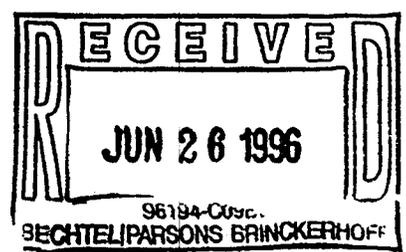


ALAN FRANZEN
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HISTORIC AMERICAN ENGINEERING RECORD

FORT POINT CHANNEL

HAER NO. MA-130



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HISTORIC AMERICAN ENGINEERING RECORD

FORT POINT CHANNEL

HAER NO. MA-130

Location: Between South Boston and Boston Proper, beginning at Boston Harbor immediately north of the Northern Avenue Bridge and heading approximately 1.25 miles south to the West Fourth Street Bridge. Suffolk County, Boston, MA.

UTM: 19.330150.4689640; 19.331100.4691000;
19.331250.4690910; 19.330170.4689630 (Fort Point Channel)
19.330280.4689930; 19.330640.4690140;
19.330650.4689980; 19.330320.4689890 (Area of Impact)
Quad: Boston South, MA.

Dates: From 1804 through 1960.

Engineer and Builder: City of Boston; Boston Wharf Company; Boston Terminal Company.

Owner: City of Boston, Commonwealth of Massachusetts, Amtrack, Massachusetts Bay Transit Corporation, Gillette Company

Present Use: Partially navigable water channel.

Significance: Fort Point Channel is a nineteenth-century waterway which represents Boston's maritime and industrial history. It was constructed in response to the space crisis in Boston Harbor during the early and mid-nineteenth century. The channel was the only water access to South Boston and South Cove, home to a variety of industries, including sugar refining, heavy machine construction and the storage of lumber and other building supplies. Fort Point Channel is a contributing structure in the proposed Fort Point Channel Historic District. This historic district has been determined eligible for inclusion on the National Register. The Channel itself appears to be eligible for the National Register.

Project Information: This mitigation documentation was undertaken in 1994-1995 in accordance with a 1984 Memorandum of Agreement between the Advisory Council on Historic Preservation, Federal Highway Administration, the Massachusetts Highway Department, the Massachusetts Historical Commission and the Boston Landmarks Commission for the Central Artery/Tunnel Project.

Jane Carolan, Architectural Historian and Project Manager; Martin Stupich, Photographer, and Connie Brown, Production Coordinator.

INTRODUCTION

Fort Point Channel, located between Boston Proper and South Boston, was created by fill episodes over a period of about one hundred years. When conceived it filled a need for additional wharf and dockage space in a crowded harbor. Increasing vehicular traffic and the advent of moving goods by vehicular means, however, reduced the need for the narrow, hard to navigate waterway. Today the many bridges across the channel are fixed and there is only a small amount of recreational water traffic. The channel, a contributing structure to the proposed Fort Point Channel Historic District, is an important part of Boston's maritime, industrial and engineering history. This documentation gives an overview of Fort Point Channel and then focuses on the portion of the channel which will be impacted by construction related to the Central Artery/Tunnel Project.

HISTORIC OVERVIEW

Development of Fort Point Channel

Fort Point Channel is a waterway between Boston Proper and South Boston. It was named for Fort Point, a promontory of the original Shawmut Peninsula at the base of Fort Hill. The waterway was originally a natural channel leading from South Bay out past the South Boston flats to Boston Harbor, but the channel, as we know it today, is manmade and the result of periodic fill episodes.¹ At present the channel runs from Boston Harbor south where it terminates in a culvert beneath the West Fourth Street Bridge. It is about 1 1/4 miles long with a varied width between 260 feet and 1,110 feet. Its depth varies between a few feet at its southern terminus to 23 feet at mean low water at its mouth.

Throughout the seventeenth and eighteenth centuries, Boston, a major maritime port, kept expanding its wharves and docks along all available shoreline in Boston Harbor, repeatedly filling in the marshes and muddy flats of the original Shawmut Peninsula in order to gain valuable solid land and additional shoreline. In 1835, in an effort to regulate growth on Massachusetts waterways and keep channels open and free of congestion, a state harbor commission was established. While individuals were free to establish wharves and other businesses along the waterfront, they had to do so within the parameters of the harbor commission bounds. The lines along the west side of the channel drawn at that time are essentially the present western boundary of the channel.² The east side commission line was established in 1840 and extends south, from what is today Summer Street to the Dorchester Avenue Bridge. Except for the filling of South Bay and a small slip on the east side, the channel reached its present configuration by about 1898.³ Before the nineteenth century, the area that contains the channel was a wide inlet leading to Roxbury Harbor, a large shallow body of water and mud flats fed by tides and creeks. On the west was the neck of the Shawmut Peninsula, and on the east were the farms of Dorchester Neck (now South Boston).

FORT POINT CHANNEL
HAER No. MA-130 (Page 3)

Between the seventeenth and the mid-nineteenth centuries, a variety of individuals and private companies began to fill parts of the watery expanses around what would become the channel and built wharves and dockage space. Development was completed in a piecemeal fashion. There were, however, distinctive and large scale fill operations which had dramatic effects on the growth of the channel. Much of this was in the beginning of the nineteenth century.

The first of these was the South Cove Associates project. The Associates, allied with Boston & Worcester Railroad interests, had purchased 75 acres of undeveloped tidal zone and filled in mudflats on the west side of the channel. Between 1833 and 1839, fifty-six acres of land were filled, mostly with gravel from Roxbury and Dorchester. The land comprises much of what is today Chinatown and the South Station area, including the mid-section of the western edge of Fort Point Channel, between what is now the West Fourth Street Bridge and the Dorchester Avenue Bridge.⁴

During the nineteenth century, South Boston began to be developed with wharves and heavy industry such as foundries and machine shops, among them the South Boston Iron Works, founded by Cyrus Alger. By the mid-nineteenth century, Alger's foundry was the largest in the country, and to accommodate his operation he repeatedly filled his land from the mid-1830s through 1860.⁵ Alger and other enterprises filled in an area on the east side of the channel, stretching south of the West Fourth Street Bridge to just north of the Dorchester Avenue Bridge. Much as South Cove Associates defined the western edge of the channel, from the West Fourth Street bridge to Dorchester Avenue Bridge, Alger and his colleagues did the same on the eastern side of the channel.

South Bay, the channel's southern most terminus, began to be filled in the 1830s and gradually developed into an area of wharves and heavy industry such as foundries, coal pockets and lumber companies. South Bay became an increasingly active industrial area, accessed by Fort Point Channel. In the 1850s more marsh lands were filled and the water at the southern end of South Bay channeled into the Roxbury Canal. In 1795 the Roxbury Canal, (built by local businessmen as a transportation canal from Roxbury to South Bay) had been constructed from near present day Dudley Station (Orange Line) to South Bay, paralleling, and south of, Albany Street. Much of the canal was filled in by the 1820s, but it was still used for drainage. It was completely filled by the mid-1960s.

The Boston Wharf Company (BWC) was largely responsible for developing the east side of the channel from First Street north to the harbor. The company was chartered in 1836 by a group of ship owners with commercial interests in Central America and the Caribbean. In the 1830s and 1840s, the company concentrated on importing and exporting sugar and molasses, and building wharves and docks. Board members of the company included local entrepreneurs such as Cyrus Alger, all of whom had a keen interest in the development of the channel. The company's first wharf development was in the area of First Street east of the channel. Filling began in the late 1830s and by the 1850s this huge wharf had been extended north to the edge of the harbor.⁶

Much of the southern portion of this wharf was used by the Standard Sugar Company, with which the Boston Wharf Company had an intimate connection. At the turn of the twentieth century, Edwin F. Atkins was president of the American Sugar Refining Company and BWC. His father, Elisha Atkins, was a Boston sugar merchant, a large stockholder of the Bay State Sugar Refinery and, in 1849, a director of BWC. Elisha was also the owner of two ships, "Neptune" and "Clothilde," which were used solely for the carrying of sugar and molasses. Through the leadership of Elisha Atkins, BWC became the leader in the construction and management of warehouses and refineries for the sugar industry in Boston, a position they held from the 1840s through the 1880s.

