume 20, 1901. 221-237.
Colburn, Zerah. *The Locomotive Engine: Including a Description of Its Structure, Rules for Estimating Its Capabilities, and Practical Observations on Its Construction and Management*, 1851.
Lamb, J. Parker. *Perfecting the American Steam Locomotive*, 2003.
Simmons-Boardman Publishing Company. "The Norris Locomotive Works," *Railway Age and Railway Review*,

The use of cast metals, particularly iron, was central to the rapid industrialization and expansion of the United States in the nineteenth century. Although the technology was ancient, the use of it at the scale undertaken during the period the Portland Company was founded was unprecedented. Cast iron has been called, "the plastic of the nineteenth century" for the way it transformed production and expanded the range of products available to industry and the public. Putting all of the stages of production for large machines, like steam locomotives, in one place was a radical advance over traditional practices. Combined with the use of patterned cast iron parts, as opposed to individually hand-crafted unique parts, this advance laid the foundation for Henry Ford's next step in the progression of efficient production, the assembly line. The Portland Company complex represents an important advance in this process and is possibly the only surviving example of such a complex documenting this stage of industrial production in the United States. Its survival in largely intact condition in 2014 is noteworthy and remarkable.

**State Historic Significance of the Portland Company**

The Portland Company made a significant contribution to the development of Maine's railroads (including the state's iconic two-foot gauge lines) and maritime shipping industry. The locomotives, railroad cars, marine engines and boilers, and maritime navigation aids produced entirely or in part at the Portland Company were important to the development of rail and maritime transportation in the state of Maine from the middle of the nineteenth century into the twentieth century. Industrial expansion, natural resource extraction, commerce, and tourism all benefited from improved transportation made possible by products of the Portland Company. The Portland Company was the state's largest nineteenth century foundry-machine shop, with those two shops combined in a way that was unprecedented in Maine. The company grew to be the state's most substantial engineering and machine manufacturing business, employing 150 of the 500 machinists in the state at one point.[2] The Portland Company also played a significant role in the development of many important industries in Maine including the paper-making, textile and canning industries. A number of industrial processes likewise benefitted from the research and development of electrical engineer and inventor William Chapman for the Portland Company and through the Chapman Electric Neutralizer Company located at the Portland Company.



Interior view of the Foundry Building, c. 1880. Courtesy of the Maine Historical Society.

Railroads

The Portland Company was created as an adjunct to the Atlantic & St. Lawrence Railroad shortly after

Volume 47, 1909. 231-236.
Swank, James Moore. *History of the Manufacture of Iron in All Ages: And Particularly in the United States from Colonial Time to 1891*.
White, John H. *A History of the American Locomotive: Its Development, 1830-188*0.
A. Sinclair Company. *Railway and Locomotive Engineering: A Practical Journal of Railway Motive Power and Rolling Stock*, Volume 16, 1903.
Solomon, Brian. *American Steam Locomotive*, 1998.
Kinert, Reed. *Early American Steam Locomotives*, 2012.

2 Rivard, Paul E. *Made in Maine: From Home and Workshops to Mills and Factories*, 2007, 144.

that line was chartered to run from Portland to Montreal. The principal proponent of the Atlantic & St. Lawrence Railroad, John A. Poor, was the first president of the Portland Company as well as a director of the railroad company.

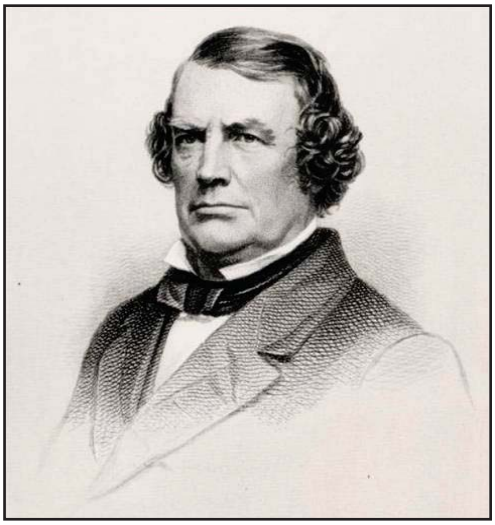
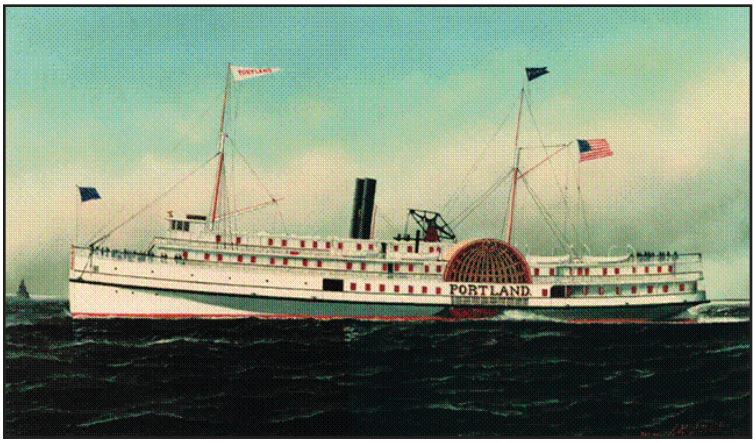


Illustration of John A. Poor. Courtesy of the Maine Historical Society.

Maine railroads that used Portland Company produced locomotives and cars included the Atlantic & St. Lawrence, the Grand Trunk, the Portland, Saco & Portsmouth, Portland & Kennebec, Portland & Rochester, Portland & Ogdensburg, Eastern, Maine Central, Boston & Maine, and Rumford Falls & Buckfield railroads. A number of locomotives were built for Maine's iconic two-foot gauge railroads including the Phillips & Rangely, Sandy River, Kennebec Central, Bridgton & Saco River, and the Wiscasset & Quebec. Maine's logging railroads also used Portland Company equipment, including geared locomotives to run on the rough temporary tracks of logging railroads and log bunks to transport logs on. In addition to locomotives, the Portland Company manufactured passenger and freight cars, wheels, and rail components including switch frogs.

Portland Company locomotives were also built for many out-of-state railroads. One hundred locomotives were manufactured for the Northern Pacific Railroad, with half delivered overland and half loaded on ships and sent around Cape Horn to the West Coast. Locomotives were also built for Canadian railroads including the New Brunswick & Canada and the Quebec, Montreal, and the Ottawa, & Occidental, as well as for the Panama Railroad in Central America. Appendix C contains a list of all the railroads named in the records of the Portland Company at the Maine Historical Society.[3]




Courtesy of the Maine Historical Society.

Maritime Transportation

The directors of the new Portland Company received the first request for the company to build a boiler for a steam ship before the first buildings were completed or operations begun. During the course of its history, the Portland Company manufactured and installed boilers, marine engines and other equipment for hundreds of vessels constructed at shipyards from Kennebunkport to Lubec, as well as its own shipyard in South Portland. Outside of Maine, Portland Company supplied boilers, engines, and other equipment to hundreds of vessels built at yards as close as Massachusetts and as far away as Oregon. Vessels included massive passenger steamers like the *Portland* (280' long), trawlers and porgy boats for commercial fishing, freighters, passenger ferries, tow and tug boats, private yachts, and the 205' long steam gun ships *Agawam* and *Pontoosuc*, built for the U. S. Navy during the Civil War.[4]

3 Records of the Portland Company, Maine Historical Society.
Fletcher, David H. *The Portland Company, 1846-1982*, 2002.

4 Records of the Portland Company, Maine Historical Society.
Fletcher, David H. *The Portland Company, 1846-1982*, 2002.

Also significant to marine transportation was the Portland Company's production of lighthouse components and navigation buoys. Drawings at the Maine Historical Society from the late 1860s through the late 1890s include cast iron parts such as lanterns, lamp decks, spiral stairways, doors, sashes, walkways, railings, and other parts for lighthouses in Maine, New Hampshire and Massachusetts. In some cases, such as "Bug Light" at the entrance to Portland Harbor, they manufactured the entire Greek Revival style cast iron structure. They also produced elaborate fog signal whistles which included a boiler, timer, and whistle for installation at light stations and fog signal stations.

Other Maine Industries

Maine companies that used Portland Company equipment include the Burnham & Morrill and Portland Packing Company canning companies, S. D. Warren Paper Company, and Sanford Mills. Specialized equipment for the paper industry included chipper discs and massive debarking drums, washing drums, and sulphite digesters. Numerous large industrial plants and mills were heated and powered by Portland Company steam boilers. In the mid-twentieth century the Portland Company produced parts for rotary welding inside pipes used in nuclear power plants and manufactured neutron reactor shells for those plants. They also manufactured machinery for forming and extruding plastics.

View of a Portland Company digester sitting between the Blacksmith & Tank shop and Boiler Shop. Courtesy of the Maine Historical Society.

William H. Chapman

In the early twentieth century, inventor and electrical engineer William H. Chapman (1860 - 1944) was in charge of the Portland Company's research department and did important work in the basic research that led to the development of microwave technology as well as experimentation and invention related to the use of electricity in manufacturing.[5] Portland Company voltage regulators were used in mills and factories throughout Maine and beyond. Chapman also invented the Chapman Electric Neutralizing Machine while at the Portland Company in 1906.[6] This device removed static electricity during the manufacturing process and was critical to the paper and textile industries of Maine. *Who's Who in New England*, 1909, lists Chapman as electrical engineer for the Portland Company and also as director and electrical engineer for Chapman Electric Neutralizer Company, with an office at 58 Fore Street – indicating that Chapman had his own company within the complex of the Portland Company while working for the company. Chapman received a second patent for improvements to the original electric neutralizing design in 1916, the same year he patented an elevator brake.

**Local Historic Significance of the Portland Company**

Portland Company is the only intact 19th – early 20th century industrial complex in the city of Portland

The Portland Company has local historic significance as the largest business in the city in the mid-nineteenth century and the only remaining intact nineteenth and early twentieth century industrial complex in the city of Portland. Virtually all evidence of Portland's nineteenth century industrial history has been lost with the exception of the Portland Company complex. In *Portland Maine, Its Representative Business Men and Points of Interest*, author George F. Bacon wrote of the Portland Company in 1891, "Since the

5 Sprague, Phineas. Society for Industrial Archaeology conference tour of the Portland Company complex, June 16, 2014.

6 US Patent #878273 A, filed May 25, 1906, granted February 4, 1908.

incorporation of the Portland Company about 45 years ago it has done more than any other one corporation or firm to make the name of the city well and favorably known throughout the United States, and if there is one enterprise entitled above all others to be classed as representative it is that conducted by the company in question, for this is a Portland undertaking, has always been conducted by Portland men, is located on Portland territory, and by distributing about a quarter of a million of dollars in wages annually has been and is a most powerful factor in attracting skilled workmen to and otherwise promoting the growth of the city."[7]

Top: view showing 1876 aerial drawing with industrial complexes circled in white. Below: similar view with remaining industrial sites highlighted.

Thirty-three manufacturing plants can be identified in the 1876 Bird's Eye View of Portland. Of the thirty-three, which include Portland Stove Foundry, J. B. Brown & Son's Sugar Refinery, Forest City Sugar Refining Company, Eagle Sugar Refining Company, Portland Packing Company, and Portland Stoneware Company, only three complexes survive to any extent in 2014. Two of these have only a single surviving building, one from the Star Match Factory on West Commercial Street and one from the original Burnham & Morrill Cannery complex on Franklin Street (yellow stars at left). Only the Portland Company complex remains largely intact 138 years later. In 1924 Portland had 60 sizable companies engaged in industrial production of various sorts, occupying more than 85 buildings. Of these individual buildings, fewer than a dozen survive outside the Portland Company. Six companies had large complexes of buildings, including the E. T. Burrowes Company, Thomas Laughlin Company, and Southworth Machine Company.[8] Fragmentary remains of some of these complexes, such as the early twentieth century Thomas Laughlin Company foundry building on Hampshire Street now used by Shipyard Brewery, only hint at the history of these sites where hundreds of Portland residents made their livings over many decades.

Portland Company development associated with the creation of Commercial Street

The Portland Company has local historic significance for its association with several significant 19th century planning and development initiatives within the city of Portland. As part of John A. Poor's vision for creating a modern international port at Portland, he conceived of a wide new street along the waterfront which would contain railroad tracks to connect the Atlantic & St. Lawrence R. R. on the east end of the city to the Portland, Saco & Portsmouth R. R. on the west end while providing both railroads access to the numerous wharves between their terminals. The narrow original waterfront street, Fore Street, followed the natural landform, snaking along the shore around Clay and Broad coves. The new street would be built by filling between the existing wharves below Fore Street, far enough out into the harbor to allow the construction of large new warehouse buildings along the land side of the street. Broad Cove would be filled

7 Bacon, George F. *Portland Maine, Its Representative Business Men and Points of Interest*, 1891, 156.

8 Compiled from the City of Portland 1924 Tax Records.

for construction of the Atlantic & St. Lawrence Railroad terminal and for the Portland Company works and Clay Cove would be filled for the street and new buildings. The Portland Company site alone is seven acres, the majority of it made by filling the mud flats and cove. This project was undertaken cooperatively by the two railroads, the Portland Comapny, and the city of Portland, with the railroads paying the cost of filling between the wharves and the City paying wharf owners for the value of their properties seized through eminent domain. The mile-long and one hundred foot wide street would be named Commercial Street.[9]

This project was the largest urban planning initiative undertaken in the city of Portland in the nineteenth century and was transformative in its effects. Before arrival of the Atlantic & St. Lawrence Railroad and Portland Company with the related construction of Commercial Street, Portland had a waterfront infrastructure left over from the eighteenth century that was inefficient and ill suited to the age of steam. Shipyards building wooden sailing vessels still launched into Broad Cove. The last vessel launched from these, on November, 9, 1847, was the *Lemuel Dyer*, which struck the railroad trestle then under construction across Broad Cove during its launching.[10] Following the construction of Commercial Street, wharves were extended and directly accessible by rail. Goods could be efficiently transferred between ships and trains, connecting industry and agriculture in interior Maine, New Hampshire, and Vermont to ports in America and Europe via sail and steam ships. With the completion of the Atlantic & St. Lawrence Railroad to Montreal, and subsequent leasing of the line to the Canadian and British owned Grand Trunk Railroad, all of the wharves on the Portland waterfront were connected to interior Canada. As the Grand Trunk extended westward in Canada, eventually reaching the Mid-West of both countries, the Portland waterfront had a direct connection to the agricultural products of the Mid-West and to cities such as Detroit and Chicago with Portland Company-built locomotives pulling Portland Company freight and passenger cars. Direct service between Portland and Chicago began in 1889. The massive grain elevators that would rise over the Grand Trunk yard where Broad Cove had been were the result of this connection. Trans-Atlantic passenger steamship service was instituted the year the railroad to Canada was completed, turning Portland into an international port of entry. This direct connection between Portland and Europe resulted in the immigration of people of numerous nationalities and ethnicities to Portland, diversifying and expanding the population of the city.

The cooperation between the City of Portland in the planning and implementation of the various components of Poor's modernization plan can clearly be seen in the City's investment of $2 million dollars in the construction of the railroad to Canada, approved by the legislature and funded through municipal bonds approved by the City Council and voters.[11] Existing plans for the first stone retaining wall for the Portland Company along Fore Street, in the collections of the Maine Historical Society, were drawn for the company by City Engineer William Goodwin. This wall was constructed in the 1870s to allow room for the company to expand on its increasingly tight site between Munjoy Hill and the Grand Trunk Railroad tracks. It stood on Portland Company property but was rebuilt by the City of Portland in the 1890s, when the original wall developed structural issues[12].

Residential development of the portion of Munjoy Hill across Fore Street from the Portland Company was clearly triggered by the opening of the plant in 1847. Atlantic, St. Lawrence, Sherbrooke, and Waterville streets were laid out opposite the site while the original Portland Company buildings were under construction. The city directory from 1850 shows a heavy concentration of Portland Company employees residing on these streets, including 12 machinists, 6 blacksmiths, a boiler maker, a "car builder." Sixty-five additional Portland Company workers lived on other nearby streets including Fore, Adams, India,

9 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890.
Records of the Atlantic & St. Lawrence Railroad, Maine Historical Society.

10 Thurston & Company. ***The Portland Reference Book and City Directory, 1850-1851*, 221.**

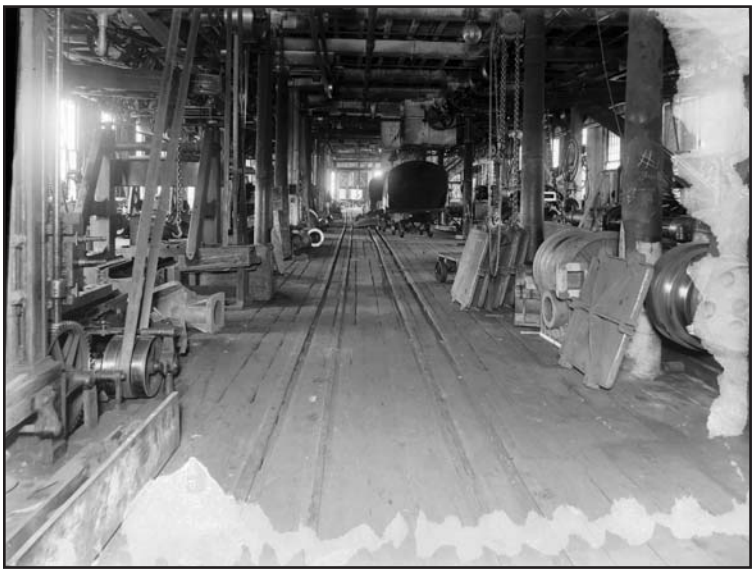
11 Records of the Atlantic & St. Lawrence Railroad, Maine Historical Society.

12 Drawings in City of Portland Public Service vault. 55 Portland Street, Portland, ME.

Sumner, Mountfort, Hancock, Hampshire, and Federal. Nine "steam engineers" were also residing in the neighborhood but it is unclear whether they were involved with the Portland Company or Atlantic & St. Lawrence Railroad locomotive engineers, possibly some of each.[13] By 1858, another street, called Warren Street (now Kellogg), had been extended from Adams, parallel with Waterville, Atlantic, and St. Lawrence. The 1876 Bird's Eye View illustration of Portland shows two rows of five identical two-story buildings. Such a development pattern suggests housing built for employees of an industrial concern. The Portland Company was the only major industry near the site and one of its original directors was George Warren, suggesting a possible connection between the housing and the company. Minutes of the Director's meeting held August 3, 1866, record a vote of the Board authorizing the Treasurer to lease unoccupied lands of the company across Fore Street for the erection of temporary housing for employees of the company made homeless by the Great Fire. The buildings in the Bird's Eye View are likely the result of this action. At a meeting of the Board in 1871 the Directors authorized the sale of the company's lands north of Fore Street, which may have included the temporary housing built after the fire. The Portland 1924 tax record photos indicate that all of those buildings were gone by that date, replaced by three story "triple-decker" tenement housing facing onto Kellogg and Sheridan streets. Most of the triple-deckers were replaced by contemporary multiunit housing in the 1960s, but several houses of the 1860s period remain on the opposite side of the street that was home to the displaced Portland Company workers in 1866.

**Historic Architectural Significance of the Portland Company Buildings and Site**

The buildings of the Portland Company complex have historic architectural significance because they remain substantially unaltered from the time of their original construction and consequently clearly show the distinguishing characteristics (design and construction materials) of several distinctive types of industrial buildings built between 1847 and 1920.



Interior view of the Machine Shop. Courtesy of the Maine Historical Society.

The Portland Company buildings remaining from the 1840s and 1850s are the only industrial buildings of that period surviving in the city of Portland.

The buildings of the Portland Company also have historic architectural significance because each of the remaining buildings served distinctive function(s) in the historic manufacturing process. Collectively, the existing buildings encompass the complete historic manufacturing process of the Portland Company.

The earliest buildings constructed by the Portland Company were typical of industrial buildings of the period, with brick walls, granite lintels, and slate roofs. Projecting pilasters on the exterior walls provided a suggestion of the Greek Revival style then dominant while adding strength to the walls. The large multi-light wood double-hung windows were also typical of the period, when it was essential to maximize the amount of daylight reaching the interior of the building. The additional buildings constructed for the complex between the 1850s and the 1880s are in the same architectural vocabulary and use the same materials as the 1840s buildings.

13 Thurston & Company. ***The Portland Reference Book and City Directory, 1850-1851.***

As the company grew rapidly in the early years, some buildings or building additions were constructed of wood for the sake of speed and cost. Many of these were replaced with brick buildings, sometimes after being destroyed by fire.[14] Alterations were made to the buildings over time to accommodate the changing needs of the manufacturing processes that took place in the plant, as is typical of industrial buildings. One of the more interesting alterations was the early twentieth century addition of projecting shed dormers to the 1847 Machine Shop building designed by Portland architect Frederick A. Tompson to create space for the company's offices and drafting department as well as the research and development laboratory of inventor/ engineer William H. Chapman. The vault in the "tower" along Fore Street was part of this same project by Tompson for which the blueprints survive.[15] The Foundry building of 1895 and Erecting Shop of 1918 are typical of industrial buildings built after the introduction of structural steel for this type of building. This change in technology allowed for the creation of much larger open floor spaces with over-head traveling cranes to facilitate more efficient production.

View of the Portland Company yard. Courtesy of the Maine Historical Society.

The buildings of the complex retain a high degree of architectural integrity to the period of significance for the complex (Portland Company production 1847 – 1982). While much of the manufacturing machinery has been removed, evidence of industrial uses can be found throughout the buildings, such as overhead shafting for operating machinery, and wood and iron cranes attached to support columns. Overhead traveling cranes remain in the Foundry and Erecting Shop. The most significant loss to the architectural integrity of the complex was the demolition of the boiler shop building (1858, 1890) in the late-20th century and its replacement by a larger modern metal building that abuts two sides of the foundry building. The one story Tin and Smith Shop (1882), which stood to the southeast of the Blacksmith Shop, was removed before 1949. The attached timeline (Appendix D) details the construction and alteration dates for the buildings of the complex.

The various buildings of the complex contain examples of a wide variety of building construction engineering techniques employed to increase the strength or functionality of the buildings. These include a number of wood and metal roof truss systems; large floor areas hung from wooden roof truss systems; brick barrel vaulting; cast concrete and steel beam vaulting; cantilevered shed dormers; and single and double trussed girders used to increase the load carrying capacity of upper floors without obstructing the lower floors with posts. The earliest buildings are of load- bearing masonry wall construction with internal timber framing and later buildings utilize steel framing systems. The 1895 Foundry uses an unusual integrated steel column and brick exterior wall system. This was a comparatively early use of structural steel in Maine and represents a transitional phase in the construction technology as large buildings moved from load-bearing masonry walls to steel skeleton framing.

Historic Significance and Visual Character of the Portland Company Site

The primary entrance to the site off Fore Street is a curving roadway that follows the grade between the original shoreline at Fore Street and the filled mudflat land on which the complex is built. This has been the

14 See attached Developmental Timeline and Development Modeling.

15 Portland Company Records, Maine Historical Society.

Historic view of the lab/office space, third floor of the machine shop. Courtesy of the Maine Historical Society.

Current view of the lab/office space.

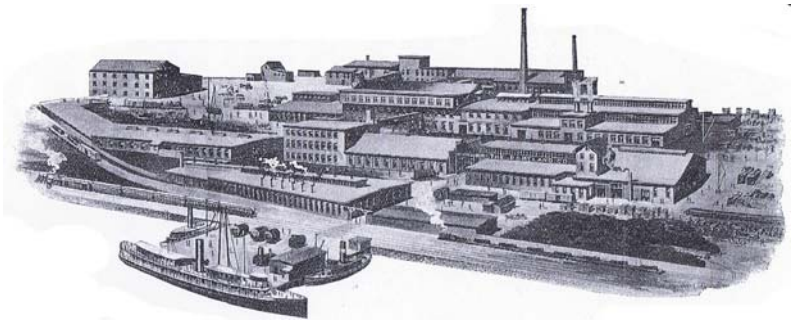
entrance to the property since 1847 and is historically significant as an original site feature that has not been substantially altered. This curving roadway leads to the historic entrance yard of the complex.

The entrance yard has historically been, and continues to be, an open space serving the function of entranceway to the linear manufacturing paths of circulation. It is the point from which these streets and alleys of the complex are accessed. Historically, it also served as a fire break between the manufacturing facilities, the paint shop and the pattern storage buildings. At different points in time a car shop and other buildings have projected into this space, especially prior to the construction of the much larger erecting shop (building 1) in 1918. The entrance yard has been in its current configuration for nearly 100 years.

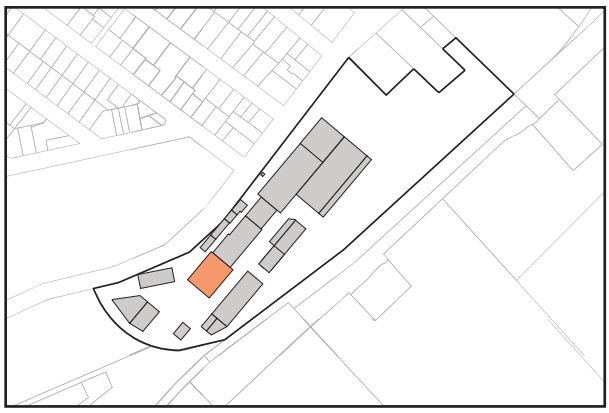
The historic functional organization and placement of the Portland Company buildings in linear proximity to each other creates a visual character for the majority of the site that is unique for Portland in the way that the industrial buildings form private streets or alleys. This is similar to the character found in large textile mill complexes in Maine cities like Lewiston, Biddeford, and Sanford but not found elsewhere in Portland. The overhead pedestrian bridges spanning these private streets are also unique in Portland and contribute to the visual character of the site. Although the railroad tracks that once served many of these buildings have been removed or buried under pavement, the arrangement of the buildings retains a lineal character that resulted from that historic infrastructure serving the buildings. The placement of several buildings outside these rows of buildings also documents considerations for their historic uses. Both the Pattern Storage buildings and the Paint Shop were placed away from other buildings to reduce the risk of fire spreading to them or from them. This was important for the Pattern buildings because they contained very valuable wood patterns for all of the products made by the Portland Company and for the Paint Shop because of the flammable nature of oil paints. The only significant fire at the complex started in the previous Paint Shop and spread to other nearby wooden buildings, destroying several.

Also unique in Portland is the manner in which the Fore Street retaining wall forms the rear wall of the buildings along the northwest side of the alley, with the side walls of the buildings forming buttresses to help support the retaining wall. The brick barrel vaults of the Boiler House support the retaining wall above and allow the space to project under the Fore Street sidewalk.

To a large degree, the architectural significance of the Portland Company exists in the relationship of the buildings to each other within the complex. The proximity and orientation of the buildings to each other permitted related manufacturing processes to take place in a way that allowed for the efficient progression of stages in the production of the company's products. Certain buildings focused on the later stages of manufacturing for particular categories of product, such as the Erecting Shop, Car Shop or Boiler Shop, with the earlier stages of production for all categories of product undertaken in the Foundry and Machine Shop. Research and development, design/drafting, drawing storage, pattern making, pattern storage, and paint storage buildings also served all of the product categories collectively.



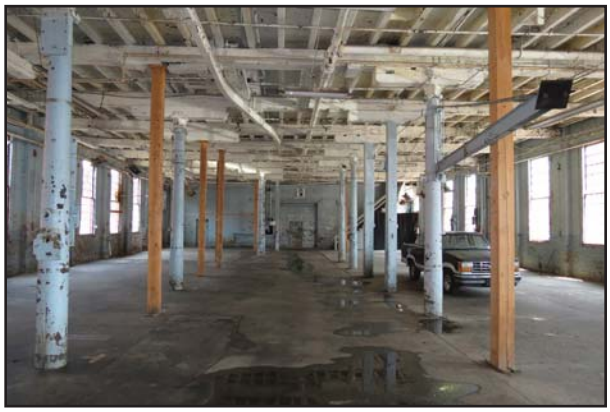
Section II:
Integrity of the Existing Portland Company Resources



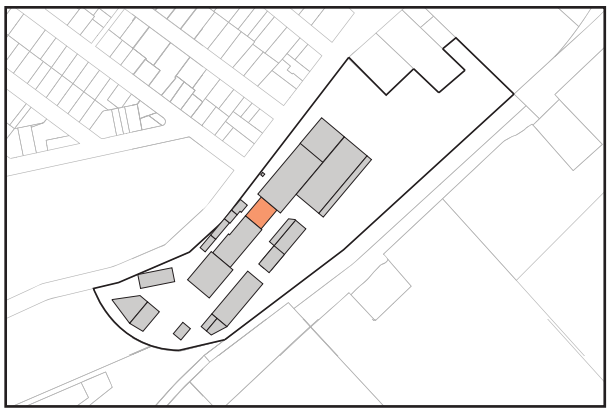
**Building 1: Erecting Shop**
Construction Date: 1918

The Erecting Shop was built to replace an earlier wooden erecting shop, built between 1871 and 1880 on the same site. The Foundry, Machine Shop, and Erecting Shop were closely related in the production process, and were aligned so the steps of the work could flow from the Foundry, through the Machine Shop, and into the Erecting Shop, where a locomotive or other large piece of machinery could be assembled above railroad tracks that led from the building to the Grand Trunk rail yard. The brick wall construction relates it to earlier buildings on the site, but its steel truss roofing system, electric overhead traveling crane, clerestory, and large steel framed windows provided maximum utility with a large open floor space and considerable natural light for the assembly process. The building retains a very high degree of integrity to the time of its construction with some alterations to the south and east elevations. These involve increasing the size of the bay doors on the south elevation, likely during the period of significance; and infilling two windows on the east elevation with modern siding material. The remainder of original windows are intact, with some limited areas of deterioration to the frames.

