

LAZARETTO QUARANTINE STATION
Endangered Buildings Program
Delaware River
~~Exton~~ Tinicum Township
Delaware County
Pennsylvania

HABS No. PA-6659

HABS
PA-6659

PHOTOGRAPHS

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of the Interior
1849 C St. NW
Washington, DC 20240

Addendum
Follows

ADDENDUM TO:
LAZARETTO QUARANTINE STATION
(The Lazaretto)
Wanamaker Avenue and East Second Street
Tinicum Township
Delaware County
Pennsylvania

HABS PA-6659
PA-6659

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PA-6659

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

FIELD RECORDS

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of the Interior
1849 C Street NW
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HISTORIC AMERICAN BUILDINGS SURVEY

ADDENDUM TO LAZARETTO QUARANTINE STATION

HABS No. PA-6659

NOTE: Prior Historic American Buildings Survey (HABS) documentation of the “Lazaretto Quarantine Station” includes twenty-three photographs taken in 2000 as part of a standing “Endangered Buildings Program” periodically implemented by HABS. These photographs capture exterior views of four buildings and structures at the Lazaretto site: the main or administration building, carriage house, gate, and marine aviation hangar (now demolished). HABS also recorded the site in the 1936 under the name “The Lazaretto.” This documentation exists under a separate number, HABS No. PA-125, and contains the following: a two-page historical report; a site-plan sketch depicting the locations of extant and missing buildings; and nine photographs and a caption page. The nine photographs include five taken in 1936 of the administration building, a surviving guard house, and a stable “in rear of surgeon’s house.” Joseph P. Sims, the HABS district officer for southeastern Pennsylvania, is the photographer of record. The four remaining photos each reproduces another visual record: two photographs from the Historical Society of Pennsylvania, a third “old photograph,” and a ca. 1895 drawing of the site by Frank E. Taylor.

Location: Wanamaker Avenue and E. Second Street, Essington, Tincum Township, Delaware County, Pennsylvania.

Present Owner: Tincum Township, Delaware County, Pennsylvania.

Present Use: Vacant.

Significance:

Built between 1799 and 1801, the Lazaretto Quarantine Station was among the earliest purpose-built, and is the oldest extant, quarantine-related structure in the United States. The building’s high level of integrity is of particular importance since it is physical evidence of the forces impacting the eighteenth-century American hospital—both in terms of public health policy and in the edifices shaped by that policy. The City of Philadelphia’s Board of Health erected the Lazaretto to protect its citizenry against infectious diseases long before the federal government involved itself with such concerns. Nearly a century passed before the opening of the first permanent quarantine and immigration station on Ellis Island in New York Harbor. While the Lazaretto Quarantine Station and other similar, early-nineteenth-century centers are precursors to this later, far-better-known facility, each had a well-defined purpose relative to its time and place. Activities at the Lazaretto made little distinction between the people or cargo carried on ships as sources for epidemic disease. Each was inspected and detained based on the presence of a perceived health threat and only released when that threat had passed over

time or through purification. Only with the rise of immigrant processing and regulation in the mid-nineteenth century did quarantine become more exclusively associated with people.

As with most early public health initiatives, the establishment of the Lazaretto responded directly to a local crisis: in 1793, a yellow fever epidemic devastated Philadelphia, claiming one-fifth of its population. All but a handful of determined citizen-caretakers abandoned the city, compounding the ill-effects of the shocking mortality rate. Despite Philadelphia's position as the most cosmopolitan city in America, it still lacked the municipal organization and the facilities needed to contend with a large-scale epidemic. It was home to the Pennsylvania Hospital, the only institution of its kind in America at that time; however, because it was conceived to *cure*, rather than merely *contain*, the sick, the hospital literally shut its doors during the 1793 epidemic, as did the nearby Alms House, the conventional repository for the sickly poor. The abject failure of the city to deal with this catastrophe hastened the creation of the Philadelphia Board of Health in 1794, the first permanent municipal health organization in America. The rationale behind its establishment not only concerned the practical maintenance of public health, but perhaps more importantly, future avoidance of civic paralysis in times of crisis and the restoration of the public trust in all levels of government.

Lacking even basic medical knowledge required to prescribe effective treatments for disease, contemporary public-health policy primarily sought to quarantine the sick from the healthy. The series of legislative acts that created, structured, and refined the responsibilities of the Board of Health eventually resulted in the construction of two hospital complexes with similar, seasonal functions—a “City Hospital” located at the edge of the urban center and intended to separate sick residents of Philadelphia from the healthy during epidemics, and a quarantine station, called the Lazaretto, meant to contain people with infectious diseases approaching the city by ship at a location remote from the metropolis. It can be suggested that the Board of Health realized the new quarantine station's centerpiece building on formal plans by English architect-émigré Joseph Bowes, but eighteenth-century vernacular traditions most impacted its massing and spatial organization. The main building's visually dominant center pavilion and simpler flanking hyphens emerged from a generic English formula that colonists imported and adapted to meet local requirements and conditions. This process previously gave shape to Philadelphia's Pennsylvania Hospital, which became an influential forerunner for many eighteenth-century American structures related to social welfare.

The Pennsylvania Hospital single-handedly launched a new domestic vernacular form that allowed for economical construction within the limitations of Philadelphia craftsmen who spent much of their working life building houses. Rather than convey its public presence through innovative materials and construction techniques, the Lazaretto's main building attained the desired presence and scale by linking three separate, domestic-type structures into a single unit. Although physically and functionally separated by unbroken party walls, the three parts were visually unified and aggrandized by an exterior piazza running across the building's river front. The octagonal cupola and vane perched on the center pavilion's roof relieved any remaining doubt of the building's public nature. The

main building at the Lazaretto was among the last of its kind and is now a rare, quite probably unique, survivor. Built concurrently with the Lazaretto, Benjamin Henry Latrobe's innovative and influential Bank of Pennsylvania set new standards and represented the future of American public-building design. Despite later use as a gentlemen's athletic club and an early base for sea planes in the United States, the structure is likely the least adulterated example of an eighteenth-century hospital remaining in the country.

Historians: James A. Jacobs (building history), Catherine C. Lavoie (public health and quarantine contexts), and Rebecca Sell (post-quarantine history).

PART I: HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: 1799–1801.

The Board of Health placed a newspaper advertisement for “Building-Stone, Lime and Scantling” on June 18, 1799, just a week after a meeting during which they discussed the building's plans.¹ The ad stated that “proposals will be received at the Health-Office...for the supply of large quantities of the above mentioned materials to be delivered on the lower end of Tinicum Island.” An entry in the Board of Health minutes for August 7 requested that the “Steward of the City Hospital...furnish six tents with poles to be sent to the New Lazaretto for the accommodation of the Workmen,” confirming that work had been or would shortly be started.²

In May 1801, several newspaper notices announced the auction of “A Lot of Ground and Buildings thereon erected, known by the name of the Lazaretto, On Province Island,” indicating that the construction campaign for its replacement had proceeded far enough to use the new facility during the 1801 quarantine season.³ On November 23, 1801, the Board of Health stated in a meeting: “The

¹Advertisement, “Building-Stone, Lime and Scantling,” *Claypoole's American Daily Advertiser* 18 Jun. 1799: (2); for discussion of plan, see Minutes of the Board of Health, Philadelphia, Pennsylvania, (hereafter **MBH**), 11 Jun. 1799, RG 37, Bureau of Health, 37.1, Minutes, 1795-1854, Philadelphia City Archives, Philadelphia, Pennsylvania (hereafter **PCA**).

²MBH, 7 Aug. 1799.

³Advertisement, “For Sale at Auction at the Coffee-House...,” *Poulson's American Daily Advertiser* 12 May 1801 (also 13-16, 18, and 19 May 1801). The “quarantine season” generally covered the months from the beginning of May through the end of October with the exact start and finish varying a bit from health act to health act over time. During this half-year period, Pennsylvania law required that ships approaching the Port of Philadelphia stop at the Lazaretto for the inspection of crew, passengers, and cargo by the resident physician and the quarantine master. The Board of Health annually published notices in newspapers and printed broadsides that announced the opening of the season, and stated its associated legal requirements and penalties if ignored.

buildings [at the Lazaretto] are now finished.”⁴ While clearly functional, the degree to which they were “finished” in November 1801 is uncertain because one year later they more confidently declared: “The New Lazaretto on Tinicum Island is completely finished, and at present in a high state of improvement.”⁵

2. Architect, builders:

Although the Lazaretto’s design, typology, and construction methods are easily and appropriately situated within the local vernacular, there is enough evidence to at least suggest that plans for the structure may have been created by an intriguing architectural practitioner by the name of Joseph Bowes. Bowes flashed onto the Philadelphia scene in the mid-1790s with heady claims and plans, and in only a few years disappeared leaving little behind in America’s largest city.⁶ An October 1794 newspaper advertisement announced Bowes’s arrival, his objective to practice “the business of Architecture in all its departments,” and stated solid credentials as “a Draftsman for several years past, to the celebrated Robert Adam, Esq. Architect in London.”⁷ His supposed employment with Adam is not verifiably known; however, he was reasonably familiar with many of the Adam brothers’ late works in Edinburgh and Glasgow. Robert Adam’s and James Adam’s deaths in 1792 and 1794, respectively, also fits the timeline for Bowes’s appearance in Philadelphia since their passing may well have precipitated a need to find new employment situation.

Regardless of his background, Bowes was certainly educated, able, and demonstrated strong ambition. In addition to advertising his readiness to design and construct buildings, he also offered his talents as a teacher of architectural drawing.⁸ During what was likely his first year in the city, he conferred in April 1795 with the newly formed Philadelphia Board of Health about plans for a city hospital and one month later showed “sundry pieces of architecture” at the Columbianum, “the earliest known American exhibition of architectural drawings.”⁹

Despite this early flurry of activity, Bowes seems not to have enjoyed much success in Philadelphia. The 1796 Philadelphia city directory lists him as an “architect” on Vine Street, while the following year he had moved to “Cresson’s

⁴MBH, 23 Nov. 1801.

⁵MBH, 22 Nov. 1802.

⁶See Sandra L. Tatman and Roger W. Moss, *Biographical Dictionary of Philadelphia Architects: 1700–1930* (Boston: G. K. Hall & Co., 1985), 88, for brief bio, also available online at: www.philadelphiabuildings.org.

⁷“Joseph Bowe’s [sic], Architect. Lately Arrived from Europe,” *Dunlap and Claypoole’s American Daily Advertiser*, Oct. 15, 1794.

⁸Tatman and Moss, 88.

⁹*The exhibition of the Columbianum or American Academy of Painting, Sculpture, Architecture, &c. established at Philadelphia, 1795* (Philadelphia, 1795); Tatman and Moss, 88.

Alley” and designated his profession as “architect & engraver.”¹⁰ After 1798, his continued residence in the city is doubtful.¹¹ Whether he died or moved away is not known; perhaps he was a victim of that year’s yellow fever epidemic. In the end, a lack of known commissions, either documented or extant, points to unlikely accomplishment in Philadelphia. Given his sketchy legacy, offering Bowes as a possible contributor to the design of the Lazaretto is a fitting consolation prize (even more so if he died of yellow fever). With the legislation for the Lazaretto authorized only after Bowes disappeared from Philadelphia, what connection might he have with the finished structure?

The Pennsylvania legislature passed *An Act for establishing an Health-office...* in 1794 that located a “Health-office” on State Island for seasonal quarantine and called for the creation of a sister establishment nearer the city.¹² This establishment would be a “public hospital” for receiving citizens “who may be afflicted with Pestilential or Contagious Diseases” and located in a “neighbourhood of the city of Philadelphia, easily accessible by water as well as by land.”¹³ The “City Hospital” would operate on an as needed basis during epidemics for isolation of, mainly, poor Philadelphians who became ill.¹⁴ The need for this type of public edifice was made clear during the yellow fever epidemic of 1793 during which the privately funded Pennsylvania Hospital closed its gates and did not admit anyone into the compound while the disease raged and decimated the city outside. In desperation, the few remaining city leaders commandeered a vacant three-story, Georgian country house on William Hamilton’s Bush Hill estate just outside the city for emergency quarantine purposes.¹⁵ In the epidemic’s aftermath, the Board of Health negotiated Bush

¹⁰[Thomas] *Stephens's Philadelphia directory for 1796, or, Alphabetical arrangement containing the names, occupations, and places of abode of the citizens: with a register of the executive, legislative, and judicial magistrates of the United States* (Philadelphia, 1796); Cornelius William Stafford, *The Philadelphia directory, for 1797, containing the names, occupations, and places of abode of the citizens* (Philadelphia, 1797).

¹¹As noted in Tatman and Moss, 88.

¹²*An Act for establishing an Health-office, and for otherwise securing the City and Port of Philadelphia from the Introduction of pestilential and contagious diseases, and for regulating the Importation of German and other Passengers*, Apr. 22, 1794, Philadelphia, Pennsylvania. Reprinted in full in *Dunlap and Claypoole's American Daily Advertiser*, May 7, 1794, supp.

¹³Ibid.

¹⁴The Board of Health informally called the “public hospital” intended for Philadelphia the “city hospital” as early as 1795 [MBH, 10 Jun. 1795]. The 1798 amendment to the prior health laws referred to a location “commonly called the City Hospital,” meaning the public hospital, and changed the name of the “Board of Inspectors of the Health-office” to “Managers of the Marine and City Hospitals of the Port and City of Philadelphia,” showing that in time officials formally adopted the once casual moniker. See *An Act to alter and amend the health laws of this Commonwealth, and to incorporate a Board of Managers of the Marine and City Hospitals of the Port of Philadelphia, and for other purposes therein mentioned*, Apr. 4, 1798, Philadelphia, Pennsylvania. Reprinted in full in *Claypoole's American Daily Advertiser*, Apr. 14, 1798: (1-2).

¹⁵Bush Hill was one of two estates owned by William Hamilton in the Philadelphia area. Hamilton’s grandfather constructed the house at Bush Hill in 1740 on the estate granted to him by the Penn family. It was the full-time residence of his prominent uncle, James Hamilton, until his 1783 death at which time William inherited the estate. By this time, William Hamilton had already constructed his own

Hill's use as a public hospital for the city through March 25, 1795.¹⁶ Anticipating this deadline, the Board of Health purchased a lot on the west side of the Schuylkill River near Market Street and began planning for a permanent city hospital early in 1795.¹⁷

In contemplating this structure, the Board conferred with members of the College of Physicians, an academic organization of medical doctors founded in 1787, about various design requirements. Eminent doctors Adam Kuhn, Thomas Parke, and Caspar Wistar comprised the committee.¹⁸ The minutes of the Board of Health dated February 24, 1795 recorded that the College of Physicians gave their opinion about the projected structure.¹⁹ The minutes also described the basic organization for the building: "a Centre house with two Wings to admit of four Rooms in each from Twenty to Twenty-five feet in the clear. Separated by a Brick Partition wall and Communication to be by an open piasa [*sic*] in front of the Wings."²⁰ Having worked out the general hospital scheme with the College of Physicians, the "Committee for Building an Hospital over the Schuylkill" had "two Plans, two elevations, & a section of the Hospital" created and presented to the Board at a general meeting on March 10, 1795.²¹

While the minutes do not record the originator of these drawings, they were possibly conceived and more certainly refined by Joseph Bowes and a "Monsieur

country house at The Woodlands, a tract on the west bank of the Schuylkill River that he had inherited from his father in 1747. Hamilton resided at Bush Hill between 1786 and 1789 while he overhauled and greatly enlarged his house at The Woodlands. Vice President John Adams and his family lived there in 1790-91, but afterward it never again functioned as a residence. Following the estate's use as a seasonal hospital between 1793 and 1797, Hamilton granted a ten-year lease to a theater company planning to open the house and grounds to the public as a garden, concert, and "amusement" site in the manner of Vauxhall in London and the Public Gardens of Paris. The house burned in 1814 and the ruins were reconstituted as a factory, before finally being razed entirely in 1875. See Henry A. Boorse, "Bush Hill: An Historic Philadelphia House," *Imprint* 9 (Autumn 1984): 12-18; [Philadelphia] Committee to Attend to and Alleviate the Sufferings of the Afflicted with the Malignant Fever, *Minutes of the proceedings of the committee, appointed on the 14th September, 1793, by the citizens of Philadelphia, the northern liberties and the districts of Southwark, to Attend to and Alleviate the Sufferings of the Afflicted with the Malignant Fever, prevalent, in the city and its vicinity, with an appendix* (Philadelphia, 1848), entries for Oct. 10, Nov. 4 and 5, Dec. 24, 1793, and March 4, 1794, for Bush Hill's use as a hospital; MBH, 2 Jun. 1797, for moving city hospital from Bush Hill to the Wigwam; *Claypoole's American Daily Advertiser*, 29 May 1797, for public gardens.

¹⁶*Minutes of the proceedings of the committee, appointed on the 14th September, 1793* (1848), Dec. 24, 1793.

¹⁷In an entry on February 10, 1795, the Minutes of the College of Physicians (hereafter MCP) recorded that the Board of Health desired advice on the "construction of the intended Hospital over Schuylkill," indicating that the lot described in the 1795 amendment to the health act was already purchased. See MCP, vol. 1, College of Physicians Historical Library, Philadelphia, Pennsylvania, and *An Act supplementary to the several Acts establishing an Health Office*, Apr. 17, 1795, Philadelphia, Pennsylvania. Reprinted in full in *Dunlap and Claypoole's American Daily Advertiser*, Apr. 23, 1795.

¹⁸MCP, 10 Feb. 1795.

¹⁹MBH, 24 Feb. 1795.

²⁰Ibid.

²¹MBH, 10 Mar. 1795.

Desaurau.”²² In April, the Board met with Bowes and Desaurau “respecting the most eligible plan for the Building,” “each whom furnished plans and for whose services they are of opinion the former should be paid 70 dollars and the latter 40 dollars.”²³ Bowes and Desaurau appear to have been working as a team, and the lack of an entry in the city directories for Desaurau and a smaller proposed fee implies that he was perhaps Bowes’s apprentice and possibly living in his household. Ultimately, Desaurau was paid forty dollars for “drawing plans for the City Hospital,” and Bowes, “whose plan was approved,” compensated sixty dollars for design expertise in addition to drafting.²⁴ The board minutes never mentioned either man again and they ultimately never built the City Hospital on these plans. In November 1796, the board treasurer, Gideon Wells, reported that the repairs to the quarantine station on State Island required withdrawals from the “City Hospital Tax” account, which was already “far short of what will be necessary to complete a Hospital” because of “the present high price of Labour.”²⁵ The financial situation did not improve and less than a year later the Health Office moved the public hospital from Bush Hill to the recently purchased “Wigwam,” a “country seat...late the property of, and employed as a hospital for the French Republic.”²⁶ The City Hospital remained at the Wigwam until 1805, and moved into its first purpose-built structure in 1809.²⁷

The City Hospital built by the board in 1808-09 on a portion of the Bush Hill estate is not the one imagined in the 1795 plans. On January 16, 1808, the Board awarded Alexander Steel a contract to furnish materials and oversee construction of a hospital: “108 feet in length by 22 feet in breadth, with a piazza to both stories, of 12 feet in depth—windows opening on the piazza down to the floor, and up to the ceiling...to be divided into seven wards.”²⁸ This description suggests a rectangular footprint, simpler in concept than the three-part structure

²²MBH, 30 Apr. 1795. The minutes contain an alternate spelling of “Desaureau” in an entry for 10 Jun. 1795, “Dusereau.”

²³MBH, 30 Apr. 1795.

²⁴MBH, 10 Jun. 1795.

²⁵MBH, 15 Nov. 1796.

²⁶MBH, 31 May and 2 Jun. 1797, for contemplation and purchase of the Wigwam; *Claypoole’s American Daily Advertiser* 31 May 1797, for the Wigwam’s advertisement of sale.

²⁷Scharff and Westcott stated that because the City Hospital at the Wigwam existed in a populating neighborhood, citizens lobbied for its move further into North Philadelphia, which occurred in 1805. This information is corroborated by the Board of Health minutes. As early as December 15, 1802, the “Report of the Committee on the Revision of the Health Law” encouraged inclusion of a directive to relocate the City Hospital. Three years later, the Board of Health wrote to Governor McKean informing him that they were trying to sell both the former Marine Hospital (“Old Lazaretto”) on State Island and the City Hospital, “the proceeds of which they contemplate building an Hospital in a more eligible situation.” The City Hospital property sold in March 1806, the same month in which the Board began negotiations with William Hamilton about leasing part of his Bush Hill estate for the site of a new hospital. Construction began early in 1808 and was completed by May 1809. See J. Thomas Scharff and Thompson Westcott, *History of Philadelphia, 1609-1884*, vol. 2 (Philadelphia, 1884), 1676; MBH, 15 Dec. 1802, Dec. 1805, 13 and 27 Mar. 1806; 5 Jan. 1808; 4 May 1809.

²⁸MBH, 16 Jan. 1808.

proposed over a decade earlier.²⁹ The unexecuted drawings of the City Hospital drafted and likely refined by Joseph Bowes in 1795 might have ended up in a closet, attic, or basement, but the cash-strapped and crises-rich Board of Health might have also pragmatically used them to build the new quarantine station stipulated in the amended health act of 1799.³⁰

On June 11, 1799, just three weeks after negotiating the purchase of ten acres on Tinicum Island for the new Lazaretto, a committee tasked with the design of the new facility “exhibited the Plans for the proposed Lazaretto” at a meeting of the Board of Health.³¹ At this gathering, the Board studied the drawings, scaled back aspects of the plan, and made final decisions about the complex’s principal structure. They described the three-part building as “consist[ing] of a middle house Fifty feet square with Cellars under and three story [*sic*] high. The wings or Lazaretto’s to be two story [*sic*] high and without cellars under them, the length of each about sixty four feet, and the depth of each about twenty five feet.”³² Unlike the months-long discussion of the City Hospital design in 1795, the minutes record no further deliberation about the design of the building on that day or any other. With the exception of the cellars that extend under all three parts of the Lazaretto’s primary structure, the completed building adheres to the form and dimensions established in the minutes. The finished structure also falls within parameters of the only known description of the City Hospital’s first design: “a Centre house with two Wings to admit of four Rooms in each...Separated by a Brick Partition wall and Communication to be by an open piasa [*sic*] in front of the Wings.”³³ If the Board of Health had already paid for Joseph Bowes’s architectural expertise and construction drawings for an up-to-date, but as of 1799, unbuilt hospital, there is reason to think that the Board would have used them for another, similar need.