During this time period the company continued its filling operations to make new land. Some of their fill came from Boston's Great Fire of 1872:

It may be a matter of note to historians and antiquarians that following the great Boston fire in 1872, enormous quantities of brick, plaster and miscellaneous rubbish were poured, load by load, into empty spaces of Boston Wharf property. Doubtless among this material were relics of some value and significance. Future archaeologists may discover them well buried somewhere in the area between Northern Avenue and West First Street.⁷

The company also worked in conjunction with the state to fill the South Boston Flats in the 1870s, which resulted in the most northern extension, into Boston Harbor, of the east side of Fort Point Channel.⁸ In 1873 the state began to build the seawalls and finish the filling that the Boston Wharf Company had begun. While most of this work was in the Commonwealth Flats area, east of Fort Point Channel, some was along the seawall as defined by the U.S. Harbor Commission. By 1876 the wall was complete and the fill, behind the wall, was in place by 1879. This resulted "...in a long, lobster-claw shaped projection extending almost a mile north of First Street and clearly defining the east side of the Fort Point Channel."⁹

In 1883 the Standard Sugar Refinery decided to import its own raw materials rather than relying on the ships of BWC. In a consolidation typical of the late nineteenth century, three sugar companies with businesses on BWC land merged, forming the Sugar Refineries Company, which later became part of American Sugar Refining Company, all of which used the buildings and equipment of the Standard Sugar Refinery.

This consolidation forced BWC to reevaluate its position in the business world, and the company decided to get out of the wharf and storage business and enter the real estate market. They turned away from Fort Point Channel, filled in the rest of the mud flats they owned in South Boston, and began designing and building large brick structures used for warehouses and offices. The company continued to construct buildings well into the 1930s and today is still in business managing over seventy of the structures they still own.¹⁰

In the late nineteenth century, the west side of the channel underwent a dramatic change. A union station, one which would consolidate the lines and facilities for the railroads entering from the south and west, was one of the principal goals of Mayor Josiah Quincy (1859-1919), an ardent believer in civic improvements. Additionally, by 1893 the powerful New Haven Railroad had bought three of the four rail lines that entered Boston. Early in January 1896, even prior to officially taking office as the city's thirty-fourth mayor, Quincy met with New Haven President Charles Clark to suggest that he consider a single passenger station on the south side of the city.

The railroad agreed to the mayor's proposal and with the backing of the city, in 1896, organized the Boston Terminal Company to acquire the necessary land and to construct and operate the new terminal. The South Station project was substantial, involving a large, two-story, headhouse and terminal building, a glass and steel trainshed (that when completed was the second widest in the world, after St. Louis), an underground tracked baggage handling system, and a large railyard with a capacity for 737 daily trains. The project necessitated not only the realignment of major train lines and construction of a new bridge across the channel (HAER No. MA-35, New York, New Haven & Hartford Railroad, Fort Point Channel Rolling Lift Bridge), but also a reconstruction of portions of the west and east shores of Fort Point Channel as well. Work began in July 1896, and the new station, when it opened on December 30, 1898, was considered the largest train station in the world.¹¹

After the completion of South Station, the channel was, for the most part, in its present configuration. Due to the difficulty of navigation in Fort Point Channel, because of the many bridges, the southern and eastern sections of South Bay were filled in by 1916. Ship-borne transportation declined in the twentieth century and more of South Bay was filled, although two wharfs were still in existence as late as 1948. The construction of the Southeast Expressway in the mid-1950s necessitated the filling of the remainder of South Bay, and at that time the southern end of the channel was diverted into a culvert. A small slip at the bend of the channel on the east side was filled in by the Gillette Company in the 1960s; with this last fill the channel reached its present configuration.¹²

While the fill activity and harbor commission lines depict the physical history of Fort Point Channel, they do not convey the activity level of the waterway or its relevance to Boston shipping. At the beginning of the century, in 1906, the draw tender of the Broadway Bridge reported opening that swing span 2,381 times (Approximately 6 1/2 times each day).¹⁵ Fort Point Channel was a vital, crowded, busy waterway. Ship traffic had to be coordinated through up to seven bridges in less than 1 1/2 miles depending on which wharf the cargo was headed for.

Yet beginning as early as the 1890's, the channel's importance as a waterway slowly began to erode, an early target in the gradual dominance of vehicular traffic. The battle over the disruption of traffic flow over Fort Point Channel was a harbinger of the steady transformation in the shipping industry from water based transport to that of land and air based transportation.

In 1892, the city tried to pass legislation that

...[each draw tender] shall not allow any vessel to pass through the draws of Congress Street bridge, Mount Washington Avenue bridge, Federal Street bridge, Broadway bridge, or Dover Street bridge, on any day except Sundays and holidays, from 6.15 o'clock A.M. to 8 o'clock A.M., or from 12 o'clock M. to 1 o'clock P.M., or from 6 o'clock P.M. to 7 o'clock P.M.¹³

This was vetoed by the Harbor and Land Commissioners who stated in their decision that,

The Fort Point channel, on account of its penetrating an important business section and being near the heart of the city, is, although narrow and crossed by many bridges, a very important body of water to the commerce of Boston. The tonnage passing through its bridges is very great and the value of the cargoes landed there proportionately large.¹⁴

The report went on to discuss that the largest vessels in the channel could navigate only at high tide and therefore the proposed rules by the city would interfere with commerce since the tides were on their own schedule.

It was a long fight. In 1928 the Broadway Bridge was still being opened 922 times during the year, certainly down from 1906 but still active. The same year, 1928, the Northern Avenue Bridge was opened 1,491 times. Vehicular traffic eventually did win out and by the end of the 1930s the number of Broadway Bridge annual openings was down to 233 although the northern end of the channel was still active. Soon after the end of World War II with air freight and containers becoming the desired shipping method, the channel finally was closed for navigational traffic. In 1948, the Dorchester Avenue Bridge was fixed in place thus ending all shipping traffic south of it.¹⁶

Bridges of Fort Point Channel

The city of Boston has a long history of bridge building beginning in 1786 with the Boston to Charlestown Bridge. Fort Point Channel's first bridge was constructed in 1805, connecting Boston with Dorchester. Today the channel is crossed by seven bridges, which, in their totality, form a rich compendium of nineteenth and twentieth century bridge technology, particularly in the area of drawbridge construction.

Today the channel is crossed by the Broadway Bridge (piers from 1874-1875; spans, 1902; swing span, 1914), the New York, New Haven and Hartford Railroad Bridge, 1898-1900; the Summer Street Bridge, 1898; the Northern Avenue Bridge, 1908, rebuilt 1934; Congress Street Bridge, 1930; the Dorchester Avenue Bridge, 1892 replaced 1948; and the West Fourth Street Bridge (1877; rebuilt 1890s).

The earliest bridge constructed across South Bay, was built in 1805 to connect Boston with Dorchester, renamed, in 1804, South Boston. It was built by a group of entrepreneurs, the South Boston Associates, and was located on the site of the present West Fourth Street Bridge. Chartered by the Massachusetts Legislature in 1804, the company bought up most of the land on Dorchester Neck and laid out streets and lots. Constructed of wood, the bridge was 1,551 feet long and connected Boston Neck (the thin strip of land connecting the Shawmut Peninsula or Boston Proper) to South Boston. The bridge apparently became very popular with strollers due to its wonderful view of Boston. Unfortunately, the entire venture, bridge and land, was not a financial success since it was just too far from the center of Boston. It did, however, slowly start the beginning of growth in South Boston.¹⁷

The next bridge to be built over the channel was the Free Bridge (as opposed to a toll bridge) in about the same location as the present day Dorchester Avenue Bridge. It was the first drawbridge built over the channel. Among its incorporators was Cyrus Alger, clearly eager for easier access to his iron works in South Boston. Built in 1828, this was a heavily traveled route between the Dorchester Turnpike and central Boston, and was for many years the main artery between Boston and South Boston. This bridge clearly stimulated economic growth, judging from the amount of wharves and businesses located near it as seen on historic maps. In 1857 its name was changed to the Federal Street Bridge; in 1867 it was widened in order to handle increased traffic loads.¹⁸ In 1892 it was rebuilt with a retractile draw. This bridge is described in the Bridge Remains section.¹⁹

The Federal Street Bridge was replaced in 1902 by a bridge in the location of the present Dorchester Avenue Bridge because of a street realignment necessitated by the South Station project. The 1902 bridge was replaced by the present fixed concrete and steel Dorchester Avenue Bridge, built in 1948. This bridge was the first fixed bridge built over the channel.