**Building 2: Machine Shop**
Construction Date: c. 1847



The Machine Shop is one of the first buildings constructed on the site and was one of the key buildings in the production process of locomotives. It is where castings made in the Foundry were finished and prepared for installation. Prior to the construction of the first Erecting Shop (c. 1880) locomotive assembly took place in the Machine Shop. The boilers for the earliest locomotives were also assembled here, before the Boiler Shop was built. Post-mounted cranes and carts were used to move heavy items within the shop, with smaller items moved to the second floor for machining. A truss system allowed the second floor to hang from the roof, leaving the first floor largely open. Some wooden posts have been added in the first floor, to meet modern code requirements for the second story to function as a public assembly space. The building retains a high degree of integrity to the time of its construction with early 20th century alterations to the roof and attic. The c. 1905 Frederick A. Tompson designed offices, drafting room, and electrical laboratory at the attic level are intact, including beadboard office partitions, drafting tables, desks drawing storage drawer units, and electrical equipment in the laboratory. The apparatus used to reflect sunlight from a skylight to develop blueprints remains in place below the roof. Historic plans show tables for 17 draftsmen; desks for 21 clerks and assistant clerks; bookkeeper; purchasing agent; and office boy; with cubicles for the assistant electrical engineer, assistant elevator engineer, assistant mechanical engineer, assistant manager, sales manager, superintendant, and manager; with a private office for the general manager and three additional private offices. An upper attic level above the laboratory contains a walkway lined with storage bins for wooden casting patterns, still full of patterns. The original wood and wrought iron Queen Post Truss roof system remains in place with the second floor suspended from it. The use of iron rods for the Queen Posts in the trusses represents an advance in technology from the all-wood trusses common in New England in the 18th and early 19th centuries, as America's increased industrialization made the use of structural metals possible.

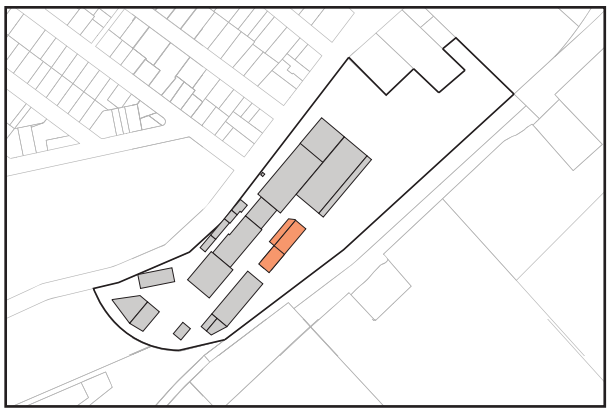
**Building 3: Machine Shop**
Construction Date: c. 1847

This section of the Machine Shop was built in 1847 as a one story blacksmith shop. When the second story was added, c. 1895, the original wood and wrought iron Queen Post Truss roof system was left in place and the floor hung from it with iron rods and double-strut trussed girders. The added wall height essentially creates full-length shed dormers on each side of the original roof and a double-pitched roof with the original gable peak remaining above the much shallower pitch of the shed dormers on either side. Because both ends of the building abut other buildings, this unusual roof form is not visible from the ground. A monitor, probably dating from the original construction, extends along the center portion of the ridge. The ingenious approach taken to expanding this building allowed a second story to be added while retaining the original roof truss structure and the open first floor it made possible. This section of the Machine Shop retains a very high degree of integrity to the period of its expansion into a two story building, c. 1895, while retaining nearly all of the materials from its original 1847 construction. Some wooden posts have been added in the first floor, to meet modern code requirements for the second story to function as a public assembly space. The second floor was the pattern shop, where wooden patterns were made for the iron castings made in the Foundry.

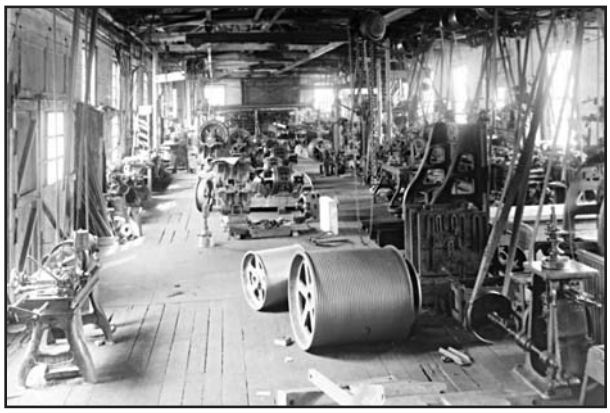
**Building 4: Foundry and Acetylene House**
Construction Date: 1895; 1904-09

The Foundry was the most important building in the production process, being the space where molten iron and steel were cast in sand molds to produce the parts for the various machines and engines made by the company. Using then cutting-edge technology, it was built in the late 19th century to replace the original 1847 foundry and additions on the same site. The 1896 foundry features a steel truss roof system and could be wider and taller than the earlier building, with a tall clerestory for lighting the center of the building and a modern electric overhead traveling crane to move cauldrons of molten metal and heavy castings. The building utilizes an unusual transitional construction system in its exterior walls. The riveted steel roof trusses were erected on posts formed of back-to-back U channel steel with spacers between them to allow the roof truss gusset plate to be riveted in place between the two U channels at the top. Once the roof system was erected, the spaces between the posts were filled with brick laid up in common bond and engaging with the posts by extending into the recess of the U channel. Above the tops of the posts, the brick wall encased and engaged the steel trusses to the eaves. It appears that once the brick was in place, the roof trusses were supported primarily by the brick walls, not by the steel posts. The Foundry building retains a high degree of integrity to the period of significance and stands largely as built in 1895 except for the northeast end, which was removed entirely when the building was extended in the mid-20th century. Much of the southeast elevation is now contained within the abutting modern metal building and its windows have been infilled. There is some infill construction along this side for offices and storage areas. The original exterior wall and roof system appear to be intact within the later building addition.

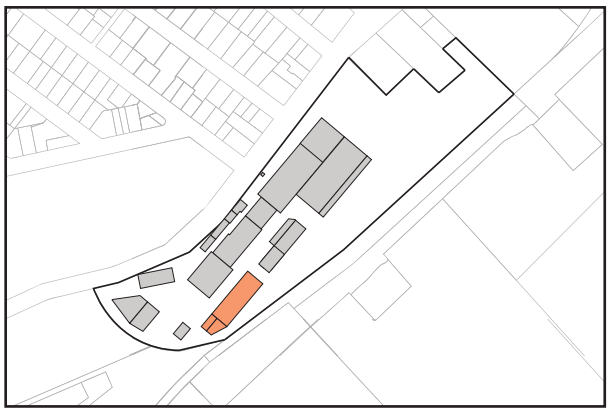
The Acetylene House, located on the terrace below the upper retaining wall to the west of the foundry, was a simple brick box, approximately eight feet square. Its roof has failed, and the masonry arch over the door has collapsed. Original drawings for the acetylene house show a shed roof.

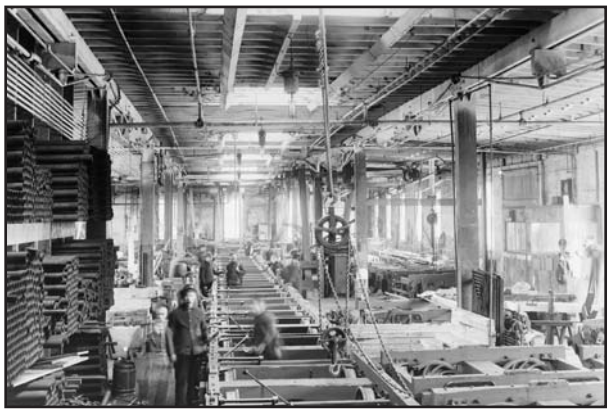


**Building 6: Blacksmith & Tank Shop**
Construction Date: 1883; 1896-1904



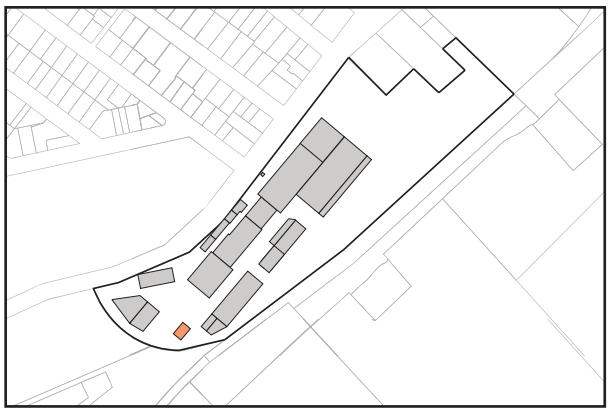
As the plant expanded during the 19th century, additional blacksmith shops were constructed to serve different areas of production. Originally freestanding and serving both the machine shop and car shop, this blacksmith shop later served the attached tank shop, where the company produced tanks for various uses from industrial water tanks to municipal standpipes. This building replaced an earlier and wider blacksmith shop on the same site and was likely built reusing the brick and granite of the earlier shop. Its design and use of materials are more like the 1840s and '50s buildings on the site than the 1860s and '70s buildings that followed. It is unclear why the building was rebuilt, but its change in width increased the clearances between the blacksmith shop and the machine shop and foundry, which had additions made to their width during this period. This may have been the reason for rebuilding. The Blacksmith & Tank Shop retains a high degree of integrity to the period of significance. The former Tank Shop now contains the Maine Narrow Gauge Railroad Museum with exposed structural framing and brick walls. Original drawings for the building show it to be longer than it currently exists. A portion of it was likely demolished for the construction of the three story block between 1896 and 1904. This portion of the building contained the Chapman Electric Company, a subsidiary of the Portland Company run by the company's electrical engineer, William Chapman. The Portland Company's electric elevator production also occurred in this building, starting in the early 20th century. The three-story block retains integrity to the period of significance with some alterations to the interior spaces to create offices on the third floor and a meeting room on the second floor. The elevator tower, with historic machinery remains attached to the north side of the building. Many original windows in the three-story block have been replaced.





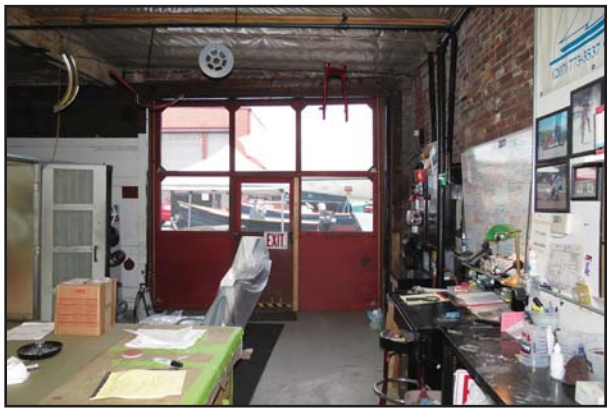
**Building 7: Car Shop**
Construction Date: c. 1873; 1904

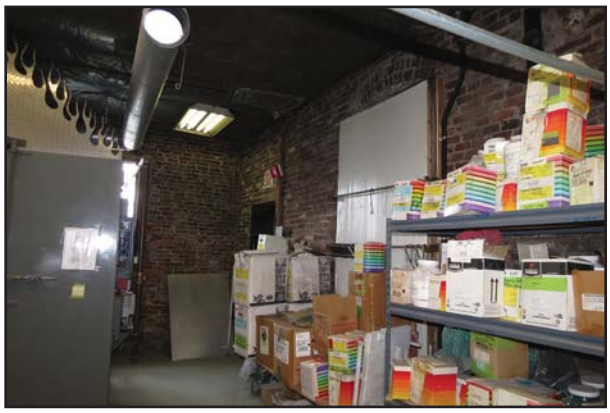
The Portland Company was founded to manufacture railroad passenger and freight cars as well as locomotives and other equipment. The first wooden car shop was built south of the blacksmith shop around 1847-48. A second car shop was constructed between 1858 and 1864 just slightly to the southwest of the first car shop. Both buildings were destroyed by fire in 1873, and replaced by this brick building. Like the Pattern Storage Building and its additions from the same period, this building uses segmental brick arches over the windows in place of the granite lintels on the earlier buildings. The placement of this building was dictated by the need to have railroad tracks enter the building from the south end. Railroad cars of the period were largely of wood construction with cast and wrought iron fittings, hence the 1904 lumber storage addition to the building. Prior to the construction of the lumber sheds, the car shop had an open car shed adjacent to the original 50' x 21' painting and erecting area of the car shop (projecting from the south end). Like the Foundry/Machine Shop/Erecting Shop, the Car Shop was aligned with the Blacksmith Shop, allowing ironwork for the cars to be efficiently transported into the car shop. It is possible that the car frames and wheel sets were assembled in the blacksmith shop and then rolled over to the Car Shop for construction of the superstructure and finishing. After the Portland Company ceased production of railroad cars, around 1900, the Car Shop was used as a showroom and repair shop for automobiles produced by the Knox Automobile Co. and others and sold by the Portland Company. Subsequently, the Car Shop was used for steel fabrication and had a related sandblasting room built into it. The Car Shop retains a high level of integrity with some alterations to openings to create additional garage bay entry doors. Some easily reversible modern finishes have been installed on the interior. The Lumber Shed addition at the southeast corner is largely intact from construction, with exposed wood framing.

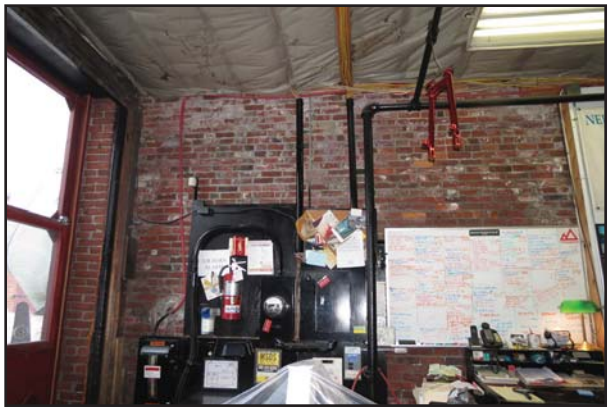



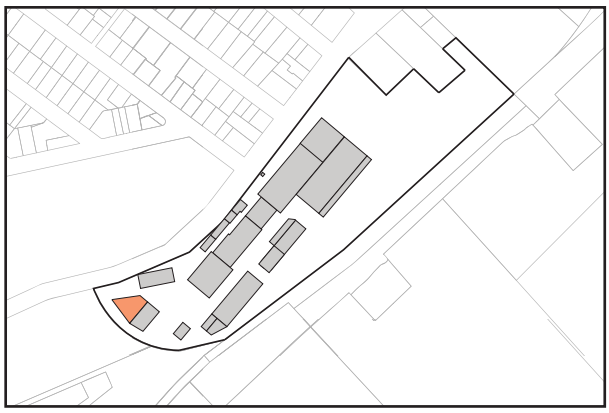
**Building 10: Paint Shop**
Construction Date: c. 1873

An earlier wood paint shop (likely one of the earlier car shops, converted for use) was destroyed by fire in 1873, taking the car shop and several other buildings with it. It was rebuilt in brick, probably to be less flammable, and was originally located at some distance from other buildings, likely to limit the possibility of fire spreading. Fires in paint shops were quite common, given the highly flammable nature of the paints and solvents used. At the other end of Portland, the railroad shops at Thompson's Point were destroyed in 1903 by a fire that started in the paint shop there. The Paint Shop retains integrity as a simple brick structure with a wood-framed roof. In 1904, the large lumber shed connected to the east elevation of the Paint Shop and extended down to connect to the Car Shop. The portion of the lumber shed connecting to the Paint Shop has since been demolished. The south wall has been partially reconstructed and the interior features many modern surfaces to create various ventilated painting areas. Original wood structural members are visible throughout the building, though most of the original window openings have been infilled with brick.



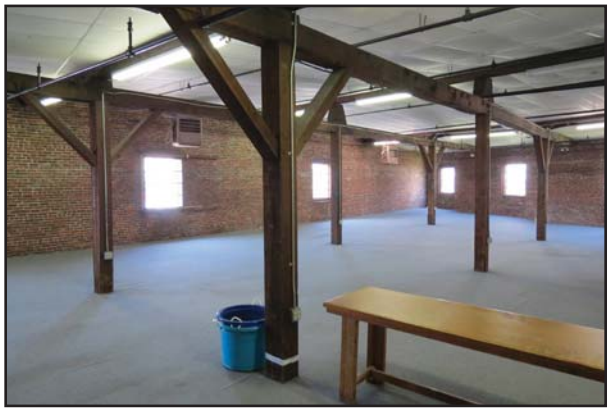



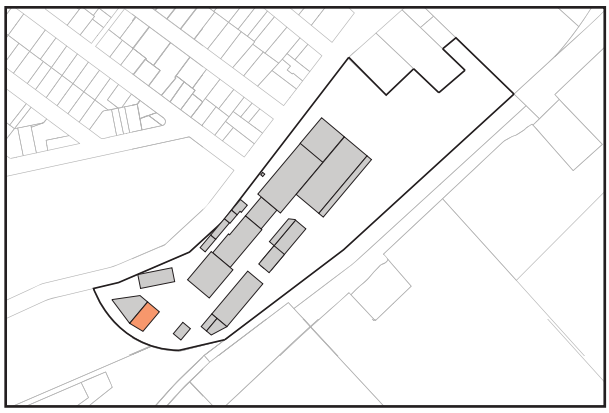




**Building 11: Pattern Storehouse**
Construction Date: 1885; 1895

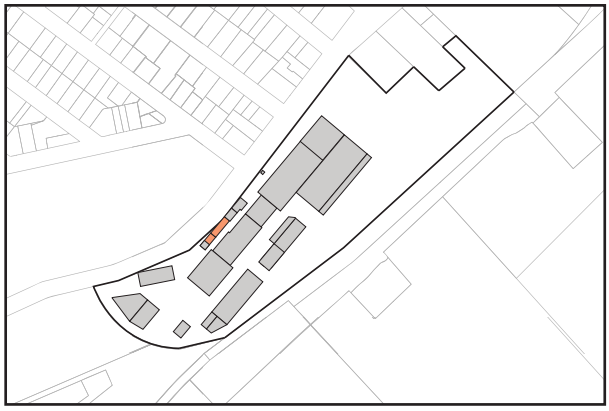
The design and production of the hand-made wood patterns that were used for casting iron and steel in sand molds was central to the functioning of the Portland Company, and represented a large capital investment for the company. Patterns were reused over long periods of time and their preservation was of critical importance. Documentation indicates that patterns were stored in several locations, including the attic of the Machine Shop, for the first several decades of operation. In 1885, a separate Pattern Storehouse was constructed for their storage. It is not coincidental that it was located at some distance from the other buildings and was built of brick with a slate roof. It was also placed up-wind from the prevailing breezes. This provided additional protection for the company's large investment in flammable wooden patterns if other buildings in the complex caught fire. The Pattern Storehouse retains a high level of integrity to the period of significance. The interior still has an exposed wood structural system and brick walls. The first floor has been fitted for a retail space, though original materials are still exposed. The second floor has a modern drop ceiling and carpet installed over the originally exposed elements.

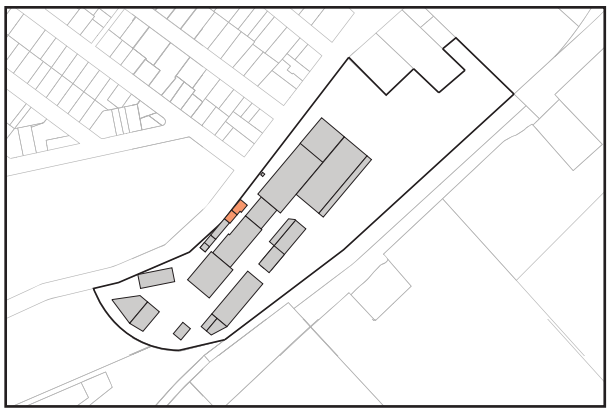
**Building 12: Pattern Storehouse Addition**
Construction Date: 1895

The Pattern Storehouse Addition was built immediately adjacent to the original storehouse, built a decade earlier, using the same materials and technology. From an early date, this building has had "PORTLAND CO." painted across its south elevation, making the complex immediately recognizable from Fore Street and the waterfront. The Pattern Storehouse Addition has a high level of integrity to the period of significance. The building has had no alterations to the interior and still contains many patterns used by the Portland Company.



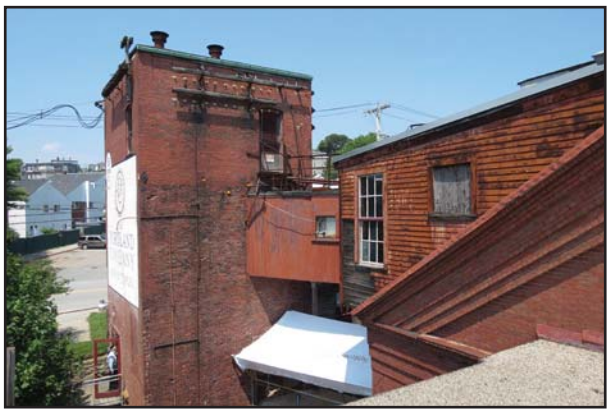
**Building 14: Drafting Room and Storehouse**
Construction Date: 1858-64

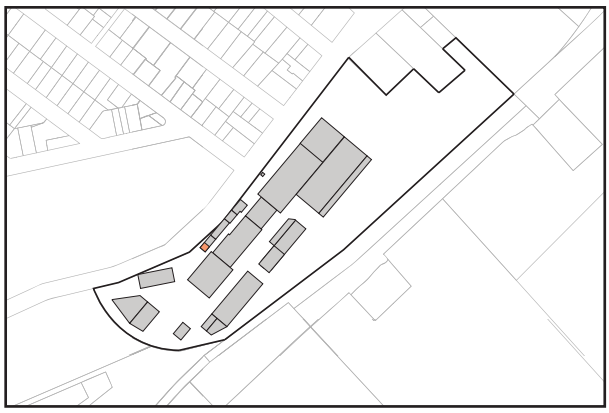
The Portland Company constructed a variety of smaller service structures along the Fore Street retaining wall during the 19th century, and made alterations to many of them to adapt them to differing uses into the 20th century. The masonry side walls of all the spaces along the north side of the alley, including the Boiler House and Brass Foundry, serve as buttresses for the stone retaining wall along Fore Street. The spaces were created by roofing over the recesses between the buttresses and building a wall along the alley. The placement of the Drafting Room and Storehouse, separate from the manufacturing buildings and adjacent to the original office building, is both functionally and symbolically relevant. As the company grew, the drafting department outgrew the space, and was moved to the new offices on the expanded third floor of the Machine Shop around 1905. The old drafting room was then used for drawing storage, with a new vault for drawings constructed above it (See Building 24 – Vault Storage). The Drafting Room and Storehouse retain integrity and has had little alterations over their history. The south portion of the original Drafting Room became part of the Vault upon its construction in the beginning of the 20th century. Numerous labeled wooden bins that were used for storage of parts during the Portland Company's operation remain in several of the spaces.



**Buildings 15 & 16: Boiler House and Brass Foundry**
Construction Date: 1858-64; 1864-71

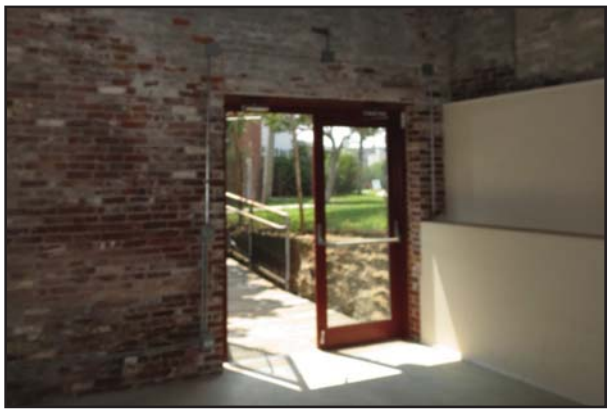
Based on maps and plans of the complex, it appears the existing Boiler House was constructed between 1858 and 1864; the Brass Foundry was constructed between 1864 and 1871. The 1858 plan of the complex (in the collection of the Maine Historical Society) shows a brick building in this general location, though it is not likely either of the extant buildings. The 1886 Sanborn Map of the Portland Company does not show another Boiler House as suggesting in the Tremont Report. There is a Boiler Shop, where boilers were fabricated, in the northeast quadrant of the complex which may have led to the confusion. The side walls of these buildings, and of the small storage spaces to their west, serve as buttresses for the granite retaining wall the supports Fore Street as it climbs Munjoy Hill adjacent to the complex. The conversion of these voids between the structural buttresses into functional spaces for the complex is an example of ingenuity and determination to utilize every available space on the increasingly crowded site with Fore Street and Munjoy Hill containing one side of the property and the Grand Trunk Railroad properties containing the others. The Boiler House has suffered the loss of a majority of its façade, though remnants illustrate key architectural features that were included in the original construction. The interior, however, retains a remarkable pair of tall brick barrel vaults on stone walls that extend the space under the Fore Street esplanade and sidewalk. The Brass Foundry retains a high degree of integrity on the exterior. The interiors of both buildings appear to retain integrity. The Boiler House still contains the boilers and machinery used by the Portland Company. At the north side of the Brass Foundry, exposed piping and valves remain from a small shed once attached to the Brass Foundry.





**Building 24: Vault**
Construction Date: c. 1905

As noted with Building 14 – Drafting Room/ Storehouse, the Vault was added on top of one end of the original drafting room when the new drafting room was constructed c. 1905. It was connected to that space on the top floor of the Machine Shop by an overhead pedestrian bridge. With brick walls and vaulted iron beam and concrete floors, the space was intended to protect paper drawings in case of fire. An additional story was added at some point by 1924 to contain the electrical transformers for the plant. The Vault retains a high degree of integrity as it has undergone very few changes over time. The top floor continues to be used for electrical transformers. The c. 1905 vault containing Portland Company drawings (assumed) is not accessible due to safety concerns with the bridge that supplies access from the office and drafting room in the attic of the Machine Shop.



**Building 30: Office**
Construction Date: 1950

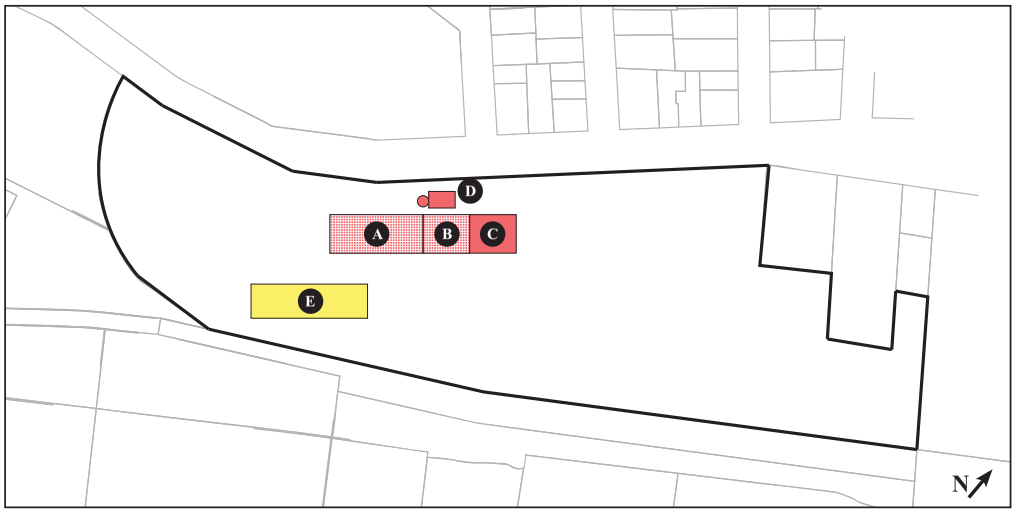
Like most of the earlier buildings at the Portland Company, the 1950 Office Building was representative of architecture and technology of the time of its construction. It was located just to the southwest of the site of the original wood office building, retaining access to the offices from Fore Street without entering the manufacturing complex itself. This building was built after the company had ceased its transportation related work and it is not associated with that area of significance. At an earlier date, sheds and stables for the company were located on the site. It is a modern building, clad in a combination of wood siding and brick. The interiors contain typical features of the period such as pressed-paper acoustical tile ceilings, fluorescent lighting, and aluminum Venetian blinds on the windows. A (non-functional) period office kitchen with built-in dishwasher, range, and refrigerator remains in its original location. The Office Building retains a relatively high degree of integrity. Relatively minor alterations to the interior of the space do not detract from the minimal detail of the mid-century architectural style, much of which still exists. Although built more recently than the other contributing buildings, the Office Building helps to maintain a sense of enclosure for the entrance yard that had previously been provided by the sheds, stables, and fencing that occupied this site. This sense of enclosure is important to the integrity of the entrance yard, a primary feature of the site.