3. Original and subsequent owners:

The acreage purchased by the Board of Health for the construction of the Lazaretto had been part of a tract owned by the Taylor family since at least

²⁹In their 1884 history, Scharff and Westcott describe, without citations, a much larger structure, with a “mansion house” at center “fifty feet front, forty-two feet deep” flanked by wings that were one hundred-eighty feet long and twenty-two feet deep. All of this was fronted by a two-story piazza. Given the dimensions of the planned structure noted in the minutes (and the transposition of “108” and “180” in either the minutes or by Scharff and Westcott), and the two-story piazza, it is possible that the City Hospital as constructed in 1808-09 later became a wing of a much larger establishment. See Scharff and Westcott, 1676.

³⁰The institutional foundations for the Lazaretto, and discussion of hospital and other period public building design can be found in sections I:A:6, “Original plans and construction,” and I:B, “Historical Context,” of this report.

³¹MBH, 11 Jun. 1799.

³²Ibid.

³³MBH, 24 Feb. 1795.

1725.³⁴ Rebecca Smith, one of the party selling the tract to the Board of Health, was widowed at a young age by one of a number of eighteenth-century Thomas Taylors.

August 7, 1799—Rebecca Smith and Thomas Smith to the Board of Health in Philadelphia. Rebecca Smith and her son, Thomas, sold approximately ten acres of land on Tinicum Island, Delaware County, Pennsylvania for \$2000.00.³⁵ A second transaction for \$1.00 made on the same day between Daniel and Margaret King and Rebecca Smith, (daughters of Rebecca and sisters of Thomas) and the Board of Health confirmed that they both received the £100 originally stipulated in their brother Israel Taylor's will of 1780.³⁶ This transaction formally relinquished any claim on the acreage by the sisters or their descendents.

January 6, 1937—the City of Philadelphia to Frank and Anna L. Mills.³⁷ On June 5, 1893, the state assembly officially “abandoned” the property to the City of Philadelphia, although the complex remained in use until the opening of the immigration station at Marcus Hook in 1895. A city council ordinance of September 1, 1936, called for the divestment of “unproductive salable real estate owned by the City.”³⁸ E. M. Harris resurveyed the “Old Lazaretto” tract and the Millses purchased 11+ acres for \$10,500.00. They subsequently partitioned the tract and sold a riverfront portion containing the former resident physician's house to the Riverside Yacht Club on November 15, 1939, for \$4,000.³⁹

October 9, 1945—Anna L. Mills Michael and Floyd Michael to Frank A., C. Robert, and J. William Mills.⁴⁰ Anna L. Mills inherited the acreage from her husband upon his death on December 29, 1940. She and her new husband sold the same to her sons for \$1.00. Although the object of a number of deed transactions, the property remained in the Mills family until **June 19, 2000**, when Island Marine Partners purchased the property for \$2,150,000.00.⁴¹

³⁴For a brief abstract of ownership beginning in 1725, see: Deed, Rebecca Smith and Thomas Smith to the Board of Health, 7 Aug. 1799, Delaware County, Pennsylvania (hereafter DCP), Deed Book E, 160.

³⁵Ibid.

³⁶Deed, Daniel and Margaret King and Rebecca Smith to the Board of Health, 7 Aug. 1799, DCP, Deed Book E, 159.

³⁷Deed, the City of Philadelphia to Frank and Anna L. Mills, 6 Jan. 1937, DCP, Deed Book 1026, 109.

³⁸Edward T. Morman suggests that Philadelphia sold the Lazaretto sometime around 1895 for \$7,000, and cites the information to the Minutes of the Board of Health, 6 and 20 Oct. 1896. For reasons unknown, this transaction was never officially completed. See Edward T. Morman, “Guarding Against Alien Impurities: The Philadelphia Lazaretto 1854-1893,” *Pennsylvania Magazine of History and Biography* 108 (Apr. 1984): 143.

³⁹Deed, Frank and Anna L. Mills to the Riverside Yacht Club, 15 Nov. 1939, DCP, Deed Book 1079, 398.

⁴⁰Deed, Anna L. Mills Michael and Floyd Michael to Frank A., C. Robert, and J. William Mills, 9 Oct. 1945, DCP, Deed Book 1301, 224.

⁴¹For a brief abstract of the transactions through 1990, see: Deed, Murray S. Eckell, Administrator of the Estate of J. William Mills, to Nancy R. Mills Danos, 27 Feb. 1990, DCP, Deed Book 743, 301. For

July 28, 2005—Island Marine Partners L.L.C. to Tinicum Township, Pennsylvania. The three proposals put forth by Island Marine Partners in 2000 all called for the demolition of the historic structures on the site. Preservation advocates responded quickly and founded the “Friends of the Lazaretto” in order to raise awareness and funds to thwart the site’s destruction and planned redevelopment. The public campaign gained momentum and in 2001 the Pennsylvania legislature authorized \$400,000 towards the down payment on the property; however, Tinicum Township was not able to complete the purchase of the site until 2005 after the state agreed to grants and allocations totaling approximately \$11,000,000 for the ten acres (\$3,100,000), stabilization of the historic structures present on the property (\$2,000,000), and construction of a new firehouse on the site.⁴²

4. Original and subsequent occupants:

1801-1893	Philadelphia Board of Health
1893-1895	Pennsylvania State Quarantine Board
ca. 1895-ca. 1912	The Orchard Club
1915-2000	Philadelphia School of Aviation (Essington School of Aviation); Philadelphia Seaplane Base

5. Workmen and materials suppliers:

Most of the workmen and suppliers for the initial building campaign are unknown at this time. It is likely that a number of their names were documented in the Minutes of the Board of Health; unfortunately, the volume covering the period during which most of the construction occurred, is missing from the Philadelphia City Archives.

later transactions, see: Nancy R. Mills Danos to Nancy R. Mills Danos and Nicholas W. Danos, 20 Jul. 1990, DCP, Deed Book 776, 1674; C. Robert Mills, Holli Anne Crane, C. Robert Mills, Jr. to Same, 26 Feb. 1999, DCP, Deed Book 1846, 0654, and 14 Mar. 2000, DCP, Deed Book 1992, 973; Deed, Nancy R. Mills Danos and Nicholas Danos, C. Robert Mills, Holli Anne Crane, and C. Robert Mills to Island Marine Partners, 19 Jun. 2000, DCP, Deed Book 2026, 0721.

⁴²For more information on these efforts, see: Rebecca H. Sell, “The Lazaretto: The Cultural Significance and Preservation Plan in the Spirit of the Burra Charter,” thesis, University of Pennsylvania, 2005. See also: Joann Klimkiewicz, “Students and Officials Vow to Save Historic Hospital,” *Philadelphia Inquirer*, Sep. 29, 2000; Matt Schwartz, “Can Lazaretto Come Back to Life?,” *Delaware County Daily Times*, Oct. 2, 2000; Joann Klimkiewicz, “Preservationists and Developer in Race to Buy Hospital,” *Philadelphia Inquirer*, Jan. 1, 2001; Inga Saffron, “Tinicum Trying to Save a Place that Saved Lives,” *Philadelphia Inquirer*, May 4, 2001; Erik Schwartz, “Lease on Life for Lazaretto,” *Delaware County Daily Times*, May 7, 2002; Jeff Gelman, “Tinicum Grant to be Approved,” *Delaware County Daily Times*, Apr. 19, 2005.

6. Original plans and construction:

Introduction

When, in April 1799, the Pennsylvania legislature passed an act that included provisions for a new quarantine station, known from that time forward as the “Lazaretto,” they founded the act on a century of experience with quarantining.⁴³ In 1700, the provincial assembly passed the first law of this sort and by 1752 a “pest house” had been constructed on Province (later State) Island at the confluence of the Schuylkill and Delaware rivers.⁴⁴ Although rebuilt at least once later in the century, Philadelphia’s quarantine station remained on State Island until the opening of the Lazaretto.

The death, dislocation, and interruption of social, economic, and political life brought on by the devastating yellow fever epidemics of the 1790s demanded a strong public health response by government officials in what was then both the state and national capital. The *1799 Act for establishing an Health Office, for securing the city and port of Philadelphia, from the Introduction of pestilential and contagious diseases* was one of a series initiated in 1794, and amended in 1795, 1796, and 1798. Likewise, the law’s call for an entirely new quarantine station was one part of a much more comprehensive plan for keeping the most destructive contagious diseases from annually threatening the livelihood and vibrancy of Philadelphia. Among more procedural measures, the plan reiterated the need for a permanent “City Hospital,” an institution that like the quarantine station operated seasonally, and the introduction of a reliable system of piped water into Philadelphia. After repeated yellow fever attacks, frustrated legislators and public health advocates turned to these costly and, importantly, visible infrastructural and institutional projects as a means to both “avert the impending desolation of the metropolis” and “annihilation of our flourishing city,” and show the public that they actively sought remedies for the woes of their constituents.⁴⁵

The Site

During the second half of the eighteenth century, a hospital intended for the contagious ill arriving on ships approaching Philadelphia’s port stood on State

⁴³*An Act for establishing an Health Office, for securing the city and port of Philadelphia, from the Introduction of pestilential and contagious diseases*, 11 Apr. 1799, Philadelphia, Pennsylvania. Reprinted in full in *Claypoole’s American Daily Advertiser*, 19 Apr. 1799: (1).

⁴⁴Ward J. Childs, “The Port of Philadelphia and Its Records,” *Newsletter of the Philadelphia City Archives* 26 (October 1975), accessed online, 19 Jul. 2005, www.phila.gov/phils/Docs/otherinfo/newslet/port.htm. The name and year of this act is also included in J. Thomas Scharff and Thompson Westcott, *History of Philadelphia, 1609-1884* (Philadelphia, 1884), 1664. According to Scharff and Westcott, a 1743 act of assembly authorized the creation of a hospital on Province Island intended for ill passengers on ships approaching. A 1752 map of the Philadelphia area confirms that a structure with this function had been constructed. See N. Scull, G. Heap, and L. Hebert, “A Map of Philadelphia and Parts Adjacent, with a Perspective View of the State-House,” Philadelphia, 1752, Library of Congress, Geography and Map Division, Washington, DC.

⁴⁵MBH, 10 Dec. 1798, for “avert”; MBH, 1 Dec. 1798, for “annihilation.”

Island at the mouth of the Schuylkill River (fig. 1).⁴⁶ Section 2 of the 1799 *Act for establishing an Health Office...* authorized the search for and purchase of a Delaware River site on which to build a new quarantine station, known in the legislation as the “Lazaretto.” The decision to expensively replace rather than upgrade the existing “Marine Hospital” stemmed more from its general location than necessarily from specific deficiencies in its facilities.

The 1799 *Act for establishing an Health Office...* responded in part to a December 1798 memorial by the Philadelphia Board of Health to the Pennsylvania legislature. This memorial encouraged the legislature to replace the “existing health laws (which are voluminous, ambiguous and ineffectual) [with] an energetic law for the regulation of quarantine, the erection of a lazaretto and of magazines for the reception of purification of cargoes, *in a situation more secure and remote from the city.*”⁴⁷ When colonial leaders established a pest house on State Island in the mid-eighteenth century, the site was suitably remote for Philadelphia’s approximately 10,000 residents.⁴⁸ By the 1790s, the population had edged well over 60,000 people in the city and its immediate environs.⁴⁹ Increased densities and the expansion of settled areas, repeated yellow fever epidemics, and a lack of understanding about the spread of disease likely rendered the Marine Hospital on State Island too close to area residents for their own comfort by the end of the century.⁵⁰ In August 1797, the Board of Health investigated allegations that even the ferryman for State Island began refusing to move sick people across the river on his boats.⁵¹ Concerns such as these made the already difficult task of maintaining the public health even more problematic for the Board of Health, fueling an interest in moving the quarantine facility further from the area’s populated center.

A site “more...remote from the city” would not only calm anxieties, but also make the quarantine precinct, in a practical sense, “more secure.” Successful quarantine practice required full isolation of the sick and suspected ill from healthy people. In describing their, ultimately unsuccessful, efforts to avoid another epidemic in

⁴⁶While the Board of Health minutes refer to their “Committee of Repairs on State Island” in 1797, a May 1801 advertisement announcing the sale of the “Old Lazaretto” still calls it “Province Island,” indicating the tenacity of the colonial name. “For Sale at Auction...,” *Poulson’s American Daily Advertiser* 12 May 1801.

⁴⁷MBH, 10 Dec. 1798. Emphasis by author.

⁴⁸Theodore Thayer, “Town into City, 1746–1765,” *Philadelphia: A 300-year History*, ed. Russell F. Weigley (New York: W. W. Norton & Company, 1982), 79, for estimated population in 1746.

⁴⁹Edgar P. Richardson, “The Athens of America, 1800–1825,” *Philadelphia: A 300-year History*, ed. Russell F. Weigley (New York: W. W. Norton & Company, 1982), 218, for a population figure of 67,787 for Philadelphia, Southwark, and Northern Liberties in 1800.

⁵⁰An 1894 history of Delaware County observed, with no accompanying citation, that the Lazaretto “was formerly on Providence [*sic*] island, near Philadelphia, which city became so alarmed at the close proximity during the yellow fever scourge of the last decade of the eighteenth century, that it was removed to its present location.” Samuel T. Wiley, *Biographical and Historical Cyclopaedia of Delaware County, Pennsylvania, comprising a Historical Sketch of the County*, ed. Winfield Scott Garner (Richmond, IN and New York: Gresham Publishing Company, 1894), 146.

⁵¹MBH, 24 Aug. 1797.

1798, the Board of Health noted that during the previous year they extended the perimeter fences at the Marine Hospital further out into the river.⁵² They did this to eliminate or at least further discourage communication between people inside and outside the compound, a recurring problem for officials. A new quarantine station would not necessarily stop this type of illicit interaction, but moving it to a more remote, less populated location would assuredly reduce the frequency of its occurrence.

The governor signed the new health act that called for the construction of the Lazaretto into law on April 11, 1799. Less than a month after its passage, the Board of Health located, “examined with care,” and moved to purchase land on “the shore near the mouth of Darby Creek on Tinicum [Island]...if the land...can be obtained on reasonable terms that it is the most proper for the object in view.”⁵³ The “Committee appointed to purchase a proper site” found the land appropriate to their needs, and on May 21, 1799 they reported the purchase of ten waterfront acres on Tinicum Island at \$200 per acre.⁵⁴ Although the sale was not finalized until August, the Board of Health quickly began planning for an entirely new quarantine station.⁵⁵ This complex would meet the requirements of the amended health act, and be a functional as well as symbolic gesture in assuring the public health.

The Concept: Marine Hospital Versus Lazaretto

A location too near Philadelphia provided the primary impetus for abandoning the Marine Hospital, but its physical state and functional inadequacy also contributed to its demise. By early in the 1790s, the mid-century pest house on State Island had evolved into a collection of hospital and support buildings, but it is not known to what extent or regularity they were put into use prior to the yellow fever epidemics beginning in 1793. The poor physical condition of these buildings might illuminate the state of quarantine practice. In November 1796, the managers of the Board of Health indicated the need for “improvements” was so great that they used monies collected to build a permanent city hospital for repairs.⁵⁶ Seven months later the “Committee of Repairs on State Island” noted that the wharf was “in a ruinous situation and the different buildings suffer[ed] for paint.”⁵⁷ By the beginning of quarantine season in May 1798, the Marine Hospital and its dependencies were in “good condition,” but still required a considerable amount of refurbishing and finishing for the purposes outlined in the 1798 act.⁵⁸ Since yellow fever again plagued Philadelphia during the late summer and early autumn of 1798, few these improvements were probably made before

⁵²MBH, 1 Dec. 1798.

⁵³MBH, 6 May 1799.

⁵⁴MBH, 21 May 1799.

⁵⁵Deed, Rebecca Smith and Thomas Smith to the Board of Health (Philadelphia), 7 Aug. 1799, Delaware County, Pennsylvania, Deed Book E, 160.

⁵⁶MBH, 15 Nov. 1796.

⁵⁷MBH, 7 Jul. 1797.

⁵⁸MBH, 3 May 1798; *An Act to alter and mend the health laws of this Commonwealth...* (1798).

the year's end, by which time changes to the amended health act of 1798 were already being discussed.

The 1799 *Act for establishing an Health Office...* called for the creation of a place “for the purpose of landing and receiving the cargoes of ship for purification and the accommodation of persons; which...shall be called the LAZARETTO.” The act also “declared” the Marine Hospital to “be the LAZARETTO” until completion of the new facility, suggesting that the existing complex was not already considered a lazaretto. Did use of the term “lazaretto” indicate something functionally different from the existing hospital on State Island? Or, was it merely an inventive synonym chosen to make the new health act even more distinct from what preceded it?

In its broadest sense, the term “lazaretto” refers to a public building or hospital intended for the isolation or quarantine of people with contagious diseases.⁵⁹ The meanings associated with the term in the 1799 health act signified something more than a hospital. In their December 1798 memorial to the Pennsylvania legislature about amending the health act, the Board of Health described the need for both “a lazaretto” as well as “magazines for the reception of purification of cargoes.”⁶⁰ The new health law approved four months later required the speedy construction of a place called “the LAZARETTO,” which would not only serve as for quarantining suspect passengers and crew, but also for offloading and purifying suspect cargo.⁶¹ The new law turned a generic name for a quarantine hospital into a proper name for a specific location along the Delaware River shore, a place where cargo as well as passengers would be evaluated and possibly held until deemed harmless. It is possible that this name change was merely a casual outgrowth of the memorial submitted by the Board of Health, or an easy way to distinguish between the old and new stations. However, it might represent a more directed choice in wording the new health law with the quarantine station receiving not only a new site and buildings, but also a new name.

In general the Marine Hospital qualified as “a lazaretto”; however, as specifically defined in the 1799 health act the Marine Hospital fell short of being “the LAZARETTO.” The health act passed a year earlier explained that the Marine Hospital on State Island would need to be used as both “hospital and stores.” An

⁵⁹Cyril M. Harris's *Dictionary of Architecture and Construction* (2000) defines the term as “a segregated area for infectious medical patients, esp. for their quarantine.” *Webster's New International Dictionary, Second Edition* (1942) provides three definitions, two of which are closely related: “a public hospital or pesthouse for the reception of diseased persons, particularly those infected with contagious diseases, esp. lepers.” and “a building for vessel used for detention in quarantine.” Similarly, the *New Shorter Oxford English Dictionary*, vol. 1 (1993) offers three meanings, two of which are “a hospital for diseased people, esp. those with leprosy” and “a building or ship for quarantine.”

⁶⁰MBH, 10 Dec. 1798.

⁶¹*An Act for establishing an Health Office...* (1799). In *An Account of the Principal Lazarettos in Europe* (Warrington, 1789), John Howard describes the facilities at numerous lazarettos, mostly along the Mediterranean. At both Marseilles and Venice, he described facilities that included accommodations for both suspect passengers and cargo.

inventory and evaluation of the Marine Hospital structures made shortly after passage of the 1798 act found that the complex was equipped, if not ideally so, for the quarantine of people, but not cargo. The complex included a “best” building measuring approximately 70’ x 30’ and housing the Resident Physician and passengers under quarantine who were not ill.⁶² There were two additional two-story buildings described as “similar,” one housing the sick and one occupied by the Steward, his storeroom, additional “Resident Health Officers,” and a room for the boatmen.⁶³ The Marine Hospital lacked a warehouse for offloaded cargo, a situation not remedied a year later when the Lazaretto superseded the Marine Hospital.

In May 1799, the “visiting Committee” of the Board of Health found the storage facilities on State Island even still “insufficient for the reception of the cargoes which the law directs shall be landed.”⁶⁴ Turning the former Marine Hospital into an interim Lazaretto demanded repairs to the existing structures and the addition of “temporary additional buildings.”⁶⁵ These changes included the construction of a “a large Frame store, 30 by 70,” listed in an 1801 auction notice but not in the Board of Health’s 1798 inventory.⁶⁶ This addition transformed the Marine Hospital into a provisional Lazaretto while a wholly new, purpose-built facility rose further south on Tinicum Island in Delaware County.

Including inspection and purification of cargo within the health legislation was a matter of public health in Pennsylvania, but landing cargo from domestic and foreign ports was also of federal interest with the collection of customs duties. These two levels of government needed to cooperate in balancing issues of the public health with the maintenance of free commerce and incoming revenue. Before the Board of Health even formed a committee to locate a site for the Lazaretto, they sought out the advice of “the Collector of the port.”⁶⁷ After meeting with this agent they reported that “so far as it is compatible with the duties of his station,” he would agreeably provide whatever help they needed to execute the “Health law of the State.”⁶⁸ Conversely, a draft outline of the duties of the quarantine master for the Lazaretto stated that he “is also to pay the strictest

⁶²MBH, 3 May 1798.

⁶³Ibid.

⁶⁴MBH, 6 May 1799.

⁶⁵Ibid.

⁶⁶In May 1801, *Poulson’s American Daily Advertiser* described the complex in a notice for its upcoming sale. The text read: “the Lot contains between 6 and 7 acres; the buildings consist of a large two-story brick house, 33 by 70 feet, the principal part well finished, late occupied by the Resident Physician. Two other two story brick Houses, each 18 by 87 feet, one late occupied by the Steward and Quarantine master, and other used for a Hospital. A large Frame store, 30 by 70, might easily be converted into a barn and stables for four horses and four cows, with a chair house; a large excellent garden; the remainder of the lot produces good clover.” This notice, entitled “For Sale at Auction at the Coffee-House, on Wednesday evening the 20th instant, at 7 o’clock, A Lot of Ground and Buildings thereon erected, known by the name of the Lazaretto, On Province Island,” appeared in issues of *Poulson’s American Daily Advertiser* on 12-16, 18, 19 May 1801.

⁶⁷MBH, 24 Apr. 1799.

⁶⁸MBH, 26, Apr. 1799.

attention to the Security of the revenue of the United States, as far as he can, consistant [*sic*] with his duty as quarantine Master, conforming therein to the instructions he may receive from the Collector of the port.”⁶⁹ The easiest way in which the needs of both parties could be met was to build a facility that supported both quarantine and custom’s activities. Upon locating the tract on Tincum Island, the Board of Health recorded in its minutes that they:

are ready to accommodate the United States with such part thereof as shall by them be required for ‘Wharves, warehouses, &, arguably to the third section of a law of the United States entitled ‘an act respecting quarantine and Health laws’ where in it is provided ‘that there shall be purchased or erected under the orders of the President of the United States, suitable ware houses with wharves and inclosures [*sic*], where goods and merchandize [*sic*] may be unladen and deposited.’⁷⁰

In reaching a mutually agreeable situation, the Board of Health appears to have appropriated money to the federal government in order to obtain about six acres of riverfront land contiguous with the site of the new Lazaretto.⁷¹ There is no evidence that the Board of Health provided any additional support for the construction of warehouses and wharves. With the tracts for both the Lazaretto hospital and related storage for offloaded goods located and under agreement for purchase by the end of May, plans moved forward on the design and construction of the principal buildings comprising the Lazaretto.

