

Survey of Architectural History
in Cambridge

East Cambridge

Revised Edition *Susan E. Maycock*

Cambridge Historical Commission
Cambridge, Massachusetts

The MIT Press Cambridge, Massachusetts London, England

1988

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COVER: View of East Cambridge from the Warren Bridge, 1839
FRONTISPICE: Lechmere Canal, 1920. Schooner *Northern Light* at the E. D. Sawyer & Company lumber wharf; chimney of the former New England Glass Company in background

Designed by Steven B. Smith

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I

Early Settlement and Development

East Cambridge, unlike the other villages that gradually coalesced to become modern Cambridge, was essentially the creation of a single individual, Andrew Craigie. Although the first inhabitant settled here in the 1630s, little use was made of this watery land until the early 19th century. Then Craigie, an accomplished land speculator, obtained a charter for a bridge to Boston and enlisted some of the most powerful men in the commonwealth to carry out his plans. In 1814, in an astonishing political maneuver, Craigie and his associates even persuaded the Middlesex County commissioners to move the county seat from Harvard Square, in Old Cambridge, to the remote marshes opposite Boston.

East Cambridge eventually thrived, although Craigie died bankrupt. Its proximity to Boston rivaled that of Cambridgeport, Charlestown, and South Boston, and its superior access to water, highway, and rail transportation attracted some of the largest industrial enterprises of the time. The filling of the surrounding marshes and tide flats proceeded for almost a century and a half until 1950, when the last lots on Commercial Avenue were developed. Built over once, East Cambridge is now undergoing redevelopment at Kendall Square, along the Lechmere Canal, and at North Point.

Topography, Early Ownership, and Land Use

Thus much I can affirm in general, that I never came in a more goodly country in my life, all things considered: If it hath not at any time been manured and husbanded, yet it is very beautifull in open lands, mixed with goodly woods, and again open plaines, in some places five hundred acres, some places more, some lesse, not much troublesome for to cleere for the plough to goe in, no place barren, but on the tops of the hills; the grasse and weeds grow up to a man's face, in the lowlands and by fresh rivers abundance of grasse and large meddowes without any tree or shrubbe to hinder the sith [scythe].

Thomas Graves, 1629, in Frothingham, *History of Charlestown*, p. 27

East Cambridge in the 17th and 18th centuries was a landscape of upland and salt marsh surrounded by vast mud flats at low tide, almost totally isolated from the rest of the town. The dividing lines changed over the decades as the tides swept in and out, eroding some areas and building up others. The flats were rich in oysters, and the drifts of shells found in recent excavations are evidence that the Boston Basin was good foraging ground for Indians. Both types of terrain were valuable to the colonists for agriculture – the upland for grazing, the marsh for salt hay – but the area as a whole was difficult to reach. The salt hay was immediately usable, but extensive cutting altered the landscape by

promoting erosion of the marsh in some areas. The changing character of the watery landscape and the struggle to keep the two zones separate are apparent in early deeds.

To the earliest settlers, the Boston Basin was a vast, low-lying watery plain punctuated by numerous drumlins, left by the last glaciers only 10,000 years earlier. At high tide, the landscape seemed more water than land, as the meandering channels of the Mystic and the Charles rivers and creeks too numerous to count divided the upland into fingers of land fringed by marshes. The drumlins were the dominant feature: steep, rounded hills of glacial gravel and clay that generally ran in a northwest-southeast direction, with the steepest slopes to the southeast. Those closest to the harbor were islands at spring tides, and were linked to the mainland only by narrow necks of marsh. In the Boston Basin, Noodles Island (East Boston), Charlestown, East Cambridge, and Dorchester Neck (South Boston) shared this characteristic with the Shawmut Peninsula, now Boston proper (Fig. 5).

The exposed situations of Charlestown and the Shawmut Peninsula were seen as a drawback by the first colonists, who arrived in the summer of 1630 to establish the Massachusetts Bay Colony. Fearing invasion by pirates and military action by the British Crown, to revoke the charter granted in 1629, the governor and his assistants established a fortified capital, called Newtowne, a few miles up the Charles River at what is now Harvard Square. Others had already settled at Charlestown, and villages at Medford and Dorchester soon followed. Charlestown and Cambridge, separated by Gibbons' Creek, divided the upland between the Mystic and the Charles; the drumlin that is now East Cambridge was the most prominent feature between them but was actually much closer to Charlestown.

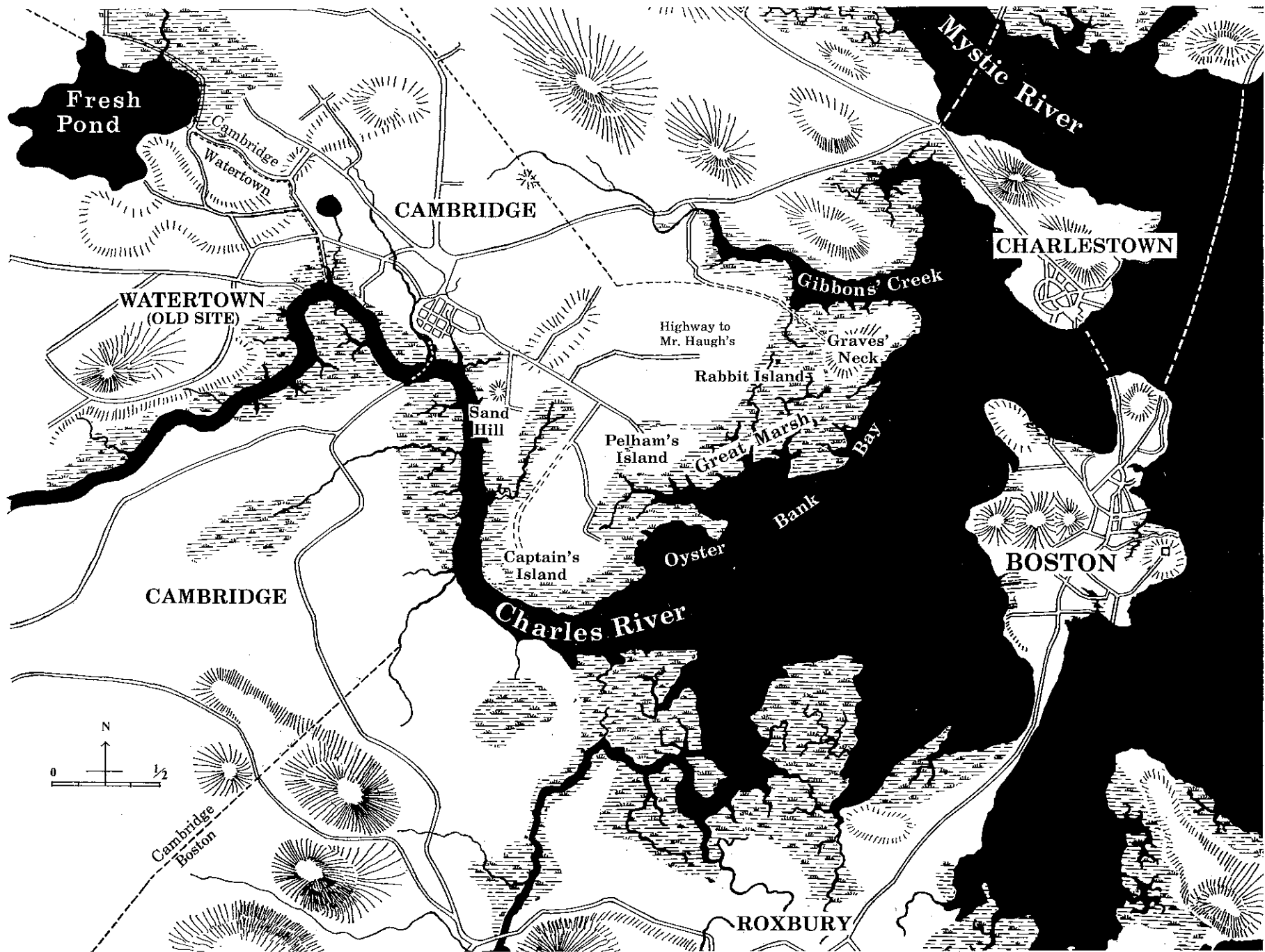
The East Cambridge upland was known in the 17th century as Graves' Neck, for the owner and first settler, engineer Thomas Graves (Fig. 6). One of a swarm of drumlins between the Mystic and the Charles, it formed the northernmost of a series of hills on Cambridge Neck that rose out of the marshes on the north side of the Charles River. Moving south from Graves'

Neck, the other drumlins included Pelham's Island, near the present Lafayette Square; Captain's Island, at the foot of Magazine Street; and Sand Hill, near the west side of Putnam Avenue. Graves' Neck was the largest of these upland masses and the only part of modern East Cambridge that was initially high enough to be used for building. It stretched from what is now Sixth Street to Second Street and Charles Street to the Miller's River and included a small salt marsh island south of Charles Street that was known as Rabbit Island in the 18th century.

Separating the East Cambridge upland from Boston and Charlestown in the 17th century were that part of the Charles River called Oyster Bank Bay to the east and the Miller's River (also called Gibbons' Creek or Willis Creek) to the north. The extensive salt marsh to the west and south (known as "the Great Marsh") formed a natural barrier between the upland and Old Cambridge. While its river frontage and proximity to Boston were exploited early, its isolation from the rest of Cambridge was a major factor in slowing the development of East Cambridge and continued to affect the area well into the 19th century.

By the late 19th century all the marshes had been filled in and East Cambridge had become continuous solid land with Cambridgeport and Old Cambridge, but the extent of the former watery landscape is still evident in the street pattern. South of Charles Street and west of Sixth Street, the street grid is more open than in the original upland area. Blocks vary in size, the landscape is flatter, and there is more open space. This irregular area marks the extent of the original Great Marsh.

The northern edge of East Cambridge was also transformed in the 19th century. Beginning in the 1830s, the Miller's River was gradually filled, eliminating by the 1920s the water transportation that had been so important in attracting industry to this area. The last remnants of the original marshy landscape and tide flats that characterized the area for so long were obliterated in the 1890s, when the eastern edge of East Cambridge was filled to create a seawall on the Charles River Basin. The present shore follows the harbor commissioner's line, established by 1847, and gives no




6. Cambridge and environs, 1640

indication of the ragged 17th-century coastline that extended as far inland as today's Second and Third streets.

Land Ownership, 1632–99

In 1628/29, the Massachusetts Bay Company in London hired Thomas Graves to examine the suitability of various lands in New England for setting out and fortifying a town. In 1629, he laid out the town of Charlestown in 2-acre lots to prepare for its settlement, and directed the building of a "great house" that became the meeting house. Graves, a surveyor and engineer experienced in finding and developing iron, lead, copper, and salt mines, building fortifications, surveying buildings and lands, and making maps, was recommended to the company as much "for his honesty as skill in many things very useful" (*Mass. Bay Records*, vol. 1, p. 390). The company initially paid him £5 per month plus return passage to America, with the understanding that if after six or eight months' service the company decided to extend his contract to three years, it would pay the transportation to New England for Graves' wife, five children, a boy, and a maid servant. Graves wrote that in his contract the company also promised "to build me a convenient house for myself and my said family, at their charges, and thereto to assign me 100 acres of land, and to have part thereof planted at the Company's charge against the coming of my family" (*Mass. Bay Records*, vol. 1, pp. 32–33) (Fig. 7).



7. Facsimile of Thomas Graves' signature as it appeared on his contract, 1629

After his contract was extended, Graves received for his services 100 acres of upland in what is now East Cambridge, and this became known as Graves' Neck. The exact date of his grant is unknown, as no record of the transfer has been found, but it was before March 6, 1632/33. On that date, the General Court established the boundary between Cambridge and Charlestown (large areas of which are now Somerville) by declaring that "all the land impaled by Newe Towne men, with the neck thereunto adjoining, whereon Mr. Graves dwelleth, shall belong to the said Newe Towne" (*Mass. Bay Records*, vol. 1, p. 94). Newtowne (Cambridge) was impaled, or fenced, by a palisade of upright logs extending from the Miller's River near the Grand Junction Branch railroad to the Charles River near Ash Street.

Graves received his land by means of a "peculiar grant," the 17th-century practice of granting land to a person in return for some special services performed rather than by a regular town grant. Peculiar grants were usually not considered part of any one town and were often not recorded. While it has been thought that Graves' Neck was originally part of Charlestown and was later ceded to Cambridge, it seems more likely that the Neck was not considered part of either town until the court decision in 1632/33 that declared Graves' Neck and everything west and south of it part of Newtowne. Before that time, the boundary between the two towns was indefinite.

The boundary description mentions Graves' house, which is thought to have been on the north side of what is now Spring Street between Third and Fourth streets (see Fig. 5). The first house in East Cambridge, it was for many years the only one. This may be the house that appears on the extreme left in an 1810 view of Lechmere's Point (see Fig. 29). Graves could not have lived in the house for long, because he sold his land on Graves' Neck by 1634. Whether he remained in America or returned to England is unknown.