The Mount Washington Avenue Bridge was completed in 1855 and extended from Mount Washington Avenue, in South Boston, to Kneeland Street in Boston. This was a boon to the Boston Wharf Company because for many years it was the only bridge adjacent to the company's property. It was removed in 1909 because its access was blocked by the 1899 South Station project.²⁰

The first Broadway Bridge, begun in 1869, was completed in 1871 (HAER NO. MA-129). The bridge has been rebuilt a number of times, but sections of each building period remain. The original bridge consisted of a trussed arch over the South Boston streets, a long viaduct on Phoenix columns, another trussed arch over the South Boston railroad tracks, an 80-foot rim-bearing swing span over Fort Point Channel, and a viaduct and arch over Boston streets. Among the engineers for the bridge was Boston city engineer, T. Willis Pratt, and Clemens Herschel, consulting engineer. Soon after its construction, the initial bridge, built of cast-iron, failed, so that the entire bridge eventually moved and warped.²¹

In 1874 the city appropriated money for an entirely new structure. The central pier of the draw span, completed in 1875, is the oldest portion of the present bridge. In 1915 the draw span was replaced with a steel span which was part of a superstructure reconstruction undertaken by the Boston Bridge Works. They reused the 1875 masonry substructure thereby determining that the span would be a center-pivot swing span. It was designed to carry not only vehicular and foot traffic but two streetcar lines as well. The extant approach spans were built in 1902 of masonry and steel at the request of the Boston Terminal Company soon after they finished their reconstruction of South Station. The draw has been fixed since 1959.²²

The present West Fourth Street Bridge is located on the site of the 1805 South Boston Bridge. The 1805 bridge, rebuilt in 1858, was renamed the Dover Street Bridge. This bridge was then itself replaced in 1876-77 and again in 1893-94. Much of the 1890s construction was removed in the 1950s when the Southeast Expressway was built. The piers and stone-surfaced approaches remain, but fires in the early 1950s and in 1967 destroyed the original pony trusses. Those remaining were replaced in the early 1990s. Little of the South Boston Bridge or Dover Street Bridge remains.²³

In 1898-1900 as part of the construction of South Station the New York, New Haven & Hartford Railroad Bridge was completed (HAER No. MA-35). This is a six-track rolling lift bridge designed by the Scherzer Rolling Lift Bridge Company of Chicago. This was only the fourth bridge of this design to be built by the company and the only one outside of Chicago. The six track span is made up of three separate through riveted truss spans. Each draw span can be raised or lowered independent of the other although the operating mechanism was removed in the 1960s. It is a major national example of a moveable bridge technology that was widely adopted in subsequent years for both railway and highway spans.

The Scherzer Rolling Lift Bridge replaced an earlier jackknife draw that was built sometime in the mid-nineteenth century, replacing the original jackknife draw built by the Old Colony Railroad in 1845. The jackknife draw was invented by Ipswich, MA builder Joseph Ross, for the Eastern Railroad. The design used cables radiating from a tower to lift the opposite end of a deck span from its seat and swing it horizontally into a position flush against the shore, allowing vessels to pass.²⁴

In 1899-1900 the Summer Street Bridge (HAER No. MA-41) was completed. It is a rare moveable type of bridge known as a "retractile draw," in which the moving span is pulled diagonally away from the navigable channel on several sets of rails. The Summer Street draw is a double draw and was built by the Berlin Iron Bridge Company. Only four retractile drawbridges have been identified in the country, two of which are in Boston (see the Bridge Remains section for a more detailed description of retractile draws). The bridge was built by the City of Boston in response to the Boston Wharf Company's expansive real estate development along Summer Street in South Boston, where the warehouses of Boston's wool merchants were concentrated.²⁵ The bridge is currently being restored.

The Northern Avenue Bridge (HAER No. MA-37), a steel bridge built in 1908, is composed of two fixed spans separated by a swing span. The bridge was originally built to accommodate two sidewalks, two roadways and a center lane, double-track freight railroad line. It was built to connect downtown Boston with the newly developed Commonwealth Pier, built by the State between 1897 and 1903. The city resisted building the bridge for a number of years however, because they saw it as another obstacle to navigation in the channel. It is a rim-bearing swing bridge (originally operated by compressed air) in which the swing span is supported on the rim of a steel drum rather than a center pivot like the Broadway Bridge. The bridge was designed by William Jackson, the Chief of the Boston City Engineering Department at the time he designed the bridge, and it was built by the New England Structural Company. The railroad lines were removed in the 1970s. The bridge is scheduled to be stabilized and reused and a new fixed replacement bridge built immediately adjacent.²⁶

The Congress Street Bridge (HAER No. MA-38), a bascule bridge, was completed in 1930, on the site of an earlier, 1879, New York and New England Railroad Bridge. It was designed by Joseph B. Strauss (1870-1938), designer of the Golden Gate Bridge, and built by the Boston Bridge Works. Strauss used concrete for the counterweight instead of iron, thus reducing costs. To allow the great weights to move, he developed the multiple trunnion, or pin-connected counterweight, which allowed the counterweight to pivot as it moved, and obviated the need for a pit to receive the counterweight when the leaf was upright. In addition to the counterweight innovation, the Congress Street Bridge has architectural features of granite piers that rise above the deck level and elaborate metal lanterns. The bridge, with an opening of 75-feet, was built to allow larger vessels to navigate the channel, but it was constructed too late to affect the decline of water traffic. Its mechanism was removed in the 1950s, and the bridge became fixed at that time.²⁷

AREA OF IMPACT

While the entire channel's history has been presented above, the area of impact for the Central Artery/Tunnel Project is the focus of this documentation. The area of impact is defined as that portion of Fort Point Channel that runs from the south side of the Broadway Bridge to approximately 200 feet north of the Dorchester Avenue Bridge. Significant resources here include the stone seawalls that line the channel and remains of bridges that have been removed or replaced. Within the area of impact are two bridges which have been separately documented according to HAER standards. These are the Broadway Bridge (HAER No. MA-129) and the New York, New Haven and Hartford Railroad Bridge (HAER No. MA-35). The Dorchester Avenue Bridge, constructed in 1948 and within the area of impact, is not considered historic and is therefore not reviewed here, although it is described in the Bridges of Fort Point Channel section. For ease of identification, descriptions in this section use contemporary landmarks for locating features.

Stone Seawalls

West side of Fort Point Channel

In 1835, a state commission was formed to determine the boundaries within which wharves could be built to lessen their impact to the harbor.²⁸ This ruling, with a few later modifications, determined the present day configuration of the western edge of Fort Point Channel from the West Fourth Street Bridge up to the mouth of the channel.

In 1896, construction of South Station and its rail yards began on both sides of the channel with extensive land acquisition and large-scale demolition of existing structures. At that time, the entire west side of the channel was lined with wooden and granite wharves. Before any construction could begin, the wharves and docks had to be filled and a new west edge of the channel defined.

The reconfiguring of the channel was done in conjunction with the City of Boston and the Massachusetts Harbor Commission, which granted permits for the work to be done. In the spring of 1897, the city began construction of the seawall along what would become Dorchester Avenue from the Dorchester Avenue Bridge north to Summer Street. In 1898 Federal Street was abandoned and removed (it was incorporated into the South Station railyard) and Dorchester Avenue was extended over the channel from South Boston to Boston. In April 1898, a contract was let for the construction of the wall south of the Dorchester Avenue Bridge. Downs' 1899 View of Fort Point Channel depicts the new seawall extending to the Broadway Bridge.²⁹

In the spring of 1897, an extensive cofferdam was completed along the line of what would become the east side of Fort Point Channel. Borings indicated a layer of clay about 40 feet below the street surface, upon which the dam, built of hard pine timbers, was laid. Wherever this sheet piling was laid, it was necessary to remove any rocks or debris to ensure a close fit on top of the clay to keep the water out. Piles were driven down to the clay layer and the space between the coffer dam and piles were backfilled with stone ballast, earth and rubble (possibly from the demolished buildings on the site).³⁰

A granite wall was then constructed on top of the piles. Granite blocks cut into rectangular lengths, were laid horizontally, randomly interspersed with square granite blocks. At low tide, 11 courses are visible; the wall is capped with a granite coping. All the stones are cut in rough faced ashlar and are medium gray. The wall was dry laid. The construction of the Dorchester Avenue Bridge in 1948 and the small "Y" connector built in the 1980s resulted in the removal of sections south of the Rolling Lift Bridge but the remaining wall has survived unchanged since its construction.

East Side of Fort Point Channel

The contemporary configuration of the east side of Fort Point Channel was developed more incrementally than the west side which benefited from the construction of the large South Station project.

For study purposes, the area of impact on this side of the channel is divided into three separate zones of development. The first zone is that which runs from the Broadway Bridge north to the Dorchester Avenue Bridge. The second zone runs from the Dorchester Avenue Bridge north to approximately 30 feet north of the Gillette Company's 1960 salt water intake pipe. The third zone is that area which runs approximately 275 feet north of the intact pipe. Both zones two and three can be seen in the plan developed by the Gillette Company in 1960 when they petitioned the Commonwealth for permission to fill in the inlet.