The Portland Company site retains a high level of historic integrity. The property has been the site of the company since its founding in 1846. Located north of the former Grand Trunk Railroad site, the Portland Company retains its feeling as a complex significant for its association with industrial manufacturing. The site features parallel rows of buildings aligned with the former Grand Trunk Railroad tracks with interiors of large, open spaces for heavy manufacturing. The Portland Company was largely built on filled land on the former site of Broad Cove with a large two-tiered retaining wall along Fore Street. Across the street is a residential neighborhood where many of the Portland Company workers lived historically. To the south of the site, modern commercial buildings are located on the former Grand Trunk Railroad yard site on the east side of Fore Street. Within the Portland Company complex, the proximity of the buildings to each other documents how each building played an important role in the production process. Catwalks connect buildings over the private streets of the complex and the historic function of individual buildings relates to that of adjacent buildings.

The individual buildings of the Portland Company generally retain a high level of integrity as they illustrate typical design and construction technologies of industrial buildings between the mid-19th century and early-20th century. The Portland Company complex as a whole also has a high degree of integrity through the retention of essential physical features related to its significance in the areas of industry, transportation, and architecture. Over the history of the Portland Company site, some important buildings were lost to fire (particularly a large conflagration in 1873 that destroyed several buildings at the southeast corner of the property). Other buildings were replaced with new over time, as is common in industrial complexes. The majority of these changes occurred within the period of significance. Of the three original brick buildings built in 1847, two remain. All of the other buildings except two predate 1920. The most recent construction appears to be the addition at the north end of the foundry and the replacement of the boiler shop, both of which occurred between 1951 and 1980. These two buildings were later connected with infill construction. Small secondary buildings were located around the property and had different uses during the history of the complex. Most of these wooden buildings are no longer present, leaving the primary industrial structures to illustrate the manufacturing industry of locomotives, railroad cars, marine, boilers, etc.

The following maps and models illustrate the evolution of the site from 1847 until 2014.

See Appendix E for listing of Portland Company's contemporaries and their current significance, configuration and integrity.




**The Portland Company**
**1847**

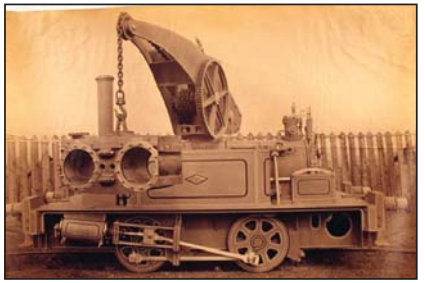
- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

A: Machine Shop
B: Smith Shop
C: Foundry
D: Boiler House
E: Car Shop

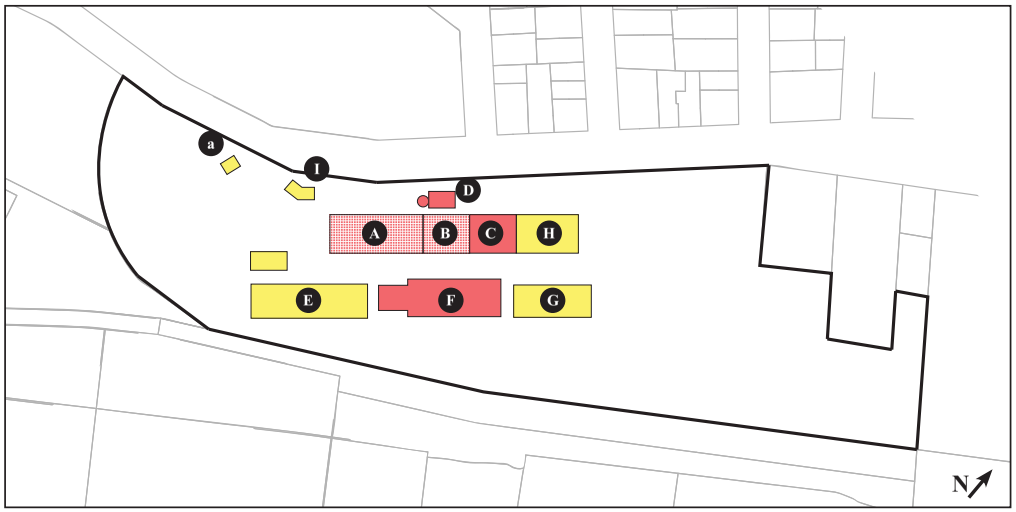
Boston & Maine parlor car. Courtesy of the Maine Historical Society.


Locomotive from the Portland Company. Courtesy of the Maine Historical Society.


1851 drawing of a locomotive. Courtesy of the Maine Historical Society.



Locomotive crane. Courtesy of the Maine Historical Society.

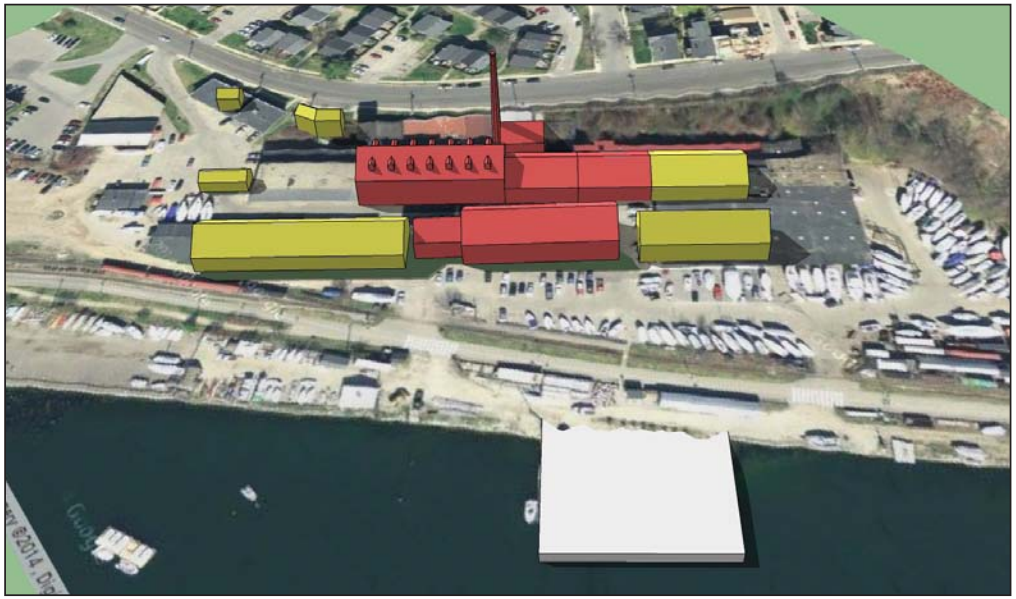



**The Portland Company**
**1858**

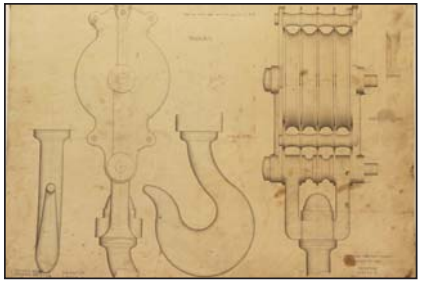
- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

PRIMARY:
A: Machine Shop
B: Smith Shop
C: Foundry
D: Boiler House
E: Car Shop
F: Blacksmith Shop
G: Boiler Shop
H: Foundry Expansion
I: Office Building

SECONDARY:
a: Stable

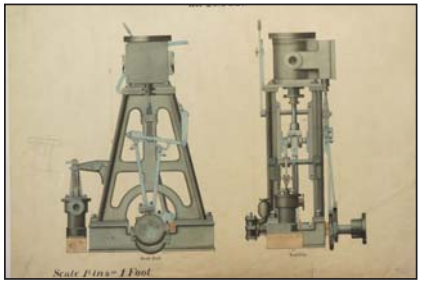


Colon railroad engine. Courtesy of the Maine Historical Society.

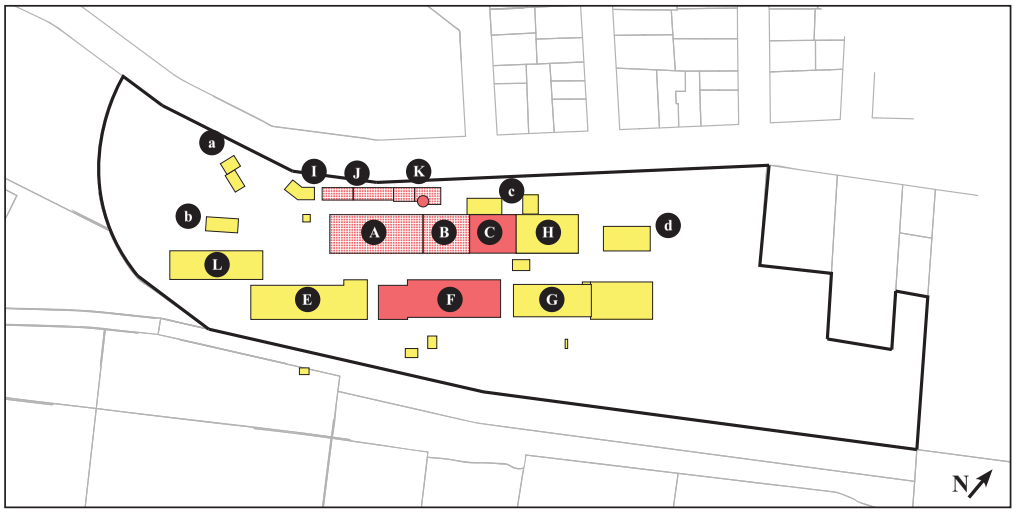


"Blocks" drawing from the Portland Company. Courtesy of the Maine Historical Society.

Portland & Ogdensburg locomotive. Courtesy of the Maine Historical Society.



Propeller Engines. Courtesy of the Maine Historical Society.




**The Portland Company**
**1871**

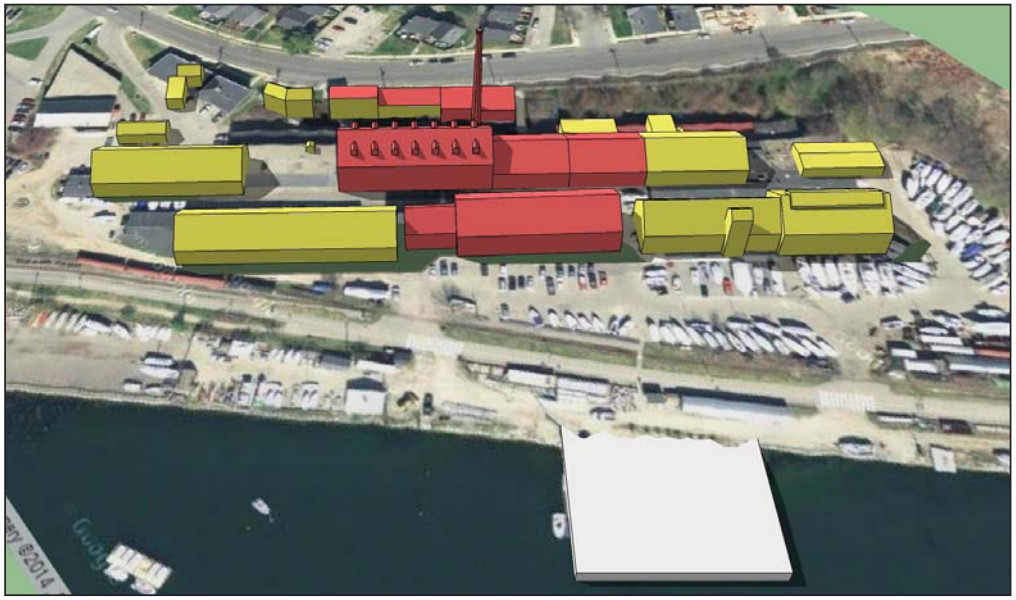
- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

PRIMARY:

A: Machine Shop
B: Smith Shop
C: Foundry
E: Car Shop
F: Blacksmith Shop
G: Boiler Shop
H: Foundry Expansion
I: Office Building
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
L: Car Shop

SECONDARY:

a: Stable
b: Babbitt Shop
c: Air Furnace & Core Shop
d: Scratch House

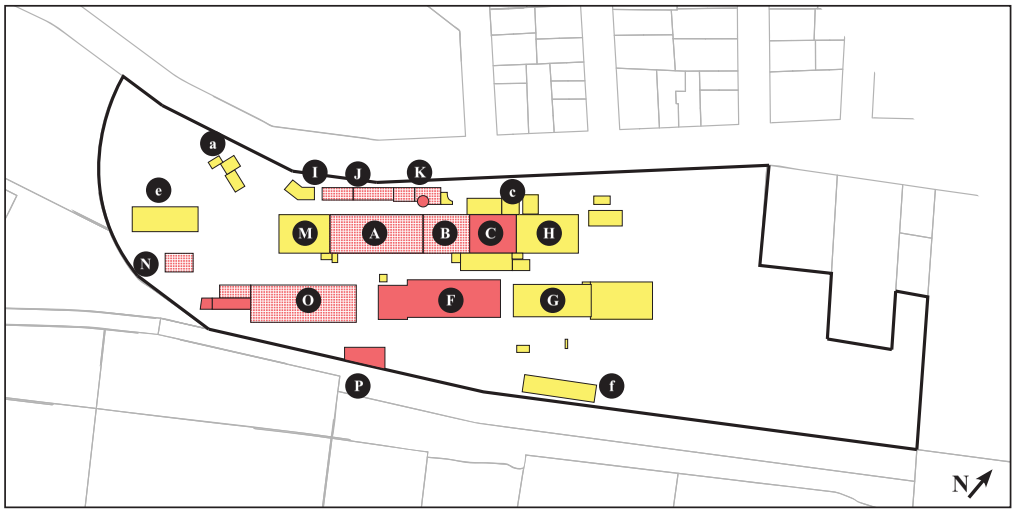


Portland Company locomotive. Courtesy of the Maine Historical Society.

Locomotive south of the Machine Shop. Courtesy of the Maine Historical Society.

Locomotive with office building at rear. Courtesy of the Maine Historical Society.

View of the Portland Company yard from the north. Courtesy of the Maine Historical Society.




**The Portland Company 1880**

- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

PRIMARY:

A: Machine Shop
B: Smith Shop
C: Foundry
F: Blacksmith Shop
G: Boiler Shop
H: Foundry Expansion
I: Office Building
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
M: Erecting Shop
N: Paint Shop
O: Car Shop
P: Tin & Babbitt Shop

SECONDARY:

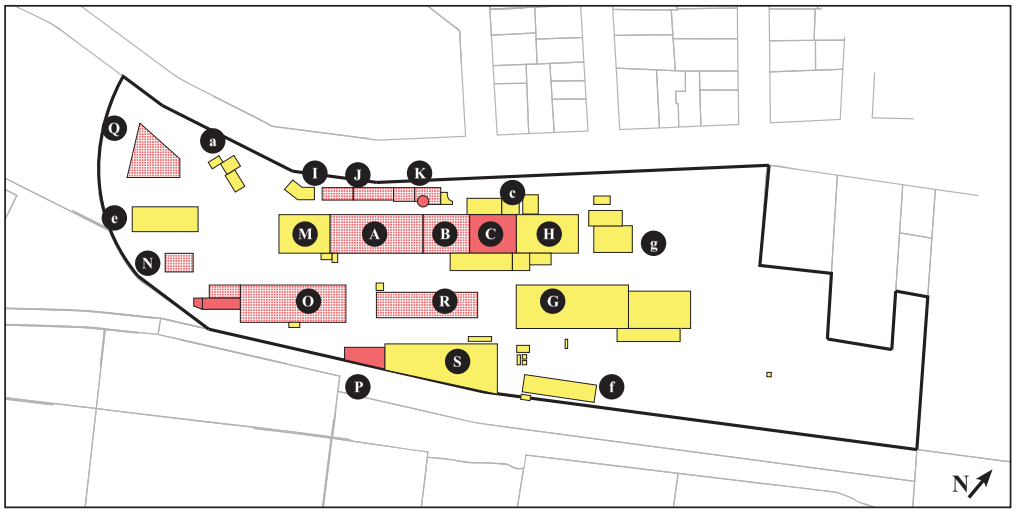
a: Stable
c: Air Furnace, Foundry Expansion & Core Shop
d: Scratch House
e: Storehouse
f: Sand Shed


View of the Portland Company yard. Courtesy of the Maine Historical Society.

Portland Company works. Courtesy of the Maine Historical Society.

Interior of the machine shop. Courtesy of the Maine Historical Society.

Interior of the boiler shop. Courtesy of the Maine Historical Society.




**The Portland Company 1890**

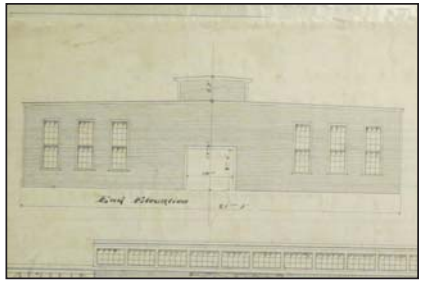
- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

PRIMARY:

A: Machine Shop
B: Smith Shop
C: Foundry
F: Blacksmith Shop
G: Boiler Shop
H: Foundry Expansion
I: Office Building
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
M: Erecting Shop
N: Paint Shop
O: Car Shop
P: Tin & Babbitt Shop
Q: Pattern Storehouse
R: Blacksmith & Tank Shop
S: Blacksmith & Tank Shop

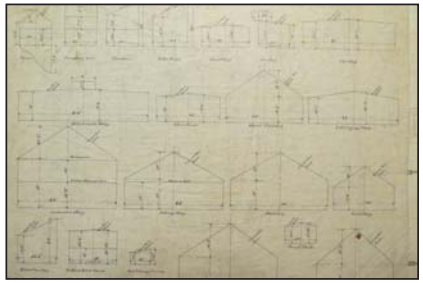
SECONDARY:

a: Stable
c: Air Furnace, Foundry Expansion & Core Shop
d: Scratch House
e: Storehouse
f: Sand Shed
g: Wheel Foundry



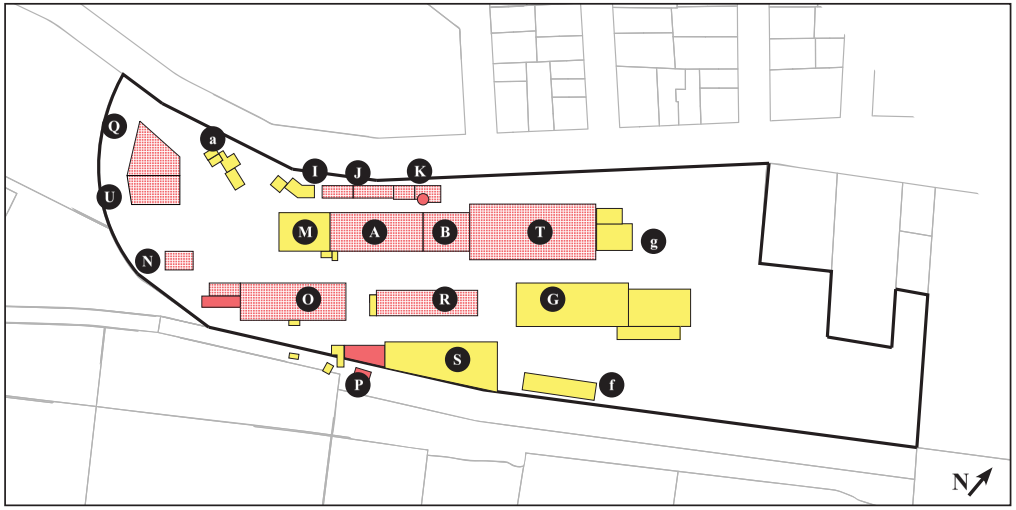
Drawing for new blacksmith and tin shop. Courtesy of the Maine Historical Society.


View from the Portland Company erecting shop. Courtesy of the Maine Historical Society.



Various Portland Company buildings in section. Courtesy of the Maine Historical Society.

North end of the Portland Company yard. Courtesy of the Maine Historical Society.




**The Portland Company**
**1896**

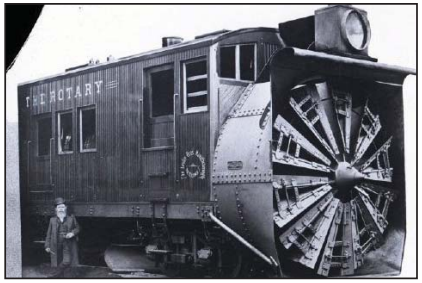
- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

PRIMARY:

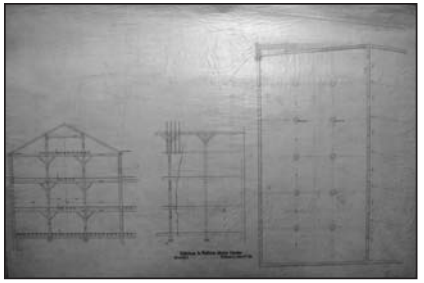
A: Machine Shop
B: Smith Shop
F: Blacksmith Shop
G: Boiler Shop
I: Office Building
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
M: Erecting Shop
N: Paint Shop
O: Car Shop
P: Tin & Babbitt Shop
Q: Pattern Storehouse
R: Blacksmith & Tank Shop
S: Blacksmith & Tank Shop
T: Foundry
U: Pattern Storehouse Addition

SECONDARY:

a: Stable
d: Scratch House
f: Sand Shed
g: Wheel Foundry



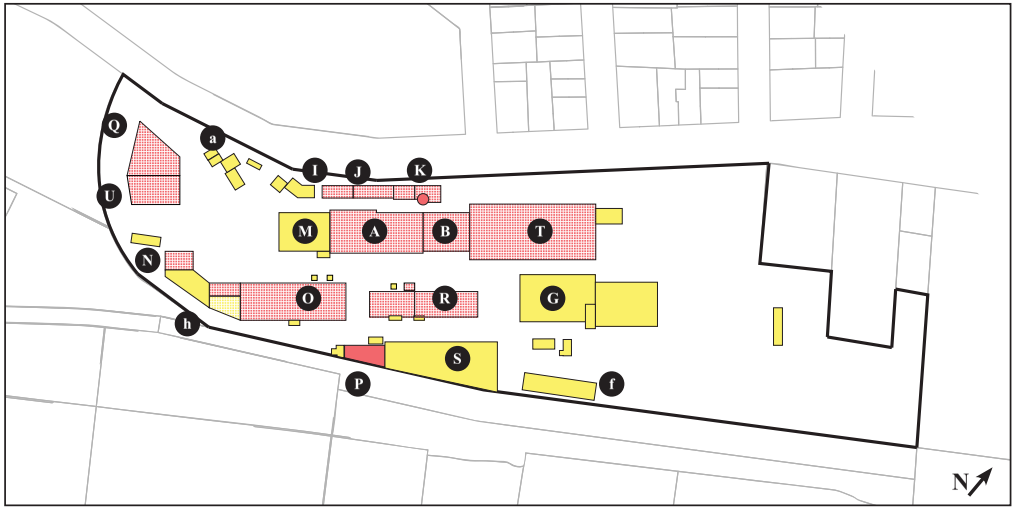

Courtesy of the Maine Historical Society.



Drawings for the Pattern Storehouse addition. Courtesy of the Maine Historical Society.

View of the Portland Company entry yard. Courtesy of the Maine Historical Society.

View of the Portland Company works. Courtesy of the Maine Historical Society.




**The Portland Company 1909**

- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

PRIMARY:

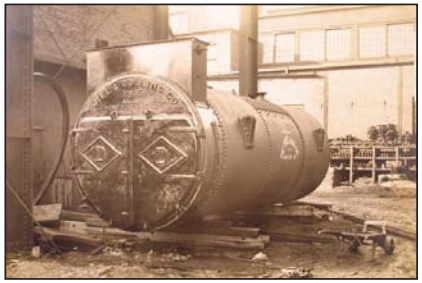
A: Machine Shop
B: Smith Shop
F: Blacksmith Shop
G: Boiler Shop
I: Office Building
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
M: Erecting Shop
N: Paint Shop
O: Car Shop
P: Tin & Babbitt Shop
Q: Pattern Storehouse
R: Blacksmith & Tank Shop
S: Blacksmith & Tank Shop
T: Foundry
U: Pattern Storehouse Addition

SECONDARY:

a: Stable
d: Scratch House
f: Sand Shed
h: Lumber Sheds

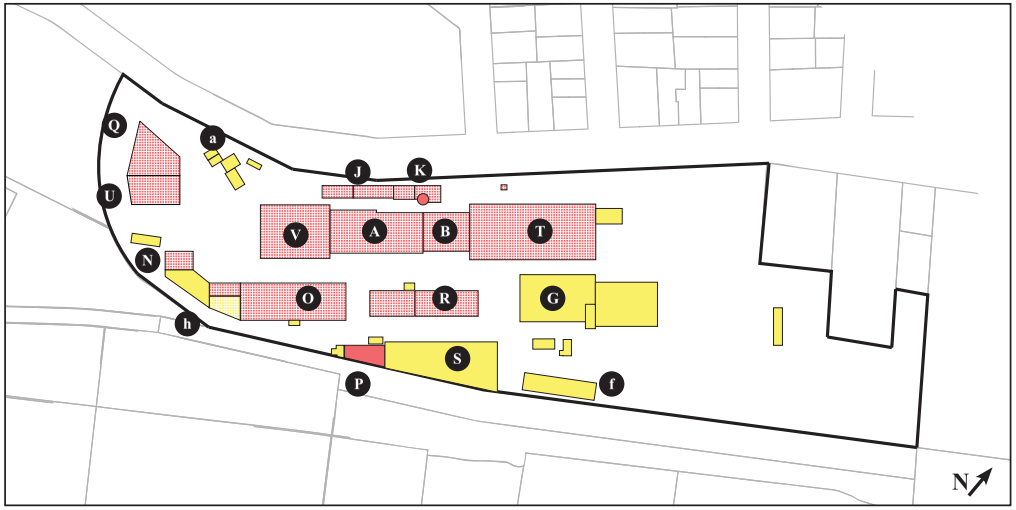
Interior view on the third floor of the machine shop. Courtesy of the Maine Historical Society.

Knox automobile at the Portland Company. Courtesy of the Maine Historical Society.



Large boiler outside the tank shop. Courtesy of the Maine Historical Society.

Knox automobile at the Portland Company. Courtesy of the Maine Historical Society.




**The Portland Company 1918**

- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

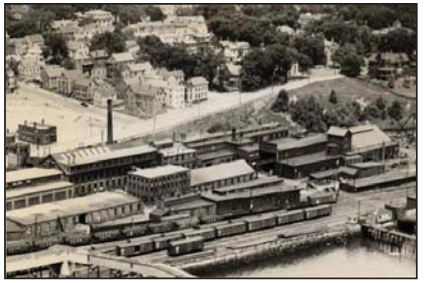
PRIMARY:

A: Machine Shop
B: Smith Shop
F: Blacksmith Shop
G: Boiler Shop
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
N: Paint Shop
O: Car Shop
P: Tin & Babbitt Shop
Q: Pattern Storehouse
R: Blacksmith & Tank Shop
S: Blacksmith & Tank Shop
T: Foundry
U: Pattern Storehouse Addition
V: Erecting Shop

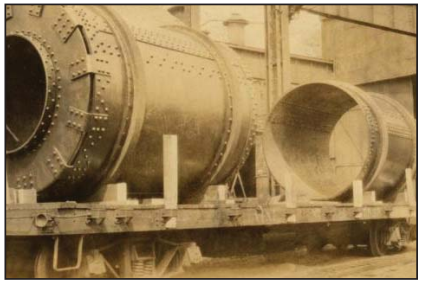
SECONDARY:

a: Stable
f: Sand Shed
h: Lumber Sheds

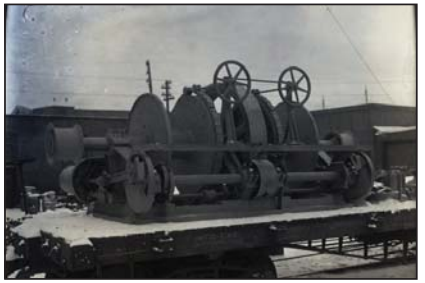
Aerial of the Portland Company. Courtesy of the Maine Historical Society.