The Design of Eighteenth-century Hospitals

As an institution, the Lazaretto occupied a number of individual structures comprising a complex, some original to the 1799-1801 period and some built after the initial campaign. The complex focused visually and functionally on a large central, three-part structure used for both hospital and general administrative purposes. This edifice displayed characteristics in plan and detail stemming from more than a century of architectural development for social institutions in England and elsewhere in Europe. The significant expansion of cities in the seventeenth and eighteenth centuries necessitated new types of public and quasi-public institutions meant to provide for the sick and insane among, mainly, the poor, whose formerly manageable numbers had been accommodated by the Church or individual communities.⁷² In general, buildings constructed for these

⁶⁹MBH, 17 May 1799.

⁷⁰MBH, 21 May 1799.

⁷¹The deed for six acres of land to the west of the Lazaretto tract was recorded November 21, 1799 between John and Mary Taylor and the United States of America for 1,235 “pounds lawful money of the United States” (dollars). See Delaware County, Pennsylvania, Deed Book E, 151. The 1799 health act required the Board of Health to annually publish their accounts. On December 3, 1799, *Claypoole’s American Daily Advertiser* ran their first report, which revealed that the Board had spent \$3,250 for the “purchase of Lands for the scite [*sic*] of the New Lazaretto.” The ten acres bought for the Lazaretto proper cost the Board \$2,000. The remaining difference of \$1,250 suggests that the Board of Health may have provided money to the federal government for the purchase of adjacent land for use by custom’s agents.

⁷²John D. Thompson and Grace Goldin, *The Hospital: A Social and Architectural History* (New Haven and London: Yale University Press, 1975), 79

purposes—such as hospitals, asylums, almshouses, even prisons—frequently resembled one another on the exterior.⁷³ English colonists arrived in America bearing a generalized model for public building form, and a predilection for design consistency across institution types remained in place well into the nineteenth century.⁷⁴ Architectural historian W. Barksdale Maynard commented on the phenomenon, stating: “the aesthetic ideas of the day, very different from our own, stressed conformity, not novelty; respectful obedience to established principles, not striking innovation.”⁷⁵ Because of this outlook, the Lazaretto resulted from architectural trends that can be traced back to England more than a century before its construction.

The structure that “set new standards for large public buildings in England,” and ultimately the North American colonies, was Bethlem (Bethlehem, also Bedlam) Hospital in London.⁷⁶ Robert Hooke designed the insane asylum, which was constructed in 1675-76. As with many other early, secular institutional buildings, Bethlehem’s design originated from a domestic typology. One history of hospitals suggests that the benefactors of voluntary hospitals drove this trend, conveying: “noble and bourgeois donors built for the sick poor in forms familiar to themselves that were so closely derived from palaces or country houses it is hard to distinguish a hospital from a gentleman’s home. (Thus, Bethlem Hospital was conceived as a palace for the insane poor.)”⁷⁷ Bethlem’s overall form—dominant, articulated pavilions linked by more simply conceived hyphens—became the foundation for over a century of public building construction on both sides of the Atlantic.

One of Bethlem’s eighteenth-century descendents, the Royal Infirmary in Edinburgh, Scotland (1738-41, William Adam), can be considered, if not a direct model, a direct influence on the first generations of hospital design in the North

⁷³For examples designed and built by Philadelphian Robert Smith, see: Edward A. Chappell and Travis C. McDonald, “The Architecture of the Public Hospital: Containing Madness,” *Colonial Williamsburg* 7 (Spring 1985): 26–29. Bernard Herman has also observed that in the greater Delaware Valley, “for early nineteenth century almshouse planners the process of design and construction differed little from that of other public buildings of the period.” Bernard L. Herman, “The Development of the Charitable Landscape: The Construction of the Lancaster County Almshouse in Regional Context,” *Journal of the Lancaster County Historical Society* 102 (Summer/Fall 2000): 114.

⁷⁴English colonists more-or-less directly imported architectural ideas for building social institutions, but the value of such institutions to society was somewhat altered (and, perhaps, increased) since the corporate charters required to establish them provided a much-needed legal source of capital for the merchants of colonial cities and towns. See Morris J. Vogel, “The Transformation of the American Hospital,” *Institutions of Confinement: Hospitals, Asylums, and Prisons in Western Europe and North America, 1500–1950*, a publication of The German Historical Institute, Washington, D.C., ed. Norbert Finzsch and Robert Jütte (Cambridge, UK: Cambridge University Press, 1996), 42-43.

⁷⁵W. Barksdale Maynard, *Architecture in the United States, 1800–1850* (New Haven and London: Yale University Press, 2002), 70.

⁷⁶*English Hospitals, 1660–1948: A Survey of Their Architecture and Design*, ed. Harriet Richardson (London: Royal Commission on the Historical Monuments of England, 1998), 3.

⁷⁷Thompson and Goldin, 79.

American colonies.⁷⁸ In 1754, during the planning of the Pennsylvania Hospital in Philadelphia, builder and board member Samuel Rhoads showed the Board of Managers an elevation and “plan of the several floors” of the “Edinburgh Infirmary some parts of which they have taken into their further consideration.”⁷⁹ The minutes make no other reference to the drawings, but they were obviously of enough use and interest to Rhoads to enter them into general discussion about the anticipated Pennsylvania Hospital. Despite comparable central pavilions with engaged, monumental orders taking in the second and third stories and cupolas on their roofs, the Royal Infirmary cannot be considered an immediate source for the Pennsylvania Hospital. Rather, the similarity of their classical elements and formal arrangement attested to the widespread application of increasingly generic architectural fashion.

As seen with its English forerunners, the Pennsylvania Hospital became a home-grown prototype for institutional buildings in the colonies. It provided a usable example to Americans in its translation of high-style English architecture into a building whose scale, detail, and materials grew out of limited local abilities and resources. The interplay between articulated pavilions (frequently topped by cupolas) and stripped-down hyphens became an organizational template for like institutions from the 1750s well into the next century. At least one popular nineteenth-century history claimed that the Board of Health modeled the Lazaretto on the Pennsylvania Hospital; however, there is no hard evidence supporting this claim.⁸⁰ Their affinity grew out of period aesthetic inclinations and the earlier structure’s impact on the local vernacular. In both style and function, the Pennsylvania Hospital presented such a useful example that there was little need or desire for deviation or innovation until well after the Lazaretto’s construction.

The formal massing instituted at Bethlem and eventually used at the Lazaretto appealed to contemporaries because of its grand visual presence, allowance for economical construction, and, on the interior, functional flexibility. By concentrating architectural interest in certain areas—such as the principal façade, the primary entrances, or along the roofline—the approach was a cost-effective strategy for municipalities and charitable institutions. The use of pavilions and hyphens was also a thrifty tactic because structures could be planned on a large scale, but built in stages as needs warranted or funding became available. For example, in 1755 the Board of Managers of the Pennsylvania Hospital fully planned their winged edifice occupying an entire city block; however, they

⁷⁸James Buchan, *Crowded with Genius: The Scottish Enlightenment, Edinburgh’s Moment of the Mind* (New York: Perennial, 2004), 282-83, for date and architect. An image of the infirmary is included in the plates.

⁷⁹Board of Managers Minutes (hereafter **BMM**), 21 Dec. 1754, section 1, series 1, Board of Managers and Contributors, 1751-1975, Pennsylvania Hospital Records, 1751-1978, Archives of the Pennsylvania Hospital, Philadelphia, Pennsylvania. Chappell and McDonald, 27, for discussion of its plan.

⁸⁰See Henry Graham Ashmead, *History of Delaware County, Pennsylvania* (Philadelphia, 1884), 283.

completed the building in stages over fifty years: the East Wing in 1756, the West Wing in 1796, and the “Centre House” in 1804.⁸¹ Unlike the Pennsylvania Hospital, the Board of Health used tax monies and the recent yellow fever crises to their advantage and were able to construct the main buildings at the Lazaretto in a single, two-year campaign.

As initially completed, three independent, but conjoined sections comprised the main structure at the Lazaretto: a three-and-one-half-story central portion topped by a cupola flanked by two, two-and-one-half-story wings. From the exterior, the completed building resembled the Pennsylvania Hospital without its terminating pavilions, the most obvious difference being the Lazaretto’s south-facing, colonnaded piazza.⁸² Aside from its desirability during the humid mid-Atlantic summers, the piazza was vital for circulation since the three sections had no interior connection.⁸³ The piazza afforded desirable architectural impact as well. By visually linking the building’s three parts, each individually conceived on a domestic scale, it created a sense of mass suitable for an important institution. The piazza’s attenuated Doric columns were also the clearest outward acknowledgement that the building had been constructed in 1800, not 1755. For either reasons of economy (using a well-established vernacular form and construction methods or existing plans for another hospital) or on the sustained strength of the Pennsylvania Hospital as a functional and aesthetic model, the main building at the Lazaretto unselfconsciously exhibited outmoded architectural inclinations.

The main building at the Lazaretto was among the last of the Philadelphia area’s first generation of public buildings. Whether Georgian or Federal in detail, these edifices were, for the most part, designed on an essentially domestic scale and rendered neatly in red brick. The English models for early hospitals derived their forms from grand country houses, but the eighteenth-century American institutions were frequently literal replications of large residences, either chained together or lengthened by adding bays. Taken alone, the Lazaretto’s three-and-one-half story center section with its double-pile plan could have been the Hamilton family’s Georgian seat at Bush Hill, completed in 1740. Likewise,

⁸¹The minutes of the Board of Managers for the Pennsylvania Hospital note on 7 Jan. 1792: “the Mangers & Physicians are therefore of Opinion; that an Extension of the House, *as nearly as possible to agree with the original Plan...is indispensably needed.*” BMM, 7 Jan. 1792. Emphasis by author.

⁸²Although there is no known connection between the two, the Lazaretto’s dominant central block with flanking hyphens and a colonnaded piazza nods to another significant English model, the Devon and Exeter Hospital (John Richards, 1741-43). For exterior view and plan, see: *English Hospitals, 1660-1948*, 22-23.

⁸³The 1795 plan for the City Hospital, possibly used to build the Lazaretto, called for the “Construction of a Centre house with two Wings to admit of four Rooms in each...Separated by a Brick Partition wall and Communication to be by an open piasa [*sic*] in front of the Wings” (MBH, 24 Feb. 1795). This is the exact arrangement used at the Lazaretto. A door was later cut from the main block’s southeast room into the east wing; the west wing remains wholly independent. See Maynard, Chapter 4, for the role and significance of piazzas, porches, verandahs, etc., in eighteenth- and nineteenth-century American buildings.

although slightly larger, the two-and-one-half story wings with two rooms per floor joined by a center passage and stair replicated the flanking surgeon's and quarantine master's residences (extant and non-extant, respectively) constructed concurrently with the main building at the Lazaretto. In an interesting quirk of history, the Lazaretto and Benjamin Henry Latrobe's Bank of Pennsylvania were exact contemporaries and built in the same region.⁸⁴ Devised well-outside of the Philadelphia eighteenth-century vernacular, the Bank of Pennsylvania was the first of a new generation of public buildings and, in time, established its own replicated traditions. The exquisitely rendered stonework and dynamic volumes of the interior spaces reflected the latest in English neoclassicism and stood in stark contrast to the visually anachronistic Lazaretto.

Like its external design, the functions assigned to the individual sections and spaces of the Lazaretto followed patterns set in place by local and foreign precedents for hospitals; however, some decisions related to the plan, room use, and circulation originated in it being a hospital specifically meant for isolating patients with potentially deadly diseases. The visually dominant center section catered in part to the institution's more high-profile and administrative activities.⁸⁵

At the Lazaretto, the main block's southwest room on the first-floor was clearly its most important. The building had a single front, facing south towards the river whose traffic was the reason for its existence. Flemish bond brickwork and the one-story piazza extending for the building's full width architecturally underscored the dominance of this elevation. The southwest room fronted onto the portico and contained the structure's most elaborate mantelpiece, delicately detailed with neoclassical swags, urns, and stylized acanthus leaves. The room probably functioned as the "Committee Room," a space containing fine furniture, a carpet, a mirror, map of the world, and "1 print of Washington."⁸⁶ Beyond actual ownership by Philadelphia, the Lazaretto's institutional and architectural ties made it a cultural outpost of the city as well. As arguably the most refined American metropolis at the beginning of the nineteenth century, the need for at least one fashionable, genteel room at the Lazaretto would have been obvious to the Board of Health, whose membership drew from the more prosperous tiers of society. The Lazaretto's distance from the city and the needs of the Board's "visiting committee" during one of their periodic inspections made a room that

⁸⁴Latrobe began work on the design and construction of the Bank of Pennsylvania in 1798-99. The Bank of Pennsylvania moved into their new headquarters the last week of June 1801, one month after quarantine functions moved to the Lazaretto. See "The Treasure and Books belonging to the Bank of Pennsylvania..." *Poulson's American Daily Advertiser* 29 Jun. 1801.

⁸⁵Chappell and McDonald, 27. See also Thompson and Goldin, 97, and *English Hospitals, 1660-1948*, 23.

⁸⁶"Inventory of the effects belonging to the Lazaretto in charge of George Budd Steward[,] 25 Jun 1806," RG 37, Bureau of Health, 37.15, Inventories of Goods and Chattels, Lazaretto, 1803-1854, (hereafter **Inventory**), PCA. The 1806 inventory was the first that referred to the "Committee Room," but much of the furniture and other items listed in the room are found in an undifferentiated inventory for 1803. The inventories do not mention another room by a specific name until 1833.

was an island of elegance amid spartan wards of the sick and dying presumably necessary.

Evidence indicates that the center section of the Lazaretto's main building was generally not used for patient care. Although not arranged by room until 1833, inventories of the remaining first-floor rooms do not suggest a clinical character. The second and third floors contained beds and bedding, but lacked items inventoried in the "hospital" such as a bathtub, linens, and chamber pots. The resident physician and quarantine master had use of private dwellings within the Lazaretto compound, but the institution, fully isolated during the quarantine season, also needed to accommodate other permanent staff such as the steward and matron, and temporary staff such as nurses, bargemen, watchmen, and servants. These people may have occupied the upper stories of the main building. Unbroken brick party walls between the center section and its flanking wings provides further evidence for a physical and conceptual separation between the hospital wards and other functional areas of the Lazaretto.

The main building at the Lazaretto was the dominant one on the site, but it was, from the beginning part of a larger quarantine complex. At the end of 1801, the Board of Health's annual report stated that "the buildings [at the Lazaretto] are now finished."⁸⁷ It is possible that the report was only referring to the three sections making up the main building; however, the requirements of the 1799 health act and Board of Health minutes indicate that this initial construction also included a pair of houses symmetrically located to the north and south of the central administration and hospital structure. Section 8 of the act succinctly conveyed that "no resident physician [or] quarantine master...shall absent himself from the place of his duty between the first day of April and the first day of October...without leave first obtained, in writing, from the board of health."⁸⁸ The law goes on to state that the resident physician would "occupy the house hitherto occupied by the resident physician" at the Marine Hospital and have "suitable apartments provided for him" at the new Lazaretto.⁸⁹ On June 11, 1799, the day that the Board of Health considered plans for the Lazaretto, the minutes record that they left "the plans for residence of the Physician and of the out Buildings...as a subject of consideration" for a subsequent meeting.⁹⁰

The law did not specifically address housing for the quarantine master, but because of the stipulations requiring him to also be on-site, it seems that the Board of Health constructed two, two-and-one-half story brick houses of five bays with one-story piazzas facing the river, attic dormers, and end walls containing the fireplace flues and chimneys. The resident physician's house remains extant, although altered and incorporated into the clubhouse for a yacht club. The quarantine master's residence, located east of the main building has not survived.

⁸⁷MBH, 23 Nov. 1801.

⁸⁸*An Act for establishing an Health Office...* (1799).

⁸⁹Ibid.

⁹⁰MBH, 11 Jun. 1799.

A mid nineteenth-century watercolor view of the Lazaretto painted by T. L. Cernea confirms that it had the same form as the physician's house and that they were built as a matched pair.⁹¹ The interiors comprised a full cellar with stone foundation walls and two rooms separated by a central entry/stair passage on each floor above. In addition to helping the Board of Health meet the provisions of the new health act, these visual dependencies further aggrandized the site's public nature. The relative status of the resident physician over the quarantine master might have been underscored by an extant carriage house (for photographs, see HABS No. PA-6659-A) visually associated with the physician's residence.⁹² As a functioning quarantine hospital for over eight decades, the Lazaretto Quarantine Station expanded well beyond these core efforts with buildings of varying size and function.

7. Alterations and additions:⁹³

On the whole, the main, tripartite central building of the Lazaretto retains much of its original presence and detailing. The three-and-one-half story center section exhibits a particularly high degree of physical integrity. The most obvious addition is the present weather vane and time ball installed sometime after 1845, the year in which the first such apparatus was constructed in the United States by the Secretary of the Navy in Washington, D.C.⁹⁴ The function of the weather vane on the Lazaretto cupola is more obvious than the time ball, which The International Maritime Dictionary (1948) defines as: "a black sphere-shaped signal dropped, usually at noon, from the flagstaff of a prominent building in a seaport for the purpose of correcting chronometers."⁹⁵

The east wing has been subjected to the most drastic changes. On the first floor, all of the interior partitions and the stair have been removed and the north-facing exterior door enlarged to accommodate a machine shop. An extant drill press has caused the floor joists to crack and sag. Above the machine shop, a self-contained three-bedroom apartment is reached via exterior stairs. This mid-twentieth-century renovation destroyed or obscured the historic room divisions and building fabric, but itself remains in near-pristine condition. The attic story of this wing retains its original configuration and finishes.

⁹¹The watercolor is located at the Atwater Kent Museum in Philadelphia, Pennsylvania. The artist was probably Thomas Lester Cernea (1834-1876), an area architect who also painted and exhibited at the Pennsylvania Academy of Fine Arts in the 1860s. See: Tatman and Moss, 138-139.

⁹²The MBH from 12 Sep. 1816 gave the Lazaretto steward authorization to "repair the Quarantine Master's Stable," suggesting the presence of a second structure of this type at the Lazaretto by that time.

⁹³See section II:D "Site and complex" for information about other buildings on the site and its change over time.

⁹⁴U. S. Naval Observatory, "U. S. Naval Observatory Installs Newest Washington Time Ball," Press Release, 19 Aug. 1999, accessed online, 10 Apr. 2007, <http://www.usno.navy.mil/ballrel.html>.

⁹⁵René de Kerchove, "Time Ball," *International Maritime Dictionary* (New York: D. Van Nostrand Company, Inc., 1948), 774.

The west wing has also been altered, but these interventions have been less drastic. The center passage and its stair remain intact, and the eastern, first-floor room conveys some sense of open space in the original wards. Since the wing has been subdivided into apartments, a number of kitchens and bathrooms have been installed. Three bathrooms, which appear to date from the 1910s, 1930s, and 1940s, retain their fixtures and wall finishes.

With the exception of a fire standpipe once connected to a now-missing cistern in the center section's attic, only the wings are plumbed for water and sewer. Because of their continued apartment and machine shop uses, they also have much more extensive wiring. Some of the upper rooms of the center section have never been wired or plumbed. With the exception of the finished attic spaces, each of the tripartite building's rooms was originally heated by a fireplace, some later fitted with coal grates. The apartments and some of the other spaces eventually received more modern systems including hot water radiators, electric baseboard units, and forced air in the apartment above the machine shop.

B. Historical Context

Public Health Policy in Early America

For all intents and purposes, public health policy did not exist in America during the colonial period and the era of the early republic, and no federal laws or institutions to establish and maintain public health standards existed prior to the late nineteenth century. Until that time, public health was considered the responsibility of state and local governments. Unfortunately, early American cities and towns lacked the municipal organization and physical infrastructure needed to institute and uphold proper sanitation. Municipal water and sewerage systems did not exist, and local governments were ill equipped to address the foul conditions caused by privies, open sewers, and the inadequate removal of garbage and filth. As serious as the lack of sanitary infrastructure was the absence of reliable medical knowledge about the cause of disease and its effective treatment. Incredibly, eighteenth-century medical theory depended heavily on the theories formulated by the Greek physician Hippocrates in the fourth century BCE. Based on his teachings, eighteenth-century physicians still relied on bleeding, purging, vomiting, and blistering in an effort to correct an imbalance of bodily fluids, known as "humors," which were thought to be the cause of sickness. Although new theories in the seventeenth and eighteenth centuries discussed the effects of "miasmas," or impurities in the air, on humors, they did little to alter prevailing medical treatment.

Where they existed, health-care facilities were as primitive as medical theory. With the exception of the Pennsylvania Hospital, founded in Philadelphia in 1751, there were no hospitals to provide treatment for illness before the turn-of-the-nineteenth century. Local authorities sent those with chronic illnesses and no means of support to the local poorhouse or almshouse. During periodic epidemics, they sent the sick to "pest houses," located distant from population centers. The lack of medical knowledge and healthcare infrastructure meant that public health initiatives before the nineteenth century consisted almost exclusively of quarantine and of sanitary laws intended to force individuals to

control their own public and personal hygiene. The establishment of these laws did little to improve public health because the bureaucratic structure necessary to monitor conditions did not exist and the regulations tended to be enforced only after a crisis began.

Widespread disease and periodic epidemics were a major factor in the slow growth of the American colonies during the seventeenth and early-eighteenth centuries; however, despite the epidemics and limited health infrastructure, people considered the colonial cities to be comparatively healthy to those in Europe and were celebrated for fresh air, clean water, fertile land, and plentiful game. In general, there were fewer large-scale epidemics than in Europe because of lower population densities, spread further apart and only linked by the most primitive road networks and seagoing vessels. Over the course of the eighteenth century, the general health of the colonial population improved as their standard of living elevated, but urbanization and associated public health problems tempered these gains.⁹⁶ Disorders such as smallpox, malaria, dysentery, respiratory ailments, measles, mumps, scarlet fever, and diphtheria were commonplace.⁹⁷ Among these, malaria and dysentery caused the greatest social and economic hardship because they were the most widespread. Highly contagious small pox also afflicted and killed large numbers; however, it began to be brought under control by the end of the eighteenth century through the development of an effective vaccine. Of all the potential scourges, yellow fever was the most malignant and, because there was no universally-accepted treatment nor known cure, the most feared.⁹⁸ Although much dreaded, it struck only infrequently outside the hot, humid, marshy port cities of New York, Philadelphia, Baltimore, Charleston, and New Orleans, but the grim scenes accompanying periodic outbreaks in these population centers were not easily forgotten, in particular the devastating and legendary impact of the Philadelphia epidemic of 1793, claiming approximately one-fifth of its population.