The first zone, running from the Broadway Bridge north to the Dorchester Avenue Bridge was an area of heavy industrial development beginning in 1832 when Cyrus Alger began to fill in this area of South Bay to accommodate his iron works and other businesses as well. Alger first began to fill south of the Broadway Bridge. By 1852 he had filled his land north to the Dorchester Avenue Bridge and worked his way north completing his last filling operation during the 1860s. This first zone was occupied by the Old Colony Railroad; in 1852 their round house was located here. During the 1870s and the early 1880s the land in this zone was used by Tufts Elevator Company and Alger's Fulton Iron Works Foundry. By 1884 the Old Colony Railroad had expanded their property to build a machine shop and railyard that was used for the storage of passenger cars. These yards are now owned and operated by the MBTA. During the construction of the South Station project this yard was expanded and a seawall built.³¹

Because this portion of seawall was built for the Boston Terminal project, the wall is laid the same as described above in the section titled West Side of Fort Point Channel. Running from the south side of the Dorchester Avenue Bridge to the south side of the Rolling Lift Bridge, the wall is laid in 12 courses due to the depth of the channel here. About 6 feet south of the lift bridge, the wall steps down two courses and continues this way to the north side of the Broadway Bridge.

The second zone, running from the Dorchester Avenue Bridge to Gillette's intake pipe was the last area to be filled by Cyrus Alger and was filled between 1852 and 1860. His land abutted on the north, the last remaining unfilled inlet in the channel. This zone can be seen in Downs' 1899 View of Fort Point Channel. This was the site of Alger's South Boston Iron Works well into the 1880s. By 1884 Continental Sugar Refining had constructed a refining facility here, soon to be merged with the American Sugar Refining Company. This zone has been occupied by the Gillette Company since the 1950s.³²

This is the oldest wall in the area of impact, probably dating from Alger's period. The wall has shown signs of wear and disturbance and although similar in appearance to the Boston Terminal Company's walls, i.e. large rectangular blocks randomly interspersed with square fillers, this wall is now not as tightly laid and has shown signs of shifting. Clearly, while using the conventions of seawall building (backfill and dry-laid stone walls) this wall was not as carefully built as the Boston Terminal Company. At low tide five courses of stone are visible. The granite in this wall is cut in a rough faced ashlar and is a dark-to-medium gray. Some coping has been replaced in this section. Just north of the Dorchester Avenue Bridge, where the wall was disturbed to build the bridge, is a pile of loose riprap.

The third zone is now owned by the Gillette Company and was the last inlet and wharf to be filled on the east side of Fort Point Channel. The inlet abutted a wharf, completed by 1860, which was used by both the iron works and sugar companies and was used well into the twentieth century. As described above, the area runs approximately 275 feet north of the intact pipe and can be seen in the plan developed by the Gillette Company in 1960 when they petitioned the Commonwealth for permission to fill in the inlet.³³

Although Gillette's filling and seawall building project was 100 years later than Alger's and 70 years later than the Terminal Company, the technology was similar; i.e. coffer dam, backfill and piles and a dried laid seawall. The wall, though, in this section, is quite different since it is roughly laid in a random pattern with randomly sized stones as well. In Gillette's parking lot, adjacent to the small brick intake house, is an area with paving removed which shows the extensive rubble backfill.

Bridge Remains

The most prominent bridge remains within the project area are the massive piers and drum of the former Cove Street Bridge (also known as the "Atlantic Avenue Extension"), located between the Old Colony Railroad Bridge and the Dorchester Avenue Bridge. Planned as a short cut to South Boston from downtown Boston, the bridge, erected in 1907, connected Atlantic Avenue with the corner of Dorchester Avenue and First Street in South Boston. Initiated by Mayor Patrick Collins, evidently as a result of political pressure from South Boston residents and businesses, the project at first had the backing of the Boston Terminal Company, over whose railroad yard the four-span viaduct would have to pass. However, an expensive suit for damages by the terminal company against the city resulted in the city's agreeing to close the bridge in January 1915 and allow the Boston Terminal Company to remove it.

The draw span of the Cove Street Bridge was a rim-bearing swing span made up of two riveted deck trusses on a turntable 29 feet 10-1/2 inches in diameter. Built by the New Jersey Bridge Company, the draw span was 183 feet 10-1/2 inches long and 49 feet 2 inches wide. Because of its proximity to the Dorchester Avenue Bridge, it was impossible to open the bridge without interrupting traffic on the adjacent bridge. As a result, even after the Cove Street span was

closed to vehicular traffic, it was necessary for it to be operated in tandem with the Dorchester Avenue span until it was removed in May 1914.³⁴

Immediately adjacent to the Dorchester Avenue Bridge are the remains of the 1892 Federal Street Bridge which was a retractile draw. Retractable draws were primarily a Boston innovation due to Boston City Engineer T. Willis Pratt (1812-1875). In addition to patenting the "Pratt" truss in 1844, he patented portions of the retractile draw mechanism in 1860. The first of these bridges was erected over the Charles River in 1870 and by the early 1900s eight more had been constructed of which three were over Fort Point Channel: Dover Street Bridge (1870), Federal Street Bridge (1892) and Summer Street (1899). Of these only the Summer Street Bridge remains. These bridges operated by pulling the bridge's spans on rails (by using motors), diagonally away from the navigation channel. This design had the advantage of being able to open wider than swing bridges or other types of bascule draws, and therefore, provide a wider navigation channel.³⁵

The Federal Street Bridge was a double retractile draw, with two draw spans that carried pedestrian and vehicular traffic. The bridge was built as the successor to the 1827 "Free Bridge," i.e. no tolls, built earlier, in the same location. Due to the realignment of Federal Street/Dorchester Avenue during the South Station project, the 1892 bridge was removed and replaced, in 1902 with a bridge in the same location of the present day Dorchester Avenue Bridge. The remains of the 1892 bridge can be clearly seen at low tide. They consist of wooden piles, which held the approach sections of the bridge. Tenons at the top of the piles indicate framing methods of the period. Also visible are the crib piers which supported the draw span and the steel tracks upon which the draws retracted. Fender piers are visible as well. Fenders protect bridges against damage from ice, debris and passing ships, as well as defining navigation channels.³⁶

Wooden navigation fenders of the Scherzer Rolling Lift Bridge and the Broadway Bridge can also be seen. When the channel was closed to navigation in the early 1950s these fenders were left in place and have been slowly deteriorating since then.

Just north of the project area are the remains of the Mount Washington Street Bridge. As described previously, this bridge was built in 1855 and extended from Mount Washington Avenue, in South Boston, to Kneeland Street in Boston. It was used primarily by the Boston Wharf company since it was provided the most direct access to Boston. The bridge was removed in 1909 after access, on the Boston side, was blocked by the construction of the South Station in 1899. Today, at low tide, remains of the bridge can be seen including the wooden piles, decking timbers and cobble stone paving. The majority of remains are adjacent to the west wall of the channel with some timber piling adjacent to the east wall of the channel as well.

SIGNIFICANCE

Fort Point Channel is a nineteenth-century waterway which represents Boston's maritime and industrial history. It was constructed in response to the space crisis in Boston Harbor during the early and mid-nineteenth century. The channel was the only water access to South Boston and South Cove and their industries, including sugar refining, heavy machine construction and the storage and distribution of coal, lumber and other building supplies. The channel is significant for its relationship to the city of Boston and certain Boston companies from the early nineteenth century through today who were involved with the development of the channel. These included the South Boston Associates, South Cove Associates, the Boston Wharf Company, and the Boston Terminal Company, all of which were instrumental in the construction and filling of Fort Point Channel.

The construction of Fort Point Channel, as an addition to an already busy harbor, is a testament to Boston's important maritime history throughout the nineteenth and early twentieth centuries. The physical formation of the channel is a result of the massive building projects undertaken during the United States' great industrial age. This enterprise can be seen on the west and east sides of the channel in the railyards built during the construction of South Station, and in the South Station Headhouse on the west side of the channel (although today the yards and headhouse are reduced in size.) The west side of the channel shows evidence of the massive filling efforts of the Boston Wharf Company and the Commonwealth of Boston.

Fort Point Channel is a contributing structure in the proposed Fort Point Channel Historic District. This historic district has been determined eligible for inclusion on the National Register and the channel itself appears to be eligible for the National Register.

