

**ADDRESS: 3143 W PASSYUNK AVE**

Name of Resource: Point Breeze Gas Works

Proposed Action: Designation

Property Owner: Philadelphia Energy Solutions Refinery and Marketing LLC

Nominator: Keeping Society of Philadelphia

Staff Contact: Kim Chantry, kim.chantry@phila.gov

**OVERVIEW:** This nomination proposes the designation of a portion of the property at 3143 W. Passyunk Avenue. Most of the Point Breeze Gas Works site is located at 3101 W. Passyunk Avenue and is proposed for designation in a related nomination. The nominations for the two properties are identical, except for the two-page nomination form. Almost the entirety of the nomination is dedicated to resources at 3101 W. Passyunk, where most of the surviving structures related to the historic gasworks stand, not this property. The nomination for 3143 W. Passyunk Avenue contends that this section of the Point Breeze Gas Works, which it calls the Wharf and which was subdivided off from the main gasworks property, includes four resources: retaining walls (4a), kilns (4b), an access road (4c), and a pump house (4d). The nomination claims that the retaining walls and kilns satisfy Criteria for Designation A, C, D, E, and J, and the pump house and access road satisfy Criteria C and D. The four potential resources are briefly described on pages 23 to 25 of the nomination. The pump house and access road are never mentioned in statement of significance; the kilns and retaining walls are mentioned briefly. The nomination makes only one claim of significance for the so-called Wharf section of the gasworks, that the buttresses of the retaining walls indicate that the walls are Gothic Revival in style. The claim is not credible.

Access to the site is strictly controlled and visitors are not permitted. Aerial imagery was utilized to identify and catalog the resources. The nomination acknowledges that "it is unclear exactly what survives due to the lack of access to the site and limited visibility."

The property owner objects to the nomination and has retained an attorney and preservation consultant to represent its interests before the Historical Commission. The preservation consultant has submitted a report refuting the claims of the nomination. The report concludes that this section of the gasworks does not merit designation because:

- the property is not publicly accessible;
- most of the historic structures that were on the site have been demolished, leaving the remaining few without context;
- the structures, especially the kilns, are in poor and very poor condition and/or have been altered;
- none of the structures exhibits elements or features of the Gothic Revival style;
- little or no justification for the claims of significance of the structures is offered in the nomination;
- most of the surviving structures on the site were built or significantly altered after John Chapman Cresson's involvement with the site; and,
- most of the site is open, vacant land or is occupied by non-historic fire department structures and a maze of pipes and other infrastructure.

**STAFF RECOMMENDATION:** The staff recommends that nomination fails to demonstrate that the property at 3143 W. Passyunk Avenue satisfies any Criteria for Designation. The public cannot access the site. The remaining sections of the kilns are in ruins. Nothing on the site is Gothic Revival in style. The retaining wall and asphalt-paved roadway have been altered. The pump house is a later addition. The site is overrun with modern infrastructure. The site should not be designated.

**NOMINATION OF HISTORIC BUILDING, STRUCTURE, SITE, OR OBJECT**  
**PHILADELPHIA REGISTER OF HISTORIC PLACES**  
**PHILADELPHIA HISTORICAL COMMISSION**

SUBMIT ALL ATTACHED MATERIALS ON PAPER AND IN ELECTRONIC FORM (CD, EMAIL, FLASH DRIVE)  
ELECTRONIC FILES MUST BE WORD OR WORD COMPATIBLE

**1. ADDRESS OF HISTORIC RESOURCE** (must comply with an Office of Property Assessment address)

Street address: 3143 W. Passyunk Avenue

Postal code: 19145 Councilmanic District: 2

**2. NAME OF HISTORIC RESOURCE**

Historic Name: The Point Breeze Gas Works (The Wharf)

Current/Common Name: \_\_\_\_\_

**3. TYPE OF HISTORIC RESOURCE**

☒ Building      ☒ Structure      ☒ Site      ☐ Object

**4. PROPERTY INFORMATION**

Condition:    ☐ excellent    ☐ good    ☒ fair    ☐ poor    ☒ ruins  
Occupancy:    ☐ occupied    ☐ vacant    ☐ under construction    ☒ unknown  
Current use: Unknown

**5. BOUNDARY DESCRIPTION**

Please attach

**6. DESCRIPTION**

Please attach

**7. SIGNIFICANCE**

Please attach the Statement of Significance.

Period of Significance (from year to year): from 1855 to 1899

Date(s) of construction and/or alteration: Primary: 1855-59 with Additions

Architect, engineer, and/or designer: John Chapman Cresson, Designer & Engineer (1806-1876)

Builder, contractor, and/or artisan: \_\_\_\_\_

Original owner: The Philadelphia Gas Works

Other significant persons: Not Applicable

**CRITERIA FOR DESIGNATION:**

The historic resource satisfies the following criteria for designation (check all that apply):

- ☒ (a) Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past; or,
- ☐ (b) Is associated with an event of importance to the history of the City, Commonwealth or Nation; or,
- ☒ (c) Reflects the environment in an era characterized by a distinctive architectural style; or,
- ☒ (d) Embodies distinguishing characteristics of an architectural style or engineering specimen; or,
- ☒ (e) Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth or Nation; or,
- ☐ (f) Contains elements of design, detail, materials or craftsmanship which represent a significant innovation; or,
- ☐ (g) Is part of or related to a square, park or other distinctive area which should be preserved according to an historic, cultural or architectural motif; or,
- ☐ (h) Owing to its unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood, community or City; or,
- ☐ (i) Has yielded, or may be likely to yield, information important in pre-history or history; or
- ☒ (j) Exemplifies the cultural, political, economic, social or historical heritage of the community.

**8. MAJOR BIBLIOGRAPHICAL REFERENCES**

Please attach

**9. NOMINATOR**

Organization The Keeping Society of Philadelphia Date March 22, 2019

Name with Title Oscar Beisert, Architectural Historian Email Keeper@keepingphiladelphia.org

Street Address 1315 Walnut Street, Suite 320 Telephone 717.602.5002

City, State, and Postal Code Philadelphia, PA 19107

Nominator ☐ is ☒ is not the property owner.

**PHC USE ONLY**

Date of Receipt: 14 May 2019 (revised)

☒ Correct-Complete ☐ Incorrect-Incomplete Date: 14 May 2020

Date of Notice Issuance: 15 May 2020

Property Owner at Time of Notice

Name: Philadelphia Energy Solutions

Address: 3144 W Passyunk Ave

City: Philadelphia State: PA Postal Code: 19145

Date(s) Reviewed by the Committee on Historic Designation: \_\_\_\_\_

Date(s) Reviewed by the Historical Commission: \_\_\_\_\_

Date of Final Action: \_\_\_\_\_

☐ Designated ☐ Rejected

**NOMINATION**  
**FOR THE**  
**PHILADELPHIA REGISTER OF HISTORIC PLACES**

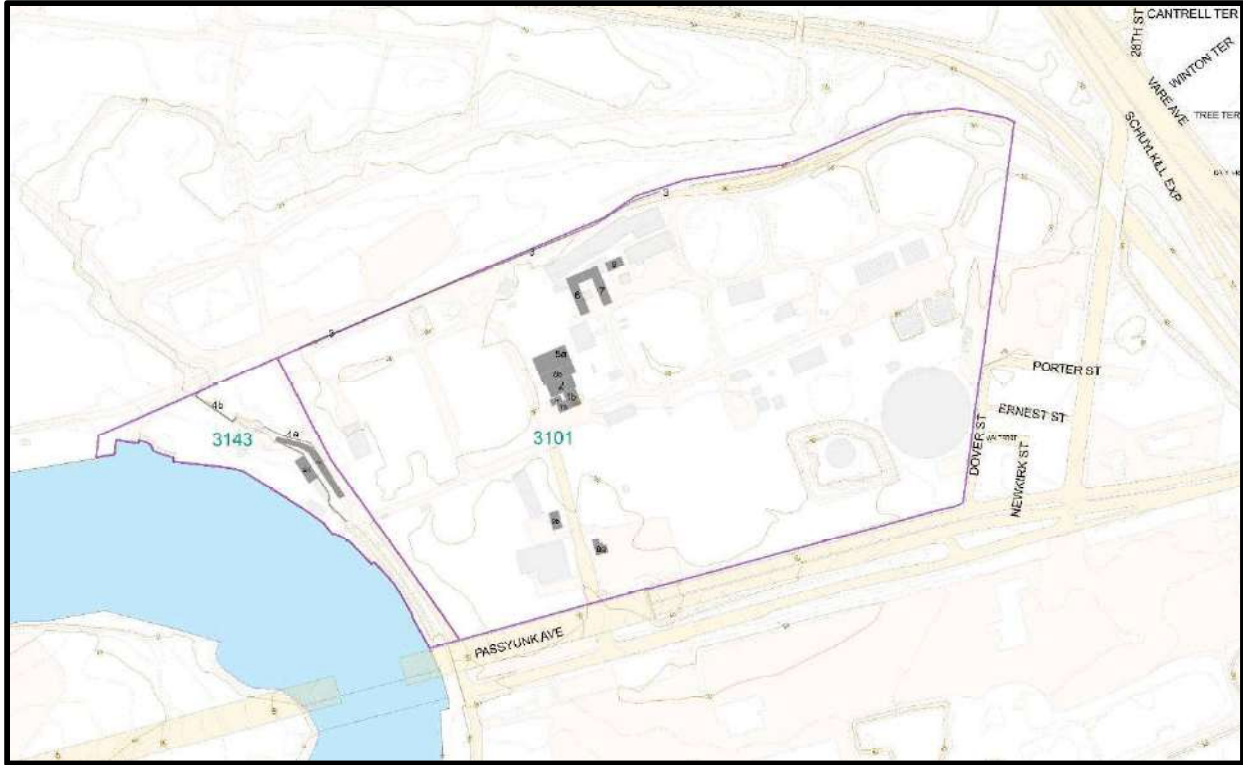


*Figure 1. Top: “Church Row” of the Point Breeze Gas Works. Source: The PGW Photograph Collection, City Archives of Philadelphia. Figure 2. Bottom: Looking east at Church Row, containing the earliest buildings of the Point Breeze Gas Works. Source: Atlas, City of Philadelphia, 2018.*

## **The Point Breeze Gas Works**

—  
**Erected 1851–59**  
—

**3101 and 3143 W. Passyunk Avenue**  
**Philadelphia, Pennsylvania**



*Figure 3. The boundary for the proposed designation covering Parcels A and B is shown on the above map.*

## 5. BOUNDARY DESCRIPTION

The boundary for the designation of the subject property is as follows:

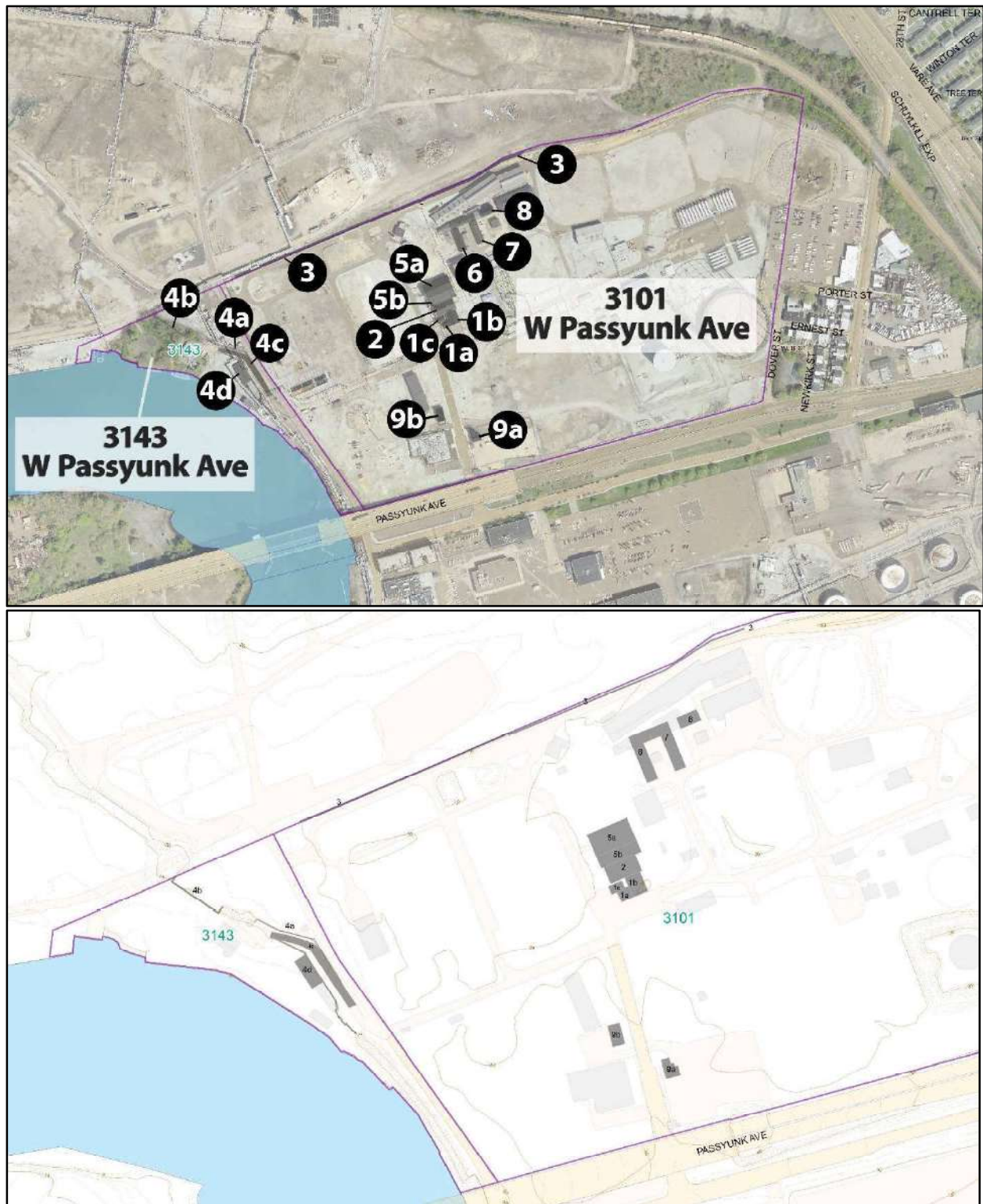
Parcel A (3101 W Passyunk Avenue):

BEGINNING at a point on the northwest corner of Passyunk Avenue and Dover Street, then extending along the northerly side of Passyunk Avenue (being also the north most extent of the right of way for the Passyunk Avenue bridge) approximately 1,606 feet to a point by Parcel B (known as 3143 Passyunk Avenue, then extending North 28°33'27" West approximately 706 feet, then North 23°27' West, the distance of approximately 353 feet to the northern boundary line between the Philadelphia Gas Works property (3101 Passyunk Avenue) with the property owned by Philadelphia Energy Solutions Refining and Marketing LLC, then extending a northeasterly direction approximately 2,500 feet to a point where the west line of Dover Street would intersect with the northerly property line of the Philadelphia Gas Works if the line of Dover Street extended north beyond Porter Street, then extending a southerly direction along the line of the west side of Dover Street approximately 1,219 feet to the northwest corner of Passyunk Avenue and Dover Street, the place of beginning,

Parcel B (3143 W Passyunk Avenue):

BEGINNING at a point on the northerly side of Passyunk avenue (variable width) at the distance of one thousand six hundred six feet zero and five-eighths inches westwardly from the westerly side of Dover street (forty feet wide); thence extending along the said northerly side of Passyunk avenue, south eighty-one degrees fifty-nine minutes thirty-three seconds west, the distance of one

hundred twenty-six feet three and one-half inches to a point on the easterly side of the pierhead and bulkhead line of the Schuylkill River; thence extending along the said pierhead and bulk-head line, crossing the proposed widened portion of Passyunk avenue, the following four courses and distances, (1) north fifteen degrees fifty-one minutes forty-six and thirteen one-hundredths seconds west, the distance of two hundred sixteen feet three and three-quarters inches to a point; (2) north thirty-four degrees eleven minutes thirty-two and thirteen one-hundredths seconds west, the distance of three hundred seventy-three feet five and one-half inches to a point; (3) north fifty degrees one minute thirty-nine and sixty-three one-hundredths seconds west, the distance of three hundred nine feet four and one-half inches to a point; and (4) north seventy-five degrees thirty four minutes twenty-two and eighty-three one-hundredths seconds west, the distance of three hundred forty-five feet four inches to a point; thence extending north fifteen degrees zero minutes zero seconds east, the distance of one hundred fifty-six feet seven inches to a point; thence extending north seventy-four degrees three minutes zero seconds east, the distance of four hundred sixty-nine feet seven and three-eighths inches to a point; thence extending south twenty degrees three minutes twenty-seven seconds east, the distance of three hundred fifty-three feet eight and five-eighths inches to a point: thence extending south twenty-eight degrees thirty-three minutes twenty-seven seconds east, the distance of seven hundred six feet and one-half inch to a point, thence extending south twenty-one degrees one minute nineteen seconds west, the distance of seventeen feet seven and three-quarters inches to a point on the northerly side of Passyunk avenue as proposed to be widened; thence extending within the proposed widening of Passyunk avenue, the following two courses and distances, (1) south twenty-nine degrees forty-eight minutes thirty-two seconds east, the distance of sixteen feet one and one-half inches to a point; and (2) south nine degrees four minutes seven seconds east, the distance of eighty-two feet seven and three-quarters inches to the northerly side of Passyunk avenue, the first mentioned point and place of beginning.



*Figure 4. (Top) Aerial view of the Point Breeze Gas Works, with nominator-attributed building numbers called out. (Bottom) Cropped map showing contributing resources as darkened elements. Base map source: CityAtlas, 2018.*

After studying the age and significance of the buildings and structures on the site the following delineation of contributing resources:

No.	Resource Name	Built	Criteria
1.	Purifying House		
	1a: Condenser House	1853–54 <sup>1</sup>	A, C, D, E, J
	1b: Engine & Exhaust House	1853–54 <sup>2</sup>	A, C, D, E, J
	1c: Boiler House	1862–88 <sup>3</sup>	A, C, D, E, J
2.	Purifying House	1855 <sup>4</sup>	A, C, D, E, J
3.	North Wall Ruins of Coal House	1855 <sup>56</sup>	A, C, D, E, J
4.	The Wharf		
	4a: Retaining Walls	1855–99 <sup>7</sup>	A, C, D, E, J
	4b: The Kilns	1855–88 <sup>8</sup>	A, C, D, E, J <sup>9</sup>
	4c: Access Road	1888–94 <sup>10</sup>	C, D
	4d: Pump House	c1894–99 <sup>11</sup>	C, D
5.	Purifying House		
	5a: Purifying House	1859 <sup>12</sup>	A, C, D, E, J
	5b: Purifying House	c1888–94 <sup>13</sup>	C, D
	Exhaust Engine House		
	Sponge Shed		

<sup>1</sup> *Twentieth Annual Report of the Trustees of the Philadelphia Gas Works* (Philadelphia: January 1855), 466–67.

<sup>2</sup> *Twentieth Annual Report* (1855), 466–67.

<sup>3</sup> Resource No. 1c: Boiler House (1862–88) was not present in the 1862 Smedley Atlas, but was present in the 1888 Hexamer General Survey of the Point Breeze Gas Works. Source: Greater Philadelphia GeoHistory Network.

<sup>4</sup> *Twenty-First Annual Report of the Trustees of the Philadelphia Gas Works* (Philadelphia: 25 January 1856), 12–13.

<sup>5</sup> The Coal House was largely taken down by the 1917 Sanborn, and its walls were in use as support for a Coal Trestle, which was constructed in 1898. The Coal Trestle was subsequently taken down and the subject resource was reused as a wall.

<sup>6</sup> *Twenty-First Annual Report* (1856), 12–13.

<sup>7</sup> Resource No. 4b: Retaining Walls was built over time as part of the larger resource. References to The Wharf were first made in 1851 and in subsequent reports. The southernmost section of the wall may date to that period. The larger portion of the retaining wall with buttresses and in the Gothic Revival style were built between 1888 and 1894, when Resource No. 4c: Access Road (1889–94) was constructed, with additional improvements through 1899. The resource is shown in detail in Photo No. 90, PGW Photograph Collection, 13 November 1899, City Archives of Philadelphia (hereafter CAP).

<sup>8</sup> *Twenty-First Annual Report* (1856), 12–13. Resource No. 4b: Kilns (1855–1888) were built into the rise of the terrain between Resource No. 4: The Wharf and the larger property, and were originally sheathed by wooden shed, as shown in the 1888 Hexamer General Survey.

<sup>9</sup> This resource is at least partly extant as shown in Figure 52.

<sup>10</sup> Resource No. 4b: Access Road (1888–94) was not present in the 1888 Hexamer General Survey but appears in the 1894 Hexamer General Survey. Resource No. 4d: Pump House (1894–99) was not present in the 1894 Hexamer General Survey, and was constructed in the last years of the nineteenth century as shown in various photographs of the PGW Photograph Collection at CAP.

<sup>11</sup> Resource No. 4d: Pump House (1894–99) was not present in the 1894 Hexamer General Survey but appears in the various construction photographs of the PGW Photograph Collection at CAP between 1899 and 1906.

<sup>12</sup> *Twenty-Fifth Annual Report of the Trustees of The Philadelphia Gas Works to the Select and Common Councils of the City of Philadelphia* (Philadelphia: Crissy & Markley, Printers, January 1860), 11.

<sup>13</sup> Resource No. 2b: Purifying House (1888–94) was not present in the 1888 Hexamer General Survey of the Point Breeze Gas Works but does appear in the 1894 Hexamer General Survey of the Point Breeze Gas Works. Source: Greater Philadelphia GeoHistory Network.

6. Shops	1859 <sup>14</sup>	A, C, D, E, J
7. Shops	1859	A, C, D, E, J
8. Locomotive House	c1859 <sup>15</sup>	A, C, D, E, J <sup>16</sup>
9. U.S. Gas Improvement Co. (U.G.I.) Buildings		
9a: U.G.I. Office & Dispensary	1899–1929 <sup>17</sup>	C, D
9b: U.G.I. Garage	1913–14 <sup>18</sup>	C, D

The above-referenced resources include some buildings that are non-contributing. Basic research was conducted on these buildings to understand the date of construction, historic use, and to provide understanding of the larger built context, but, unfortunately, there was not time nor resources to further explore the potential historical significance of every resource on the site. As a result, this nomination only pertains to the resources recorded above as contributing to the proposed designation. Further research and study may find that additional resources are worthy of designation.



<sup>14</sup> *Twenty-Fifth Annual Report* (1860), 11.

<sup>15</sup> *Twenty-Fifth Annual Report* (1860), 11.

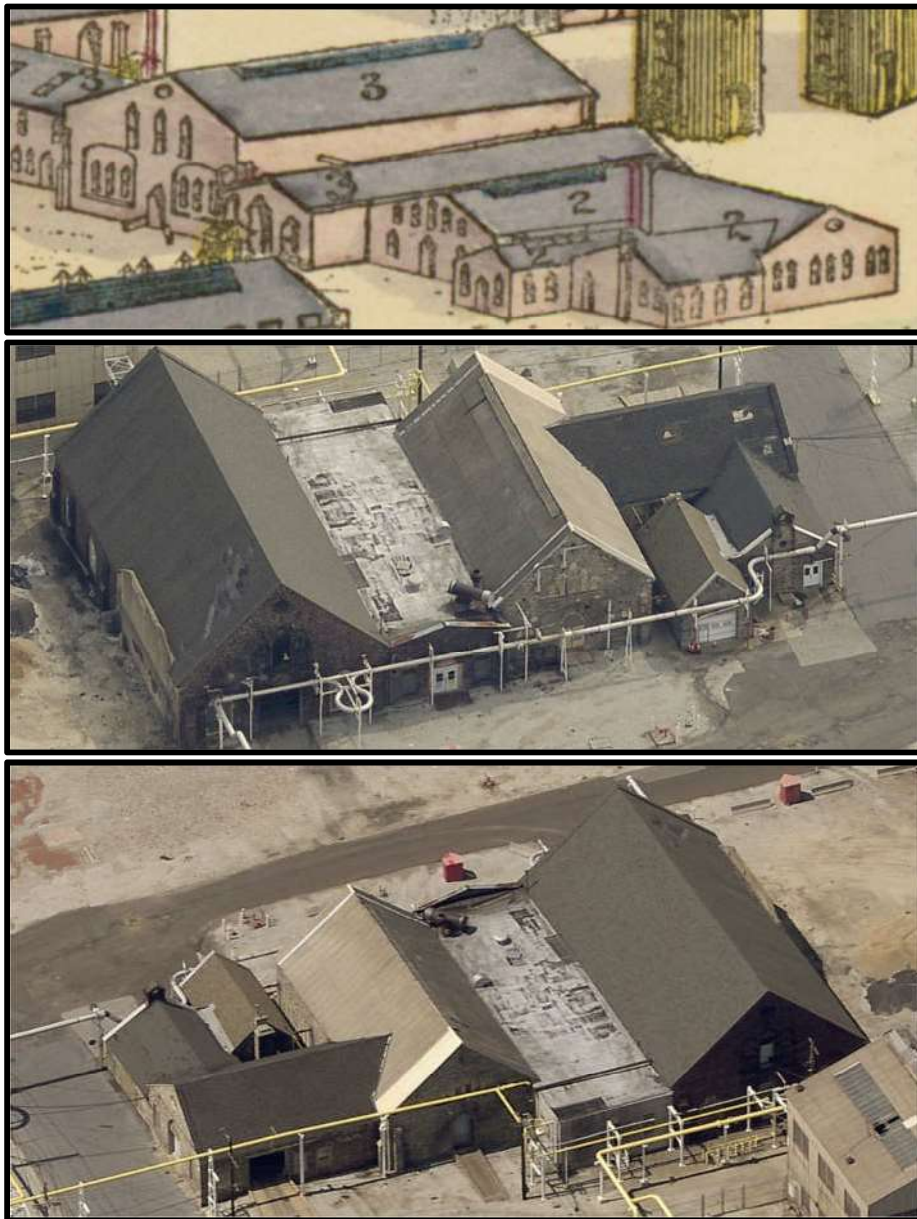
<sup>16</sup> The second story of Resource No. 8: Locomotive House (1859) was constructed between 1911 and 1912. Source: Photo No. 3558, PGW Photograph Collection. (Philadelphia: 15 November 1912), CAP.

<sup>17</sup> *Philadelphia Inquirer*, 24 April 1899, 13.

<sup>18</sup> Photographs document the original construction of Resource No. 9b U.G.I. Garage (1913–14). Source: Photo No. 3780: “Sta. A. New Garage Looking North West,” 12 May 1914; and Photo No. 3778: “Sta. A. New Garage Looking South East,” 12 May 1914. Source: PGW Photograph Collection, CAP.

## 6. PHYSICAL DESCRIPTION

Designed and constructed between 1851 and 1859, the Point Breeze Gas Works is a large gas manufacturing plant at 3101 and 3143 W. Passyunk Avenue on the east bank of the Schuylkill River in South Philadelphia. Largely industrial in its physical characteristics, the site contains numerous buildings, structures, and other features, several which possess value to the architectural, cultural, and historical heritage of the City of Philadelphia. Because the site is not accessible to the public, the current photographs used in the physical description are primarily aerial imagery.



*Figure 5. Top: Looking northeast at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b (labeled 2 and 3 in the Hexamer). Source: 1894 Hexamer General Survey of the Point Breeze Gas Works, Greater Philadelphia GeoHistory Network. Figure 6. Middle: Looking southeast at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b, originally the Purifying Houses. Source: Atlas, City of Philadelphia, 2018. Figure 7. Bottom: Looking northwest at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b, originally the Purifying Houses. Source: Atlas, City of Philadelphia, 2018.*

### **Resource Nos. 1—1a, 1b, & 1c, 2, & 5—5a & 5b: Purifying Houses — “Church Row”**

Built between 1853 and 1859, Church Row (Figures 1 & 2), as it was appropriately dubbed by employees of PGW, comprises the most significant vignette of buildings on the site, including what is known as Resource No. 1 (Figures 5, 6, & 7): Purifying House (1853–54); Resource No. 2 (Figures 5, 6, & 7): Purifying House (1855); and Resource No. 5a (Figures 5, 6, & 7): Purifying House (1859).<sup>19</sup> This block of buildings is of exceptional significance under all the Criteria discussed in Section 7: Statement of Significance of this nomination.

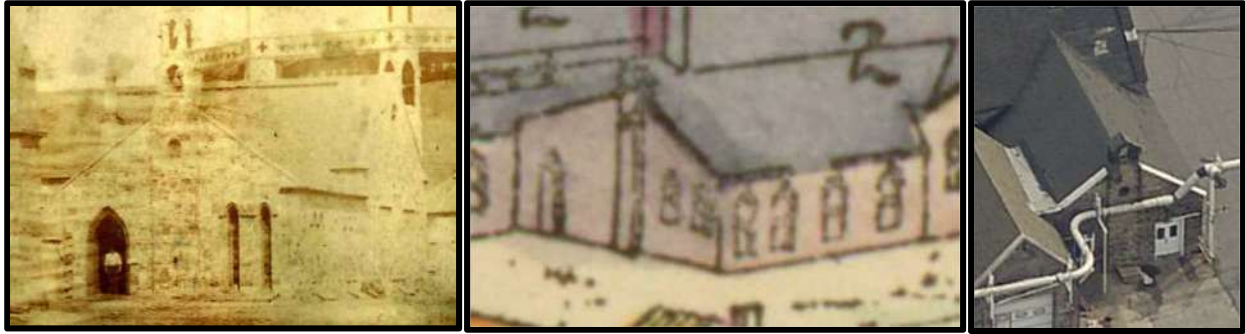


*Figure 8. Left: Looking north at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b, showing, specifically, Resource Nos. 1a, 1b, and 1c. The original portion of Resource No. 1: Purifying House (1853–54) is delineated in black. Source: Atlas, City of Philadelphia, 2018. Figure 9. Top right: 1894 Hexamer General Survey of the Point Breeze Gas Works, showing, specifically, Resource No. 1c (labeled 2 in the Hexamer) of the larger building. Source: Greater Philadelphia GeoHistory Network. Figure 10. Bottom right: Looking northwest at Resource No. 1: Purifying House (1853–54), showing, specifically, Resource Nos. 1a, 1b, and 1c. The original portion of Resource No. 1: Purifying House (1853–54) is delineated in black. Source: Atlas, City of Philadelphia, 2018.*

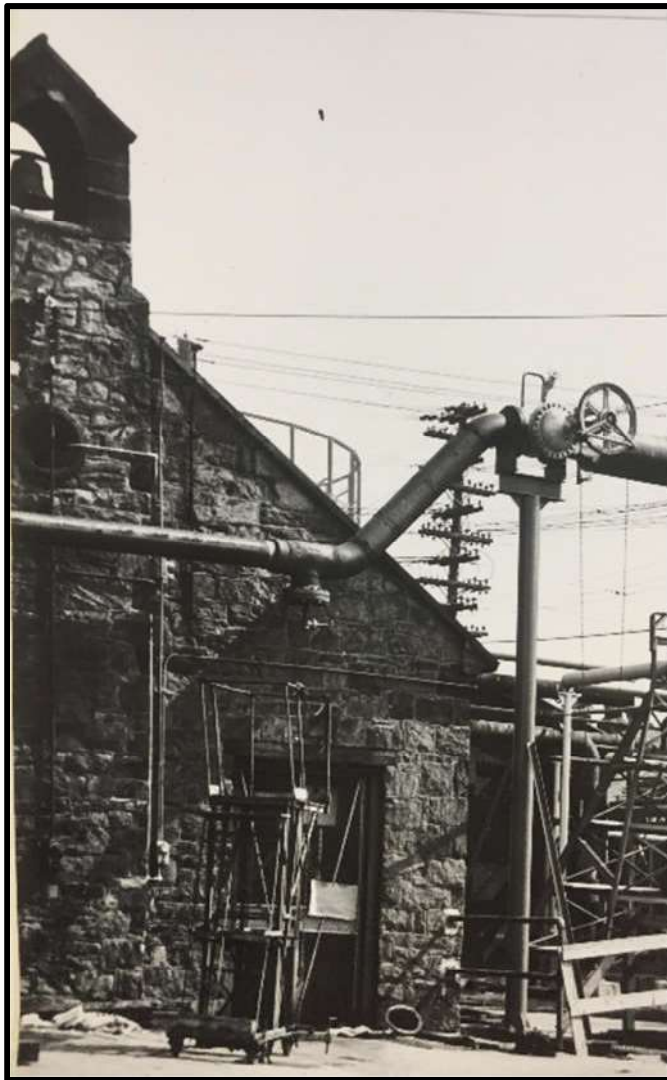
### **Resource No. 1: Purifying House (1853–54)**

The oldest extant building on the site, Resource No. 1 (Figures 11, 12, & 13): Purifying House (1853–54) is a three-part building that was originally L-shaped with a later addition filling in the L-shape and projecting from the west elevation.