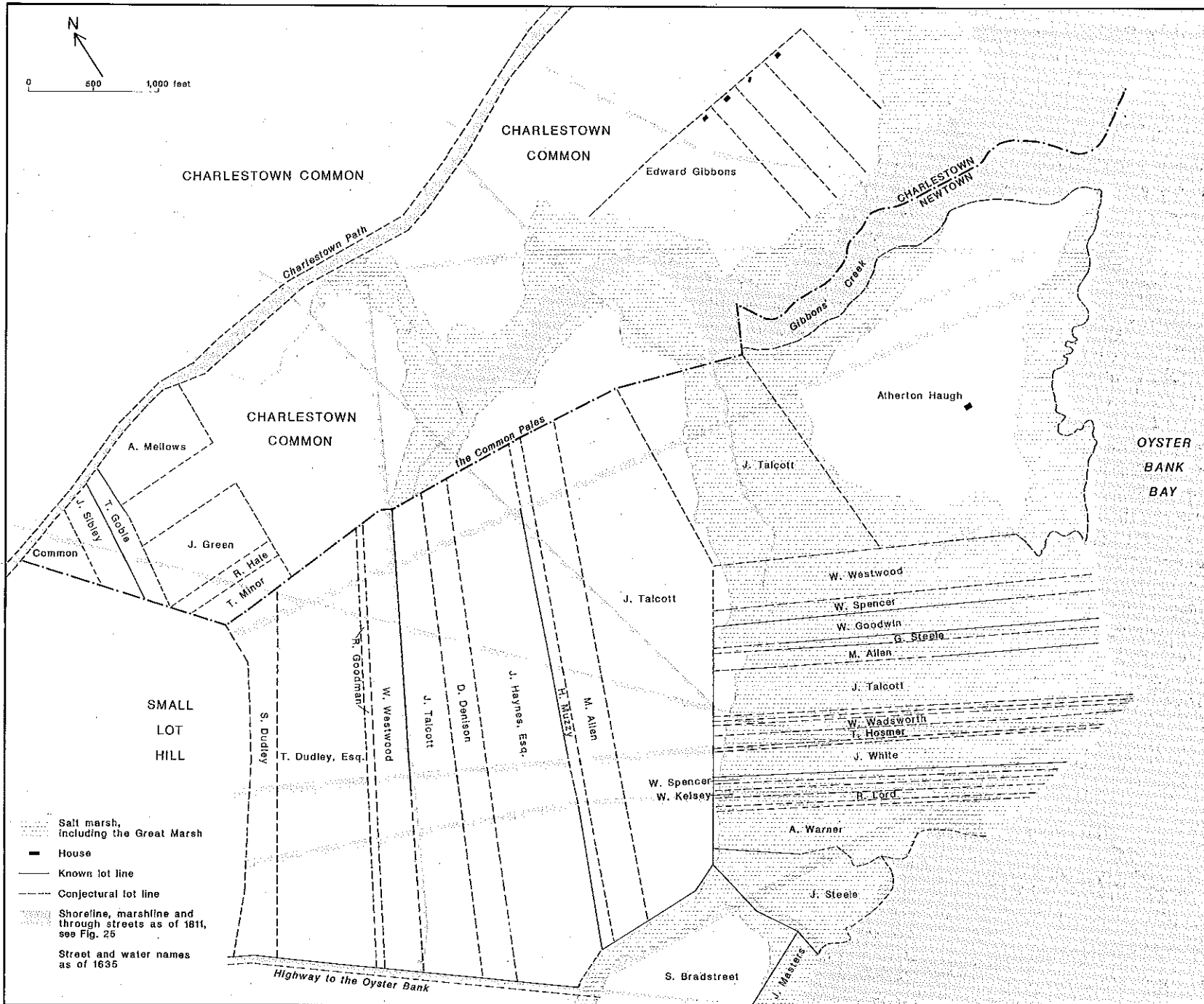
Apart from Graves' grant, the land outside the village east of Quincy Street and north of Massachusetts Avenue was allocated to settlers by the Proprietors of Newtowne beginning in 1632. Settlers were initially required to live in the village, and lots were used for

agriculture or pasturage, not for dwellings. As late as 1793, there were only four houses in all of Cambridge east of Dana Street.

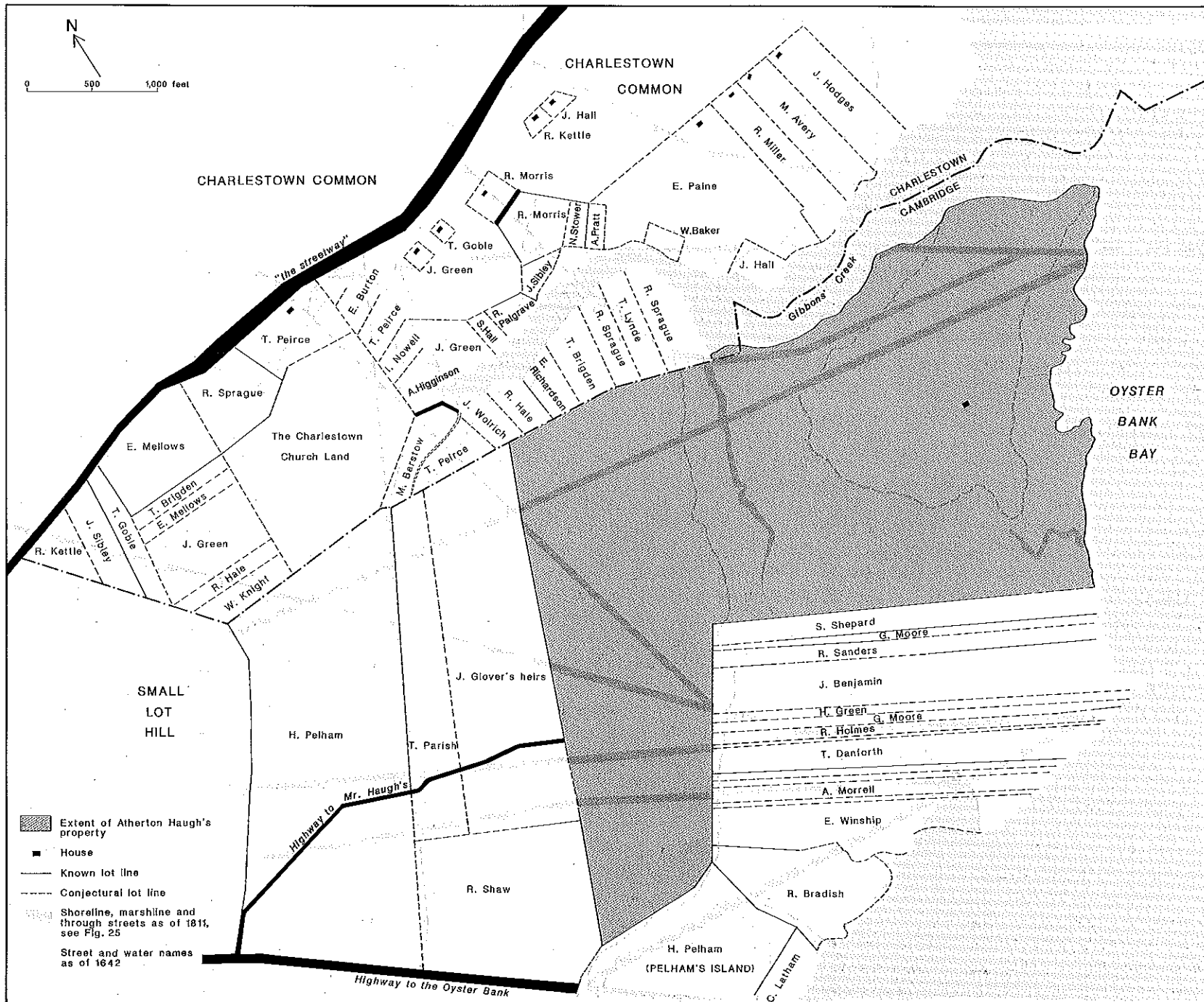
This territory was divided into four named parcels. First came the Old Field, 63 acres east of Quincy Street and west of Dana Street (then called "the way to the common pales"). East of Dana Street to between Hancock and Lee streets was a 46-acre allotment known as "small lot hill," which was parceled out in individual grants. The next allocation to the east was the Neck, on the north side of Massachusetts Avenue, which included all the upland from Hancock and Lee streets to the marshland beginning at Portland Street. The last was the Great Marsh and the Oyster Bank, which included all the marshland bordering the Charles River from Captain's Island (at the foot of Magazine Street) east and north to Graves' Neck. The Great Marsh north of Main Street was divided into long, narrow lots running east to the river (Fig. 8).

By 1635, all this land had been divided and allocated, with some of the settlers holding lots in each area. Graves' Neck stood out as a large single holding of upland surrounded by smaller marsh grants. After 1650, the marsh lots began to change hands, boundaries were rearranged, and smaller lots were consolidated into single landholdings. By the late 17th century, more than 50 percent of the owners of marsh lots did not live in Cambridge but in towns farther west, an indication of the value of salt hay to inland farmers.

In either 1633 or 1634, the ownership of Graves' Neck passed to Atherton Haugh, who is listed in the *Proprietors' Records* on October 10, 1635, as owning "In Graves his Necke Aboute one hundred and Thirty Ackers wth one Dwelinge houfe and outhoufes." The additional 30 acres was granted to Haugh by the Proprietors of Newtowne in 1634. By 1642, Haugh had also acquired three neck lots containing 81 acres and three Great Marsh lots containing 83 acres to make his total holdings 294 acres (Fig. 9). The land still contained only one house with outbuildings. It is not known how long Haugh lived on Haugh's Neck, for he also owned a house in Boston, at the corner of School and Washington streets. When he died, in 1650, his wife complained that the Boston house was "very much



8. East Cambridge land ownership, 1635, from original deeds



9. East Cambridge land ownership, 1642, from original deeds

out of repair," so he may have been living in Cambridge at that time.

Haugh's inventory of 1662 lists the contents of his house by room: the chamber over the hall, the garret, the parlors, the hall, the cellar, the kitchen, and the little chamber as well as the farm. This description suggests a large house with an unusual floor plan and may describe his Cambridge house; there is no way to be sure.

After his death, the land passed to his son Samuel and later to his descendants. It remained in the Haugh family until 1700, but none of the descendants lived in Cambridge, and the farm on the neck was rented to tenants. Haugh's 1662 inventory also lists twenty-one sheep on the farm, the only clue to how the land was used in the 17th century. Descriptive words like *woodland*, *pasture*, and *orchard* do not show up in East Cambridge deeds until the early 18th century, so that any earlier use of the land, beyond the general categories of farming and harvesting salt hay, remains a mystery.

Throughout the 17th century, land access to Haugh's farm remained difficult. The neck continued to be virtually isolated from the rest of Cambridge, although it was only a short row across the river from Boston or Charlestown. The only overland route was from the Charlestown-Watertown path, now Kirkland and Washington streets. In 1654, a town committee was appointed to resolve differences about ways that began in the vicinity of Hancock and Lee streets leading "to the severall lotts of marsh towards mr. Haugh's farme," but it is not known whether any of these actually penetrated the Great Marsh.

The easiest access to Haugh's farm was by water. The landing place that was documented in the 18th century, along the Miller's River between what are now Portland and Fulkerson streets, probably was established in Graves' time (see Fig. 11). Here, the banks were solid and the channel was close to shore, as opposed to the shallow flats on the Charles River side of the property. Eighteenth-century accounts of river crossings from Boston to Lechmere's Point indicate that this was probably the primary access route before the bridges.

From the beginning, attempts were made to control the watery landscape. Dams and ditches are mentioned in 17th-century deeds. Whether they were designed to contain the tides and drain the lots or to establish property lines is unclear; probably both were necessary in such unstable terrain. The most prominent manmade feature was the "Great Dam," also known as "hoff's [Haugh's] Dam," which extended about 800 yards southeast from a point in the marsh (near present Plymouth and Portland streets) to the creek at the southeast corner of Haugh's property, near Third and Munroe streets (see Fig. 11). Between 1635 and 1642, Haugh bought the marsh lots between his farm and the dam, so that it was probably built during this period. The dam created a permanent boundary marker in an area subject to tidal erosion while also keeping the full force of the tide out of Haugh's land. Other marsh lots were described in the 17th century as "walled in from the tide," so it seems to have been a common concern. Nothing is known about the appearance of the dam itself. While the tide range at Charlestown is about nine feet, the marshes would have been flooded at spring tides to a depth of perhaps two or three feet. Any dam built to contain the tide need only have been about three feet high and would have been created from soil excavated from an adjoining ditch. Some flooding was necessary to maintain the salt grass that was so desirable. Eighteenth-century descriptions also mention cross dams extending north from the east end of the Great Dam and at several intervals to the west. Remnants of the Great Dam were still visible as late as 1877, when Lucius Paige wrote his *History of Cambridge*; the angular feature seen on 18th-century maps projecting south into the marsh may be a series of such dams.

Land Use and Consolidation of Ownership, 1699–1799

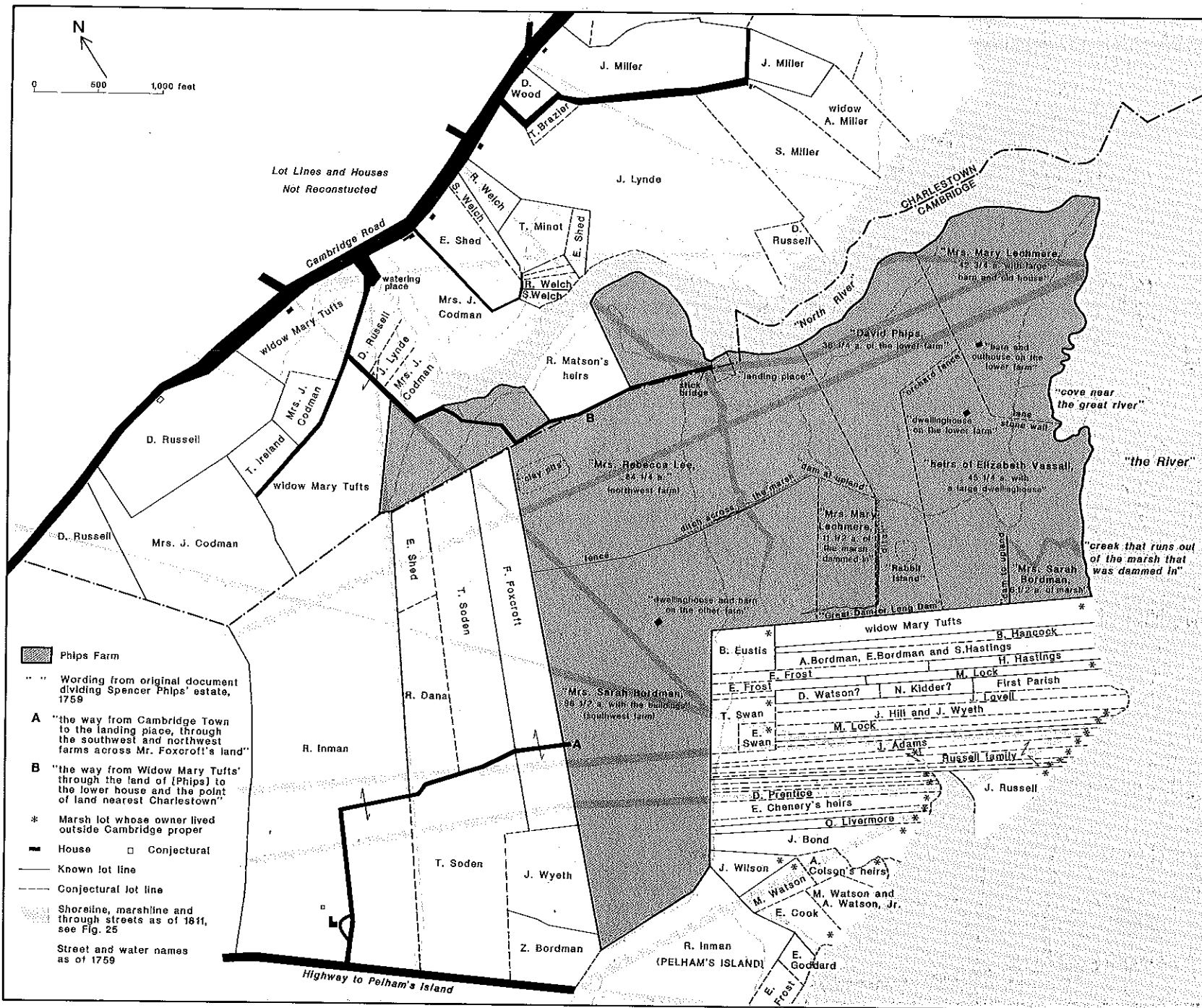
After four generations of Haugh ownership, Atherton Haugh's great-grandsons sold the family's 300 acres on Haugh's Neck to Boston victualler John Langdon in 1699 (Fig. 10). Nothing is known of Langdon's use of

the land or whether he ever occupied it. After only seven years, he sold it to Spencer Phips, later lieutenant governor of Massachusetts. Between 1708 and 1710, Phips added six parcels containing 13½ acres north of his original purchase, which gave him nearly all the Miller's River frontage west to the present Webster Avenue. When Phips died, in 1757, his East Cambridge estate contained 326 acres and stretched from Prospect and Columbia streets to the Charles River and from School Street to the Miller's River.