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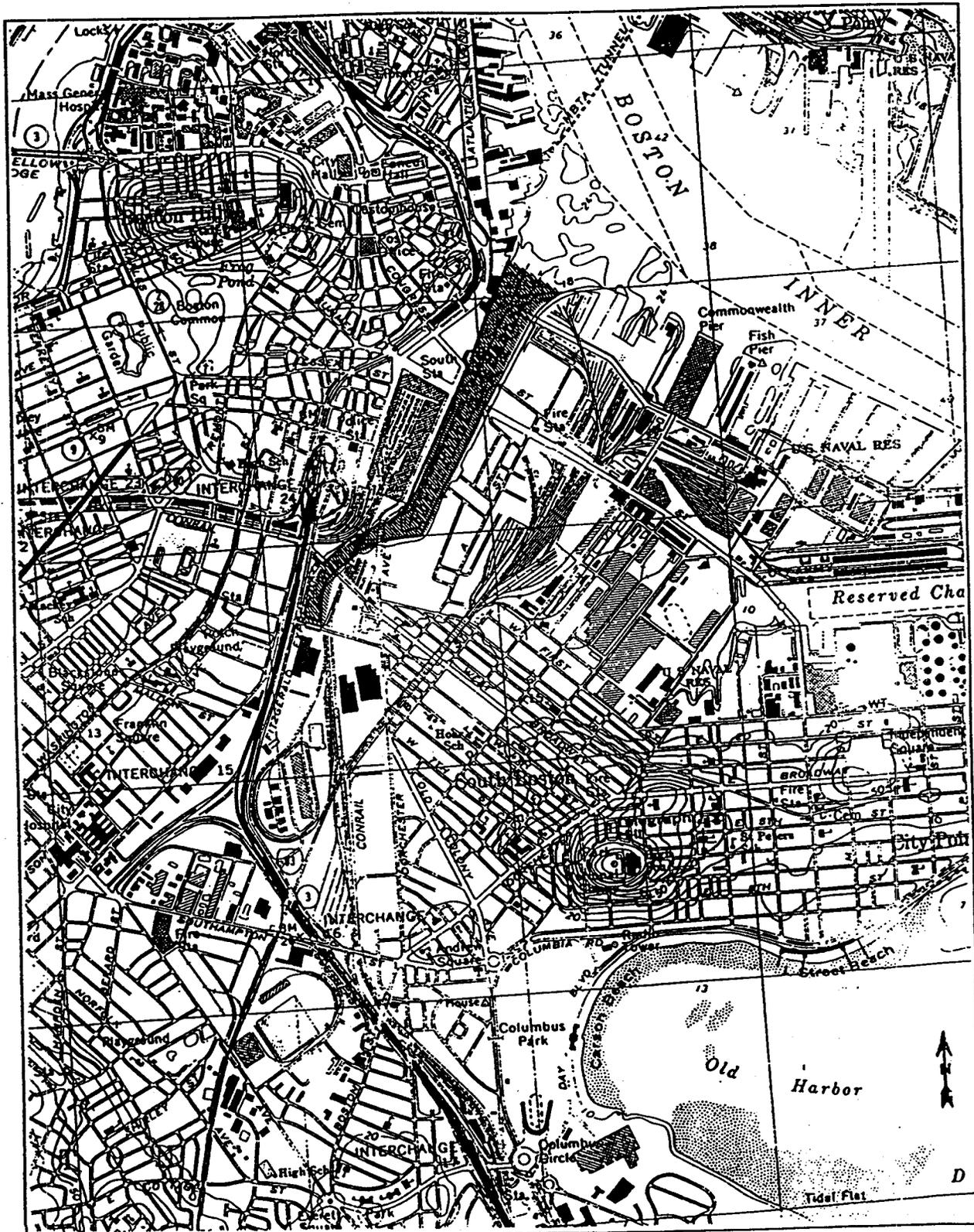


Figure 1 - U.S.G.S. map of South Boston showing Fort Point Channel..

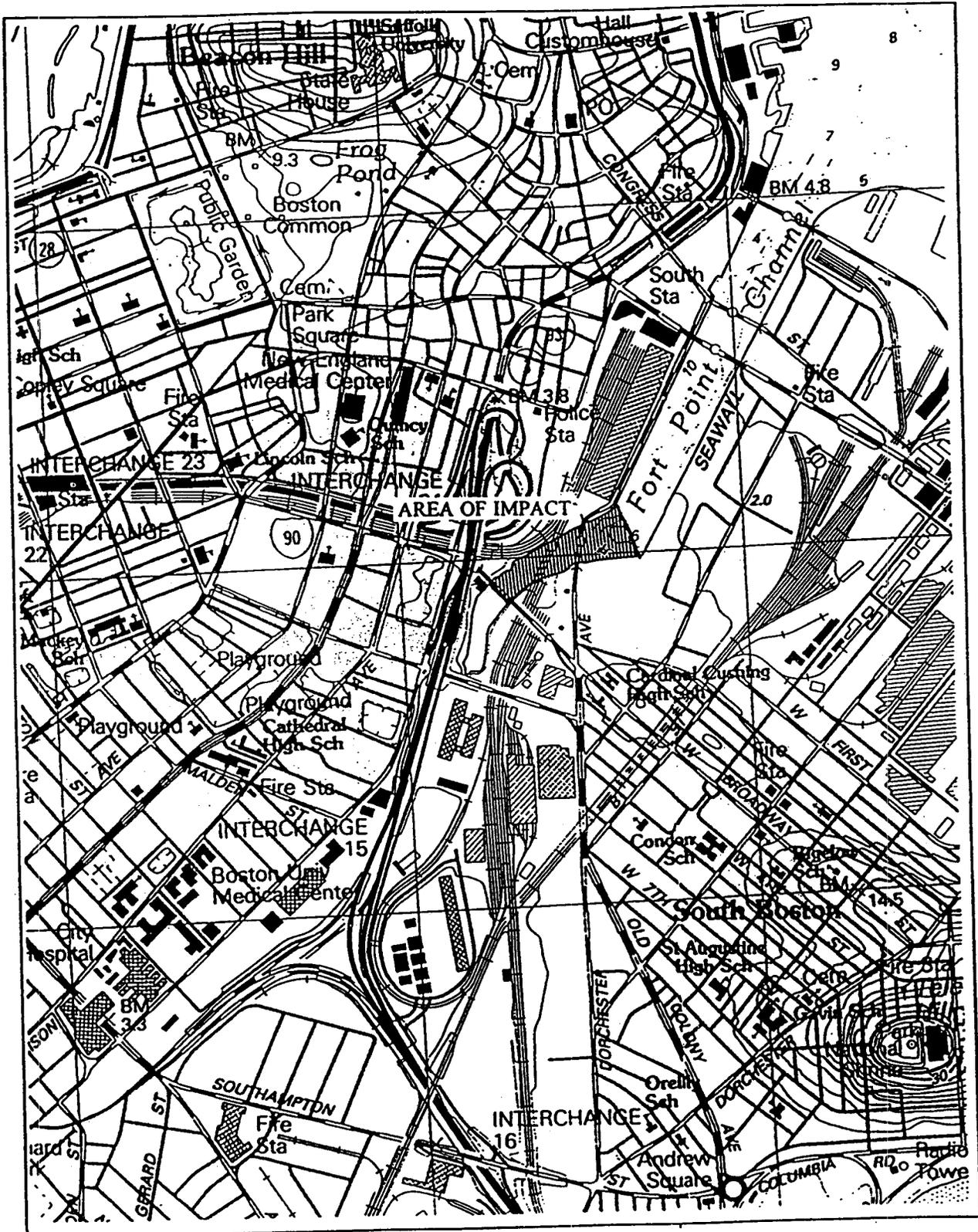


Figure 2 - Detail of area of impact.