Increased urbanization and dense development was a major factor in the increase in epidemics that began to occur by the latter part of the eighteenth century. The rapid growth of Philadelphia, New York, and Boston led to housing shortages and overcrowding in neighborhoods with poor sanitation—a perfect breeding ground for disease. Historian John Duffy explained, “The history of public health show that cities tend to grow faster than the ability of municipal officials to cope with health and sanitary matters.”⁹⁹ The growth of American cities, particularly in the post-revolutionary era, and increased trade with Europe and the West Indies during the latter part of the eighteenth century, significantly increased the threat of infectious disease. Cities such as

⁹⁶John Duffy, *Epidemics in Colonial America* (Baton Rouge: Louisiana State University Press, 1953), 240-43. Duffy also credits the high employment rate among Americans as a factor in good health, forestalling the creation of an economically depressed class that promoted conditions favorable to the spread of disease.

⁹⁷John Duffy, *The Sanitarians, A History of American Public Health* (Urbana & Chicago: University of Illinois Press, 1990), 9-10.

⁹⁸Ibid.; Duffy, *Epidemics in Colonial America*, 238.

⁹⁹Ibid.; Duffy, *The Sanitarians*, 7.

Philadelphia began to experience more regular, seasonal occurrences of epidemics that in turn heightened concern for disease control.¹⁰⁰

The first attempts to regulate public health in colonial America came in the form of sanitary regulations. During the seventeenth century, nearly every city and town instituted at least some local controls, generally concerning the proper disposal of garbage and other forms of decaying matter; however, most early regulations were limited in scope and not systematically enforced. Early regulations were also probably ineffective because citizens, not the government, bore most of the burden for compliance. Often cited as America's first public health law, in 1611 the Virginia Governor passed an ordinance prohibiting anyone from washing clothes or creating a "nuisance" within twenty feet of a well, or "doe [*sic*] the necessities of nature" within a quarter mile lest the citizens be "poisoned with ill aires."¹⁰¹ Additionally, all citizens were to keep their houses "sweete and cleane" under threat of court martial.¹⁰² It is ironic that Virginia passed the first law of this type since subsequent centuries saw little concern for public health initiatives in the South because of its isolated, rural character and plantation economy. Slaves constituted a large portion of the population, and their health was considered the sole responsibility of the slaveholder.

In contrast to the South, New England colonists believed that general social welfare was a moral imperative and through this outlook they generated the greatest amount of awareness and responsibility for public health among the early colonies. Interestingly, they were able to develop this notion despite the pervasive theological acceptance that disease was an act of punishment inflicted by God on sinners.¹⁰³ Massachusetts also claims the passage of the first public health law with legislation of 1629 drafted to limit overcrowding on ships and reduce the mortality rate among immigrants. Five years later, the colony prohibited citizens from depositing fish or garbage near public lands; in 1652, they passed a series of ordinances to regulate privies and control dumping in streets and waterways; and in 1666, Boston appointed a "scavenger" to impound stray livestock and remove dead animals from the streets. New Amsterdam (later New York) created its first sanitary regulation in 1644 to prevent residents from dumping filth and ash or "making water" in public areas, followed in 1648 by a regulation keeping livestock from roaming the streets.¹⁰⁴ Later seventeenth-century laws in New York controlled the quality and contamination of the food supply by licensing and monitoring bakers and butchers, and in 1695, the city hired a scavenger to clear filth from the public right-of-way. The characteristic common to most of these early regulations was their responsive nature; they did not anticipate, but rather addressed known nuisances.

¹⁰⁰In 1700, the population of Philadelphia stood at about 4400, Boston at 6700, and New York at 4500 (Baltimore City was not yet created). By 1770, Philadelphia had grown to 28,000; Boston to 15,520; and New York to 21,000. Duffy, *The Sanitarians*, 22.

¹⁰¹Duffy, *The Sanitarians*, 11; *Baltimore Health News*, 203, as cited in: Wyndham B. Blanton, *Medicine in Virginia in the Seventeenth Century* (Richmond, VA: The William Byrd Press, Inc., 1930), section 22, 15.

¹⁰²*Ibid.*

¹⁰³Wendy E. Parmet, "Health Care and the Constitution: Public Health and the Role of the State in the Framing Era," *Hastings Constitutional Law Quarterly* 20 (Winter 1992), 286-87, 299-300.

¹⁰⁴Duffy, *The Sanitarians*, 13.

Preventative measures, however limited in scope, began to appear at the end of the eighteenth century. Maryland legislated what was likely its first health law in 1694, which called for the burial of dead cattle—great numbers of which had died that winter—in order to prevent sickness. In the same year, Kent County, Maryland, passed an act that “by reason of a great and dangerous mortalitie [*sic*] in the neighboring Province of Pennsylvania [*sic*]” prevented residents from traveling to the neighboring colony and “entertaining” visitors from Pennsylvania. Preventative isolation and quarantine—far more than any prevailing medical treatment—would be the primary means of controlling the spread of infectious disease well into the nineteenth century. In 1729, Baltimore-town passed its first health-related act because an active port made residents more susceptible to disease. The act gave city commissioners power to remove “all Nuisances that they shall find in any of the Streets, Lanes, or Alleys of said Town.” A generation later, in 1750, they passed an ordinance prohibiting individuals from allowing “stinking fish and dead creatures” to accumulate on private lots or lie in the street outside houses.¹⁰⁵

Poor sanitation was indicative of all urban areas, due to lack of proper means of disposal. Garbage in city streets was common. Although by the late eighteenth century, most large cities employed individuals to perform some garbage collection, the bulk of the responsibility still fell to residents. Even in Philadelphia, the most progressive city at the time in America, garbage removal was woefully inadequate. In 1793, during the yellow fever epidemic an anonymous writer submitted the following description of garbage removal in that city to the *Federal Gazette*. The description paints an extremely vivid picture of the lack of sanitation in eighteenth-century urban America:

The practice is to put the offals consisting of bones, with some flesh on them, the entrails of poultry, and many other corruptive matters in a barrel, in the yard, and in some cases in cellars, where they putrefy, and are very offensive, and must infect the air with a nauseous destructive quality, and I think less injury would probably follow, from throwing them at once into the street, where the dogs would devour the meat, and the cows the vegetables, than keep them collected in a mass, until in a state of corruption, of which we are witnesses; when the dirt-casks are brought out to be emptied, the smell of which, is scarcely supportable, It would be better, we should pay an additional tax, to have the Scavengers call at our houses three times a week, than thus be sowing the seeds of death, in our own borders.¹⁰⁶

Lack of adequate drainage and water supply was equally problematic. For the most part, water in colonial towns and villages was supplied by the citizenry, either individually or collectively, in the form of private and public wells. In 1677, New York city residents citizens were ordered to dig wells for public use. A few years later, the city provided assistance for needed wells, but the water remained notoriously bad for some time

¹⁰⁵ *Baltimore Health News*, 205-06.

¹⁰⁶ Passage from *The Federal Gazette* 24 Aug. 1793, as cited in J. H. Powell, *Bring Out Your Dead* (1949) (Philadelphia: University of Pennsylvania Press, 1993), 20-21.

afterward. Those who could afford the cost hired water carriers to bring water into the city from outside springs. As a result, New York was the first city to attempt the construction of a reservoir and water transfer system in order to maintain a healthy supply. Although put into operation in 1776, it proved inadequate, and many decades would pass before it could be made even minimally effective. Efforts to build an improved system in 1798 also had limited success.¹⁰⁷ In the mid-1790s, Boston erected an aqueduct in an attempt to bring clean water to the city from the nearby town of Roxbury. The water supply was just as problematic in Philadelphia late in the eighteenth century, as described by historian J. H. Powell:

Wharves jutted out into the river and cut off the current; high tide deposited rotting stuff on the banks...Below the city were swamps, marshes, pools in clay pits, stagnant water. Most of the streets were unpaved. There was no water system, and only one sewer, under the serpentine of Dock Street. Elsewhere, holes were dug, as at Market and Fourth streets, to receive water from the gutters. These 'sinks' exhaled a noxious effluvia, for dead animals and all kinds of nauseous matters were hurled into them to putrefy.¹⁰⁸

In the years following the yellow fever epidemic, Philadelphia became the first city to create a fully operational municipal water system, completed in 1801. Powered by steam, the Philadelphia Water Works became a model for other city water systems nationwide. The new water system did away with the need to store rainwater in barrels, which became the breeding ground for the mosquitoes that (unknown at the time) caused yellow fever.

Early Medical Treatment in America

The limited and variable nature of early public health policy in America mirrored the sad state of medical treatment. Most citizens relied on home remedies for all but the most life-threatening conditions and local physicians called at these times had little more to offer. Colonial doctors based their medical treatments on centuries-old theories that had few restorative effects. One eighteenth-century doctor candidly wrote: "more die of the practitioner than of the natural course of the disease."¹⁰⁹ A dearth of medical knowledge extended from a scarcity of opportunities for proper research and training. At the time of the American Revolution, it is estimated that only about 400 of the 3500 physicians practicing in the colonies possessed a medical degree.¹¹⁰ The earliest American medical colleges were not established until the latter part of the eighteenth century, first at the College of Philadelphia (University of Pennsylvania), in 1765, and then at Harvard, in 1782. The absence of domestic medical schools required American doctors to either train abroad, or as was far more often the case, to learn medical practice through an apprenticeship. Because there was virtually no system of formal medical training, there

¹⁰⁷Duffy, *The Sanitarians*, 31, 47-48.

¹⁰⁸Powell, xviii.

¹⁰⁹Duffy, *Epidemics in Colonial America*, 4. The doctor was William Douglas, author of *A Summary, historical and political, of the first planting, progressive improvements, and present state of the British Settlement in North America*, vol. 2 (London, 1760).

¹¹⁰Francis R. Packard, *History of Medicine in the United States*, 2 vol. (New York, 1931), as cited in Duffy, *Epidemics in Colonial America*, 7.

was no institutional support for medical research or facilities from which to provide health services. Although a group of Philadelphians founded the Pennsylvania hospital in 1751, with the first wing of its edifice completed in 1755, hospitals were, for the most part, a nineteenth-century innovation in America. Almshouses or poor houses became the refuge of the indigent sick, but were not specifically equipped to provide treatment for illness. By the latter part of the eighteenth and early nineteenth centuries, dispensaries in urban areas, established by benevolent societies or private enterprise, provided medications and some medical services on a walk-in basis, but their services were also restricted by a lack of scientific knowledge.

Western medical theory relied on the ideas formulated by the ancient Greek physician Hippocrates during the fourth century BCE. The major component of this theory was the doctrine of the four “humors,” or fluids of the body, derived from the Greek concept of the four elements of nature. These fluids included blood, phlegm, black bile, and yellow bile. Hippocrates and later physicians associated each of these with a natural element: blood with fire, phlegm with water, black bile with earth, and yellow bile with air. As such, they frequently used climatic and environmental conditions to explain the cyclical appearance of epidemic diseases. Similarly, the humors were also linked with the seasons: blood with spring and the sanguine temperament; phlegm with winter and the phlegmatic temperament; black bile with autumn and melancholy; and yellow bile with summer and the bilious or choleric temperament.¹¹¹ Physicians diagnosed a patient’s condition by the presence or absence of red, black, or yellow pigments, and of heat, cold, dryness, or moisture. Good health depended upon a proper balance among the humors; an overabundance or contamination of one or another of these fluids caused poor health. Restoring balance required the purging the excessive, impure or “vicious” humors, and bleeding, vomiting, and blistering patients formed the basis of medical treatment. Because of the desired outcome, many early medications—calomel, mercury, opium, ipecac, rattlesnake root, and Jesuit’s bark—facilitated evacuation of fluids. Doses were so large that the rapid expulsion of fluids from the body might also be followed by an equally rapid “termination” of the illness, most likely in death.

While still predominantly relying on Hippocrates’s ancient theories, eighteenth-century physicians also subscribed to a number of other disease theories; the ensuing debate tended to focus on the cause of illness and did little to alter or improve medical treatment. Like the Hippocratic theory, the “theory of epidemic constitutions” appearing in the seventeenth century considered the effect of environmental conditions. Rather than linking illnesses to specific weather conditions and the seasons, proponents of this theory believed that inexplicable changes in the atmosphere caused “miasmas,” which they defined as noxious air emanating from rotting matter or, perhaps, even from the bowels of the earth itself. It was theorized that the body’s humors were effected by fetid miasmas or undetectable putrefied solids in the atmosphere. This led many to believe

¹¹¹It followed, then, that yellow fever—so named for the yellow pigmentation of the skin of its victims and of the fever it invoked—was associated with an excess of yellow bile that occurred in the heat of the summer.

that purification of the air was key to disease control.¹¹² As public health historian John Duffy observed: “the obvious connection between sickness and filth gave credence to the miasmatic theory” and the theory prevailed through the end of the nineteenth century.¹¹³ Enlightened scientific investigation frequently concentrated on identification and classification, and this approach for plants and animals was also applied to human illness. The science of Nosology classified diseases into class, order, genus, and species. Physicians argued about how best to make classifications; for example, should fevers all be considered of the same species? Common to most of the theories about the origins of disease was the belief that air was the catalyst for its spread.¹¹⁴

An alternative to humorist theory was that of the “solidist” made popular by the renowned Edinburgh Infirmary in Great Britain. The training provided at Edinburgh was considered the best in the world, and it was the place where many American physicians who received formal training. According to the theory, illness was the result of pathological imbalances in the body’s tissues as manifested by the strength and elasticity of the blood vessels and nerves. Good health was thus dependant on the free circulation of blood and “nerve fluids” or of the ready expulsion of sweat, urine, and feces.¹¹⁵ Like humoralism, these concepts were thought to be useful in diagnosing symptoms, but generally resulted in the same types of purge-inducing treatments. Fever, for example, was associated with a rapid pulse and attributed to excessive stimulation of the arterial tone that lead to irregular blood circulation. Depending on the philosophical bent of the residing physician, such a condition would require either purging, sweating, or bleeding (or a sequence of all three) in order to relieve the tension placed upon the vessels.¹¹⁶ In short, a limited understanding of human physiology and pathology persisted, and thus medical knowledge was not significantly advanced during the colonial era and opportunities for effective medical treatment were scarce.

Although by 1700, most large cites had a physician on retainer to treat the poor, their care was generally left to churches or to charity organizations. In actual practice, the principal

¹¹²Air purification was thought to be best achieved by wind, rain, and thunder, or by the coming of the frost which was recognized as a significant factor in terminating the spread of disease. Precluding these conditions, air was ironically through to be purified by fire or by loud noise. During the 1793 yellow fever epidemic in Philadelphia, citizen were encouraged to burn fires in the streets– and later, gunpowder– and a cannon was shot off daily by the city, until it was determined to be too much of an irritation. Powell, 38-39, 43.

¹¹³Duffy, *The Sanitarians*, 21. As Duffy explains, the leading proponent of this theory was the famous English physician Thomas Sydenham (1624-1689), and his views influenced numerous American physicians of the times. Included among these was Noah Webster whose 1796 publication *A Collection of Papers on the Subject of Bilious Fevers*, and other writings were fairly widely circulated and form the basis for much of our current understanding of the Colonial perception of disease theory.

¹¹⁴Powell, 38. Powell quotes contagionist, Dr. William Currie, who proclaimed that infections were “strengthened by a peculiar construction of the atmosphere” reflecting the notion that there were unobservable qualities or elements in the air that were the catalyst for disease.

¹¹⁵J. Worth Estes, “Introduction,” *A Melancholy Scene of Devastation: The Public Response to the 1793 Philadelphia Yellow Fever Epidemic*, ed. J. Worth Estes and Billy G. Smith (Canton, MA: Science History Publications/USA for College of Physicians of Philadelphia and the Library Company of Philadelphia, 1997), 9.

¹¹⁶Estes, 8-9; Powell, 36-40.

refuge of the sickly poor was the “almshouse,” an institution that began to appear in American cities during the early eighteenth century. Almshouses were established to provide custodial care for the indigent, aged, and chronically ill, and were not intended to facilitate medical treatment; however, many of almshouse residents were poor because of chronic or debilitating illness. The first almshouses in the colonies were those erected in Boston, Philadelphia, New York, and New Orleans. The city of Boston erected a “poor house” in 1686 to care for the sick, aged, and otherwise incapacitated poor. In 1738, the city also erected a “work house” for the able-bodied poor.¹¹⁷ In Philadelphia, the Quakers erected the Friends Almshouse in 1713, and the public almshouse, in 1731, which was rebuilt in 1767 to include a workhouse, and aptly renamed the “Bettering House.” It was removed and a new almshouse, referred to as the Blockley Almshouse, built in West Philadelphia, in 1834. In 1736, Charity Hospital opened in New Orleans, Louisiana. Although referred to as a hospital, all available evidence suggests that it was used as an almshouse, containing rather than actually treating the sick. In the same year, New York City opened its first public almshouse, replacing religious-based almshouses that had existed since the turn of the century. This facility was actually a poorhouse, workhouse, and a house of correction all under one roof. As in Boston and other cities, the New York system distinguished between the sickly poor—otherwise known as the *worthy* poor—and the able-bodied poor who were considered merely lazy or an out-right criminal element. The city of Charleston, South Carolina, erected a public workhouse and hospital in 1738, and smaller, locally run almshouses appeared in towns throughout colonial America. In less populated areas, “outdoor relief,” a system whereby residents received a stipend from local officials to provide room and board to an indigent member of the community, was widespread.

It is important to note that when discussing public health facilities during the eighteenth century, it can be difficult to distinguish between the purpose and actual use of those institutions, called alternatively: hospital, almshouse, pest house, Marine Hospital, and, eventually, lazaretto. The underlying basis for distinction seems to reside with the changing viewpoints on the origins of disease, which in turn affected each institution's role in treating or preventing its spread. As already indicated, the almshouse was in some ways the precursor to the public hospital. Because so many almshouse residents suffered from illness, almshouses became *de facto* hospitals. In fact, part of the motivation for the construction in Philadelphia in 1767 of a new almshouse—significantly renamed the “Bettering House”—was to reassert its role as a poorhouse and workhouse, and *not* as a hospital, which the old almshouse had essentially become.¹¹⁸ Furthermore, the early

¹¹⁷See: Jennifer Turner, “Almshouse, Workhouse, Outdoor Relief: Responses to the Poor in Southeastern Massachusetts, 1740-1800,” *Historical Journal of Massachusetts* (Summer 2003): 1-33, accessed online, 20 Jul. 2006, www.findarticles.com/p/articles/mi_qa3837.

¹¹⁸As John K. Alexander points out, “The House of Employment, which replaced the old city almshouse, was designed as a combination workhouse-almshouse, not a hospital, as reiterated in the 1766 charter. “House” sick were initially sent to the Pennsylvania Hospital for treatment until the cost to the House became so great that they were forced to assemble their own internal hospital facility by the late 1790s. The Hospital facility at the House was eventually surpass the reputation of the Pennsylvania Hospital, in the decades after a larger structure was erected in West Philadelphia in 1834. See: John K. Alexander, “Institutional Imperialism and the Sick Poor in Late-Eighteenth-Century Philadelphia: The House of Employment vs. the Pennsylvania Hospital,” *Pennsylvania History* 51:2 (April 1984): 101-117.

formation of almshouses predated that of hospitals by nearly a century; they were the only alternative for those who could not afford a private physician or were otherwise without means of support. Separate from the chronically ill were victims of epidemic, who were contained in a pest house. The term “hospital” was liberally applied to structures used to isolate those involved in maritime trade and defense, known as “Marine Hospitals.” Philadelphia likely erected the earliest example of this type ca. 1750 in order to replace the earlier “pest house.” Both the pest house and the Marine Hospital were basically used to quarantine the sick; the former for use by the general population, and the latter for use by seamen. The construction of the Marine Hospital reflected period wisdom that those involved in maritime trade and naval defense were among those most vulnerable to infectious disease, and that by treating them, the general population was also served. But this idea also reflects a bias towards the view that disease was more likely imported than generated locally. In Philadelphia and later in other places, the Marine Hospital was, in turn, replaced by the lazaretto, and, in fact, the Philadelphia Board of Health referred to the refurbished Marine Hospital as the “temporary Lazaretto” clearly distinguishing between their purposes. While still focused on maritime functions, there was the acknowledgment that disease was just as likely to occur locally as to be imported, and that private citizens (often immigrants) traveling by sea also required quarantining, as did cargo.

In addition to institutions intended mainly for the poor, the eighteenth century also saw the creation of organizations related to the science of health and its practical applications, with Philadelphia being the vanguard. By the latter part of the century, relief for some medical conditions could be found through dispensaries. Dispensaries were precursors to later hospitals and out-patient clinics, providing people consulting physicians and an apothecary. The first documented dispensary was established in 1770 by a Quaker physician in London. The Philadelphia Dispensary was the first such institution in America, established in 1786 and operated through contributorship.¹¹⁹ Dispensaries were the primary means through which persons of moderate means could obtain medical care, and by the late nineteenth century they rapidly became the primary care provider for lower income groups as well. As with other related institutions, most were run by charitable organizations or through private enterprise, and not by state or local governments. Private citizens also created the pioneering medical organizations and scientific societies. The first scientific society in America was the American Philosophical Society founded by Benjamin Franklin in Philadelphia, in 1743. Dedicated to promoting the knowledge of science and the humanities, it became the prototype for other intellectual organizations. Philadelphia was also home the College of Physicians, founded by twenty-four prominent Philadelphians in 1787 to promote a greater understanding of medicine and the roles of the physician in contemporary society. The Academy of Natural Sciences was founded in Philadelphia in 1812, and from it was created the American Medical Association, in 1847.

The Bettering House distinguished its function from that of the Pennsylvania Hospital, and yet the arrangement of the structure was clearly influenced by it.

¹¹⁹ *A Strangers Guide in Philadelphia and its Environs* (Philadelphia: Lindsay & Blakiston, 1854), 153-54. A second dispensary was established in Philadelphia in 1817, and two more by 1850.

The exception to lack of federal involvement in health care initiatives prior to the late nineteenth century was the creation in 1798 of the Marine Hospital Service. While it eventually became the Public Health and Marine Hospital Service in 1902, and finally, the Public Health Service in 1912, in this early manifestation, it provided facilities strictly for the care and quarantine of sick seamen. The justification for the establishment by the federal government of the Service was the connection between the marine traffic and the importation of infectious disease. When compared to levels in the late-nineteenth and early-twentieth centuries, immigration remained somewhat restricted. As a result, the need for quarantine was imposed primarily upon those involved in foreign trade, transport, and national defense—those viewed as most susceptible to infectious disease. The government believed that by safeguarding the health of seamen, they could, in turn, protect the larger citizenry.