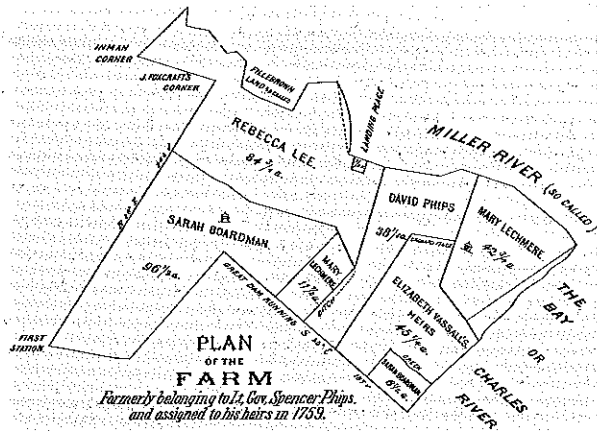
Phips' probate inventory describes the property as two farms, each with a house and a barn, and an orchard. This division may have been made by the Haugh brothers who inherited the property in 1679. Sam Haugh had carpentry done at his farm in 1691; although the nature of this work is unknown, it must have been fairly impressive, as Judge Samuel Sewall made a special visit from Boston and mentioned it in his diary. One of the houses, described in the inventory as "the large Dwelling house," was the Graves farmhouse or a later house on the same site. The other later became known as the Bordman house, on Plymouth Street between Webster and Berkshire streets. Nothing is known of the appearance of either, although an early-19th-century resident described the Bordman house as an ancient homestead with tall chimneys and a broad, old-fashioned hall set amid orchards bearing all kinds of fruit; it burned in the 1840s.

These two farms were presumably rented during Phips' ownership, as Phips himself lived in a house on Arrow Street, near Harvard Square, which he bought in 1714. However, he is reported to have built a splendid mansion in about 1750 on what is now Otis Street near Third Street. This may have been intended as his principal residence or as a country retreat for entertaining, but it was short lived. A 19th-century account says that during a party to celebrate its completion, "by some carelessness the house took fire, and everything with the exception of the farm and carriage houses was destroyed" (Simpson, p. 13).

Spencer Phips died in 1757; two years later, his land was divided among his children and grandchildren: Colonel David Phips, Sarah Bordman, Mary Lechmere, Rebecca Lee, and the children of Elizabeth Vassall



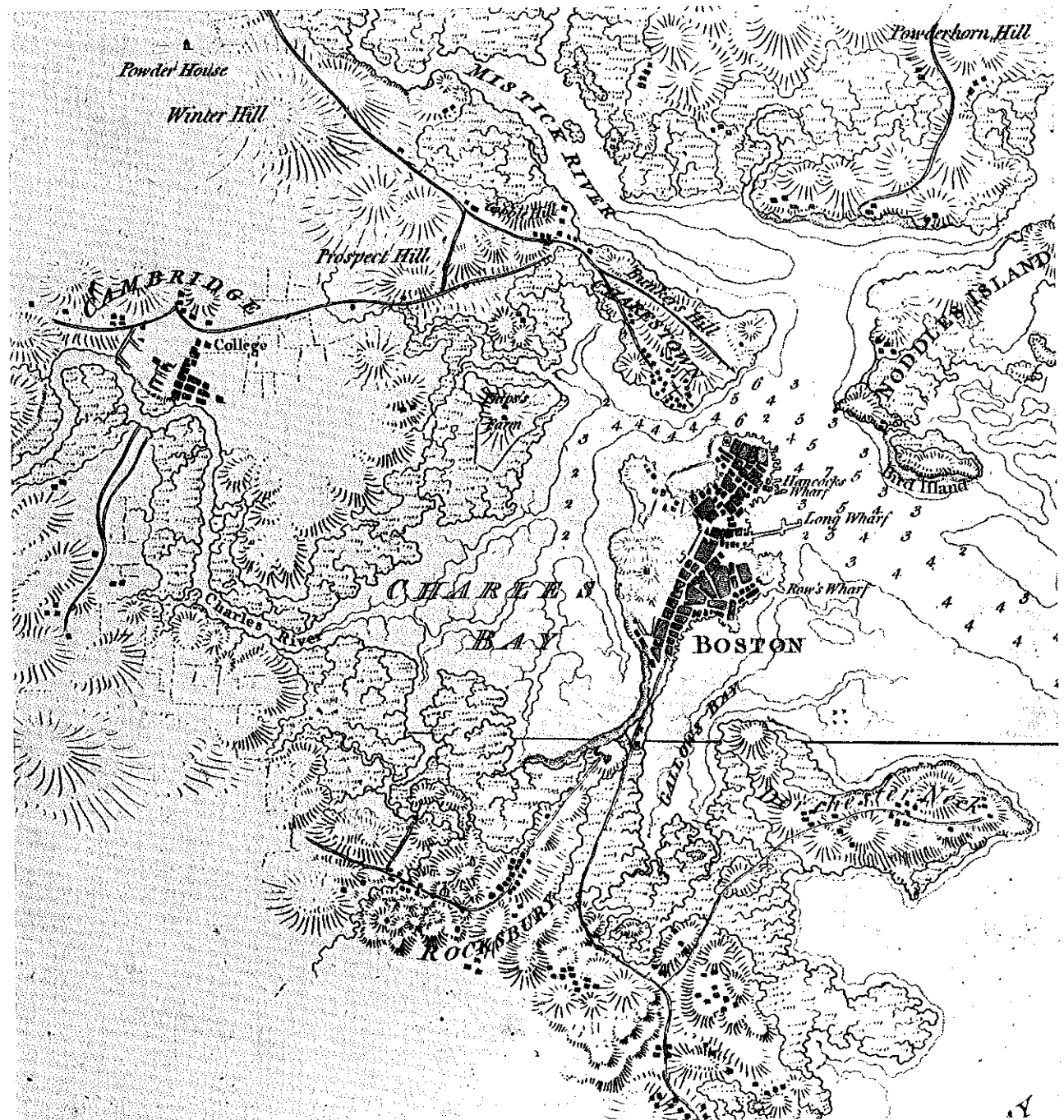
11. Partition of the Spencer Phips farm, 1759, from original deeds and probate records



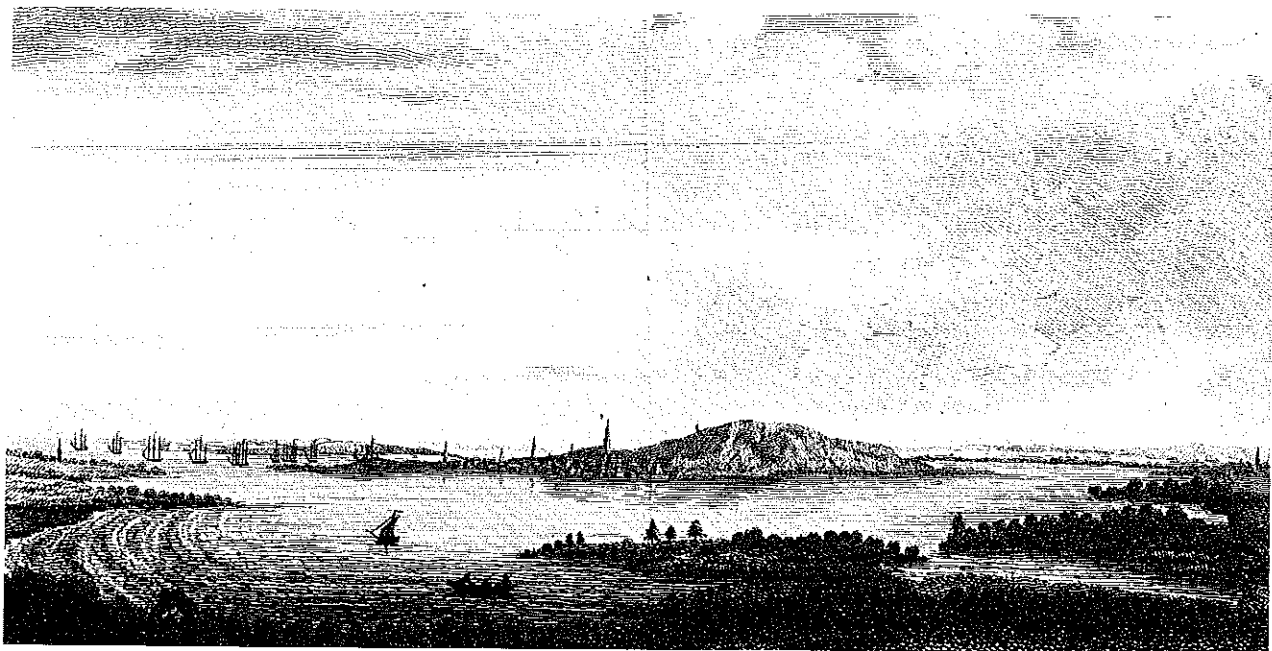
12. Plan of the Phips farm, 1759, redrawn in the 19th century from the original, now lost

(Figs. 11 and 12). Of these, the bequest to Mary Lechmere was the most important for the later development of East Cambridge. She received $42\frac{3}{4}$ acres of upland, including the “large barn and old haous” that had survived the fire and $11\frac{1}{2}$ acres of marsh just north of the Great Dam. Her husband, the wealthy Loyalist Richard Lechmere, later bought out some of the other heirs: $38\frac{1}{4}$ acres from David Phips in 1772 and $45\frac{1}{4}$ acres with “large Dwelling house” (the Haugh house or its successor) from Elizabeth Vassall’s heirs in 1762. This gave the Lechmeres control of all of the upland and most of the marsh north of the Great Dam, an area that became known as Lechmere’s Point.

Access to the Phips farm and Lechmere’s Point had not improved greatly since the 17th century; it was still much more accessible from Boston than from the rest of Cambridge (Figs. 13 and 14). The landing place on the Miller’s River was granted to all the Phips heirs in common, indicating that this was still the best, and perhaps the only, good water access to the property. The public way into the Phips farm from the Charlestown-Watertown road was along a 17th-century lane that branched off at a public watering place near the present Union Square in Somerville. In the 17th century, this lane was called “the way from Haugh’s farm” or “the way over stick bridge.” An 18th-century ref-



13. Boston and environs, 1775, from the *Atlantic Neptune*



14. View of Boston from Willis Creek, 1775, from the *Atlantic Neptune*

erence suggests that it was sometimes used as a shortcut to Boston. The lane's surviving remnants include portions of Newton Street, Webster Avenue, and the L-shaped bend in Columbia Street just east of Webster Avenue in Somerville.

Other roads approached the farm from the south and west, but these were private rights of way, granted to specific individuals for access to a single parcel. The deeds of both upland and marsh lots mention these rights of way, such as the "privilege of passing with a cart or other ways on the south side of the dam" granted in a 1788 deed. Such rights evidently increased traffic into the point somewhat, but the area was still remote, as a 1754 account of a bear wandering on the Phips farm indicates.

When the Lechmeres acquired the East Cambridge land, they lived at 145 Brattle Street, near other wealthy Loyalists, and presumably rented the farm on Lechmere's Point. In 1771, the Lechmeres moved to Boston. They later fled to England and never returned.

Their land was confiscated by the General Court along with most of the Tory estates on Brattle Street.

East Cambridge in the Revolution, 1775–76

Nov. 9, 1775—Cannon fired much from 12 to 3 o'clock; about 400 or 500 Regulars landed on Lechmere's Point and carried off 1 cow. They were soon drove off by a party of our soldiers. We lost 1 man killed, and 1 mortally wounded. What they lost, cannot tell.

Diary of the Reverend John Marrett, in Brown, *Beneath Old Roof Trees*

East Cambridge played a significant role in the early days of the Revolution (Fig. 15). Both its isolation and its proximity to Boston made Lechmere's Point an

attractive landing place for the British. On the evening of April 18, 1775, at high tide and under cover of darkness, British troops in Boston crossed the river in longboats and landed unobserved near the present intersection of Second and Otis streets. Marching over the hill, they waded across the creek by the usual landing place and followed the lane from the Phips farm to Washington Street and then took Milk Row (now Bow Street and Somerville Avenue) out to Lexington and Concord. Tradition says that the sole occupant of the point that night sounded the alert, but this cannot be verified.

After General Washington arrived in July and reorganized the army, the Americans were successful in repelling British attempts to cross from Boston to Lechmere's Point. Several eyewitness accounts describe the British landing on November 9, 1775. General Heath wrote:

At the top of high water, the tide being very full, some British Light Infantry, in boats, came over from Boston, and landed on Lechmere's Point. The sentinels on the point came off; the alarm was given; and several hundred Americans forded over the causeway, in the face of the British, the water at least two feet deep. The British, seeing the spirit of the Americans, although they were very advantageously posted, made a precipitate retreat to their boats. (Heath, p. 23)

Within a month of the landing, the fortification of Lechmere's Point was begun. That same November, Washington wrote that he had ordered two half-moon batteries built for occasional use along the east edge of Cambridge and "another work at the causey going on to Litchmore's Point to command that pass" (Washington, Nov. 1775). In December, a new causeway was begun over the marsh to Lechmere's Point, and three hundred troops under General Putnam began work. While under construction, Fort Putnam was heavily bombarded by British warships, and the fortifications were made more extensive than originally planned (Fig. 16).