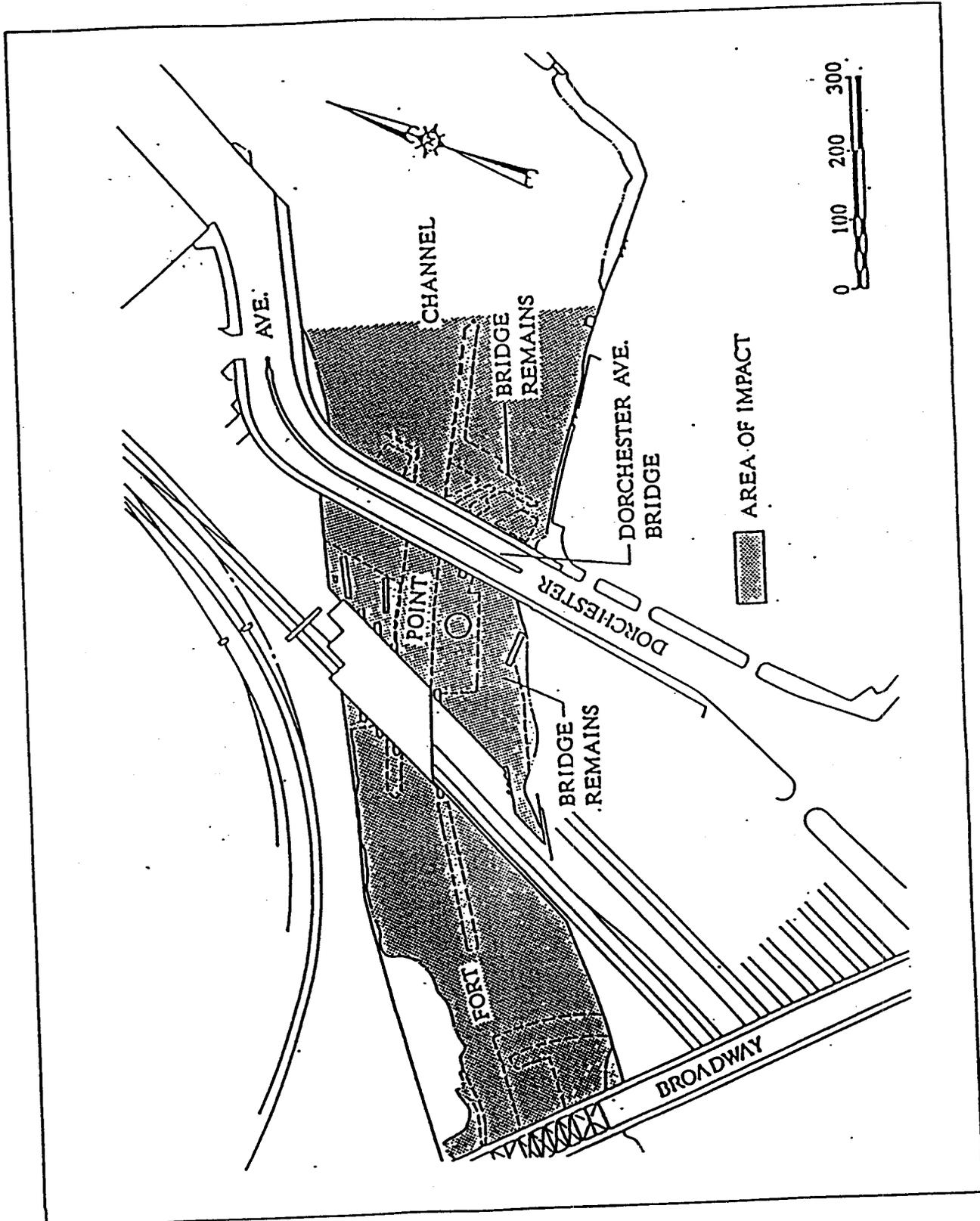


Figure 3 - Detail of area of impact.



Figure 4 - Map of area of Fort Point Channel before development, 1806. Boston with its Environs. Society for the Preservation of New England Antiquities.



Figure 6 - Map of Fort Point Channel showing first Old Colony Railroad Bridge, 1846. City of Boston. N. Dearborn, Massachusetts State Archives.

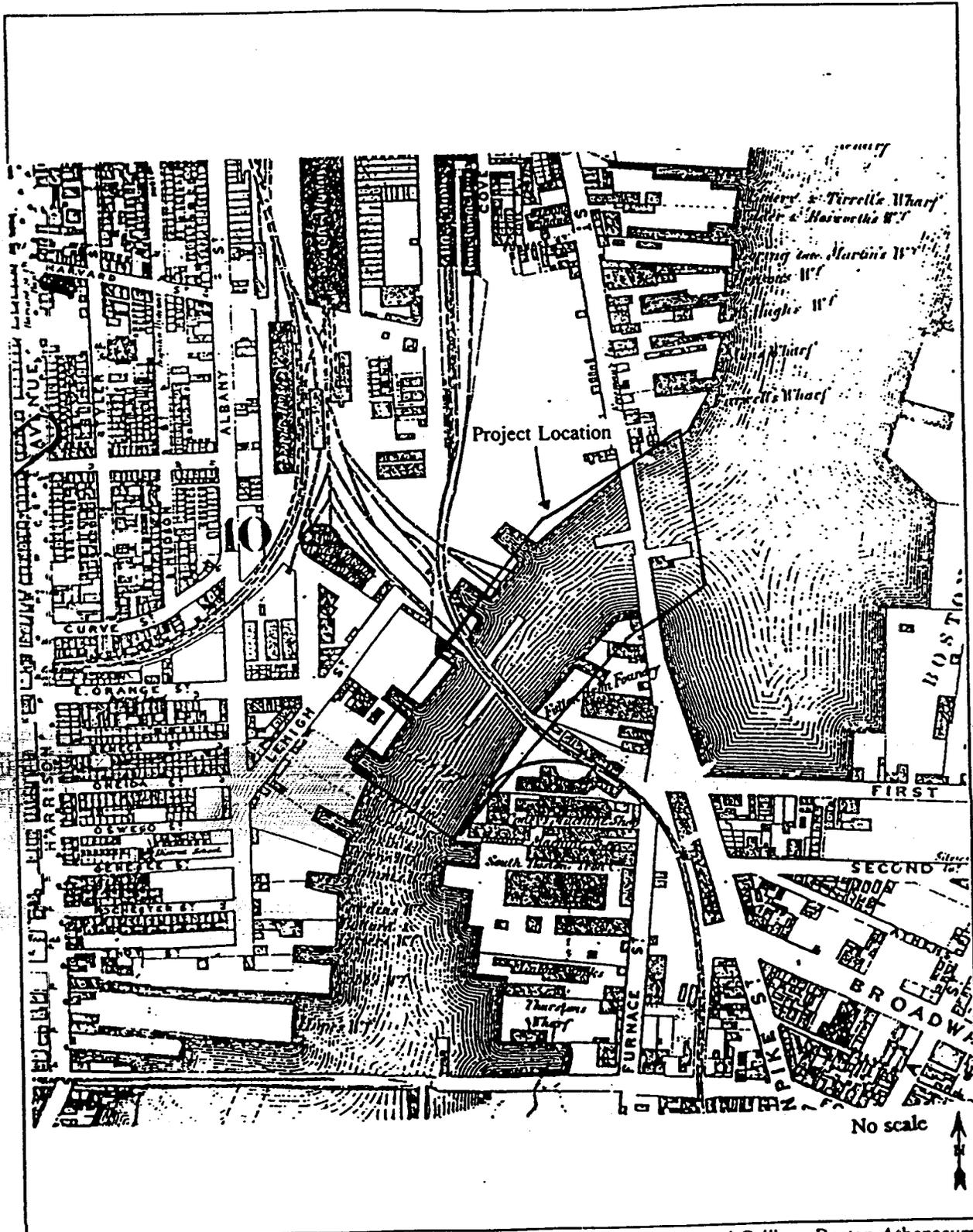


Figure 7 - Map of Fort Point Channel, 1852. Map of the City of Boston, Slatter and Callhan, Boston Athenaeum.