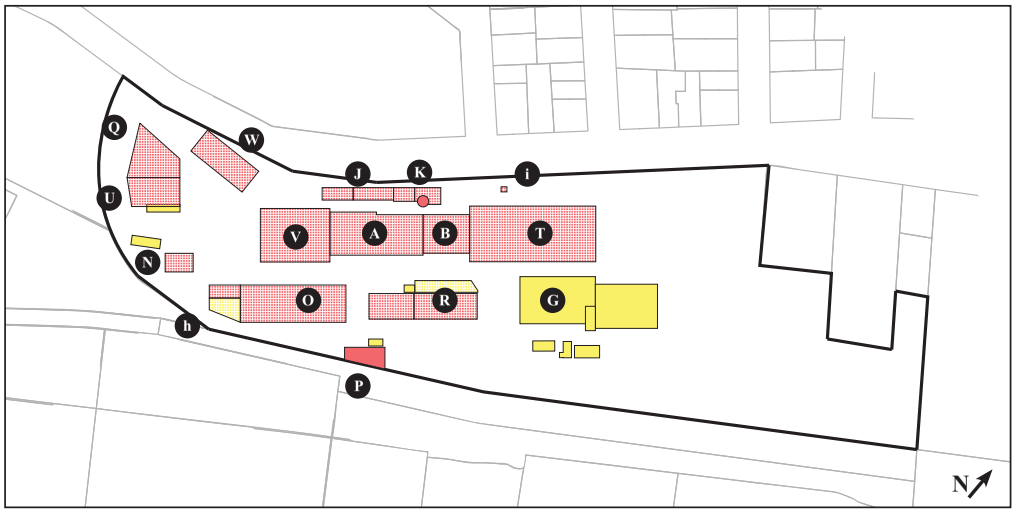
Aerial of the Portland Company. Courtesy of the Maine Historical Society.



Large debarking drums. Courtesy of the Maine Historical Society.



Courtesy of the Maine Historical Society.




**The Portland Company**
**1951**

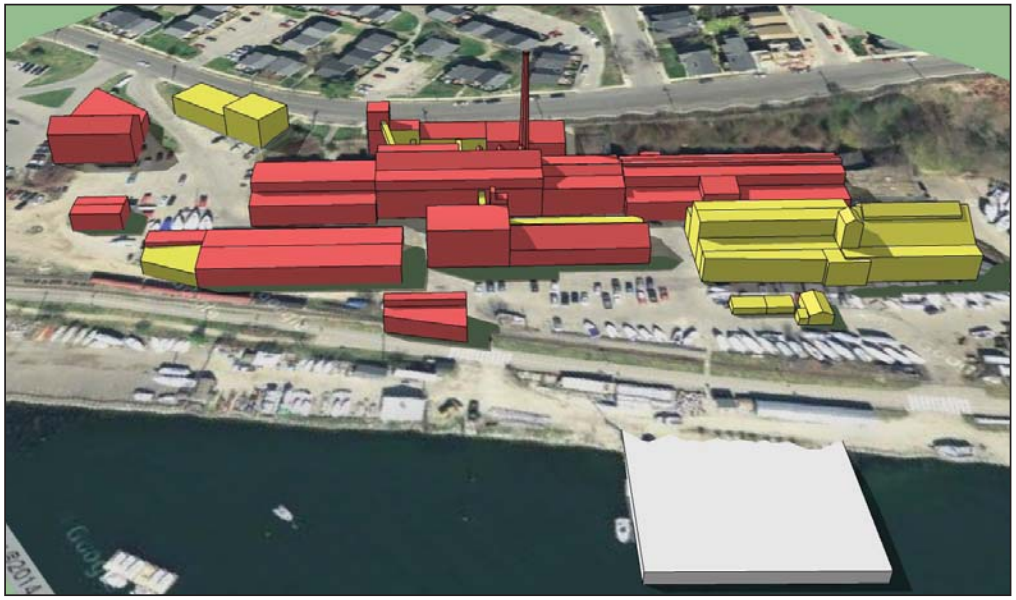
- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

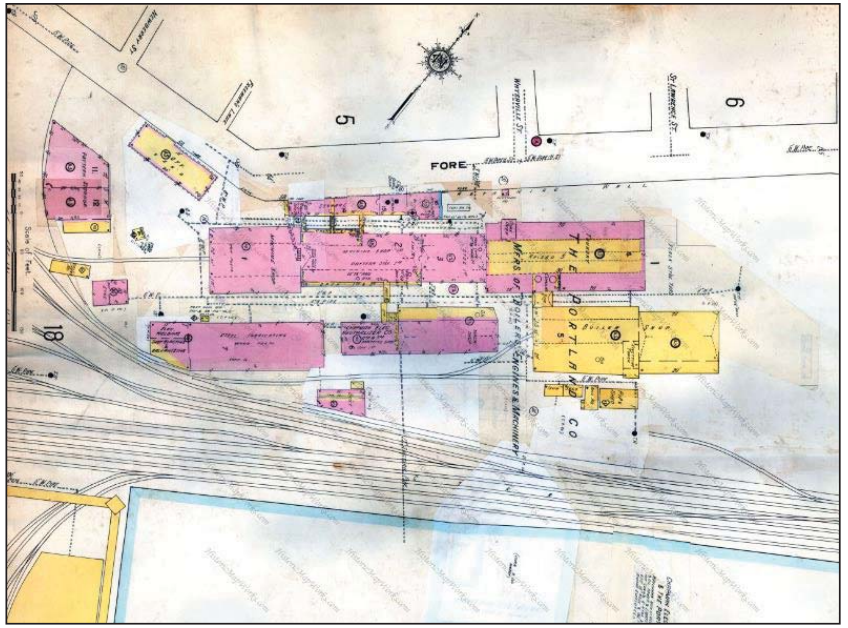
PRIMARY:

A: Machine Shop
B: Smith Shop
F: Blacksmith Shop
G: Boiler Shop
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
N: Paint Shop
O: Car Shop
P: Tin & Babbitt Shop
Q: Pattern Storehouse
R: Blacksmith & Tank Shop
T: Foundry
U: Pattern Storehouse Addition
V: Erecting Shop
W: Office Building

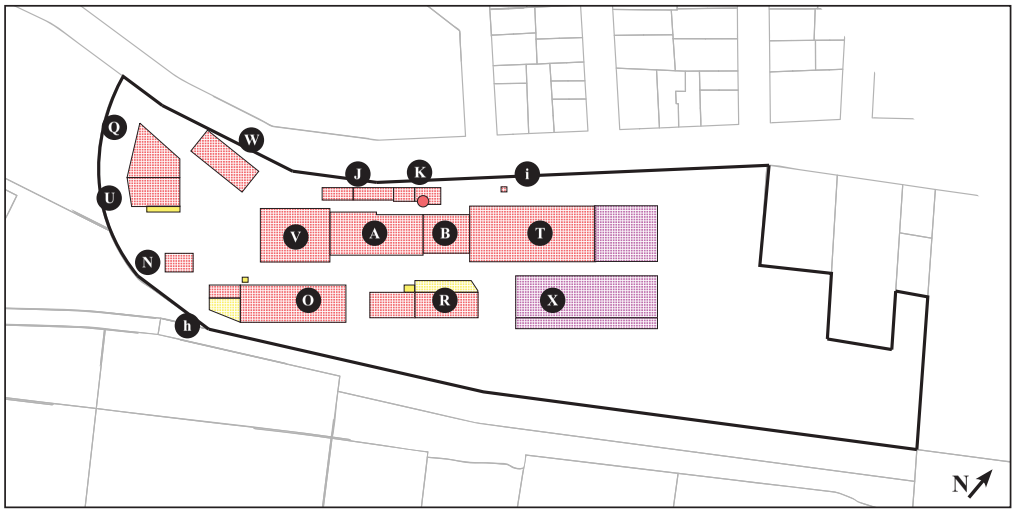
SECONDARY:

h: Lumber Sheds
i: Acetylene House






1951 Sanborn Map for the Portland Company.




**The Portland Company 1986**

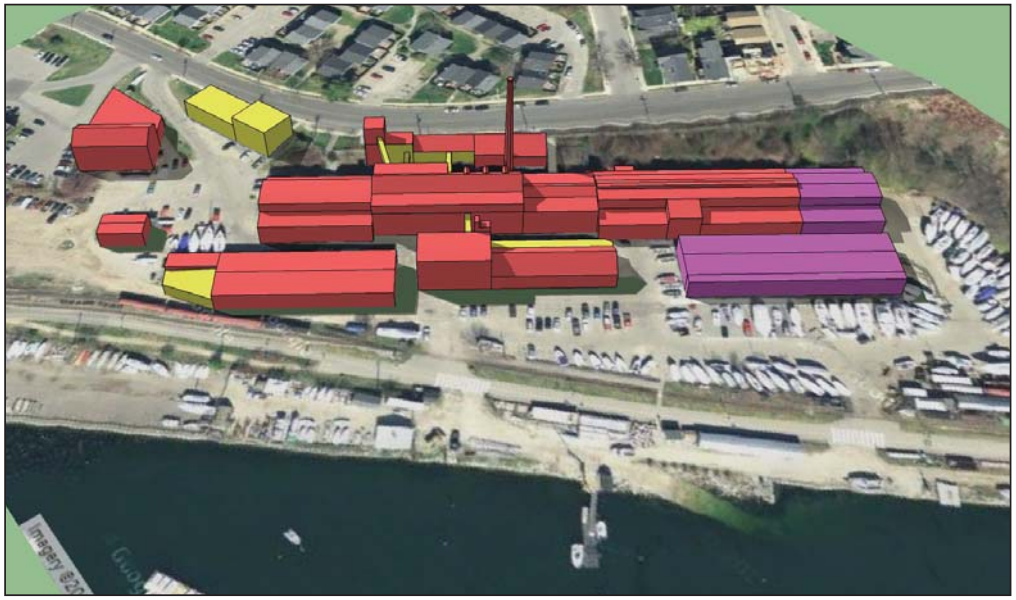
- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

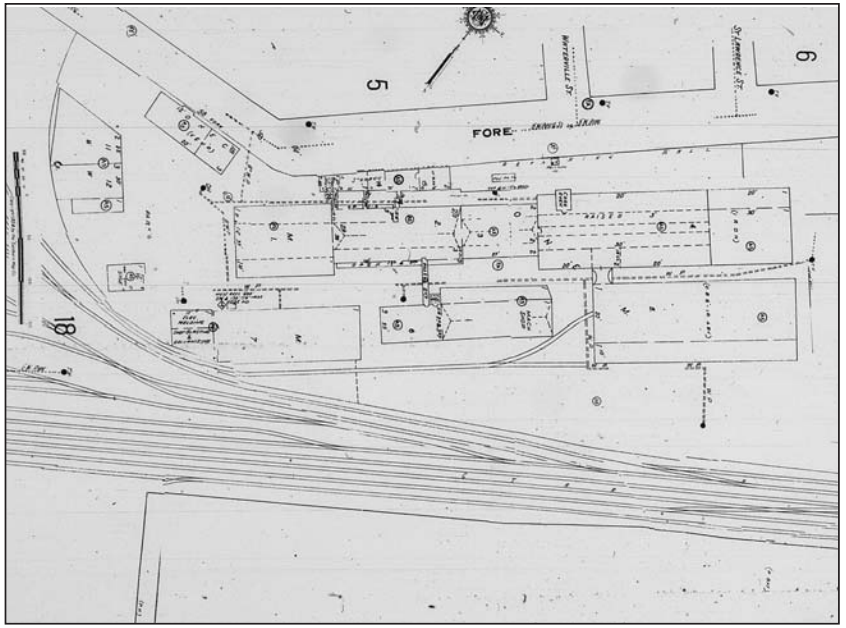
PRIMARY:

A: Machine Shop
B: Smith Shop
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
N: Paint Shop
O: Car Shop
Q: Pattern Storehouse
R: Blacksmith & Tank Shop
T: Foundry
U: Pattern Storehouse Addition
V: Erecting Shop
W: Office Building
X: Modern Construction

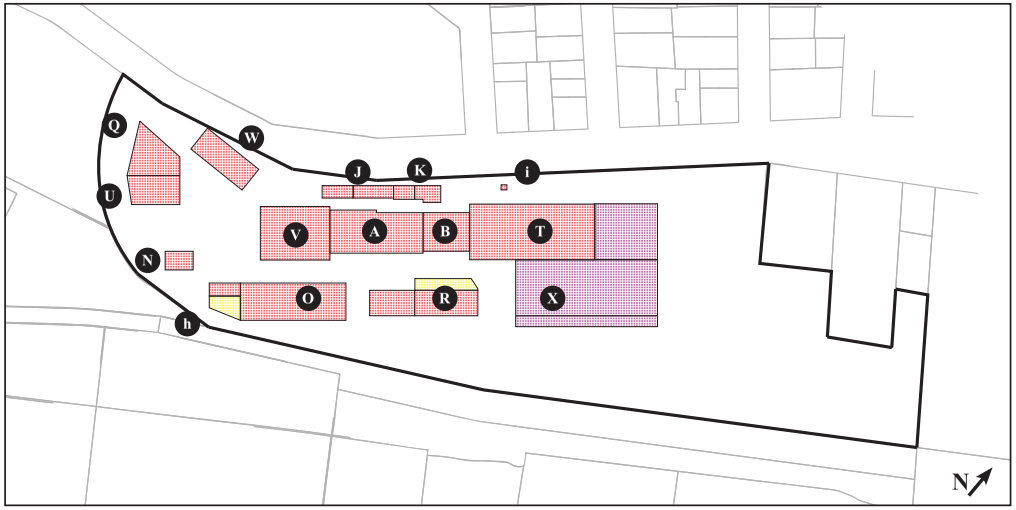
SECONDARY:

h: Lumber Sheds
i: Acetylene House






1986 Sanborn Map for the Portland Company.




**The Portland Company 2014**

- Masonry
- Wood
- Metal
- Extant Masonry
- Extant Wood
- Extant Metal

PRIMARY:

A: Machine Shop
B: Smith Shop
J: Drafting Room & Storehouse
K: Boiler House & Brass Foundry
N: Paint Shop
O: Car Shop
Q: Pattern Storehouse
R: Blacksmith & Tank Shop
T: Foundry
U: Pattern Storehouse Addition
V: Erecting Shop
W: Office Building
X: Modern Construction

SECONDARY:

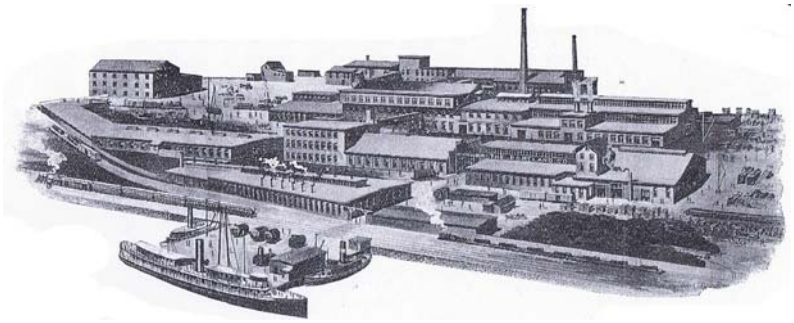
h: Lumber Sheds
i: Acetylene House

Current view north of the Portland Company.

View north in the alley at the west end of the complex.

View east between the car shop and electric company building.

View north between the machine shop and blacksmith and tank shops.



Section III:
Appendices

## APPENDIX A: HISTORY OF THE ESTABLISHMENT OF THE PORTLAND COMPANY

The Portland Company was established in conjunction with construction of the Atlantic & St. Lawrence Railroad which was built to connect Portland to Montreal. John A. Poor, the individual most responsible for Portland's successful bid over Boston to become Montreal's winter port via rail, was a Director of the Atlantic & St. Lawrence Railroad and became the first President of the Portland Company.[1] Other Atlantic & St. Lawrence Directors were also stockholders in the Portland Company, including Portland's wealthiest individual John Bundy Brown, who would become President of the company in 1864; Congressman and later Senator and U. S. Secretary of the Treasury William P. Fessenden; and Captain George Turner, who was given a seat on the railroad's Board between the regular annual Director's elections shortly after selling property to the Portland Company for their works. In October 1846, the Directors of the Atlantic & St. Lawrence Railroad contracted with established Philadelphia locomotive builder Septimus Norris to produce locomotives, cars, wheels, rail, and other necessary castings for the construction and operation of the line with the stipulation that these be manufactured in Portland. Septimus Norris was one of eight brothers who were pioneers in the development and fabrication of steam locomotives in the U. S. No facilities existed in Portland to undertake this contract and Norris partnered with several prominent Portland residents, including John A. Poor, as the "Portland Company" in 1846, to undertake this work. The partners appear to have purchased a charter that had been granted by the Maine legislature for the Portland Iron Manufacturing Company in 1845, five days after the charter for the Atlantic & St. Lawrence Railroad was granted. In August 1846, the legislature approved an act changing the name of the corporation to the Portland Company and increasing the allowed capital of the company from fifty-thousand dollars to two-hundred-and-fifty thousand dollars. The act specified that the Portland Company would manufacture locomotive engines, railroad cars, machinery and implements of all kinds, which had not been mentioned in the original charter.[2]

The first meeting of the Directors of the Portland Company was held on November 11, 1846, at the Exchange Street office of Attorney John A. Poor. John Fox was chosen chairman, and A. W. H. Clapp, Secretary. Other Directors present included Septimus Norris, James C. Churchill, and George Warren. John A. Poor was elected President, Woodbury Storer elected Treasurer, Septimus Norris was elected Chief Engineer, and Horace Felton Superintendent. Horace Felton was an experienced superintendent from the Norris locomotive works in Philadelphia. All of the directors except Norris and Felton were Portland residents. At this first meeting, the Chief Engineer and Superintendent were requested to report as soon "as may be" what buildings would be required and also engines and tools for the company. Norris submitted a list of tools "to be purchased of Norris & Brothers Locomotive Builders, Philadelphia", totaling $13,500 which were "required to commence our business." These were part of a longer list included all tools, machines, and equipment needed to set up fully operational shops, with a total cost of $46,955. Additionally, Norris submitted a list of ten men to fill the positions of Foreman, Draftsman, Foreman Finisher, Foreman Foundry, Foreman Pattern Shop, Clerk, Time Keeper, Foreman Boiler Shop, Foreman Putting Shop, and Foreman Smith. All these men, "who understand fully the whole detail of this particular branch of mechanics," apparently having worked at the Norris shops in PA. Also at this meeting, Directors Fox, Warren, Churchill, and Clapp were appointed to a committee to "negotiate with Capt. George Turner and other individuals in relation to a site for the necessary works of the Company." Turner owned land, mud flats, and a wharf along Fore Street at the base of Munjoy Hill. Later the same day, the committee reported that Capt. Turner wanted $8,500 for his property.[3]

Five days later the committee had a verbal agreement with Turner to sell a portion of his land below Fore Street for $4,750 with his consent to move the line of Fore Street and place water reservoirs for the works

1 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890

2 Records of the Portland Company and records of the Atlantic & St. Lawrence Railroad, Maine Historical Society.

3 Records of the Portland Company, Maine Historical Society.

on land owned by Turner across the street. The Board approved the agreement and Turner signed it within several days. On the same day, the company President was requested to "make application to the City Government for leave to erect stationary engines and whatever else may be necessarily connected with the Company Works and requiring such licenses," and Directors Fox, Churchill, and Clapp to, "be a Committee on that part of this Board to confer with the President and Directors of the Atlantic & St. Lawrence Railroad Company on the subject of the location of the works of the Portland Company, with power to negotiate with said Railroad Company, or any committee thereof, touching their right of way, in front of or upon the land of the Portland Company: and all questions that may arise requiring the mutual and concurring action of this Board and said Rail Road Company, prior to the erection of the works of this Company, with a view to such mutual and reciprocal arrangements as may be found advantageous to both parties." In 1846, the legislature had granted the railroad the right to claim by eminent domain, "so much of the lands, flats, and other real estate … lying within the City of Portland, and adjoining the navigable waters of Portland harbor," (essentially within the area bounded by India Street, Fore Street to the point where the street is closest to the harbor, then southeast to the navigation channel of the Fore River and back to India Street) as required for a railroad terminus at Portland including a depot, wharves, docks, etc. The Turner property purchased by the Portland Company was a short distance east of the railroad's boundary with a lot retained by Turner between them. The fact that the railroad's eminent domain boundaries did not include the Portland Company property when established by the legislature suggests that space for an adjoining locomotive manufacturer may have been part of the railroad's plan from the outset. Much of the "property" of both companies was comprised of the mud flats and waters of Broad Cove. The Portland Company directors immediately undertook to plan and contract for a stone sea wall, filling, and grading their site to create sufficient level land for their works.[4]

By late December 1846, less than six weeks after the first meeting of the Board of Directors, tensions had appeared between the Portland Directors and Septimus Norris, brought to a head on December 21, when the Board voted not to pay an invoice for $138 drawn in the name of President Poor by Norris for drawings for buildings, locomotives, and cars because Norris had no authorization to do so and because Norris had failed to pay an assessment of $5.00 per share on the 1000 shares of company stock he controlled. Within a short time, the shares had been transferred back to the corporation and Norris was fired as Chief Engineer. There is no documentation that the company purchased the recommended tools and machinery from Norris Locomotive Works of Philadelphia before the ouster of Septimus Norris. Eventually, Norris would settle with the company, receiving $400 to renounce any claims on the company while allowing them the non-exclusive use of all the patents he controlled for the manufacture of railroad equipment, which he had previously assigned to the company. Horace Felton was also fired briefly but apparently determined he had a better future with the Portland Company than Norris Locomotive Works. Shortly after letting him go, the Board appointed him General Superintendent and he was primarily responsible for making the works operational during the following year and a half.[5]

A seriously complicating factor in the removal of Septimus Norris was his contract with the Atlantic & St. Lawrence Railroad to produce locomotives and other equipment for that company. Norris attempted to retain the contract, offering to lease of buy property from the Portland Company on which to erect shops, but ultimately the contract was canceled by the railroad and the work assigned to the Portland Company. Negotiating the complex legal and practical issues involved with the Norris contract appears to have been helped by John A. Poor's presence on both Boards. It is clear that the Directors of the railroad were determined to have a manufacturing plant for locomotives and other railroad equipment in Portland and it isn't surprising that they worked to insure it would happen under local control once Norris proved unable to fulfil his obligations as a stockholder in the Portland Company. Further close cooperation between the companies was required in the building of the shops and establishment of a rail connection to them, as well as construction of a wharf for the Portland Company on the harbor side of the railroad's trestle from Fish

4 Records of the Portland Company and records of the Atlantic & St. Lawrence Railroad, Maine Historical Society.

5 Records of the Portland Company, Maine Historical Society.

Point to the depot at India Street. Eventually the Portland Company would expand, filling all the water between their first sea wall and the railroad, which would fill around its trestle and build a stone sea wall along the harbor edge.[6]

Beginning in April 1847, the foundry, smith shop, and machine shop, were constructed of brick using plans by Felton. The company contracted with Thomas Cummings as Master Carpenter at $2.50 per day and Lorenzo D. Mason as Master Mason or Bricklayer at $2.00 per day. Both were "encouraged to employ carpenters and masons who are stockholders in the company at the same rates as other mechanics." A cargo of stone then in the harbor was purchased for the buildings from Mr. Littlefield. The stone was used for stone for foundations, underpinning, and window caps. John Soule of Freeport supplied 175,000 bricks at $5.25 per thousand delivered and Dennison & Kelsey of Freeport supplied two kiln of bricks (approx. 250,000) at $5.00 per thousand delivered, "to be hard burnt and merchantable." The foundry was 75' x 62', smith shop 75' x 62', and machine shop 150' x 62' with slate roofs. Fenton was authorized to contract for tools and machinery up to $8,000 and President Poor contracted with Hinckley & Egery of Bangor for a stationary engine with two boilers 20' long by 40" diameter to power the machinery of the plant. It was to be installed and operational by August 1. The President and General Supervisor also began to look for a pattern maker and foreman to hire while the shops were under construction. Two additional lots were purchased from Capt. George Turner in November 1847, one to the east of the first lot purchased for $1,550 and one to the west for $1,350. The sea wall was extended and a wooden car shop was built on the west lot. The boundaries were apparently not clear as the car shop was built partially on Atlantic & St. Lawrence Railroad land west of the new lot. The railroad sold a piece of property to the company so the car shop was entirely on their own land. The railroad would sell additional land for further expansion of the complex in the early twentieth century. The company's shops began operation in October 1847, with the first locomotive, the "Augusta," completed in July 1848. The Augusta was built for the Portland, Saco & Portsmouth Railroad, not the Atlantic & St. Lawrence Railroad. The first locomotive for that line, the "Montreal," was completed in September 1848. The Portland Company would manufacture a total of 628 locomotives between 1848 and 1909 in addition to hundreds of marine and industrial boilers and numerous other products.[7]

6 Records of the Portland Company and records of the Atlantic & St. Lawrence Railroad, Maine Historical Society.

7 Records of the Portland Company, Maine Historical Society.

## APPENDIX B: ADDITIONAL INFORMATION ON JOHN A. POOR

John Alfred Poor was born in Andover, Maine, to Dr. Silvanus and Mary Merrill Poor in January 1808. He spent part of his boyhood with an uncle in Bangor where he attended school at an academy. In 1827, he began the study of law in Bangor. He was admitted to the bar on his 24th birthday and opened a practice in Old Town. In 1833, he returned to Bangor and married Elizabeth Adams Hill, going into partnership with his uncle, also a lawyer. Upon the retirement of his uncle, Poor and his brother, Henry Varnum Poor, also a lawyer, established a partnership. John A. Poor practiced law in Bangor for fourteen years before moving to Portland to pursue other interests, principally railroads.[1]

Poor had been present in Boston in April 1834 when the first steam locomotive ran in New England. He later wrote of that experience: "It gave me such a shock that my hair seemed to start from the roots rather than to stand on end; and as I reflected in after years, the locomotive engine grew into a greatness in mind that left all other created things far behind it as marvels and wonders." In a speech given in Bangor in 1869, Poor described how he came to become the leading proponent of railroad building in Maine:

> From 1830, onward, I watched with eager curiosity the development of the railway, its mysterious workings and marvelous power; and I sighed and longed for the introduction of railroads into Maine. I saw how the railroad, wherever introduced, attracted capital and industry. As early as 1835, I perceived that the tide of immigration into Maine, from other parts of New England gradually diminished, and finally was checked completely by the growth of manufactures. I could not help seeing that a time of emigration from Maine was rolling on; for in 1843, on a visit to my native town with less than seven hundred people, eighty young persons had been drawn from it to the workshops and factories of Massachusetts. I felt irresistibly impelled to an effort to resist if possible this state of things. I tried in 1843, as a citizen of Bangor, to move in a plan for a railway east, toward St. John and Halifax, but the time had not come, and I threw my energies into the project of a line from Portland to Montreal, as the great section to begin upon.[2]

In 1844, Poor wrote a letter to the *Portland Advertiser* outlining his plan for a rail line from Portland to Montreal. His biographer states, "His letter created a profound sensation in Portland … compared to 'an alarm bell in the night struck by the hand of a stranger.'" A short time later, Poor relocated to Portland and began organizing the effort to secure a charter from the legislature for the railroad. John A. Poor's role in the creation of the line from Portland to Montreal is well documented – from his speaking tours through Maine and Quebec, promoting the plan, to his frantic journey from Portland to Montreal by sleigh in a blizzard to head off efforts by Boston to secure the proposed line for their city, and subsequent his efforts to get the railroad financed, built, and equipped.[3] Shortly after the line was completed to Montreal, it was leased to the Grand Trunk Railroad, which operated it until the 1980s.[4]

In 1846, a committee of Directors of the Atlantic & St. Lawrence Railroad, which included Poor, negotiated an agreement with the railroads connecting Portland to Portsmouth and Boston which would allow the transfer of passengers and freight between the lines without unnecessary delay or cost. According to Poor's biography, "The idea itself originated with Mr. Poor, who thus early recognized the impolicy of placing any restriction upon railway transit. To carry it out, he suggested the building of a new street, extending across a part of the city from the station of the Atlantic and St. Lawrence Railway to that of the Boston roads, on

---

1 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890

2 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890

3 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890

4 Records of the Atltantic & St. Lawrence Railroad, Maine Historical Society.

which a railway track should be laid."[5] This would be built several years later and be named Commercial Street. The effect of Poor's railroad related developments on Portland and Maine cannot be over stated. On a state-wide level, Poor's efforts greatly increased international trade with both Canada and Europe, provided the state with direct trans-Atlantic passenger ship service, and facilitated the immigration of thousands of French-Canadian families to work in the mills made possible by the improved transportation network.