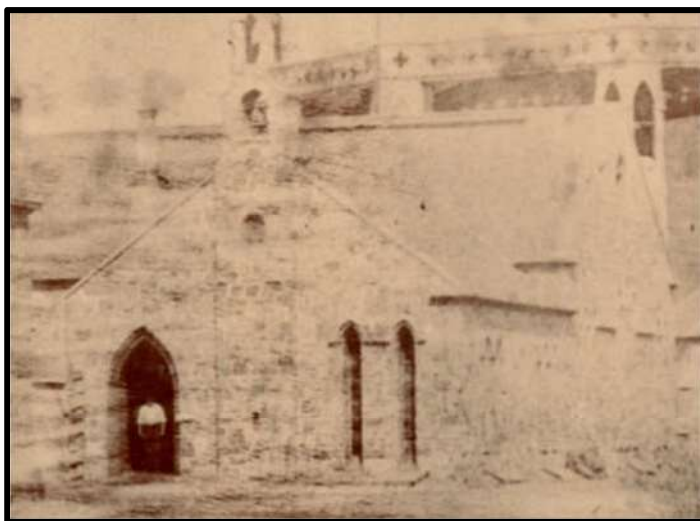
<sup>19</sup> Based on later photographs in the PGW Photograph Collection at CAP, Resource Nos. 1, 2, & 5 were referred to as “Church Row” by the PGW employees, which was confirmed in a telephone interview with Herb Levy in Fall 2018. Levy’s memories are confirmed on page 18 of the report he co-authored with David Orr, “Philadelphia Gas Works: Point Breeze Meter House, Historic American Engineering Record,” Historic American Engineering Record (HAER) No. PA-41 (1983), in which the opinions of the PGW employees were recorded—specifically, the PGW employees thought of the resources as seventeenth century ecclesiastical buildings used by Swedish Monks.



*Figure 11. Left: A photograph of Resource No. 1: Purifying House (1853–54), taken c1855–59. Source: Library Company of Philadelphia. Figure 12. Center: 1894 Hexamer General Survey of the Point Breeze Gas Works, showing, specifically, Resource No. 1c (labeled 2) of the larger Purifying House, Resource No. 1 (1853–54). Source: Greater Philadelphia GeoHistory Network. Figure 13. Right: the primary (west) elevation Resource No. 1c of Resource No. 1: Purifying House (1853–54). Source: Atlas, City of Philadelphia, 2018.*



*Figure 14. The southwest elevation of Resource No. 1a: Purifying House, Engine & Exhaust House (1853–54), showing the belfry and the original bell. Source: The PGW Photograph Collection, City Archives of Philadelphia (hereafter CAP).*



*Figure 15. Top: The primary (southwest) elevation of Resource No. 1a: Purifying House, Engine & Exhaust House, the original component of Resource No. 1: Purifying House (1853–54). Source: The PGW Photograph Collection. Figure 16. Bottom left: The 1859–60 photograph of the subject resource. Source: The Library Company of Philadelphia. Figure 17. Bottom right: Looking east at the 2018 Pictometry aerial image of the subject resource. Source: Atlas, City of Philadelphia, 2018.*

### **Resource No. 1a: Purifying House, Engine & Exhaust House (1853–54)**

Originally part of the Purifying House, and later used as the Engine & Exhaust House of the larger Purifying House, Resource No. 1a (Figures 14, 15, 16, & 17), built in 1853–54, is part of the oldest building on the site, standing at the southeast corner of what became known as Church Row (Figures 1 & 2) at the Point Breeze Gas Works. Measuring approximately 30 feet in width at the primary (southwest) elevation by 32 feet in length, this is a one-story shed building constructed mostly of roughly-coursed gray rubble stone, likely granite, with a gable-front roof. The most

notable trait of the building is that it appears to have been influenced by the “English Parish” style of the Gothic Revival. The primary (southwest) elevation is centered on a slightly projecting buttress or pier that terminates into a gable-front belfry or sanctus bell, emulating the early rural parish churches of England. The bell (shown in Figure 14), known to be present in 1974, featured the following mark: “Merrick 1852.”<sup>20</sup> Beneath the belfry, within the projecting pier or buttress, is a circular opening further delineated by a trefoil lintel projecting from the wall surface and rendered in a darker stone or iron material. The simple façade originally featured three additional openings in the Gothic Revival style (Figure 16)—a pointed arch pedestrian door to the north and a pair of narrow pointed arched windows with Gothic Revival architraves. The opening at the north and the openings at the south were altered historically to house double door entrances. The south elevation features two rectangular windows openings within another wide unadorned stone wall.



*Figure 18. Looking northwest at Resource No. 1: Purifying House (1853–54), with the side (southwest) elevation of Resource No. 1a on left; the primary (southeast) and east elevations of Resource No. 1b: Purifying House, Condenser House (1853–54) at center; and the rear (southeast) elevation of Resource No. 2 on right. This photograph was taken by the Philadelphia Gas Works (PGW) in 1948. Source: The PGW Photograph Collection, City Archives of Philadelphia.*

### **Resource No. 1b: Purifying House, Condenser House (1853–54)**

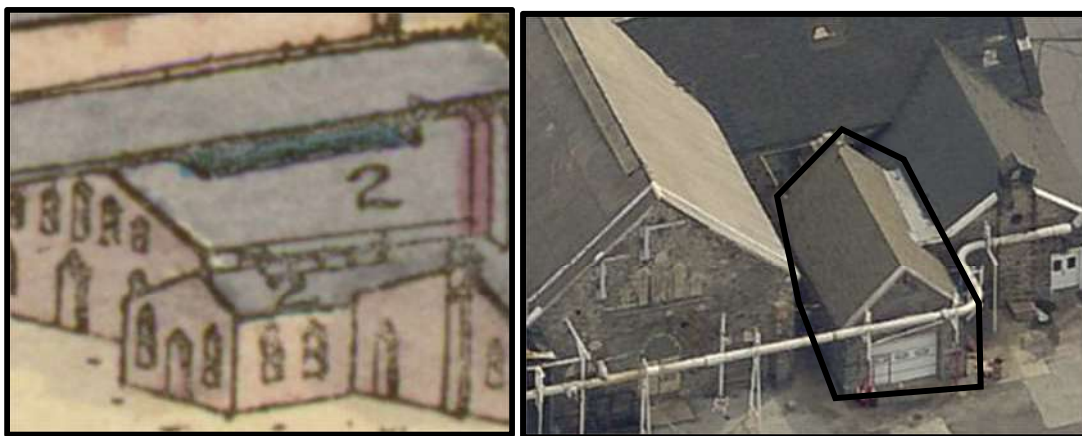
Originally part of the Purifying House, and later used as the Condenser House of the larger Purifying House, Resource No. 1b (Figures 18, 19, & 20): Purifying House, Condenser House (1853–54), is a component of the oldest building on the site, standing at the southwest corner of what became known as Church Row (Figures 1 & 2) at the Point Breeze Gas Works. Measuring approximately 40 feet in width at the primary (southeast) elevation by 54 feet in length—south to north, this is a one-story shed building constructed mostly of roughly-coursed gray rubble stone, likely granite, with a gable-front roof, standing at a slightly greater height than Resource No. 1a: Purifying House, Condenser House (1853–54). The most notable trait of the building is that it appears to have been influenced by the “English Parish” style of the American Gothic Revival. The primary (southeast) elevation is centered on a large opening defined by a pointed arch, which was used historically as a double door pedestrian entrance with a multi-light transom. Directly above at the center of the gable end is a circular opening (Figure 19) further defined by a quatrefoil lintel, projecting from the wall surface and rendered in a dark stone or iron material. The simple

<sup>20</sup> Herbert Levy and David Orr, “Philadelphia Gas Works: Point Breeze Meter House, Historic American Engineering Record,” Historic American Engineering Record (HAER) No. PA-41 (1983), p. 5.

façade originally featured three additional openings in the Gothic Revival style. Flanking the central entrance at the northeast and west are two large windows defined by pointed arches. These windows appear sheathed like the transom. The northeast elevation features several pointed arch openings that have been infilled with masonry and/or partly concealed. There is at least one aperture that has been altered to accommodate vehicle and/or loading access.



*Figure 19. Left: Resource No. 1b: Purifying House, Condenser House (1853–54) (labeled 2 in the Hexamer General Survey) of the larger Purifying House. Source: 1894 Hexamer General Survey of the Point Breeze Gas Works, Greater Philadelphia GeoHistory Network. Figure 20. Right: Looking northwest at the primary (southeast) and side northeast elevations of Resource No. 1b: Purifying House, Condenser House (1853–54) of Resource No. 1: Purifying House (1853–54). Source: Atlas, City of Philadelphia, 2018.*



*Figure 21. Left: Resource No. 1c: Purifying House, Boiler House (1862–88) (labeled 2) of the larger Purifying House. Source: 1894 Hexamer General Survey of the Point Breeze Gas Works, Greater Philadelphia GeoHistory Network. Figure 22. Right: the primary (west) elevation Resource No. 1c: Purifying House, Boiler House (1862–88), delineated in black, of Resource No. 1: Purifying House (1853–54). Source: Atlas, City of Philadelphia, 2018.*

### **Resource No. 1c: Purifying House, Boiler House (1862–88)**

Originally part of the Purifying House, and later used as the Boiler House of the larger Purifying House, Resource No. 1c (Figures 21 & 22): Purifying House, Boiler House (1862–88) is a historic addition to the oldest building on the site, standing between Resource No. 1a: Purifying House (1853–54) and Resource No. 2: Purifying House (1855). Measuring approximately 18 feet in width at the primary (southwest) elevation by 44 feet in length—southwest to northeast, this is a one-story shed building constructed mostly of roughly-coursed gray rubble stone with a gable-front

roof, standing at a slightly lower height than Resource No. 1a: Purifying House, Engine & Exhaust House (1853–54), but projecting from the façade line of Resource Nos. 1a and 2 by roughly 18 to 20 feet. The most notable trait of the building is that it appears to have been influenced by the Gothic Revival style, though it is a relatively simple stone shed that originally features Gothic Revival openings at the primary (southwest) elevation (Figure 22). The primary (southwest) elevation (Figure 22) is centered on a large vehicle opening that was altered at some point later in its history. At the center and near the top of the gable end is a trefoil opening defined by stone lintel that projects from the wall surface. The side (northwest) and rear (northeast) elevations are not visible but should be assessed in person for character defining features.



*Figure 23. The primary (southwest) elevations of Resource No. 1: Purifying House, c. 1904. Source: The PGW Photograph Collection, CAP.*



*Figure 24. Top: Looking northeast at Resource Nos. 1, 2, and 5 (labeled 2 and 3 in the Hexamer). Source: 1894 Hexamer General Survey of the Point Breeze Gas Works, Greater Philadelphia GeoHistory Network. Figure 25. Bottom: Looking east at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b. Resource No. 2: Purifying House (1855) is delineated in black. Source: Atlas, City of Philadelphia, 2018.*

### **Resource No. 2: Purifying House (1855)**

A component of the larger Purifying House complex, Resource No. 2 (Figures 24 & 25): Purifying House (1855) is one of the oldest buildings on the site, standing to the north of Resource No. 1: Purifying House (1853–54) of what became known as Church Row (Figures 1 & 2) at the Point Breeze Gas Works. Measuring approximately 46 feet in width at the primary (southwest) elevation by 80 feet in length (Figures 26 & 27)—southwest to northeast, the resource is a large one-and-one-half-story shed building constructed mostly of roughly-coursed gray rubble stone, likely granite, with a gable-front roof, standing nearly twice the height of Resource No. 1a: Purifying House, Engine & Exhaust House (1853–54), and set at the same building line. The most notable trait of the building is that its designer appears to have been influenced by the Gothic Revival style, being much more elaborately decorated than all three components of Resource No. 1: Purifying House (1853–54).



*Figure 26. Top: The southwest elevation of Resource No. 2: Purifying House (1855). Source: Pictometry, 2019. Figure 27. Bottom: The northwest elevation of Resource No. 2: Purifying House (1855), dated 1910s. Source: The PGW Photograph Collection, CAP.*

The southwest elevation is three stages in height, very much like the façade of a traditional house of worship (Figure 26). The first stage features a central pedestrian entrance that has been infilled, appearing to retain its original form and details. This doorway is defined by a pointed Gothic arch that is further delineated by a hood or drip mold that projects from the façade in stone. This aperture is flanked by double lancet arch mullion windows also set within a greater hood or drip mold that projects from the façade in stone. Near the corners of the building are buttresses that emulate early

English Gothic. The second stage features a set of five lancet arch windows that form a triangular shape that is set off by a tapered arrangement of the windows. Originally all of openings featured louvers but have since been infilled. The third stage features what appears to be an infilled aperture, which is defined by a projecting hood or drip mold of stone.



*Figure 28. Left: The northeast elevation of Resource No. 2: Purifying House (1855) in a photograph taken c1859–60. Source: Library Company of Philadelphia. Figure 29. Center: The northeast elevation of Resource No. 2: Purifying House (1855), dated 1948. Source: The PGW Photograph Collection, CAP. Figure 30. Right: The northeast elevation of Resource No. 2: Purifying House (1855). Source: Atlas, City of Philadelphia, 2018.*

The northeast elevation is three stages in height, very much like the façade of a traditional house of worship (Figures 28, 29, & 30). The first stage features a central pedestrian entrance that has been infilled, appearing to retain its original form and details. The door is defined by a pointed Gothic arch that is further defined by a stone architrave (Figure 31). The doorway is further defined by a hood or drip mold that projects from the façade in stone. This aperture is flanked by double lancet arch mullion windows also set within a greater hood or drip mold that projects from the façade in stone. Near the corners of the building are buttresses that emulate early English Gothic, featuring two tiers of stone coping. The second stage is defined by a tapered arrangement of five lancet arch openings that feature louvers. Connected by a stone sill, the arrangement has a triangular shape. The third stage features a small, oval-shape opening.



*Figure 31. The primary entrance of Resource No. 2: Purifying House (1855), dated May 1953. Source: The PGW Photograph Collection, CAP.*



*Figure 32. Top: Looking northeast at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b (labeled 2 and 3 in the Hexamer). Source: 1894 Hexamer General Survey of the Point Breeze Gas Works, Greater Philadelphia GeoHistory Network. Figure 33. Looking north at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b. Resource No. 5a: Purifying House (1859) is delineated in black. Source: Atlas, City of Philadelphia, 2018.*

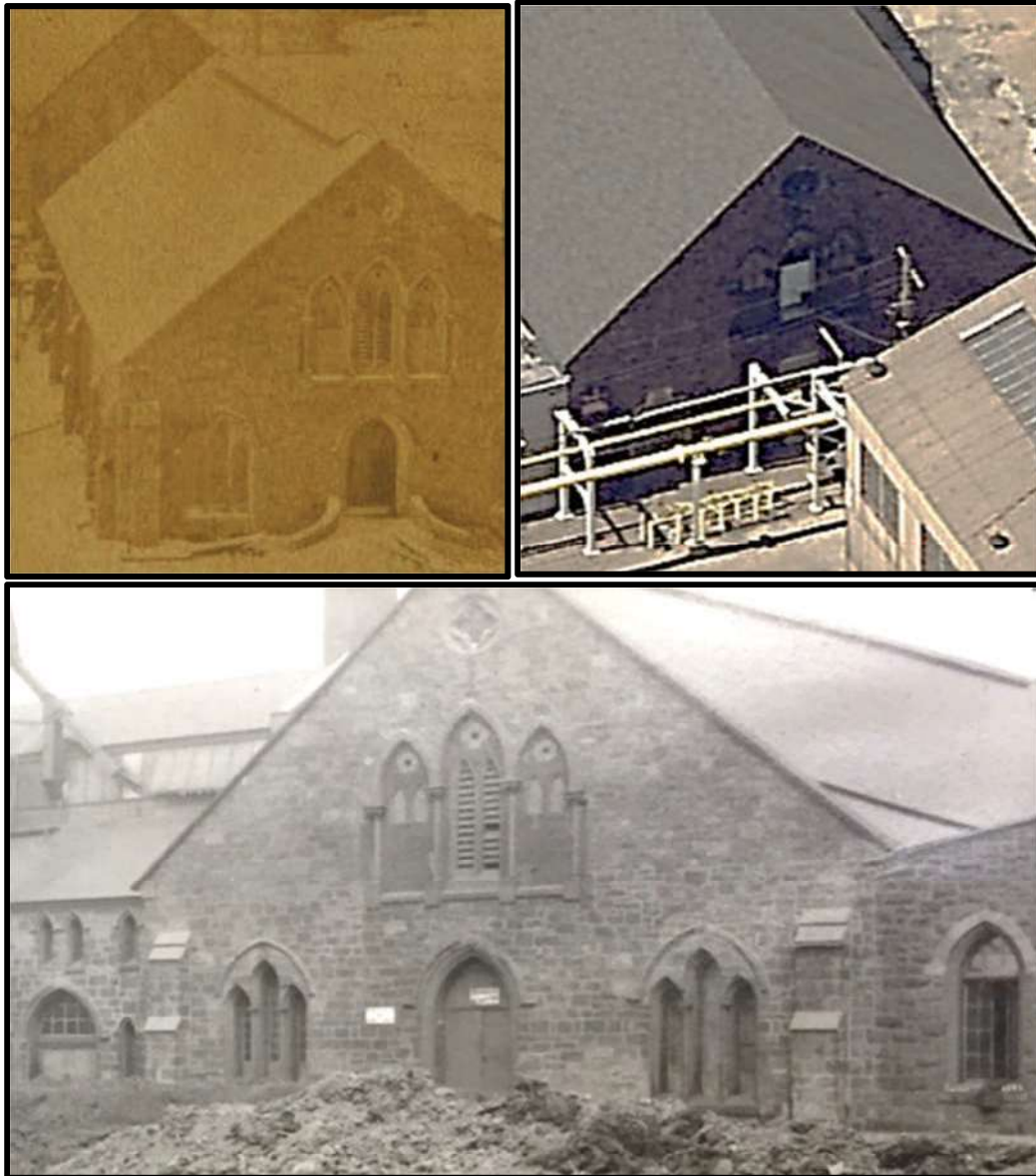
### **Resource No. 5a: Purifying House (1859)**

An early part of the original Purifying House complex, Resource No. 5a (Figures 32 & 33): Purifying House (1859), built in the summer of 1859, is a historic building and one of the oldest on the site, standing 35 feet north of Resource 2: Purifying House (1855) at the northern extremity of what became known as Church Row (Figures 1 & 2) at the Point Breeze Gas Works. Measuring approximately 56 feet in width at the primary (west) elevation by 110 feet in length—west to east, this is a large one-story shed building constructed mostly of a brown sandstone with a gable-front roof, standing nearly twice the height of Resource No. 1a, but set at the same façade line. The most notable trait of the building is that it appears to have been influenced by the Gothic Revival style, being much more elaborately decorated (Figures 34, 35, & 36) than the three components of Resource No. 1: Purifying House (1853–54).



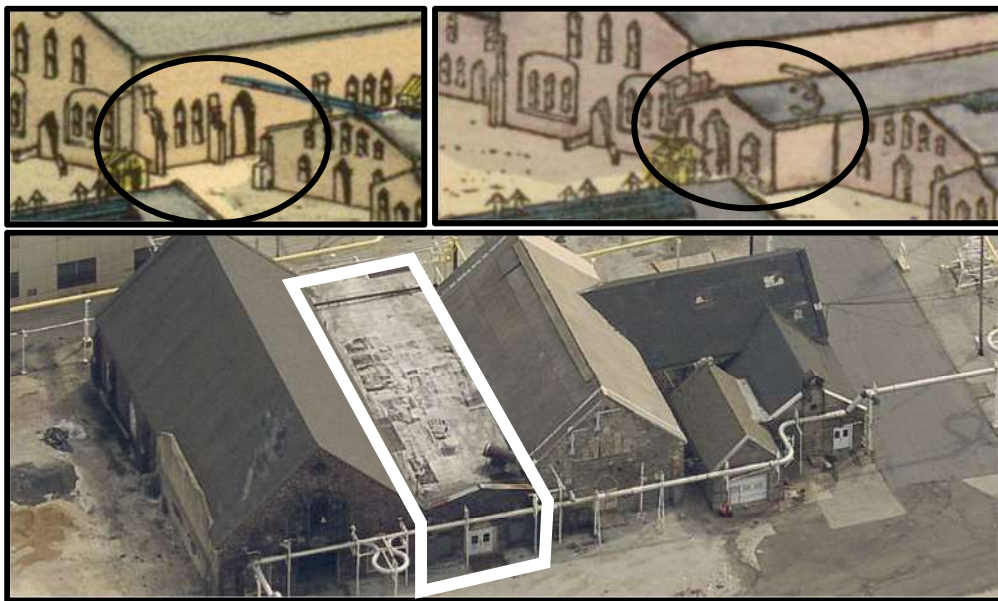
*Figure 34. Left: the northeast elevation of Resource No. 5a: Purifying House (1859), dated 1948. Source: The PGW Photograph Collection, CAP. Figure 35. Right: the northeast elevation of Resource No. 5a: Purifying House (1859). Figure 36. Bottom: The northeast elevation of Resource No. 5a: Purifying House (1859). Source: Atlas, City of Philadelphia, 2018.*

The northeast elevation is three stages in height, very much like the façade of a traditional house of worship (Figures 34, 35, & 36). The first stage features a central vehicle bay that is flanked by infilled windows defined by pointed Gothic arches. Near the corners are buttresses that emulate early English Gothic forms with two tiers of stone coping, terminating at the top of the first stage of the façade. The second stage features a large three-part mullion window that emulates an arcade and is divided into three by colonettes. The tallest opening is at center and is flanked by two shorter like-sized openings all of which are defined by pointed arches. The windows are further defined by projecting hoods. The third stage features a small, circular quatrefoil, defined by a projecting stone architrave.



*Figure 37. Top left: The southwest elevation of Resource No. 5a: Purifying House (1859) in a photograph taken c1859–60. Source: Library Company of Philadelphia. Figure 38. Top right: The southwest elevation of Resource No. 5a: Purifying House (1859). Source: Atlas, City of Philadelphia, 2018. Figure 39. Bottom: The southwest elevation of Resource No. 5a: Purifying House (1859), c1910s. Source: The PGW Photograph Collection, CAP.*

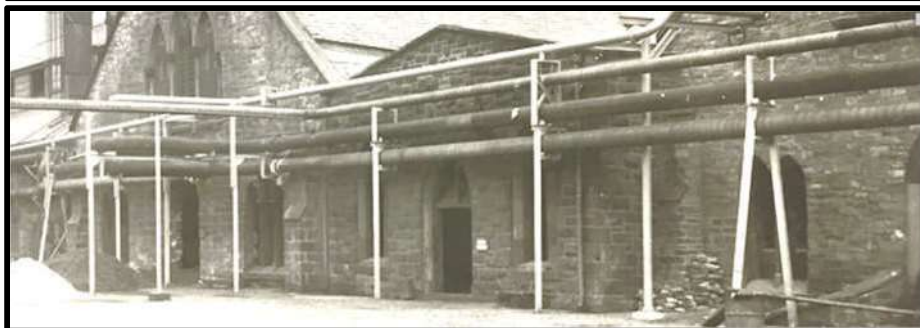
The southwest elevation is three stages in height, very much like the façade of a traditional house of worship (Figures 37, 38, & 39). The first stage features a central pedestrian double door that is defined by a pointed Gothic arch and a stone architrave. There is a further delineation of the arch by a projecting hood or drip mold. Flanking the central entrance is a three-part lancet arch mullion window with a taller window at center flank by two like-size openings. The mullions are the form of colonettes. A hood or drip mold rises above in the form of an arch. Buttresses are located at each end of the building, featuring two tiers of stone coping, and terminating at the top of the first stage. The second stage is defined by a larger three-part arcade of windows with one large opening at center and two shorter, like-size openings on each side. This set of windows emulates the early English style. The third stage features a small, circular quatrefoil, defined by a projecting stone architrave.



*Figure 40. Top left: Looking northeast at Resource Nos. 5 and 2, showing the absence of Resource No. 5b: Purifying House, Exhaust Engine House/Sponge Room (1888–94). Source: 1888 Hexamer General Survey of the Point Breeze Gas Works, Greater Philadelphia GeoHistory Network. Figure 41. Top right: Looking northeast at Resource Nos. 5 and 2 (one is labeled 3 in the 1894 Hexamer). Source: 1894 Hexamer General Survey of the Point Breeze Gas Works, Greater Philadelphia GeoHistory Network. Figure 42. Bottom: Looking east at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b. Resource No. 5b: Purifying House, Exhaust Engine House/Sponge Room (1888–94) is delineated in black. Source: Atlas, City of Philadelphia, 2018.*

### **Resource No. 5b: Purifying House, Exhaust Engine House/Sponge Shed (1888–94)**

Resource No. 5b (Figure 40, 41, & 42): Exhaust Engine House/Sponge Shed (1888–94) is a low, rectangular stone building standing one-story as an addition between Resource No. 2: Purifying House (1855) and Resource No. 5a: Purifying House (1859). The primary (southwest) elevation is a simple façade, defined by three symmetrically placed apertures that appear to be intact. The central aperture is an entrance defined by a pointed Gothic arch and flanked by large windows that rise at a higher elevation than the central entrance. All the openings are defined by pointed Gothic arches with stone hoods of a light coloring. The gable also serves as a parapet for what appears to be a relatively normative flat roof. The rear of the building is a simple blank façade. Historic images of this resource may be found in the next page (Figures 43, 44, & 45).



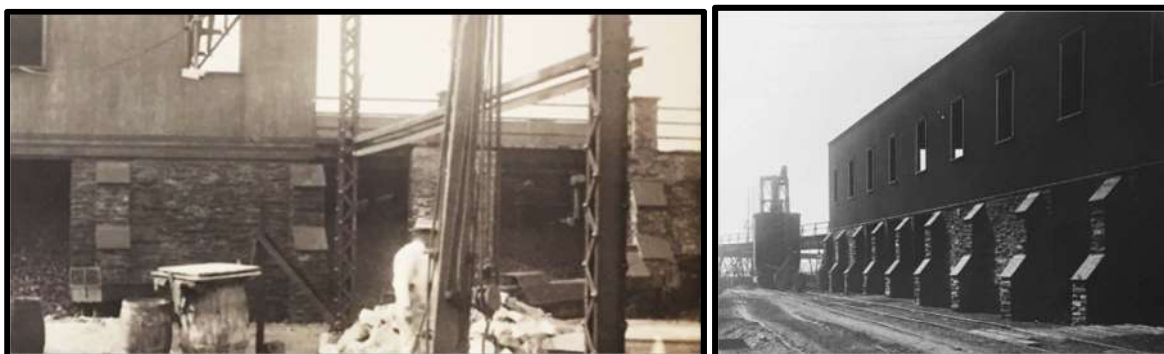
*Figure 43. The primary (southwest) elevation of Resource No. 5b: Purifying House (1888–94). Source: The PGW Photograph Collection, CAP.*



*Figure 44. Top: Looking northeast at Resource No. 3: Coal House, North Wall (1855), when it was intact, in the 1894 Hexamer General Survey. Source: Greater Philadelphia GeoHistory Network. Figure 45. Bottom: Looking north at Resource Nos. 1—1a, 1b, and 1c, 2, and 5—5a and 5b. Resource No. 1: Purifying House (1853–54) is delineated in black. Source: Atlas, City of Philadelphia, 2018.*

### **Resource No. 3: North Wall Ruins of Coal House (1855)<sup>21</sup>**

Eventually serving as a stone wall, a component part of the Coal House, Resource No. 3 (Figures 44 & 45) survives at the northern boundary of the subject property. In its entirety, the Coal House evolved over time, starting as a structure defined by a stone base or first floor that held a secondary wooden superstructure. Only the northern wall of this structure survives, being used in later years as an actual wall for the northern boundary of the facility (Figure 45). This structure is a linear resource constructed c. 1855 of loadbearing stone masonry with stone buttresses on the northern exposure. Designed in concert with the Gothic motif of the larger Point Breeze Gas Works, the buttresses are stylized stone features that mimic the earlier ecclesial architecture of Great Britain and other European examples from architectural history (Figures 46 & 47). The wall spans from a point west of the Schuylkill River to the east roughly 575 feet, meeting a later wall of unknown origin and construction.



*Figure 46. Left: Photograph No. 1615: Coal Shed construction, June 20, 1905. Figure 47. Right: Photograph No. 774: the coal shed on right, 1903. Source: The PGW Photograph Collection, CAP.*

<sup>21</sup> Resource No. 3: North Wall Ruins of Coal House was largely taken down by the 1917 Sanborn, and its walls were in use as support for a Coal Trestle. The Coal Trestle was constructed in 1898.