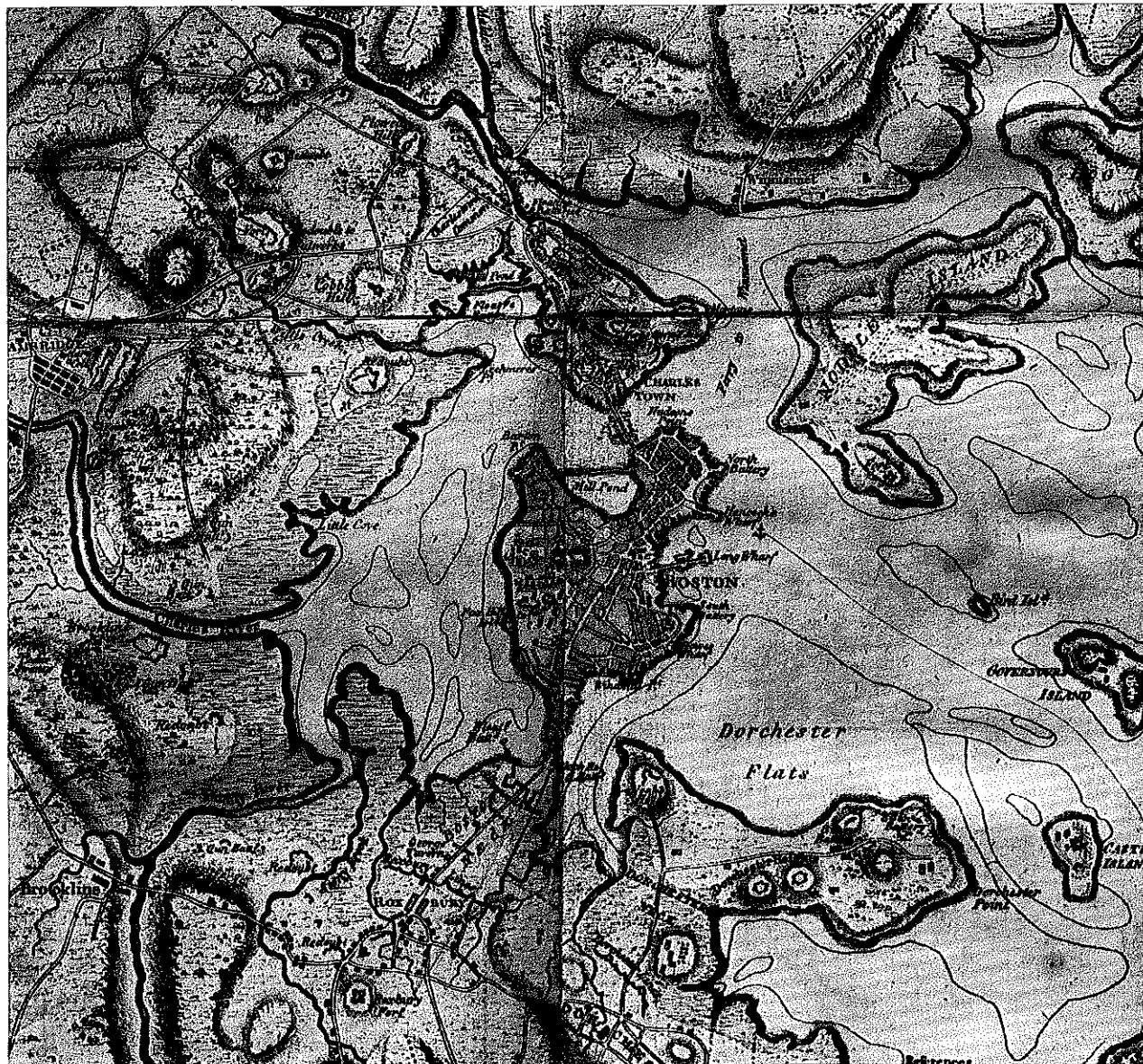
Originally intended to be only a bomb battery, Fort Putnam as completed consisted of two redoubts and several bastions holding heavy cannon, which were

used in the final bombardment that forced the British to leave Boston. It was described in the 1820s as displaying "more science in its construction and [having] a wider and deeper fosse than most of the other fortifications" (Frothingham, *Siege*, p. 410). The fort was situated on top of the hill, with the north bastion near what is now Fourth and Otis streets and the south bastion near Third and Thorndike streets.

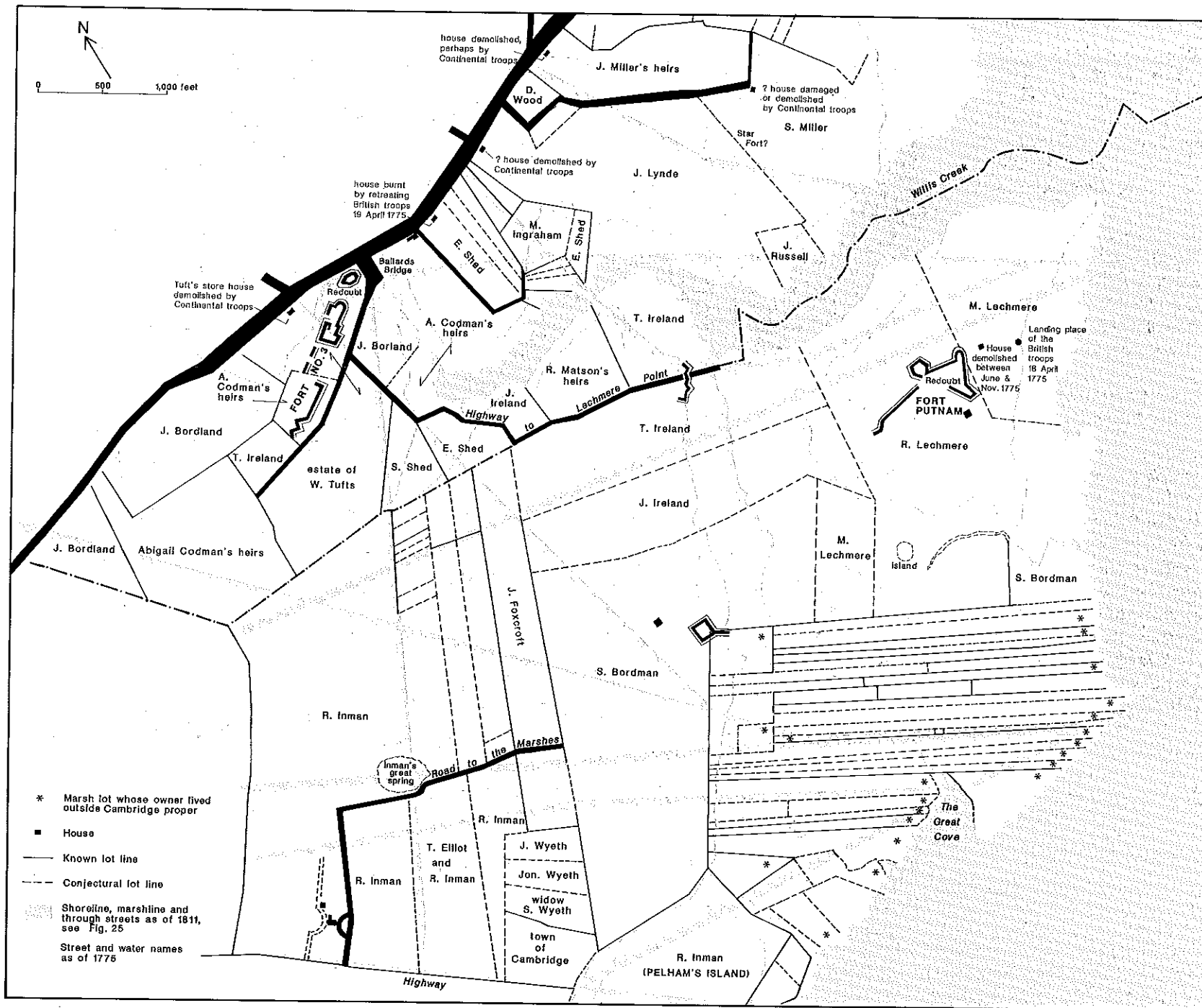
When the bombardment of the British in Boston began on March 2, 1776, the defenders of Lechmere's Point were active participants. But the evacuation of the British from Boston on March 17 marked the end of East Cambridge's involvement in the Revolution, and the point returned to its former obscurity until after the war.

In the 1820s, a church was built on part of Fort Putnam. An observer described the scene:

*Upon one angle of the fort, where the cannon were pointed with most destructive effect, a church is now erecting; and when I visited the spot, the carpenters were busily engaged in preparing the wood-work in one of the bastions. The glacis, the counterscarp, the embrasures, the covered way, and the batteries, are fast disappearing. Diggers of gravel on one side, and builders on the other, were busily employed in completing the destruction of the strongest battery erected by the army of America, and were thus achieving, without opposition, that which an enemy could not effect. (Frothingham, *Siege*, p. 410)*



15. Boston and vicinity during the siege of the British, 1775-76



16. East Cambridge, 1775, showing revolutionary fortifications

Lechmere Point Corporation,



This Certifies that Samuel Torrey of Boston is PROPRIETOR of
Twelve Shares N^o 1 to 12 inclusive in the Corporate
Property of LECHMERE POINT CORPORATION; and entitled to all the rights, privileges, and
profits, belonging to the same; subject to all the assessments, which, may be legally
imposed, on said shares, and to the rules and bye Laws of the Corporation.

And this Certificate is transferable, only, by the said Samuel Torrey
his attorney, executors, or administrators, on the Books of the Corporation.

J. W. Sumner Clerk.

Boston April 1st 1810

Andrew Craigie

President.

16a. Lechmere Point Corporation stock certificate issued to Samuel Torrey, April 1, 1810. Signed by Andrew Craigie, president

Andrew Craigie, the Canal Bridge, and the Lechmere Point Corporation

Before the erection of a bridge across [the] Charles River, connecting Cambridge with Boston, the lands in the easterly part of Cambridge were chiefly valued for the abundance of hay and forage, which the salt marshes furnished. These marshes, extending far out from the banks of the river, composed the principal part of those lands. The situation was very uninviting. The grounds lay low. There were no roads. Access could not be had to the capital, excepting by boats, only by the circuitous route of Roxbury or Charlestown. It was a sort of insulated tract, detached from every other.

Dr. Abiel Holmes, *Memoir of Cambridgeport* . . . , 1814, p. 5

Andrew Craigie, 1754–1819

The prime figure in the development of East Cambridge in the 19th century was Andrew Craigie, an accomplished speculator in land and securities at a time when speculation was an accepted means of accumulating capital (Fig. 17). We know little of Craigie's early life, but correspondence and contemporary records provide some clues to the background and motives of this man who was so important in shaping East Cambridge.

Born in Boston in 1754, Craigie was the fourth of five children of Captain Andrew Craigie, a master of ships sailing between Boston and London who was appointed warden of the port of Boston in 1764. At the age of nine, young Craigie entered the Boston Latin School, where he studied with such sons of prominent

Boston families as William Eustis and Christopher Gore, both later governors of Massachusetts. These early friends served with Craigie in the Revolutionary War and became extremely important in his later business dealings.

Captain Craigie died in 1766, and it is not known how long Andrew remained in school, although the captain's will provided for the education of his two sons. Indeed, nothing more is known of Andrew Craigie's life until April 30, 1775, when, at the age of twenty-one, he was appointed by the Committee of Safety of the Province of Massachusetts to take charge of the medical stores for the military. After the Battle of Bunker Hill, in which Craigie participated, the Massachusetts Provincial Congress appointed him a medical commissary and apothecary for the Massachusetts army at £5 per month. Craigie's training for this position has never been determined, but contemporary sources indicate that during this period he was well thought of and respected for his skills.

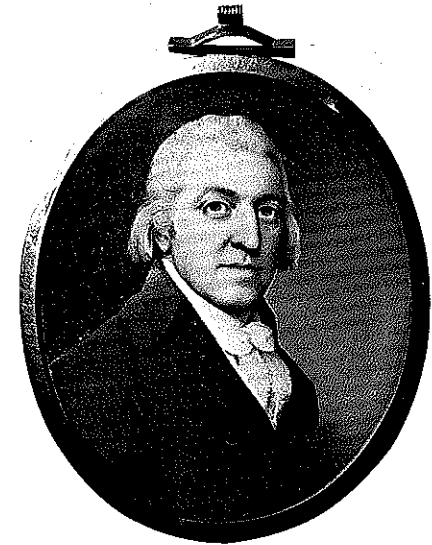
The medical department of the army was formally organized later in 1775, and Dr. Benjamin Church was elected the first director and chief physician. A member of the Massachusetts Provincial Congress and a former director of the military hospital at Cambridge, Church must have known Craigie well and soon named him apothecary to the army. Church, dismissed for treason after only three months, was succeeded by Dr. James Morgan, who abruptly dismissed Craigie and replaced him with an incompetent pupil. By January 1777, Craigie had been reinstated and, when the medical department was reorganized in April, was appointed to the new office of apothecary general, in charge of purchasing medicine for the American army. He held this position until November 1783 and attained the rank of lieutenant colonel.

During his army service, Craigie evidently amassed a sizable fortune by speculating in U.S. Government securities. In 1782, well before the end of the war, William Eustis wrote to Craigie, asking whether he had "a mind to speculate" (Pratt, p. 53). Correspondence with Christopher Gore in the 1780s also reveals Craigie's penchant for speculation; it is filled with such phrases as "shall we speculate" and "I will keep on

buying" (Gore to Craigie, Jan. 7 and Oct. 4, 1788). In the summer of 1783, Apothecary General Craigie asked Gore to examine his personal accounts and to make further purchases. Later letters reveal that Gore acted as Craigie's legal and commercial agent throughout this period and give some idea of the magnitude of their foreign and domestic deals. They also refer to individuals, such as Harrison Gray Otis, who were later involved in Craigie's speculation at Lechmere's Point.

After the war, Craigie moved to New York City, where he ran an extensive wholesale drug business under the name of Craigie, Wainwright & Company. During this period, he also lived in England. After his drug business terminated in 1789, he described it as one "by which I lost very considerably" (Pratt, p. 55), but he had also continued his financial speculations, which presumably were more profitable.

Craigie's land speculations directly after the war were also extensive, and no doubt prepared him for his venture in East Cambridge. Some were rather unsavory and reaped the disfavor that he later received



17. Andrew Craigie (1754–1819), miniature attributed to Archibald Robinson, date unknown

for his East Cambridge dealings. Through his war connections, he became involved in one of the most notorious land speculation schemes of the period, the Scioto affair in Ohio in the 1780s. Craigie is said to have joined this venture because he wished to strengthen his ties with William Duer, a prominent New York merchant, speculator, and assistant secretary of the treasury under Alexander Hamilton.

Even with these connections, the project turned out disastrously, and those involved were accused of corruption. While Craigie admired Duer and his vast speculations, he was also cautious. When he and Duer were appointed in 1790 to straighten out the Scioto Company's finances, Craigie was careful to ensure that he could not be held personally liable. In 1792, when Duer fell into bankruptcy, Craigie resigned from the company and surrendered his shares for the benefit of the other members rather than continue any association with the group. Had the project succeeded, Craigie would have reaped substantial profits; instead, he was able to withdraw without too great a loss.