Poor was also President of the Portland Gas Light Company, incorporated in 1849, which began to supply gas for domestic and street lighting in 1850. In 1849, he purchased the *American Railway Journal* and made his brother, Henry Varnum Poor manager and editor. H. V. Poor later owned the publication and expanded into compiling statistical information on the financing and operation of railroads in the U. S., establishing the foundation of the Standard and Poor's financial services company. In 1851, he was elected President of the York and Cumberland (later Portland and Rochester) Railroad and conceived of the route of that line over the mud flats of Back Cove in Portland, to connect with the Atlantic & St. Lawrence near that line's Back Cove Bridge. Kennebec Street and a portion of the Bayside Trail follow this right of way today. Poor established *The State of Maine* newspaper in Portland in 1853 and was its owner and editor until it merged with the *Daily Advertiser* in 1859. The newspaper was devoted to the advocacy of the development of the state and particularly, his own scheme for building the European and North American Railway. In the late 1860s and early 1870s, he was President of the Portland, Rutland, Oswego, and Chicago Railway, a never-built line that was to have replaced the Grand Trunk Railroad in his transcontinental plan, after that railroad declined to become involved in the plan.[6]

The European and North American Railway was John A. Poor's great dream, of which the Atlantic & St. Lawrence Railroad was to be merely a part. He wanted to create a railroad line that would run from Halifax, Nova Scotia, through New Brunswick and into Maine at Calais, then run to Bangor and on to Auburn, where it would connect with the Atlantic and St. Lawrence line to Montreal. From Montreal, Poor envisioned a line that would run to the Great Lakes and ultimately to the West Coast, serving both the United States and Canada. His vision was for this grand trunk line to connect with trans-Atlantic steam ships at Halifax, providing the shortest possible route from "British America" (the U.S. and Canada) to England and Europe and from the West Coast to Asia. In 1869, he wrote, "For more than thirty years I have contemplated as a certainty the completion of a line of railway across the continent of North America, at its widest part, as the means of securing the shortest possible transit of passengers, mails, and valuable merchandise between the centers of Europe and Asia." His great concept ran into competition from another plan for a railroad from the Canadian Maritime Provinces to Montreal that stayed entirely within Canada, and resistance from his Atlantic & St. Lawrence partners in Portland, who saw no advantage to the plan, fearing a line from Halifax would make Portland redundant. Poor believed there would be enough business for both. His advocacy for the European & North American Railroad scheme would lead to his failing to be reelected to the Atlantic and St. Lawrence Board of Directors in 1849 and to his disassociation with the Portland Company Board in 1851. Portions of the E. & N. A. Railway in New Brunswick were built between 1851 and 1869, ending at the U. S. Border at St. Croix, N. B. The American European & North American, chartered in 1850, was built from Bangor to Vanceboro, opposite St. Croix, between 1868 and 1871. U.S. President Ulysses S. Grant and Canadian Governor General Lord Lisgar attended the ceremony to open the boundary bridge crossing the St. Croix River and connecting the two parts of the E. & N. A. R. R. in 1871. From Bangor southward, The Penobscot & Kennebec and Androscoggin & Kennebec railroads (later merged at the Maine Central) provided a link to Portland. Poor was still working on his westward dream, via the proposed Portland, Rutland, Oswego, and Chicago Railway when he died, six weeks before the opening of the European & North American bridge over the St. Croix.[7]

5 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890. 49, 50.

6 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890

7 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New Eng-*

Poor spent much of the 1860s in Washington, D. C., advocating and lobbying for his international railroad scheme as well as other projects related to Maine. Among other things, he was the principal proponent for the construction of Fort Popham at the mouth of the Kennebec River during the Civil War. When much of Portland was destroyed in the Great Fire of 1866, Poor undertook to raise funds for the relief of the residents of the city in Washington, where he was residing at the time.[8]

For many years, Poor was an active supporter of the Maine Historical Society, which had accepted him as a member in 1846 (membership of the organization was then limited to 100 persons). Poor devoted much of his leisure time to researching and writing about the early history of New England. In 1859, he read his first paper, "English Colonization in America" to both the Maine Historical Society and the New York Historical Society. Upon his death, the Society held a special meeting and passed a series of resolutions, "expressing a sense of deep obligation to Mr. Poor for his great services in the department of history, as well as in behalf of the material interests of the state, and declaring that he is entitled to be considered a public benefactor, and to be held in grateful remembrance by his fellow-citizens."[9]

*land, Life and Writings of John Alfred Poor*, 1890.

8 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890.

9 Baxter, James P. "Reminiscences of a Great Enterprise," 1890. Maine Historical Society.

Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890.

## APPENDIX C: RAILROADS FOR WHICH THE PORTLAND COMPANY PRODUCED LOCOMOTIVES

Alabama & Chattanooga RR
Androscoggin & Kennebec RR
Annapolis & Elk Ridge RR
Aroostook Valley RR
Atlantic & St. Lawrence RR
Bangor & Piscataquis RR
Bangor, Oldtown, & Milford RR
Bartlett & Albany RR
Black Rock and Salisbury Beach RR
Boston & Maine RR
Bridgton & Saco River RR
Brockville & Ottawa RR
Calais & Baring RR
Canadian Pacific RR
Central Mexicano RR
Chicago, Alton, & St. Louis RR
Complete Combustion Boiler Co.
Dominion of Canada RR
E. M. Boynton Bicycle Railway
Eastern RR
European & North American RR
Fredericton Branch RR
Galveston, Houston & Henderson RR
Grand Trunk RR
Hanover Branch RR
Inter-Colonial RR
John Wood Co.
Kennebec & Portland RR
Kennebec Central RR
Kilkenny Lumber Co.
Lake Shore & Michigan RR
Lexington & Danville RR
Logansport, Peoria & Burlington RR
Mad River & Lake Erie RR
Maine Central RR
McKean & Buffalo RR
Midland RR
Milwaukee & Mississippi RR
Milwaukee & St. Paul RR
Milwaukee, Lake Shore & Western RR
New Brunswick & Canada RR
New York & Boston RR
New York City & Northern RR
Northern Pacific RR
Nova Scotia RR
Ogdensburg & Lake Champlain RR
Ontario, Simcoe & Lake Huron RR
Panama RR
Penobscot & Kennebec RR
Peoria & Pekin Union RR
Peoria, Pekin and Jacksonville RR
Phillips & Rangeley RR
Port Hope, Lindsay, & Beaverton RR
Portland & Kennebec RR
Portland & Ogdensburg RR
Portland & Rochester RR
Portland Saco & Portsmouth RR
Quebec Central RR
Quebec, Montreal, Ottawa & Occidental RR
Richmond & Danville RR
Rumford Falls & Buckfield RR
Rutland & Washington RR
Sandy River RR
Sawyer River RR
Scioto Valley RR
Spartenburg & Union RR
St Lawrence & Atlantic RR
St. Francis & Megantic International RR
St. Johnsbury & Lake Champlain RR
St. Lawrence & Ottawa RR
St. Stephens Branch RR
Steel Co. of Canada RR
Toledo, Peoria & Burlington RR
Toledo, Peoria & Warsaw RR
U. S. Government
Utica, Ithaca & Elmira RR
Vale Coal Co. RR
Western Counties RR
Whitby & Port Perry RR
Whiteby, Port Perry & Lindsay RR
Windsor & Annapolis RR
Wiscasset & Quebec RR
Wood & Black Co.
Worcester & Nashua RR
York & Cumberland RR

## APPENDIX D: TIMELINE OF DEVELOPMENT

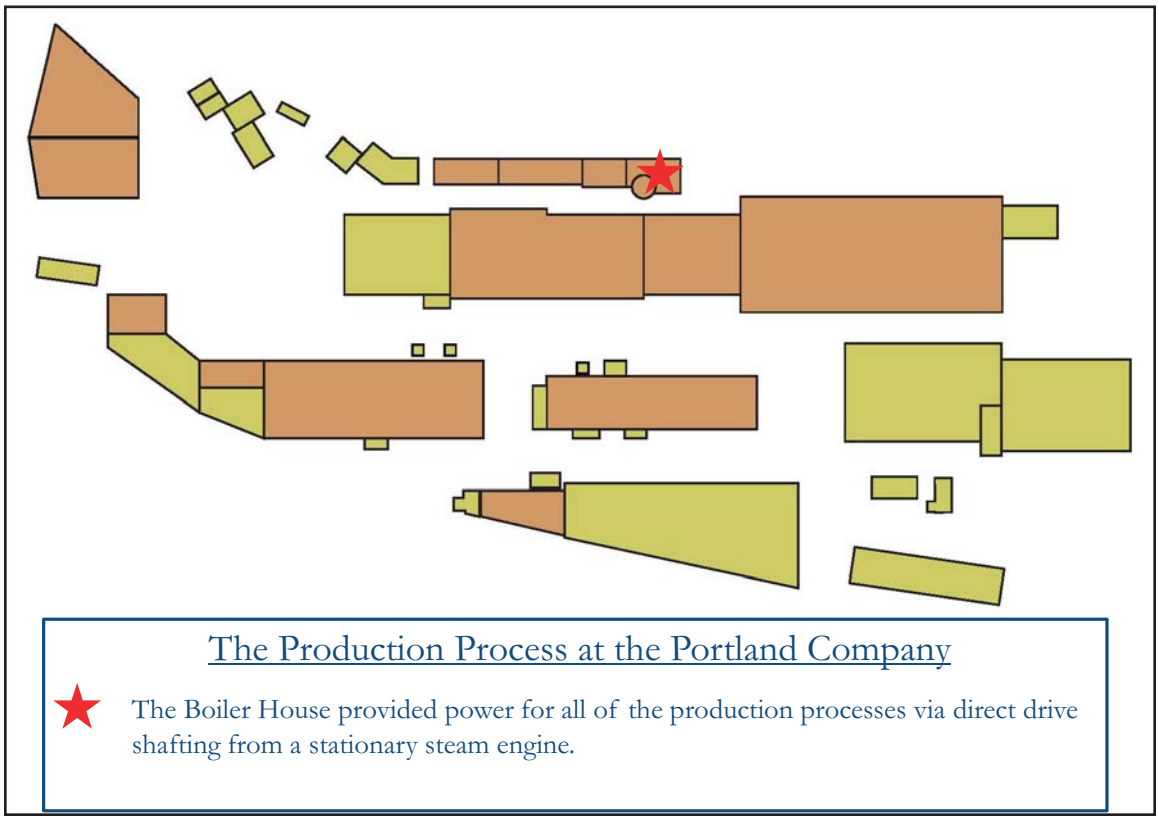
| DATE | ITEM |
|---|---|
| 1847 | Construction of Machine Shop |
| 1847 | Construction of Smith Shop |
| 1847 | Construction of Foundry |
| 1847 c. | Construction of Blacksmith Shop |
| 1847 c. | Construction of Car Shop |
| 1847-1858 | Construction of Boiler House and 110' Chimney |
| 1847-1858 | Construction of Boiler Shop |
| 1847-1858 | Construction of Stable |
| 1847-1858 | Construction of Office Building |
| 1848 | Construction of Foundry Expansion |
| 1858-1864 | Large Addition to north end of Boiler Shop |
| 1858-1864 | Addition to east end of Stable |
| 1858-1864 | Construction of Drafting Room |
| 1858-1864 | Construction of Storehouse |
| 1858-1864 | Construction of new Boiler House |
| 1858-1864 | Addition of Core House to Foundry |
| 1858-1864 | Construction of Babbitt Shop at south end of lot |
| 1858-1864 | Construction of New Car Shop |
| 1858-1864 | Construction of Timekeeper Office |
| 1858-1864 | Construction of Scratch House north of Foundry |
| 1862 | Construction of Air Furnace east of Foundry |
| 1864-1871 | Small addition to southeast end of Blacksmith Shop |
| 1864-1871 | Replacement of Boiler House |
| 1864-1871 | Construction of Brass Foundry |
| 1871-1880 | Addition to west end of Stable |
| 1871-1880 | Removal of Timekeeper Office |
| 1871-1880 | Construction of Setting-Up Shop |
| 1871-1880 | Construction of Sand Shed |
| 1871-1880 | Construction of Flask House over Reservoir |
| 1871-1880 | Construction of Foundry Expansion |
| 1871-1880 | Construction of various additions to Foundry |
| 1873 | Destruction of Babbitt Shop by fire |
| 1873 | Destruction of New Car Shop by fire |
| 1873 | Construction of Car Shop with car shed at south end |
| 1873 | Construction of Tin and Babbitt Shop |
| 1873 | Construction of Wood Storehouse |
| 1873 c. | Construction of Paint Shop |
| 1880-1886 | Three story tower addition to Boiler Shop |
| 1880-1886 | Air Furnace addition used for patterns |

| | |
|---|---|
| 1881 | Construction of Wheel Foundry |
| 1882 | Construction of Blacksmith and Tank Shop |
| 1883-1884 | Reconstruction of Blacksmith Shop |
| 1885 | Construction of Pattern Storehouse |
| 1890 | Reconstruction of south end of Boiler Shop |
| 1891 | Addition to Office Building |
| 1894-1895 | Removal of Core House |
| 1894-1895 | Removal of Air Furnace addition |
| 1894-1895 | Removal of Foundry Expansion |
| 1894-1895 | Removal of Wood Storehouse |
| 1895 | Construction of New Foundry |
| 1895 | Construction of Pattern Storehouse Addition |
| 1896 c. | Second Floor added to Smith Shop |
| 1896-1904 | Small additions to east side of Office Building |
| 1896-1904 | Construction of three-story section of Blacksmith shop |
| 1896-1904 | Removal of Wheel Foundry |
| 1896-1904 | Construction of Coke Shed |
| 1904 | Construction of Lumber Shed |
| 1904-1909 | Brass Foundry used for Storage |
| 1904-1909 | Drafting Room used as Storage |
| 1904-1909 | Construction of Vault |
| 1909 c. | Expansion of Machine Shop third floor |
| 1909-1914 | Removal of Office Building |
| 1914-1924 | Removal of Coke Shed |
| 1914-1949 | Removal of Stable |
| 1918 | Construction of Erecting Shop |
| 1918 c. | Removal of Setting-Up Shop |
| 1918 c. | Construction of Erecting Shop |
| 1924-1949 | Removal of Sand Shed |
| 1924-1949 | Removal of Blacksmith and Tank Shop |
| 1932 | Removal of south portion of Lumber Shed |
| 1949-1951 | Removal of Flask House |
| 1949-1951 | Construction of Office Building |
| 1951-1980 | Removal of 110’ Chimney |
| 1951-1980 | Removal of Boiler Shop |
| 1951-1980 | Construction of large addition at north end of Foundry |
| 1980-1986 | Removal of Tin and Babbitt Shop |

**APPENDIX E: OTHER MANUFACTURERS OF LOCOMOTIVES**

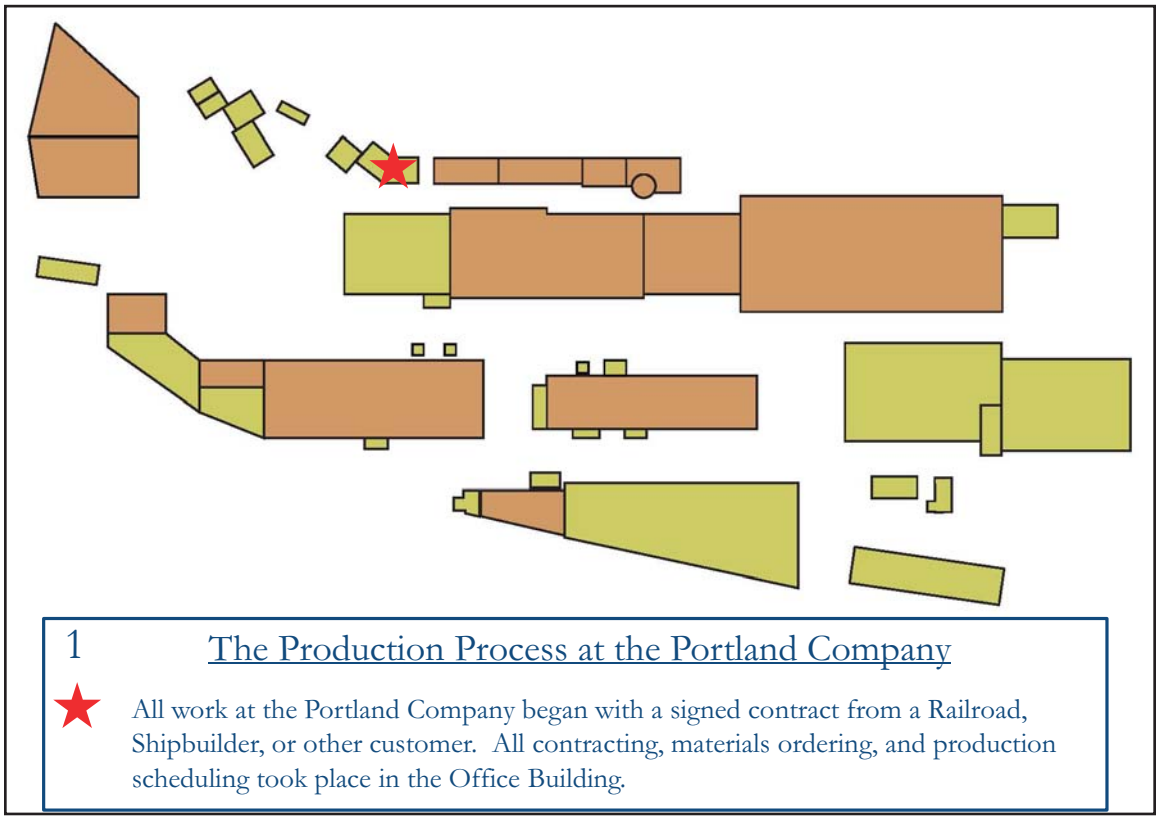
| Year Locomotive Production Started | Company Name | Location | Pre-existing Company? | Extent of Facilities – Dates | Surviving Buildings? Dates? |
|---|---|---|---|---|---|
| 1829 | B&O Mt. Clare Shops | Baltimore, MD | No | Car Shops - 1829-30<br>Ironworks - 1850<br>Engine service shop and more car shops -1850s<br>Foundry, blacksmith – post- Civil War<br>Circ. Car shop – 1884<br>Loco., machine, & tender shops and saw mill – 1900-1920 | Erecting shop destroyed by fire – 1961<br>Most remaining buildings demolished – 1976<br>Surviving:<br>Passenger Car works – 1869-70<br>Circular Car Shop and Annex – 1884<br>Freight Car Repair Shop (ruin) – 1919<br>B&O Passenger Depot (not shop related) - 1851 |
| 1830 | Canton Locomotive Works – Peter Cooper | Baltimore, MD | Est. 1828 to manuf. Rail for the B&O RR. | 1st loco. Built of scavenged parts, including rifle barrels for boiler tubes. No loco shops built. | No surviving buildings |
| 1831 | West Point Foundry | West Point, NY | Est. 1817 to manuf. armaments | Best Fried of Charleston built for the S. Carolina RR | Closed 1911, site now a state park with limited ruins of the manufacturing buildings. |
| 1832 | Wm. Norris – Norris Locomotive Works | Philadelphia, PA | Est. 1832 as American Steam Carriage Co. | First loco built in small shop with power from adjacent wheelwright shop. Used Pheonix Foundry for castings | Full set of shops by 1857. Closed 1866. Buildings demolished 1896. |
| 1832 | Mattias Baldwin -Baldwin Locomotive Works | Philadelphia, PA | 1825 machine shop to manufacture bookbinding machinery and textile printing cylinders | Model loco. For Peale Museum in 1831. First real loco, 1832, using outside foundry | Original site abandoned in 1928 for a new plant in Eddystone, PA. All buildings at first plant demolished 1937. |
| 1834-35 | Lowell Machine Shops | Lowell, MA | Est. 1814 (Boston Manuf. Co.) for manuf. Of textile machinery. Moved to Lowell 1824. | Extensive shops for textile machinery production. Locos made in Locks and Canal Shop, 1834-1861 | Closed 1928. Site now a parking lot. |
| 1834 | Mill Dam Foundry | Boston | Est. 1832 | Built first loco. in New England, no others | Buildings in use by other companies by 1838. Current state unknown. |
| c. 1835 | Matteawam Company | New York | Est. 1814. To produce machinery for cotton and sugar mills, etc. Foundry by 1834. | Built two locos c. 1835 for Hudson River RR. | No information found. |
| 1836 | Eastwick & Harrison | Philadelphia, PA | Est. 1835 as as Garrett & Eastwick. Former watchmaker, making stat. steam engines | First loco, 1838, apparently in a small shop using an outside foundry. Built a total of 17 locos. | Firm moved to Russia in 1843. No buildings appear to survive. |
| 1837 | Rogers Locomotive Works | Patterson, NJ | Est. 1831 to produce textile machinery | First loco 1837, also cast tires for Norris and Baldwin | Became one of the "big three" with Norris and Baldwin. Patterson Museum occupies the 1873 Erecting shop, all other buildings demolished. |
| 1840 | Hinckley | Boston, MA | Est. 1831 as small machine shop, later Boston Machine Works. Built 1st stationary steam engine in MA. | 1st loco 1840, numerous name changes. | Closed 1889. Property and buildings bought by Boston Elevated RR Co., used one building for temp power plant and demolished remainder to clear site for new power plant. The Hinckley building appears not to survive in 2014. |
| 1845 | Boston & Providence RR Shops | MA/RI | B&P chartered 1831, const. started 1832, opened 1834. | 1st loco 1845. Used Geo. Griggs Foundry | Railroad absorbed into Old Colony RR and then into New York, New Haven, and Hartford. Location of B&P shops undetermined. |
| 1848 | Portland Company | Portland, ME | Est. 1845 to build locomotives and other railroad equipment | Foundry, Machine Shop, and Blacksmith shop built 1847, car shop in 1848, later additions 1850s, 1880s, 1890s, 1918. | 2 of 3 pre-Civil War brick buildings are extant along with many other buildings from period of locomotive construction. |

## APPENDIX F: PRODUCTION



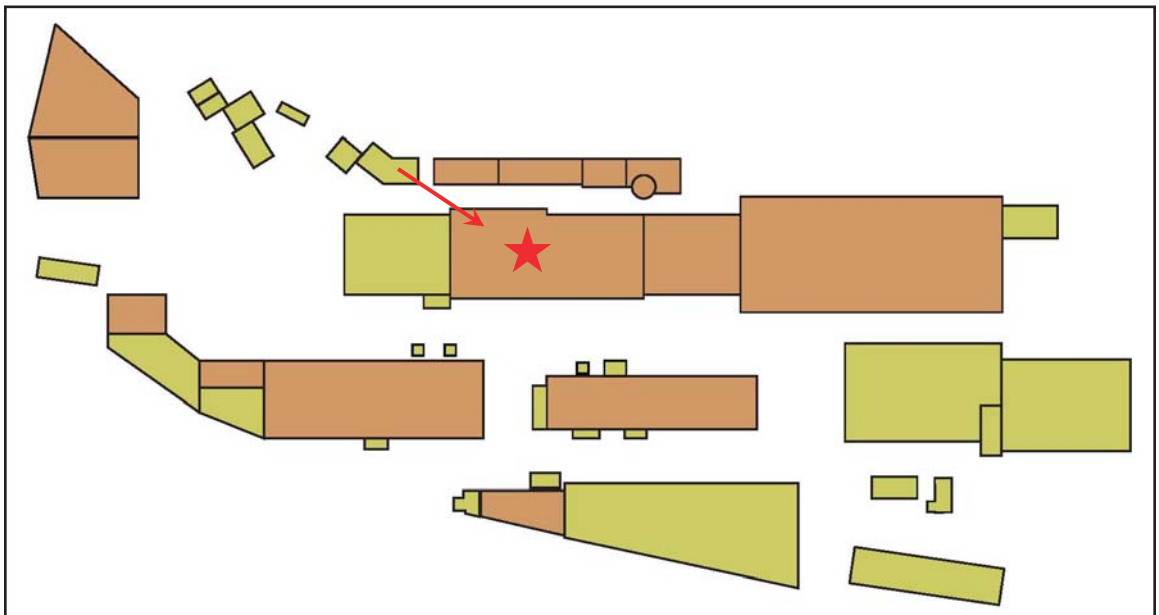
### The Production Process at the Portland Company

★ The Boiler House provided power for all of the production processes via direct drive shafting from a stationary steam engine.



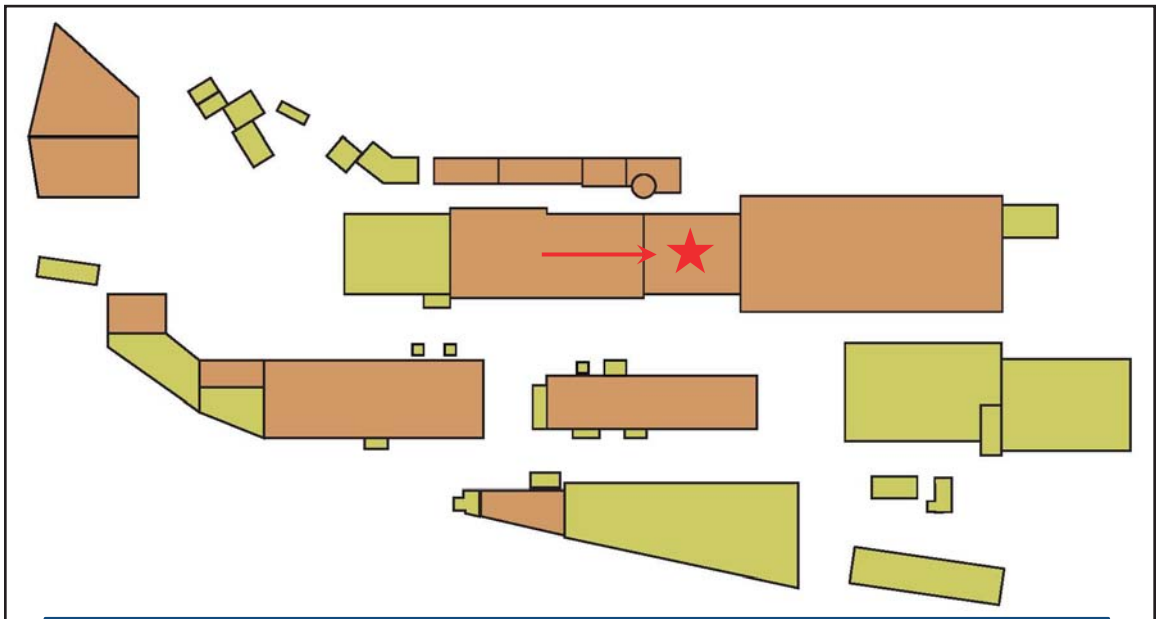
### 1 The Production Process at the Portland Company

★ All work at the Portland Company began with a signed contract from a Railroad, Shipbuilder, or other customer. All contracting, materials ordering, and production scheduling took place in the Office Building.



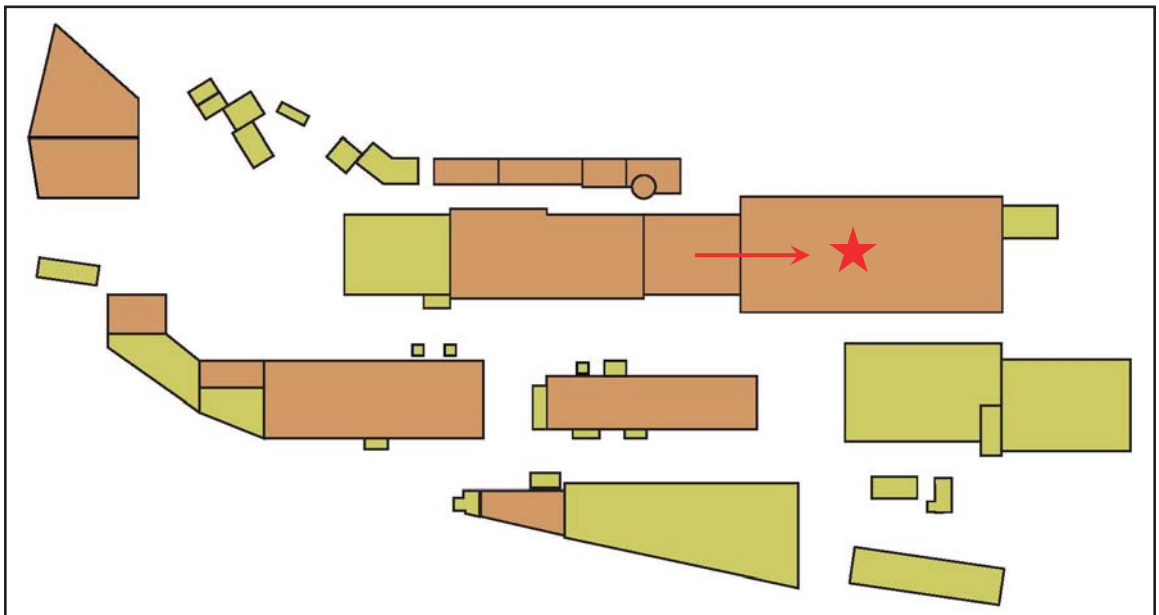
2 The Production Process at the Portland Company

★ Engineering and Design work then took place in the Drafting Room and Laboratory on the third floor of the Machine Shop.