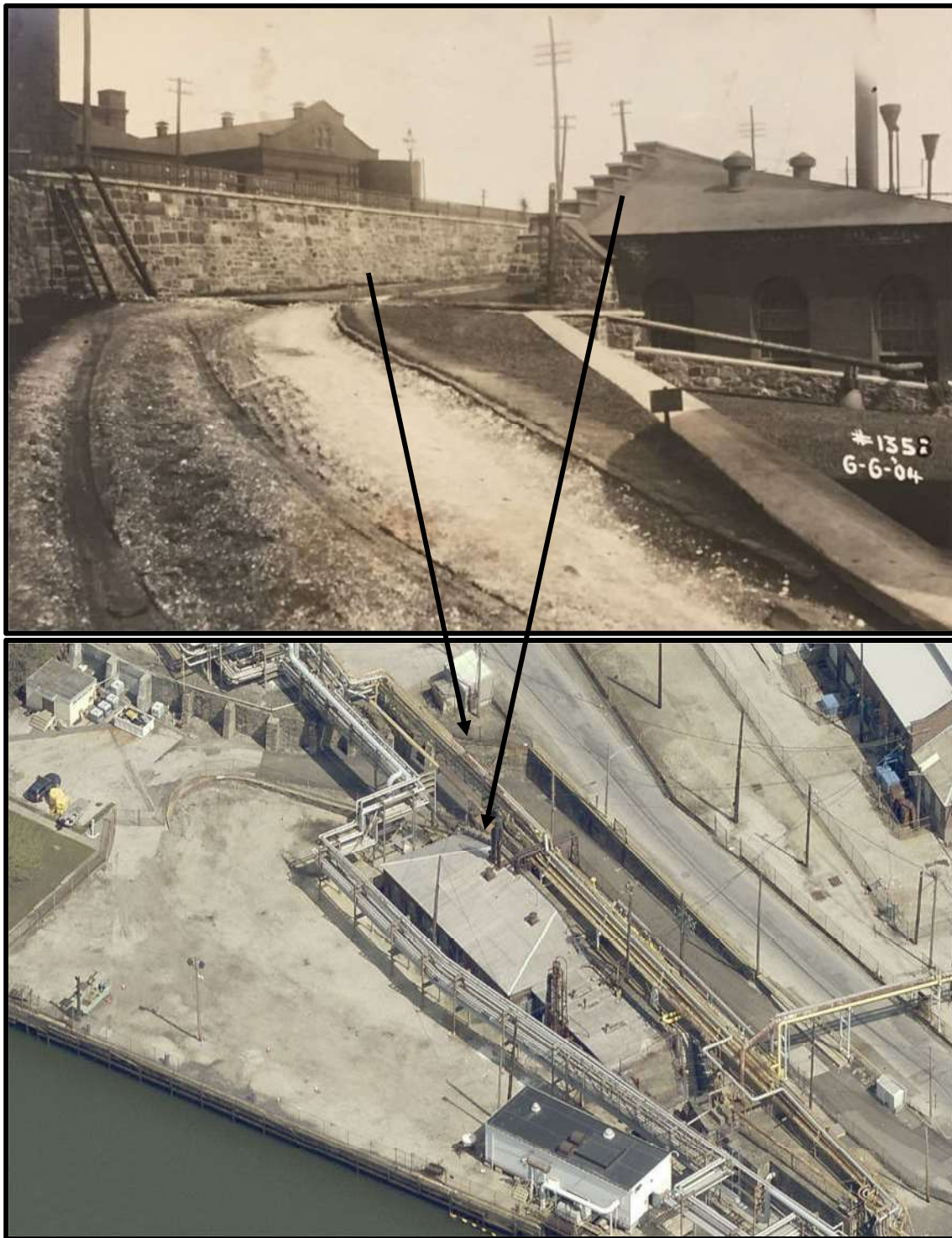
*Figure 48. Looking east at the primary (south) elevation of Resource No. 4: The Wharf. Features of the wharf, including the stone walls and the line of the driveway, are outline above. Source: Atlas, City of Philadelphia, 2018.*

#### **Resource No. 4: The Wharf**

Located on the Schuylkill River, Resource No. 4: The Wharf is a low-lying section of the Point Breeze Gas Works where the coal was formerly delivered. An early part of the original complex, The Wharf features Resource No. 4a (Figures 48 & 49): Retaining Walls (1855–99), which includes retaining walls constructed of rubble stone with buttresses and stone coping in keeping with the Gothic Revival style of the facility. Resource No. 4b: Kilns (1855–88) will be described below in its own subsection. Resource No. 4c: Access Road (1859–94) is an access road from the elevated complex to The Wharf, which continues the buttress motif. There are also sections of the stone retaining walls that do not have buttresses. Resource No. 4d: Pump House (1894–99) is a red brick building built onto the retaining wall. The building features round arch apertures and a low-slung hipped roof.



*Figure 49. Looking north at the construction of Resource No. 4: The Wharf, 1899. Source: PGW Photograph Collection, CAP.*



*Figure 50. Top: looking southeast at the Resource No. 4c: Access Road (1889–94) and Resource No. 4a: Retaining Walls (1859–99). Source: The PGW Photograph Collection, CAP. Figure 51. Bottom: Looking north at Resource No. 4: The Wharf. Source: Atlas, City of Philadelphia, 2018.*

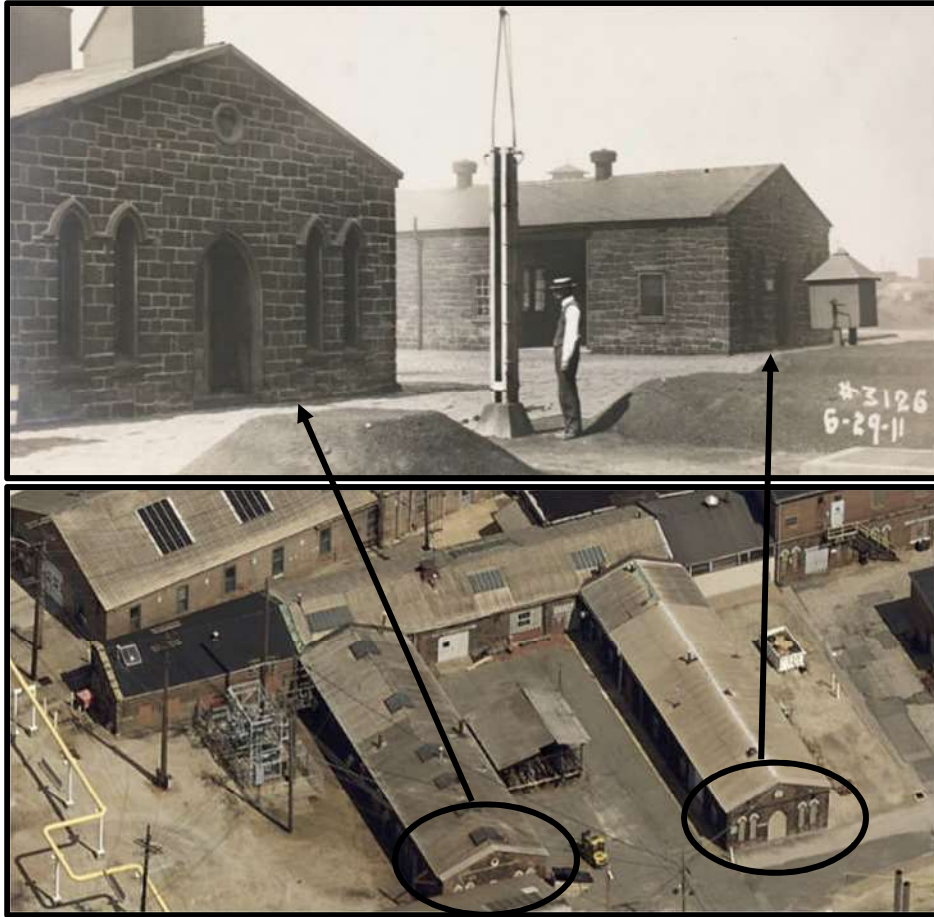


*Figure 52. Top: Looking northeast Resource No. 4b: Kilns (1855–88), which are largely not visible due to vegetative growth and debris. Source: Atlas, City of Philadelphia, 2016. Figure 53. Bottom left: 1888 Hexamer General Survey, CAP. Figure 54. Bottom right: A 1899 photograph of Resource No. 4b: Kilns (1855–88). Source: The PGW Photograph Collection, CAP.*

### **Resource No. 4b: Kilns (1855–88)<sup>22</sup>**

While it is unclear exactly what survives due to the lack of access to the site and limited visibility, Resource No. 4b (Figures 52, 53, & 54): Kilns (1855–88) survive in part as is shown in Figure 52. The resource appears to be a rubble stone structure built into the incline within the environs of Resource No. 4: The Wharf.

<sup>22</sup> *Twenty-First Annual Report* (1856), 12–13. Resource No. 4b: Kilns (1855–1888) were built into the rise of the terrain between Resource No. 4: The Wharf and the larger property, and were originally sheathed by wooden shed, as shown in the 1888 Hexamer General Survey.

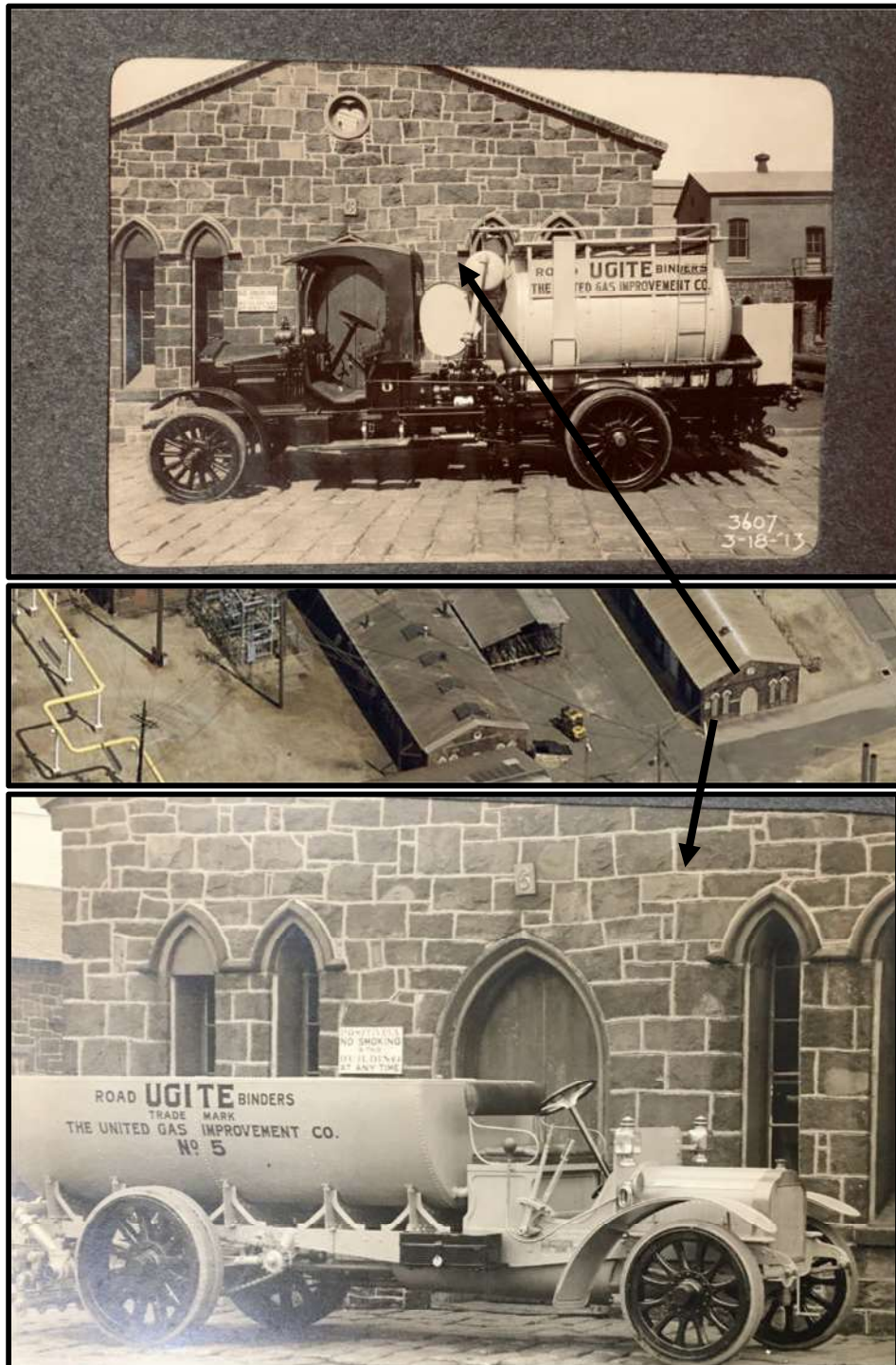


*Figure 55. Top: A 1911 photograph of the southeast elevations of Resource Nos. 6 and 7, which are shown below, in part, from an aerial perspective. Source: The PGW Photograph Collection, CAP. Figure 56. Bottom: Looking north at Resource Nos. 6, and 7, the primary elevations of which are circled in black and correspond with the image shown above. Source: Atlas, City of Philadelphia, 2018.*

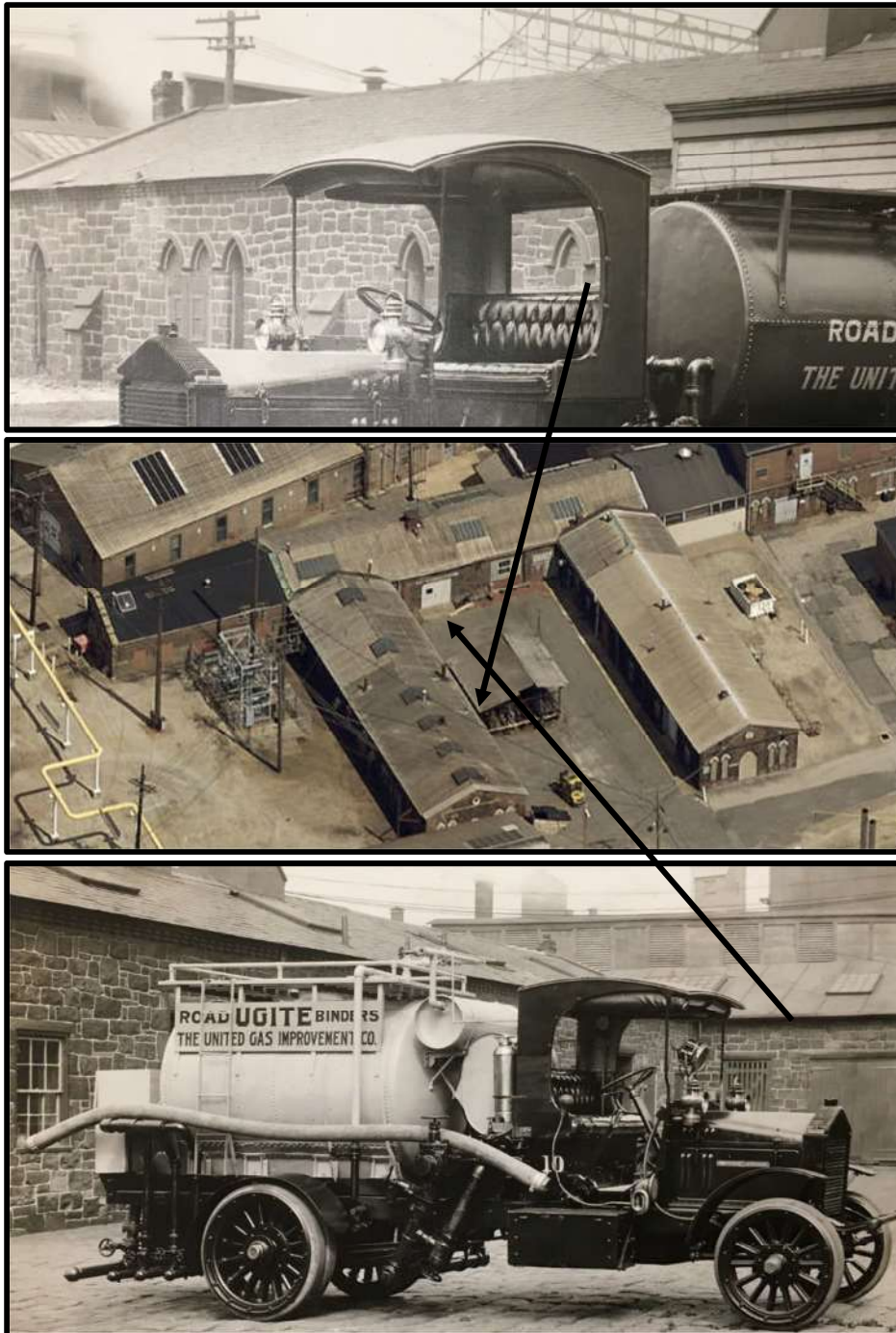
### **Resource Nos. 6 & 7: Shops**

A series of connected sheds, Resource Nos. 6 and 7 (1859) are one-story rectangular buildings of load-bearing, stone masonry construction that run southeast to northwest and are connected by a long wing that runs southwest to northeast (Figures 55 & 56). Like Resource Nos. 5a and 5b: Purifying House (1859), the buildings appear to be constructed of brownstone. Mirrored in form, size, and style, the gable-fronted façades of Resource Nos. 6 & 7 feature symmetrical fenestrations centered on a double pedestrian doorway, which is defined by a pointed Gothic arch. Above each entrance, within the gable ends, are single trefoil openings at center, which are defined by a simple, but beautifully executed stone architraves that project from the facade. Returning to the primary level, the entrance is flanked by pairs of narrow windows, which are defined by pointed Gothic arches, further distinguished by simple, but beautifully executed stone hoods. The fenestration of the side (southwest and northeast) elevations also feature similar narrow windows defined by like-architectural details. All four side elevations feature stone buttresses that divided the facades into sections. There are also corbeled stone cornices. The side elevations have been altered to accommodate new and reconfigured openings. Resource Nos. 6 and 7 are connected at the northwest by a long rectangular wing that runs southwest to northeast. This wing of a similar

description architecturally as the previously described wings. A brick portion projects to the southwest.



*Figure 57. Top and Bottom: Both photographs show the primary (southeast) elevation of Resource No. 7 (labeled 6 in the photograph). Source: The PGW Photograph Collection, CAP. Figure 58. Center: Looking north at Resource Nos. 6, and 7, the primary elevations of which are circled in black and correspond with the image shown above. Source: Atlas, City of Philadelphia, 2018.*



*Figure 59. Top: Looking southwest at the side elevation of Resource No. 6: Shop (1859). Source: The PGW Photograph Collection, CAP. Figure 60. Center: Looking north at Resource Nos. 6, and 7, the primary elevations of which are circled in black and correspond with the image shown above. Source: Atlas, City of Philadelphia, 2018. Figure 61. Bottom: Looking northwest at the side elevation Resource No. 6: Shop (1859) as it connects to the back wing. Source: The PGW Photograph Collection, CAP.*



*Figure 62. Left: Looking west at Resource Nos. 6 and 7. Figure 63. Right: Looking northeast at Resource Nos. 6 and 7. Source: Atlas, City of Philadelphia, 2018.*



*Figure 64. Top: Looking northwest at the primary (south) elevation of Resource No. 8: Locomotive House (1859). Source: Atlas, City of Philadelphia, 2018. Figure 65. Bottom: Looking north at Resource No. 8: Locomotive House (1859). Source: The PGW Photograph Collection, CAP.*

**Resource No. 8: Locomotive House (1859)**

Resource No. 8 (Figures 64 & 65): Locomotive House (1859) is a rectangular brownstone building with a redbrick, second story addition. The building appends the rear wing of Resource Nos. 6 & 7. The southeast elevation is defined by double lancet arch windows; a vehicle entrance with a lintel; two sets of double lancet arch windows; and a large double wide vehicle entrance. The lancet arch windows feature lightly colored stone lintels in the form of hoods. A historic photograph is shown below (Figure 66).



*Figure 66. Top: The southeast elevation of Resource No. 8: Locomotive House in 1920. Bottom: East corner of Resource No. 8: Locomotive House in 1920. Source: The PGW Photograph Collection, CAP.*



*Figure 67. Top: Looking east at the primary (west) elevation of Resource No. 9a: U.G.I. Office & Dispensary (1899–1929). Source: Atlas, City of Philadelphia, 2018. Figure 68. Bottom: The southwest elevation of the Resource No. 9: U.G.I. Office & Dispensary (1899–1929), 29 August 1929. Source: The PGW Photograph Collection, CAP.*

### **Resource No. 9: U.G.I. Buildings**

Resource No. 9: U.G.I. Buildings consists of Resource No. 9a (Figures 67, 68, 69, & 70): U.G.I. Office & Dispensary (1899–1929) and Resource No. 9b: U.G.I. Garage (1913–14).

#### **Resource No. 9a: U.G.I. Office & Dispensary (1899–1929)**

Located at the former primary entrance gates of the Point Breeze Gas Works, Resource No. 9a (Figures 67, 68, 69, & 70): The U.G.I. Office & Dispensary (1899–1929) is a one-and-one-half-story L-shaped building of loadbearing masonry construction. The building was constructed in two rectangular forms—an office in 1899 (1899 Office) and a dispensary in 1929 (1929 Dispensary). Featuring five prominent gable ends, the building is an eclectic adaptation of the Jacobean Revival style clad in what appears to be red tapestry brick with dark stone or terra cotta trimmings.

The 1899 Office is rectangular building featuring three of the five gable ends. The primary (west) elevation is centered on a gable front projection with a simple, but playful Dutch parapet at the center of which is an opening that was originally a three-part mullion window with casement sashes and transoms (Figures 67 & 68). This window is set within a Jacobean Revival style architrave of dark stone or terra cotta that is quoined and hooded. Most of the windows throughout both blocks of the building appear to have been replaced or are not able to be discerned from an aerial image. In the gable section is a dark stone or terra cotta medallion or plaque that is in the form of a relief. This parapet and all four of the others feature distinctive coping in the same dark stone or terracotta. On the south side of this façade is a pedestrian doorway the details of which are not able to be assessed without access. A projecting gable end adorns the east elevation, mimicking the one previously described. The north elevation of the 1899 Office comprises the largest of the three gable ends, featuring an almost identical treatment to the Dutch parapet.

The 1929 Dispensary extends perpendicular to the 1899 Office, the gable ends being at the east and west. The primary (west) elevation features two openings, originally fitted with two-part mullion windows and a transom above (Figures 67 & 68). These windows appear to maintain the previously described Jacobean Revival style surrounds of a dark stone or terracotta. At the center of the gable end is a small aperture that is set within a moderately elaborate architrave not unlike the others described, but with a crown in the form of a medallion or plaque that is a relief. Like the other first floor windows, the south elevation of the 1913–14 Dispensary features four openings that are similarly styled—the center two openings are paired.



*Figure 69. Left: Looking north at Resource No. 9: U.G.I. Office & Dispensary (1899–1929). Figure 70. Right: Looking south at Resource No. 9: U.G.I. Office & Dispensary (1899–1929). Source: Atlas, City of Philadelphia, 2019.*



*Figure 71. Top: The east elevation of the Resource No. 9: U.G.I. Office & Dispensary (1899–1929). Source: Atlas, City of Philadelphia, 2018. Figure 72. Bottom: The east elevation of Resource No. 9: U.G.I. Office & Dispensary (1899–1929), 29 August 1929. Source: The PGW Photograph Collection, CAP.*



*Figure 73. Top: Looking east at the primary elevation of Resource No. 9b: U.G.I. Garage. Source: Atlas, City of Philadelphia, 2018. Figure 74. Middle: The primary (east) elevation of Resource No. 9b: U.G.I. Garage (1913–14), 1914. Figure 75. Bottom: The rear (west) elevation of Resource No. 9b: U.G.I. Garage (1913–14), 1914. Source: PGW Photograph Collection, CAP.<sup>23</sup>*

### **Resource No. 9b: U.G.I. Garage (1913–1914)**

Located at the former primary entrance gates of the Point Breeze Gas Works, Resource No. 9b (Figures 73, 74, & 75): The U.G.I. Garage (1913–14) is a one-story rectangular shed building of masonry construction with a red brick façade and dark stone or terra cotta trimmings. Originally sixteen bays wide, the building has been reduced to six bays in width, but still provides a sense of the architectural treatment through what has been preserved. The bays are delineated by openings that feature the same Jacobean Revival style architrave that is both quoined and hooded. The building also features dark stone or terra cotta coping along the roofline and features a flat roof. Now enclosed the building was originally an open shed style garage (Figure 75).

<sup>23</sup> Photo No. 3780: “Sta. A. New Garage Looking North West,” 12 May 1914. Bottom: Photo No. 3778: “Sta. A. New Garage Looking South East,” 12 May 1914. Source: Source: PGW Photograph Collection, CAP.



*Figure 76. Top: Looking northeast at the southwest elevations of Resource Nos. 1, 2, & 5. Source: Bing Maps. Figure 77. Bottom: The same view c1910. Source: The PGW Photograph Collection, CAP.*

## **7. STATEMENT OF SIGNIFICANCE**

The Point Breeze Gas Works at 3101 and 3143 W. Passyunk Avenue is a significant historic resource that merits designation by the Philadelphia Historical Commission and inclusion on the Philadelphia Register of Historic Places. The subject property satisfies the following Criteria for Designation, as enumerated in Section 14–1004 of the Philadelphia Code:

- (a) Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past;
- (c) Reflects the environment in an era characterized by a distinctive architectural style;
- (d) Embodies distinguishing characteristics of an architectural style or engineering specimen;
- (e) Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth or Nation; and
- (j) Exemplifies the cultural, political, economic, social or historical heritage of the community.

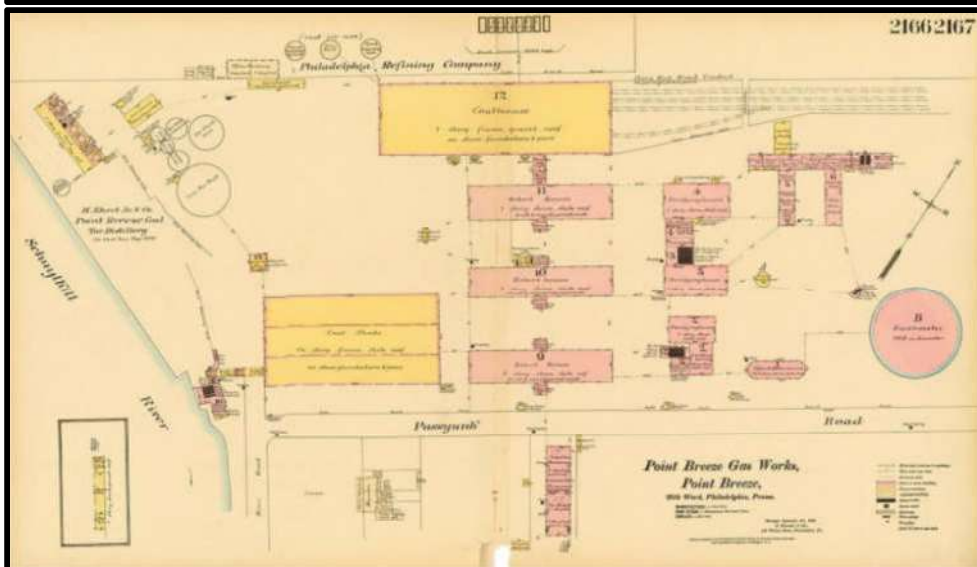
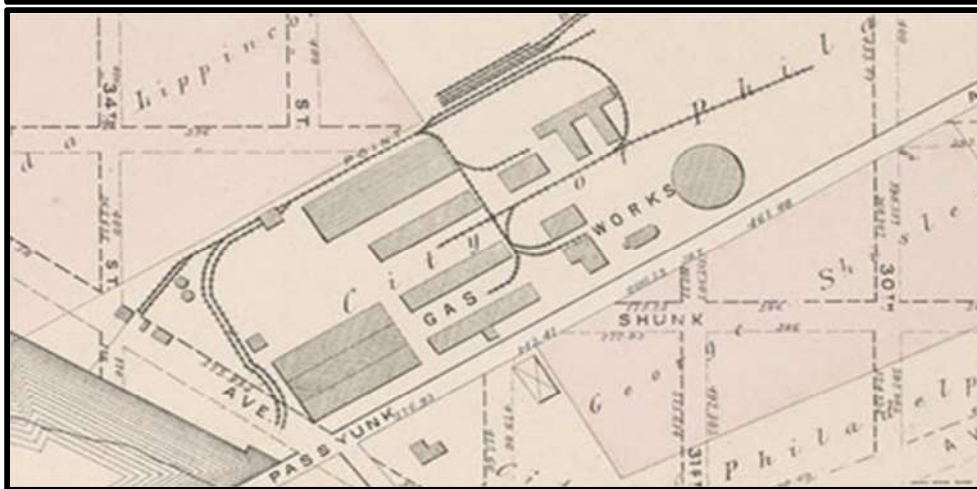
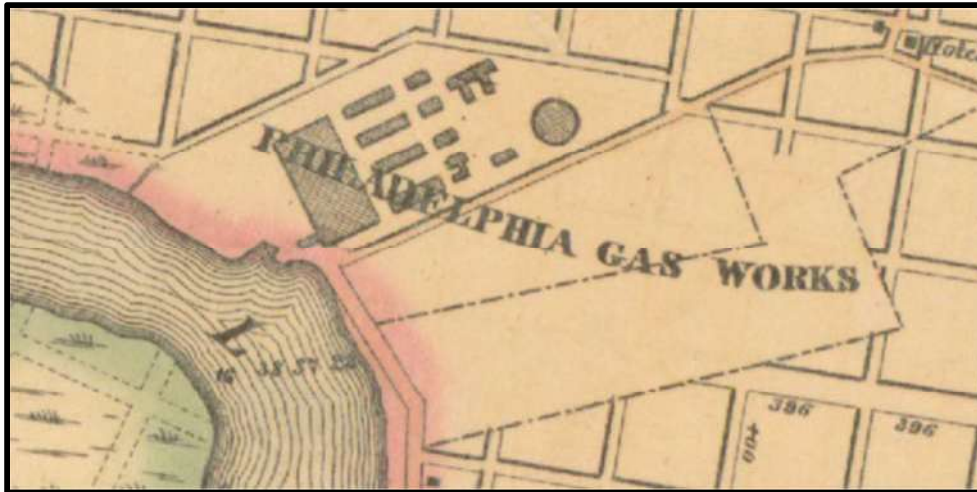


Figure 78. Top: 1862 Smedley, Atlas of the City of Philadelphia. Figure 79. Middle: Hopkins Atlas of Philadelphia, 1st, 26th and 30th Wards, 1876: Volume 5. Figure 80. Bottom: Hexamer General Surveys, Volume 22, the PGW (25<sup>th</sup> Ward Works), 1887. Source: Greater Philadelphia GeoHistory Network.