Craigie also bought considerable acreage in Maine, Vermont, and New York for speculation during the 1780s and early 1790s, sometimes acting as agent for various land companies. During the same period, he continued to buy and sell large amounts of government securities, and he served on the Board of Directors of the new Bank of the United States, in Philadelphia. In 1791 Robert Morris, an associate of Craigie's in the bank, described him as a "quick, sly, sensible and penetrating [man who] will try to discover your business and conceal his own" (Livermore, p. 202). In 1793, Craigie was still considered an astute financial adviser and a man of unblemished character.

After concluding his drug business in New York, Craigie turned his attention toward Massachusetts, where the remaining members of his family lived. His brother-in-law Bossenger Foster was already a close business associate and handled Craigie's business affairs in Boston.

In 1790, when the Henry and John Vassall houses (now 94 and 105 Brattle Street) and the accompanying estate of about 150 acres became available, Craigie instructed Foster to make an offer to purchase the

property (Fig. 18). Craigie had served at these confiscated Tory residences during the Siege of Boston, when 94 was the medical headquarters and 105 was General Washington's residence. He was doubtless excited about the idea of becoming the proprietor of such a prestigious estate, although the houses themselves were said to be in poor condition. Craigie instructed Foster, "if he [the agent] will take \$9000 for the pitiful place payable in 3 or 4 years with interest and you cannot secure it on better terms, I should acquiesce" (Oct. 26, 1790). The final purchase was concluded in March 1791 for the sum of £3,750, which was considered to be a great bargain—about half the property's value.

After directing Foster from New York for almost a year about the elaborate refurbishing of the house, Craigie moved to Cambridge in 1792, and 105 Brattle Street became the center of a lavish social life. The next year, at the age of 39, he married Elizabeth Shaw, a woman who was twelve years younger and known for her beauty.

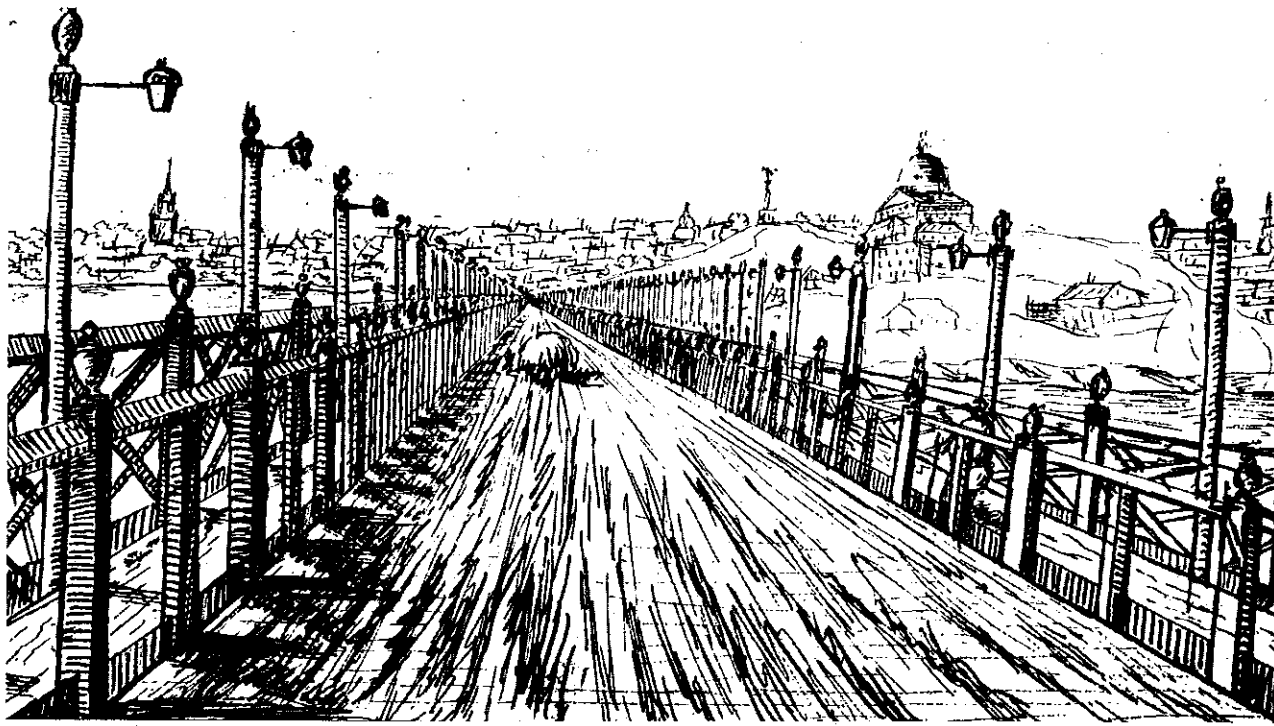
Even before settling there, Craigie had ideas for investment and development in Cambridge. On January

31, 1792, he wrote to Foster about a bridge, stating cryptically that "I shall be pleased on other than merely selfish accounts if my idea is thought by the wise men a proper one and if I am allowed to carry it into effect on liberal principles." A month later, he wrote that he had told his old friend and business associate William Eustis about the bridge and "authorized him to do what shall be necessary in this business" (Feb. 5, 1792).

In this period, many of the most powerful political interests in the commonwealth were focused on projects to link Boston with its hinterland by constructing bridges and turnpikes. As early as 1720, Boston's town meeting had considered a proposal to replace the Charlestown ferry with a bridge, and in 1738 Boston landowner John Staniford unsuccessfully applied to the General Court for permission to construct a bridge from Boston to the Phips farm. After the Revolution, new proposals surfaced. In 1785, Andrew Cabot, who had purchased the confiscated Lechmere estate from the commonwealth, petitioned to build a bridge from Lechmere's Point to Barton's Point in Boston. This petition was rejected in favor of a proposal by John Hancock and his associates, who opened the Charles



18. Vassall-Craigie House,
105 Brattle Street, 1759,
1793



19. West Boston Bridge, 1793. 1797 view toward Boston

River Bridge between Boston and Charlestown in 1786.

Cambridge interests were not long denied. Between January and March of 1792, a group headed by Judge Francis Dana, the minister plenipotentiary to Russia in 1781–83 who was currently chief justice of the Supreme Judicial Court, sought public subscriptions for a new bridge; its members were incorporated as the Proprietors of the West Boston Bridge, to be built from Boston to Pelham's Island in Cambridge. This required a 3,300-foot causeway across the marsh from Pelham's Island (near Lafayette Square) to a point near Kendall Square, as well as a 3,500-foot timber bridge to Boston (Fig. 19).

The completion of the bridge provided the impetus to develop a commercial and residential center in what

is now Cambridgeport. It is not clear from his letters whether Craigie wished to be involved in the West Boston Bridge, but it seems likely from later events that the proprietors rejected his interest; this may have inspired him to develop his own project to link Lechmere's Point to Boston. According to Lucius Paige, the rivalry between the two groups "for several years kept the town in constant excitement and turmoil" (Paige, p. 203).

In 1793, Craigie became involved in the Middlesex Canal, which was projected to connect the Merrimack River at Chelmsford with Boston Harbor by way of the canal's terminus at the millpond at Charlestown, across the Miller's River basin from Lechmere's Point (see Fig. 22). The canal was begun in September 1794, shortly before Craigie began buying land in East Cam-

bridge, and was completed at the end of 1803, just before Craigie petitioned for his bridge. One immediate effect of the canal project must have been to increase the value of all the upland surrounding the basin, including Charlestown, Barrell's Point, and Lechmere's Point.

The canal project involved individuals who were later important to Craigie's East Cambridge development. Although Craigie was not one of the original Middlesex Canal incorporators, he was a member of the first Board of Directors, along with his classmate Christopher Gore and two other men who also became governors of Massachusetts, John Brooks and James Sullivan.

Craigie began purchasing land in East Cambridge in January 1795 (Fig. 20). Not wishing to disclose his plans, he commissioned friends and relatives to buy land in their own names; he acquired no land in his own name until 1803. Craigie commenced by arranging for Seth Johnson, his financial agent in New York, to buy the three parcels of the old Phips farm assembled by Andrew and John Cabot for £3,300 in 1795 and to convey them to Bossenger Foster in 1797 for a nominal sum. However, in 1795 Seth Johnson mortgaged the parcels back to John Cabot for £2,200, presumably without the knowledge of Craigie and Foster. In 1800, Cabot repossessed the property. In 1803, Cabot sold for more than \$4,000 "grantor's right in the farm called Litchmore's Point" to Samuel Parkman, a Boston merchant who was active in developing Boston's West End and to whom Craigie owed over \$5,000. In 1806, Parkman sold these mortgagor's rights to Craigie. Foster had died in 1805, and Craigie did not receive full title to this land until January 26, 1807, when this interest was deeded to him by Foster's widow, his sister.

A transaction involving the Lechmere family directly is often cited to illustrate Craigie's devious nature. In 1791, Richard Lechmere had written from England to his Boston lawyer announcing his willingness to sell Mrs. Lechmere's reversionary rights to his "farm on Cambridge neck," which had been "so crule and unjustly taken from her" during the war. The rights to this land were purchased in 1799 by Samuel Haven of Dedham, whose wife was Craigie's niece. By having

Haven hold these rights, which were in conflict with the commonwealth's warranty deed conveying the Lechmere property to Andrew Cabot in 1779, Craigie could maintain that the title was defective and that the commonwealth was liable for damages. Craigie did not acquire these rights in his own name until September 20, 1808, when the General Court required him to release all claims for damages as a condition for receiving a charter for the Canal Bridge.

During the same period, Craigie also purchased numerous long, narrow lots in the salt marsh between the East Cambridge upland and the West Boston Bridge. His earliest recorded purchase in this area was in 1796, and he continued to buy land in the marshes through 1808 (see Fig. 20). Here he was in direct competition with Cambridgeport proprietors Royal Makepeace and Rufus Davenport, who, like Craigie, purchased marsh lots surrounding East Cambridge in these years. By 1808, Craigie, Makepeace, and Davenport held title to most of the marshland north of Broadway and south of what is now Charles Street, but none of their holdings formed a continuous parcel, so little could be done with them. Craigie later kept these lots as part of his own estate rather than assigning them to the Lechmere Point Corporation.

Craigie's land acquisitions were not confined to the eastern part of Cambridge during this period. He also purchased major parts of the Jarvis estate, stretching from Elm Street west to between Maple and Fayette streets. The southern boundary of Craigie's property here was Spring Lane between Inman and Elm streets and a line 250 to 350 feet north of Broadway and west of Inman Street. The northern boundary of this property was the Charlestown (now Somerville) line except for the area between Prospect, Cambridge, and Elm streets, which belonged to Makepeace and his friends.

Between the Jarvis property and the western edge of the Phips estate, Craigie was again in competition with Makepeace, for the land remained in the hands of Henry Hill, Makepeace's friend. On the northern edge of his property in Charlestown, Craigie had also assembled a large amount of land, but none of it formed a contiguous parcel because Makepeace was buying in the same area. Perhaps Craigie had even larger plans

than his East Cambridge development, for he controlled parts of both the north and south banks of the Miller's River, but he was hampered on all sides by Makepeace and the Cambridgeport interests.

During these years of extensive purchases in Cambridge, Andrew Craigie suffered the first of many financial reverses. In August 1798, the partnership of Horace and Seth Johnson in New York failed; it had handled substantial investments for both Craigie and Foster. Craigie went to New York to determine the extent of their losses and advised Foster to consult with Harrison Gray Otis, to make arrangements with the banks in Boston, and to advise Mrs. Craigie on how to act in case an attachment suit was brought against him. Later correspondence from Foster's son indicates that Craigie was virtually imprisoned in his house for a time to escape his creditors. As with many of Craigie's business affairs, details of how he disentangled himself are not known, but he wrote to Foster that he saw a way out for himself, with no loss to Foster, although they would have to "sing small" for a while (Aug. 11, 1798). Part of the resolution of his financial affairs involved the Lechmere's Point property, which had been mortgaged by Johnson before he sold it to Foster. In 1799, Craigie and Foster put fourteen properties, including Lechmere's Point, in trust to cover debts owed to nine Boston merchants in the amount of \$37,660.01. Most of them were prominent Bostonians involved in developing various areas in Boston, and the incident gives some idea of the range of Craigie's connections and business deals.

Without this financial setback and the difficulty with the land titles, Craigie's East Cambridge project might have gone forward earlier, and Craigie might have done more on his own rather than relying on a corporation to handle land development. As it turned out, the timing was good: the completion of the Middlesex Canal on December 31, 1803, lent credibility to his own bridge project, and in 1805 commercial attention was focused on the eastern edge of Cambridge when Congress enacted a bill that annexed "the town or landing place of Cambridge" to the district of Boston and Charlestown as a U.S. port of delivery. Craigie or one of his relatives now held title to the entire upland in East Cambridge,

and he was ready to pursue his plans for a bridge to make his land accessible to Boston and desirable for development.

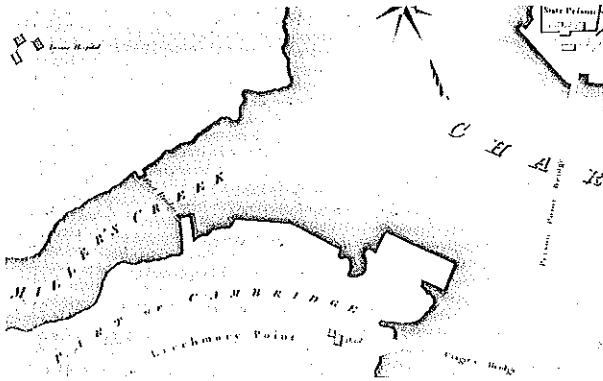
The Canal Bridge Project, 1805-9

I rode to Mr Craigie's New Toll Bridge. This is a very beautiful piece of Architecture, lately built by Mr Craigie of Cambridge, at his own Expence, over Charles River, in sight of West Boston Bridge, and about the same length & Plan, by which the road to Cambridge is much shortened.

Elias Boudinot, *Journey to Boston in 1809*, p. 73

In 1805, Craigie petitioned the General Court for permission to build a bridge from Lechmere's Point to Boston and hired the cartographer Osgood Carleton to survey a location for it. Craigie's was not the only bridge scheme for this site. The Middlesex Canal Corporation and the Newburyport Turnpike proprietors both submitted petitions to the General Court between 1805 and 1807 to build bridges in the same general location. The three groups finally agreed to erect a bridge in common, for the benefit of all, although the canal and turnpike corporations were concerned that Craigie's East Cambridge bridgehead seemed to provide greater benefit to him than to the others.