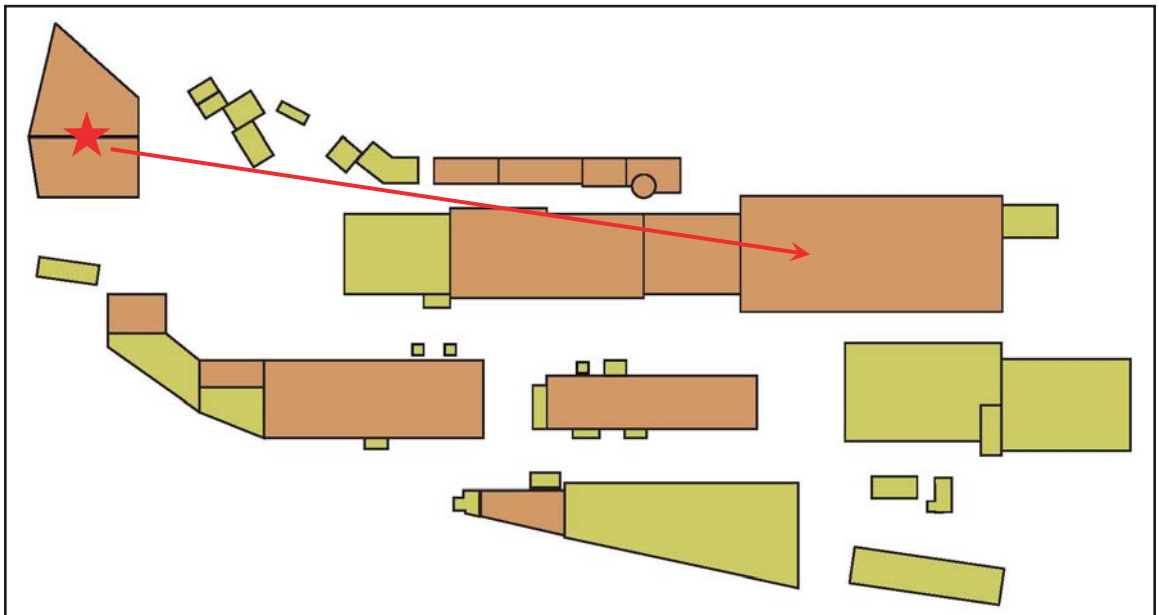
3 The Production Process at the Portland Company

★ If the Design required new casting patterns, they were made of wood in the Pattern Shop on the second floor of the original Blacksmith Shop.



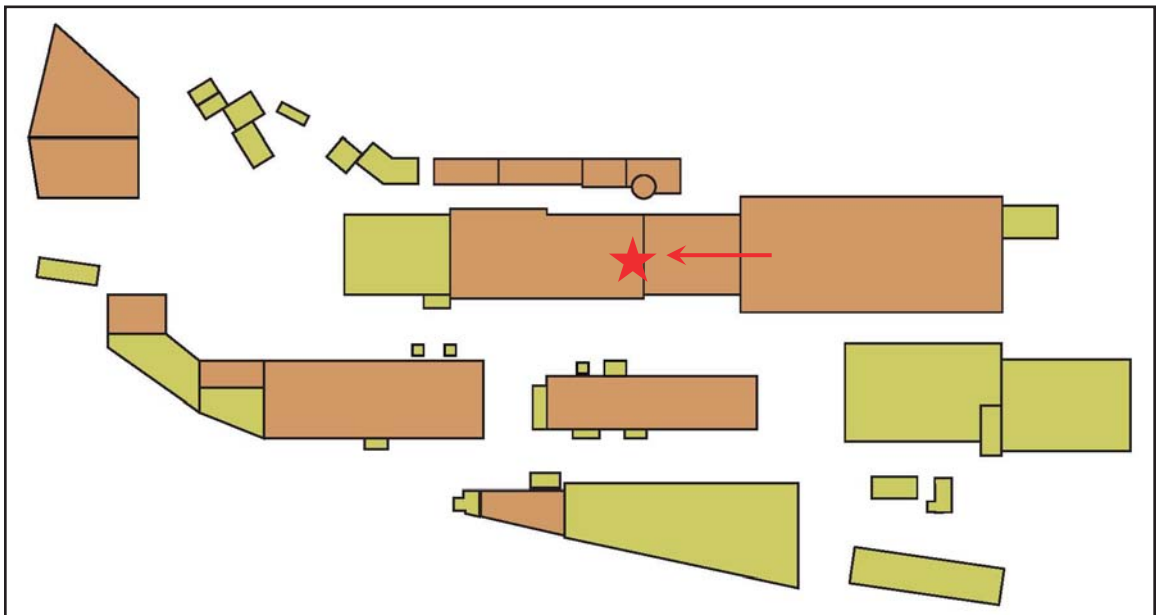
4 The Production Process at the Portland Company

★ The new wooden patterns were then moved down to the Foundry, to be cast in iron or steel using the sand-mold process.



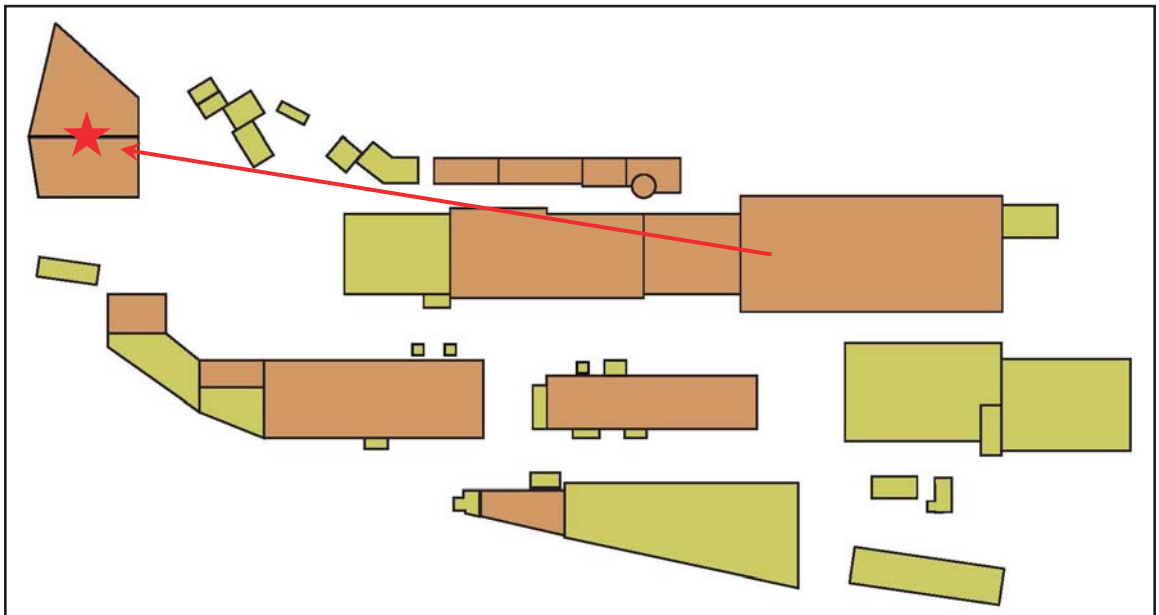
4 The Production Process at the Portland Company

★ If the patterns were being reused from a previous job, they would be moved from the Pattern Storehouse to the Foundry for casting.



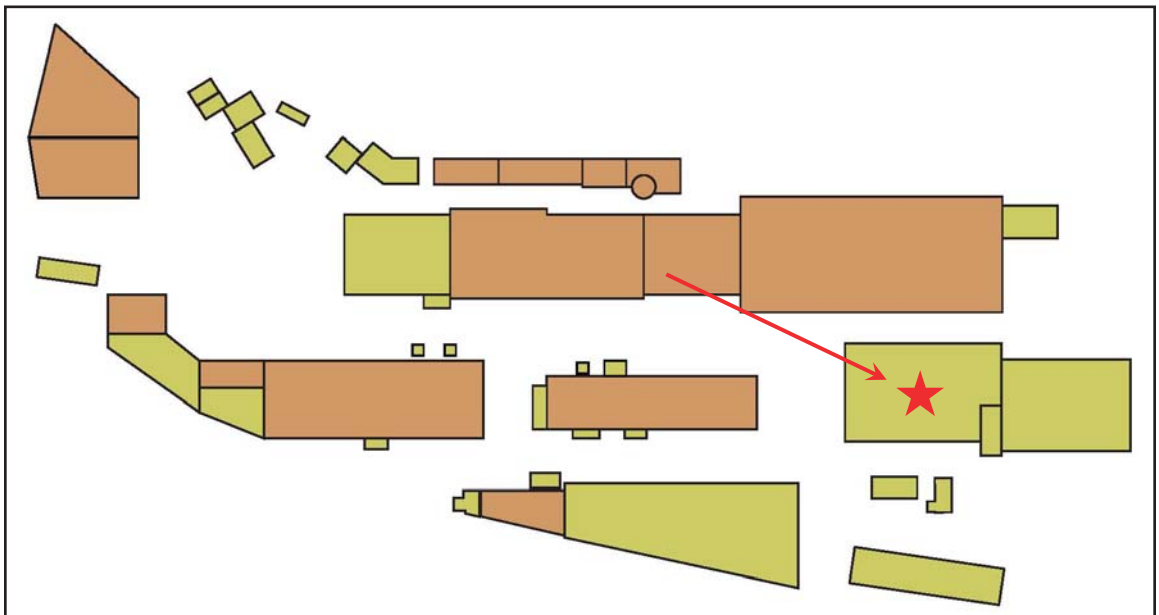
5 The Production Process at the Portland Company

Once cast and cooled, the manufactured parts moved to the Machine Shop for finishing on a variety of machines, including lathes, corers, drills, etc.



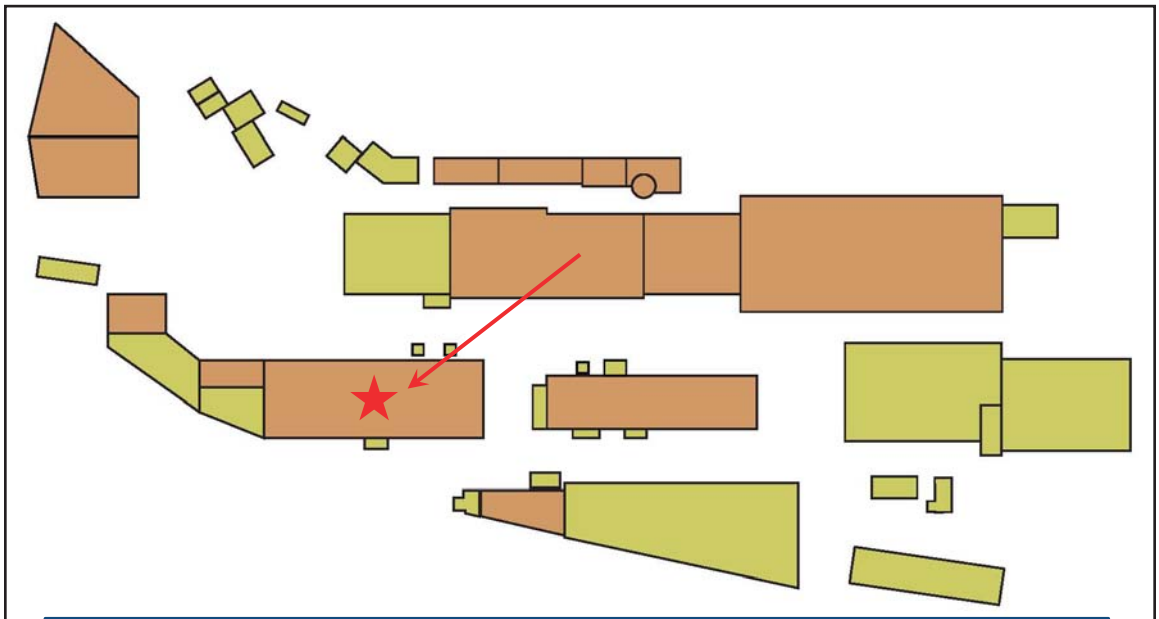
6 The Production Process at the Portland Company

After casting was completed, the wooden patterns were moved to the Pattern Storehouse for safe storage.



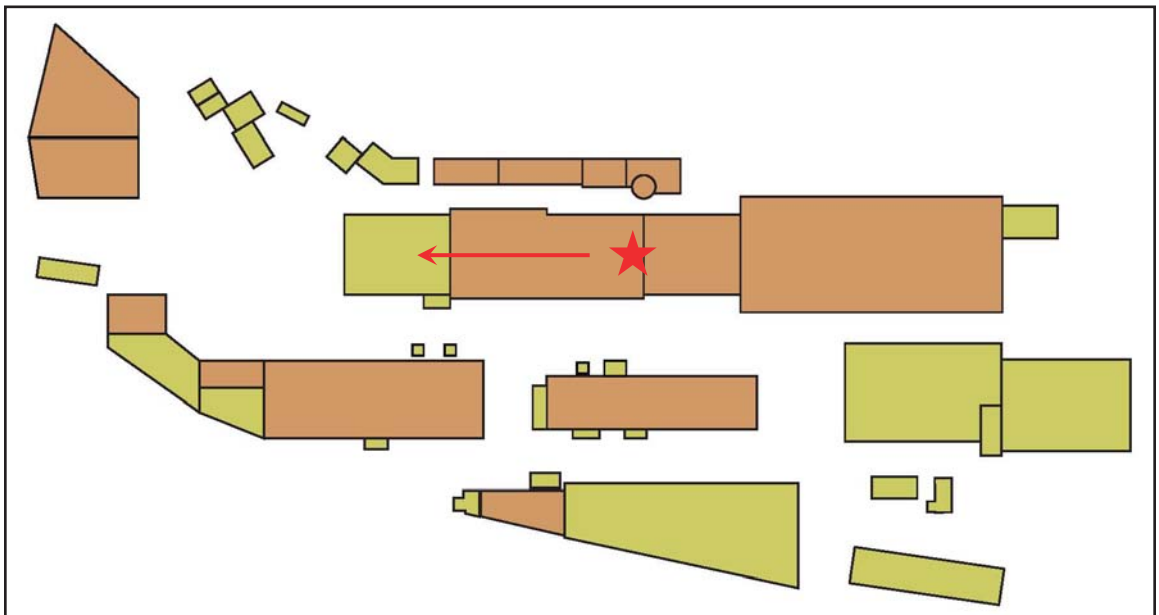
7 The Production Process at the Portland Company

★ After machining and finishing, parts for boilers went to the Boiler Shop. Prior to construction of the Boiler Shop, boiler fabrication took place in the Machine Shop.



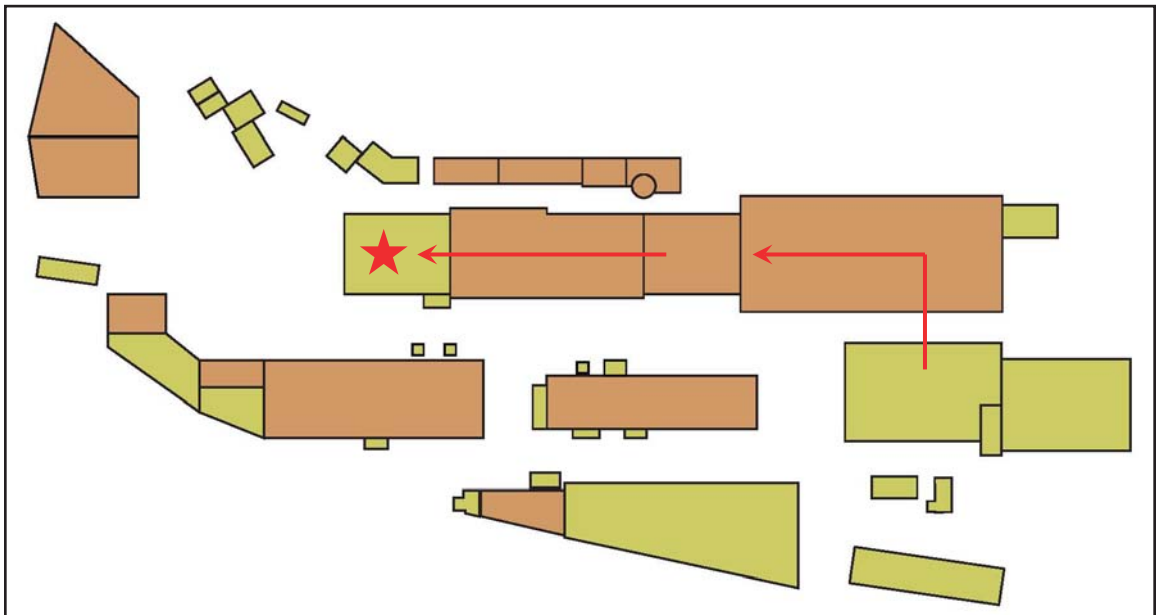
7 The Production Process at the Portland Company

★ After machining and finishing, parts for railroad cars went to the Car Shop.



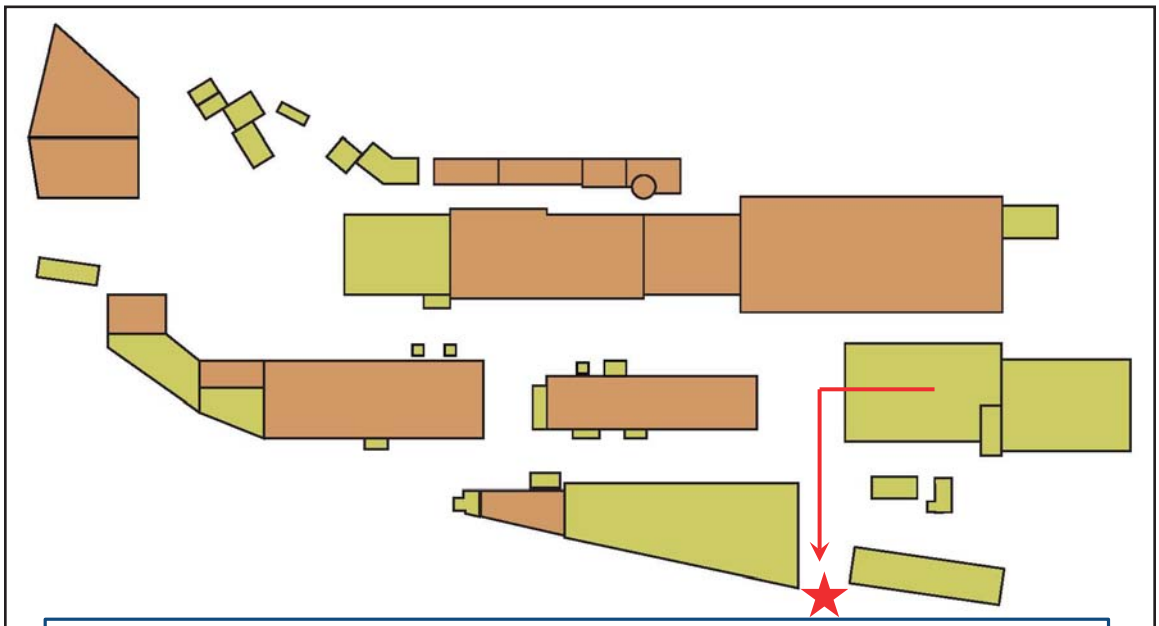
6 The Production Process at the Portland Company

★ Other parts for Locomotives went to the Erecting Shop for assembly. Prior to construction of the Erecting Shop, assembly took place in the Machine Shop.



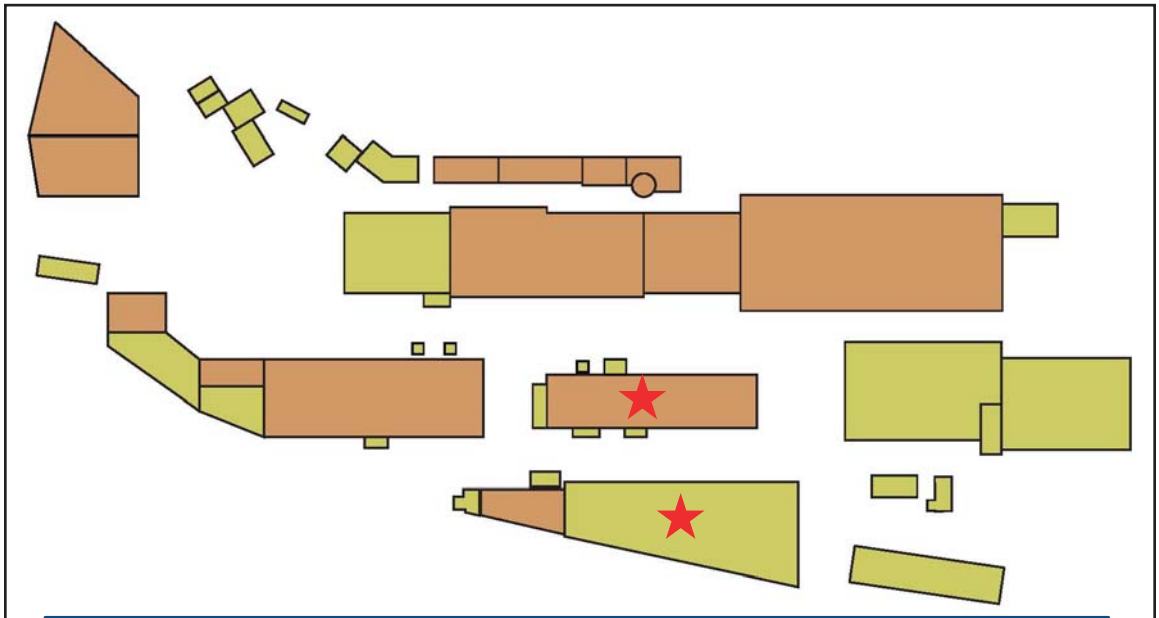
8 The Production Process at the Portland Company

★ Completed boilers for Locomotives also went to the Erecting Shop for assembly. Prior to construction of the Erecting Shop, assembly took place in the Machine Shop.



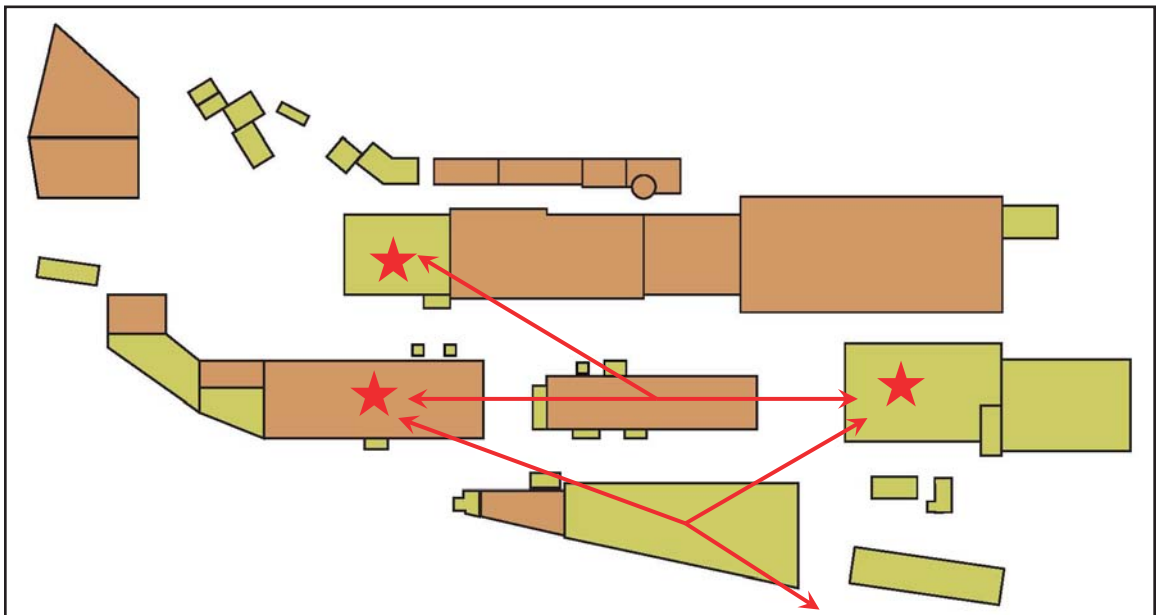
8 The Production Process at the Portland Company

★ Completed boilers for Ships went to the Wharf for installation or transfer to the company shipyard on Spring Point.



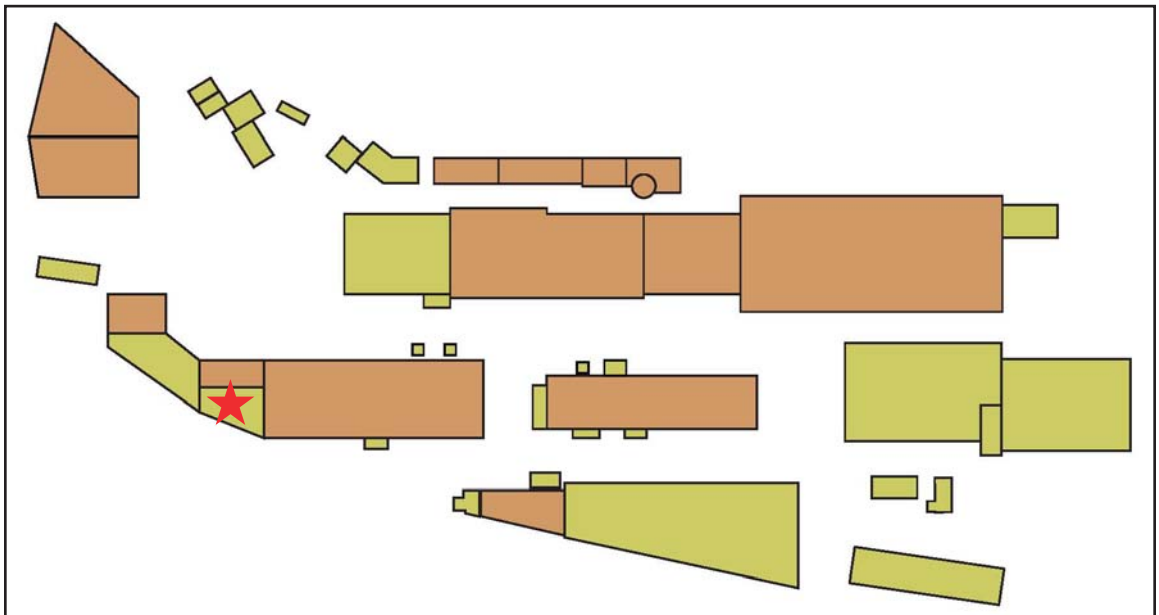
9 The Production Process at the Portland Company

★ Wrought Iron parts were made in one of the Blacksmith Shops.



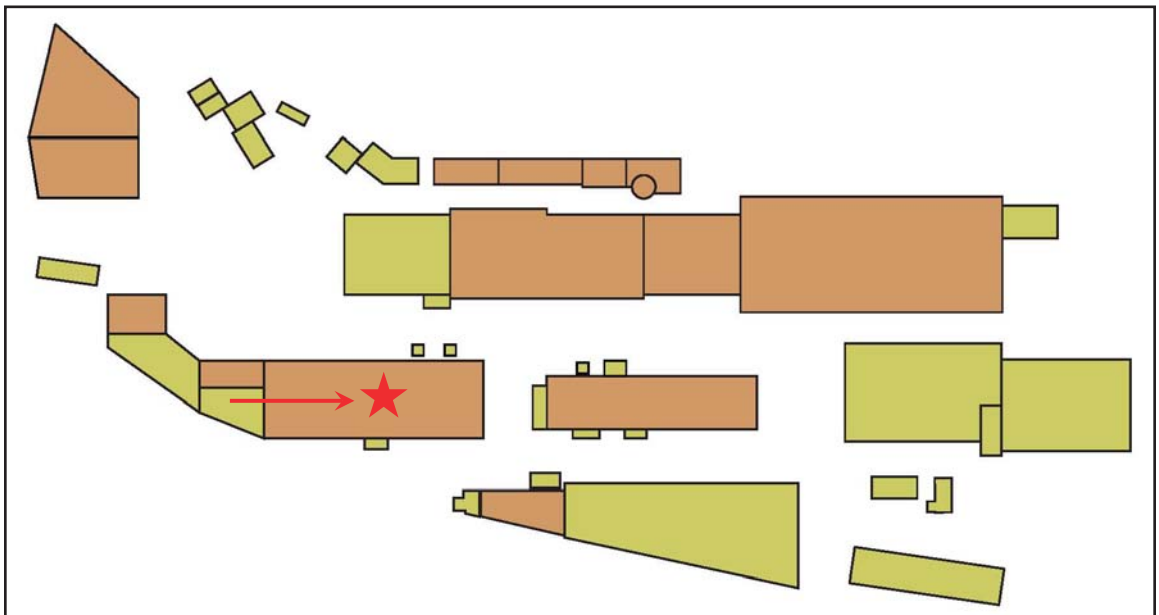
10 The Production Process at the Portland Company

★ Wrought Iron parts were then moved to the Car Shop, Erecting Shop, Boiler Shop, or Wharf, as needed.