*Figure 81. Top: Taken by Charles Massey Cresson, c. 1859–60, this view of the Point Breeze Gas Works showcases the northeast elevations of Resource No. 2: Purifying House (1859) on left and Resource No. 5a: Purifying House (1859) on right. Source: Library Company of Philadelphia. Figure 82. Bottom: Looking southwest at the northeast elevation of Resource No. 2: Purifying House (1859) on left and Resource No. 5a: Purifying House (1859) on right.*

**Criterion A:** Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past.

**Criterion J:** Exemplifies the cultural, political, economic, social or historical heritage of the community.

### **Period of Significance: 1851–1870**

Established in 1836 “to incorporate a company to manufacture gas for lighting the city and liberties of Philadelphia,” the Philadelphia Gas Works (PGW) was among the first ten cities in the United States to establish a gas works and the first to do so in a municipal capacity.<sup>24</sup> The PGW quickly outgrew its original Market Street Plant (no longer extant), a foregone conclusion given that the

<sup>24</sup> *Reports of the Trustees of the Philadelphia Gas Works to the Select and Common Councils of the City of Philadelphia* (J. Crissy, 1838), iii.

city's second largest population boom occurred between 1840 and 1850.<sup>25</sup> While the size and capacity of the original plant was improved during the 1840s, there was limited capacity for a much larger gas works at 23<sup>rd</sup> and Market Streets, especially with the rising property values in relationship to a 29% population growth. A vision for the future, at least for PGW, can be credited to John C. Cresson (1806–1876), the second Chief Engineer of PGW. Cresson pressed PGW's Board of Trustees to build a new, state of the art facility, featuring its own holder "with a capacity of 1,000,000 cubic feet," which would be one of the largest of its kind in the United States. Because the Quaker City had waited so long to establish a gas works, and even longer to build a world-class gas manufacturing facility, Philadelphia was undoubtedly at a technological advantage when the subject property was planned and constructed. "Funds amounting to \$300,000 were appropriated for the project; a considerable amount when compared with the \$583,000 operating budget approved for the existing plant."<sup>26</sup> Large swaths of undeveloped land existed at Point Breeze in southwestern section of the city on the east bank of the Schuylkill River, including the "Golden Swan" property, enough of which was purchased by 1851 to begin construction of what would come to be known as the Point Breeze Gas Works.<sup>27</sup> By the time Philadelphia was embarking upon this large facility, roughly sixty gas companies, both public and private, had been established nationwide to manufacture and introduce gas for lighting in their respective municipality. The decade would see that number rise exponentially.<sup>28</sup> Only a handful of the buildings and structures of these early companies appear to survive.



*Figure 83. Looking northeast in c1855–59 at the original built environment of the Point Breeze Gas Works. The building at the center is known as Resource No. 1: Purifying House (1853–59). Source: The Library Company of Philadelphia.*

Between 1851 and 1854, the following buildings and structures were erected as the Point Breeze Gas Works: the Retort House (demolished); Resource No. 1 (Figures 8, 9, & 10): Purifying House (1853–54)—including Resource No. 1a (Figures 11, 12, 13, 15, 16, 17, & 83): Purifying House,

<sup>25</sup> "Total Population of Philadelphia Wards, 1860–1960" in John Daly and Alan Weinberg, *Genealogy of Philadelphia County Subdivisions* (Philadelphia: City of Philadelphia, 1966), 100. The population increase was 58% (258,037 to 408,769). These figures are for the entire County of Philadelphia.

<sup>26</sup> *Sixteenth Annual Report* (1851), 19–20.

<sup>27</sup> Levy and Orr, "Philadelphia Gas Works: Point Breeze Meter House," 5.

<sup>28</sup> John B. Murray. *The American Gas-Light Journal*, 15 June 1863, 370–73.

Engine & Exhaust House (1853–54) and Resource No. 1b (Figure 18, 19, & 20): Purifying House, Condenser House (1853–54); a Meter House (demolished between 1992 and 1997); and the gas holder—later reassembled after 1855.<sup>29</sup> Aside from perhaps the placement of the wharf, the only extant building from the original period of construction is Resource No. 1 (Figures 8, 9, & 10): Purifying House (1853–54).<sup>30</sup> This was initially erected as an L-shaped building of gray rubble and ashlar stone construction in the Gothic Revival style, like all of the original buildings. Resource No. 1: Purifying House (1853–54) featured lancet arch windows, a doorway defined by a pointed Gothic arch, and a stone bell tower that housed a bell marked: “Merrick and Sons, 1852,” which was extant in 1975.<sup>31</sup> The bell, cast by the firm of the company's first engineer, was used to call the workmen to charge or draw the retorts.<sup>32</sup>

In general, gas works were manufacturing facilities for the production, purification, and storage of gas. The Point Breeze Gas Works was located on the waterfront to allow coal to be easily delivered to the site. There were eventually railroad lines and ties to allow for efficient delivery of coal and other required products. Each of the buildings and structures on the site were used for a specific purpose in the gas manufacturing process. Coal was heated in the retort houses, generating the crude gas that was siphoned off and passed to the purifying and condenser houses. Coke was the byproduct of this process, which was then used to heat the retorts. After this the gases were passed to a condenser for cooling, allowing coal tar and other impurities to be removed. Additional purification also occurred by “washing” the gas in water, and “running it through beds of moist lime and/or iron oxides.”<sup>33</sup> Originally, the purification process took place in a purifying house, and later new names were introduced as the process was perfected, calling these condenser and exhaust houses. After the purification process, the gas passed through the station meter, where the gas was measured and transmitted to the gas storage holder.

By 1854, the following municipalities in Pennsylvania had established gas works: Pittsburgh (1836), Reading (1848), Washington (1848), Lancaster (1849), York (1849), Easton (1850), Germantown (1851), Allegheny (1852), Columbia (1852), Erie (1852), Manayunk (1852), and West Chester (1852). A study conducted by the authors of this report found that only one of these gas works survives. The former Easton Gas Works is situated near the corner of Bushkill and Front Streets in Easton and was initially constructed in 1851.<sup>34</sup> However, only a period house and later buildings survive. There do not appear to be any early, purpose-built structures related to the gas works. According to Roy E. Goodman and David G. Orr, Ph.D., who created and maintain [www.workshopoftheworld.com](http://www.workshopoftheworld.com), early components of the Northern Liberties Gas Company, founded in 1838, survived at 50 Laurel Street until about 2007. Resource No. 1 (Figures 8, 9, 10, & 83): Purifying House (1853–54), including both Resource Nos. 1a and 1b, appears to be the

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<sup>29</sup> *Twentieth Annual Report* (1855), 19–20. Documented in HAER No. PA-41, the Meter House was demolished between 1992 and 1997 based on historic aerials. Source: <https://www.historicaerials.com/viewer>.

<sup>30</sup> *Twenty-Fifth Annual Report* (1860), 11.

<sup>31</sup> Levy and Orr, “Philadelphia Gas Works,” HAER No. PA-41 (1983), p. 9–10.

<sup>32</sup> According to Herb Levy, who surveyed the site in 1975 for HAER, many workers at Point Breeze were convinced beyond a reasonable doubt that the bell was used to summon Swedish monks to prayers and meals

<sup>33</sup> “What is Manufactured Gas?” Accessed on 11 May 2019.

<<http://www.heritagerearch.com/documents/More%20About%20Manufactured%20Gas.pdf>>

<sup>34</sup> Mathew Schropp Henry, *History of the Lehigh Valley* (Bixler & Corwin, 1860), 124; and 1872 Easton Atlas, Northampton County, PA.

oldest purpose-built structure related to the manufacture of gas for public and private illumination in buildings and streets in the Commonwealth of Pennsylvania.

Between 1855 and 1859, the Point Breeze Gas Works was greatly improved, exceeding the production capacity of the Market Street Plant.<sup>35</sup> The improvements to the Point Breeze Gas Works during this time included: Retort House, the second, built in 1855 (demolished); Resource No. 2 (Figures 24 & 25): Purifying House (1855); Resource No. 3 (Figures 44 & 45): North Wall Ruins of Coal House (1855); Resource No. 4 (Figure 48): The Warf, including both Resource No. 4a (Figure 48): Retaining Walls (1851–99) and Resource No. 4b (Figure 52): Kilns (1855); Resource No. 5 (Figures 32 & 33): Purifying House (1859), which is limited to Resource No. 5a (Figures 32 & 33): Purifying House (1859); Resource Nos. 6 and 7 (Figures 55 & 56): Shops; Resource No. 8 (Figures 64 & 65): Locomotive House (1859); and the third Retort House, built in 1859.<sup>36</sup> Most of the buildings from this phase of construction survive to-date, comprising a remarkable collection of gas manufacturing buildings and structures.<sup>37</sup>

The decision to build the Point Breeze Gas Works and the subsequent improvements could not have been more fortuitous given the fact that Philadelphia was experiencing its largest population boom during the 1850s. In fact, by the end of the 1850s, the U.S. Federal Census of 1860 found that there had been a 300 percent rise in population. This apparent population boom and, in turn, increase in gas use had long since wielded its head by that time, as the Common and Select Councils of Philadelphia passed an Ordinance on May 10, 1858, entitled “An Ordinance for the further extension of the PGW.” In 1859, Philadelphia had the largest number of gas customers (32,000) and second highest number of gas lamps (5,000) in the United States.<sup>38</sup> This not only led to the purchase of at least one private company, but also to the enlargement of the Point Breeze Gas Works. Development of the Point Breeze Gas Works continued through 1866, when the destroyed Retort House, built in 1855, was rebuilt.<sup>39</sup>

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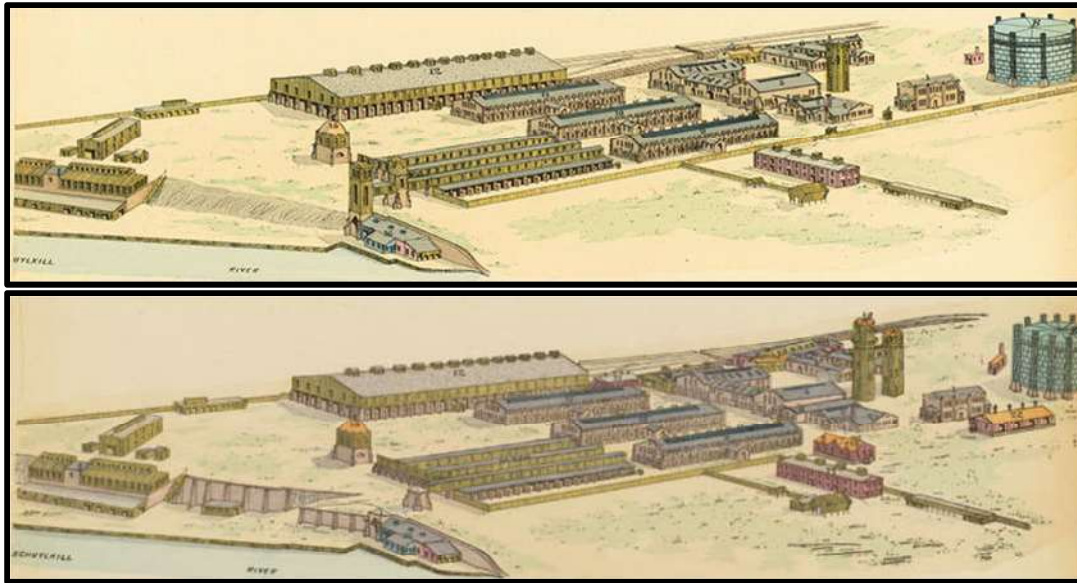
<sup>35</sup> Committee on Science and the Arts, CSA #702, Franklin Institute Archives, manuscript.

<sup>36</sup> *Twenty-First Annual Report* (1856), 12–13.; and *Twenty-Fifth Annual Report* (1860), 11.

<sup>37</sup> Lime kilns were used “for the purpose of burning the lime required in the manufacture of gas.” The kilns were near the waterfront, as the limestone was heavy, often arriving “as ballast from Cork,” rather than from American sources. Source: *The Engineering and Mining Journal* (10 November 1877), 358.

<sup>38</sup> Christopher J. Castaneda, *Invisible Fuel: Manufactured and Natural Gas in America, 1800–2000* (New York: Twayne Publishers, 1999), 35. Castaneda cites the *American Gas-Light Journal* 1, no. 1 (1 July 1859): 2–3. Adding up all the number of customers for New York City and Harlem (which Castaneda doesn’t do) produces a total of 25,700 customers and 10,376 lamps. Brooklyn (then a separate borough) had 10,000 customers and 2,600 lamps.

<sup>39</sup> *Thirty-Second Annual Report* (1867).



*Figure 84. Top: 1888 Hexamer General Survey of the Point Breeze Gas Works, Point Breeze. Figure 85. Bottom: 1894 Hexamer General Survey of the Point Breeze Gas Works, Point Breeze. Source: Greater Philadelphia GeoHistory Network.*

In the third quarter of the nineteenth century PGW was one of the largest industries in the city, operating in Philadelphia. In 1860 PGW was the largest company in Philadelphia in terms of its capital value (\$3.96 million) and average monthly wage costs (\$34,284).<sup>40</sup> In 1870 it was the second largest company in terms of capital value and paid annually a staggering \$1.31 million (roughly \$25 million in 2019 dollars) in wages – again the largest in the City.<sup>41</sup> That same year the Point Breeze Plant had a capital value of \$1.5 million and employed 472 men.<sup>42</sup> This position went to fourth largest in capital value citywide by 1880.<sup>43</sup> These facts showcase the significance of the Point Breeze Gas Works to the development and economic lifeblood of the city, as this achievement was largely made possible by the subject gas manufacturing plant.

Beyond its local and statewide importance, the Point Breeze Gas Works ranks among the oldest surviving gas works in the United States. After a careful study of the nation's earliest gas companies by the authors of this nomination, it is clear that no known original or early facilities survive from the first few companies established: Baltimore (1817), where the oldest gas-related structure dates to 1885; Boston (1822), where no early structures appear to survive; and New York City (1823), where the earliest building even tangentially related is the Brooklyn Clay Retort and

<sup>40</sup> Theodore Hershberg, *Philadelphia Social History Project: Manufacturing Data, 1850, 1860, 1870, 1880*, ICPSR34967–v2 (Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2014), 1860 data. The numbers are totaled from the entries for PGW at 23<sup>rd</sup> and Market Street, the Point Breeze Gas Works and the Northern Liberties Gas Company. The second largest company was the Baldwin Locomotive Works had average monthly costs at \$22,500.

<sup>41</sup> Hershberg, *Philadelphia Social History Project: Manufacturing Data*, 1870 data. In 1870 its capital was valued at \$9 million. The Baldwin Locomotive Works had the second largest payroll of \$1.28 million.

<sup>42</sup> Hershberg, *Philadelphia Social History Project: Manufacturing Data*, 1870 data. The works 23<sup>rd</sup> and Market Street had capital valued at \$7,500. The third largest plan was Spring Garden Works at 24<sup>th</sup> and Callowhill Streets which had capital valued at \$350,000 and 118 men.

<sup>43</sup> Hershberg, *Philadelphia Social History Project: Manufacturing Data*, 1880 data. In 1870 its capital was valued at \$9 million and in 1880 \$11.2 million.

Fire Brick Works Storehouse (1859).<sup>44</sup> Perhaps the only real, known contenders in terms of early American gas works and related facilities can be boiled down to three important and preserved resources. Founded in 1848, the Buffalo Gas Light Company Works built at least one incredible Gothic and Romanesque Revival style structure as part of its plant in 1859. This building has been preserved, in part, and was restored as part of the Blue Cross Blue Shield headquarters in Buffalo, New York. A year after Buffalo, a gas works was established in Charleston, South Carolina, but it wasn't until 1855, when the company built the Charlotte Street Gas Works. A small component of this plant is preserved.<sup>45</sup> Incorporated in 1849, the Lowell Gas Light Company built a low-rise commercial office building in 1859. Standing at 22 Shattuck Street in Lowell, Massachusetts, the building was one of the early structures in that historic industrial center to be identified for preservation. Though buildings and structures associated with various gas companies and works survive, most of these resources are much later than the Point Breeze Gas Works and the components of its mid-nineteenth century facility.



*Figure 86. Looking north towards the Point Breeze Gas Works in c1899 with the original “Church Row” complex of sheds on right. Source: The PGW Photograph Collection, CAP.*

The former Point Breeze Gas Works is a significant and rare surviving municipal gas works of the mid-nineteenth century that represents the development of manufactured gas for illumination, which was first achieved for lighting streets and buildings through gas lighting. Being among the oldest of these structures to exist the United States, Pennsylvania, and Philadelphia, Resource Nos. 1–8 represent a critical and significant period of economic, social, and technological development, as well as the greater achievements in public works of the Victorian-era.



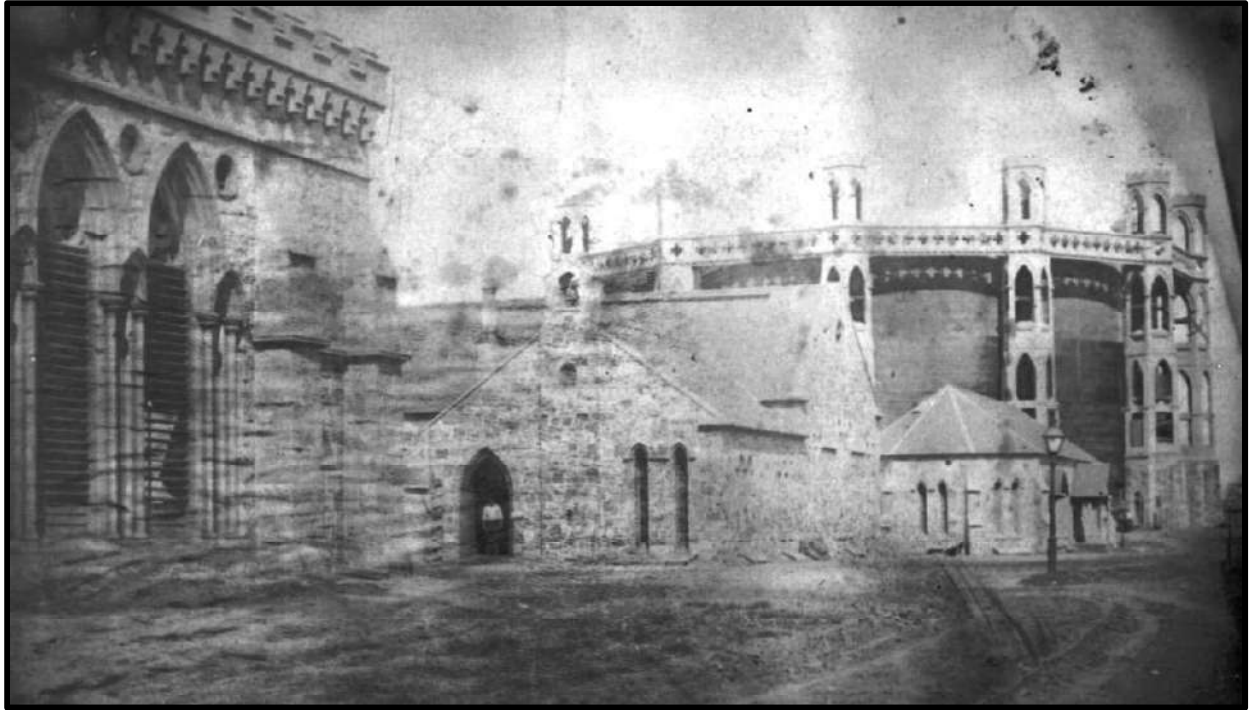
*Figure 87. Looking north at the Point Breeze Gas Works. Source: Atlas, City of Philadelphia, 2018.*

<sup>44</sup> Betsy Hunter Bradley, “New York City Landmarks Preservation Commission Designation Report: Brooklyn Clay Retort and Fire Brick Works Storehouse,” 2001. The New York City location is at 76–86 Van Dyke Street and designated by New York City’s Landmarks Preservation Commission on December 18, 2001.

<sup>45</sup> <https://charleston.pastperfectonline.com/archive/48FA124E-56F2-462B-8EC8-970307323416>



*Figure 88. Top: Looking northwest in 1948 at the primary (southeast) elevation of Resource No. 1b: Purifying House, Condenser House (1853–54), showing the belfry and bell of Resource No. 1a: Purifying House, Engine and Exhaust House (1853–54). Figure 89. Bottom: Top: Looking northwest in 1948 at the primary (southeast) elevation of Resource No. 1b: Purifying House, Condenser House (1853–54), showing the belfry and bell of Resource No. 1a: Purifying House, Engine and Exhaust House (1853–54), as well as the northeast elevation of Resource No. 2: Purifying House (1859) on right. Source: The PGW Photograph Collection, CAP.*



*Figure 90. Looking northeast in c1855–59 at the original built environment of the Point Breeze Gas Works, c. 1855–59. The building at the center is known as Resource No. 1: Purifying House (1853–59). Source: The Library Company of Philadelphia.*

**Criterion C:** Reflects the environment in an era characterized by a distinctive architectural style.

**Criterion D:** Embodies distinguishing characteristics of an architectural style.

#### **Period of Significance: 1851–1899**

Influenced by the romantic architectural mores of mid-nineteenth century America, Resource Nos. 1–3 and Resource Nos. 4–9 (Figure 87) are surviving vignettes of the former Point Breeze Gas Works that jointly represent a manufacturing facility and public works that was uniformly executed in the Gothic Revival style between 1851 and 1859 with additions through 1899. Richly appointed with many of the features of that style found in pre-Civil War ecclesiastical and institutional architecture, Resource Nos. 1 (Figure 90), 2, and 5 (Figure 94), specifically, comprise a concentrated significant and unique specimen of industrial shed buildings that emulate an eclectic grouping of forms and stylistic variants that derive from Gothic architecture. While these buildings may or may not figure into the larger stylistic evaluation of ecclesiastical architecture of the period, Resources Nos. 1, 2, and 5 are greatly important to illustrating the influence of the Gothic Revival style, as it effected this specific public works facility—essentially an industrial complex, and others in the City of Philadelphia, the Commonwealth of Pennsylvania, and in the United States. In addition, Resource Nos. 3, 6, 7, 8, and 9 are also significant as contributing to the larger significance of the site as a Gothic Revival style gas manufacturing plant.

The Point Breeze Gas Works and its surviving Gothic Revival style buildings and structures are part of a continuum in public architecture, which was influenced by a fairly contained pallet of motifs, including Egyptian, Georgian, Gothic, Greek, Roman, etc. Perhaps the most famous of early American public works is the Fairmont Water Works at Philadelphia, designed in 1812 by Frederick Graff (1774–1847), architect,

which is most famous for its Classical Revival style cladding of a utilitarian waterworks facility.<sup>46</sup> While the Gothic Revival style would never be as prevalent as the Georgian or the Grecian, there were certainly many examples of its influence on public architecture beyond ecclesiastical specimen. One early work of public architecture was the Eastern State Penitentiary, designed in the Gothic Revival style in 1829 by John Haviland (1792–1852), the English-born, Philadelphia architect.<sup>47</sup> This complex was followed by Moyamensing Prison, which was designed by Thomas U. Walter (1804–1887), another Philadelphia architect. Completed in 1835, the design for the massive stone pile employing both the Gothic and Egyptian Revival styles. In the American South, architectural history gained one of the nation’s few truly unique state capitol buildings, when between 1847 and 1850, Louisiana erected a Gothic-inspired fortress as its built seat of government in Baton Rouge.<sup>48</sup> Haviland also designed The Tombs, a prison in Manhattan, formerly at 125 White Street, in the Egyptian Revival style. Later, in 1850, the Lancaster County Jail was designed in the Gothic Revival style by Haviland.<sup>49</sup>

The Gothic Revival style was employed in the design of at least a few American gas works facilities. The “Manhattan Gas-Works” was an industrial complex with Gothic Revival style sheds that once occupied the entire block with Avenue C at the west; E. 15<sup>th</sup> Street at the south; the East River at the east; and E. 16<sup>th</sup> Street at the north. Figure 91, below, shows a long expanse of buttresses that once lined the Manhattan streetscape.<sup>50</sup> The Buffalo Gas Light Company, founded in 1848, built a large and impressive building in the Gothic and Romanesque Revival styles in 1859 (see Figure 92), which is preserved as part of the Blue Cross Blue Shield Headquarters in Buffalo, New York.<sup>51</sup> A smaller gas works facility was built at the U.S. Naval Academy at Annapolis, Maryland in the mid-nineteenth century (see Figure 93). Later, in 1869, the Chicago Water Tower and Pumping Station was built at 806 N. Michigan Avenue in the Gothic Revival style.<sup>52</sup>



*Figure 91. Left: Manhattan Gas-Works designed in the Gothic Revival style. Source: Art and Picture Collection, The New York Public Library. “The Manhattan Gas-Works.” The New York Public Library Digital Collections. 1862. Figure 92. Center: Buffalo Gas Light Works, designed in the Gothic Revival Style. Source: <http://www.forgottenbuffalo.com/forgottenbuffalolost/buffalogasworks.html>. Figure 93. Right: Gas House and Power Plant of the U.S. Naval Academy at Annapolis, c. 1860. Source: Digital Maryland.*

While the Gothic Revival style primarily influenced ecclesiastical and residential architecture, it was popularized in America as a potential national style by the early influential landscape gardener and

<sup>46</sup> W. Barksdale Maynard, *Architecture in the United States* (2002), 40–41.

<sup>47</sup> Richard Vaux, “Brief sketch of the origin and history of the State Penitentiary for the Eastern District of Pennsylvania, at Philadelphia.”

<sup>48</sup> Wayne Andrews, *American Gothic* (New York, New York: Random House, 1975), 107.

<sup>49</sup> Andrews, *American Gothic*, 81.

<sup>50</sup> Art and Picture Collection, The New York Public Library. “The Manhattan Gas-Works.” *The New York Public Library Digital Collections*. 1862.

<sup>51</sup> “Buffalo Gas Works,” *Forgotten Buffalo*. Source: <http://www.forgottenbuffalo.com/forgottenbuffalolost/buffalogasworks.html>

<sup>52</sup> <http://www.architecture.org/learn/resources/buildings-of-chicago/building/chicago-water-tower/>

tastemaker Andrew Jackson Downing (1815–1852), who wrote about a necessity of finding an appropriate national style. His “republican” ideals called for improvements to American cities, towns, and rural areas that would constitute public architecture.<sup>53</sup> Downing was influenced by Augustus Welby Northmore Pugin (1812–1852), English architect and tastemaker, and a contemporary of men like John Ruskin (1819–1900), leading English art critic; and Andrew Jackson Davis (1803–1892), American architect.<sup>54</sup> Interestingly, Downing, who was a major advocate for the Gothic Revival style, died in 1852, at which time the Point Breeze Gas Works was first under construction.<sup>55</sup> Developed between 1851 and 1859 as a comprehensive work, and improved through 1899, the surviving components of the Point Breeze Gas Works showcase the Gothic Revival style as it was applied to American public architecture, public works and industrial facilities in the mid-nineteenth century.



*Figure 94. Looking northeast at Resource Nos. 1–1a and 1c, 2, and 5–5b and 5a, known as Church Row, taken in 1903. Source: The PGW Photograph Collection, CAP.*

The Point Breeze Gas Works, specifically Resource Nos. 1–3 and Resource Nos. 4–9, possesses distinguishing characteristics of the Gothic Revival style. All the buildings are constructed of stone, six components in a random gray ashlar and two others in brownstone. Resources Nos. 1: Purifying House (1853–54), 2: Purifying House (1855), and 5a: Purifying House (1859) are industrial sheds for the manufacture of gas; however, these utilitarian structures attest to their “purifying” mission in an appropriate ecclesiastical form and style, appearing with a unique amalgamation of Gothic Revival characteristics and features that usually influenced houses of worship.

<sup>53</sup> Andrew Jackson Downing, “A Few Words on Our Progress in Building,” *The Horticulturist: Journal of Rural Art & Rural Taste* (1 June 1851): 6.

<sup>54</sup> Robert Twombly, *Andrew Jackson Downing, Essential Texts* (New York: W.W. Norton & Co., 2012), 11, 20, 115, 124, 131.

<sup>55</sup> Andrew Jackson Downing, *The Horticulturist: Journal of Rural Art & Rural Taste* v. 1–7.



*Figure 95. This early illustration shows the early buildings of the Point Breeze Gas Works, including Resource No. 1 (Figure 83): Purifying House (1853–54), highlighted in yellow at center. Also highlighted and outlined is a Retort House that features a façade defined by buttresses like Resource No. 3 (Figures 44 & 45): North Wall Ruins of Coal House (1855). Source: Twenty-Second Annual Report of the Trustees of the Philadelphia Gas Works to the Select and Common Councils of the City of Philadelphia, (January 1857), frontispiece. Source: The Library Company of Philadelphia.*



*Figure 96. Left: looking southeast at Resource Nos. 1, 2, & 5. Source: Atlas, City of Philadelphia, 2018. Figure 97. Middle: The northeast elevation of Resource No. 2: Purifying House (1855), showing the Gothic Revival features shown below. Figure 98. Bottom right: A three-part lancet arch mullion window with colonettes exists within the confines of a projecting hoodmold or dripstone arch and a buttress with two tiers of stone coping. Source: The PGW Photograph Collection, CAP.*

The design of Resource No. 1a (Figures 99 & 102): Purifying House, Engine & Exhaust House (1853–54) was the very essence of the “chaste” and “pure,” no doubt striking the observer as an early English rural chapel with its vernacular, Gothic-inspired belfry at the eastern gable, where the bell was rung for the workers (Figure 102), in the manner commonly practiced in England for parishioners.<sup>56</sup> The projecting tower-like feature that supports the belfry also features a trefoil opening defined by a projecting stone lintel. Resource No. 1b: Purifying House, Condenser House (1853–54) features large apertures defined by pointed Gothic arches, all of which are set within the form of a small chapel or rural church component. Resource No. 1c (Figures 21, 22, & 23): Purifying House, Boiler (1862–88) extends to the northeast from the main block of the larger Purifying House like a small Gothic porch that might adorn a larger, much older church in some idyllic English scene. Like its counterparts, the design for Resource No. 2 (Figure 97): Purifying House (1855) is not an industrial building by sight, but a true “purifying house,” being roughly three stages in height. This “shed” building features several groupings of pointed Gothic and lancet arches that define the various apertures, including mullion windows delineated by characteristic stone colonettes and sills. The openings are almost all further distinguished by projecting dripstones or stone head- and hood-moldings, following the form of the associated arched aperture. There is also a quatrefoil opening in at least one elevation, as well as early English style buttresses with stone coping, standing near each corner of the building. Another industrial sanctuary appears at the sight of Resource No. 5a (Figures 96, 100, & 103):

<sup>56</sup> Augustus Welby Northmore Pugin, *The Present State of Ecclesiastical Architecture in England* (London: C. Dolman, 1843), 19.

Purifying House (1859), also being roughly three stages in height. Dominated by a three-part lancet arch mullion window on the northeast and southwest elevations, this resource also presents a series of pointed Gothic and lancet arches that define the various apertures. The mullion windows even feature divisive colonettes in stone with matching sills. In at least one elevation a quatrefoil opening occupies the third stage of the facade, and the early English style buttresses also reappear. This resource too showcases dripstones, as well as stone head- and hood- moldings, at nearly every opening. Between Resource Nos. 2 and 5a, Resource No. 5b (Figures 40, 41, & 42): Purifying House, Exhaust House/Sponge Shed (1888-94) is a low shed that features three openings in the form of pointed arches in the northeast elevation. While all that remains of Resource No. 4 (Figure 44 & 45) is the north gray stone wall of the 1855 Coal House, it too is decidedly early English with its never-ending vantage of ancient-appearing buttresses that feature two tiers of stone coping. Resource Nos. 6 (Figures 55 & 56): Shops (1859), 7 (Figures 55, 56, & 104): Shops (1859), and 8 (Figures 64 & 65): Locomotive House (1859) are also of stone, featuring pointed Gothic and lancet arches, defining the various apertures. The openings are further delineated by stone architraves and projecting dripstones that are connected in pairs by dripstone coursing.