After considerable controversy over the location, the General Court passed an act on February 27, 1807, incorporating Andrew Craigie and twelve associates as the Proprietors of the Canal Bridge for the purpose of erecting a bridge and causeway from Leverett Street in the West End of Boston to Lechmere's Point, with a further connection to Barrell's Point in Charlestown (Fig. 21). Joseph Barrell, whose estate stood on Barrell's Point, had served with Craigie on the board of the Middlesex Canal; a bridge from Lechmere's Point to his estate appears on one map, but there is no documentary evidence that it was ever built. To design his bridge, Craigie hired the engineer of the Middlesex Canal, Loammi Baldwin; unfortunately, his drawings have not been found.



21. Location of Craigie's (Canal) Bridge and Prison Point Bridge



22. The Boston area in 1819, showing the Newburyport Turnpike, the Middlesex Canal, and the Prison Point and Craigie bridges

The 1807 charter stated that the toll bridge would serve the public interest by providing access to Boston from the Middlesex Canal and the Newburyport Turnpike, both of which terminated on Charlestown Neck at what is now Sullivan Square. The charter divided the shares in the new bridge equally among Andrew Craigie, the Middlesex Canal Corporation, and the Newburyport Turnpike Corporation, and required the companies to build roads or canals to the bridge. The Charles River Bridge in Charlestown already provided a more direct route to Boston from both the canal and the turnpike, but involving the two corporations probably helped Craigie get permission for his bridge through the General Court (Fig. 22).

Even before the Canal Bridge was authorized, the state granted a charter in 1806 to the Proprietors of the Prison Point Dam for the purpose of building a dam from Prison Point in Charlestown to Lechmere's Point and erecting tide mills on it. This was three years after the completion of the Middlesex Canal, and the charter granted rights to its proprietors that included locks, a wharf, and a mill. The dam was never built; instead, the Prison Point Bridge was erected in 1815.

The Canal Bridge met substantial opposition from a variety of groups, but particularly from the Proprietors of the West Boston Bridge, who believed that any nearby bridge would hurt their business. When the West Boston Bridge was built in 1793, its proprietors had to pay an annual indemnity to Harvard College to compensate for the revenues lost by the Charles River Bridge, which paid a percentage of its profits to the college. The charter of the Canal Bridge relieved the West Boston Bridge proprietors of part of this burden by requiring the proprietors of the new bridge to pay half of the annuity to Harvard. The charter further reduced the Canal Bridge's profits by requiring its proprietors to pay ten cents per ton to every loaded vessel passing through its draw. The existence of the West Boston Bridge as a profit-making entity was also extended for seventy years beyond the completion of the new bridge. These concessions did not mollify the Proprietors of the West Boston Bridge, who went so far as to offer to sell their bridge to Craigie or move it to Lechmere's Point.

Other groups and individuals also opposed Craigie, saying that he had changed the proposed location of the Cambridge end of the bridge to enhance the value of his own property without regard for the public interest. Still others questioned Craigie's secretive methods of enrolling shareholders and refusing to submit his lists of subscribers to public scrutiny, as the Middlesex Canal and Newburyport Turnpike proprietors had done.

The General Court made additional demands on Craigie in 1808, requiring him to release the commonwealth from all claims for damages on account of a purported breach of the covenants of warranty relating to the reversionary rights of the Lechmere family held by his niece's husband, Samuel Haven. Craigie thought that he should be compensated for the imperfect title granted by the commonwealth, but the General Court ruled that permission to build a bridge directly to Boston was compensation enough and declared the bridge charter invalid if he did not comply.

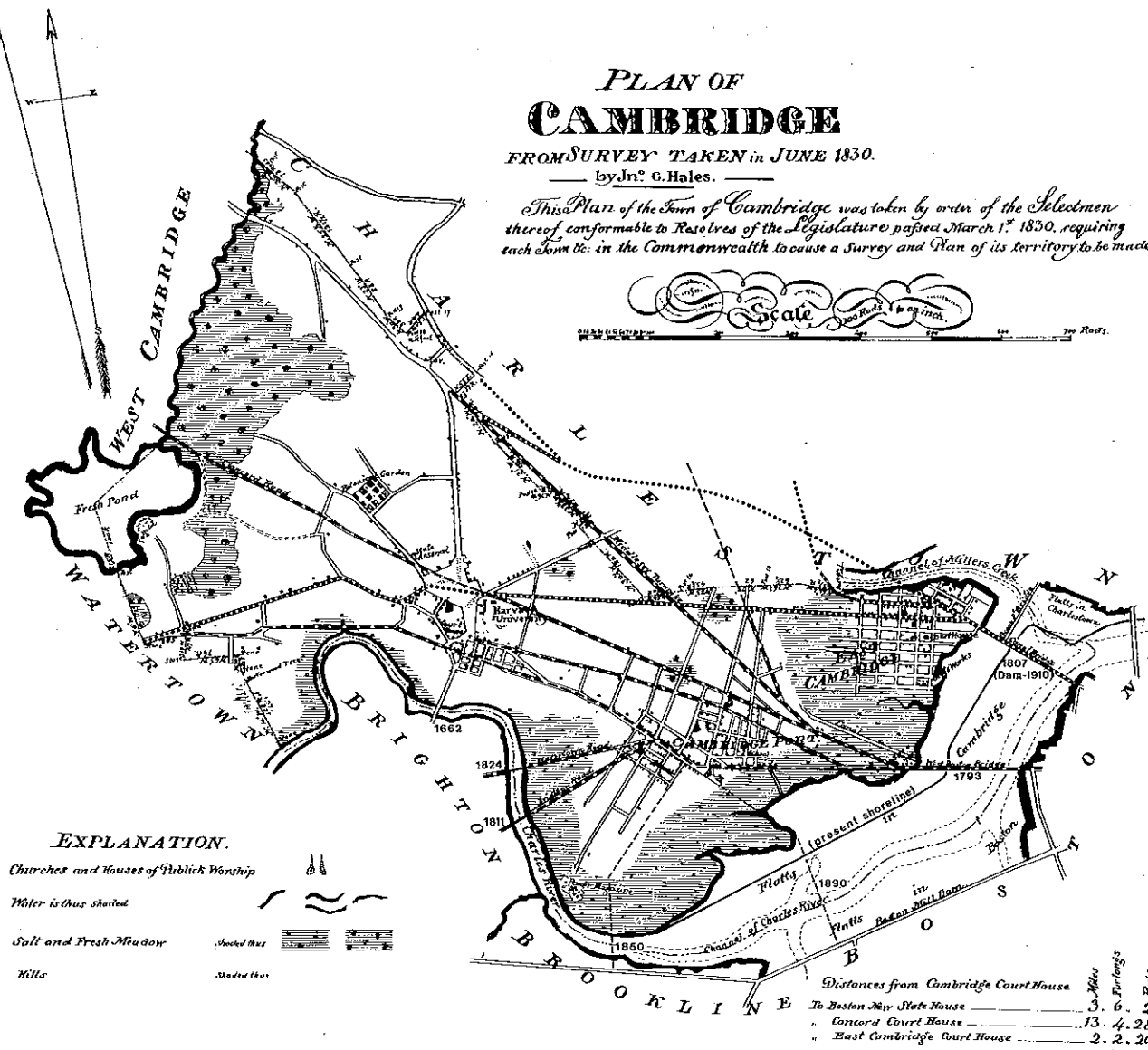
On February 26, 1808, one year after the original charter, the issue became so heated that the General Court passed an amendment to the charter, appointing an impartial committee to determine the exact location for the west end of the bridge. It also described the Middlesex Canal Corporation's rights to cut a canal and towpath across Lechmere's Point to link the Miller's and Charles rivers and outlined alternate plans in case Craigie did not release the covenant of warranty by a certain time. Later that year the bridge was finally begun, but Craigie and his opponents continued to file petition after petition with the General Court to decide such issues as just compensation and location of access roads.

Some of the most bitter debate centered on the new roads that would lead to the two bridges (Fig. 23). As early as 1805, Cambridge had appointed a committee to present a petition to lay out a new road, Mt. Auburn Street, from Gerry's Corner (now Elmwood Avenue at Fresh Pond Parkway) to Brattle Square, to reduce the distance from Watertown to the West Boston Bridge. By this time, however, Craigie's plans for developing East Cambridge were fairly well established, and he proposed an alternate road across his Brattle Street estate to connect with Mason Street, thus making the

PLAN OF CAMBRIDGE

FROM SURVEY TAKEN in JUNE 1830.
— by Jn^o G. Hales. —

This Plan of the Town of Cambridge was taken by order of the Selectmen thereof conformable to Resolves of the Legislature passed March 1st 1830, requiring each Town to cause a Survey and Plan of its territory to be made

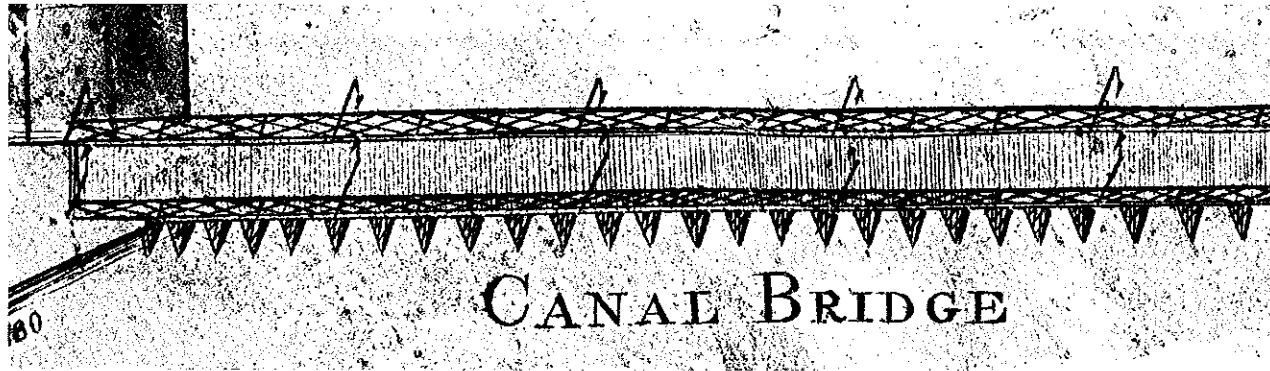


23. Cambridge in 1830, showing roads built to approach the Craigie and West Boston bridges

route from Watertown to Lechmere's Point more direct. So convincing was Craigie and so attractive was his offer to pay for the part of the road crossing his land that, in 1807, the selectmen laid out the road as he desired. The town would not accept it, however, and by 1808 had reverted to the original plan for Mt. Auburn Street, to the advantage of the West Boston Bridge and Cambridgeport factions. But Craigie did not give up easily; on May 16 he and thirty-five others so violently protested the laying out of Mt. Auburn Street that the town voted to appoint the selectmen as a committee "for the purpose of prosecuting Andrew Craigie and others for trespasses committed . . . upon the road" (Paige, p. 204). Craigie continued to file numerous petitions to block the road and to obtain, if not his preferred route, at least some work on Brattle Street west of Fayerweather that would straighten the route to East Cambridge.

At the same time, Craigie and his associates were overseeing the construction of Cambridge Street from the Canal Bridge to the Cambridge Common and were petitioning to have it declared a public highway. They were hampered by Henry Hill, Rufus Davenport, and Royal Makepeace of Cambridgeport, who tried to protect the West Boston Bridge business by refusing to allow the new road to cross their property. This created a one-eighth-mile gap in Cambridge Street near Elm Street.

Craigie appealed to Boston merchant Thomas Handasyd Perkins, later one of the proprietors of the Lechmere Point Corporation, who petitioned the General Court in June 1809 to take the disputed land by eminent domain and complete Cambridge Street. This goal was finally achieved, although not without many remonstrances and counterpetitions, which described "the incessant machinations and intrigues of Mr. Andrew Craigie, in regard to roads," and stated that "few men are so old in the Legislature as to remember when Andrew Craigie and his associates were not Petitioners for some grant or indulgence from the Government." Perkins' petition was described as seeking "to lay out roads without number, with courses undefined" (Paige, p. 206). Craigie had the audacity to claim damages from the town in the amount of \$1,327 for laying out the



24. Craigie's (Canal) Bridge, detail from Tufts plan of East Cambridge, 1811 2940

road that he had himself requested. The case dragged on until 1813, when the Court of Sessions finally ruled that Craigie had suffered no damages.

In spite of the general animosity toward Craigie, the Canal Bridge opened with appropriate ceremony on August 30, 1809, Harvard's commencement day (Fig. 24). Described in the newspapers as one of the handsomest structures of its kind, the bridge was 40 feet wide and 2,796 feet long, with a smooth gravel surface. One side was railed for the safety of pedestrians, and lamps at regular intervals burned until midnight. The tolls were the same as those for the West Boston and Charlestown bridges. The charter specified two draws for boats, but Craigie built the bridge with only one, saying that a second draw would provide no advantage to boats and would weaken the structure. With the bridge completed and the construction of Cambridge Street assured, Craigie's efforts turned toward developing his landholdings in East Cambridge.

Lechmere Point Corporation, 1808–22

In November 1808, with the bridge to Boston finally under construction, Craigie put his 300-acre holding on the market for \$360,000, divided into sixty shares at \$6,000 each. The property itself was not divided, but held by the shareholders as tenants in common (Fig. 25). Paige noted that Craigie had paid less than \$20,000

for all his purchases. His list of subscribers reads like a *Who's Who* of early-19th-century Boston: Harrison Gray Otis, Thomas Handasyd Perkins, Ebenezer Francis, William Payne, and John Callender. At first, Craigie sold ten shares in November, 1808 and reserved fifty for himself, the largest purchasers being Otis and the merchant Israel Thorndike of Beverly, who each purchased three shares. By 1809, his old friend Christopher Gore was also involved. Many of Craigie's early purchasers were men with whom he had had prior business contact, either privately or through the Middlesex Canal Corporation. Most were already involved in land development schemes in Boston. They also had strong political connections and could help plead his cause before the General Court, as Perkins did in 1809 for the completion of Cambridge Street.

Even before the Canal Bridge was opened, some of Craigie's shareholders met on July 4, 1809, to discuss ways to make their property attractive to buyers. Their first decision was to enter into contracts with William Dickinson, a brewer, and James Foster, a "gentleman," to lease land for seven years to operate a brewery. Craigie, Payne, and Francis paid the cost of erecting the brewery, malt house, and barn on what became Third Street between Winter and Gore streets. Foster and Dickinson also ran a blacksmith shop.