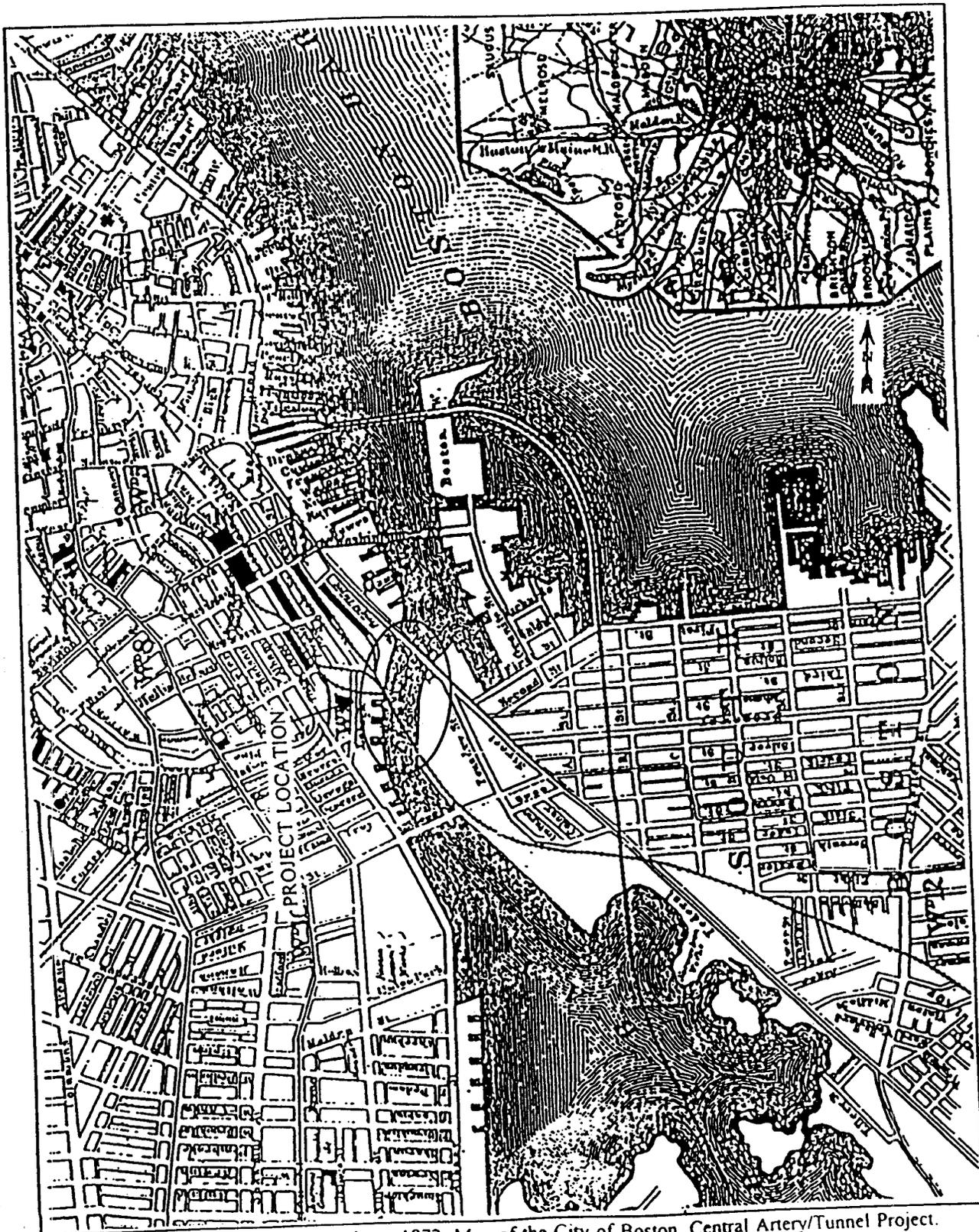


Figure 8 - Map of Fort Point Channel. ca. 1872. Map of the City of Boston, Central Artery/Tunnel Project.

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Figure 10 - Map of Fort Point Channel. 1916. U. S. Coast and Geodetic Survey, Boston Harbor, MA, Chart 246.

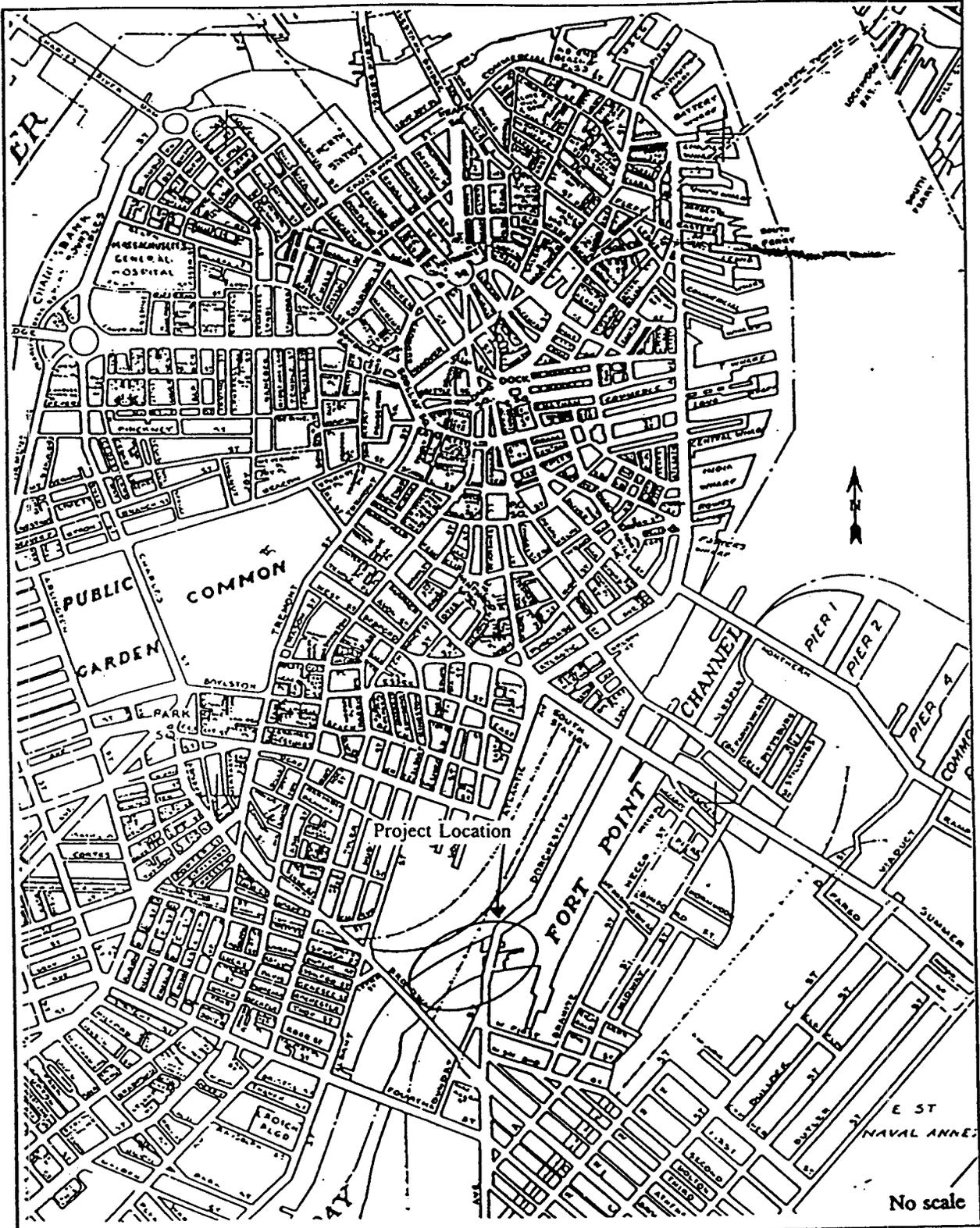


Figure 11 - Map of Fort Point Channel, 1948. Boston City Planning Board, Boston Redevelopment Authority.

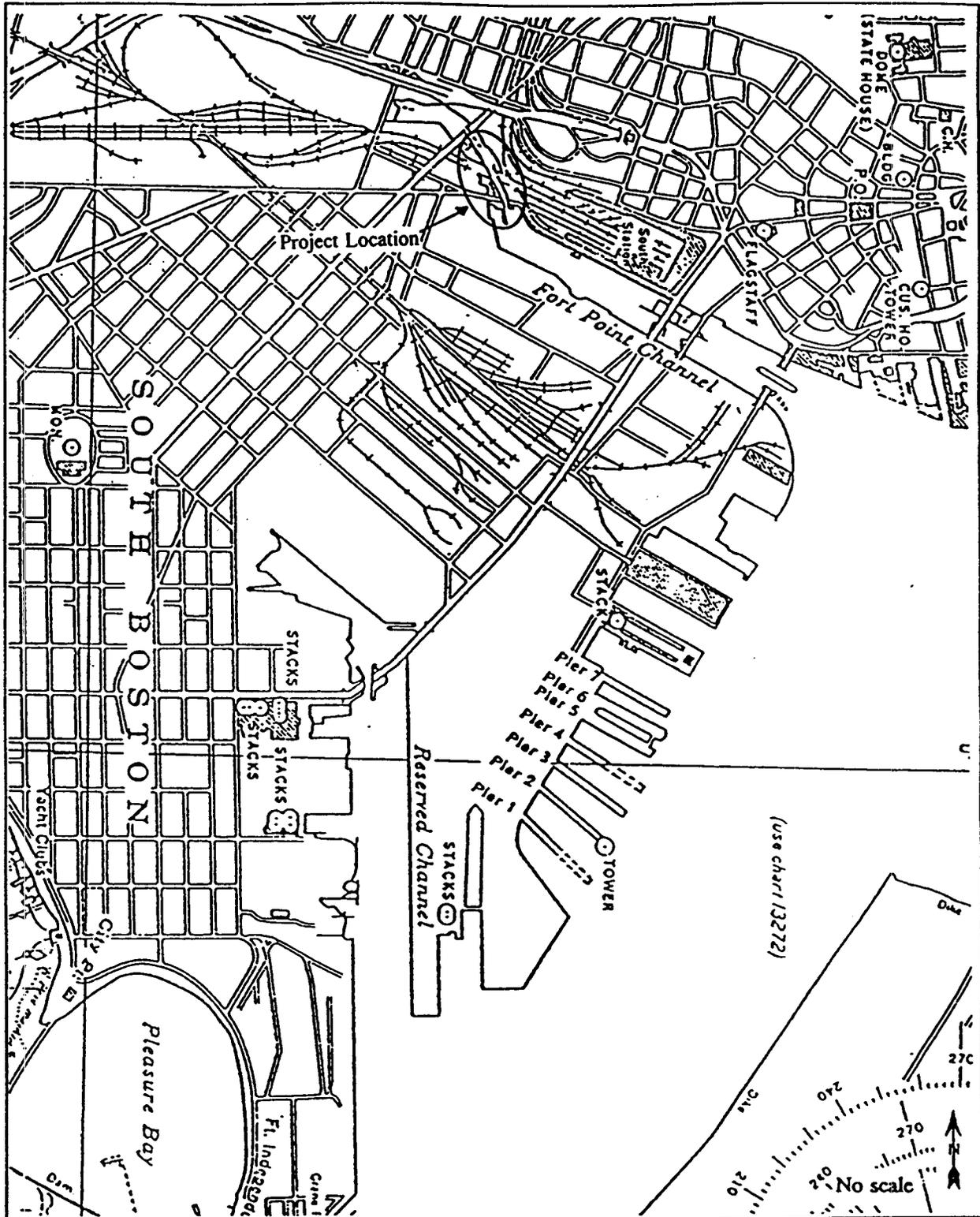


Figure 12 - Map of Fort Point showing filling completed, 1978. U. S. Coast and Geodetic Survey. Boston Harbor MA, Chart 13270.