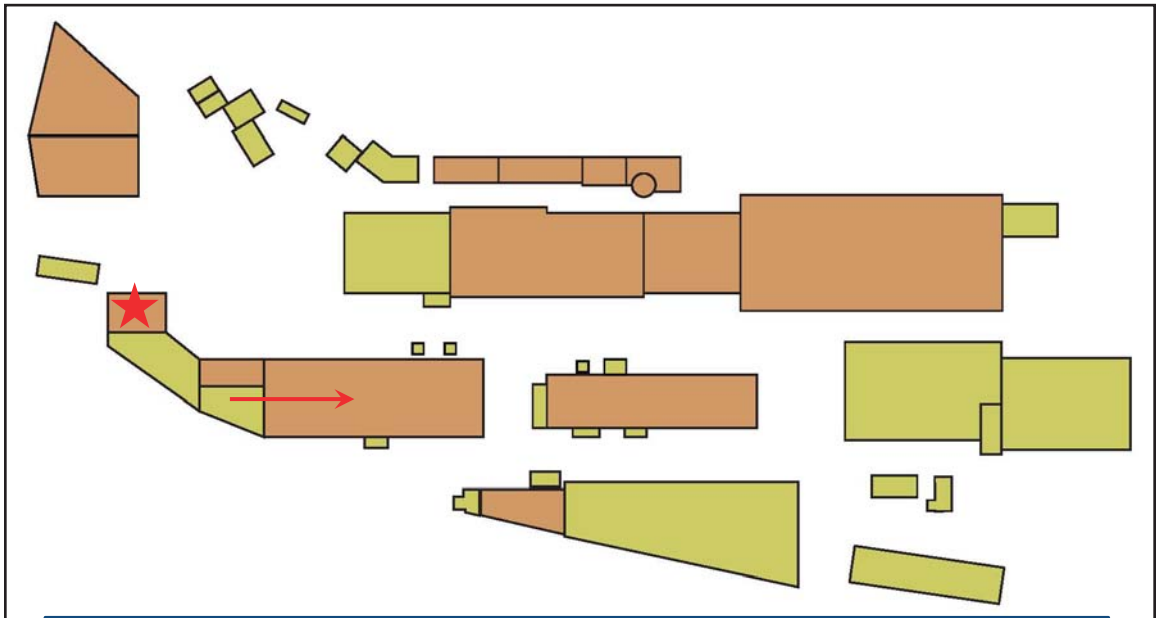
10 The Production Process at the Portland Company

★ Lumber was kept in the Lumber Storehouse, attached to the Car Shop.



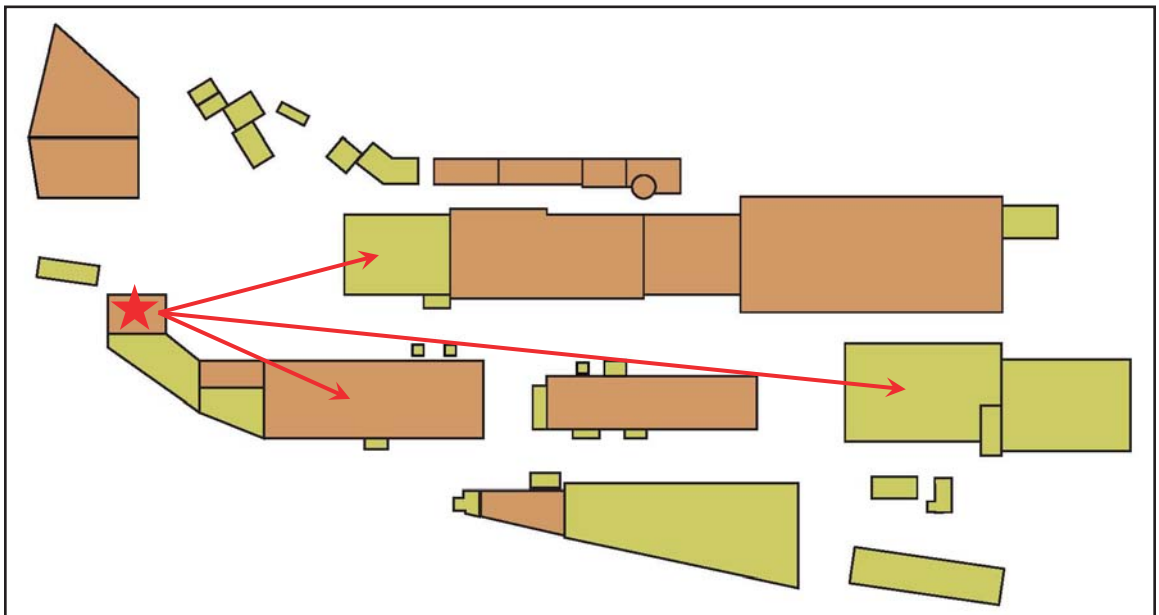
10 The Production Process at the Portland Company

★ Lumber was moved into the Car Shop to be used in the construction of railroad cars, locomotive cabs, and other carpentry work done in this building.



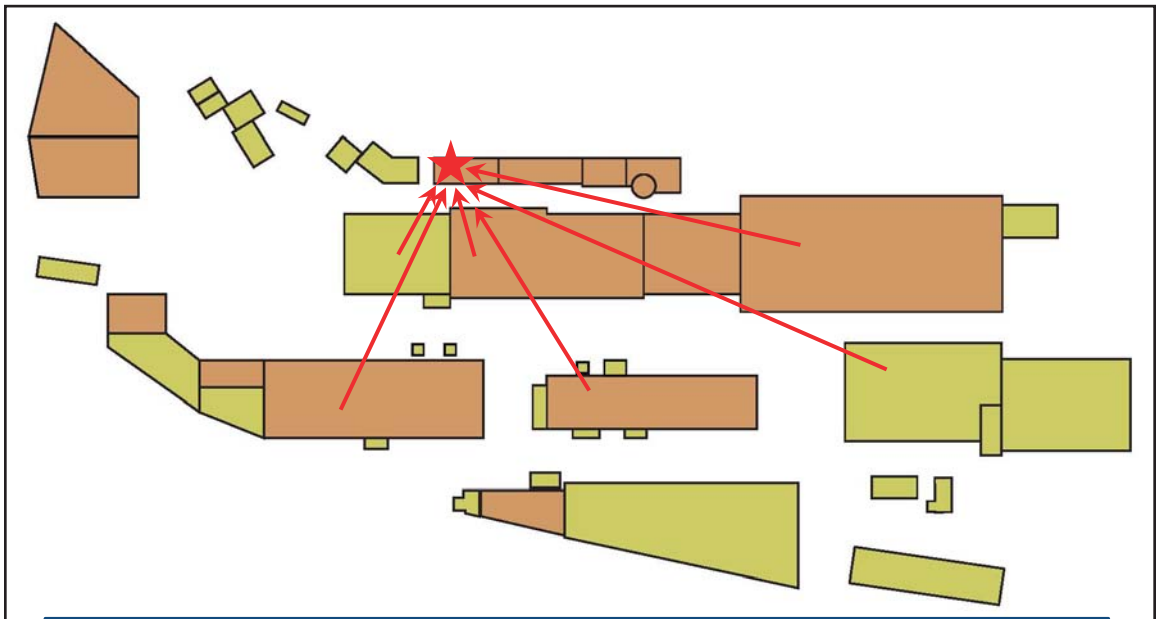
11 The Production Process at the Portland Company

★ Paint and varnish were stored in the Paint Storehouse.



11 The Production Process at the Portland Company

★ Paint and varnish were taken to the Car Shop, Erecting Shop, or Boiler Shop as needed for application in those shops.



12 The Production Process at the Portland Company

As different steps of the production process were completed, drawings were sent to the Vault for safe keeping.

**APPENDIX G: NATIONAL REGISTER OF HISTORIC PLACES CRITERIA FOR EVALUATION OF SIGNIFICANCE AND INTEGRITY AS APPLIED TO THE PORTLAND COMPANY (National Register Bulletin Number 15)**

For a property to qualify for the National Register it must meet one of the National Register Criteria for Evaluation by:

- Being associated with an important historic context *and*
- Retaining historic integrity of those features necessary to convey it significance.

The significance of a historic property can be judged and explained only when it is evaluated within its historic context. Historic contexts are historical patterns that can be identified through consideration of the history of the property and the history of the surrounding area. Historic contexts are found at a variety of geographical levels or scales.

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- That are associated with events that have made a significant contribution to the broad patterns of our history (Criterion A); or
- That are associated with the lives of persons significant in our past (Criterion B); or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); or
- That have yielded, or may be likely to yield, information important in prehistory or history (Criterion D).

The Portland Company complex is associated with important historic contexts at the National, State and Local levels as delineated in the historic context summary paragraphs below, and retains historic integrity of those features necessary to convey its significance at the National, State and Local levels.

**National Level of Significance**

National Register Criterion A: Industry (1847 - 1865)

The Portland Company complex is associated with events that have made a significant contribution to the broad patterns of our history at the national level as a rare surviving example of a pre-Civil War foundry, machine shop, and car shop complex built for the manufacture of railroad equipment in 1847. It appears to have been the first such self-contained complex in the nation built specifically for that purpose, with all of the necessary shops and a foundry on a single site. It also contains the oldest surviving railroad shop buildings in the nation. Locomotives, gunships, and cannon were manufacured here for the Union forces during the Civil War.

**State Level of Significance**

National Register Criterion A: Industry (1847 – 1982)

The Portland Company complex is associated with events that have made a significant contribution to the broad patterns of our history in the area of industry within the city of Portland, Maine. In addition

to the national industrial significance of the Portland Company as the first complete locomotive works built in the United States and a rare surviving pre-Civil War railroad equipment manufacturing plan, the Portland Company played a significant role in the development of many important industries in Maine. These include the paper-making industry, textile industry, canning industry, commercial fishing, and many smaller industries.

National Register Criterion A: Transportation (1847 – 1945)

The Portland Company is associated with events that have made a significant contribution to the broad patterns of our history for its critical role in the development of Maine railroads, including the state's iconic two-foot gauge lines, and also built boilers, marine engines, and other equipment for steam ships, including the famed "Portland." The company was created as an adjunct to the Atlantic & St. Lawrence Railroad shortly after that line was chartered to run from Portland to Montreal. The principal proponent of the Atlantic & St. Lawrence Railroad, John A. Poor, was the first president of the Portland Company as well as a director of the railroad company.

National Register Criterion B: Association with John A. Poor (1847 – 1851)

The Portland Company complex includes the most important surviving buildings associated with John A. Poor (1808-1871), a person significant to the past of the state of Maine. John A. Poor was significant to the past of Maine in numerous areas, but particularly in the areas of transportation and industry. Like the Atlantic & St. Lawrence Railroad, the Portland Company was part of a plan devised by Bangor Attorney John A. Poor to make Portland the winter port for eastern Canada during the months in which the St. Lawrence River was frozen. Starting in 1844, Poor actively promoted his vision for the continent's first international railroad and attracted others to help make it a reality in the 1840s and '50s. Construction of the 250 mile long railroad, estimated to cost ten million dollars, began on July 4, 1846 and the line to Montreal was completed in July 1853. As a director of the Atlantic & St. Lawrence Railroad and President of the Portland Company, Poor was instrumental in ensuring that a locomotive manufacturing plant would be built in Portland.[1]

While Poor's success in creating the Atlantic & St. Lawrence Railroad was perhaps his most significant achievement, none of the associated buildings or structures built in Portland during the period of his activity with the railroad survive. Only one Atlantic & St. Lawrence Railroad building from the same period has been identified elsewhere in Maine, a small wooden freight house built in Gilead in 1851 and moved to Auburn after 1968. The few other surviving buildings on the line date from after 1853, when the Grand Trunk Railroad leased the entire Atlantic & St. Lawrence line.[2] The original buildings of the Portland Company are the most significant surviving buildings associated with John A. Poor, who was President of the company during the period of their construction. The Portland Company Board of Director's meeting minutes from 1847 document that he had a direct role in acquiring materials for their construction and served with General Superintendent Horace Felton as the Building Committee.

**Local Level of Significance**

National Register Criterion A: Industry (1847 – 1982)

The Portland Company is also significant for industry at the local level, as the largest business in the city in the mid-nineteenth century and only intact nineteenth and early twentieth century industrial complex in the city of Portland. Virtually all evidence of Portland's nineteenth century industrial history has been lost with

1 Records of the Portland Company and records of the Atlantic & St. Lawrence Railroad, Maine Historical Society.
Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890

2 Mohney, Kirk F. *Along the Rails, a Survey of Maine's Historic Railroad Buildings*. 2000.

the exception of the Portland Company complex. Thirty-three manufacturing plants can be identified in the 1876 Bird's Eye View of Portland. Of the thirty-three, which include Portland Stove Foundry, J. B. Brown & Son's Sugar Refinery, Forest City Sugar Refining Company, Eagle Sugar Refining Company, Portland Packing Company, and Portland Stoneware Company, only three complexes survive to any extent in 2014. Two of these have only a single surviving building, one from the Star Match Factory on West Commercial Street and one from the original Burnham & Morrill Cannery complex on Franklin Street. Only the Portland Company complex remains largely intact 138 years later. In 1924 Portland had 60 sizable companies engaged in industrial production of various sorts, occupying more than 85 buildings. Of these individual buildings, fewer than a dozen survive outside the Portland Company. Six companies had large complexes of buildings, including the E. T. Burrowes Company, Thomas Laughlin Company, and Southworth Machine Company.[3] Fragmentary remains of some of these complexes, such as the early twentieth century Thomas Laughlin Company foundry building on Hampshire Street now used by Shipyard Brewery, only hint at the history of these sites where hundreds of Portland residents made their livings over many decades.

Criterion A: Community Planning and Development (1847 – 1853)

The Portland Company is associated with events that have made a significant contribution to the broad patterns of our history in the area of community planning and development. It is associated with and/or responsible for several significant planning and development initiatives within the city of Portland. As part of John A. Poor's vision for creating a modern international port at Portland, he conceived of a wide new street along the waterfront which would contain railroad tracks to connect the Atlantic & St. Lawrence R. R. on the east end of the city to the Portland, Saco & Portsmouth R. R. on the west end while providing both railroads access to the numerous wharves between their terminals. The narrow original waterfront street, Fore Street, followed the natural landform, snaking along the shore around Clay and Broad coves. The new street would be built by filling between the existing wharves below Fore Street, far enough out into the harbor to allow the construction of large new warehouse buildings along the land side of the street. Broad Cove would be filled for construction of the Atlantic & St. Lawrence Railroad terminal and for the Portland Company works and Clay Cove would be filled for the street and new buildings. The Portland Company site alone is seven acres, the majority of it made by filling the mud flats and cove. This project was undertaken cooperatively by the two railroads and the city of Portland, with the railroads paying the cost of filling between the wharves and the City paying wharf owners for the value of their properties seized through eminent domain. The mile-long and one hundred foot wide street would be named Commercial Street.[4]

This project was the largest urban planning initiative undertaken in the city of Portland in the nineteenth century and was transformative in its effects. Before arrival of the Atlantic & St. Lawrence Railroad and Portland Company with the related construction of Commercial Street, Portland had a waterfront infrastructure left over from the eighteenth century that was inefficient and ill suited to the age of steam.

National Register Criterion C: Architecture (1847 – 1951)

The buildings of the Portland Company complex embody the distinctive characteristics of a type, period, or method of construction, specifically several types of industrial buildings built between 1847 and 1920. The Portland Company buildings from the 1840s and 1850s are the only industrial buildings of that period remaining in the city of Portland. The buildings of the complex retain a high degree of architectural integrity to the period of Portland Company production (1847 – 1982). While much of the machinery of the complex has been removed, evidence of industrial uses can be found throughout the buildings, such as overhead shafting for operating machinery, and wood and iron cranes attached to support columns.

3 Compiled from the City of Portland 1924 Tax Records.

4 Poor, Laura Elizabeth, John A. Poor. *The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor*, 1890.
Records of the Atlantic & St. Lawrence Railroad, Maine Historical Society.

Overhead traveling cranes remain in the Foundry and Erecting Shop.

The various buildings of the complex contain examples of a wide variety of building construction engineering techniques employed to increase the strength or functionality of the buildings. These include a number of wood and metal roof truss systems; large floor areas hung from wooden roof truss systems; brick barrel vaulting; cast concrete and steel beam vaulting; cantilevered shed dormers; and single and double trussed girders used to increase the load carrying capacity of upper floors without obstructing the lower floors with posts. The earliest buildings are of load- bearing masonry wall construction with internal timber framing and later buildings utilize steel framing systems. The 1895 Foundry uses an unusual integrated steel column and brick exterior wall system. This was a comparatively early use of structural steel in Maine and represents a transitional phase in the construction technology as large buildings moved from load-bearing masonry walls to steel skeleton framing.

## APPENDIX H: TREMONT PRESERVATION SERVICES BUILDING DESCRIPTIONS WITH ADDITIONAL INFORMATION

### SITE OVERVIEW

The former Portland Company site encompasses a 9-acre parcel at 58 Fore Street, situated on filled land along the eastern waterfront of Portland, Maine, bordering the Fore River to the east. The Portland Company site is located at the northern end of a long stretch of industrial and commercial buildings that line the Portland waterfront. The property directly to the south was formerly the Grand Trunk Railway Company site but the historic buildings of the rail company were replaced by modern industrial structures by subsequent owners. To the northeast of the Portland Company site are six residential buildings (from the late 19th and early 20th centuries), a modern apartment building, and the 68-acre Fort Allen Park and Eastern Promenade beyond. The Munjoy Hill neighborhood, largely developed in the 19th century, lies to the northwest of the Portland Company site, where the land slopes sharply upward from the waterfront and to the south by the Casco River. A section of the 2.1 mile Eastern Promenade Walking Trail and a set of railroad tracks run through the property near the water's edge.

The property comprises a complex that includes 13 historic buildings and one large modern building on a paved lot with minimal vegetation (except for a cluster of trees at the northeast corner). There are also about a dozen scattered smaller sheds and outbuildings that all appear to post-date the 1980s. The historic buildings on the site range in age from about 1845 to 1950, as described below.

*Additional information:*

*Dates for the extant buildings range from 1847 to the late-20th century.*

### BUILDING DESCRIPTIONS

#### Building 1 - Erecting Building

Construction Date: 1914 (according to Portland 1924 tax assessment)

Description: Rectangular in plan, Building 1 measures roughly 80 feet by 113 feet and joins the south elevation of Building 2, leaving exposed elevations facing west, south and east. It is a single-story building with a taller central bay lit by a roof monitor. The building is constructed of red brick and has little in the way of architectural ornamentation aside from corbeling around the window bays. Brick piers separate the elevations into large window bays that hold the original tripartite multi-pane steel windows. Window openings include concrete sills. The brick roof monitor retains the original multi-pane steel sash running along the entire west and east sides (Photos 7 & 8). The principal elevation (south) features a tall central entry bay that is divided into two asymmetrical openings by a vertical steel beam; each bay holds a modern overhead metal door (Photo 2). Historic photos show that this opening was originally only about half the height it is currently and it was topped by a large panel of windows. A pedestrian entry just west of center holds a modern door as well. In addition to the installation of replacement doors, alterations include infilling of two window bays at the east elevation (Photo 3). The interior is a single open space with utilitarian finishes, including exposed brick walls and exposed steel framing.

Uses: Building 1 was constructed as the Erecting Shop to replace an earlier one-story wood building from the 1870s that was used for the same purpose. By 1949 Building 1 was used as a machine shop.

*Additional Information:*

*Drawings in the collection of the Maine Historical Society date the Erecting Shop to 1918.*

**Building 2 - Machine Shop**

Construction Date: c. 1845

Description: Building 2 is rectangular in plan and measures roughly 150 feet by 62 feet. It joins Building 2 to the south and Building 3 to the north, leaving fully exposed elevations on the east and west sides. The south elevation was fully exposed until about 1875 when a single-story wood frame building was constructed, to be replaced by the existing Building 1 around 1914. Only the brick gables are visible at the north and south elevations today. The 2 *1/2* story brick Building 2 was designed in the Greek Revival style, with pedimented gables, tall compound cornices, and symmetrical fenestration, all hallmarks of the style. The building is enclosed by a gabled roof to which were added two wide overhanging she-d dormers, one along the entire east side and another along the southern half of the west side (added between 1896 and 1909 - Photo 1). The roofline is defined by a tall compound brick cornice. The exposed side elevations (east and west) feature regularly spaced window openings with rough-cut granite sills and lintels and double-hung wood windows in a *25/25* configuration at the first floor and *15/15* at the second floor. The existing sashes appear to be a mix of original and replacements. Enclosed bridges from the late 19th and early 20th centuries connect the second floor of Building 2 to neighboring structures (Photos 1 & 4). The interior is divided into three levels and is typical of mill construction of the mid-19th century, with exposed brick walls and exposed wood framing. There have been a number of partitions added to the interior over the years.

Uses: Building 2 is the earliest surviving structure of the Portland Company complex. Built as the original machine shop. When originally constructed the south elevation was exposed and a rail spur ran from the mill yard directly into the building through a tall opening at the center of the south elevation. Prior to the 1890s there was also an office at the attic level. The attic level was later used for pattern storage.

*Additional Information:*

*The Machine Shop was built in 1847 with projecting shed dormers added to the attic story by architect Frederick A. Tompson in 1904. This alteration created a new company drafting room and the laboratory of William H. Chapman, the Portland Company's electrical engineer.*

**Building 3 - Machine Shop**

Construction Date: Constructed in two phases. The first floor appears to have been part of the earliest construction in the mill yard, in the late 1840s or early 1850s. The second floor was added in 1895 (according to map research).

Description: Building 3 is rectangular in plan and measures roughly 80 feet by 62 feet. It joins Building 2 to the south and Building 4 to the north, so that only the east and west elevations are fully exposed. Both the first and second floors are constructed of red brick that is consistent in color, although the two floors were built at different times (Photo 1). The first floor is the earliest construction and features detailing similar to that of Building 2, including a tall compound brick cornice, rough-cut granite window sills and lintels (flat heads), and double-hung wood windows. Most windows at the first floor appear to be original and have a 25/25 pane configuration, except three windows at the east elevation, which have an unusual 35/15 configuration. Several window openings at the first floor of the west elevation have been infilled with brick. The east elevation features a wide double doorway at its south end (holding replacement doors: Photos 1 & 2).

The second story was built in the 1890s and is typical of late 19th century construction, with its segmental arched windows with brick heads. Window openings hold what appear to be the original wood double-

hung sashes, in an 8/8 pane configuration. The second floor is enclosed by a pitched roof on which has been placed a temporary storage enclosure. The roofline is defined by simple wood fascia boards. A loading bay with glazed infill, that does not appear to be original but has been in place since at least the early 20th century, is located at the south end of the east elevation (Photo 2). A relatively recent bridge joins the second floor of Building 3 at the west elevation to the neighboring Building 16 (Photo 4).

The utilitarian interior of the building is divided into two levels and is typical of 19th century mill construction, with exposed brick walls an exposed wood framing.

Uses: Building 3 was used as a machine shop into the early 20th century. By 1924 it was set up as a carpentry shop and by mid-20th century was storage space.

*Additional Information:*

*This section of the Machine Shop was built in 1847 as a one story blacksmith shop. When the second story was added, c. 1895, the original wood and wrought iron Queen Post Truss roof system was left in place and the floor hung from it with iron rods and double-strut trussed girders. The added wall height essentially creates full-length shed dormers on each side of the original roof and a double-pitched roof with the original gable peak remaining above the much shallower pitch of the shed dormers on either side. Because both ends of the building abut other buildings, this unusual roof form is not visible from the ground. A monitor, probably dating from the original construction, extends along the center portion of the ridge.*

**Building 4 – Foundry**

Construction Date: 1895 (according to map research)

Description: Building 4 is the largest of the historic buildings in the complex, with a long rectangular plan measuring roughly 203 feet by 87 feet. The building was originally fully exposed at three elevations (north, west, and east). Today it joins Building 3 to the south and is surrounded on its north and east sides by modern structures. Constructed of brick, Building 4 is a single-story structure with three central raised bays, creating a two-tiered monitor along the center of the roof and a tall open span on the interior. Two large vents protruded from the roof at the east side of the building; they are no longer extant but the two-story brick section of the building along the east wall toward the south end marks their location; window openings in this two-story block were infilled with brick (visible in Photo 1). A brick ell off the south end of the west elevation was originally the location of the core oven for the foundry (Photo 7). Although this building has been altered considerably on the exterior, the west elevation remains largely intact, with paired segmental arched windows with brick heads and a simple box cornice defining the roofline (Photo 5). Windows hold original *16/16* wood double-hung sashes. The lower level walls are reinforced with what appears to be vertical steel strapping. Walls of the raised monitor have been inconsistently covered with modern materials and siding so that few windows are visible, especially along the east side (Photo 8). The long band of multi-pane windows can still be seen along the west side of the monitor (historic sashes remain but are in poor condition). A large loading bay at the south end of the east elevation holds a modern garage door. The adjacent window was modified to hold a pedestrian door (visible in Photo 1). The interior is a large open utilitarian space with exposed brick walls and exposed framing.

Uses: Building 4 was historically used as the main foundry for the Portland Company. This use did not change throughout the company's occupancy.

*Additional Information:*

*The Foundry utilizes an unusual transitional construction system in its exterior walls. The riveted steel*

*roof trusses were erected on posts formed of back-to-back U channel steel with spacers between them to allow the roof truss gusset plate to be riveted in place between the two U channels at the top. Once the roof system was erected, the spaces between the posts were filled with brick laid up in common bond and engaging with the posts by extending into the recess of the U channel. Above the tops of the posts, the brick wall encased and engaged the steel trusses to the eaves. It appears that once the brick was in place, the roof trusses were supported primarily by the brick walls, not by the steel posts.*

**Building 6 - Blacksmith/Tank Shop; Machine Shop**

Construction Dates: northern half - c. 1850; southern half - c. 1900

Description: The freestanding Building 6 was constructed in two distinct rectangular sections. The northern portion was the earliest and measures roughly 120 feet by 41 feet, while the southern section measures approximately 70 feet by 41 feet. The north block is a one-story brick structure enclosed by a gable roof (Photo 2). The construction is consistent with the earliest buildings on the site and it was likely built in the late 1840s. Regularly spaced window openings line the east elevation, while the west elevation is covered by a one-story addition that was built between 1914 and 1949 (today covered by recent siding - Photo 9). Original window openings have rough-cut granite sills and lintels and hold original wood double-hung sashes in a 20/20 pane configuration. Window bays are separated by shallow brick piers. A simple brick fascia defines the roofline. The gabled north elevation features a large central entryway holding a modern overhead door (Photo 4). A diamond-shaped window (now blocked) is located above the central doorway. Brick piers with simple corbeled capitals flank the lower level at the north elevation. The interior of the northern block is divided into large utilitarian spaces with exposed brick walls and exposed framing.

The southern portion of the building was constructed around 1900 and is a three-story brick block with evenly spaced segmental arched window openings (Photo 5). Otherwise, architectural ornamentation is limited to a corbelled brick cornice. There are a number of the original wood double-hung windows remaining (12/12 at the first floor, 8/12 at the second floor, and 8/8 at the third floor. Many of the windows at the second floor were replaced with 1/1 windows. Most of the first floor windows have the lower half of the sash blocked. The west elevation includes a tall tower (original to the south block) with modern siding and added exterior stairs that lead up to the third floor of the south block (Photo 8). An enclosed bridge (that appears to be an original feature - was there by 1906) extends from the second floor of the west elevation to Building 2 (Photo 7). The interior is divided into floor levels and spaces are utilitarian, with exposed brick walls and exposed framing.

Uses: The earlier northern portion was built at a “black smith and tank” shop according to historic maps. When the southern section was erected around 1900, the building shifted to use as a machine shop. By 1949 the southern portion was occupied by Chapman Electric Neutralizer Company, who had an office on the first floor and machine shops above (here until at least 1980). It appears that the northern portion of the building continued in use as a machine shop for the Portland Company.