The Lechmere Point proprietors, although not yet incorporated, entered into contracts in 1809 with Aaron Bigelow for a brick store and with Calvin Brooks to

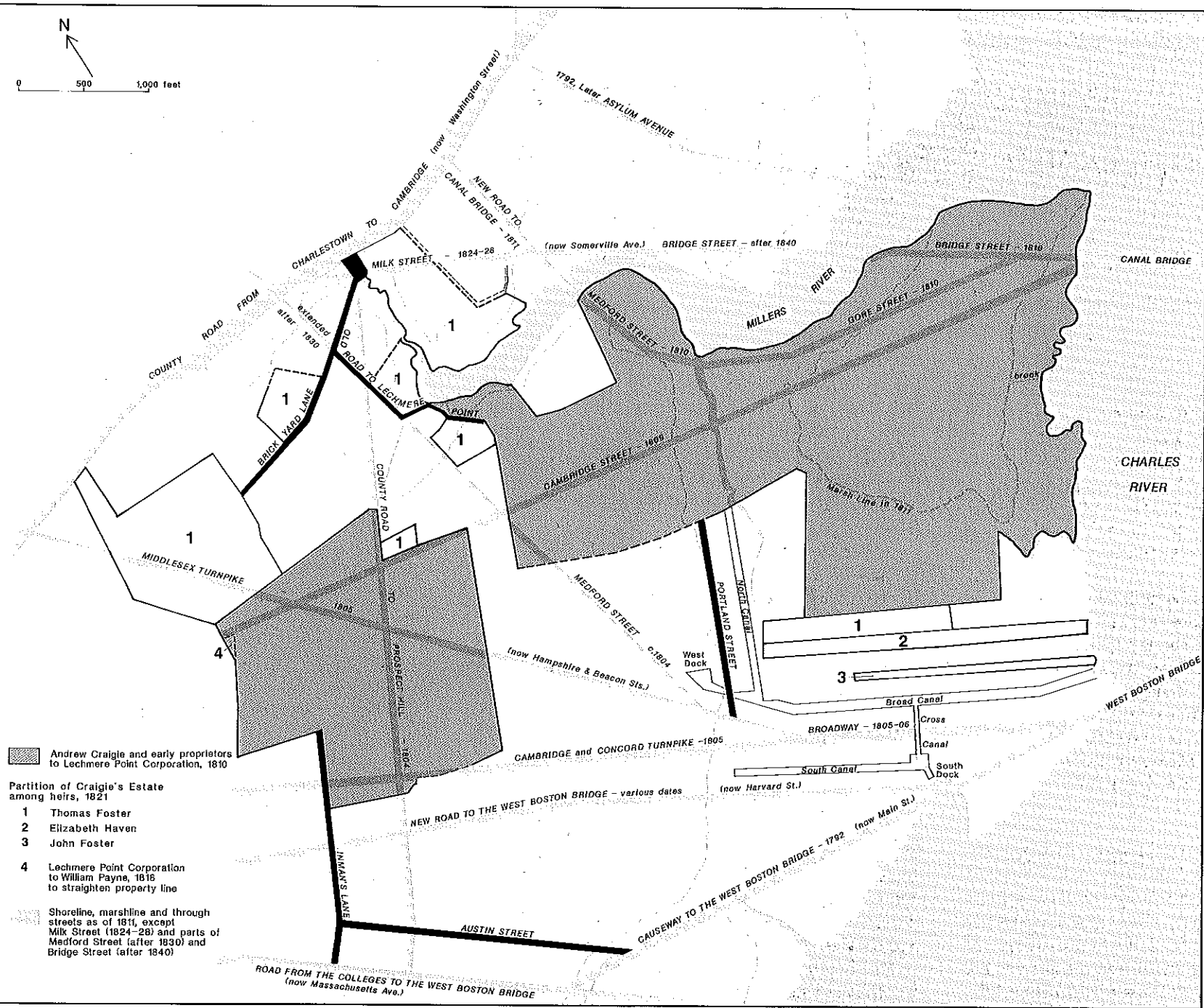
run a tavern. The proprietors also set up a committee to execute a contract for building the tavern as well as a barn and outbuildings near the junction of Bridge and Gore streets. These early contracts give an idea of the enterprises the proprietors thought would best promote their project. The locations they chose near the bridgehead suggest that they were hoping to attract commercial traffic from the western towns into Boston.

In November 1809, Craigie held the first full meeting of the shareholders and future proprietors of the Lechmere Point Corporation. Minutes of the meeting record a vote to lay out the land in salable lots. According to the contracts signed earlier in the year, the locations of some streets had already been determined, but none except Bridge, Cambridge, and Dam (East) streets appear to have been named. Also, no land had been sold; all the land in use had only been leased by the proprietors, who had erected all the buildings themselves.

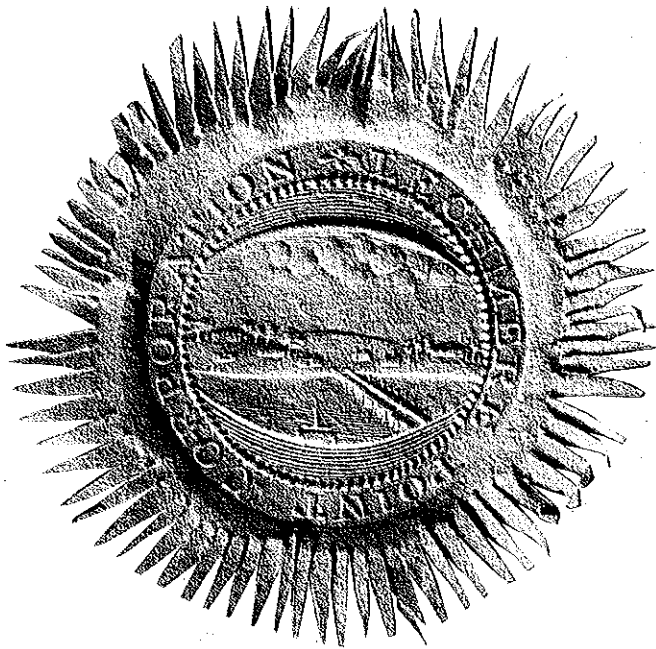
The shareholders met every few weeks through the rest of 1809 and decided to acquire shares in the Canal Bridge and to build additional commercial establishments nearby: a hay scale, a blacksmith shop, and a cobb (stone) wharf on the Miller's River.

In January 1810, the proprietors submitted a petition to the General Court for incorporation as the Lechmere Point Corporation. The act of incorporation, which passed on March 3, established the corporation for a term of twelve years and gave it the power to improve its land by laying out streets and lots, building protective walls to control the surrounding water, and erecting buildings (Fig. 26). Shares in the corporation were not to exceed 1,200. The incorporators immediately appointed Craigie and Otis to work on securing two new roads to connect their bridge with Medford and Watertown.

Except for the minor commercial development that had taken place near the bridgehead since 1809, the area they were discussing was still a barren upland surrounded by marshes and tide flats and crossed by two roads, Cambridge and Bridge streets, which met near the bridge. Meanwhile, Cambridge was declared a U.S. port of delivery in 1805, and the Cambridgeport proprietors had developed a system of canals to accom-



25. Disposition of Craigie's land, 1810-21



26. Lechmere Point Corporation seal, 1814, showing the Canal Bridge 1055

modate coastal shipping and Middlesex Canal boats.

A plan of the canals was drawn up by Peter Tufts, Jr., a surveyor who later laid out East Cambridge (Fig. 27). The Broad Canal and the North Canal formed the main links in this system, which included several branch canals and docks in the Lower Port. The concept must have seemed sound: by a network of branch canals, all of East Cambridge and Cambridgeport could be linked through the Middlesex Canal to the commerce of the Merrimack Valley. Before the establishment of Lowell, this commerce consisted entirely of natural products: lumber, cord wood, clapboards, shingles, barrel staves, bricks, and farm produce. However, Cambridgeport lacked any sort of natural power for manufacturing, its marshes required extensive filling, and its wharves were inconvenient because of the tides. Almost all commerce ceased during the Embargo of 1807 and the War of 1812, and the canals never fulfilled the expectations of their promoters. East Cambridge, with better

access to Boston Harbor and wharf sites that initially required little filling, was more advantageously located.

The Broad Canal extended more than half a mile parallel to and just north of Broadway to the West Dock between Portland and Bristol streets; this was the head of navigation and was expected to be a commercial center. The North Canal was projected to run from the Broad Canal to the Miller's River along a meandering stream in the marsh between what is now Portland and Fulkerson streets. In 1811, the Lechmere Point Corporation agreed to give Davenport and Makepeace of Cambridgeport the right to extend the North Canal through corporation land to the Miller's River and to allow boats and rafts to pass through. By this agreement, the corporation also gained the right to pass through the canals to reach the Charles River. It remains unclear, however, how much the North Canal was used; on many 19th century maps, it appears simply as a creek running north from the Broad Canal. Although the agreement for building the canals allowed the abutters to use the excavated earth to fill in the adjoining marshes, little work of this nature was undertaken in this period.

When the Lechmere Point Corporation was formed in 1810, there were at most three new houses besides the old Graves' farmhouse in East Cambridge: one was an unfinished house repossessed by the proprietors in 1809, and two were small dwellings created in 1810 from the 1809 blacksmith shop, which apparently did not have much business. The Brooks Tavern at Bridge and Gore streets and Marcy's Hotel at Cambridge and Bridge streets were both in business by 1811 and provided lodging for travelers (see Fig. 29).

Lot sales must have been somewhat haphazard without an official plan, but the corporation sold six lots in 1810 and five in 1811, all north of Cambridge Street and all carrying a restriction that "no building of wood be erected within twenty feet of any street or public highway" (LPC deeds, 1810, 1811). Boston had passed a similar law in 1803, prohibiting the erection of wooden buildings more than ten feet high.

On July 12, 1811, the proprietors met at the "Hotel at Lechmere's Point" and voted to "employ a surveyor and have all the streets laid out and the land divided

into lots, within the creek, of such dimensions as they shall think advisable and to place such monuments and landmarks as they shall see fit" (LPC Records). The resulting plan by Peter Tufts, dated September 30, 1811 (Fig. 28), was accepted by the proprietors in November when a committee was formed "to report a mode of establishing the public streets and squares conformably to it" (LPC Records, Nov. 19, 1811).

Tufts' plan of East Cambridge is a grid, with the main streets running parallel to Cambridge Street and the north-south streets serving as secondary ways. A second grid was laid out north of and parallel to Bridge Street. The blocks were a uniform 200 by 400 feet, with no alleys or service ways dividing them. On the eastern edge of the plan, the blocks were only 295 feet long in order to squeeze in an extra street (Second Street) beside the marsh. The dotted line around the east, south, and west edges of the plan indicated the line between marsh and upland. Laying out named streets, such as South Street, through the impassable marsh and numbering the north-south streets, beginning with Second Street, indicates that the proprietors already planned to fill in the marsh and flats. The laying out of two grids, each aligned with a principal existing street (Cambridge and Bridge), reveals the importance of these arteries in the overall development of the area. The importance of other new streets was revealed by their names: Gore, Otis, and Thorndike, all prestigious investors in the Lechmere Point Corporation. Using these names, well known in Boston financial circles, and omitting Craigie's indicates whose support the proprietors thought would lend the most respectability to their development.

Peter Tufts, Jr., was born in Charlestown in 1774 and served as keeper of its powder magazine. He later moved to Cambridge, became keeper of the powder magazine at Captain's Island in 1818, and executed a map of Cambridgeport Parish in 1824, a year before his death. His background and connections to the East Cambridge shareholders are a mystery. It would have seemed more logical for the corporation to hire Mather Withington, the Dorchester surveyor who laid out Beacon Hill in the 1790s and South Boston in 1804. Since the layout of the streets had been determined as early

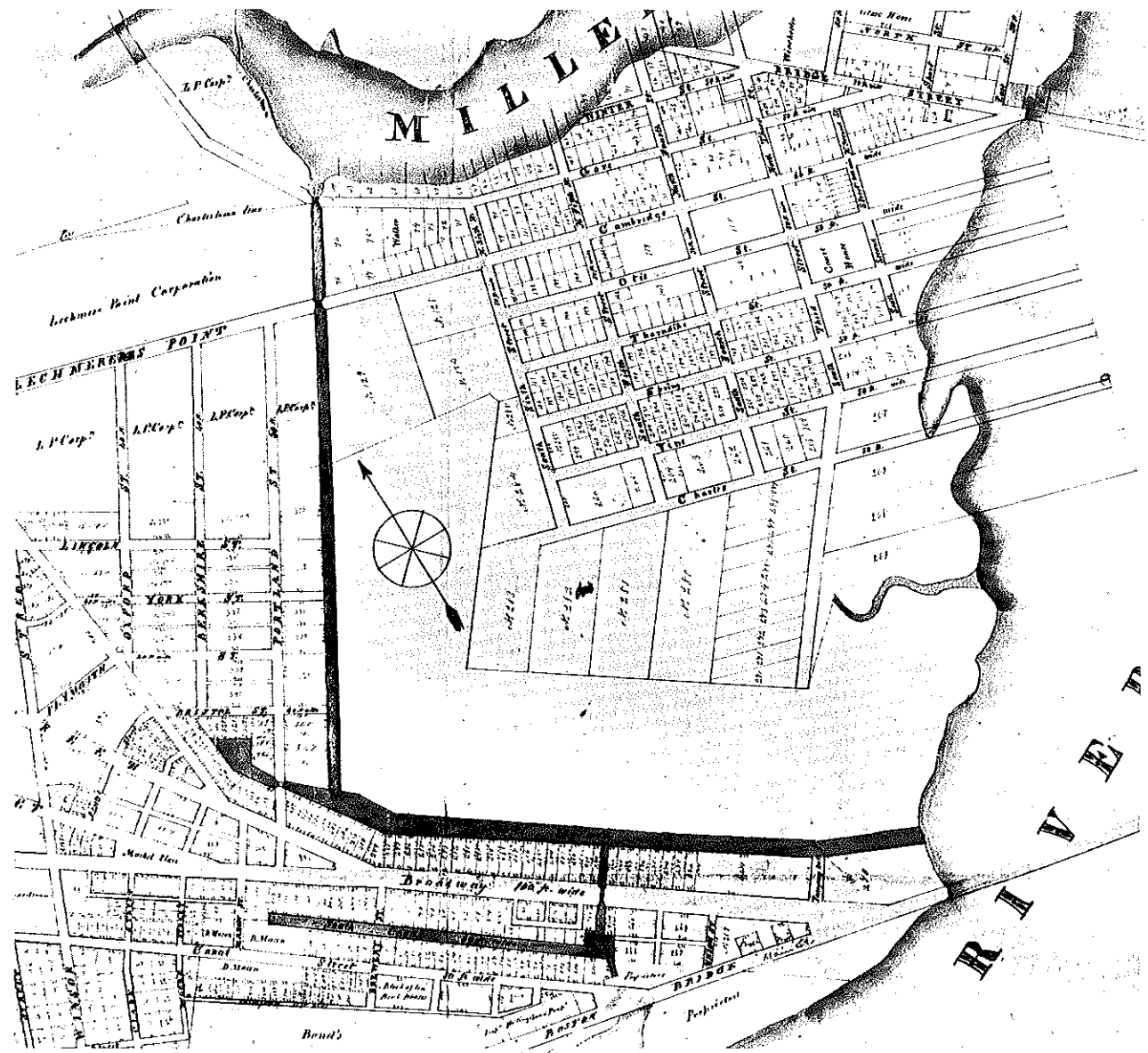
as 1809, however, Tufts may have only put on paper an existing plan.