Upon its founding, the Marine Hospital Service began to construct hospitals along the Atlantic coast, and later, at ports along rivers and lakes of the continent's interior. The first Marine Hospital owned by the federal government was *purchased* from the state of Virginia in 1801 (built 1787, and no longer extant). Boston was the site of the first federally erected hospital for the Marine Hospital Service. A temporary site was established for the service's own "first hospital" on Boston's Castle Island in 1799, and a permanent home erected in the Charleston section of Boston in 1804. As at Norfolk, Philadelphia had created a Marine Hospital prior to the federal initiative, in 1747, and even after the creation of the Service it remained under local control. This situation allowed the unique utilization of Philadelphia's Marine Hospital for the general quarantine of citizens during times of emergency. Even as a federal initiative, there was little oversight of the Marine Hospital Service. Centralized coordination of activities did not occur until 1870 when the Service was reorganized under the supervision of the Surgeon General. For the most part, the lax use and management of Marine Hospitals did little to stem the frequency or severity of epidemics, whether imported or with domestic origins. As trade, traffic, and immigration by sea increased, so did the motivation for a more regulated and permanent quarantine system, a goal that could only be met through a broader and more structured system of public health. Philadelphia became the first American city to successfully develop and implement a permanent public health initiative whose focus was to preempt rather than merely respond to a crisis, ironically, its establishment and sustained support primarily reacted to the social, economic, and political upheaval brought on by the initial yellow fever epidemic in 1793 and the recurrences that swept Philadelphia almost annually until the early-nineteenth century.¹²⁰

The Philadelphia Yellow Fever Epidemic of 1793

Although as an event in history the yellow fever epidemic of 1793 is well known, its deeply troubling and disorienting effect on Philadelphians and the country is not as well understood. The epidemic killed thousands, perhaps as high as one-fifth of Philadelphia's population, and caused unprecedented disruption of commerce and politics

¹²⁰ Margaret Humphreys, "Appendix: Yellow Fever Since 1793: History and Historiography," *A Melancholy Scene of Devastation: The Public Response to the 1793 Philadelphia Yellow Fever Epidemic*, ed. J. Worth Estes and Billy G. Smith (Canton, MA: Science History Publications/USA for College of Physicians of Philadelphia and the Library Company of Philadelphia, 1997), 192.

as thousands more fled the city. According to available statistics, Philadelphia's yellow fever epidemic of 1793 killed anywhere from 3,293 to 5,019 people, a number that constituted somewhere between thirteen to twenty percent of the city's population. The death toll would have been even higher had it not been for the more than 17,000 people believed to have fled the city.¹²¹ The epidemic paralyzed Philadelphia, putting a stop to all trade and commerce. It disrupted social and political institutions, which then included those governing the newly formed nation. Not only was Philadelphia the nation's capital, but also the largest and most cosmopolitan of its cities. Philadelphia possessed some of the most renowned physicians, and scientific and medical institutions, but their presence did nothing to stem the rising death rate as physicians argued publicly over proper treatment. The inability of local authorities to cope with maintaining even basic services much less protecting its citizenry from life-threatening illness severely shook public confidence in the city's municipal and medical communities.

Both quantitatively and qualitatively, the epidemic changed Philadelphia and the country on an extraordinary scale, even casting doubt on the ability to function as a nation and the wisdom of creating large cities. Taking the epidemic as a sign from God, it even brought into question national piety. Historian Susan Klepp has noted the symbolic power of the event, stating: "If health and the success of the Revolution were linked, then the sudden appearance of yellow fever in the nation's capital signaled a moral and political failure as well as a medical crisis."¹²² Yet in reality, momentum for such an outbreak had been building for some time. By the last decade of the eighteenth century, Philadelphia had reached the breaking point in the balance between population density and an ability to sustain acceptable levels of public health. Historian Michal McMahon contends "the roots and contexts of the urban crisis that gripped American cities during the late eighteenth century was the deficiencies in the day to day maintenance of municipal engineering."¹²³ The yellow fever epidemic of 1793 for the first time put into motion a mechanism within a municipal government for improving the health of the community and safeguarding against future epidemics, a mechanism that ultimately oversaw the creation of the Lazaretto.

The trouble began in July in the vicinity of Water Street, which was characterized as "much confined, ill-aired, and in every respect, a disagreeable street."¹²⁴ A rash of sudden deaths occurred, the victims all apparently exhibiting the same symptoms: fever,

¹²¹Susan E. Klepp, "Appendix I: 'How Many Precious Souls Are Fled?' The Magnitude of the 1793 Yellow Fever Epidemic," *A Melancholy Scene of Devastation: The Public Response to the 1793 Philadelphia Yellow Fever Epidemic*, ed. J. Worth Estes and Billy G. Smith (Canton, MA: Science History Publications/USA for College of Physicians of Philadelphia and the Library Company of Philadelphia, 1997), 166. The lower figure was calculated by the 1793 Committee for Malignant Fever, and the higher is from the Christ Church bill of mortality.

¹²²*Ibid.*, 175.

¹²³Michal McMahon, "Beyond Therapeutics: Technology and the Question of Public Health in Late-Eighteenth-Century Philadelphia," *A Melancholy Scene of Devastation: the Public Response to the 1793 Philadelphia Yellow Fever Epidemic*, ed. J. Worth Estes and Billy G. Smith (Canton, MA: Science History Publications/USA for College of Physicians of Philadelphia and the Library Company of Philadelphia, 1997), 112, 98.

¹²⁴Powell, citing an unnamed "contemporary", 10.

blood-shot eyes, headache, eruptions of the skin, nausea, a vile black vomit, and a yellow tinge in the skin color that lead to its designation as “yellow fever.” For four months, the fever raged and panic and fear spread throughout the city and beyond, as far as New York and Boston to the north, and Baltimore and the Carolinas to the south. Everywhere, steps were taken to prevent the illness from being transmitted therein. All means of communication from Philadelphia were cut-off, for people feared that even a letter might carry the infection.

The fever spread quickly through the city during the late summer of 1793, and with no apparent remedy. Adding to the hysteria over the death toll, the city’s physicians argued publicly over proper treatment. The debate, waged largely through the one newspaper that remained functioning during the epidemic, also focused on the cause of the disease. Eventually, two separate camps were formed, the “contagionists” and the “climatists.” The former believed yellow fever to be a contagious disease that had been imported from abroad. The latter targeted rotting refuse left to “befoul” the air as the cause. Contagionists felt that strict quarantine would provide the best means for curtailing the disease, while the climatists advocated for improved sanitary measures.¹²⁵ Among the latter group was Benjamin Rush, arguably the city’s most prominent physician. He blamed the outbreak on a shipload of spoiled coffee that lay abandoned and putrefying on the Philadelphia waterfront; however, more significant than its cargo were the ship’s passengers and crew. The sloop *Amelia*, docked at Water Street, carried refugees from the revolution in Santo Domingo (present-day Haiti), where yellow fever regularly occurred. One after another, ships crowded with the hungry and sick entered Philadelphia’s ports from the French island.¹²⁶ Contagionists believed that these ships, and their cargo, crew, and passengers were the likely source for the 1793 epidemic; although true to a certain extent, they could not have known that transmission of the disease required a particular third party—the female mosquito of the species *Aedes aegypti*.

The true source of yellow fever was not widely established until after 1901 when Walter Reed and his colleagues were able to prove that the illness originates from a virus spread by the female *Aedes aegypti* mosquito and cannot be directly transferred by those infected.¹²⁷ In 1793, no one could possibly guess that this tiny insect could be

¹²⁵ Powell, 14-15.

¹²⁶ McMahan, 113. According to McMahan, the Committee on Malignant Fever feared growth in the form of recent immigrants coming to the city from foreign ports, especially from Santo Domingo. The Committee warned the governor about the “increasing trade of the city, and the great number of people who are daily arriving,” and in a report of the council in December located the source of the disease in the very nature of urban settlement, citing the crowding found in “all great commercial cities.” See also: Powell, 4-5.

¹²⁷ Once infected, a mosquito remains a carrier for her entire life, which might run from spring to the first frost in the fall. The mosquitoes feed every third day, each time potentially transmitting the fever. If she bites a yellow fever victim in the first three or four days of his fever, the germs of the disease pass from the patient’s blood into *aegypti*’s stomach. During the next twelve days, they migrate from her stomach into her salivary glands, from which she discharges them into the next person she bites. After she is infected, *aegypti* can inject the disease into a different human being every three days, which is as often as she feeds, and can go on doing so as long as she lives, which is roughly until frost; See Powell, xix.-xx.

responsible, but evidence abounded. Victims of yellow fever often had itchy eruptions on the skin (referred to as petechiae), that—as Dr. Benjamin Rush pointed out—“resembled moscheto [*sic*] bites.”¹²⁸ Another physician, Oliver Wolcott, noted that when the wind blew from the north patients improved and fewer new cases occurred, yet when it came from the south, blowing up from the rivers and swamps below the city, the numbers greatly increased and more fatalities occurred.¹²⁹ Many posited that yellow fever arose from such areas as the open sewer of Dock Creek, a “large and offensive canal which wandered through the most populous parts of town,” another likely breeding ground for mosquitoes.¹³⁰

With the mosquito as the transmitter, yellow fever was both imported (initially) and domestically incubated disease, but eighteenth-century physicians lacked this knowledge when formulating their theories about this and other diseases. New York Federalist, Noah Webster felt strongly that yellow fever was not contagious through direct contact between people, but rather the consequence of crowded urban environments. Webster frequently corresponded with well-respected Philadelphia physician William Currie about the cause of repeated epidemics up and down the eastern seaboard during this period. He concluded in part that “Close compact cities . . . are the graves of men,” such cities “cannot fail to generate too much filth, and to vitiate the air in too great degree, for the health of the citizens.”¹³¹ Sanitation was problematic independent of epidemic disease, but conditions and crowding in 1793 made Philadelphia a natural breeding ground for the mosquitoes that transmitted yellow fever. According to Billy G. Smith, the city allocated funds to pave streets, hire scavengers to clean the main streets, and to cover a portion of Dock Creek, but despite these measures:

In 1793 pigs, dogs, and rats roamed freely to feed on the garbage in the streets, especially in impoverished neighborhoods, while residents commonly disposed of their refuse and excrement in the alleys and gutters in front of their homes. The openings in sewers ‘exhale the most noxious effluvia,’ according to one contemporary, ‘for dead animals and all kinds of nauseous matters were hurled into them to putrefy.’ Dock Creek continued to be a stagnant sludge of refuse in the center of the city.¹³²

As the epidemic deepened over the summer, Mayor Clarkson called upon the seemingly vast resources of the city’s medical community for advice. A committee of sixteen members of the College of Physicians gathered at a meeting on August 25 with the intention of drawing up a list of recommendations. As historian J. H. Powell points out, it was the first time in America that a government appealed to a medical society for guidance.¹³³ The committee agreed to meet every Monday afternoon to discuss treatments and gave advice about basic preventative measures such as avoiding the sick,

¹²⁸Ibid., 27.

¹²⁹Ibid., 92-93.

¹³⁰Ibid., 13.

¹³¹Noah Webster, *Letters on Yellow Fever Addressed to Dr. William Currie*, Letter XXIV, December 18 1796 (New York: Arno Press, 1979), 103, 100.

¹³²Smith, “Comment: Disease and Community,” 158.

¹³³Powell, 30.

marking the houses of those infected, keeping streets and homes clean, and avoiding the evening air. Less useful suggestions included burning gunpowder to “clear the air” and keeping one’s nose and mouth covered by a vinegar-doused handkerchief when visiting the sick. Most people stayed indoors and “purified” their houses by cleaning, whitewashing, and sprinkling vinegar about rooms, and burning gunpowder or smoking tobacco. According to Powell:

Those who had to walk abroad carried their tarred ropes or camphor bags and chewed garlic constantly, doused themselves with vinegar, carried smelling bottles or smoked tobacco. They emitted a curious odor for several yards. Even women and small boys, Matthew Carey observed, had segars [*sic*] almost constantly in their mouths, and remedies by the dozen were concocted. Some of the measures were suggested to reduce panic, such as stop the seemingly endless tolling of church bells at funerals and to transport the dead in closed carriages rather than open wagons and carts. Perhaps most significant was the suggestion to build ‘a large and airy hospital be provided near the city, to receive poor people stricken with the disease who cannot otherwise be cared for.’¹³⁴

The Pennsylvania legislature—or the approximate one-half of the representatives who had not fled the city—met at the State House for a three-day session beginning August 27. Among the items of business was a bill calling for an amended health law; however, in avoiding potential political suicide, they ultimately made no specific recommendations, but rather merely pledged financial support to Mayor Clarkson. The mayor, in turn, ordered a massive cleanup. As per the recommendation of the College of Physicians, he also promised that “a Hospital in an airy and healthy place is to be provided with all expedition.”¹³⁵ The latter was extremely important since the city’s various institutions of health and welfare all operated as private organizations and closed their doors to yellow fever victims using myriad justifications. The Pennsylvania Hospital sought to protect its patients from the epidemic because it considered itself a curing institution, not a pesthouse. Likewise, the Guardians of the Poor managing the Almshouse barred the sick under an existing rule prohibiting admission of anyone with an infectious disease. It was said later that the indigent sick lay dying in the streets, a condition damaging to both public health and morale.

Faced with an immediate need, the Guardians commandeered the imposing house on the “Bush Hill” estate of the prominent Hamilton family for a temporary hospital. With so many destitute victims, the facility was soon in disarray, and doctors, nurses, and attendants were short in number. The filth and stench was reported to be unbearable, and one noted physician remarked:

The sick, the dying, and the dead were indiscriminately mingled together. The ordure and other evacuations of the sick, were allowed to remain in the most offensive state imaginable. Not the smallest appearance of order or

¹³⁴Ibid., 46.

¹³⁵Ibid, 54.

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regularity existed. It was, in fact, a great human slaughter-house, where numerous victims were immolated at the altar of riot and intemperance.¹³⁶

So few who entered for treatment left that many victims of the epidemic eventually resisted attempts to isolate them at Bush Hill. Their presence among the general population— if not actually spreading the disease, as was believed—contributed to an atmosphere of alarm and anxiety for the people who remained in the city. Many were left unattended due either to fear on the part of potential caretakers or a lack of caretakers entirely. Matthew Cary estimated at the time that seven out of eight who died were poor, and of these a third at least died simply from want of proper treatment.¹³⁷

As conditions continued to worsen, the city witnessed a nearly total breakdown of civil government. President George Washington left on September 10. He usually departed Philadelphia for Mt. Vernon about this time each year, returning when Congress reconvened a few weeks later; however, in 1793 his departure seemed an ominous sign. Washington gave control of the federal government to Secretary of State General George Knox, but he quit the city only a few days later.¹³⁸ Later in the autumn, Congress delayed reconvening and the United States government entered dormancy.¹³⁹ Taking their lead from the nation's political leaders, all those who could afford to leave the city did so. Most of the city's shops closed and large numbers of workers were without means of support and without food. In addition to small businesses, commercial losses were immense—one-quarter of the nation's exports shipped out of the Port of Philadelphia and the port lay empty. By mid-September, Governor Mifflin pushed hard on the Pennsylvania legislature to act. He had received reports that ships from the West Indies were continuing to enter the city ports without inspection. As a result, the Quarantine Act was resurrected and a new bill introduced that gave him carte blanche to take the steps necessary to prevent the further spread of infection. He quickly ordered the detention of all suspect vessels pending inspection by the port physician.

Through all the trauma, Mayor Matthew Clarkson remained in the city to provide leadership despite a lack of resources and manpower. Even the College of Physicians gave up their weekly meetings to discuss the course and state of the epidemic after only two members showed up for the September 17 meeting.¹⁴⁰ In desperation, Mayor Clarkson made a public plea for assistance, which coalesced into a group of able-bodied volunteers called the "Committee on Malignant Fever." With the backing of the state and local governments, the Committee organized sanitation and relief activities. The former included such things as: visiting the rooms and houses where people had died of the fever to clean out infected material; watering (to keep down dust) and cleaning the filth from

¹³⁶Matthew Cary, *A Short Account of the Malignant Fever, Lately Prevalent in Philadelphia* (Philadelphia: Mathew Carey, 1793), as cited in Powell, 147.

¹³⁷Ibid, 74; as cited in Klepp, 170.

¹³⁸Knox attempted to flee to his home in New York, but only made it as far as Elizabethtown, New Jersey, due to the quarantine restrictions in place in New York that forbid entry by all coming from Philadelphia; Powell, 224.

¹³⁹The Congress delay the fall session until December 2, although, to their credit, Washington and Jefferson returned on November 1, to stay in Germantown, just outside the city.

¹⁴⁰Powell, 141. The two remaining physicians were John Redman and William Currie.

public streets; and digging new wells. To coordinate these activities citywide, five districts were laid out and a commissioner placed in charge of each district. Other priorities included the distribution of provisions to the sick, poor, and orphaned, and the management of operations at Bush Hill.

Stephen Girard (the wealthy merchant) and Peter Helm (a local cooper) were assigned to Bush Hill and they successfully turned things around at the dreaded temporary hospital by better organizing the wards, seeing to the construction of outbuildings for use as overflow, and removal the dead pending burial. The minutes of the Committee described the arrangements as follows:

The Mansion House is divided into fourteen rooms or apartments besides three large entries. One of the rooms is occupied by the matron and assistant woman under her; eleven rooms, and two entries, by the sick; one room by the sick, who are in a very low state, and the other apartment for dying persons.¹⁴¹

Bush Hill was segregated by gender and by medical condition, with separate areas created for the sick, the convalescing, and the hospital staff— an arrangement that was key to later plans for the Lazaretto. Girard also installed Dr. Deveze as the chief physician whose so-called “French Cure,” unlike other methods, did not assume the fever to be contagious. Deveze was a physician of the French army and himself a refugee of the San Domingo revolution. Ironically, he staffed his temporary hospital with other refugees, the very people that some blamed for the importation of the disease. Deveze and the Committee brought order to Bush Hill, helping to negate its prior notoriety. The turnaround of conditions at the Bush Hill hospital was the first step toward restoring confidence in state and local officials and creating a system for preventing the spread of infectious disease worthy of the public trust.

When the epidemic finally ended with the first frosts of November, Governor Mifflin requested reports from the College of Physicians, and Mayor Clarkson and his Committee on Malignant Fever. Despite unresolved arguments about the origins of the disease, the College still reported that “No instance has ever occurred of the disease called yellow fever, having originated in this city, or in any other parts of the United Sates,” but rather “many instances of its importation.”¹⁴² The significance of this statement for the Lazaretto is clear as the College upheld the contagionist view that strict quarantine was the best means for controlling the spread of epidemics such as yellow fever. On December 2, 1794, a committee of the College was appointed to “consider the defects of the Health laws, and to point out the proper remedies” and presented their report to the Pennsylvania legislature on January 26, 1795.¹⁴³ Among the most significant requests of this committee was the appointment of members to assist the port physician in his work. They also contended that the College be consulted on issues of

¹⁴¹Committee to Attend to and Alleviate the Sufferings of the Afflicted with the Malignant Fever, *Minutes of the Proceedings of the Committee*, October 10, 1793.

¹⁴²Powell, 277.

¹⁴³MCP, 2 Dec. 1794 and 26 Jan. 1795.

quarantine and involved in the design and regulation of the city hospital, and presumably, the Lazaretto.¹⁴⁴

While the Committee on Malignant Fever maintained their commitment to a two-pronged approach of improved quarantine *and* sanitary regulations, the creation of adequate facilities for quarantine became a priority. In order to “guard against a similar calamity in the future,” the following recommendations were made: “The committee are of opinion that a health-office, upon a more extensive plan than the present, is of the greatest importance, and that the residence of the officer and physicians should be at a suitable distance below the city.”¹⁴⁵ With regard to health care facilities, they offered “That a healthful spot for the site of a hospital, nearly contiguous to the city, easily accessible by land and water, together with the requisite buildings for the accommodation of those who may be attacked by malignant disorders in the future, are among the most necessary means for the purpose of prevention.”¹⁴⁶ In the event that the legislature and city were not prepared to make the necessary expenditures for the aforementioned facilities, they added the following reminder, “From want of such a place, to which the sick might have been removed, at an early period of the late disorder, may be ascribed the great terror which incapacitated the inhabitants from giving that assistance to their fellow-citizens, by which many hundred lives might have been saved.”¹⁴⁷ The Committee was also mindful of the future, noting that increases in trade were responsible for exposing the city to even more potentially dangerous situations with regard to the spread of infectious disease.¹⁴⁸

Based on the Committee’s recommendations, in early 1794 the Pennsylvania Assembly passed an “Act for establishing a Health Office” and for the establishment of dual hospital facilities intended for seasonal quarantine. One was to be in “an airy and healthy place” within the city for the resident sick, and another strategically located outside the city to isolate the sick attempting to enter the city via seagoing vessel.¹⁴⁹ In February 1795, the newly created Board of Health, which included many of the same individuals who had served on the Committee for Malignant Fever, conferred with the College of Physicians to develop a design for a city hospital.

According to the amended health act of 1798, the quarantine season lasted from April 1 through December 1, when the first frost killed off the “miasma” or bad air believed to carry disease. During that time, any ship attempting to enter the port of Philadelphia from a foreign destination was required to anchor at the Marine Hospital (later at the Lazaretto) and submit to a medical examination. In addition, the commander of the

¹⁴⁴College of Physicians of Philadelphia, *Facts and Observations Relative to the Nature and Origin of the Pestilential Fever, which prevailed in this city, in 1793, 1797, and 1798* (Philadelphia, 1798), 6-7.

¹⁴⁵Committee to Attend to and Alleviate the Sufferings of the Afflicted with the Malignant Fever, *Minutes of the Proceedings of the Committee*, November 1793.

¹⁴⁶*Ibid.*

¹⁴⁷*Ibid.*

¹⁴⁸*Ibid.*

¹⁴⁹*An Act for establishing an Health-office, and for otherwise securing the City and Port of Philadelphia...*(1794).

vessel was questioned at length about their crew and passengers, their cargo, and about “all other places at which she (e.g. the ship) may have touched during the voyage.” They were not allowed to proceed to the city’s port until a health certificate was procured, under penalty of fine or imprisonment. It was the duty of the resident physician to determine the amount of time needed for quarantine and the level of ventilation and purification required to insure public health and safety. Detention generally was not less than ten or more than twenty days.¹⁵⁰ The establishment of the Board of Health and call for hospitals to seasonally isolate the sick in 1794 and the almost annual revision and refinement of the health laws during the remainder of the decade created the first permanent health arm for a municipal government in the United States. Reacting directly to the civil and political failures during the yellow fever epidemic of 1793, this new governmental office had the notable and unprecedented focus on developing long-term solutions to preventing the spread of infectious disease.

The Early Formation of City Health Boards and Public Health Facilities

In the wake of the 1793 yellow fever epidemic, a handful of other cities joined Philadelphia in its establishment of a governmental office concerned with public health by appointing a health officer, organizing a special committee on health issues, or even convening meetings of a board of health; however, only Philadelphia was successful in pursuing a permanent health initiative intended to preempt, rather than merely respond to a crisis.¹⁵¹ The history of public health before the latter part of the nineteenth century is one of reaction to disease rather than a proactive approach to control and prevention. According to health historian, George Rosen, the reason that the attempts of early health boards were generally ineffective was that there was no mechanism within the state or local government to implement their proposals.¹⁵² Actual prevention required the establishment of an ongoing health organization within local government empowered to develop and enforce health regulations and oversee the construction of sanitary improvements and health care facilities.