*Figure 99. Top left: A trefoil opening in the primary (northeast) elevation of Resource No. 1a: Purifying House, Engine & Exhaust House (1853–54). Figure 100. Top middle left: Various apertures of Resource No. 5a: Purifying House (1859), showing various Gothic and lancet arch openings. Top middle right: Resource No. 5a: Purifying House (1859), showing the mullion window with colonettes. Figure 101. Top right: various openings in the Gothic Revival style. Figure 102. Middle left: Resource Nos. 1a and 1b, showing the various features of the Gothic Revival. Figure 103. Middle right: the northeast elevation of Resource No. 5a: Purifying House (1859) showing six lancet arch openings, a pointed Gothic doorway and a three-part mullion window defined by pointed arched openings, and a quatrefoil opening. Figure 104. Bottom left: The projecting hoodmolds and architraves of Resource No. 7: Shops (1859) set within the random ashlar façade. Figure 105. Bottom middle: The retaining wall at Resource 9: The Wharf (1859–99) with its stone buttresses. Figure 106. Bottom right: The image shows the two-tier buttresses with stone*

*coping and lancet arch windows defined by connected head moldings of Resource No. 8: Locomotive House (1859). Source: The PGW Photograph Collection, CAP.*



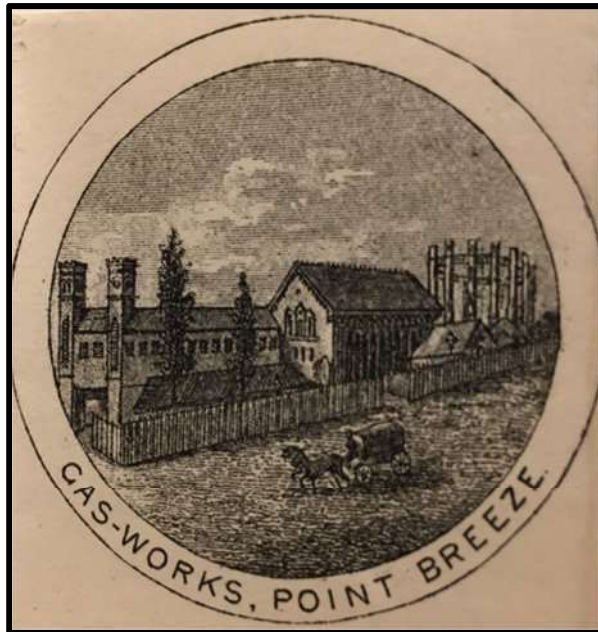
*Figure 107. The northeast elevations of Resource Nos. 1c: Boiler House (1862–88) and 1a: Purifying House, Engine & Exhaust House (1853–54). Source: The PGW Photograph Collection, CAP.*

The buildings illustrated below once contributed to the Gothic Revival style facility.



*Figure 108. Top: Meter House (1853–54) of the Point Breeze Gas Works, demolished in the 1990s. Source: The PGW Photograph Collection, CAP. Figure 109. Middle: Gas Holder (1855) at the Point Breeze Gas Works, demolished, taken by Marriot Canby Morris in 1890. Source: The Library Company of Philadelphia. Figure 110. Bottom: Retort House (1859) at the Point Breeze Gas Works, demolished. Source: The PGW Photograph Collection, CAP.*

The Point Breeze Gas Works was known throughout the city and, for many years, was viewed as a landmark or point of pride for the City of Philadelphia, which was likely due to its exhibition of the Gothic Revival style. This is shown by Strawbridge & Clothier in a souvenir the firm created, showing the famous buildings of Philadelphia, including places like City Hall, Independence Hall, the U.S. Mint, etc. The “Gas-Works, Point Breeze” is also featured.



*Figure 111. Top: The illustration of the Point Breeze Gas Works featured in Strawbridge & Clothier's Souvenir. Figure 112. Center: Illustrations featured in Strawbridge & Clothier's Souvenir. Figure 113. Bottom: illustration of the Point Breeze Gas Works featured in Strawbridge & Clothier's Souvenir. Source: HSP.*



*Figure 114. Looking north at the gates to the Point Breeze Gas Works. Note that Resource No. 9b: U.G.I. Garage is on left and Resource No. 9a: U.G.I. Office is on right. Source: The PGW Photograph Collection, CAP.*

**Criterion C:** Reflects the environment in an era characterized by a distinctive architectural style.

**Criterion D:** Embodies distinguishing characteristics of an architectural style.

#### **Period of Significance: 1897–1929**

After U.G.I.’s formal lease of PGW’s facilities began on December 1, 1897, physical improvements, especially new construction, appears to have taken on new and more vibrant architectural forms and styles. Naturally, PGW had long since built high style buildings and/or facilities (i.e. the subject property), but in the last quarter of the nineteenth century most of their buildings were decidedly industrial in character (though not without architectural interest and value). The designs for Resource No. 9a (Figure 117): U.G.I. Office & Dispensary (1899-1929) and Resource No. 9b (Figures 121 & 122): U.G.I. Garage (1913-14) were clearly stylized under the influence of the Jacobean Revival, as applied to buildings and structures in the late nineteenth and early twentieth centuries in the United States. Stepping away from the red brick, industrial character of corbeling and masonry piers that defined PGW’s architecture during the last third of the nineteenth century, these new designs were part of a distinctive debut of commissions in the early years of U.G.I.’s lease, perhaps a statement of their new position and managerial prowess. While there does not appear to be an overwhelming stylistic constant or preference, U.G.I.’s early buildings for PGW were very much distinguished works defined by elements of popular architectural styles within the context of utilitarian buildings and structures.



*Figure 115. "Station C., 22<sup>nd</sup> and Market St., Showing #3 Holder, #4 Holder and New Valve House, 1898." Source: The PGW Photograph Collection, CAP.*

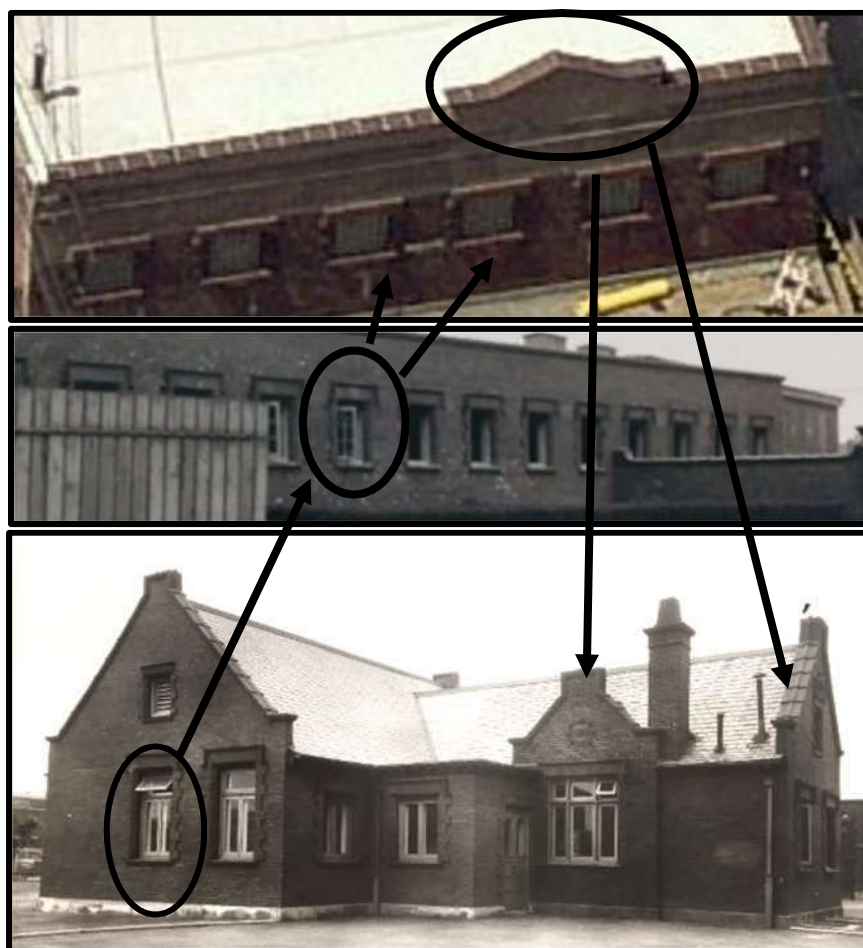


*Figure 116. Left and center: These drawings show gable ends with Flemish parapets by Johannes Huibert Prins, dated c1783-97, demonstrating the origin of the subject resource's design. Source: Rijks Museum Online. Figure 117. Right: The southwest elevation of Resource No. 9: U.G.I. Office & Dispensary (1899-1929), 29 August 1929. Source: The PGW Photograph Collection, CAP.*

Resource No. 9a (Figures 117 & 119): U.G.I. Office & Dispensary (1899-1929) embodies distinguishing characteristics of the Jacobean Revival style. The building features five prominent gable ends that are defined by simple, but distinctive Flemish parapets. Each of the parapets feature dark stone or terra cotta coping, which resembles known forms and styles of Dutch architecture (Figure 116). Another distinctive feature of the Jacobean Revival are the dark stone or terra cotta architraves with characteristic hood moldings and quoining. Mullion windows with casement sashes and transoms are also an important feature of the style. Medallions or plaques in low relief of stone or terra cotta are located at the center of the two gables in the primary (west) elevation. While Resource No. 9b (Figures 121 & 122): U.G.I. Garage (1913-14) is somewhat understated in comparison to Resource No. 9a: U.G.I. Office & Dispensary, the extant portion of the building does maintain similar brickwork; the high style architraves in dark stone or terra cotta; and a single low parapet along the roofline.



*Figure 118. Left: A one-and-one-half-story building in Amsterdam with a similar parapet to the subject resource. Source: G. Vermeer. Bouwhistorische beschrijving Waagstraat 7, Enkhuizen, (University of Amsterdam, 2016), 16. Figure 119. Center: The east elevation of Resource No. 9: U.G.I. Office & Dispensary, 29 August 1929. Source: The PGW Photograph Collection, CAP. Figure 120. Right: The Luykas Van Alen House, Kinderhook, NY, dated 1737. All of these examples illustrate the influence of Dutch architecture on American architectural styles, specifically in the form of the parapet employed on Resource No. 9a: Office & Dispensary (1899–1929). Source: [www.arch.ttu.edu](http://www.arch.ttu.edu).*



*Features of this period and architecture style such as lintels, window surrounds, parapets, and coping are used in both resources, as called out in the above photographs. Figure 121. Top: Looking east at the primary elevation of Resource No. 9b: U.G.I. Garage. Source: Atlas, City of Philadelphia, 2018. Figure 122. Middle: The primary elevation of Resource No. 9b: U.G.I. Garage (1913–14), 1914. Figure 123. Bottom: The rear elevation of Resource No. 9a: U.G.I. Office & Dispensary (1899–1929), 29 August 1929. Source: PGW Photograph Collection, CAP.<sup>57</sup>*

<sup>57</sup> Photo No. 3780: “Sta. A. New Garage Looking North West,” 12 May 1914. Bottom: Photo No. 3778: “Sta. A. New Garage Looking South East,” 12 May 1914. Source: PGW Photograph Collection, CAP.



*Figure 124. On left is the former Valve House at Station B of the PGW facility, which is located on the Delaware River. This photograph was taken by PGW on September 5, 1900. Source: The PGW Photograph Collection, CAP. Figure 125. Right: the former Valve House at Station B. Source: The PGW Photograph Collection, CAP.*

While the subject resources are primarily characteristic of Jacobean Revival, U.G.I.'s other new buildings employ some select Flemish features. Beyond that, many of the buildings constructed during the earliest years of U.G.I.'s lease were individually distinguished, creating a body of work that represents this early period. Shown above in Figures 124 and 125, the “new Valve House” at “Station B” on the Delaware River was a building that employed select Jacobean Revival style characteristics, including the gable end and the associated decorative parapet. Figure 124, shown above on left, is a prime example of the architectural transition that took place between PGW and U.G.I. at the turn of the twentieth century. Architecturally eclectic, the Valve House is far more high style eclectic architecture in comparison to its near neighbor on right.<sup>58</sup> During this period several other distinguished buildings were constructed in various styles, including several eclectic examples of the Italian Renaissance Revival style: PGW's City District Shop at 1931 S. Ninth Street (Figure 126), featuring a rusticated façade at the ground floor and arched windows on the third floor with projecting hood moldings; a new Valve House at Station C at 22<sup>nd</sup> and Market Streets (Figure 115), built in 1898, featuring a monumental fenestration defined by five two-story arches and a cornice more commonly known in an earlier era; and a large stable building in North Philadelphia (Figure 127), being quite distinctive with a widely overhanging hipped roof and exposed eaves, dormers projecting above the eaves, and round arch openings at the ground floor.

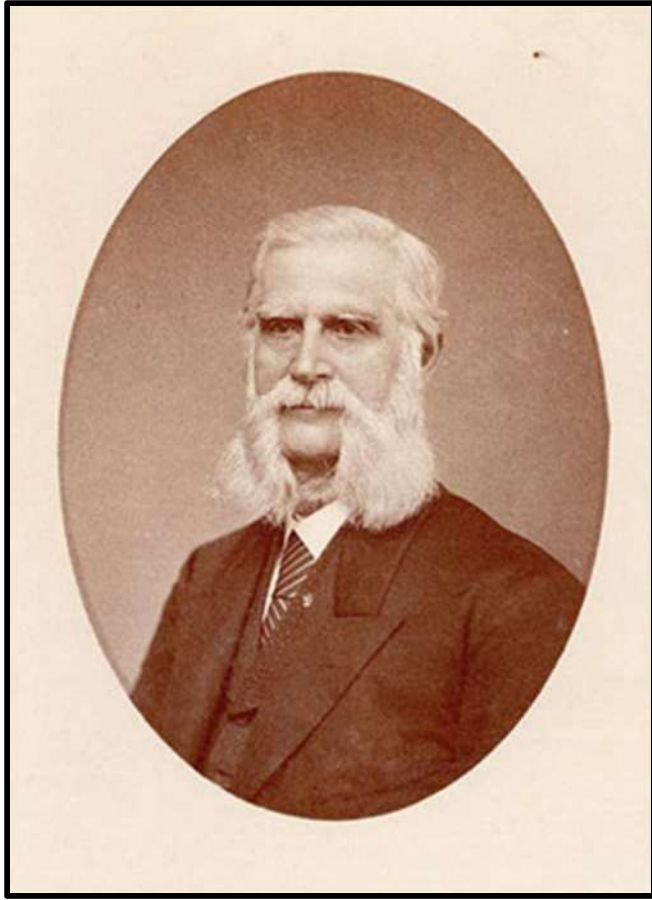


*Figure 126. Left: PGW City District Shop, 1931 South 9<sup>th</sup> Street. Figure 127. Right: A stable located in north Philadelphia. Source: The PGW Photograph Collection, CAP.*

<sup>58</sup> Photo Nos., PGW Photograph Collection, CAP.



*Figure 128. Top: The PGW "Testing Station B," 1950. Source: The PGW Photograph Collection, CAP. Figure 129. Bottom: Station A's Passyunk Avenue Test Station, dated July 6, 1914. Source: The PGW Photograph Collection, CAP.*



*Figure 130. John C. Cresson, Designer & Engineer. Source: Free Library of Philadelphia.*

**Criterion E: Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth or Nation**

### **John Chapman Cresson (1806–1876)**

A native Philadelphian and a Quaker, John Chapman Cresson (1828–1876) was a significant designer and engineer of the past, whose work as a longtime engineer of the PGW from 1836 to 1864 significantly influenced the formative and primary development of gas illumination in the city and beyond in the United States. As a designer and the chief engineer, Cresson undertook the ongoing plans of improving the original Market Street plant, then known as the PGW, and the establishment and subsequent improvement of the Point Breeze plant, the subject property. Both facilities ranked among the most significant of early gas works in American history—especially Cresson’s work as both the designer and engineer of the Point Breeze Gas Works. Under Cresson’s leadership the Point Breeze plant was initially built between 1850 and 1854 with subsequent improvements in 1859. Of these periods of construction, eight resources survive. Resource Nos. 1, 2, 3, 4, 5, 6, 7, and 8 were part of this period of significance and represent work of John Chapman Cresson, an important designer and engineer, who figures prominently in the local and national engineering annals of history.

After John Chapman Cresson's death in 1876, the following *Obituary Notice* was written by Frederick Fraley and read before the American Philosophical Society on October 19, 1877:

<p>OCT. 19, 1877.]      149      [Fraley.]</p> <p style="text-align: center;"><i>Obituary Notice of JOHN C. CRESSON.</i></p> <p style="text-align: center;">BY FREDERICK FRALEY.</p> <p style="text-align: center;">(Read before the American Philosophical Society, October 19, 1877.)</p> <p>John Chapman Cresson, late Senior Vice-President of the American Philosophical Society, was born in the City of Philadelphia, on the 16th day of March, A. D. 1806. He was the eldest son of Joseph Cresson and Mercy Chapman.</p> <p>His paternal ancestor was Solomon Cresson, who came from France to America in the latter part of the 17th century. On the mother's side, he was descended from John Chapman, who came to Pennsylvania in 1684, among the first settlers of the Province, and who was one of the principal Surveyors for William Penn. On both sides the family were distinguished members of the Society of Friends, his grandfather, James Cresson, being an esteemed Minister. His grandfather, Dr. John Chapman, was a man of very eminent ability, by profession a Physician, and filled many public stations with honor and fidelity. He was a member of the State Legislature, and also of the House of Representatives of the United States. He was a member of the American Philosophical Society, having been elected February 12, 1768.</p> <p>After receiving the usual elementary education in</p>	<p>Fraley.]      150      [Oct. 19.]</p> <p>the primary schools, the subject of our notice was placed as a pupil in the Friend's Academy, then under the charge of Thomas Dugdale and Joseph Roberts. These were two of the best instructors of their day, and under their care he secured a thorough classical and mathematical education. He was very early distinguished by the accuracy, extent and diversity of his knowledge, and the training which he received under these eminent men in careful habits of study, and in becoming thoroughly acquainted with what he intended to learn, characterized the whole of his life and gave a remarkable tone to everything he did.</p> <p>After receiving such an education, his first impulse was to study medicine, and he made the usual preliminary preparations for it that prevailed in those days, and for some months seemed to consider it as his future profession. But while he delighted in the study of its principles, he shrank from the labors and uncertainties of the practice of it, and after very valuable acquisitions in that noble science, he abandoned the study and determined to become an Agriculturist. He, however, cherished an ardent love for medicine, and the members of that profession, who were so fortunate as to enjoy his friendship in after life, have often spoken in high terms of the accuracy and extent of his medical knowledge.</p> <p>About the time of making this change in his plans for a profession, he became acquainted with the late Wm. H. Keating, who had been recently elected Professor</p>
<p>1877.]      151      [Fraley.]</p> <p>of Chemistry applied to Agriculture and the useful Arts, in a Department of the University of Pennsylvania, established by the Trustees, to meet what was then a matter of great necessity, and the results of which as we shall see hereafter were very important to the City of Philadelphia. In his attendance upon the lectures and other instruction of Professor Keating, he added greatly to his stock of knowledge, and he was therefore well fitted to begin the study of Agriculture.</p> <p>He was placed under the charge of the late Isaac Price, of Chester County, and spent over a year in his family and under his instruction, becoming well grounded in all of the details of farming, and doing with his own hands every kind of farm labor. He subsequently entered the family of the late James Worth, of Bucks County, as pupil and friend, and with him completed his education as an Agriculturist. Shortly after attaining his majority, a farm in Cheltenham Township, Montgomery County, was purchased for him by his father, and he prepared to enter on the real business of life. In May, 1827, he married Miss Letitia L. Massey, daughter of Charles Massey, with whom he lived happily for almost fifty years. The issue of this marriage was one son and two daughters; the daughters died in early childhood. The son, Dr. Charles M. Cresson, is still living, and is an esteemed and useful member of our Society. Thus settled on his farm, and ardently attached to Agricultural pursuits, he went to work manfully to make his business a suc-</p>	<p>Fraley.]      152      [Oct. 19.]</p> <p>cess. But in those days farming was far from profitable; produce of all kinds bore low prices, and with all his zeal and industry, and leading his hands in all work, the results gave no profit to represent even a moderate interest on the cost of the farm. After fighting fortune in this way for several years but without immediately abandoning his farm, he entered into partnership with two of his cousins and engaged with them in commercial business. The farm was sold in 1834 and he removed to Philadelphia, and from this time his real and useful history begins.</p> <p>He became a member of the Franklin Institute in 1831, and there met a host of ardent men, the founders and builders up of that noble Institution. Prominent among these were Samuel V. Merrick, William H. Keating, Robert M. Patterson, Alexander Dallas Bache, Isaiah Lukens, Benjamin Reeves, Matthias W. Baldwin, Franklin Peale, George Washington Smith, John Wiegand, John F. Frazer, and others equally worthy, with whom he immediately became intimate in his friendship, and bound by a kinship of labor in the attainment and application of useful knowledge. Here he was in a congenial field, his old friend and preceptor, Keating, was in the forefront of the zealous workers of the Institute, and Mr. Cresson soon showed that while engaged actively in farming he had not neglected the text books of Philosophy and Science.</p> <p>His knowledge of mechanics and chemistry was very comprehensive, and was immediately made available</p>

Frederick Fraley. "Obituary Notice," *Proceedings of the American Philosophical Society*.

by placing him on committees charged with the investigation of mechanical and scientific subjects. We have not space to particularize all such labors, but when we say that for more than forty years he was an active member of the Institute, always ready for duty and always earnest in work, some estimate may be formed of this part of his career.

While thus, as it were, entering the threshold of his practical life, the corporate authorities of the City of Philadelphia, in 1835, determined to erect the Gas Works for the supply of the city. This work was carried out by Samuel V. Merrick, Esq., as Engineer, who had prepared himself for it by a visit to Europe, and a personal inspection of the Gas works in operation there. On the completion of the first section of the works and putting them in operation in 1836, Mr. Merrick desired to be relieved from the superintendence and care of the manufacture of Gas, and he was accordingly relieved. It then became an important question for the Trustees of the Works to decide as to whom the management of so important a business should be entrusted. After a patient inquiry and a scrutiny of the claims of other gentlemen, the place of Superintendent was tendered to Mr. Cresson, and being strongly urged by his friends Merrick, Keating, and Bache, to accept it, he yielded to their wishes. Mr. Merrick soon afterwards resigned as Engineer, and Mr. Cresson was then elected to that place as well as the one before held. He occupied these important and highly responsible

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positions for twenty-eight years, and the complete success of the Works in their manifold constructions, manufacturing processes, and the safety and extent of the distribution attest his marvelous skill and ingenuity. In the manufacturing department he was eminently successful, and the profits as well as the usefulness of the Works have become proverbial. While engrossed in such labors the Professorship of Mechanics and Natural Philosophy became vacant in the Franklin Institute, and in 1837, Mr. Cresson was unanimously chosen by the Managers to fill it. He accepted the appointment, and in this new field he soon took a high rank among the scientists of the day. His lectures were remarkable in the comprehensive clearness and simplicity of their style, and for the fullness and completeness of their illustrations, and his old students speak of them to this day in the highest terms of praise.

While he was holding this chair, the Controllers of the Public schools of Philadelphia determined to reorganize the City High School, and placed that work in the hands of Professor Alexander Dallas Bache. The plan adopted by him embraced a department of Mechanics and Natural Philosophy, and upon his recommendation Mr. Cresson was elected to the Professorship. He held this office for about two years, discharging its duties with great fidelity and success, but the time taken was found to trench too much on his other engagements, and he resigned it, to the great regret of his associated professors and the students.

Mr. Cresson had by this time won a distinguished reputation in the scientific world, and in appreciation of it, the Trustees of the University of Pennsylvania conferred on him the honorary degree of Master of Arts.

A year or two later, he received from the University of Lewisburg, Pa., the honorary degree of Doctor of Philosophy.

In the year 1855, Samuel V. Merrick, Esq., the chief founder and second President of the Franklin Institute, resigned, and Mr. Cresson was elected almost by acclamation, to succeed him.

The establishment of the Franklin Institute in the year 1824, chiefly through the devotion and personal exertions of Messrs. Merrick and Keating, led to a more thorough appreciation of the dependence of the useful arts on the physical sciences. The Institute was soon a pronounced success. It brought together the best scientists of the City, and the great body of intelligent manufacturers, mechanicians, merchants, and professional men, and it thus entered on a career of usefulness which probably has not been excelled anywhere.

On coming to the City, Mr. Cresson entered actively in the work of this body and for upwards of forty years was an active participant in its labors and usefulness. As a member or chairman of important committees, as President, Professor and Counselor, he was always prepared and earnest. His usefulness was manifested

in an eminent degree as Chairman of the Committee on Science, to which place he was elected on the resignation of Professor Bache, in 1844, and the reports and records of that Committee illustrate in their vast fields of inquiry, and the valuable results to inventors, the fertility of his own resources and the wisdom of his selection of the sub-committees charged with the duty of making investigations.

As a philanthropist, Mr. Cresson was equally distinguished. He was for many years a Manager and one of the Vice-Presidents of the Pennsylvania Institution for the Instruction of the Blind, one of the Managers of the Episcopal Hospital, and of the Western Saving Fund Society, and a member of, and contributor to, other charitable institutions. But his services in these respects were specially made available for the Institution for the Blind, for the Saving Fund Society, and for the Episcopal Hospital, his connection with them terminating only at his death, and the management of these great charities expressed their sorrow for his loss, in resolutions that truly declared his merits and services.

In the year 1852, he was elected a Trustee of the University of Pennsylvania, which office he also held at the time of his decease.

In this body he was distinguished, as in all other places, by devotion to the best interests of the institution, heartily co-operating and sometimes leading in the great improvements that have been made in the

Frederick Fraley. "Obituary Notice," *Proceedings of the American Philosophical Society*.

methods and extent of the instruction given to the students.

Mr. Cresson served for several years as a Manager of the Schuylkill Navigation Company, while its affairs were under the Presidencies of Solomon W. Roberts, Esq., and Charles Ellet, Jr., Esq., and he gave useful aid in preparing plans and carrying out the great enlargements of the canals and other works of that Company during the years 1845 and 1846.

He was elected President of the Mine Hill and Schuylkill Haven Railroad Company, in the year 1847, which office he held until his death. Under his administration of the affairs of this Company, its trackage and equipments were largely increased, and it became the principal carrier to the canal and railroad trunk lines of the Anthracite Coal trade of Schuylkill and Northumberland Counties.

He was appointed one of the original Commissioners of Fairmount Park, and was a prominent participant in perfecting the organization of that body, and in adopting its preliminary plans for the extension and arrangement of the Park. Having at this time been relieved from some of his other appointments and duties, he found in the work of the Park a renewal of his old affection for rural occupation, and he cheerfully yielded to the call of the Park Commission to become their Chief Engineer. He entered on this field of duty with a zeal and fidelity that soon manifested his power and genius.

His plans for the improvement of the Park were simple but comprehensive. He seized upon the natural features of the land and the presence of its ancient forest trees to lay out roads and pathways, that should traverse attractive and beautiful spaces and present to the eyes of the visitors resting places of a graceful and attractive character.

To him the arrangement and embellishment of the Park was a labor of love, and he still worked for it when unable to leave his house and bed, while suffering from acute disease.

He had the wide area of the Park mapped, as it were, upon his brain, and his directions to his assistants for the prosecution of their work were as clearly given as if he were standing by them in the field. But he yielded at last to the necessity of parting from a work calling for such continual mental labor, and he resigned at the close of the year 1875.

In the year 1839, he was elected a member of the American Philosophical Society, and the proceedings contain many evidences of his success as an original investigator and careful student of science.

He was elected one of its Vice-Presidents in 1857, and by continued re-elections he became the Senior Vice-President, and held that office when death terminated his membership with us.

He visited Europe once on professional business, and twice for medical advice, and during these visits became acquainted with the prominent scientists of

Great Britain and France, and he often spoke of the heartiness with which he had been received by them, and of the special benefits he had derived from his intercourse with them.

We have now briefly sketched the active life and labors of Mr. Cresson, and the results which they brought to him in the way of reputation and honors.

It remains to us now to endeavor to portray him as a man, and to show that with the endowment he had of such goodly gifts, he was equally blest with moral and social virtues, and with physical strength and beauty.

Mr. Cresson had a stature of over six feet in height, his frame was in harmony with it in being large and well-proportioned. His head, although not large, was admirably formed, and his countenance was mild and beautiful, lighted up with eyes brilliant and expressive.

His manners were easy and dignified, receiving every one with affability, kindness and courtesy, but never permitting undue familiarity. He possessed great conversational powers, and his extensive reading and knowledge gave him the command of a vast variety of subjects, which enabled him to become an acceptable associate of old and young, learned or unlearned, and to give exquisite pleasure to all brought into personal contact with him.

He always had strong religious convictions, and his early training, as a born member of the Society of Friends, undoubtedly gave him his robust morality.

He lost his membership in that Society by his marriage with a lady who was not a member, and while he always remained on terms of great intimacy and friendship with his old friends of the good Quaker faith, his mind was awakened to religious principles of a more definite and outwardly expressed form, and he became by baptism and confirmation a full member of the Episcopal Church. In this membership, as in everything else he did, he was ardent, consistent and useful, freely giving of his labor and substance in aid of Church-work, and by personal example giving force and beauty to his Christian life. In his family he was the affectionate and dearly loved son and brother, the kind, indulgent and devoted husband and father, entwined around every heart with the strongest bonds.

He was a man of great moral and physical courage, never fearing to call a fault or a crime by its right name, and never hesitating by personal interposition to endeavor to check or subdue a wrong doer whom he found engaged in work threatening the peace or security of private citizens or of the public. Sustained by these well-balanced virtues, and by his sincere religious principles, and his thorough trust in the goodness and wisdom of God, he went through a life of nearly seventy years, always cheerful, happy and useful, and looking forward to the close with faith and hope quite equal to those of the patriarchs of old.

In his early manhood he had two very severe attacks of illness, both of which brought him to the verge

Frederick Fraley. "Obituary Notice," *Proceedings of the American Philosophical Society*.

of the grave, but even then his meek and quiet spirit and his strong trust greatly aided his physicians, and he seemed to be providentially raised for his future work. During the holding of the great Sanitary Fair in Philadelphia, in the year 1864, in the preparation for which and in its management and success, he had borne a great share, the first symptoms of the disease which terminated his life made their appearance.