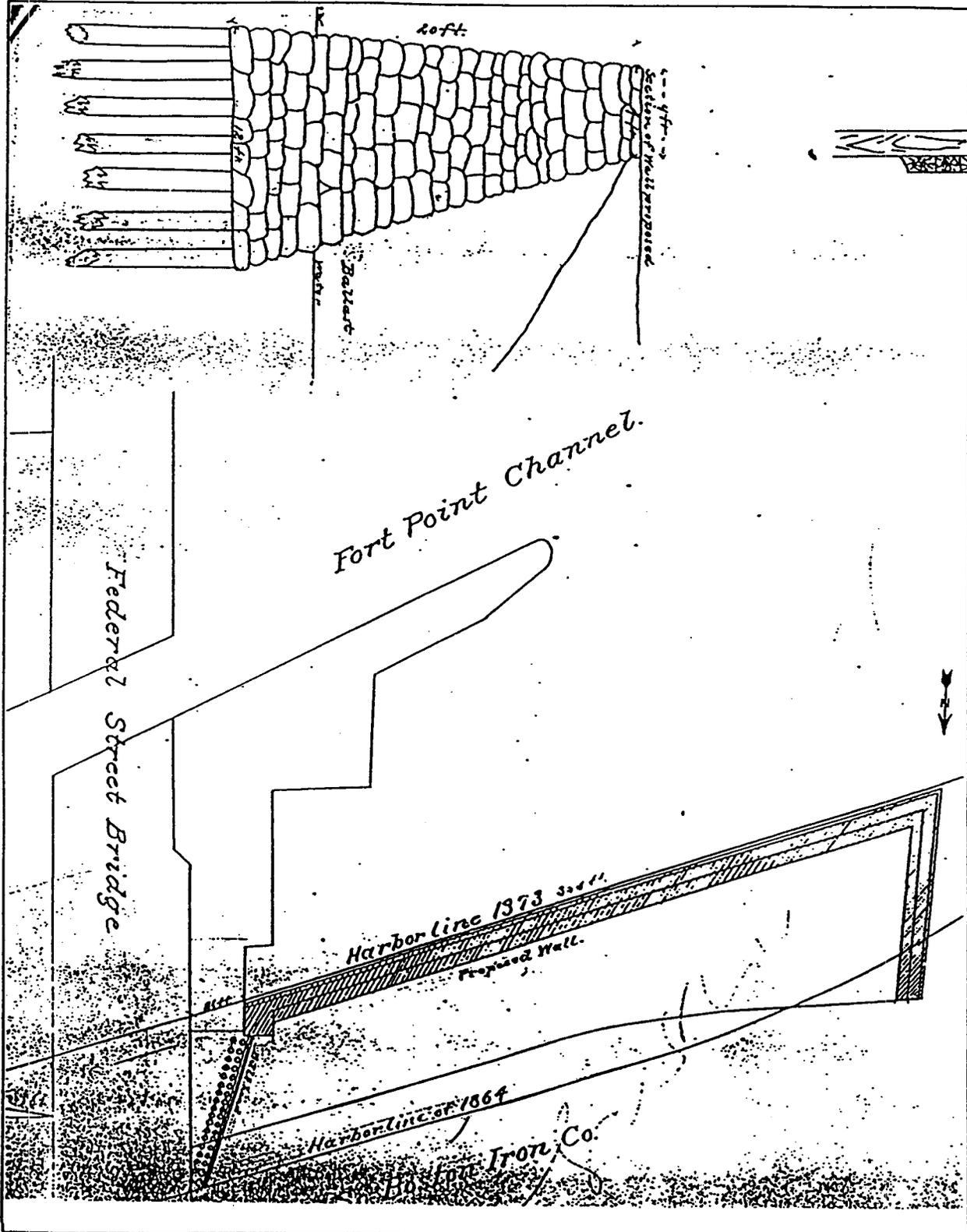


Figure 12 - Proposed seawall north of Dorchester Avenue Bridge, east side of Fort Point Channel, ca. 1880s.

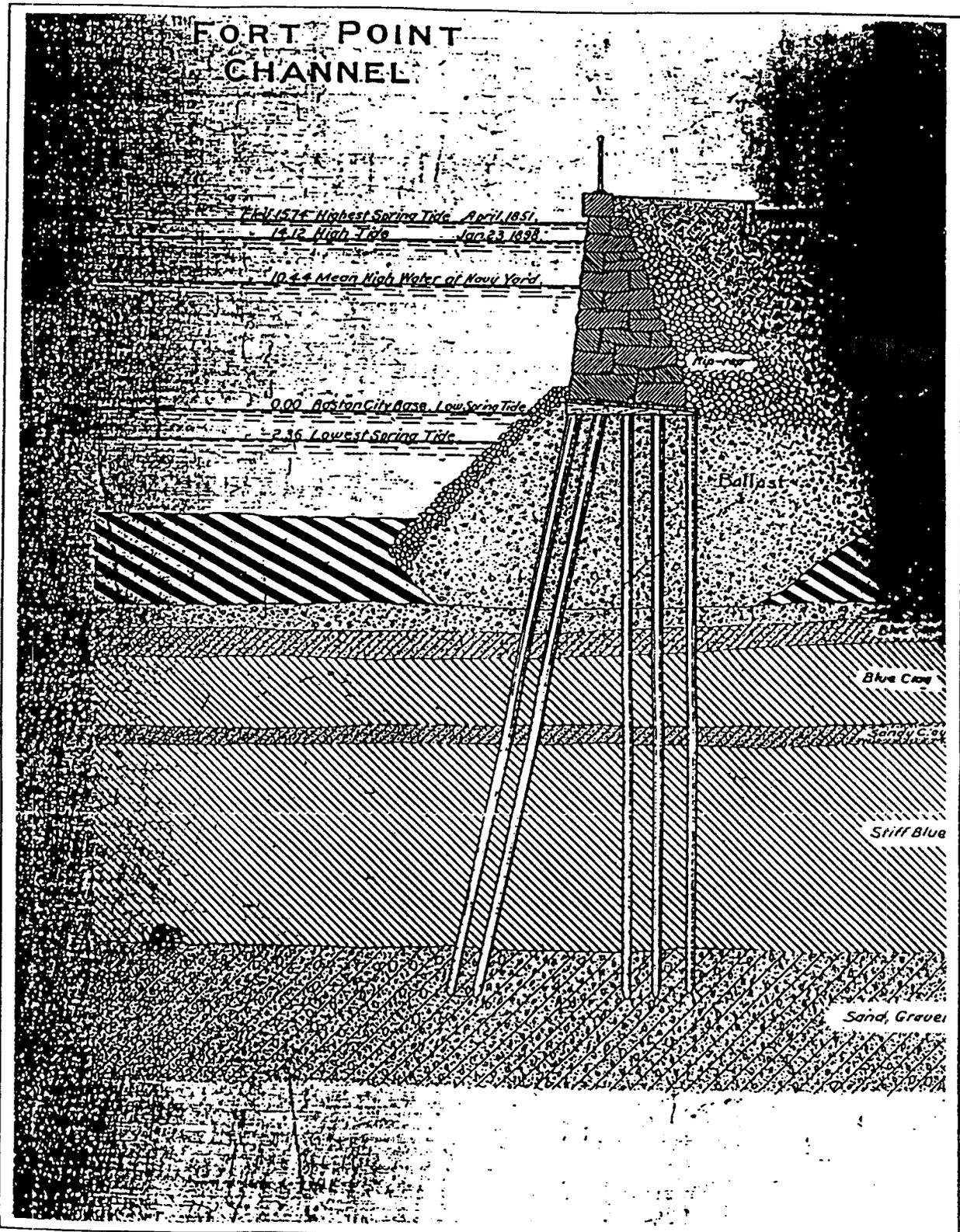


Figure 14 - Seawall and fill for west side of Fort Point Channel, ca. 1898.