Philadelphia had already taken important steps towards the development of health care initiatives, but it was the 1793 epidemic and resulting devastation that motivated the formation of a board of health. Successive outbreaks of yellow fever throughout the 1790s kept the board motivated and funded. According to historian Michal McMahon, the 1793 epidemic was symptomatic of an urban emergency deepening in many American cities during the late eighteenth century, brought on by lack of municipal engineering, largely in the form of water and waste management. He observes, “although the problems of degraded urban environments equally marked the nation’s older northeastern cities of Boston and New York, it was Philadelphia’s civic leaders who first

¹⁵⁰ *An Act to alter and mend the health laws of this Commonwealth...* (1798).

¹⁵¹ It was in that same year, and in response to its own yellow fever outbreaks that Baltimore, Maryland claims to have established the first board of health. Their claim is based on the first appointment in 1793 of “health officers.” Boston also claims to have established the nation’s first health department with the naming of Paul Revere as health officer in 1799.

¹⁵² George Rosen, *A History of Public Health* (Baltimore: John Hopkins University Press, 1993), 209-10.

launched a sustained, effective response to the question of public health”.¹⁵³ To the breakdown of urban infrastructure, noted public health historian John Duffy adds the significant timing of events, stating:

For the first ten years or so after the Revolution Americans were preoccupied with establishing state constitutions and a federal government, and health concerns were given little consideration. This situation changed abruptly in 1793 when the first of a series of devastating yellow fever epidemics hit virtually every port city and town on the east coast— and ranged as far as New Orleans on the Gulf Coast...For over ten years following the Philadelphia yellow fever epidemic, this dreaded pestilence ravaged American coastal cities, giving a major impetus to the public health movement.¹⁵⁴

The fact that Philadelphia led the nation in establishing a sustainable system for controlling the spread of infectious disease should not be surprising. During the late eighteenth century it was the largest and most progressive city in American. It was both the state and national capital and host to one-quarter of the country’s total export trade. Moreover, the city was uniquely served by numerous institutions and organizations that could help a system of public health care and disease prevention. By the 1790s, Philadelphia had already established the first of many benevolent institutions aimed to reform and provide relief for the needy, including: the Friends Almshouse (1713), and the public Almshouse (1731, rebuilt in 1767 as the “Bettering House”), administered by the “Guardians of the Poor.” Its scientific and medical communities were unsurpassed, including some of the most renowned physicians and the first general hospital in the country— the Pennsylvania Hospital, founded in 1751. The city was home to the College of Physicians (1787), the Pennsylvania Dispensary (1786), the Pennsylvania University Hospital (1765), and the American Philosophical Society (1743). Although these private intellectual and professional groups existed in 1793, they failed to provide a strong and effective response to that year’s massive yellow fever epidemic. Among the Committee on Malignant Fever’s numerous recommendations in the wake of this public health disaster was to encourage the establishment of a government office to oversee the management of public health and to channel the expertise and energy of these related, but disparate groups. In 1794, the City of Philadelphia was authorized to institute, fund, and oversee a Board of Health as legislated by the Pennsylvania Assembly. The initial health act, amended and improved a number of times through the 1790s, tasked the Board with enforcement of sanitary laws and maintenance of a permanent system of internal isolation and external quarantine to prevent the future spread of infectious disease.

As the state and national capital, the far-reaching extent of the mental and financial devastation caused by the 1793 yellow fever epidemic spurred other American cities to strengthen health regulations and establish health boards. Quarantine measures in nearly

¹⁵³Michal McMahon, “Beyond Therapeutics: Technology and the Question of Public Health in Late Eighteenth-Century Philadelphia” *A Melancholy Scene of Devastation; The Public Response to the 1793 Philadelphia Yellow Fever Epidemic*, ed. J. Worth Estes and Billy G. Smith (Canton, MA: Science History Publications/USA for College of Physicians of Philadelphia and the Library Company of Philadelphia, 1997), 98.

¹⁵⁴Duffy, *The Sanitarians*, 38.

every town were revived and reinforced as actions were taken to prevent the spread of the disease from Philadelphia. It was these actions that resulted in the formation of the first local health boards. Between 1793 and 1810, Baltimore, Boston, New York, and Charleston also established health boards; however, only Philadelphia's exercised sustained activity as evidenced in the organizational minutes, the regular reconsideration of the health-laws based on their effectiveness, and the construction of such institutions as the Lazaretto and the City Hospital. Following the cue of the federal government, most cities did not establish health boards until the last quarter of the nineteenth century. As late as 1875, only eight states and the District of Columbia had a *state* board of health.¹⁵⁵ In 1878, only after immigrants began flocking to the United States in even more appreciable numbers, the federal government established its authority over quarantine and disease control, formally linking quarantine with the processing of immigrants.

On account of its proximity and similar urban and climatic conditions, Baltimore was the first American city to follow Philadelphia in the creation of a board of health. During Philadelphia's 1793 epidemic, though they were dealing with their own, smaller outbreak in the Fells Point area, Baltimore's city leaders were most concerned with keeping Philadelphians out of Baltimore. On September 12, 1793, a meeting of local citizens lead by soon-to-be mayor James Calhoun unanimously passed a resolution, stating: "no citizen shall receive into his House any Person coming from Philadelphia, or other infected place, who does not produce a Certificate from the Health Officer, or officer of patrol [*sic*], signifying that he may be received."¹⁵⁶ City leaders halted all transportation and commerce between the two cities by means of armed guards who blocked all land routes and the ferry landings. Invoices to the health board for food, liquor, wood, and candles paint a vivid picture of the vigilantes camped along the major transportation routes, and of the fear that the threat of the disease instilled.¹⁵⁷ The city appointed two individuals leading the vigilantes as "Assistant Health Officers," a further demonstration that maintaining isolation, not investigating treatment, was the principal means for

¹⁵⁵Rosen, 210, 224. According to Rosen, the first *state* Health Department was Louisiana's created in 1855, but with little effect. The others with a state board of health were Massachusetts (1869), California (1870), Minnesota (1873), Maryland (1874), Alabama (1875), Wisconsin (1876), and Illinois (1877).

¹⁵⁶ Buchanan Papers, Committee of Health, 1793-94. Maryland Historical Society, Special Collections, MS 1555. The extant minutes of the Committee of Health are included in the Buchanan Papers, covering a period from September 12, 1793 to April 26, 1794. The work of the committee appears to be in direct response to "the contagious disease that now exists in the said city of Philadelphia." Also included are nine copies of a petition to keep Philadelphians from entering the city and to pay a group of citizens to enforce that prevention, signed by approximately 560 citizens. Interestingly enough, there is no mention in these minutes of the yellow fever that existed in Fells Point. On the contrary, included is the "Proclamation: Baltimore Free of Yellow Fever" statement sent out by the mayor claiming Baltimore to be disease free. Also see article copy located in file, "Baltimore's Health Service is 150 Years Old," *Baltimore Health News* 20:12, 12 December 1943, 199-207.

¹⁵⁷*Ibid.*, invoices and receipts are included among the Buchanan Papers for such things as "provisions and liquor," including meat and crackers, "wood for use of guards," candles, tents, etc.

maintaining public health. Two physicians were also appointed to inspect incoming vessels, thus securing entrance to the city by water.¹⁵⁸

These events encouraged the Maryland General Assembly to pass its first acts related to public health in December 1793. One empowered the governor to quarantine any vessel “suspected to be infected with the plague” or any “other malignant contagious diseases.”¹⁵⁹ Another enabled the governor to appoint “a health officer for the port of Baltimore-town;” he designated a qualified physician for the inspection all foreign vessels and those coming from “suspected places.” Approaching ships were stopped at Hawkins Point, near the Port of Baltimore. The acts also stipulated the construction of a temporary hospital to accommodate the sick during epidemics—“to prevent the ingress of the plague, or other malignant contagious diseases, is an object of great importance to the welfare and commerce of the citizens of the state.”¹⁶⁰ Legislation was also passed at this time officially designating Baltimore-town as a “city,” independent from Baltimore County, allowing the city’s common council “to preserve the health of the city, prevent and remove nuisances, and prevent the introduction of contagious diseases.”¹⁶¹ Despite this flurry of legislation, the independent city of Baltimore did not establish a board of health until 1797, and did not start construction of a purpose-built quarantine station until 1801, across the channel from Fort McHenry on what became known as “Lazaretto Point.” The quarantine facility is said to have survived until 1959, although likely in much altered form.¹⁶²

The 1793 yellow fever epidemic also led to the establishment of Baltimore’s first public hospital. In 1794, a small group of concerned citizens founded “The Retreat,” specifically for use by seamen who became ill.¹⁶³ The facility, also called the “Hospital for Strangers and Mariners,” was located along the “Old Philadelphia Road” (later Joppa Road). While intended to treat infectious and nutritional disorders prevalent among mariners, they also targeted alcoholism and mental illness. Another yellow fever

¹⁵⁸Ibid., invoices included for the salaries for guards on York Road, Philadelphia Road, as well as the Ball Fryer Ferry, and the Susquehanna Ferry; for Physicians Worthington and Ross, and for Assistant Health Officers, Capt. David Porter and Mr. Thomas.

¹⁵⁹ As transcribed in “Baltimore’s Health Service is 150 Years Old,” *Baltimore Health News* 20:12, 12 December 1943, 199-207. Article copy located in the Buchanan Papers, Committee of Health, 1793-94. Maryland Historical Society, Special Collections, MS 1555. Buchanan Papers, Committee of Health, 1793-94. Maryland Historical Society, Special Collections, MS 1555.

¹⁶⁰ Ibid.

¹⁶¹ *An Act to define and ascertain the powers of the governor on the subject therein mentioned*, Chapter XXXIV[Maryland], passed 28 Dec. 1793, 741, Maryland State Archives. See also: *An Act to appoint a health officer for the port of Baltimore-town, in Baltimore County*, Chapter LVI, 768-69, and *An Act to erect Baltimore-town, in Baltimore county, into a city, and to incorporate the inhabitants thereof*, Chapter LXIX, 793-96.

¹⁶² A lighthouse was also erected on this site in 1831; it stood until 1926 (replaced by a replica in 1956).

¹⁶³ Unless otherwise noted, all information related to “The Retreat” is drawn from: Spring Grove Hospital Center, “A History of Spring Grove,” accessed online, 3 Jul. 2006, <http://www.springgrove.com/history.html>. What began as “The Retreat” eventually became Spring Grove, which claims to be the “Nation’s Second Oldest Psychiatric Hospital,” and the third public hospital established in North America specifically to provide for the care and treatment of the mentally ill.

epidemic in 1798 is credited for the state's decision to fund the expansion of The Retreat into a facility that would also treat the indigent sick and mentally ill. Later renamed "The Public Hospital of Baltimore," it was the first public health facility of any kind in Maryland and it enabled the removal of the mentally ill from Baltimore's Almshouse, established in 1773. Also in 1798, the General Assembly chartered the Medical and Chirurgical Faculty of Maryland, one of the oldest medical societies in the country. The society collected documents relating to medical history, and was instrumental in founding the College of Medicine in Maryland, in 1807, and the Maryland Infirmity (University of Maryland Hospital) in 1823.

New York also tightened its quarantine and sanitary regulations in reaction to Philadelphia's 1793 epidemic. A temporary health committee led by local citizens was formed to enforce regulations and to patrol the city. The seven-man committee was also responsible for setting up a quarantine hospital on Governor's Island. Two physicians were appointed to help the city's health officer with the inspection of incoming vessels. As in Baltimore, additional representatives were hired to patrol the wharfs and ferries in order to prevent Philadelphians from entering the city. When the fever ended with the first frosts of winter, the committee disbanded; however, based on recommendations from the committee, quarantine was again enacted in the spring of 1794 as was another temporary committee. In 1795, New York City experienced its own yellow fever epidemic, killing about 750 of its 40,000 residents. The following spring, the state legislature enacted a comprehensive health law that provided for the establishment of a health office to enforce quarantine and provide a suitable facility for that purpose. In 1796, a Health Council was formed to replace the temporary civic health committees. When yellow fever struck again in 1798, two temporary hospitals and the city's almshouse, established in 1736, were used to house the sick. Twice as many residents died from yellow fever in 1798 as had in 1795, and subsequent epidemics plagued New York in 1799, 1803, and 1805. It was not until 1805 that the city created a board of health with full power to act in time of outbreaks. As the number of epidemics decreased, the city dissolved the board and it was only reinstated in times of crisis. A more lasting legacy of this period was the Office of the City Inspector, which New York established in 1804 to investigate health "nuisances." Not until 1866 did the city create the first permanent, Metropolitan Board of Health, forerunner to the current Department of Health, which became a model for city health departments from the late nineteenth century onward.¹⁶⁴

In 1793, Boston already had a harbor quarantine system in place. Like Baltimore and New York, Boston city officials chose this time to appoint a health officer to guard the entrances to the city, fortified by military forces.¹⁶⁵ Boston's first health act with any lasting effect came in 1797, on the heels of their own epidemic of the previous year. The act increased the power of the selectmen to regulate quarantine and enact sanitary laws. In 1799, an even more severe yellow fever epidemic (and the threat of an outbreak of Cholera) led to the passing of an act empowering the citizens to elect a board of health.

¹⁶⁴John Duffy, *A History of Public Health in New York City, 1866-1966* (New York: Russell Sage Foundation, 1974), xix-xxii, 615-17; Duffy, *The Sanitarians*, 40-44.

¹⁶⁵Duffy, *The Sanitarians*, 45.

Interestingly enough, it was not a physician who was named as the city's first health officer, but silversmith and American patriot, Paul Revere. A twelve-man board was established with Revere as its leader. Each April, the town officers convened to appoint a "freeholder" from their district to serve on the board. The principal function of the board was initially the removal and prevention of public nuisances, not the regulation of quarantine, which was being handled by the selectmen who managed the hospital on Rainsford Island. The focus was on meat packers, tanners, masters of vessels, and others prone to depositing "filth" into the harbor from the city's docks. The act was soon amended to allow for the appointment of a physician to examine passengers and seamen on incoming vessels, under the direction of the board. Another amendment gave the board full power to establish and regulate quarantine.¹⁶⁶

In tropical Charleston, South Carolina, the citizens were fairly accustomed to outbreaks of yellow fever, and yet fewer decisive steps were taken here to prevent its spread than were taken in the north. Charleston was significantly closer to the West Indies, where the disease was commonplace. Yellow fever hit Charleston in 1699, 1706, 1711, 1717, throughout the 1730s, in 1745, and 1748. A virtually decade-long string of yellow fever epidemics overtook eastern seaboard cities in the 1790s and early 1800s, striking first in Charleston. It was not until 1799, when the worst occurred, that the city determined that paid health inspectors were needed, and not until 1808 that a board of health was first assembled. As with other cities, the board was eventually discontinued, perhaps because of a subsequent epidemic-free period that lasted for over a decade. The city of Charleston did not establish a permanent, full-time health department until 1865, and the state of South Carolina, until 1878. The southern port city of New Orleans, Louisiana was equally as slow to form a health board. A citywide clean up was ordered following the epidemic of 1799, and a temporary health board was formed in 1802.¹⁶⁷

For the years between 1793 and 1808, American port cities endured repeated yellow fever epidemics that spawned an enthusiastic burst of health care initiatives; however, most of which were eventually discontinued and followed by a lengthy period of relative inaction. No great pestilence threatened America again for over twenty-five years and government efforts to promote health care were greatly reduced as observed by historian John Duffy: "With only a few exceptions, the temporary health boards disappeared, and the quarantine and sanitary laws enacted in the late 1790s fell into abeyance."¹⁶⁸ A reform movement by a segment of health care professionals and activists known as the Sanitarians that began in Europe in the eighteenth century, finally started to take hold in America in the 1830s. By this time, most cities had taken at least some responsibility for such basics as street cleaning, garbage collection, the regulation of privies, and systems for the introduction of clean water, if not yet for waste sewer systems.¹⁶⁹ The Sanitarian

¹⁶⁶ *Acts Relating to the Establishment of Quarantine of Massachusetts* (Boston: Rockwell & Churchill, City Printers, 1881); Duffy, *The Sanitarians*, 45.

¹⁶⁷ Duffy, *The Sanitarians*, 46, and South Carolina Department of Health and Environmental Control, "A Chronology of the History of Public Health in South Carolina," accessed online 3 Jul. 2006, www.scdhec.net/administration/history/timeline.htm.

¹⁶⁸ Duffy, *The Sanitarians*, 53.

¹⁶⁹ *Ibid.*, 72-77.

movement is credited with instilling the renewed interest in health reform that led to the formation of state and municipal health boards, beginning in the 1860s.¹⁷⁰ Louisiana became the first state in the nation to organize a permanent state board of health in 1855. Massachusetts established a health department in 1869, and a number of other states followed suit in the 1870s, including: California (1870), the District of Columbia (1871), Minnesota (1872), Virginia (1872), Michigan (1873), Maryland (1874), Alabama (1875), Wisconsin (1876), Illinois (1877), and South Carolina (1778).¹⁷¹

Like the Sanitarian movement itself, the involvement of the federal government in general quarantine and public health initiatives was the result of unsanitary conditions brought about by the tremendous influx of immigrants into this country and its port cities during the latter part of the nineteenth century. Beginning in 1855, New York maintained an immigrant processing center at Castle Garden that is often recognized as the precursor to Ellis Island; however, it was not a federal facility. In 1878, the federal Quarantine Law was enacted, authorizing the establishment of national quarantines yet still not claiming federal domain over immigration.¹⁷² In 1882, the federal Immigration Act was passed authorizing the Secretary of the Treasury to contract with the states for enforcement of the law. Finally, in 1890 the Treasury assumed total control, relieving the states of that burden. New York refused to allow federal control of Castle Garden, and plans were developed for a new federal immigration facility. It was not until 1892—over ninety years after Philadelphia’s Lazaretto was built—that the first permanent federal immigration and quarantine station opened at Ellis Island in New York Harbor. These state and federal organizations and institutions were the direct descendents of Philadelphia’s pioneering Board of Health; however, the continued popularity and sustained emphasis on quarantine as a method of control are part of a much earlier tradition.

Quarantine: Its Roots and Early Appearance in Colonial America

The concept of quarantine as a means of disease control dates at least back to 1368 when the city of Venice first sought to isolate victims of the Black Death or plague, but for the most part it remained a fairly limited practice and performed almost exclusively on an as-needed basis. A few other European coastal cities followed Venice’s example and established a quarantine system. Milan created one in 1374 and in 1488 built a quarantine station that included 288 contiguous cells arranged around an octagonal church. In 1377, local leaders on the Dalmatian coast extended a thirty-day quarantine period to forty days based on medical belief found in the “Doctrine of Critical Days,” which stated that forty days separated acute from chronic ailments.¹⁷³ This extended period or “quaranta” ultimately became the term for the practice of quarantine. The

¹⁷⁰For more information on this movement see: Duffy, *The Sanitarians*.

¹⁷¹Rosen, 224.

¹⁷²The first national legislation relating to quarantine was actually passed on Feb. 23, 1799 act, but was merely intended to provide the assistance of federal officers in the execution of state or municipal quarantine regulations already in place. The quarantine act passed April 29, 1878 authorized the establishment of national quarantines under the direction of the surgeon general of the Marine Hospital Service. A June 2, 1879 revision withdrew the designation of the surgeon general, and although the act of 1878 is still upon the statute books, no one is charged with its execution.

¹⁷³Duffy, *The Sanitarians*, 7.

historical relationship between the term “lazaretto” and quarantine is not as concretely known. Some sources claim that lazaretto references the biblical figure “Lazarus” whom Jesus raised from the dead. Others argue that lazaretto was derived from the Italian “nazareto” as in Santa Maria di Nazaret, a church in Venice that maintained a quarantine hospital as early as 1549. In his 1791 book, *Account of the Principal Lazarettos in Europe*, John Howard applies the term “Lazaretto” to plague quarantine stations located in harbors, and differentiates them from general hospitals.¹⁷⁴ It is likely that the Lazaretto Quarantine Station built outside Philadelphia beginning in 1799 was the first formal use of the term in America.

The practice of quarantine arrived in North America long before the term Lazaretto. In 1647-48, Boston passed what is likely the earliest legislation, albeit temporary, instituting quarantine in colonial America. Its passage was directed at ships arriving from the West Indies, where an epidemic was then underway, and was repealed at the close of the season. Quarantine was reinstated in Boston in 1665, the year that the Great Plague raged in London. Vessels were to be quarantined at “Ye Castle,” a reference to Castle Island in Boston Harbor where a fortification had been erected.¹⁷⁵ While yellow fever regularly swept the West Indies and had spread to Central and South America by the mid-seventeenth century, there appears to be no evidence of the disease in North America before 1693. In that year, the first outbreak in the colonies was reported among a British fleet sailing from Barbados that had anchored in Boston’s harbor.¹⁷⁶ Six years later, Massachusetts’s General Court prevented ships from landing in the harbor that arrived from ports where there was known sickness or contained sick passengers. The General Court next tried to codify the practice of quarantine during times of threat, but the English Privy Council rejected the measure.¹⁷⁷ It is likely that the English viewed this colonial action as detrimental to trade—an oft-criticized consequence of quarantine. The act was successfully amended in 1701 to allow for the isolation of individuals afflicted with a contagious disease.¹⁷⁸ The first hospital or “pest house” intended “for the reception and entertainment of sick persons coming [sic] from beyond sea, and in order to prevent the Spreading of Infection” was built on Spectacle Island in Boston Harbor in 1717.¹⁷⁹ It was the beginning of a regularized system that many public health historians feel greatly reduced the incident of disease in New England.¹⁸⁰

¹⁷⁴As cited in Thompson and Goldin, 51, 330 and note 16.

¹⁷⁵*Acts Relating to the Establishment of Quarantine of Massachusetts*, 5-7.

¹⁷⁶Duffy, *Epidemic*, 140-41.

¹⁷⁷“An Act for the Better Preventing of the Spreading of Infectious Sickness,” *Acts and Resolves of the Province of Massachusetts Bay*, chapter 7, 376-77, as cited in Parmet, 287.

¹⁷⁸Duffy, *The Sanitarians*, 24.

¹⁷⁹*Ibid.*, 12-13, 20-22. In 1699 was passed “An act for the Better Preventing of the Spreading of Infectious Sickness,” and in 1717 a committee was formed to procure a site for the construction of a “Hospitall [sic.] or Pest House there for the reception and entertainment of sick persons coming [sic.] from beyond sea, and in order to prevent Spreading of Infection.” A hospital was built on Spectacle Island, replaced by another built on Rainsford’s Island in 1737, moved again to Deer Island in 1749. The committee appointed to built hospital at Rainsford’s Island reported “that they have built an House there of four Rooms on a floor, four upright Chambers and convenient Garrets, and Cellars well-finished and a Well, and suitable Conveniences for the Reception of the Sick, as Occasion may be.”