He, however, speedily recovered from the violence of the first attack, but the disease assumed a chronic form, and went on, year by year, in spite of usual remedies, increasing in its activity, and gradually leading to that prostration which, in 1872, took him to Europe to seek special advice. He returned much invigorated by the treatment and voyage, but in a few months the unfavorable and violent symptoms again returned, and he made a second visit. On this occasion he submitted to several operations of lithotripsy, and embarked for home in the hope that he was permanently relieved. He, however, had a painful voyage, and after he reached home he gradually became more and more impaired in health, and was finally confined to his chamber and couch. Here for many months he suffered the most intense pain, which could only be made bearable by the strongest opiates, but in the short intervals of ease he was the same cheerful and ready friend, pouring out the vast stores of his knowledge, philosophizing on the pleasures of nature, the mysteries of life and death, and looking forward with hope,

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patience and faith, to the time when all pain and suffering would cease, and his reward for it all would be found in the peace and rest of Heaven. It was during these years of trial and suffering that all the beauties and harmonies of his character shone with marvelous effect. His friends left his chamber greatly wondering what manner of man he was who could bear so much without repining, and they went forth thankful for such an example, and greatly strengthened by it for their own application.

He sank quietly to rest as the sun was setting, on the 27th day of January, 1876, in the 70th year of his age, taking his departure with his eyes resting on the old forest trees of the Woodlands, then stript of foliage and taking their winter rest, but with the consciousness on his part that the coming Spring would awaken them to a resurrection of beauty, and that he also in due time would rise again in a spiritual body, and be made one with his Master, Christ, in glory.

For more than sixty years he was my associate friend and brother. His life was part of my life, we lived and labored together in the same fields, partook of the same cares and trials, and while I pay this loving tribute to his memory I feel that I but speak for all when I say

"None knew him but to love him,  
None named him but to praise."

**JOHN CHAPMAN CRESSON'** (Joseph<sup>s</sup>, James<sup>s</sup>, John<sup>s</sup>, Solomon<sup>s</sup>, Jacques<sup>s</sup>, Pierre<sup>s</sup>), born 3mo. 16, 1806, in Philadelphia; died there, 1mo. 27, 1876; married, May 8, 1827, Letitia L. Massey, born December 1, 1804, died November 17, 1888, daughter of Charles Massey.

John C. Cresson was a man of marked ability and early took high rank among the scientists of the day. In 1837 he became Professor of Mechanics and Natural Philosophy at the Franklin Institute. Within a few years of this time the honorary degree of A. M. was conferred upon him by the University of Pennsylvania, and shortly after the University of Lewisburg, Pennsylvania, made him Ph. D. In 1839 he was elected a member of the American Philosophical Society, became one of its vice-presidents in 1857, and was senior vice-president for a number of years before his death. In 1855 Dr. Cresson was unanimously chosen president of the Franklin Institute. In 1852 he became one of the trustees of the University of Pennsylvania.

When the City Gas Works was first put into operation in 1836, he was made its superintendent and almost directly after, its engineer, which position he held for twenty-eight years. He was one of the original commissioners of Fairmount Park and was appointed chief engineer, resigning in 1875 on account of ill health. He was elected president of the Mine Hill and Schuylkill Haven Railroad Company in 1847, and held the position until his death.

Frederick Fraley. "Obituary Notice," *Proceedings of the American Philosophical Society*.

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This nomination was sponsored by a generous friend of the Keeping Society of Philadelphia and authored primarily by myself, Oscar Beisert, Architectural Historian and Historic Preservationist, with assistance from J. M. Duffin, Archivist and Historian. In addition, the following individuals provided input and expertise for various aspects of this nomination: Davis d'Ambly, Liturgical Artist; Betsy Hunter Bradley, Architectural Historian; the Pennsylvania State Historic Preservation Office; Preservation Pennsylvania; among others. The PGW Photograph Collection at CAP was also invaluable in the completion of this nomination.

This nomination was made possible through the generous financial support of Dr. Irwin Richman, Ph.D., Emeritus Professor, Pennsylvania State University—Historian and Aesthete.

**Dedication from Oscar Beisert.** This nomination is dedicated to Dr. Richman, a resident of Lancaster, Pennsylvania, who opened my mind to Philadelphia and her incredible “embarrassment of riches.” As my professor and mentor, he introduced me to the Gothic Revival style through visual immersion; requiring me to read Edith Wharton’s *Hudson River Bracketed*; requiring me to visit Newburgh, New York—among other places in the Hudson Valley; etc. This was both a curse and a blessing.

May “Church Row” be protected and preserved for the future generations.

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## Appendix A: History of Manufactured Gas, PGW, and Point Breeze Plant

### The History of the Manufactured Gas Works

The history of manufactured gas can be traced to the first scientific account of its discovery in 1609 by the Flemish scientist Jan Baptist van Helmont (1580–1644). It was not until the late eighteenth century that any serious attempts were made to harness the use the flammable gas produce by burning coal and other substances for productive purposes. One of the first attempts in to use manufacturer gas as a regular source of illumination occurred in 1785 at classroom at the University of Leuven, Belgium. Others soon entered the field and public demonstrations of gas lighting were seen in European cities around 1800. France and England were the pioneers and England the leader. William Murdock who introduced gas lighting into his home in 1792 installed gas lighting systems in several English factories between 1806 and 1810. Other soon followed so that by 1810 there a number companies competing for permission to manufacturer and sell gas in London.<sup>59</sup>



Perhaps the first public demonstration of manufactured gas in America at Philadelphia in 1796.

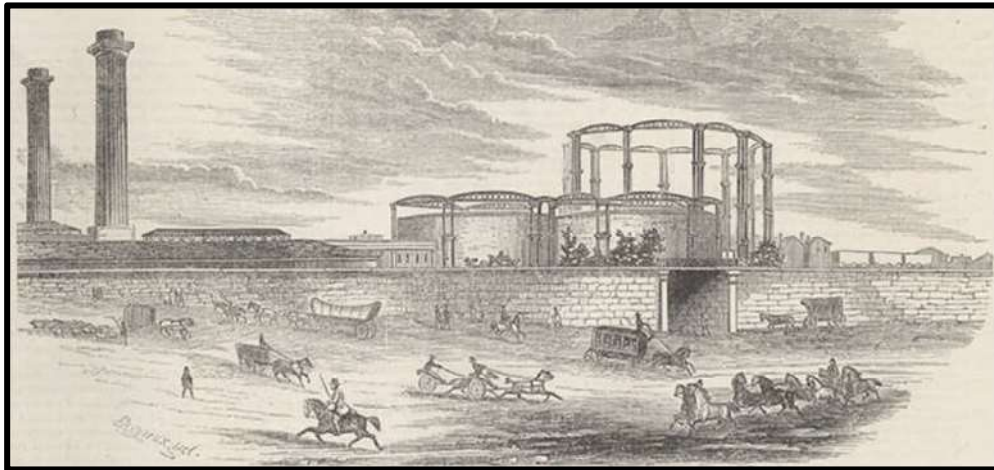
*Claypoole's American Daily Advertiser*, 3 August 1796.

The introduction of manufactured gas to America followed the path from public demonstrations, sample home installations to special building uses and finally wider public use. Philadelphia is sometimes credited with having the first public demonstration of manufactured gas lighting. It occurred in 1796 at the amphitheater of Messrs. Ambrose and Co. in the 800 block of Arch Street. The event described the “new invention” of “light composed of inflammable air.”<sup>60</sup> As news of

<sup>59</sup> This history is drawn primarily from Christopher J. Castaneda, *Invisible Fuel: Manufactured and Natural Gas in America, 1800–2000* (New York: Twayne Publishers, 1999), 3–9.

<sup>60</sup> *Claypoole's American Daily Advertiser*, 3 August 1796. The eighteenth century meaning of *inflammable* is what we would today call *flammable*. Michael Ambrose is sometimes referred to in the newspapers of this period as Citizen Ambrose and Ambrose Varinot (*General Advertiser*, 28 June 1793).

the European experiments with gas lighting spread a number of Americans inventors and entrepreneurs began to propose similar plans in America. From 1802 to 1804 Benjamin Henfrey did demonstrations of gas lighting in Baltimore and Richmond and placed ads in a number of newspapers across the country. He even petitioned Philadelphia's City Council in 1802 to place gas lamps on Philadelphia's streets to help reduce crime.<sup>61</sup> In Rhode Island, David Melville was installing gas lighting in his home and then in local factories between 1813 and 1817.<sup>62</sup> The Peale family in Philadelphia became very interested in this new technology and its application for their Museum located in Independence Hall. In 1814 Rubens Peale installed a manufactured gas system in Independence Hall to light the entire building – making it perhaps the first public building in America to be illuminated by gas. Ruben's brother Rembrandt took that technology with him to Baltimore where he established his own museum in 1816. Rembrandt's use of gas inspired a number Baltimore citizens to form the same year the Gas Light Company of Baltimore which became the first in the nation.<sup>63</sup> Though growth of the company was slow at first it did inspire a number of other citizens to step up companies in other cities over the next 20 years: New York City (1825), Boston (1829), Louisville (1832), New Orleans (1835), Philadelphia (1835).<sup>64</sup>



The PGW, 23<sup>rd</sup> and Market Street, the original plant (demolished).  
Source: The Free Library of Philadelphia.

### **The Establishment of the Philadelphia Gas Works**

In 1834, the Select and Common Councils of the City of Philadelphia commissioned Samuel V. Merrick, a prominent engineer, to make a study of the manufacture and use of gas illumination for street lighting to be conducted in Europe where the earliest and most advanced manufacturers of gas in the world could be found at that time.<sup>65</sup> The report examined the principle plants and processes of Great Britain, as well as Paris, Brussels, and Ghent on a cursory level, related to the

<sup>61</sup> Edmund J. James, *The City Government of Philadelphia: A Study In Municipal Administration* (Philadelphia: Wharton School of Finance and Economy, 1893), 100; Castaneda, *Invisible Fuel*, 13.

<sup>62</sup> Castaneda, *Invisible Fuel*, 14–15.

<sup>63</sup> Castaneda, *Invisible Fuel*, 15–21.

<sup>64</sup> Castaneda, *Invisible Fuel*, 27.

<sup>65</sup> *Resolution of the Select and Common Councils of the City of Philadelphia* (Philadelphia: 2 January 1834). This resolution authorized Samuel V. Merrick, Engineer, to travel to Europe to examine and make a study of gas manufactories.

manufacture of corburetted hydrogen gas.<sup>66</sup> On the basis of the information presented in Merrick's report, the Select and Common Councils of the City of Philadelphia passed an Ordinance for the "construction and management of the works" on March 21, 1835 and also formed the first publicly owned gas company in the United States.<sup>67</sup> Construction of "a small but very efficient plant" commenced on that authority late in 1835. Known as the Market Street works, the original gas works stood on the north side of High Street (now Market Street) at the Schuylkill River.

Looking back in January 1877, the PGW recalled that at its nascent establishment "the manufacture of Gas for illuminating purposes was then almost an experiment."<sup>68</sup> Development and construction of the original works was financed by private capital, but operated under the oversight of twelve trustees, six of whom were elected by the Common Council, the other six by Select Council.<sup>69</sup>

The Market Street works (demolished) consisted of a retort house, measuring 98 feet by 48 feet, with 30 retorts, and a range of structures with space for an office, meter room, laboratory, purifying and lime.<sup>70</sup> In addition to its iron truss roof system, the retort house eventually included a great smokestack that was rendered in the form of a Doric column.<sup>71</sup> The Market Street plant began manufacturing gas on February 8, 1836. "Two days later a string of 46 gas-burning street lamps cast a new brilliance over the cobblestones on Second Street between Vine and South—and families had to learn not to 'blow out the lamps' because they were starting to use 'The Gas,' as it was called, in a total of 19 household lights."<sup>72</sup> This was the inauguration of Merrick's initial recommendation of 300 public lights and 3,700 private lights for Philadelphia.<sup>73</sup>

By 1840, the Market Street's capacity had increased fivefold, manufacturing gas for "789 public and 19,799 private gas burners," which were limited to a small section of the city. From the establishment of the works through the close of the century, the demand for gas service would constantly increase. The ever-increasing consumption of gas led to the construction of the first "two-lift holder" (each 50 feet in diameter and 13 having a capacity of 35,000 cubic feet) in 1845.<sup>74</sup> Not only was the use of gas rising but the city's population was also on an incline with a 29 percent rise between 1840 and 1850.<sup>75</sup>

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<sup>66</sup> Samuel V. Merrick, *Report, Upon an Examination of Some of the Gas Manufactories in Great Britain, France, and Belgium, Under the Resolution Passed by the Select and Common Council of the City of Philadelphia* (Philadelphia: Printed by Order of Councils, 1834).

<sup>67</sup> Castaneda, *Invisible Fuel*, 26–27.

<sup>68</sup> *Forty-Second Annual Report of the Trustees of the Philadelphia Gas Works* (Philadelphia: Henry B. Ashmead, January 1877), 13.

<sup>69</sup> Philadelphia's municipal government then consisted of two Councils, one the Common and the other the Select. The mayor was appointed by the councils as the chief executive officer, and with their approval he appointed a board of commissioners. The mayor and this board carried out the executive business of the city.

<sup>70</sup> *Sixteenth Annual Report* (1851), 13–20.

<sup>71</sup> William Strickland, et alia, *Reports, Specifications and Estimates of Public Work in the United States of America* (London: 1841).

<sup>72</sup> *A Picture Pilgrimage Through the Philadelphia Gas Works* (Philadelphia: The PGW Company, 1936), 1.

<sup>73</sup> Merrick, *Report, Upon an Examination of Some of the Gas Manufactories*.

<sup>74</sup> *A Picture Pilgrimage Through the Philadelphia Gas Works*, 2.

<sup>75</sup> "Total Population of Philadelphia Wards, 1860–1960" in John Daly and Alan Weinberg, *Genealogy of Philadelphia County Subdivisions* (Philadelphia: City of Philadelphia, 1966), 100. The population increase was 58% (258,037 to 408,769).

By the mid-nineteenth century, the manufacture of gas in Philadelphia had increased to “almost 90 miles of street mains and 9000 customers.” The second Chief Engineer of the Gas Works, John C. Cresson (1806–1876) understood the long-term needs of the City of Philadelphia, pressing the Board of Trustees to consider the enlarging the gas works. His plan included a new facility, featuring its own holder “with a capacity of 1,000,000 cubic feet,” which Cresson deemed would be sufficient for a period of four years. “Funds amounting to \$300,000 were appropriated for the project; a considerable amount when compared with the \$583,000 operating budget approved for the existing plant.”<sup>76</sup>

### **The Establishment and Early Construction of the Point Breeze Gas Works, 1851–1854**

In a study made of the Meter House of the Point Breeze Gas Works in 1975, architect Herbert Levy and archaeologist David Orr described the initial development of the subject property as follows:<sup>77</sup>

In 1851, three properties including the *Golden Swan* (a famous Philadelphia tavern) were purchased at Point Breeze adjacent to the Passyunk Ferry on the Schuylkill River, two and one-half miles south of the original works. The area totaled 75 acres and provided a river frontage of about 1500' for the reception of coal barges. Rail service was not implemented at the new plant until 1863.<sup>78</sup> The Board of Trustees recommended that the company sell or lease any excess property to individuals to properly improve with dwellings for the accommodation and supply of workmen and their families.<sup>79</sup> This constituted a perennial and fruitless plea that Cresson made until his retirement.<sup>80</sup>

Other than initially purchasing the subject property, one major challenge was to study various plans for “increasing the number of retorts, with the least diminution of their efficiency.” Experiments proved that “a plan of setting five retorts to a fire was adopted,” which guided the planning of the new works. However, delays in purchasing the subject property required setting up the plan at the Market Street plant, which allowed for additional experimentation before construction of the Point Breeze Gas Works began. After the property was finally purchased, work on the new facility began in 1851.<sup>81</sup> By the close of 1852 the initial construction included a 400-foot wharf that accommodated the largest vessels of the period. Piles to support the gas holder tank and the foundations for the retort house had also been completed. About two miles of the 20" connecting main to the Market Street works had also been laid.<sup>82</sup>

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<sup>76</sup> *Sixteenth Annual Report* (1851), 19–20.

<sup>77</sup> Herbert Levy and David Orr, “Philadelphia Gas Works: Point Breeze Meter House, Historic American Engineering Record,” HAER No. PA-41 (1983), p. 5. NB: All quotations in this nomination from this source will include the original footnotes cited in that text.

<sup>78</sup> Walton Forrestal, “History of the Philadelphia Gas Works: One Hundred Years 1836-1936,” typescript (Philadelphia 1934–1936), 56.

<sup>79</sup> *Eighteenth Annual Report* (1853), 7.

<sup>80</sup> According to Herb Levy, who surveyed the site in 1975, the stench and heavy smoke associated with the manufacture of gas would naturally have discouraged any workers from living adjacent to the works.

<sup>81</sup> The first properties at the site were purchased in June 1851 (Philadelphia Deed Registry Plan 46S6, Plots 8 and 9, CAP).

<sup>82</sup> *Eighteenth Annual Report* (1853), 6, 12

In the engineer's report section of the *Nineteenth Annual Report of the Trustees of the Philadelphia Gas Works*, John C. Cresson reported that the following had been completed in 1853:

At the new works in Passyunk, the principal structures are all roofed in and nearly finished; and as much progress has been made in fitting up the apparatus and its connexions as circumstances allowed.<sup>83</sup>

Despite the status provided regarding completion of the principle structures, a snow storm hit Point Breeze on February 21, 1854, causing a partial collapse of the nearly finished holder.<sup>84</sup> Investigation later showed materials and workmanship to have been of poor quality. Because of the repairs required, the holder was incomplete for two years.<sup>85</sup>

On December 13, 1854 the Point Breeze Gas Works was put into use in the presence of the Select and Common Councils.<sup>86</sup> “At the time of its opening, the newly produced gas was moved to the Market Street holders through the judicious manipulation of valves and exhausters. At about 10 p.m., when the need for sending out gas was low, a valveman at the Market Street works began walking about one and a half miles along the connecting main from Point Breeze, shutting off various commercial feeders. When he returned to the plant, exhausters were started to pull the gas from the new works. At 6 a.m. the exhausters were stopped, and a man equipped with a socket wrench made another trip opening these same feeders, once more making the new main a distribution line.”<sup>87</sup>



An early rendering of the Point Breeze Gas Works, c. 1853, showing the original Retort Houses on left (demolished), Resource No. 2: Purifying House (1853-54) at center, and what appears to be the Meter House appending the Purifying House (demolished). This rendering is not quite accurate, which is likely because the facility was mid-construction when completed. The view also is one of few that shows Passyunk Avenue with a carriage on left and people on horseback on right. Source: The Free Library of Philadelphia.

The first buildings included a Retort House (demolished), a Purifying House—known as Resource No. 1: Purifying House (1853-54), a Meter House (demolished, post-1975), and the holder, which

<sup>83</sup> *Nineteenth Annual Report* (1854), 6, 12.

<sup>84</sup> *Public Ledger* February 22, 1854.

<sup>85</sup> Warren Powell and Thomas B. Tinney, “History of Station A,” unpublished typescript, undated.

<sup>86</sup> *Twentieth Annual Report* (1855), 466–67.

<sup>87</sup> Warren Powell and Thomas B. Tinney, “History of Station A,” unpublished typescript, undated.

was rebuilt after January 1855. One of the significant Gothic Revival features was the quatrefoil. This decorative element was employed in all four of the original structures and was commonly employed in most of the buildings built before the last decade of the nineteenth century.

In the *Twentieth Annual Report* (1855), Cresson described the initial plant as follows:

Our experience shows, that in a manufacture using large quantities of heavy materials, there is much economy in making arrangements that shall require the least possible handling of such materials and that their necessary movements shall be affected by mechanical and not manual power.

Keeping these principals in view, the grounds have been laid out so that the places of storage of coals and other bulky materials shall be adjacent to the points of reception, and also as near the retorts as is consistent with sufficient allowance of storage room....

A space, directly east of the wharves is reserved for the erection of stone sheds, 250'x600', giving room for the storage of over 30,000 tons of coal...

The ultimate plan provides for four distinct retort houses, 55' in width, and of lengths varying to suit the shape of the grounds. The one now in use, is 250' long and 56' high accommodating 48 beds of retorts which may be either of 3 or 5 retorts each, as may from time to time be deemed preferable. Those now set are with three retorts, this number having thus far given the most economical results. This house will therefore admit of either 144 or 240 retorts as one or the other of these modes shall be adopted. The second retort house [erected in 1860] will be of the same length and the third and the fourth each more than twice as long, the capacity of the whole being sufficed for 1008 retorts in beds of three, or 1660 if set five in a bed; being capable of supplying a maximum consumption of 6,000,000 feet a day in one case or 8,000,000 in the other. Large as the quantity seems to us now, there is good reason for supposing that the consumption of the consolidated city will exceed it in the lifetime of some of the present generation. As the work in the retort house has been found to be productive of much discomfort to the workmen in the summer season, unless provision has been made for an ample supply of fresh air and rapid ventilation, these retort houses are planned in such a way as to afford every desirable advantage in these respects. Instead of heavy piers of stone or brick, the front is formed of a light cast iron framework in the form of gothic arches, which allows almost the entire side of the building to be thrown open for air by the movement of rolling lattice blinds in the windows.

The great elevation of the roof, through the ridge of which are carried up separate draught flues from the retort beds, furnished a column of heated up air of sufficient height so as to protect the workmen most completely from the dingy fumes so profusely thrown out in drawing or charging the retorts.

When the gas leaves the retort house to pass through the condensing and purifying apparatus, it is made to travel in a direction towards the gasholder and also, towards the densely built parts of the city where it is chiefly to be consumed: so that the pipes of conveyance may perform the two-fold office of connection, for the works and conduits from the point of production to that of use.

A set of large pneumatic pumps, technically termed an exhausting engine, takes the gas from the washers in such a manner as to remove all pressure beyond that of the atmosphere from the hydraulic main, and forces it through the various resisting portions of the works, without subjecting the contents of the retorts to the compression which has been found so injurious both to the retorts and gas. In order to obtain a greater economy in the use of lime (made by burning oyster shells near the wharf) a double system of purification has been adopted, in which the gas is first made to pass through a series of wet lime cylinders, with contrivances for its very minute sub-division into numerous small jets thus bringing it into most effective contact with the liquid detergent.

It then enters the condensers composed of three collateral ranks of six-inch pipes, there being eighteen pipes eighteen feet long in each rank. From these it passes through dry lime purifiers arranged in the usual manner around a central hydraulic valve. These are all placed in one building 72' long and 52' wide suitably proportioned for their adjustment to each other.

Still further east is the building for the station meters and clerks' office, one hundred feet long by thirty feet in width. A meter of suitable size is to be provided for each section of the factory so as to permit each to be worked independently or in conjunction with the others. The meter now in use is intended for passing at regular work, 500,000 [cubic] feet per day, and can be worked up to twice that quantity if necessary; the inlet being 16" in diameter.

The Meter room will hold four more meters, two of the same size as this, and the others of a size smaller; it being intended to use the two largest now in use at the old works.

The gas holder into which the gas is next to pass, is of telescopic form, 160 feet in diameter, and 90 feet high, holding when full, 1,800,000 cubic feet. It is girded by twelve pentagonal towers, each composed of an iron structure of appropriate design, supported on a stone base, also pentagonal in form. The connecting girders are in the form of cast iron balustrades with open quatrefoil panels...<sup>88</sup>

Aside from perhaps some remnants of the early wharf, the only extant building from the original plant was the Purifying House. This was initially constructed as an L-shaped building of a gray rubble ashlar stone. The building features narrow, vertical windows defined by cut stone sill and cast-iron lancet arch lintels. At the westerly elevation is a stone bell tower that housed a bill

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<sup>88</sup> *Twentieth Annual Report* (1855), 19–20.

marked: Merrick and Sons, 1852. Present in 1974, the bell, cast by the firm of the company's first engineer, was used to call the workmen to charge or draw the retorts<sup>89</sup>

Levy and Orr described the early history of the Point Breeze Gas Works as follows:<sup>90</sup>

The Point Breeze Works went into operation with 72 retorts; each of which held 250 lbs. of bituminous coal and each was charged every four hours. At the end of one year the plant was manufacturing about one third the total production of the Market Street works and in 1855 the completion of the remaining 72 retorts was authorized.<sup>91</sup> In 1857 with 144 retorts in operation, production was greater than that of the Market Street works. This was due in part to an improved retort design invented by Charles M. Cresson, son of the Chief Engineer, who was serving as his father's assistant. These improved retorts had been rigorously tested by the Franklin Institute of Philadelphia.<sup>92</sup> Although the expenditures for the new work did not reach the total appropriation made in 1851, Chief Engineer Cresson was accused of extravagant spending and was forced to defend his actions. In public hearings, these charges were eventually dismissed.

The same year the Point Breeze Gas Works went into operation, coincided with the Consolidation of the City and County of Philadelphia into one large municipal government. This led to a major shift in the management of the larger PGW, and the various companies that manufactured and provided gas across the city.<sup>93</sup> The Select and Common Councils of the City of Philadelphia authorized the formation of the Trustees of the PGW, allowing that body, “on certain terms” to purchase the previously established gas works—the Spring Garden, Moyamensing, West Philadelphia, Frankford, Southwark and Moyamensing, Germantown, Manayunk, and Richmond Companies being under the control of the Trustees.

The first Retort House was completed in 1855, which was an improvement largely consisting of interior installation. Corresponding with that achievement was the construction of the Purifying House, known as Resource No. 2: Purifying House (1855), as well as the apparatus of Resource No. 1b: Purifying House, Condenser House. Resource No. 2: Purifying House (1855) measured 46 feet in width by eighty feet in length. Two sections of the “new coal stores” and the gas holder were also completed.<sup>94</sup>

### **The Early Operation and Improvement of the Point Breeze Gas Works, 1855–1866**

The decision to build the Point Breeze Gas Works and the subsequent improvements of the subject property could not have been more fortuitous given the fact that Philadelphia was experiencing its largest population boom during the 1850s. In fact, by the end of the 1850s, the U.S. Federal Census of 1860 found that there had been a 300 percent rise in population. This apparent population boom and, in turn, increase in gas use had long wielded its head by that time, as the Common and Select

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<sup>89</sup> According to Herb Levy, who surveyed the site in 1975 for HAER, many workers at Point Breeze were convinced beyond a reasonable doubt that the bell was used to summon Swedish monks to prayers and meals

<sup>90</sup> Levy and Orr, “Philadelphia Gas Works,” HAER No. PA-41 (1983), p. 9–10.

<sup>91</sup> Powell and Tinney, “History of Station A,” 10.

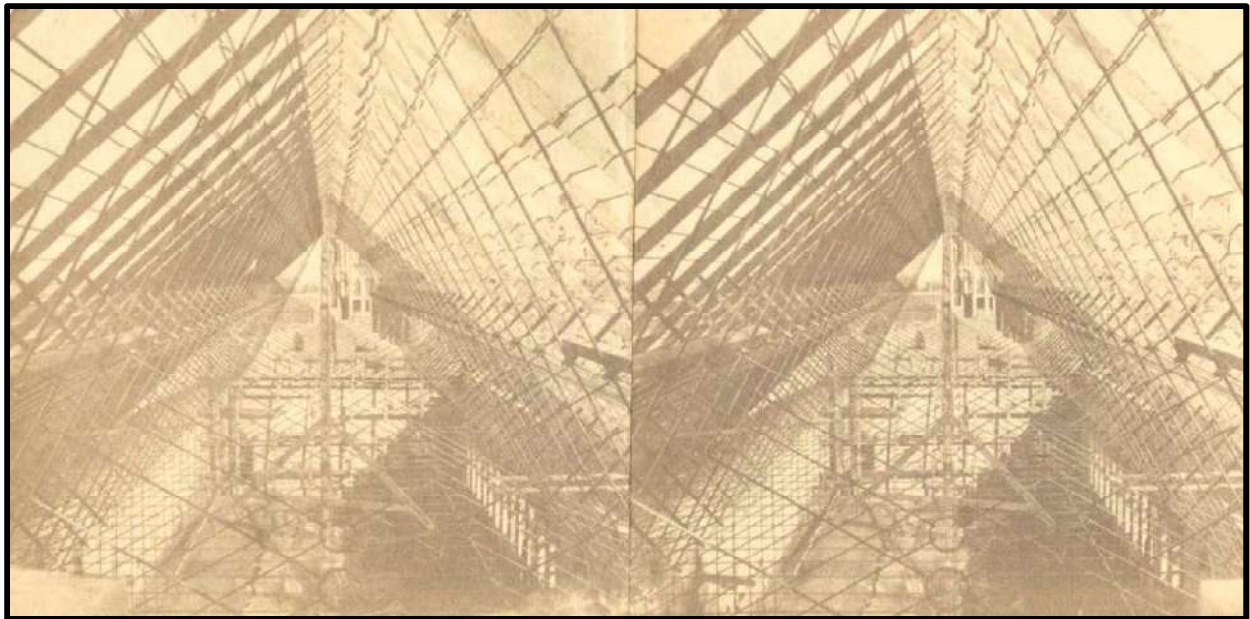
<sup>92</sup> Committee on Science and the Arts, CSA #702, Franklin Institute Archives, manuscript.

<sup>93</sup> *A Picture Pilgrimage Through The Philadelphia Gas Works* (Philadelphia: The PGW Company, 1936), 2.

<sup>94</sup> *Twenty-First Annual Report* (1856), 12–13.

Councils of Philadelphia passed an Ordinance on May 10, 1858, entitled “An Ordinance for the further extension of the PGW.” In 1859, Philadelphia had the largest number of gas customers (32,000) and second highest number of gas lamps (5,000) in the United States.<sup>95</sup> This not only led to the purchase of at least one private company, but also to the enlargement of the Point Breeze Gas Works.

Another ordinance dated March 26, 1859, at which time the PGW powered 4,962 lamps.<sup>96</sup> This led to the construction of a new retort house, the third, in the summer of 1859, measuring 250 feet in length by 57 feet in width at a height of 57 feet. The improvements also included an additional purifying house, measuring 111 feet by 58, which still stands today, known as Resource No. 5: Purifying House (1859); a boiler house 461½ feet in length by 25 in width (unclear which building or building component); and a series of shops, including both black-smith and carpenter space, measuring 350 feet in length by 28 in width (extant), which still stands today and is referred to in this nomination as Resource Nos. 6 and 7: Shops (1859).<sup>97</sup>



Interior view of the roof structure of the Point Breeze Gas Works. These photographs were taken by Charles Massey Cresson c. 1859. Source: The Library Company of Philadelphia.