*Additional Information:*

*Drawings in the collection of the Maine Historical Society show the plans for the one-story tank shop, drawn in 1883. The three-story section of the building was constructed between 1896 and 1904 according to map research.*

**Building 7 - Carpentry-& Woodworking Shop**

Construction Date: c. 1870, with c. 1900 addition

Description: Building 7 is a freestanding one-story brick building. It appears that it was originally constructed with a rectangular main block (170 feet by 60 feet) and a small brick ell off the southwest corner (roughly 50-feet by 21 feet). A small one-story wood-frame addition was constructed off the south end of the main block around 1900 (Photo 5). The building was constructed with evenly-spaced windows with segmental arched brick heads and rough-cut granite sills. Although many windows have been blocked with plywood, original sashes with a 20/20 pane configuration remain in a number of openings. There are several original segmental arched doorways as well, including a large loading door on the east elevation (Photo 4). Only one of the doorways (north elevation-west end) appears to hold the original double doors. Fenestration on Building 7 has been substantially altered over the years. A number of windows have been infilled with brick or partially blocked, while another on the west elevation was infilled and a pedestrian door was created (Photo 7). Several wide loading doors with steel lintels were added, at both the west and .east elevations (Photos 3 & 7). A modern temporary storage shed was erected near the northeast corner of the building but it is freestanding (Photo 3).

Uses: The building was constructed for use as the carpentry and woodworking shop. By 1896 the main block was a "car shop" and also held the woodworking department. The woodworking shop remained as late as 1909, at which time the building also functioned as a garage and auto repair shop. By 1949 the space had been given over to steel fabrication (continued into the 1980s). Historic maps indicate that the rear ell was originally used for "printing and erecting," and later for "printing." By 1909 it was used for pattern storage. The wood-frame addition just east of the ell was added around 1900 along with a second wood addition further to the south that connected Building 7 to Building 10. The two wood additions were used for storage. The southern addition was removed by 1949, by which time the ell and the northernmost addition were occupied by an electric welding shop (remained into the 1980s).

*Additional Information:*

*The car shop was constructed c. 1873 following a large fire that destroyed many buildings at the southeast corner of the complex. Drawings in the collection of Maine Historical Society include plans for the addition (former lumber shed) dating to 1904.*

**Building 10 - Paint Shop**

Construction Date: c. 1885

Description: Building 10 is a small single-story brick building measuring roughly 46 feet by 30 feet. This freestanding rectangular structure has a shallow pitched roof and little in the way of architectural ornamentation, aside from segmental arched window opening with brick heads and rough-cut granite sills. Window openings along the east elevation have been infilled with brick (Photo 2), while those at the west and north elevations are blocked with plywood. It appears that the original wood double-hung windows (in *12/12* pane configuration) remain beneath the plywood (Photo 4). The principal elevation (north) is dominated by a large loading bay that may have been an added feature (Photo 1), although it was in place as early as 1924 (now infilled with modern materials). Secondary access to the building is currently provided by means of an added doorway on the west elevation - holding a modern flush door (Photo 4). The interior has been finished with modern materials.

Uses: When first constructed around 1885 the building was used as a paint shop. By 1909 auto painting was undertaken here. In the mid-20th century it served as a storage shed (into the 1980s).

*Additional Information:*

*Additional research shows the Paint Shop to have been constructed c. 1873, following the fire at the*

*southeast corner of the complex.*

**Building 11 - Pattern Storehouse**

Construction Date: c. 1885

Description: Building 11 is a two-story brick building with an irregular footprint, a quadrilateral measuring 30 feet along the north wall, 85 feet along the east wall, 90 feet along the south wall and 89 feet along the northwest wall. It joins Building 12 to the east and is constructed into the side of a hill so that an areaway runs along the northwest wall to expose the lower level windows. Typical of many of the buildings in the complex from the late 19th century, Building 11 is enclosed by a shallow pitched roof and has little architectural ornamentation, aside from segmental arched window openings with brick heads. Unlike most of the other buildings, window here have wood sills and 16-pane wood sashes that appear to be casements (Photo 3). The principal elevation (north) features a large loading bay that is now infilled with two recent doorways (Photo 1). A third doorway is located just to the west (a doorway in this location appears in historic images). A secondary entry was added to the northwest elevation in a former window location, together with a wood pedestrian bridge (Photo 3). The interior is divided into two floors and has been updated somewhat with the addition of carpeting, suspended panel ceilings, and a small number of recent partitions. The brick walls and wood framing remain exposed on the interior.

Uses: Building 11 was used as a pattern warehouse throughout the occupation by the Portland Company.

**Building 12 - Pattern Storehouse**

Construction Date: Map research indicates that Building 12 was constructed in 1895.

Description: Rectangular in plan, Building 12 measures roughly 40 feet by 80 feet and joins Building 11 to the west. Building 12 is constructed of red brick and, like the other late 19th century buildings in the complex, has little in the way of architectural ornamentation, aside from segmental arched window openings with brick heads. One notable difference from other buildings of the period is that Building 12 has a gable roof (rather than a low-pitched roof), a treatment more typical of the early to mid-19th century buildings of the Portland Company. The rooflines are trimmed with simple unadorned rake boards. While many of the evenly-spaced window opening (with wood sills) are now blocked with plywood, a number retain the original 16-pane wood sashes that appear to function as casements (Photo 3). The principal elevation (north) has two large loading bays with steel lintels (likely original, as they appear in historic photos) flanking an added (post 1988) central brick entry enclosure (Photo 1). The south elevation features a sign painted directly onto the brick wall reading "PORTLAND CO." (appears in early images of the building - Photo 3). The interior is divided into three principal floors, which remain utilitarian spaces with exposed brick walls, wood plank flooring, and exposed wood framing.

Uses: Building 12 was used as a pattern storage warehouse throughout occupancy by the

Portland Company.

*Additional Information:*

*The Pattern Storehouse Addition was constructed in 1895, according to drawings in the collection of the Maine Historical Society. At one time, a one-story shed addition was constructed along the east elevation, but it has since been removed.*

**Building 14 - Drafting Room/Storage**

Construction Date: c.1875

Description: Building 14 is rectangular in plan and has two distinct sections, both of which appear to have been built about the same time. The northern section is two stories tall and measures roughly 85 feet by 20 feet (Photo 2), while the southern portion is three stories and measures approximately 30 feet by 20 feet (Photo 1). The building includes a combination of brick and wood-frame construction. The south elevation was originally exposed but now joins Building 24. The north wall abuts Building 15. Building 14 is built up against a retaining wall so that only the upper level, a simple paneled brick wall, is visible from Fore Street (west elevation - Photo 5). The east elevation is sided with clapboards and trimmed with flat wood stock. This facade has been substantially altered, with multiple changes in fenestration, inconsistent window and door replacement, and a small shed addition at the north end. Building 14 is joined to Building 2 by an enclosed walkway at the second floor (extant as early as 1886 - Photo 3). The interior has been altered extensively and finishes are largely modern.

Uses: The southern portion of Building 14 served as a drafting room until about 1895, while the northern portion was always used as a storage facility. By 1896 the southern end of the building was also used for storage and also held an office on the third floor. During the 20th century the building remained in use by the Portland Company as a storehouse.

*Additional Information:*

*The Drafting Room and Storehouse were constructed sometime between 1858 and 1864 according to map research.*

**Building 15 & 16 - Boiler House/Brass Foundry**

Construction Date: c.1850s (based on 1858 plan)

Description: Buildings 15 and 16 appear to have been constructed together and may have been part of the earliest construction on the site (likely late 1840s or early 1850s). Building 15 has been so heavily altered that it is impossible to know for certain what its original appearance may have been. It has a rectangular plan measuring roughly 35 feet by 20 feet and is built up against a stone retaining wall that runs along the Fore Street (west) side of the building. This one story brick building abuts Building 14 to the south and Building 16 to the north. All that remains evident of the historic east elevation (the only exposed elevation) are several wide brick piers between which has been added infill of various types (all in poor condition - Photo 2). The piers are decorated by string courses with corbels and dentils (Photo 3). The same detailing also appears along the cornice line and carries over across the face of Building 16. The rafters of both buildings are currently exposed but appear to have originally been covered by simple fascia boards.

Building 16 is a bit more intact than Building 15 but has also been altered. It is a one-story rectangular brick structure measuring roughly 41 feet by 27 feet. The north elevation abuts a concrete retaining wall, leaving only the east elevation exposed. There were originally four large window openings along the east elevation, trimmed with rough-cut granite sills and lintels; two still retain the original *16/16* wood double-hung sashes (Photo 4). The two southernmost windows were modified when a large loading bay with a steel lintel was installed (now infilled with added materials). Where Building 15 joins Building 16 are the remnants of a brick smoke stack (the base of it is still visible - Photo 5). (No access to interior due to dangerous conditions.)

Uses: Research indicates that Buildings 15 and 16 were constructed as the boiler house for the complex. A brick building appears in this location as early as 1858 and the design details, window in particular with their flat granite heads, are consistent with the earliest construction in the complex. The boilers were held

in what is today Building 15. It is likely that the mill quickly outgrew this relatively small boiler house; by 1886 a much larger boiler building had been constructed elsewhere on the site (no longer extant) and Building 16 was being used as a brass foundry; there were boilers still located in Building 15. This use continued until at least 1924 but had ceased by 1949. The buildings were later used by the Portland Company for storage.

*Additional Information:*

*Based on maps and plans of the complex, it appears the Boiler house was constructed between 1858 and 1864; the Brass Foundry was constructed between 1864 and 1871. The 1858 plan of the complex (in the collection of the Maine Historical Society) shows a brick building in this general location, though doesn't appear to be the existing buildings. Research into the 1886 Sanborn Map of the Portland Company do not show an alternative Boiler House as previously determined. A Boiler Shop is present in the northeast quadrant of the complex.*

**Building 24 - Vault Storage**

Construction Date: between 1896 and 1909

Description: Building 24 is a four-story utilitarian brick structure with minimal fenestration. It is built into a hill and thus has three exposed floors at the west and south elevations and four at the east (Photo 1). It is joined to Building 14 to the north and linked to Building 2 by an older enclosed bridge at the third floor (from c. 1900) and a more recent open bridge sheltered by an awning at the second floor (visible in Photo 1); the latter leads to an entry on the east elevation in the former location of a window. Many of the original windows have been infilled with brick, particularly at the second floor. The few historic window openings that remain (one at the south elevation and three at the east elevation) have segmental arched brick heads and rough-cut granite sills. One at the west elevation was converted to a doorway (second floor) and now holds a flush metal door. Also at the west elevation, an original loading door with historic glazed wood double doors survives at the fourth floor (Photo 4). An entry was added at the second floor of the south elevation (prior to 1924) and today holds recent double doors (Photo 2). The south elevation also features a sign painted directly onto the brick - the existing sign replaced an earlier painted sign of the Portland Company. The north elevation is void of fenestration (Photo 3). The interior is utilitarian (exposed brick walls) with no notable architectural features.

Uses: Building 24 was constructed for vault storage and remained in that use during occupancy by the Portland Company.

*Additional Information:*

*The construction of the Vault dates from between 1904 and 1909 as evidenced by historic maps. It appears that a floor was added before 1924, though it is unclear when or why the Vault was expanded.*

**Building 30 – Office**

Construction Date: 1950

Description: Building 30 is a freestanding Modern office building with a rectangular plan measuring roughly 32 feet by 120 feet. Typical of the style, there is little in the way of ornamentation. The northern third of the building stands three stories, while the southern portion is only two stories (Photo 1). It is built into a hillside so that only the second and third floors are visible from Fore Street (west elevation - Photo 2). The building is enclosed by a shallow shed roof with deep overhanging eaves. It rises from a red brick base that steps up at irregular intervals into the second and third floors. The upper portion of the building

is sheathed with wide clapboard siding. Bands of asymmetrical windows light the second and third floors, while openings at the first level are more evenly-spaced single windows. All sashes were replaced in the 1970s when a major renovation was undertaken. A brick entry shelter was also added to the east elevation as part of the 1970s work. There are two simple entrances off the Fore Street (west) elevation, both holding what appear to be replacement doors. The more prominent of the two is recessed within and entry shelter (Photo 4). The interior was heavily renovated in the 1970s.

Uses: The building was constructed as offices for the Portland Company and has remained in use as office space.

**Acetylene House**

Construction Date: c. 1909

Description: A small brick Acetylene House measuring approximately 8 feet square is located atop the first tier of the retaining wall to the east of the Foundry's Coke Oven. With no roof, the acetylene house is nearly in ruins, including a severely rotted door frame on the east elevation. Access to the structure is limited by overgrowth of vegetation.

Uses: The Acetylene House was used as the source of acetylene for welding and metal work.

## HISTORICAL CONTEXT

### Overview

The Portland Company was founded in 1845 as the Portland Iron Manufacturing Company. The name was shortened almost immediately in 1846; its new name has endured since, although operations ceased in 1981. During its nearly 140 year history, the Portland Company manufactured (or outfitted) steam locomotives, passenger cars, vessels, fire engines, elevators, lamp posts, lighthouse segments, ornate architectural elements, manhole covers, and more.

The history of the Portland Company and its associated buildings represent 19th and 20th century national trends in manufacturing and transportation, Portland's position as a seaport and transportation center, and the impact of industrialization on Portland.

*Additional Information:*

*The charter for the Portland Iron Manufacturing Company was granted to individuals not associated with the Portland Company, suggesting that the charter was purchased from the original grantees by John A. Poor and associates, who then requested that the legislature change the name to the Portland Company in 1846.*

### Portland - 17th Century Settlement and Growth as a Seaport

Portland is located on a peninsula in Casco Bay and is well-known for its advantageous deep water port, its hilly topography, and varied street pattern. Portland has a predominance of 19th century buildings, representing its prosperity as an industrial era seaport and transportation center.

The earliest settlers came to the peninsula by 1628 to fish, trap, and trade. By the mid-1700s, Portland (then known as the Neck and part of Falmouth) was experiencing the wealth and population growth that came with having the "best natural harbor on the eastern seaboard." Lumber was prolific and Portland's main commodity; it was processed and shipped to Boston, England, and the West Indies. Settlers clustered along Fore Street (then at the water's edge) and the base of King Street (renamed India Street).

A period of recovery and rapid growth followed the Civil War and the Neck separated from Falmouth to become Portland. Capitalizing on her natural resources -deep water port, lumber, and fish - Portland thrived during the late 1700s and into the early 1800s.

*Additional Information:*

*The period of recovery and rapid growth followed the Revolutionary War, not the Civil War.*

### Early 19th Century: Development as a Transportation Center

Portland's population more than doubled between 1800 and 1820 to over 8,500, and by 1832, the population reached over 13,000. Commercial activity was centered along streets familiar today - Fore, Middle, Market, State - and along wharves in the general location they exist today. Homes were built along the base of Munjoy Hill and a new, fashionable neighborhood in the western part of the city.

Portland continued to exploit its abundance of lumber and fish and participated in the booming shipbuilding

and maritime trade industries. By the 1830s, Portland's harbor had the largest commercial fleet on the eastern seaboard. While shipbuilding was at its peak during this time, the U.S. canal system was exploding. A group of Portland businessmen took notice and in 1825 financed the Cumberland and Oxford Canal. Completed in 1830, the canal connected Portland to the Sebago Lake region and provided a new means to transport Maine timber. Moreover, Montreal used the canal system and the St. Lawrence River to transport agricultural products to Portland for export, except during the winter months when the river iced over.

*Additional Information:*

*The Cumberland & Oxford Canal only reached Long Lake in Harrison, Maine, approximately 50 miles from Portland. Its termination was nearly 200 miles from Montreal and it was not used for transportation between Montreal and Portland.*

**Mid 19th Century: Industrialization, the Railroad, & the Founding of the Portland Company**

Nineteenth century advances in transportation and industry, particularly the railroad, brought Portland her greatest growth and prosperity yet and by mid-century, precipitated businesses like the Portland Company. Portland's first railroad, the Portsmouth, Saco, & Portland Railroad, arrived in the city by 1842 and connected southern Maine with Boston. Soon after, in 1845, attorney and savvy businessman, John A. Poor, with engineer, Septimus Norris, founded the Portland Iron Manufacturing Company to produce locomotives for the growing railroads. Furthermore, through Poor's vision and determination, Portland won the bid, over Boston, for the much coveted Atlantic & St. Lawrence Railway terminal in 1847 (later taken over by the Grand Trunk). The Atlantic & St. Lawrence Railway connected Portland with Canada and the west, making Portland Canada's primary port in the northeast, even during the winter.

All three were located on the waterfront: the Portsmouth, Saco, & Portland Railroad terminus was located just southwest of the commercial center, at the base of State Street; the Atlantic & St. Lawrence Railway was located further east, at the base of India and Hancock Streets; and the Portland Iron Manufacturing Co. (by 1846 known simply as the Portland Company) was located on filled land at the base of Waterville Street and just across a small cove from the Atlantic & St. Lawrence Railway. Initially, there was no direct link by railroad between them. To connect the three properties, another stretch of the waterfront was filled, upon which railroad tracks and• Commercial Street were constructed; the project was completed by 1853. Now, well situated with a direct link to the railroad (which eventually included a network of six railroads and several steamship routes), a wharf on Casco Bay, and an indirect link to the canal system, the Portland Company was part of a thriving commercial and transportation network.

*Additional Information:*

*As noted above, the Portland Iron Manufacturing Company was founded by individuals not connected with the Portland Company. John A. Poor and others appears to have purchased the charter for that company from the grantees and had the legislature change the name to the Portland Company in 1846.*

*The involvement of Septimus Norris in the Portland Company was very brief. The Portland Company Director's meeting minutes for 1846, located at the Maine Historical Society, show that Norris was only associated with the company for approximately 6 weeks in November and December of that year. There is no indication that the Portland Company purchased tools and machinery from the Norris Brothers Locomotive Builders in Philadelphia, as recommended by Norris, nor hired any of the ten men he recommended. Horace Fenton, who had come with Norris from Philadelphia, was retained as General Superintendent by the Portland Company directors after Norris was removed from the board. Following legal action, the*

*Portland Company paid Septimus Norris $400 for the non-exclusive use of patents he had transferred to the Portland Company during the six weeks he was a director.*

*Before Broad Cove was filled for the railroad yard between the Portland Company and the Atlantic and St. Lawrence RR depot at India Street, the railroad crossed the cove on a timber trestle, with a siding on another trestle to the Portland Company Works, providing a rail connection to the plant from the outset of operations in 1847.*

**The Portland Company: Mid-19th Century Manufacturing**

The Portland Company was the only company in the U.S. founded for the sole purpose of manufacturing locomotives; others were originally machine shops, adapted for their new purpose. Its complex was a nearly self sufficient operation, able to produce almost every part needed in the manufacturing process. Their buildings evolved with their operations – as industrial and transportation innovation dictated, they redesigned their old shops and added new shops. The Portland Company complex included three buildings as early as 1851-a foundry, a counting room, and a "car house" (Building 2 -machine shop). By the century's end there were roughly two dozen buildings and sheds supporting their operations and the company was manufacturing a range of products, as follows.

*Additional Information:*

*In 1847, a foundry, machine shop, and blacksmith shop were constructed of brick and a car shop built of wood. The original office, or "counting room" may have been an existing building on the site, as the director's records do not show any reference to its construction.*

**Locomotives. Fire Engines. Steamships**

Locomotives
1848 - c.1900

The railroad brought economic vitality to Portland and served as the impetus for the founding of the Portland Company. The Portland Company's first locomotive, the Augusta, was completed in 1848 for the Portland, Saco, & Portsmouth Railroad. Over the next 60 years, 630 more steam locomotives (and hundreds of freight and passenger cars) were constructed for, among others, the Boston & Maine, Maine Central, Northern Pacific, Panama, Mexican Central, Sandy River, Wiscasset, and Quebec Railroads. The Portland Company also built locomotives for the U.S. Government during the Civil War.

Following the war, the railroad (and steamboats) served Maine's burgeoning tourism industry. As the wealthier looked to escape the heat of the cities, railroads and steamships connected cities with rustic coastal communities and inland areas like Rangeley Lakes. By 1872, 65 trains a day stopped in Portland. Six railroads eventually served the city; the Grand Trunk alone had direct lines to New Hampshire, Vermont, Montreal, and the West.

While railroad track gauge is of standard dimension nationwide today, up to six different dimensions were used until the 1870s. This meant that the Portland Company built locomotives and cars to fit varied width tracks.

Fire Engines
c.1860 - 1870s

The Portland Company manufactured the first of its horse drawn steam fire engines, the "Greyhound," in 1860. It was used by the Portland Company and the adjacent Grand Trunk Railway as well as being loaned to the City of Portland. The Portland Company subsequently produced at least seven steam engines for the Portland Fire Department. Several more steam fire engines were built during the 1860's and into the 1870s.

No event made the need for fire engines more evident than the fire that swept through Portland on July 4,1866. The fire burned the commercial center to the base of Munjoy Hill, stopping just short of the Portland Company but destroying 1500 buildings and leaving ten thousand homeless.

Steamships and Other Vessels
c.1860 - c.1920

The advent of steamboat transportation translated to additional business for the Portland Company. The Portland Company built over 350 steam engines and boilers for marine, as well as, industrial uses. They outfitted towboats, fishing vessels, yachts, dredges, freighters, fireboats, and ferries. Some of these vessels were built elsewhere and others were fully constructed at the Portland Company's boatyard across the harbor in South Portland. Once launched, the vessel would be towed to the Portland Company wharf to be outfitted. For example, the side-wheel passenger steamer, the "Bay State," was built in Bath, Maine, and then towed to Portland to be outfitted by the Portland Company in 1890.

The Portland Company: Late 19th/Early 20th Century Diversification

Portland's economy-and the Portland Company's portfolio-diversified as industrialization progressed. The Portland Company began manufacturing elevators, cast iron elements, and paper industry equipment, and for WWI, they produced brass shell casings. They even distributed automobiles and trucks, making good use of their existing large buildings, expansive property, and proximity to rail transportation.

Elevators
early 20th century

The Portland Company manufactured passenger and freight elevators, at first hydraulically powered and later electrically. Most elevator cars were built of solid oak with an iron and steel framework. The Portland Company manufactured three elevators for the Fidelity Trust building. One of them survives in the building today, now known as the Maine Bank and Trust Co. building on Congress St. The Portland Company also produced the elevators for the Portland City Hall.

Cast Iron
Late 1800s

During the 19th century, cast iron could be produced cheaply and in vast quantities. It could be cast in a variety of forms and painted different colors making it a desirable alternative to carved stone and wooden architectural elements. Cast iron production was prolific late in the century; whole streetscapes can be found dating from this period, lined with cast iron facades.

The Portland Company cast storefronts, man hole covers, parts for lighthouses (lanterns, lamp decks, spiral stairways, doors and sashes, walkways, railings, vents, spindles and markers, upper sections of light tower), lamp posts, ornate gates, and industrial boilers. They also operated a bronze and brass foundry.

Paper Industry
Late 1800s - 1900s

By the 1870s, Maine's lumber supply, namely desirable pine, was becoming depleted. Spruce and fir were plentiful, however, and ideal for the paper industry. Between 1880 and 1900 about 40 mills were built in Maine. Processing moved right to the source, creating small industrial centers in towns like Rumford, Millinocket, Berlin Mills, Sprague's Falls, and Westbrook.

The Portland Company manufactured equipment used in the paper industry including ,pulp digesters, boilers, tanks, steam accumulators, chippers and debarkers, vomit stacks, turbines, penstocks, water-control gates, and gate-hoisting equipment. Equipment, some of which measured as large as 15' in diameter, was transported by rail directly from the Portland Company to many of the mills.

The advent of electricity meant convenience and new challenges, like the heavy static charge that can be produced during the manufacturing process, causing problems in paper and textile mills. The remedy came in the form of an electric neutralizing machine, patented by electrical engineer, William Chapman, in 1908. The Chapman Corporation operated as a subsidiary of the Portland Company in Building 6 at the waterfront mill yard.

Automobile Sales
c1907 - c1914

The Portland Company served as Maine's exclusive distributor of the high-end Knox automobiles, trucks, firetrucks, and three-wheeled tractors which were manufactured in Springfield, Massachusetts. In 1910, they added the Brush, Cole, and Thomas automobile line to appeal to middle and lower income buyers. The Portland Company used their garage for auto and truck repairs, and snowplow fittings.

Brass Howitzer Shell Casings for the War
1917 – 1918

The onset of WWI prompted the need for further diversification and brought a brief respite to the regional decline in manufacturing. Tens of thousands of brass shell casings were produced by the Portland Company, packed in pairs, and shipped to another factory to be filled before being sent to the US Army between 1917 and 1918. Women replaced men, who were overseas serving in the military, in this, and other factories.

# Bibliography

**BIBLIOGRAPHY**

American Railroad Journal and General Advertiser. Volume 18. New York, New York:
Bacon, George F. Portland Maine, Its Representative Business Men and Points of Interest, Newark, NJ: Glenwood Publishing, 1891.

Bauman, John F. Gateway to Vacationland. Amherst, Massachusetts: University of Massachusetts Press, 2012.

Charter and By-Laws of the Atlantic and St. Lawrence Railroad Company: Lease to the Grand Trunk Railroad of Canada, and Other Documents, Portland, ME, Bearch, Starbird, Rich, & Co., 1855.

Historic drawings in City of Portland Public Service vault, c. 1850 – c. 1920. 55 Portland Street, Portland, ME.

Elwell, Edward H. Portland and Vicinity, Providence, RI: J.A. & R.A. Reid and Portland, ME: Loring, Short & Harmon, 1881.

F. W. Beers & Co. City of Portland, Parts of 1 & 2 Wards [Map]. Scale: 150 Feet to an inch. In: F. W. beers & Co. Cumberland County, 1871.

Fletcher, David H. The Portland Company, 1846-1982, Charleston, SC: Arcadia Press, 2002.

Garrison, William L. and David M. Levinson. The Transportation Experience: Policy, Planning, and Deployment. New York, New York: Oxford University Press, 2006.

Gordon, Robert B. American Iron, 1607-1900. Baltimore, Maryland: The Johns Hopkins University Press, 1996.

"The Grand Trunk Railway Company of Canada." Library and Archives Canada. [http://www.collections-canada.gc.ca/confederation/023001-3010.25-e.html] December 14, 2001 (accessed July 14, 2014).

Heald, Bruce D. A History of the Boston & Maine Railroad. Charleston, South Carolina: The History Press, 2007.

Kinert, Reed. Early American Steam Locomotives. Courier Dover Publications, 2012.

Kyriakodis, Harry. "Along the City Branch, The Forgotten Norris Locomotive Works." Hidden City Philadelphia. [http://hiddencityphila.org/2012/11/along-the-city-branch-the-forgotten-norris-locomotive-works/] November 21, 2012 (accessed July 14, 2014).

Larry, Julie and Gabrielle Daniello. "History of Portland's India Street Neighborhood," for the City of Portland's Historic Preservation Office, 2013.

Mallery, Timothy J. "Early Locomotives." Catskill Archive. [http://www.catskillarchive.com/rrextra/ABRW13.Html] 1996-2010. (accessed July 14, 2014).

Parker, Robert. "The Portland Company – Its Architectural Legacy," Draft MS, University of Southern Maine, Portland, ME, 1990.

Plan of Portland. 1866 [Map]. Boston, Massachusetts: J. H. Bufford & Sons, lith. In 1866 Portland, Maine directory

Poor, Laura Elizabeth, John A. Poor. The First International Railway and the Colonization of New England, Life and Writings of John Alfred Poor, New York, NY: G. P. Putnam & Co., 1890.

Records of the Atlantic & St. Lawrence Railroad Company 1846 –c. 1900, Maine Historical Society, 489 Congress St., Portland ME.

Records of the Portland Company 1846 - 1902, Maine Historical Society, 489 Congress St., Portland, ME.

Records of the Stockholders of the Portland Company 1846 - 1902, Maine Historical Society, 489 Congress St., Portland, ME.

Rivard, Paul E. Made in Maine: From Home and Workshops to Mills and Factories, Charleston, SC: The History Press, 2007.

Rusfell, B. B. Portland, ME. From the Latest Surveys. 1879 [Map]. Scale: 40 Rods to 1 inch. In: Portland, 1879 Atlas.

Secretary of State. Acts and Resolves Passed by the Twenty-Fifth Legislature of the State of Maine, A.D. 1846, Augusta, ME: William T. Johnson, 1845.

Secretary of State. Acts and Resolves Passed by the Twenty-Sixth Legislature of the State of Maine, A.D. 1846, Augusta, ME: William T. Johnson, 1846.

Sinclair, Angus. Development of the Locomotive Engine. New York, New York: Angus Sinclair Publishing Company, 1907.

Solomon, Brian. American Steam Locomotive. Osceola, Wisconsin: MBI Publishing Company, 1998.

Swank, James Moore. History of the Manufacture of Iron in all Ages. New York, New York: Cambridge University Press, 2011.
The Cassier Magazine Company. Cassier's Magazine, Volume XX, May-October 1901. New York, New York: Louis Cassier & Company, 1901.

Thurston & Company. The Portland Reference Book and City Directory, 1850-1851, Portland, ME: Thurston & Co., 1850.

White, John H., Jr. A History of The American Locomotive, Its Development: 1830-1880. Mineola, New York: Courier Dover Publications, 1979.

Young, Brian G. "Poor, John Alfred." Dictionary of Canadian Biography (University of Toronto). [http://www.biographi.ca/en/bio/poor_john_alfred_10E.html] (accessed July 14, 2014).