¹⁸⁰Parmet, 288.

Maryland enacted an official quarantine as early as 1694, but the first move towards quarantine enforcement did not come until after “Baltimore-town” was incorporated as a city by an act passed in 1793. Due to its warm climate and closer proximity to the West Indies, Charleston also established quarantine early in its history. In 1698, ships were ordered to report sickness and by 1712 a quarantine commissioner was assigned and a pest house built on Sullivan’s Island. As with most of these early efforts, Charleston’s measures were only temporary and reacted to outbreaks or periodic threats. New York City enacted quarantine as early as the seventeenth century, but specific regulations were not imposed until the 1730s during outbreaks of smallpox and yellow fever.¹⁸¹ By this time, Boston had replaced its original pest house with another at a different location in 1737 (in turn replaced in 1747).¹⁸² Historian John Duffy argues that by 1737, Massachusetts enjoyed the most effective quarantine system in the colonies; however, by the closing decade of the century, it would be joined and eclipsed by Philadelphia’s state-legislated Board of Health and its associated institutions for isolation and quarantine.¹⁸³

Early Quarantine and Disease Control in the City of Philadelphia

When construction began on the Lazaretto in 1799, Philadelphia had already been actively involved in quarantine for nearly a century. In 1699, the city experienced its first significant outbreak of yellow fever, which was followed one year later by a law passed by the Pennsylvania Assembly entitled “An Act to prevent sickly vessels coming into this government.”¹⁸⁴ This was among the first colonial laws requiring that all arriving vessels and their occupants to be inspected for disease.¹⁸⁵ It is likely that a temporary quarantine station or pest house was established at this time, perhaps in a pre-existing structure. Four decades later, in 1741, another outbreak of yellow fever struck Philadelphia. In response, the governor proposed that during the coming year a building be erected “not only to accommodate such as shall arrive hereafter under the same circumstances (laboring under diseases [contracted] on board ships en route), but to prevent the future importation of diseases into this city, which has more than once felt the bad effects of them.”¹⁸⁶ A commission was appointed to locate and purchase a suitable lot upon which to erect a pest house. They selected Fisher’s Island, which consisted of 342 acres just off the coast but within reasonable proximity to the city’s wharves. In 1743, an act was

¹⁸¹Duffy, *The Sanitarians*, 26.

¹⁸²*Acts Relating to the Establishment of Quarantine of Massachusetts*, 9-22. To summarize the information presented here, in 1699 was passed “An act for the Better Preventing of the Spreading of Infectious Sickness,” and in 1717 a committee was formed to procure a site for the construction of a “Hospitall [sic.] or Pest House there for the reception and entertainment of sick persons coming [sic.] from beyond sea, and in order to prevent Spreading of Infection” (9, 13). A hospital was built on Spectacle Island, replaced by another built on Rainsford’s Island in 1737, moved again to Deer Island in 1749. The committee appointed to built hospital at Rainsford’s Island reported “that they have built an House there of four Rooms on a floor, four upright Chambers and convenient Garrets, and Cellars well-finished and a Well, and suitable Conveniences for the Reception of the Sick, as Occasion may be” (22).

¹⁸³Duffy, *The Sanitarians*, 24.

¹⁸⁴Scharf and Westcott, 1664.

¹⁸⁵Billy G. Smith, “Comment: Disease and Community,” *A Melancholy Scene of Devastation: The Public Response to the 1793 Philadelphia Yellow Fever Epidemic*, ed. J. Worth Estes and Billy G. Smith (Canton, MA: Science History Publications/USA for College of Physicians of Philadelphia and the Library Company of Philadelphia, 1997), 159.

¹⁸⁶Scharf and Westcott, 1665.

passed officially declaring a six-acre portion of the island facing the Delaware River, with its existing buildings as the location of the city pest house. According to the act, all sick and infectious persons were to be transported to the island, renamed Province Island (and later known as State Island). The cost for transport was shouldered by the infected individual, alleviating some of the city's expenses. It is likely that the existing buildings were utilized for this purpose as they were only needed during the quarantine season. Both the pest house and small Marine Hospital were designed specifically for quarantine purposes, not treatment facilities.

The next recorded outbreak of yellow fever did not occur until 1747, and other forms of infectious disease visited the city only on occasion, but the summer months became known as the "fever season," and the related feverish affliction commonly referred to as "autumnal disease," the "summer complaint," or the "fall ague."¹⁸⁷ The name "yellow fever" was first used in 1793 by Dr. Benjamin Rush who noted a yellowish tinge in the skin color of his patients.¹⁸⁸ By 1750, the government ordered a new pest house to be erected on Province Island, resulting in what was probably the first "purpose-built" quarantine hospital in the Philadelphia region. The 1750 structure later became known as the "Marine Hospital;" it is almost certain that the Marine Hospital built by order of the Pennsylvania Assembly was the first of its kind in the nation.¹⁸⁹

The move from "pest house" to "Marine Hospital" is significant as it reflects what was generally, although incorrectly, understood to be the key source of infectious disease: foreign importation. At that time, quarantine was not necessarily linked to immigration as would be the case later in the nineteenth century. In fact, most quarantined vessels and their passengers were engaged in trade and commerce. Sea trade was the principal means of commerce during the colonial era, both shipment within the colonies as well as the exchange of needed goods from abroad. As a result, most traffic on the seas was related to trade rather than immigration.¹⁹⁰ The Marine Hospital remained in use for a half century, and might have served even longer had it not been for the yellow fever epidemic of 1793. So great were the numbers of those affected by the outbreak that they could not be fully or appropriately accommodated at the old Marine Hospital. Furthermore, the situation created by the 1793 epidemic greatly exceeded the city government's administrative capabilities. Although there was a pest house on Province Island by the 1740s and what was possibly the earliest Marine Hospital by 1750, the funding needed to properly maintain and operate the facility had not been allocated. Moreover,

¹⁸⁷Powell, 3.

¹⁸⁸*Ibid.*, 12. Rush pronounced the disease the "bilious remitting yellow fever," and the name spread as quickly as the disease itself.

¹⁸⁹ In 1787, a Marine Hospital was erected in Norfolk, Virginia (then on what was known as Washington Point), which was acquired by the Marine Hospital Service in 1801. No other Marine Hospital—federal or otherwise—has been identified as having been erected prior to the Marine Hospital on Province Island.

¹⁹⁰ Although disease control was the domain of state and local government until the late nineteenth century, in recognition of our reliance on the sea for trade—as well as security—the federal government established the Marine Hospital Service in 1798, eighty years before the establishment of a public health service.

merchants and officials alike had resisted quarantine restrictions because of their potential to curtail and negatively impact trade and commerce. Because of this concern, ships were often able to enter the ports unchecked, a situation that could be overlooked in years of good health. The yellow fever epidemic of 1793 revealed at woefully and dangerously inadequate system of health whose remedy would include stronger legal provisions for quarantine enforced by an organization dedicated to the public health so as to avoid conflicts of interest. In 1794, the Philadelphia Board of Health was launched with a two-pronged approach to disease control—sanitary regulations to reduce unhealthful conditions and an effective system of quarantine that called for a City Hospital to isolate domestic sources of illness and a Lazaretto for containing foreign sources of illness.

The End of Quarantine at the Lazaretto

The Philadelphia Board of Health directed quarantine activities at the Lazaretto from May 1801 through June 30, 1893, after which the commonwealth leased the facility for quarantine purposes until moving to Marcus Hook in 1895.¹⁹¹ For nearly a century, the site had been used for extensive quarantine operations—the year ending June 30, 1894 saw 1,578 vessels pass through the Lazaretto.¹⁹² Yellow fever was just one of a number of diseases targeted by quarantine, but until popular acceptance of its transmission by the *Aedes aegypti* mosquito after 1901 it remained a shadowy seasonal threat. Indeed, in June 1870 the Lazaretto hosted an outbreak associated with the brig “Home” that killed eight people including the Resident Physician, the Quarantine Master, the Steward’s wife, two nurses, and the gardener.¹⁹³ Not surprisingly, this episode spawned one of the periodic campaigns among Delaware County residents to remove the quarantine station, and action that would not occur for another twenty years.¹⁹⁴

After the Lazaretto: The Orchard Club

The Lazaretto Property did not stay vacant for long after the stop of quarantine—its prime waterfront location, proximity to Philadelphia, and natural areas for hunting, fishing, and boating provided a summer haven for the area’s wealthy. Traction companies laid the first trolley lines on Tinicum Island in 1895, followed rapidly by recreational areas, picnic groves, hunting and fishing lodges, and boating clubs. Around this time, entrepreneurs established such hotels as the Riverside and the Rosedale Inn

¹⁹¹Morman, 143. Beginning in 1884, ships approaching Philadelphia had to pass through federal quarantine at the Delaware Breakwater Station in addition to the city’s Lazaretto. In 1893, a second station, mainly for disinfecting purposes, opened at Reedy Island. In 1913, the parallel quarantine was consolidated at the commonwealth’s Marcus Hook station, and Pennsylvania ceased its quarantine activities in 1919. See: Philadelphia Maritime Exchange, *The hand book of the lower Delaware River...* (Philadelphia, 1895), 24-36, and Frederic C. Miller, “Philadelphia: Immigrant City,” Balch Online Resources, accessed 20 Jun. 2006, http://www2.hsp.org/exhibits/Balch%20resources/phila_ellis_island.html.

¹⁹²Philadelphia Maritime Exchange, 22.

¹⁹³Morman, 133.

¹⁹⁴Ashmead, 284; Garner, 146.

(now demolished).¹⁹⁵ By 1900, Tinicum's population had risen to 500 and its waterfront had become a seasonal resort teeming with pleasure seekers.¹⁹⁶

Within this context, the now-abandoned Lazaretto suddenly became prime real estate. In the mid-1890s, the City of Philadelphia leased the complex to the Athletic Club of Philadelphia.¹⁹⁷ The Club maintained a permanent headquarters in center city Philadelphia at 1626-28 Arch Street, and used the Lazaretto as a private summer resort. A 1902 map indicates that during the first decade of the twentieth century, the Athletic Club also leased the adjacent six-acre parcel formerly used by the United States Government for customs purposes. Within only a few years of occupancy, the Athletic Club transformed the Lazaretto into a pleasure ground used by Philadelphia's elite, such as Louis A. Biddle of Chestnut Hill who was an active member in 1902-03.¹⁹⁸

Historic photographs depict a lush landscape extending between the main building, rechristened as the clubhouse, and the river planted with grape vines, flowers, shrubs, and trees. A 1908 postcard shows a baseball diamond laid out on the lawn to the north of the Lazaretto's main building, "close to the graves" of the Lazaretto's cemetery.¹⁹⁹ A burial ground whose dead, as noted in an 1899 newspaper article, "range[d] from captains of large ships to poor and ignorant immigrants" was too much of a reminder of the Lazaretto's former life for the Orchard Club.²⁰⁰ In 1900, they successfully petitioned the Philadelphia City Council to relocate the remains. In April, the Philadelphia Board of Health directed the exhumation of "several hundred bodies interred in the old burial grounds at the Lazaretto...[that were] placed in small pine boxes for removal to the Arlington Cemetery, Upper Darby."²⁰¹

With the grim reminders of the past seemingly eliminated, the Orchard Club thrived during the first decade of the twentieth century. Every year, the members celebrated the opening of the "outdoor season" with a festival. One such event featured "an open-air concert by the Municipal Band, a baseball game between the married and the single members of the club, a trap shooting match between the shot-gun experts of the organization and the Florists' Gun Club for a special trophy and individual prizes, contests at the lawn tennis, shuffleboards, quotts, reserving for the evening, indoors, billiards, pool, and ping-pong."²⁰² The Orchard Club was a good steward of the

¹⁹⁵ Although greatly altered, the Riverside Hotel survives as the "Lagoon" restaurant, nightclub, and hotel complex.

¹⁹⁶ Delaware County Planning Department, "Historic Resources Survey: Tinicum Township, Delaware County, Pennsylvania," Lima, Pennsylvania, 1994.

¹⁹⁷ Ibid.

¹⁹⁸ Louis A. Biddle Correspondence and Papers, Dec. 1902, 327-5-19, and Invitations and Calling Cards, 1903, 327-5-199, Biddle Family Papers, 3, University of Delaware Library Special Collections, Newark, Delaware.

¹⁹⁹ Postcard, 1908, Tinicum Township Historical Society, Delaware County, Pennsylvania; "The Forgotten Dead: Neglected Graves at the Old Quarantine Station at Essington," *Chester Times* 5 Dec. 1899, Delaware County Historical Society Library, Pennsylvania (hereafter DCHSL).

²⁰⁰ "The Forgotten Dead."

²⁰¹ "Exhuming Bodies at Old Lazaretto," *Chester Times*, Apr. 13, 1900, DCHSL.

²⁰² "Country Home - The Orchard," May 17, n.y., Broomall Collection, DCHSL.

Lazaretto's historic buildings and, the removal of the cemetery notwithstanding, saw that its history was not forgotten.²⁰³ An October 1906 newspaper article reported on fifty members and guests of the City History Society traveling to Tinicum and learning about its history, stating:

Essington, the summer home of the Athletic Club, of Philadelphia, was visited, and proved a landmark of great interest, for here the party was told the history and legends of the old Lazaretto and first quarantine station. None of the many buildings included within the extensive grounds have been torn down by the Orchard Club, as the Athletic Club call their summer quarters, but have been kept in a good state of repair, and now these houses that once witnessed scenes of suffering and dread, when they served as hospitals over a hundred years ago, are the scene of festivities.²⁰⁴

In the opinion of the writer, the Orchard Club was not only provided stewardship for a "landmark of great interest," but through their activities also relieved, even expunged, the place of the unhappy aspects of its past.

After the Lazaretto: The Flight School and Seaplane Base

Despite the apparent success of the Orchard Club's "summer home," they did not remain at the Lazaretto for long; their departure in the 1910s ushered in a third life for the complex and a second epoch of highly significant use as an early seaplane base and flying school. From 1915, the former Lazaretto was the setting for many milestones in seaplane aviation development and innovation made by some of America's leaders and, now arguably, heroes in aviation. These innovative people and events comprise another important chapter not only in the site history, but within a nationally important context of the development of early aviation.

Aircraft and flying rapidly captivated the entire nation in the years following the Wright brothers pioneering efforts. By 1908, there were three aeronautics clubs in operation in the Philadelphia area concerned mainly with ballooning. Aeronautics or "balloonatics" became extremely popular topics for the city's numerous newspapers and air shows became great public spectacles. In 1909, ten flight enthusiasts organized the Aero Club of Pennsylvania.²⁰⁵ The organization quickly grew and incorporated on May 10, 1910; today it is the oldest active organization of its kind in the United States.

During the first decades of aviation, there were few permanent land facilities for flying in the United States except for the increasingly busy flight schools. Within this context, aviator and inventor Glenn Hammond Curtiss began investigating the use of lakes, rivers, bays, and estuaries for landing planes. He made the first successful American flight of

²⁰³"Former Pest-House a Pleasure Resort," *The Record*, Jul. 23, 1904, Broomall Collection, DCHSL.

²⁰⁴"History Club Visits the Lazaretto," newspaper article dated Oct. 21, 1906, Broomall Collection, DCHSL.

²⁰⁵Frank Kingston Smith and James P. Harrington, *Aviation and Pennsylvania* (Philadelphia: The Franklin Institute Press, 1981), for a full discussion of the Aero Club of Pennsylvania and other early flight organizations.

this type on January 26, 1911, at San Diego, California, using a Curtiss D pusher mounted on a single central float.²⁰⁶ In the years that followed, he contributed to the invention of flying boats and the conceptual and practical applications of carrier ships and the airplanes used on them; Glenn Curtiss is considered the father of naval aviation.²⁰⁷ The Navy's first flying school opened at the site of the Naval Air Station in Pensacola, Florida, in 1913, only two years after it had purchased its first aircraft, the A1 Triad, directly from Glenn Curtiss.²⁰⁸

The gathering clouds of war hastened the formation of American flying schools. In 1915, members of the Aero Club of Pennsylvania—Colonel Robert Edward Glendinning, George C. Thomas, Judge J. Willis Martin, A.J. Drexel Biddle, and F.H. Maguire—organized the Philadelphia School of Aviation at the leased Lazaretto site in Essington, on Tinicum Island.²⁰⁹ The private institution was the first of its kind in the United States and was later known as the Essington School of Aviation and the Philadelphia Seaplane Base; the facility was Pennsylvania's first water-flying school and, until 2000, the oldest continuously operating seaplane base in the United States.²¹⁰ The school first attracted wealthy students, including Joseph N. Pew, Jr., son of the founder of Sun Oil Company, John B. Stetson, Jr., a minister to Poland, Caleb Fox, Franklin Pepper, Samuel Eckert, Howard Pew, Stephen Noyes, Alexander Brown, Clark Thompson, and Mrs. Paul Denkla Mills.²¹¹

The seaplane base formally opened in May 1916 with the help of Robert E. Glendinning (1867–1936), a local stockbroker and aviation enthusiast turned professional pilot.²¹² Glendinning received his flight credentials from Glenn Curtiss's school in Hammondsport, New York, and subsequently earned an international pilot's license and a French aviation license, all of which qualified him among all civil and military aviation authorities.²¹³ Glendinning was favored to win Curtiss's 1916 contest for the longest nonstop flight made in an F-boat, but a San Diego pilot outpaced him by ninety miles near the end of the competition.²¹⁴ He was later an active aviator for the United States during World War I, attaining the rank of colonel, and was awarded the Distinguished Service Medal for his service. Glendinning was responsible for the purchase of a Curtiss flying boat, or hydro-plane, which was shipped in parts from New York and

²⁰⁶K.M. Molson and A.J. Short, *The Curtiss HS Flying Boats*, (Annapolis, MD: Naval Institute Press, 1995), for Glenn Curtiss's contributions to flight.

²⁰⁷Mary Bellis, "Seaplanes," accessed online, May 1, 2005, <http://inventors.about.com/library/inventors/blseaplanes.htm>.

²⁰⁸M.L. Shettle, Jr., *U.S. Naval Air Stations of World War II*, Vol. 1 (Osceola, WI: Motorbooks International, 1997), for the Navy's early flight history.

²⁰⁹"Essington School in Philadelphia for Water Flyers Will Open Soon," *Aerial Age Weekly*, April 14, 1919, Millville Army Airfield, New Jersey, Museum Archives (hereafter **Millville**)

²¹⁰Lewin B. Barringer, "The Story of Essington," *The Sportsman Pilot*, Sep. 1933, Millville.

²¹¹*Ibid.*

²¹²"An Aviator a Day and Free Scholarships," *Aerial Age Weekly*, Apr. 24, 1916, Millville; Ashish Shrestha, "Robert Edward Glendinning, Class of 1888," University of Pennsylvania Archives, accessed online, Apr. 19, 2006, <http://www.archives.upenn.edu/histy/students/undergrad/1888/glendinning.html>.

²¹³*Ibid.*

²¹⁴Barringer.

arrived in Essington along with Frank Mills. The Curtiss company sent Mills to assemble the aircraft and instruct Glendinning on its use. Except for his military service, Mills remained with the at the former Lazaretto for the rest of his life.

Born on January 12, 1889 in Chicago, Illinois, Frank Mills grew up with a keen interest in mechanical devices, even traveling on a schooner as an auxiliary engineer when he was thirteen. Mills became interested in aircraft while working on the Panama Canal, and in December 1913, he began flying lessons at the Glenn Curtiss Flying School in San Diego, California, which cost \$1.00 per minute and an additional \$1,500.00 for insurance. After receiving his diploma, Mills moved to Buffalo, New York, to work for Curtiss as a pilot, flight instructor, and mechanic. Curtiss sent Mills to Essington in 1916 with Glendinning's order for one Curtiss Hydro-plane.²¹⁵ After Mills assembled the aircraft, Glendinning offered him a position as a mechanic and assistant flight instructor. Along with Walter Johnson, the school's coordinator, Mills helped to ready the school's facilities and operations. With World War I looming, the Essington School offered free flying lessons to any college student promising to enlist in the air service if the United States declared war. By this time, the Philadelphia School of Aviation in Essington owned five aircraft, including: Curtiss flying boats, a Curtiss pusher and pontoons, and a Thomas flying boat used as a school ship.²¹⁶

Founded only three years earlier, in early 1917 the Aviation Section of the United States Army Signal Corps commandeered the Essington base for the training of military squadron flyers; it was only one of four sites of this type in the country when the United States entered the war.²¹⁷ The former Lazaretto and government custom's properties were renamed "Chandler Field," honoring Second Lieutenant Rex Chandler, a pioneering military aviator who was killed in a hydro-plane accident in 1913.²¹⁸ Not only did the Army seize the base, but also all of the equipment and personnel that came with the facility: Glendinning was commissioned as a colonel, George C. Thomas and Samuel Eckert as majors, John B. Stetson, Jr. as a captain, and Mills was designated "Senior Civilian Instructor."²¹⁹ In November 1917, the Army transferred the Aero Squadrons and associated equipment to the newly constructed Gerstner Field near Lake Charles, Louisiana, for winter operations.²²⁰

In the spring 1918, the Army transferred Frank Mills to Minneola, Long Island, New York, as a civilian flight instructor. At the war's end, he was offered a position as an airmail pilot, but turned it down and returned to Pennsylvania. He purchased all of the Army's runways and hangar materials used at Chandler Field at auction, leased the

²¹⁵ Jennings R. Backus, "Biography of Frank Mills and the Development of the Philadelphia Seaplane Base," typescript, 1976, Millville.

²¹⁶ Barringer.

²¹⁷ Mary Bellis, "The History of the Airplane," accessed online, May 1, 2005, http://inventors.about.com/library/inventors/bl_wright_brothers.htm; See also Smith and Harrington.

²¹⁸ "Chandler Field," undated news release, Tincum Township Historical Society Archives.

²¹⁹ Barringer.

²²⁰ Harold E. Morehouse, "Frank Mills: Early Curtis Pilot - Instructor," undated typescript, Flying Pioneers Biographies Collection, National Air and Space Museum, Archives Division, Smithsonian Institution, Washington, D.C.