The buildings were constructed of stone with iron and slate roofs. These buildings were constructed under the supervision of Dr. Charles M. Cresson, the first assistant engineer of the works. He made “all the architectural plans and drawings, with but very little additional expense to the trust,” his labors averaging 14 to 16 hours per day.<sup>98</sup> Additional improvements occurred the next year after a hurricane almost destroyed the new retort house—it was reconstructed. It also appears that by this time the coal shed was completed, ruins of the north wall of which survive to-

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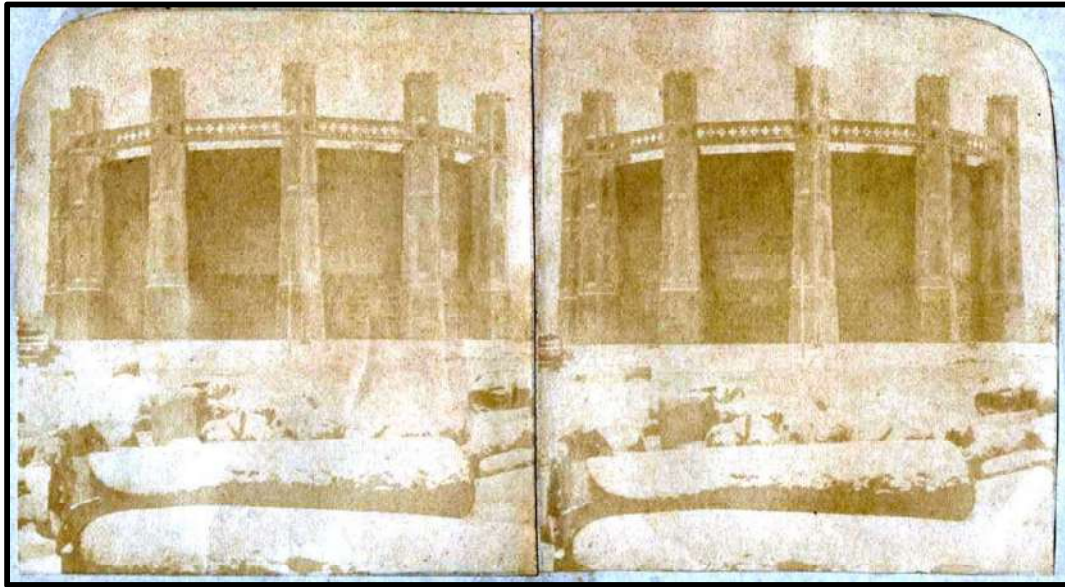
<sup>95</sup> Castaneda, *Invisible Fuel*, 35. Castaneda cites the *American Gas-Light Journal* 1, no. 1 (1 July 1859): 2–3. Adding up all the number of customers for New York City and Harlem (which Castaneda doesn’t do) produces a total of 25,700 customers and 10,376 lamps. Brooklyn (then a separate borough) had 10,000 customers and 2,600 lamps.

<sup>96</sup> *Twenty-Fifth Annual Report* (1860), 11.

<sup>97</sup> *Twenty-Fifth Annual Report* (1860), 12.

<sup>98</sup> *Twenty-Fifth Annual Report* (1860), 4–5.

date and are referred to in this nomination as Resource No. 3: North Wall Ruins of Coal House (1855).<sup>99</sup>



View showing the gas holder at the Point Breeze Gas Works at Passyunk and Schuylkill avenues. The gas works, the second Philadelphia gas producing facility, was built in the Gothic style between 1851 and 1854 after the designs of Philadelphia engineer John C. Cresson. This stereoview was taken 1859 by Charles Massey Cresson. Source: The Library Company of Philadelphia.

Built of a brown sandstone rather than the earlier gray granite, the buildings completed in 1859 were stylistically akin to the original structures. Of the Gothic Revival style, with similar iron roof trusses covered with slate, these buildings and additions continued the plan of the initial works.<sup>100</sup> The 1859 retort house and purifying house are no longer extant. However, the other buildings survive. The Boiler House, identified in this nomination as Resource No. 1c, was an addition to Resource Nos. 1: Purifying House. The Shops are identified as Resource Nos. 6 & 7: Shops (1859).

Levy and Orr described the early history of the Point Breeze Gas Works as follows:<sup>101</sup>

In 1861, J.C. Cresson reported on several schemes for the manufacture of gas. His report commented, for example, on: “the so-called hydro-carbon gas, made from steam in combination with various hydro-carbonaceous materials..., the gas from asphaltum or other highly bituminous substances..., and the pure hydrogen light with platinum wick.”<sup>102</sup> He added that the above plans, however, did not “bear upon their face the evidence of absurdity, or impracticability, such as one attaches to the famous project of electric lite [sic], so much agitated a year or two back.”<sup>103</sup>

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<sup>99</sup> *Twenty-Sixth Annual Report of the Trustees of The Philadelphia Gas Works to the Select and Common Councils of the City of Philadelphia* (Philadelphia: Crissy & Markley, January 1861), 4.

<sup>100</sup> Powell and Tinney, 10.

<sup>101</sup> Levy and Orr, “Philadelphia Gas Works,” HAER No. PA-41 (1983), p. 10.

<sup>102</sup> Forrestal, “History of the Philadelphia Gas Works,” 53.

<sup>103</sup> Forrestal, “History of the Philadelphia Gas Works,” 53.



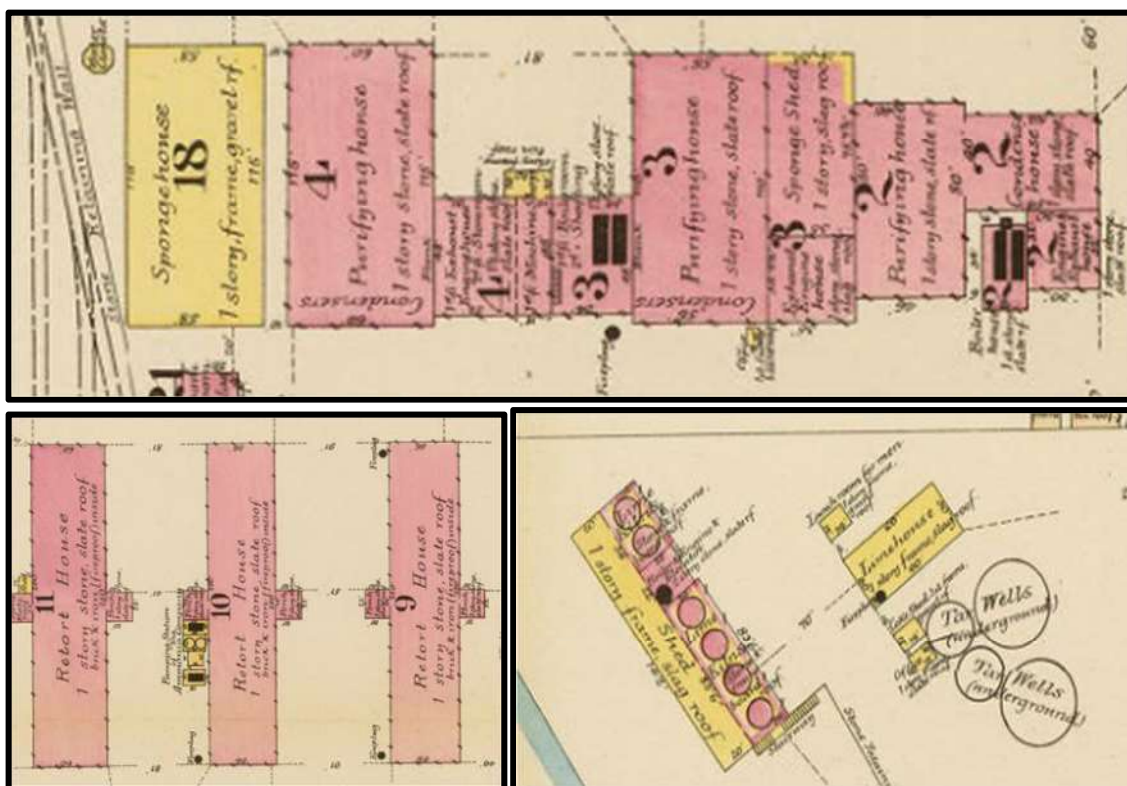
1862 Smedley, Atlas of the City of Philadelphia. Source: Greater Philadelphia GeoHistory Network.

In 1865 improvements to the Point Breeze Gas Works continued, at which time the subject property was referred to as the Twenty-Sixth Ward Works. The “Perpetual Lime Kiln,” known as or associated with the resource in this report described as Resource No. 4: The Wharf. Resource No. 4b: Kilns (1855-88) was enlarged that year for the “calcinating of shells” currently within the Wharf section of the subject property behind vegetation. Lime kilns were used “for the purpose of burning the lime required in the manufacture of gas.” The kilns were near the waterfront, as the limestone was heavy, often arriving “as ballast from Cork,” rather than from American sources.<sup>104</sup> This improvement was associated with the nearby extension of the railroad (concealed/demolished), coal storage (specific structure unclear), hydraulic hoister and tower (for facilitating the storage of coal/demolished), and a new tar well (concealed/demolished). The foundation for the third Retort House was completed.<sup>105</sup> The third Retort House was completed in 1866, measuring 250 feet in length, 60 feet in width, and 52 feet in height. The structure was built to house 240 retorts, “five retorts to a bench.” The final Purifying House of the block of building eventually known as Church Row (Figures 1 & 2) was completed in 1866 as well. The building was 116 feet long and 60 feet wide. Attached was a new “exhaust and engine-house,” which was 32 feet by 48 feet.<sup>106</sup>

<sup>104</sup> *The Engineering and Mining Journal* (10 November 1877), 358.

<sup>105</sup> *Thirty-First Annual Report of the Trustees of the Philadelphia Gas Works* (Philadelphia: January 1866), 12.

<sup>106</sup> *Thirty-Second Annual Report of the Trustees of the Philadelphia Gas Works* (Philadelphia: January 1867), 21.



Hexamer General Surveys, Volume 22, the PGW (25<sup>th</sup> Ward Works), 1887. Source: Greater Philadelphia GeoHistory Network.

Known as Church Row (Figures 1 & 2) for its Gothic Revival architecture, the extant resources identified in this nomination as Resources Nos. 1, 2, and 5, once included a distinctive fourth building. This fourth building (demolished) was erected as a Purifying House in 1866, measuring 116 feet in length, 60 feet in width. The Purifying House originally contained two 20 feet square purifiers.



Hexamer General Surveys, Volume 22, the PGW (25<sup>th</sup> Ward Works), 1887.  
Source: Greater Philadelphia GeoHistory Network.

### **The Enlargement and Evolution of the Philadelphia Gas Works, 1866–1897**

By the 1870s, gas consumption had increased so dramatically that the Point Breeze Gas Works was insufficient to serve the entire city. As a result, the City of Philadelphia acquired and built the Richmond plant, known historically as the 25th Ward Works and later as Plant B of the PGW. Located on the Delaware River at Tioga Street, this facility was first constructed in 1877 for the manufacture of coal gas. By 1887 the Richmond plant employed 547. This facility hosted several building campaigns that produced an impressive complex of Victorian-era buildings, almost none of which exist today.<sup>107</sup> In 1893, the Point Breeze Plant had a maximum daily output capacity of 6 million cubic ft, slightly behind the 6.6 million cubic ft. capacity of the 23<sup>th</sup> and Market Street Plant

It is likely no surprise to learn that Philadelphia and her gas consumption grew far faster than the PGW could improve its manufacturing facilities. This was so much the case that in the late 1880s there were gas shortages. One solution that emerged in 1888 was the formation of the Philadelphia Gas Improvement Company, a private company that supplemented the manufacture of water gas. PGI was under contract to supply the city with this product on demand, occupying a portion of the Richmond plant. In 1890, PGI was leased to the United Gas Improvement Company, which would later manager and operate the PGW in its entirety.

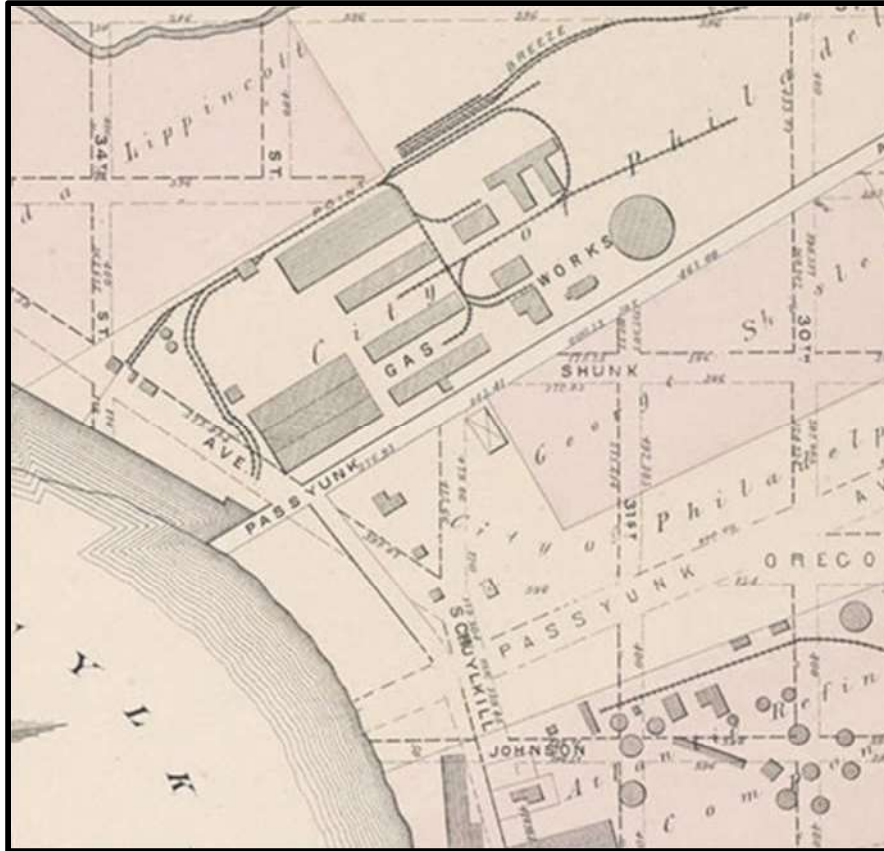
One chronic problem the PGW suffered from almost from the beginning was corruption. It stemmed from a provision in 1841 that allowed the trustees of the gas works not to turn over any profits to the City as long as the company still had loans to be paid off. People soon realize how profitable this provision could be and the political forces that controlled Philadelphia's City Councils who appointed the trustees quickly acted to get named as trustees. By the post-Civil War period these trustees were all politically connected and welded immense political power in the City – being known as the “Gas Ring” lead by “King” James McManes. The “Gas Ring” had a crew of poll workers and ward leaders who insured their candidates would get elected and the profits from the gas trust to keep the machinery of graft and persuasion well oiled. It was not until 1885 when the last of the loans were paid off that reformed minded were able to establish a City Charter reform through the Committee of One Hundred that eliminated the trustees, put PGW under the control of the Department of Public Works, and placed all the employees within the Civil Service system.<sup>108</sup>

With the introduction of electric illumination, and the costs of manufacturing gas, the industry faced serious threats to its survival in the late nineteenth century. In fact, it was the introduction and improvement of the Welsbach Mantle that saved the industry. Carl Auer von Welsbach, a chemist and inventor, devised and patented the first process in 1887, which was certainly an advancement in the mechanism used to operate gas street lights. However, it wasn't until the introduction of his perfected process in 1891 that the invention became instrumental in prolonging the use of gas illumination for street lighting.

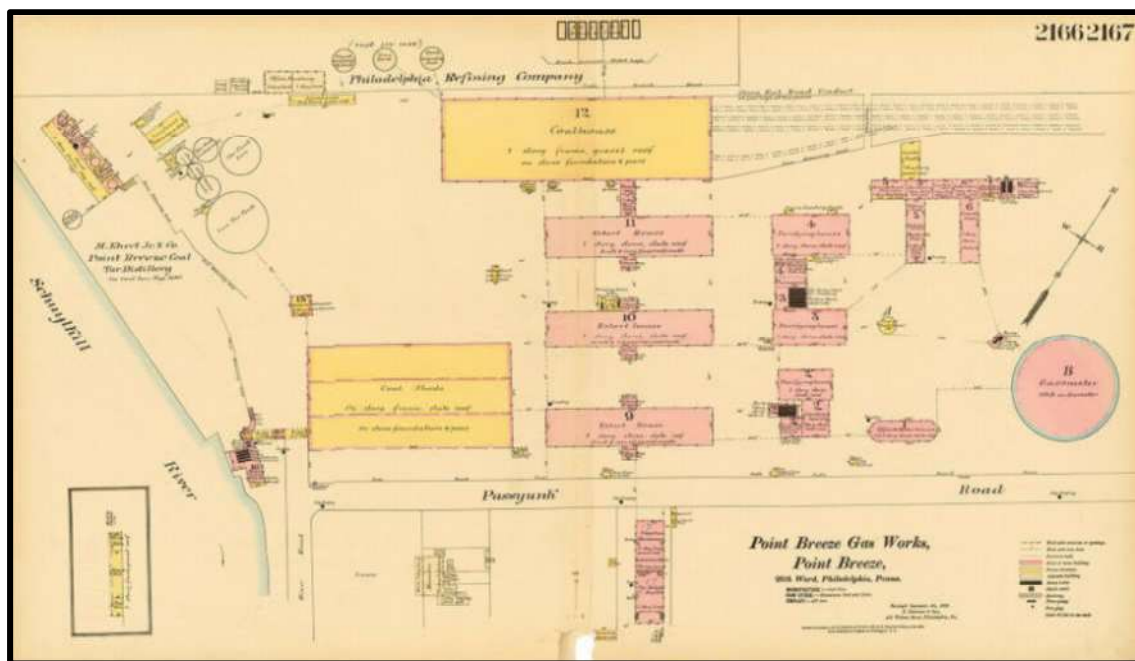
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<sup>107</sup> <https://www.philageohistory.org/rdic-images/view-image.cfm/HGSv22.2153-2154>

<sup>108</sup> Russel F. Weigley, ed, *Philadelphia: A 300-Year History* (New York: W.W. Norton & Company, 1982), 438–39; James, *The City Government of Philadelphia*, 101–04.



Hopkins Atlas of Philadelphia, 1st, 26th and 30th Wards, 1876: Volume 5.  
Source: The Free Library of Philadelphia.



Hexamer General Surveys, Volume 22, the PGW (25<sup>th</sup> Ward Works), 1887  
Source: Greater Philadelphia GeoHistory Network.



“Sta. A. Showing Relief Holder, Purifying House and end of Pusher, Valve, and Meter House, Auth. 51. Also entrance gates and gate house. Auth. 121. 1899–1900. Board Fence, Auth. 118, 1900.” Source: The PGW Photograph Collection, CAP.

### **The Semi-Privatization of the Philadelphia Gas Works and the First Lease of the United Gas Improvement Company, 1897–1972**

While the words “gas” and “U.G.I.” were synonymous in twentieth century Philadelphia, the history of the United Gas Improvement Company (U.G.I.) in the Quaker City began with the leasing the PGW on December 1, 1897.<sup>109</sup> The *Philadelphia Gas Works News* described the first lease as follows:

The provisions of the first lease of the City-owned gas works to U.G.I. were inflexible. They called for a sale price of gas to consumer of \$1.00 per thousand cubic feet, no more, no less, regardless of condition or quantity. The provision for dollar gas became as popular a slogan in the public mind as “5-cent fare.” U.G.I. received for its operating and management costs a decreasing portion of the customers’ dollar, which portion, after 1917, remained fixed at 75 cents, the City receiving the difference of 25 cents as a rental. U.G.I. also agreed to spend at least \$4,000,000 within three years and not less than \$15,000,000 for betterments in the period of the lease, thirty years, in addition to spending such other sums as might be necessary to keep the work in first-class condition. Free gas was provided for street lights and public buildings and U.G.I. was to install 300 additional street lamps annually as well as to maintain and operate all street lamps. The lease could be terminated, by the City only, in 1908, and if not so terminated was to continue the full thirty-year period until 1927.<sup>110</sup>

Following this epoch in the history of the gas works, the Point Breeze Gas Works underwent improvements that represent this great shift from a city-managed and operated to a privatized

<sup>109</sup> “Philadelphia’s Gas Works: One Hundred Years of Public Service,” *The Philadelphia Gas Works News* (Philadelphia: 1936), 1–4.

<sup>110</sup> “Philadelphia’s Gas Works: One Hundred Years of Public Service,” 11.

situation for the gas works. The improvements made at the inauguration of U.G.I.'s custodial tenure was related to both the manufacture of gas and the internal workings of the corporation—ranging from new plants to a “coke office.” Many of the buildings constructed during this time were designed in a similar style. The improvements related to manufacturing upgraded the Point Breeze Gas Works to handle production with both bituminous and anthracite coal.<sup>111</sup>

Much of the work was completed under Authorization 51 with construction taking place between 1899 and 1900.<sup>112</sup> In 1898, contractors George F. Payne & Co. prepared bids for the “largest retort house in the city,” measuring 90’ by 300’.<sup>113</sup> Soon after this announcement, a revised version of the retort house was submitted to the Bureau of Building Inspection. The “iron retort house, 79.9’ by 284’” was designed by Wilson & Brothers, architects, with a projected cost of \$75,000.<sup>114</sup> Other buildings were also constructed that year: “boiler and engine room, 220 x 55 ft.;;” “a condenser building, 40 x 105 ft.;;” “a purifier building, 86 x 180 ft.;;” “a generator house, 100 x 184 ft.; and “a meter house, 70 x 223 ft.” While it appears that Wilson Brothers designed at least one if not more than one of the buildings constructed in 1898, construction was undertaken by the Berlin Iron Bridge Company of East Berlin, Connecticut.<sup>115</sup> Later that year an addition was made to the coal shed, measuring 213’ in length by 125’ wide. This was the ever-improving terminal for the unloading coal of which the original stone wall that comprises Resource No. 3. The work was awarded to Contractor Lewis Havens.<sup>116</sup>

In April 1899, *The Philadelphia Inquirer* announced that U.G.I. had commissioned the construction of a “one-story and basement coke office, 19x27 feet, and entrance gates” at the subject property.<sup>117</sup> The funding for this project was provided by Authorization 121–132, and the office and gates were completed by October 1899.<sup>118</sup> Known as Resource No. 9a, the U.G.I. Office is one of several buildings constructed by U.G.I. at that time in a similar style. One such building, also completed in 1899, was the Valve House at Station B, Tioga Street on the Delaware River.

Also, under Authorization 121–132, the Wharf was entirely revamped with an improved retaining wall, driveway, etc. Many of these improvements were near completion in October 1899.<sup>119</sup> The retaining wall component of 121–132 was involved the reconstruction of an earlier wall, which was completed in November 1899.<sup>120</sup> Emulating the earlier Gothic Revival style of the Point Breeze Gas Works, the stone wall was supported by massive stone buttresses.

Made in the infancy of U.G.I.'s lease, these early improvements were the beginning a much larger increase in the manufacturing capability of the PGW. The Point Breeze Gas Works and the Richmond plant were the two major manufacturing points, known at this time as Station A and

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<sup>111</sup> *The Times* (Philadelphia), 19 June 1895, 2; “U.G.I.’s Latest Move,” *Philadelphia Inquirer*, 18 August 1898, 3.

<sup>112</sup> “Sta. A. Showing Relief Holder, Purifying House and end of Pusher, Valve, and Meter House, Auth. 51. Also entrance gates and gate house. Auth. 121. 1899–1900. Board Fence, Auth. 118, 1900.”

<sup>113</sup> “Latest News In Real Estate,” *Philadelphia Inquirer*, 24 May 1898, 11.

<sup>114</sup> *Philadelphia Inquirer*, 7 June 1898, 7.

<sup>115</sup> *Engineering News* (23 June 1898): 216; *American Architect and Building News*, 61 (1898): 1.

<sup>116</sup> “Salt Company’s Plant,” *Philadelphia Inquirer*, 14 November 1898, 11.

<sup>117</sup> *Philadelphia Inquirer*, 24 April 1899, 13.

<sup>118</sup> The PGW Photograph Collection, CAP.

<sup>119</sup> The PGW Photograph Collection, CAP.

<sup>120</sup> The PGW Photograph Collection, CAP.

Station B. Between 1897 and 1936, improvements led to a production capacity of 48.6 million cubic feet of gas at the subject property and 51.3 million cubic feet at Richmond.

In 1902, just a few years after U.G.I.'s lease began, the phenomenon of gas for cooking made its debut. This was especially timely during a coal strike at the time, which led to sales of more than 500 gas ranges per day for a period. Roughly 300 gas ranges were connected to the PGW each day.

In 1913 an Acid Recovery Plant was constructed on the site.<sup>121</sup>



Photo No. 3828: "Sta. A. New Locker and Wash Room looking north west. Auth. 591," 6 July 1914. Source: PGW Photograph Collection, CAP.

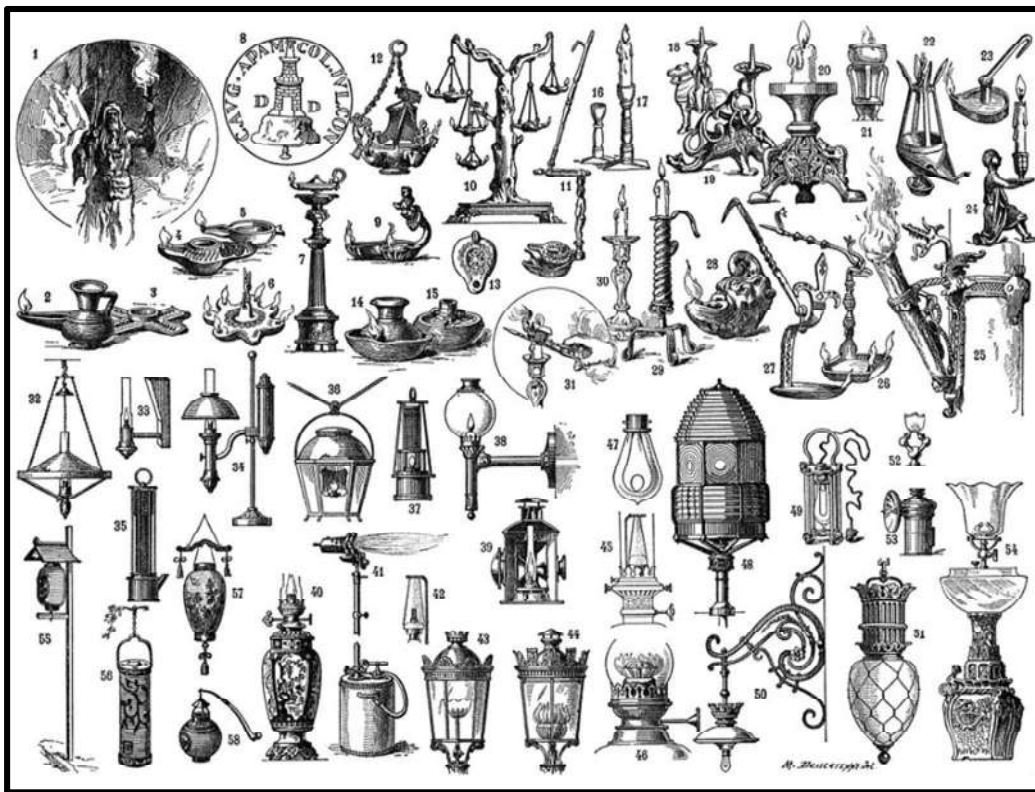
Authorization 591 allowed U.G.I. to build a new Locker and Wash House in 1914. Since demolished, the building stood just inside the front gates on the west side of the street.<sup>122</sup> Under the same authorization, Resource No. 9b was built as a large one-story open garage building of load-bearing brick masonry construction. Facing east upon the entrance gates, Resource 16's primary elevation featured a fenestration of sixteen windows, articulated with surrounds that emulated the architectural style of Resource No. 9a.

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<sup>121</sup> Photo No. 3672: Sta. A. Showing Progress on Acid Recovery Plant, 25 August 1913, PGW Photograph Collection, CAP.

<sup>122</sup> Photo No. 3818: "Sta. A. New Locker and Wash House...," 29 June 1914, PGW Photograph Collection, CAP.

## Appendix B: Historic Context



Maurice Dessertenne. "Eclairage" in *Nouveau Larousse Illustré*, tome quatrième E-G, c. 1900. Lighting through the ages. *Antiquity*: 1. Prehistory. - 2-3. Egyptian - 4-5. Assyrian. 6-13. Roman. - 14-15. Carthaginian. - 16-17. Merovingian period. - *Middle age and modern times*: 19-20. 11th century. - 21. 12th century. - 22. 13th century. - 23-24. 14th century. - 25-26-27. 15th century. - 28. 16th century. - 29. 17th century. - 30-31. 18th century. - *Contemporary period*: 32. (original) Argand lamp. - 33-34. (Antoine Quinquet's improved) Argand lamp.

### The Early History of Gas Illumination

Gaseous fuel was important for lighting, and later cooking and heating, throughout much of the nineteenth century, and the first half of the twentieth century. This began with the advent of analytical and pneumatic chemistry, which evolved during the eighteenth century, largely in Great Britain. Scientific progress of this period led to gasification, the process that was first used to produce the energy required for gas illumination. To put it simply, this involves heating coal in enclosed ovens to produce gas.



Interlocking Gas Holder Triplets at King's Crossing in London, which were built between 1860 and 1880. Source: <https://gasholderslondon.co.uk/heritage>.

**London, Great Britain.** Following the successful manufacture of fuel gas during the last years of the eighteenth century in both England and France, the first major city in the world to use gas illumination in the larger public sphere was London. Beginning as early as 1807, the Gas Light and Coke Company, also known as the Chartered Gas Light and Coke Company and the Westminster Gas Light and Coke Company, was founded by Frederick Albert Winsor, originally from Germany, and officially incorporated by Royal Charter on April 30, 1812.<sup>123</sup> While public street lamps and/or lighting requirements date to fifteenth century London, the use of gaslighting changed the way humanity would see the world forever.<sup>124</sup>



An overview of London's Gasholder No. 8, which was built as part of the Pancras Gasworks, the largest gasworks in the world at the time in the city. Source: <https://www.mnn.com/lifestyle/arts-culture/blogs/historic-london-gasometer-reborn-public-green-space>.

Naturally, other cities in Great Britain and Europe follow this advancement in technology and infrastructure; the establishment of works; and the installation of lights in the public streets. Because of these early advancements in world history and their national commitment to heritage

<sup>123</sup> Charter of incorporation granted to the Gas, Light and Coke Company by King George III, 30 April 1812.

<sup>124</sup> *Domestic Life In England, From The Earliest Period to the Present Time* (London: Thomas Tegg and Son, 1835), 157.

preservation, Historic England has designated hundreds, if not thousands of resources related to gas and public illumination that represent this progress in the nineteenth century. Other cities in Europe have taken their stewardship of historic resources well beyond ancient times to preserve industrial resources of the Victorian-era.



Gasometers, built between 1896 and 1899, in Vienna, Austria, shown after being converted to modern commercial and residential space. Source: Wikipedia.



Top left: The Davis Street Works (Demolished), Baltimore. Source: Google Books. Top right: Equitable Gas Works, 1401 Severn Street, Baltimore, Maryland. Source: Maryland Historic Trust. Bottom: Chesapeake Gas Works Company, built 1885, at 1415 Bayard Street, Baltimore. Source: Wikipedia.

**Baltimore, Maryland.** In the United States, the Gas-Light Company of Baltimore, known today as Baltimore Gas and Electric, was the first major gas works to be established. Their charter was issued by the Legislature of Maryland through an Act passed on February 5, 1817, though the company would not be in operation until about 1820. The Davis Street Works was one of the earliest such facilities in America, standing at the corner of North (now Guildford Avenue) and Saratoga Streets, where a system using “tar gas was employed.”<sup>125</sup> This method “totally failed, both as a source of profit to the manufacturers, and convenience to the consumers,” and once tar gas was abandoned, a new method using coal was adopted in 1822.



Left: 1864 Baltimore Atlas. Source: Historic Map Works. Right: The northwest corner of Guildford Avenue and E. Saratoga Street in 2018—a parking lot. Source: Google.

The gas works was recalibrated by an English engineer, and the company finally paid its first dividends in 1826. While it took several years, as well as the ability to employ meters, the method using coal was ultimately successful. The company built its fifth gasometer in 1847 at the Davis Street Works. As the Baltimore Company furnished gas illumination for 3,000 private and 100 public lamps using bituminous coal by the 1850s, they would eventually require a larger facility, and over time the earliest buildings in the city related to public illumination by gas were lost. However, other resources, such as the Equitable Gas Works, built 1882, at 1401 Severn Street; and the Office and the Valve House of the Chesapeake Gas Works Company, built 1885, at 1415 Bayard Street.

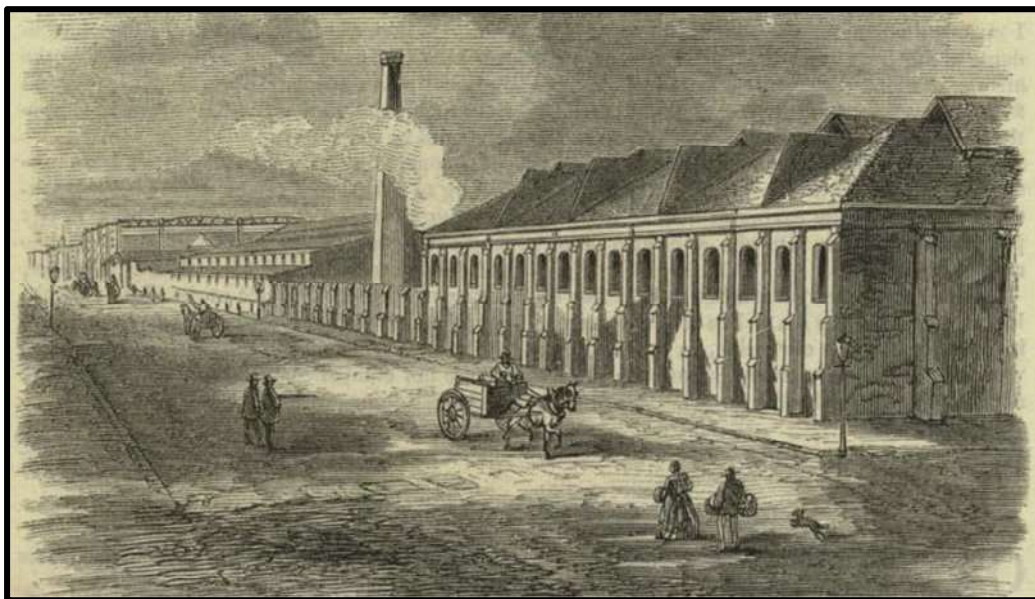


Left: The original location of the Boston Gas Light Company at Commercial and Hull Streets, as per the 1867 Boston Atlas. Source: Historic Map Works. Right: A view of the same place in 2018, showing that nothing of the original

<sup>125</sup> John Thomas Scharf, *History of Baltimore City and County, from the Earliest Period to the Present* (Philadelphia, L.H. Everts, 1881)

works survives. Note the alcove and retaining wall, outlining the location of the largest gas holder, which is now a parking lot. Source: Google.

**Boston.** Incorporated in 1822, the Boston Gas Light Company purchased land for their first gas works in 1828 at the North End of Boston. By 1867, the company occupied all of the property touching the juncture of Commercial and Hull Streets, as shown on p. 79.<sup>126</sup> No buildings from this period survive, though the said retaining wall may be an early feature of the infrastructure.



The Manhattan Gas-Works (Demolished), c. 1862. The company occupied the entire block between E. 15 and 16 Streets, Avenue C, and the East River. Source: NYPL Digital Collections.

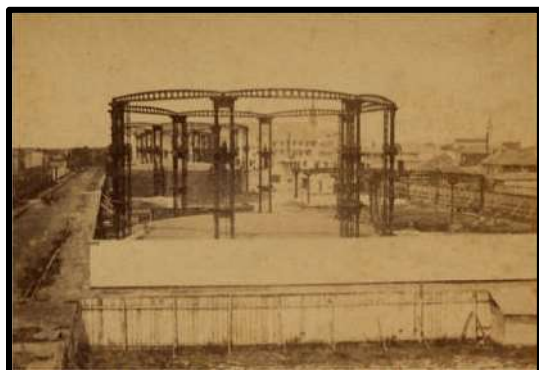
**New York City.** Chartered by the New York Legislature in 1823, the New York Gas Company was originally founded to serve the entire island of Manhattan below Grand Sullivan, and Canal Streets. The company's original plant was in Chelsea, occupying the entire block between E. 22<sup>nd</sup> and 23<sup>rd</sup> Streets, First Avenue, and Avenue A. This facility has long since been demolished. Being the first manufactured gas company in New York, various forms of resin-rich wood and wood resin ("rosen") were used until 1849, when coal-gas generally took over. By 1861, the Manhattan Gas Light Company, with its two gas plants, was ranked at fourth in gas production in the entire world, lagging only behind the Paris Gas Co. (no. 1) and two of the gas companies in London. Before its consolidation, beginning with the formation of the Consolidated Gas Company (Con Gas) of New York City, in 1883, Manhattan Island alone had plants operated by thirteen separate gas companies. Across the East River, the Boroughs of Kings and Queens and the then-City of Brooklyn were the location of another gas companies, some with multiple gas works. Though Brooklyn was an early and thriving city, the boroughs of Kings and Queens became bedroom communities for work on Manhattan as well as their own numerous factories, especially along Newtown Creek. All this was in place by the Centennial year and many gas plants resulted. Consolidation came to the Kings and Queens with the 1895 organization of the Brooklyn Union Gas Company.

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<sup>126</sup> Allen W. Hatheway and Thomas B. Speight, *Manufactured Gas Plant Remediation*, 1.4.

**Other Early Gas Companies and Associated Gas Works.** Representing the foundational period and the development of public illumination through gas lighting and manufacture, the following is a list of cities and the associated date of incorporation for their gas companies (places with known historic resources dating to the 1835–1852 period are in bold):

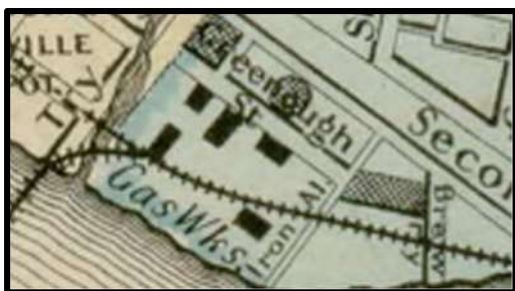
1833     **Evansville, Indiana**



The former site of the gas works at New Orleans, Louisiana. Source: Library of Congress Digital Collections.

1835     **New Orleans, Louisiana**

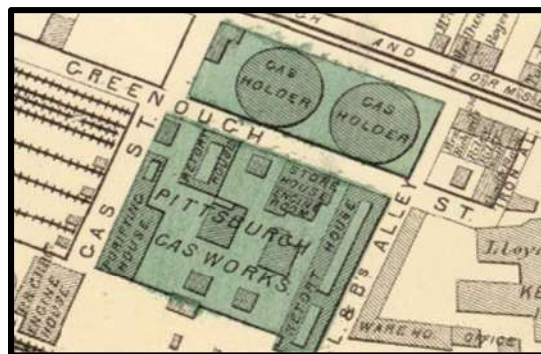
1836     **Monroe, Michigan**  
**Philadelphia, Pennsylvania**



Cities of Pittsburgh and Allegheny, 1855.  
Source: [https://www.historicpittsburgh.org/islandora/object/pitt%3ADARMAP0089/from\\_search/-42\\_](https://www.historicpittsburgh.org/islandora/object/pitt%3ADARMAP0089/from_search/-42_)

1836     **Pittsburgh, Pennsylvania**

The original gas works at Greenough and Iron Alley, now the site of the Allegheny County Jail, no longer contains any above-ground buildings and/or structures, as shown in the illustrations.



Center: 1872 Pittsburgh Atlas. Source: [https://www.historicpittsburgh.org/islandora/object/pitt%3A1872p029/from\\_search/-43](https://www.historicpittsburgh.org/islandora/object/pitt%3A1872p029/from_search/-43)



The same location today as compared to the 1855 Atlas. Source: Google.

1838     **Louisville, Kentucky**

1839     **St. Louis, Missouri**

1841     **Cincinnati, Ohio**

1845     **Albany, New York**



The Charlotte Street Gas Works in Charleston, South Carolina was built c. 1855, and survives as a landmarked site. Source:

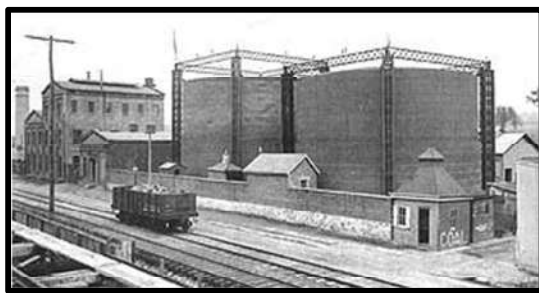
<https://charleston.pastperfectonline.com/archive/48FA124E-56F2-462B-8EC8-970307323416>

- 1846 Charleston, South Carolina  
Cleveland, Ohio  
Newark, New Jersey
- 1847 Fall River, Massachusetts  
Milwaukee, Wisconsin  
New Haven, Connecticut  
Paterson, New Jersey  
Trenton, New Jersey



Buffalo Gas Light Company Works, built 1859, is preserved in Buffalo, New York as part of a corporate headquarters. Source: Wikipedia.

- 1848 Buffalo, New York
- 1848 Dayton, Ohio  
Providence, Rhode Island



Reading Gas Light Company's Works at Canal and South Sixth Street, c. 1905. While some late nineteenth century buildings appear to be extant at the site, there are no buildings and/or structures that date to the foundational period of the company. Source:

<http://www.berkshistory.org/multimedia/articles/the-gas-industry-and-its-development-in-reading/>

- 1848 Reading, Pennsylvania

Originally erected at 5<sup>th</sup> and Canal in 1849, a site which maintains late nineteenth century industrial buildings to-date. In the 1860–70s the gas works was extended with a site at Rose and Elm Streets, which does not appear to be extant. The company's first office was at 28 N. 5<sup>th</sup> Street and another building was constructed in 1867 at 519 Court Street.

- 1848 Springfield, Massachusetts  
Syracuse, New York  
Troy, New York



Gas Works, Maiden Street near College, Washington, PA. Source: Map #80 – Map of Washington County, Pennsylvania, 1861. Source: PHMC.

- 1848 Washington, Pennsylvania

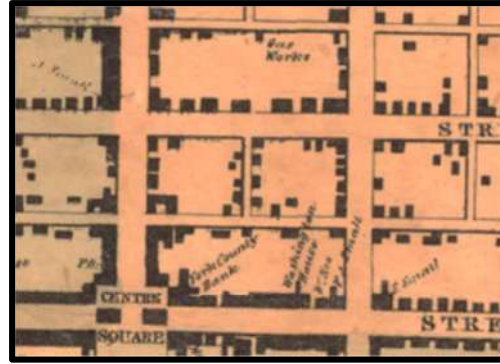


The site of the former Gas Works, Maiden Street near College, Washington, PA, where no buildings appear to survive from the foundational period. Source: Google.

- 1848 Zanesville, Ohio
- 1849 Chicago, Illinois  
Detroit, Michigan  
Great Falls, New Hampshire  
Hartford, Connecticut

1849 Lancaster, Pennsylvania

The Lancaster City Gas Company was incorporated in 1849 and its first gas works were erected soon after in the southwest part of the city near Hoffman's Run. The site appears to have been at the modern juncture of Conestoga, Union and Filbert Streets, where most of the historic buildings have been lost, two late nineteenth century sheds remain.



Showing the original location of the York Gas Light Company at 30–44 Gas Avenue (formerly Gas Alley) within the context of Map #44 – Map of York County, Pennsylvania, 1860. Source: PHMC.

1849 Lawrence, Massachusetts



The Office of the Lowell Gas Light Company at 22 Shattuck Street, Lowell, Massachusetts. Source: Google.

1849 Lowell, Massachusetts

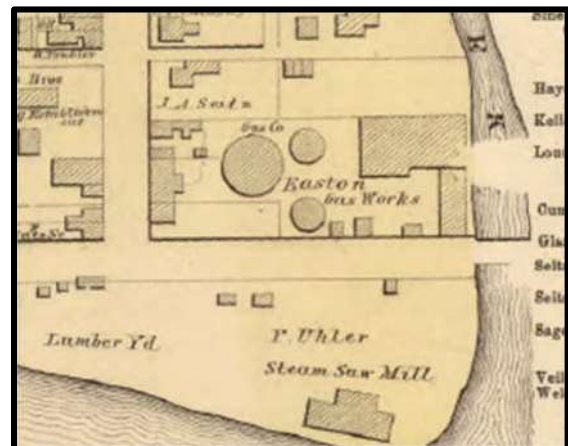
Incorporated in 1849, the earliest known building of the Lowell Gas Light Company is the office building, dating to 1859, at 22 Shattuck Street.

1849 Portland, Maine  
Savannah, Georgia  
Utica, New York  
Worcester, Massachusetts

1849 York, Pennsylvania

Established in 1849, the York Gas Company's original gas works was located 30–44 East Gas Avenue, one-half block from Philadelphia Street, which is now the site of a parking lot. The later gas works was built in 1885 and has been preserved as an office building for Barton Associates.<sup>127</sup>

1850 Columbus, Ohio



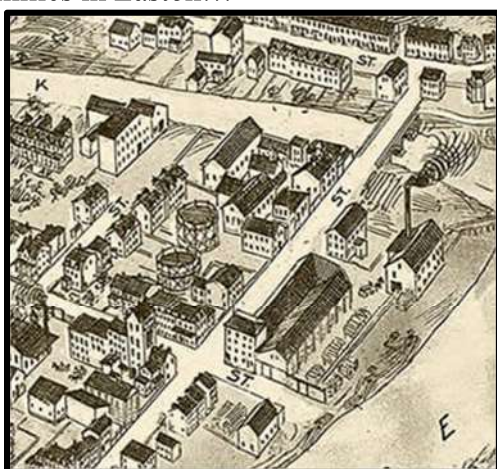
Showing the early configuration of the Easton Gas Works at Front and Bushkill Streets in this 1872 Easton Atlas, Northampton County, PA. Source: Historic Map Works.

1850 Easton, Pennsylvania

The following is a description of the founding of the Easton Gas Works:

<sup>127</sup> <https://yorkblog.com/yorkspast/barton-assoc/>

“Easton also possesses an excellent set of gas works, the buildings of which are situated near the corner of Bushkill and Front Streets; the company was incorporated March 14<sup>th</sup>, 1850, with a capital of \$40,000, and the privilege of increasing to 100,000. The works were commenced in June, 1851, and were completed six months after, with four miles of pipe, besides service pipe for 200 families; the works have increased since that time, and now supply the majority of families in Easton...”<sup>128</sup>

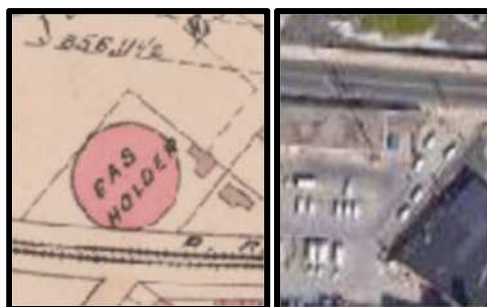


Top: This 1900 Easton Atlas shows that the only early building on the site is a small row house that was repurposed for use in the gas works. Source: Ted’s Vintage Maps. Bottom: the Front Street elevation of the Easton Gas Works, showing the early row house on the far right, which was repurposed over the years as part of the facility. Source: Google.

1850 Nashville, Tennessee  
Pawtucket, Rhode Island  
Salem, Massachusetts  
Wheeling, Virginia (West Virginia)

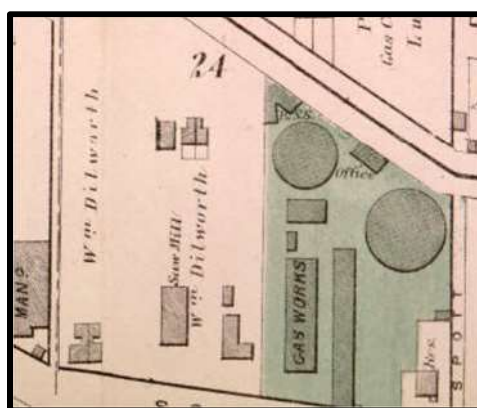
Williamsburg, New York  
Yreka, California

1851 Alexandria, Virginia  
Augusta, Georgia  
Bridgeport, Connecticut  
Charlestown, Massachusetts  
Chelsea, Massachusetts  
Chillicothe, Ohio  
Frankfort, Kentucky  
Frederick City, Maryland



Left: 1895 Philadelphia Atlas of the Germantown Gas Works. Source: Greater Philadelphia GeoHistory Network. Right: The site of the former Germantown Gas Works on Belfield Avenue near Wister Street. Source: Google.

1851 Germantown, Pennsylvania  
1851 Madison, Indiana  
Portsmouth, New Hampshire  
Richmond, Virginia  
Schenectady, New York



This Pittsburgh/Allegheny Atlas shows the original Allegheny Gas Works on Rebecca Avenue at Spott [Spoat] Street on the Ohio River in Allegheny, now Pittsburgh. Source: Historic Map Works.

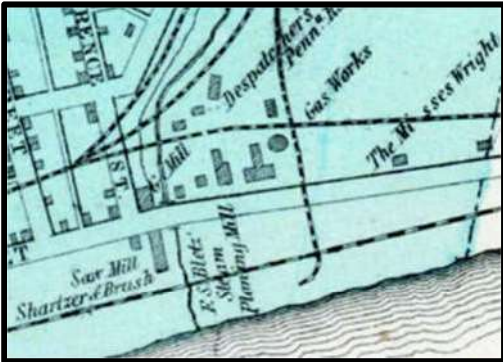
<sup>128</sup> Mathew Schropp Henry, *History of the Lehigh Valley* (Bixler & Corwin, 1860), 124.

1852 Allegheny, Pennsylvania



The site of the original Allegheny Gas Works on Rebecca Avenue, near modern day Spout Street, in 2018, showing that the entire plant has been demolished. Source: Google.

1852 Bangor, Maine  
Burlington, New Jersey  
Cambridge, Massachusetts  
Camden, New Jersey



Showing the original location of the Columbia Gas Works on Front Street below Lawrence within the context of the 1864 Columbia Atlas. Source: Historic Map Works.

1852 Columbia, Pennsylvania

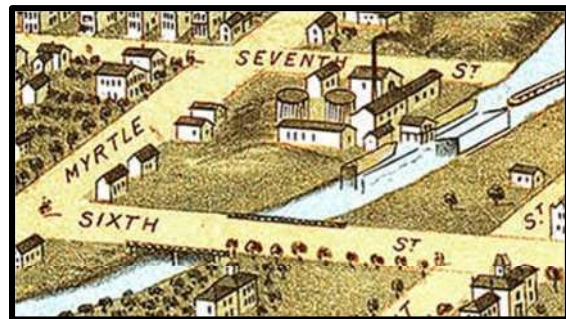
The Columbia Gas Light Company was incorporated in 1852 and its gas works was built along the river on South Front Street below Lawrence Street. The site appears to be owned and/or operated by U.G.I. to-date. The 1864 Columbia Atlas provides additional context showing “The Misses

Wright” House further south, which is extant below the former gas works site.



Looking north at the site of the original Columbia Gas Works on Front Street in Columbia, showing that no early building survive. Source: Google.

1852 Columbia, South Carolina  
Elmira, New York



This 1872 Erie Atlas shows the original Erie Gas Works at Myrtle Avenue between Sixth and Seventh Streets. Source: PHMC.

1852 Erie, Pennsylvania

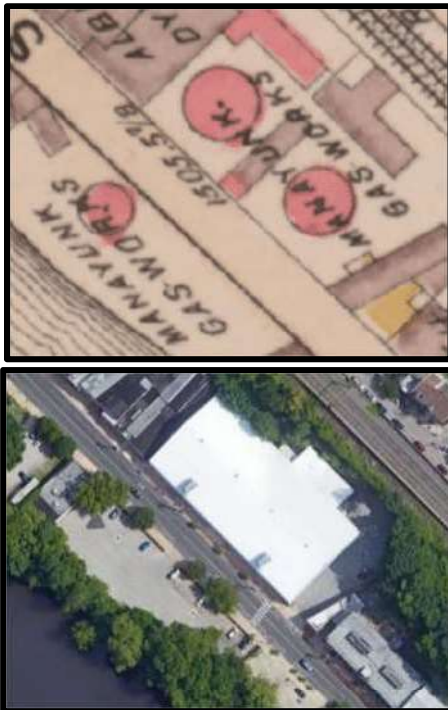
Chartered in 1852, the Erie Gas Company, bought land and built their first works on Seventh Street between Myrtle and Chestnut. The works were completed in August 1853. This works was abandoned in 1887.<sup>129</sup>



<sup>129</sup> Benjamin Whitman, *Nelson's Biographical Dictionary and Historic Reference Book of Erie County, Pennsylvania* (Nelson, 1896), 481.

The site of the former gas works in Erie, showing a suburban development on the site in 2018. Source: Google.

1852 Ithaca, New York  
Lewiston, Maine  
Lynchburg, Virginia  
Lynn, Massachusetts  
Macon, Georgia



Top: This 1895 Philadelphia Atlas shows the original site of the Manayunk Gas Works on Main Street below Shurs Lane. Source: Greater Philadelphia GeoHistory Network. Bottom: The subject site in 2018, showing both a vacant lot on the river and a new building opposite. Source: Google.

1852 Manayunk, Pennsylvania  
1852 Manchester, New Hampshire  
Memphis, Tennessee  
Mobile, Alabama  
Montgomery, Alabama  
Nashua, New Hampshire  
New Albany, Indiana  
New Bedford, Massachusetts  
Newburg, New York  
Newburyport, Massachusetts  
Oswego, New York  
Petersburg, Virginia  
Rochester, New York

Rome, New York  
San Francisco, California  
Waterford, New York  
Watertown, New York



Top: The 1873 West Chester, Chester County Atlas, showing the early location of the city's gas works at the southeast corner of S. Matlack and E. Mineral Streets. Source: Historic Map Works. Bottom: The vacant lot shown above is the site of the former gas works in West Chester. Source: Google.

1852 West Chester, Pennsylvania



GAS WORKS AT WILMINGTON. Gleason's Pictorial Drawing - Room Companion (1851-1854); Jul 8, 1854; 7, 1; American Periodicals pg. 5.

1852 Wilmington, Delaware



Left: Oberlin Gasholder House. Right: Troy Gasholde. Source: Wikipedia.



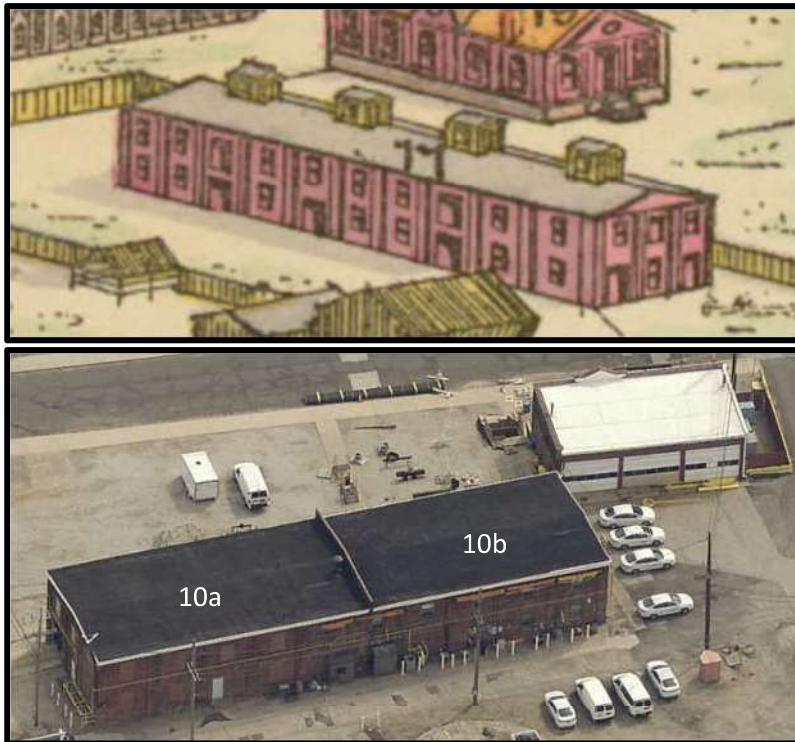
Bottom: New Bedford Gas and Light Company, 2015, which is pending reuse as part of a new aquarium. Source: Wikipedia.

## Appendix C: Select Non-Contributing Resources



Looking north at the Point Breeze Gas Works. Source: Atlas, City of Philadelphia, 2018.

Additional resources were evaluated; however, this evaluation did not include all the building and/or structures on the site. Based on the statement and period of significance, the following resources were evaluated and are considered to be non-contributing for the purposes of this designation; however, further study may find that these buildings are eligible under an expanded statement and period of significance:



Top: Resource No. 9: Warehouse in 1894, including Resource Nos. 10a and 10b. Bottom: Looking east at the west elevation of Resource 10: Warehouse (1862–88). Source: Atlas, City of Philadelphia, 2018.

**Resource No. 9: Warehouse (1876–88)<sup>130</sup>**

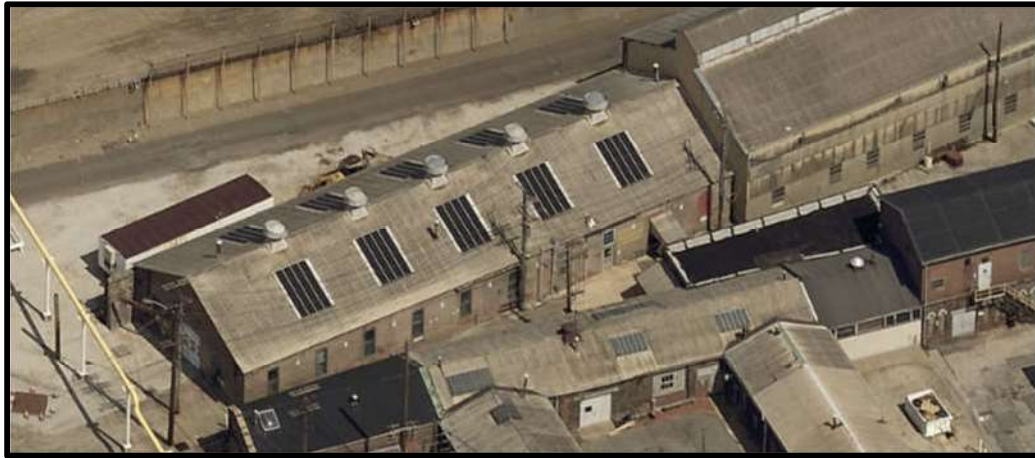
This resource is non-contributing.

**Resource No. 9a: Stable & Hay Loft (1862–88)**

This resource is non-contributing.

**Resource No. 9b: Supplies Storehouse (1862–88)**

This resource is non-contributing.



Looking north at the primary (south) elevation of Resource No. 11: Sponge House (1894). Source: Atlas, City of Philadelphia, 2018.

**Resource No. 11: Sponge House (1894)<sup>131</sup>**

This resource is non-contributing.



Left: Looking northeast at Resource No. 12: Meter House (1888–94). Source: Atlas, City of Philadelphia, 2018.

Right: Looking southwest at Resource No. 12: Meter House (1888–94), dated 1928. Source: The PGW Photograph Collection, CAP.

<sup>130</sup> Resource No. 10: Warehouse (1862–88) was not extant at the time of the 1876 atlas but was extant in the 1888 Hexamer General Survey of the Point Breeze Gas Works.

<sup>131</sup> The contract and surety of Thomas C. Trafford for the erection of Resource No. 11: The Sponge House (1894) was finally approved by the Common Council in May 1894 (*Appendix To The Journal, Appendix No. 42* [Philadelphia: 3 May 1894]).

**Resource No. 12: Meter House (1888–94)<sup>132</sup>**

This resource is non-contributing.



Looking north at the primary (south) elevation of Resource No. 13: Power House (1896–1910), comprising both Resource Nos. 13a and 13b. Source: Atlas, City of Philadelphia, 2018.

**Resource No. 13: Power House (c1896–1910)**

This resource is non-contributing.

**Resource No. 13a: Engine & Blower Room (c1896–1910)**

This resource is non-contributing.

**Resource No. 13b: Pump Room (c1896–1910)**

This resource is non-contributing.

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<sup>132</sup> Resource No. 12: Meter House (1888–94) was not present in the 1888 Hexamer General Survey of the Point Breeze Gas Works but was extant in the 1894 Hexamer.



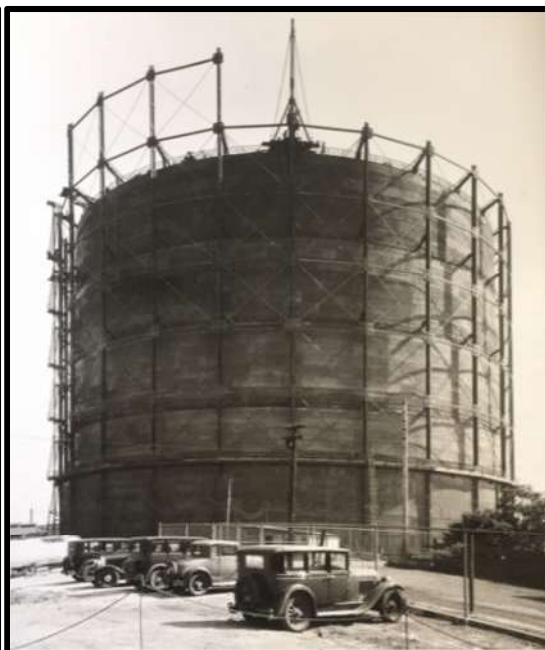
Looking north at the primary elevation of Resource Nos. 14 and 15. Source: Atlas, City of Philadelphia, 2018.

**Resource No. 14. Boiler Shop (1912)<sup>133</sup>**

This resource is non-contributing.

**Resource No. 15: Boiler Shop (1912)**

This resource is non-contributing.



Left: Looking north at Resource No. 16: Gas Holder (1932). Source: Atlas, City of Philadelphia, 2018. Right: Construction of Resource No. 16: Gas Holder (1932). Source: Photo No. 8518, dated 26 May 1932, of the PGW Photograph Collection, CAP.

**Resource No. 16: Gas Holder (1932)<sup>134</sup>**

This resource is non-contributing.

<sup>133</sup> Both Building Nos. 18 and 19 were built in 1912, as shown in Photo No. 2012, PGW Photograph Collection. (Philadelphia: 22 March 1912), CAP.

<sup>134</sup> The only extant gas holder on the site was built in 1932 as No. 6, as shown in various photographs of the PGW Photograph Collection, specifically Photo No. 8533, dated June 2, 1932.