Lazaretto property from the city, and reopened Essington's flight school.²²¹ Along with his wife, Anna, Mills improved the seaplane base and created a profitable, seasonal business, preferring to winter (with aircraft) in West Palm Beach, Florida.²²² The couple had three sons, Frank, Jr. (1917), Robert (1920), and William (1924). Throughout their youth, the three brothers worked with their father at the base after school and on weekends, and the young men all eventually received their pilot's and mechanic's licenses.²²³ Within months of a city ordinance calling for "the sale of the [city's] unused and unproductive salable real estate, Frank and Anna Mills purchased the approximately 11+ acres for \$10,500.00, eventually selling 1.32 acres and the resident physician's house to the Riverside Yacht Club in 1939.²²⁴

Frank Mills, Sr. died of pancreatic cancer in December 1940. His son, Robert ("Bob") Mills quit his job at Pan American Airways and returned to operate the Philadelphia School of Aviation. One year later, on the day following the bombing of Pearl Harbor, Bob Mills received a telegram from the United States government ordering the removal of all propellers from the school's aircraft in order to prevent sabotage of the oil refineries near to the base.²²⁵ Bob Mills left Essington for to work at a naval aircraft factory and later joined the Navy as Seaman 2nd Class in the Aviation Cadet Program. He received his "Wings" in 1943 at Pensacola, Florida, and was subsequently commissioned as an Ensign and Naval Aviator.²²⁶ In 1944, the Navy awarded Mills the Distinguished Flying Cross for action in the Leyte Gulf.²²⁷

After the war, Bob Mills returned to the Philadelphia School of Aviation in Essington, which his brother Frank had been operating. In 1946, William ("Bill") Mills left the Navy and all three brothers carried on their father's legacy at the seaplane base. They continued using the corrugated iron hangars and original railway for launching. The remainder of the property not used for seaplane operations became a dry dock and marina called the "Governor Printz Marina." Bob instructed new pilots and managed the seaplane operations, William handled the boat-yard services, and Frank worked as sales engineer for a nearby aircraft radio firm.²²⁸ During his lifetime, Bob Mills received much recognition for his achievements in aviation. In 1990, the Federal Aviation Administration awarded him a "Certificate of Appreciation," followed by the "Charles Taylor Award," in 1994, for fifty years of aircraft maintenance. He received the "Pilot of the Year Award" from the Seaplane Pilots Association in 1996. One year later, the Aero

²²¹Backus.

²²²Morehouse.

²²³Millville Army Airfield Museum Archives, "Outline of the History of the Philadelphia Seaplane Base and the Mills Family of Essington, Pennsylvania" undated typescript, Millville.

²²⁴Deed, City of Philadelphia to Frank and Anna L. Mills, 6 Jan. 1937; Lease, Frank Mills and Anna L. Mills to Riverside Yacht Club, 1 Apr. 1937, DCP, Deed Book 1028, 59; Deed, Frank Mills and Anna L. Mills to Riverside Yacht Club, 15 Nov. 1939, DCP, Deed Book 1079, 398.

²²⁵Robert Murray, "1996 SPA Pilot of the Year: Bob Mills," *Water Flying*, 1997, Millville.

²²⁶"Outline of the History of the Philadelphia Seaplane Base..."

²²⁷William Henry Duncan, Jr., "C. Robert Mills: An Aviator to Remember" undated typescript, Millville.

²²⁸Betsy Kerr, "World War I Seaplane Pilots Mark 50th Year in Reunion at Their Flying School in Essington," *The Evening Bulletin*, May 25, 1967, Millville.

Club of Pennsylvania honored him with their annually-given “Wright Brothers Award.”²²⁹

Bob Mills worked and lived continuously at the Lazaretto and Philadelphia Seaplane Base; however, by the early 1990s rising taxes, commercial insurance, and restraints on seaplane flights imposed by the adjacent hastened his retirement. The property took nearly a decade to sell; by December of 2000, the they had moved to Eagles Nest, Florida, an aviation community, with five of the planes.²³⁰ At the time of their relocation, the couple donated most of the aviation museum located in the center block of the main building to the Millville Army Air Field Museum in Millville, New Jersey. The Smithsonian was interested in some pieces, but they wanted the collection kept whole.²³¹

PART II: ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: Main building at the Lazaretto is a large brick edifice composed of three sections—a three-and-one-half story center pavilion flanked to east and west by two-and-one-half story wings. The structure’s red brick walls, arranged in Flemish bond courses on the river front, broadly acknowledges local construction techniques used to build most structures in and around Philadelphia during the second half of the eighteenth century. Essentially domestic in scale, the Lazaretto’s three-part composition and elegant cupola convey its non-domestic function, an organization that reflects eighteenth-century design convention for nearly all types of public and institutional buildings designed and built in the United States.
2. Condition of fabric: The condition of the interior and exterior fabric ranges from fair to poor due both to environmental degradation as well as human change wrought on the building over time. Despite areas of radical interior alteration—most dramatically in the first-floor machine shop and second-floor apartment in the east wing—the attic story rooms of all three sections and the third-floor rooms of the central pavilion remain astonishingly intact. Most, if not all, of the sash above the first floor appears to be original to the building and many rooms have virtually undisturbed plaster, doors, mantles, and other trim. The building is currently moth-balled, awaiting decisions about its future use and restoration/rehabilitation.

²²⁹“Outline of the History of the Philadelphia Seaplane Base...”

²³⁰James Wynbrandt, “End of an Era: Philadelphia Seaplane Base is Closing,” *The Flyer*, 27 Oct. 2000, Millville.

²³¹Guy Robbins, Director, Millville Army Airfield Museum, personal interview with Rebecca Sell, March 2005.

B. Description of Exterior:

1. Overall dimensions: The main building at the Lazaretto consists of a square-shaped, three-and-one-half story, hip-roofed main block measuring approximately 50' x 50', flanked by a pair of two-and-one-half story gable-roofed wings each measuring approximately 64' x 25'.
2. Foundations: The foundation walls are constructed of random-coursed rubble stone.
3. Walls:

The exterior walls and the interior walls of the main block are load-bearing masonry (brick). The south (river) front is laid-up in Flemish bond and the rest of the walls laid in common bond alternating one row of headers with five rows of stretchers. A decorative water table encircles the building, terminating just below the first-floor sill line. The center block is arranged in five vertical bays and the wings in nine.

South Facade: The principal facade is oriented to the water as it would have been seen by sailing vessels as they approached the Lazaretto from the Delaware River. The Lazaretto was designed as a three-part structure, consisting of a roughly square-shaped, three-and-a-half story, hip roofed main block, with flanking wings each of two-and-a-half stories under a gabled roof. The main block projects only slightly on this elevation, just enough to distinguish the overall composition's tripartite configuration. The parts are unified by the piazza that originally extended across the entire front, giving access to all three sections; the eastern portion of the piazza has disappeared. The octagonal lantern sitting atop the main block is both functional and ornamental. It provides the building with architectural flair and once served as a means to view ships entering the wharfs. There is an entry centered on the first-floor of each of the three sections, with the principal door at the center of the main block slightly wider than the others. The window and doorway surrounds are understated. The windows have the simplest architrave molding, narrow muntins, and wood sills. The doorways are recessed and have paneled reveals and transom lights.

North Facade: The north facade is the secondary facade, and as the street approach, was the "service" side of the Lazaretto. The kitchen building still stands near a side door in the main block, which opens onto the dining room, allowing food to be carried between these two areas. A later, secondary hospital building and a quarters building or barrack for passengers of vessels under quarantine were once located to the rear of this facade as well. The north facade's secondary status is reflected in its diminished architectural treatment—the brick is laid up in common bond, rather than the more decorative Flemish bond, and while there is water table a stringcourse is lacking. The main block protrudes greatly from the wings at the north elevation, and there is no piazza or porch on this side.

Although having five bays at the center and ten bays in each of the wings as on the north facade, the fenestration is slightly irregular because of functional requirements for the interior stairs. The principal entry is slightly off center to accommodate the stairway in the center hall. The top of this door opening is lower than the flanking windows, again because of the stair, in this case the landing. Each of the windows above the door that open onto the landings are located midway between the floors. The center bays of the wings are likewise offset because of their respective stairs (now missing in the east wing).

4. Structural systems, framing: The Lazaretto is of load bearing brick construction, supported by heavy timber framing.
5. Porches, stoops: A portico was built along the length of the south facade to provide both shelter and facilitate access between the main block and the wings as there was originally no internal access. The eastern section is missing and was likely removed to ease access to the first story, which has been opened up on their interior and remodeled for use as a machine shop. The remaining segments of the porch are supported by wood Doric columns that rest on a concrete slab underpinned by brick piers. Some of the original wood floor structure is still extant below this later surfacing. Brick stoops topped by concrete pads are located at the other entries.
6. Chimneys: There is a slab-like brick chimney stack with a simple corbelled top on either side of the main block. Standard sized interior brick chimneys are located in the gable end of the wings, with twin, pointed-arched, brick chimney caps.
7. Openings:
 - a. Doors and doorways: The principal entry is at the center of the main block on the south elevation. It is broader than the others in the wings, recessed into the facade, and articulated by four-panel reveals and a transom. The current wood panel door has two lights in the top portion. The center block has two other first-floor entries, one slightly off access and opposite the main door and one in the west wall. On the north side, the center door of the west wing has been permanently closed and the one in the east wing enlarged to admit large pieces of machinery to the shop. The first-floor window in the outermost bay of the east wing has been enlarged to accommodate a door. There is only one exterior door on the second floor, which is located at the middle of the south wall of the east wing (a former window) and reached by an external iron staircase. A bulkhead entry is located to the front and rear of the center section.
 - b. Windows, window frames, and shutters: With the exception of some of the first-floor windows, most of the double-hung sash appears to be original to the structure. The current first-floor windows are two-over-two-light sash

on the south and north elevations of the center pavilion. There are twelve-over-twelve-light sash windows in the second story, eight-over-twelve-light windows in the third story, and eight-over-eight-light sash in the dormer windows. The window surrounds are all a simple architrave, with narrow muntins and wood sills. Paneled shutters can still be found on a few of the first-floor windows; louvered and panel shutters are stacked in the basement under the west wing.

8. Roof:

- a. Shape, covering: The roof of the main block is hipped and currently covered in composition shingles. The wings have gable roofs. A large hole has formed in the south front slope of the roof of the western wing near its intersection with the main block.
- b. Cornice, eaves: There are overhanging eaves, which allow for a cornice comprised of molding in the fascia and, below it, a narrow frieze board with bed molding.
- c. Dormers, cupola: The main block has a single dormer centered on each of its four slopes. Six dormers are present in each of the wings, three facing north and three facing south. An octagonal cupola with weathervane and timing ball sits at the apex of the main block's hip roof.

C. Description of Interior:

1. No original plans are known to exist. In 1795, Joseph Bowes provided the Board of Health drawn plans for a hospital that might have been used for the Lazaretto. If they survive at all, the location of these drawings remains unknown.

Floors one through three of the main block have double-pile plans with four principal rooms opening onto a center passage. The dogleg stair is located at the rear (north) of the center passage. On the second and third stories, the south end of the center passage is walled-off, creating a small room behind the south facade's center window bay. The stair continues up to the attic story and opens onto a centralized circulation space containing entrances to three (originally four) rooms. The cupola provides light and ventilation (along with dormer windows) and can be accessed by a straight stair rising the middle of the space.

Both of the wings were originally arranged with a central entry/stair passage with one room to either side used as hospital wards. The west wing retains this overall arrangement and dogleg stair, although each of the former wards has been subdivided into apartments with varied layouts. The first and second floors of the east wing have been entirely altered. The center passage and dogleg stair have been entirely removed, replaced on the first floor by a machine shop that is

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entirely open with the exception of a small office and bathroom in the northeast corner. The second floor has been reconfigured into a three-bedroom, one-bathroom apartment, the plan of which is indistinguishable from contemporary suburban, one-story "ranch" houses. An exterior metal stair and porch provides the principal access to this apartment.

The attic rooms remain intact in both wings. The dogleg stair between the second and attic stories of the east wing survives behind a door in the entry passage of the apartment.

The original design had no communicating doors cut through the brick party walls of the three wings. The west wing remains physically isolated. In the east wing, a door has been cut from the first-floor machine shop into the southeast room of the central pavilion and from the westernmost bedroom of the apartment into the southeast room on the second floor of the center pavilion.

Because of the load-bearing walls in the center block, the double-pile plan is evident in the cellar, although only two of the four flanking rooms open onto the center passage. The east-wing cellar is accessed through a later opening cut between it and the southeast room of the main block. The cellar under the west wing is entirely separate and accessible by the original stair descending from its center passage.

2. **Flooring:** Random-width wood flooring is found throughout the building, with the exception of the basement and locations where modern flooring materials have been laid over it. The basement floor is dirt, although remnants of brick flooring appear in the area of the fireplaces that presumably once served as kitchen facilities. Linoleum appears in the bathrooms and the kitchen of the apartment installed in the second story of the east wing.
3. **Wall and ceiling finish:** The walls and ceiling are of lath and plaster, on all levels of the building except the basement, where the stone walls are left exposed. The living-dining area of the east wing apartment is paneled and the ceiling covered with patterned wooden tiles.
4. **Doorways and doors:**

A majority of the interior room and closet doors have six raised panels arranged in a "cross-and-bible" pattern.

Some of the first-floor rooms of the center section have cabinets built into the mass of the chimney stack to one or both sides of the fireplace. These cabinets have upper doors consisting of three raised, vertically arranged panels and lower doors with a single raised panel. The front and rear first-floor rooms on either side of the entrance passage are joined by pairs of folding doors nearly floor-to-

ceiling in height. Each door is hinged at the center and each of the four sections features eight raised panels.

The doors of the second-story apartment in the east wing are of a type commonly referred to as “flush” veneered doors, entirely smooth and featureless. The room doors are hinged and the closet doors are pairs of sliding units.

5. Trim and woodwork:

The interiors of the center section shows a level of finish similar to the nicest contemporary dwellings built in the Philadelphia area. All of the rooms are embellished with carved architraves, toe molding, chair rails, and paneled room and closet doors, the most elegant of which appear on the first floor. The central passage on the first floor features crown molding. Federal-style fireplace surrounds and mantels survive in two of the rooms on the first floor. The one in the southwest room is particularly striking as it is embellished with neoclassical swags, urns, fluted Ionic pilasters and capitals, and other decoration. The second-story room in the southeast corner, connected to the apartment in the east wing, is fully paneled with typical mid-twentieth-century paneling. The fireplace surround in this room is identical to another on the first floor and was likely moved from that level. The fireplace surrounds on the second and third floors have simple molding around the opening, plain bands, and a separate mantel shelf supported by a horizontal segment of an architrave.

The stair in the center section has a simple and delicate balustrade composed of squared balusters framed by thin turned newels positioned at each turn of the rounded handrail. The wall separating the cellar stairs from the first-floor passage is embellished with raised panels. On the section of the stair between the first and second floors the newels and handrail of the balustrade are echoed along the wall by Doric pilasters and a chair rail. The squared bottom portion of the newels extend below the carved stringboard of the open well stair and terminate in simple bosses. The chair rail continues along the second-floor passage without the Doric pilasters and appears on the north wall only of the stair landing between the second and third floors.

6. Mechanical: With the exception of the first floor and a fire-suppression standpipe formerly connected to a cistern in the attic, no modern utilities have been introduced to the center section of the Lazaretto's main building. Conversely, many generations of electrical, plumbing, and heating systems can be found in both of the wings.

Because of its functional requirements, the machine shop has entirely modern electrical systems and a small bathroom of recent vintage. Extant kitchen equipment, bathroom fixtures, laundry hook-up and decorative fabric suggests that the second-floor apartment was fitted-out sometime in the 1950s and not changed since.

In the west wing, the apartments appear to have been added piecemeal over the years. A bathroom on the attic story at the top of the stair appears to date from the 1910s. An apartment on the second floor has a nearly pristine bathroom dating from the 1930s with modish white porcelain fixtures and black and white wall and shower tiles. A bathroom in the apartment on the west side of the first floor has unchanged fixtures and decor dating from the 1940s and on the east side a toilet and sink that appear to date from the 1910s or 1920s.

Historically the three wings were heated by fireplaces, some of which were closed off for stoves and coal grates over time. A variety of modern heating systems are evident including forced air (in the east-wing apartment) and hot water radiators.

D. Site and complex

The Lazaretto functioned as a quarantine station for almost a century. The Board of Health expanded the facility on an as needed basis, with the first supplementary buildings appearing only a few years after the initial construction. In addition to houses for the resident physician and quarantine master, and the physician's stable—all believed to have been constructed concurrently with the main building—a ca. 1870 site plan and T. L. Cernea's oil painting from about the same time, an 1895 inventory conducted by the Philadelphia Maritime Exchange, and the Minutes of the Board of Health record additional buildings on the site.²³² These included: bath house(s) (1802); a "passenger's" house (1805), a kitchen/bake house (for photographs, see HABS No. PA-6659-E); an ice house; a small pox hospital (ca. 1858); a pair of buildings symmetrically placed on either side of the quarantine landing known as the "bargemen's" house and "watch" house; a boat house; a laundry/wash house, and a power house.²³³ The ca. 1870 painting and diagram also depict smaller, unnamed outbuildings: one to the northeast of the main building; another adjacent to the physician's stable, just outside the entrance gate; and a third situated between the physician's house and stable not far from the river. The precinct also enclosed vegetable and flower gardens for private use of the resident physician and quarantine master, those for the general support of the staff and patients, and a burial ground for those who died both at the Lazaretto and the City Hospital.²³⁴

Of the buildings with unknown construction dates, the "Bargemen's House" (for photographs, see HABS No. PA-6659-D) and the "Watch House" (demolished) are the most intriguing. Built into the stone retaining wall along the river and positioned on

²³²"Diagram No. 1: Lazaretto Station, Pepper's House, and the Position of the Brig 'Home' with Location of Cases of Yellow Fever, from June 30th to Aug 26th, 1870," Atwater Kent Museum Collection, Philadelphia, Pennsylvania; Philadelphia Maritime Exchange, 18-19.

²³³MBH, Apr. 5 and Jul. 5, 1802, for bath house; "General Account of the Receipts and Expenditures of the Board of Health," *Poulson's American Daily Advertiser*, 25 Dec. 1805, and MBH, Apr. 25, 29, May 31, Jul. 30, for passenger's house; "Quarantine," *Delaware County Republican*, 29 Oct. 1858, DCHSL, for hospital.

²³⁴For a description of the garden, see "A Beautiful and Productive Garden," *Delaware County Republican*, 30 Apr. 1869; for the burial ground, see "The Forgotten Dead: Neglected Graves at the Old Quarantine Station at Essington," *Chester Times* 5 Dec. 1899, both DCHSL.

either side of the landing, they provided convenient shelter for the guards and bargemen near the river where they, respectively, patrolled in a boat to maintain the quarantine and ferried goods and passengers from ships under quarantine to the shore. The geometric clarity expressed through their form and smooth stuccoed surfaces contrasted sharply with the familiar red brick vernacular evident in the main building and its original flankers. Despite its mundane and sometimes grim purpose, the Lazaretto was a public building and, for all intents and purposes, the first glimpse of Philadelphia that many visitors received. The modish neoclassicism expressed in the Bargemen's and Watch houses' cubic massing, pyramidal roofs, and recessed arches on their riverfront walls, showed passengers and seamen that Philadelphia was not a provincial backwater and provided a teaser of what would be seen and experiences upon arriving in the city proper. In 1792, William Hamilton was nearing completion of new entrance lodges at the gates of The Woodlands that are nearly identical in size and detail to those later built at the Lazaretto. Although they could very well have been modeled directly on the lodges of the much-celebrated estate, their distinctiveness and non-essential function relative to quarantine and hospitalization suggest that they were not part of the 1799-1801 construction. Since Hamilton's lodges were in the vanguard of neoclassicism in America, their appearance would have remained fresh well into the nineteenth century until displaced by the even more severe forms of Greco-Roman revivalism debuting in Philadelphia with William Strickland's Second Bank of the United States (1818-24).²³⁵

Two other structures present on the site date from the period during which the Lazaretto was used as a seaplane base. Both are hangars, one still containing an aircraft, and located south of the main building, backing up to the Riverside Yacht Club property (for photographs, see HABS No. PA-6659-F). The tall one-story, utilitarian buildings are principally sheathed in corrugated metal and have large sliding doors at the front (facing east). Oral history claims that before being moved to the site, the north unit of the two surviving structures was used as a repair shed by what is now the Philadelphia International Airport when it opened in 1925, and the south (doubled) unit was constructed as part of the 1926 Sesqui-Centennial Exposition.²³⁶

PART III: SOURCES OF INFORMATION

Works Consulted

A. Published primary sources

Advertisement. "Building-Stone, Lime and Scantling." Claypoole's American Daily Advertiser. 18 Jun. 1799.

²³⁵Greco-Roman revival "versions" of the riverfront lodges at the Lazaretto can be seen with the gatehouses at the main entrances to William Strickland's United States Naval Asylum on Gray's Ferry Avenue, Philadelphia. They were completed in 1844-45.

²³⁶Hank Greenfell, telephone interview with Rebecca Sell, Oct. 2004.

Advertisement. "For Sale at Auction at the Coffee-House, on Wednesday evening the 20th instant, at 7 o'clock, A Lot of Ground and Buildings thereon erected, known by the name of the Lazaretto, On Province Island" Poulson's American Daily Advertiser. 12 May 1801. (Also ran 13-16, 18, and 19 May 1801).

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G. Historic images and maps

Historic American Buildings Survey documentation of the "Lazaretto," completed in 1936 and existing under a separate number (HABS No. PA-125), includes a site-plan sketch and nine photographs. Five of the photographic views date from 1936 and feature the administration building, a surviving guard house, and a stable "in rear of surgeon's house." Joseph P. Sims, the HABS district officer for southeastern Pennsylvania, is the photographer of record. The four remaining views are photo-reproductions of existing images: two undated photographs from the Historical Society of Pennsylvania, a third "old photograph," and a ca. 1895 drawing of the site by Frank E. Taylor.

A number of images of public buildings in Philadelphia with similar forms to the Lazaretto are reproduced in: Birch's Views of Philadelphia: A Reduced Facsimile of The City of Philadelphia—As It Appeared in the Year 1800 (Philadelphia: Free Library of Philadelphia, and Wappinger's Falls, NY: Antique Collectors' Club, 2000).

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PART IV: PROJECT INFORMATION

The project was sponsored by the Historic American Buildings Survey (HABS) of the National Park Service with the assistance of Tinicum Township, Delaware County, Pennsylvania. The documentation of the Lazaretto Quarantine Station was undertaken by HABS, Richard O'Connor, Acting Manager of Heritage Documentation Programs, under the direction of John Robbins, Chief of HABS (2005), and Catherine C. Lavoie, Acting Chief of HABS (2005-06). The written history was completed in 2005-06 by HABS senior historian Catherine C. Lavoie and HABS historian James A. Jacobs, and Rebecca Sell (University of Pennsylvania). The large-format photography was produced by James Rosenthal in 2005. The measured drawings finished in the summer and autumn of 2006 by HABS architects Robert R. Arzola, Jason W. McNatt, and Wendy H. Smith.