The Lechmere Point Corporation's aims in laying out East Cambridge and choosing a grid plan were never recorded, but they were most certainly influenced by the success of Beacon Hill and South Boston. The corporation was primarily controlled by Boston investors, chief among them Harrison Gray Otis, to whom Craigie had looked for financial guidance since the 1790s. Otis was also a prime investor in Beacon Hill and South Boston, and he may be considered one of the principal influences on the plan of East Cambridge.

In 1796, Otis and three other Boston investors were incorporated as the Mount Vernon Proprietors; they purchased the 18-acre Copley estate, near the State House on Beacon Hill, and hired Charles Bulfinch to lay out the area. His plan was considered too extravagant, and the owners chose instead a more regular street pattern, designed by Mather Withington. While Beacon Hill was in its first stages of development, some of the proprietors formed other corporations to take down the hill to fill in the millpond behind Causeway Street and to fill in a marsh to create what is now the Endicott Street area. This activity was certainly of interest to Andrew Craigie, whose waterlogged acreage was just across the river.

Even more relevant to East Cambridge's situation was the development of South Boston. Having purchased many acres of undeveloped land on Dorchester Neck, Otis and his associates secured permission to build a bridge to Boston and then had the area annexed in 1804. As with Lechmere's Point, the connection to Boston made the previously isolated land desirable for residential and commercial development. The street plan drawn by Withington and approved in 1805 was similar to the East Cambridge plan; it consisted of two discontinuous grids joined at an angle. As Craigie prepared to build the Canal Bridge, he must have also noted the successful development of South Boston, with its bridge and grid plan.

These prototypical Boston developments, combined with the absence of constraints in the form of existing roads or buildings at Lechmere's Point and the speculator's convention of laying out easily surveyed grids



27. East Cambridge and Cambridgeport canals, 1824 1285/13

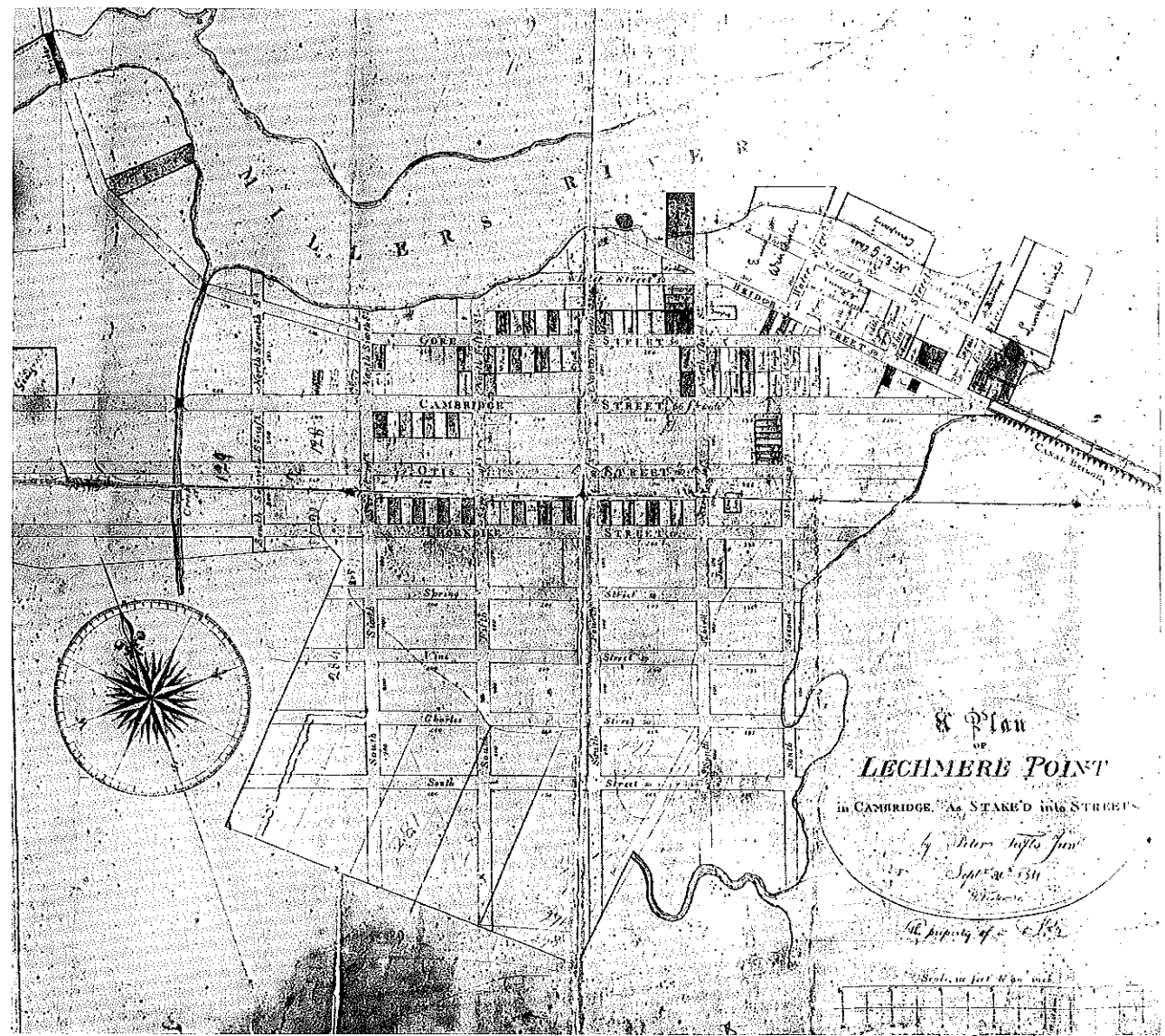
that yielded lots of uniform size and shape, were among the factors that determined the layout of East Cambridge.

Having approved Tufts' plan, the Lechmere Point proprietors had to decide how to proceed with development and what to sell initially. On December 10, 1811, they voted to reduce the summit of the hill on Cambridge Street by 6 feet, making the highest point of land the intersection of Otis and Fourth streets, and to reserve the four blocks abutting this intersection for later development. An early resident of the area reported that during the excavation, "many persons lost their lives by the earth caving in and burying them beneath the embankment" (Simpson, p. 79). Seventy-two lots were to be numbered, appraised, and sold at auction, but only among the proprietors, who could resell the lots or develop them themselves.

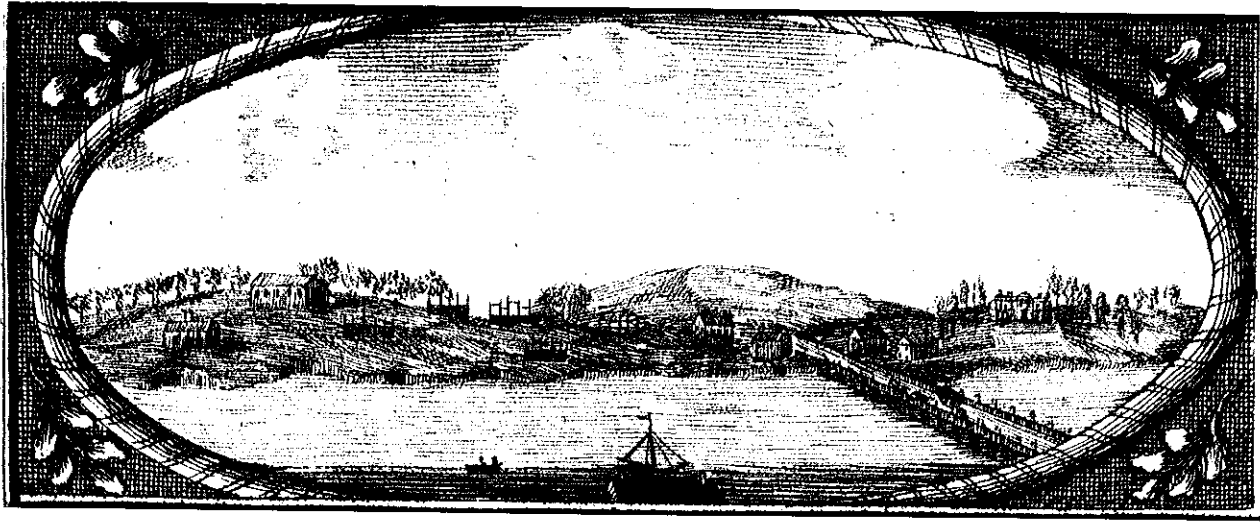
By the end of 1811, eighty-two persons lived in East Cambridge. In a petition to the Cambridge selectmen filed on December 30, 1811, nineteen residents asked the town to establish a school at Lechmere's Point for the thirty-eight children who otherwise had to attend school in Cambridgeport, a situation described as "extremely inconvenient and at sometimes utterly impracticable." This plea for public services in East Cambridge was not ignored; the Lechmere Point Corporation voted, on March 28, 1812, to designate a "proper lot" for a schoolhouse, and the selectmen allocated money toward a school.

During these early years of the corporation, Craige held 800 of the 1,200 shares and continued to serve as president. Land sales were lagging, and the economic turmoil caused by the Embargo of 1807 and the War of 1812 inhibited development. No industries had located in East Cambridge, and Craige and his associates, looking for a focus to spark the development of their land, began to pursue the possibility of attracting the county seat.

In a farsighted move, the proprietors appointed a committee in 1811 "to devise the best means of attaining the establishment of a Court house for the County of Middlesex with authority to contract with said county for establishing and building such a Court house on the lands of the corporation" (LPC Records, Dec. 11,



28. First Lechmere Point Corporation plan of Lechmere Point, 1811, by Peter Tufts, Jr. 2346



29. View of Lechmere's Point, 1810, showing the Barrell Mansion, right; the Canal Bridge, right foreground; taverns and workshops; frames of five houses under construction; and Thomas Graves' house and barn, left

1811). A site was not mentioned, but the proprietors voted to reserve all the land between Cambridge and Thorndike streets and from Second Street to the river, land that would provide an unobstructed view of the courthouse from Boston.

By 1812, the old courthouse in Harvard Square was so small and in need of repair that the county authorities were considering replacing it. Concord and the outlying towns seized upon this opportunity to have the county offices moved to Concord, which they argued was more centrally located and where a new courthouse and jail had recently been erected. Concord's petition to the General Court resulted in a poll of all the towns in the county to determine their preferred location: twelve towns, with 19,559 inhabitants, voted for Cambridge; thirty-two towns, with 23,233 inhabitants, voted for Concord. Nevertheless, the Court of Sessions decided to remain in Cambridge, although the exact location was not set.

At this point, Craigie and the Lechmere Point Corporation stepped in and, in May 1813, offered to grant land in East Cambridge and lend the county money to construct a new courthouse and jail. Petitions by 31

attorneys, 85 justices of the peace, and the sheriff of Middlesex County supported the move to East Cambridge as more convenient to Boston, where most of them probably lived. The residents of Cambridgeport and Old Cambridge strongly objected to moving the courthouse to what was still a remote section of the town, and they offered land and money to move it to Cambridgeport or keep it in Old Cambridge. These counterpetitions stated that for more than a hundred years the town of Cambridge had been paying one third of the upkeep of the courthouse, and the town felt it should have a say in the new location. In response, the Lechmere Point Corporation offered an outright gift of \$24,000 to construct the new facilities. This was enough to sway the county, and on September 21, 1813, the Court of Sessions accepted the corporation's offer and appointed a committee to oversee construction of the new buildings at Lechmere's Point. A complete discussion of the courthouse is presented in Chapter III.

In spite of Craigie's victory, there was continued opposition to the removal of the courts to East Cambridge. When the buildings were ready for occupancy

in 1816, James Winthrop, who had served as register of probate for forty-one years, described the inconvenience of moving to East Cambridge, where, he stated:

there are no houses for the accommodation of the families of the Officers and no boarding houses where their assistants can be provided for. As the place does not furnish any assistants from its own population, they must be obtained from other places by paying them for their whole time instead of paying for that portion of the time spent in the service. (Court of Sessions, March 1816)

He pled to be allowed to keep his office in Harvard Square; when denied, he resigned his post, in 1817. Others must also have felt this way about moving to East Cambridge, but Craigie and his associates were understandably ecstatic, and when the courthouse opened they celebrated with a lavish public dinner that was described in the *Columbian Centinel* on November 2, 1816.

On this occasion the Lechmere Point Corporation gave a public dinner at the Lechmere Point Hotel, at which were present about seventy persons. Andrew CRAIGIE, President of the Corporation, presided. The Hon. H. G. OTIS acted as Vice-President. The dinner was abundant and excellent—the utmost urbanity prevailed. Among the guests we noticed Judge DAVIS, General VARNUM, Judges DANA and WHETMORE, the Attorney General, Sheriff of Middlesex and deputies, Speaker of the House of Representatives, the Treasurer of the Commonwealth, the Warden of the State Prison, Register of deeds of the county, Hon. Mr. WARD, Wm. TUDOR, Esq., Deacon HILLIARD, CHARLES BULFINCH, Esq., architect of the buildings, and many Counsellors of Middlesex and Suffolk.

The following toasts were drank:

The Palladium of our Freedom — Independent Judges, upright juries, and counsel learned in the law.

The town of Cambridge, the seat of science and agriculture — May it be equally distinguished for commerce and manufacture.

The rising settlement of Lechmere Point — May it add to the importance and resources of the town, give con-

venience and elegance to the establishments of the county, and become a pleasing suburb to the metropolis.

Peace and prosperity to our country – The illumination of science, the extension of arts, and encouragement to laudable enterprise.

The memory and example of John Doe and Richard Roe, of John Nokes and Tom Stiles – Gentlemen who have long been engaged in litigation without any personal animosity.

The President and Professors of Harvard University – May that seminary never want distinguished artists to polish its richest gems.

The following volunteers were from several gentlemen of the company: –

The Temple of Justice – on the road to Science.

Our Army and Navy.

CHRISTOPHER GORE, Esq. – the polished civilian, in enviable retirement.

The interesting and happy Point – where town and country meet.

Laws without severity, and lawyers without reproach.

At the time the courthouse offer was accepted, the Lechmere Point Corporation made its first sale of land for industrial purposes. A 120,000-square-foot parcel between North Street and the Miller's River was sold in September 1813 to Jesse Putnam, who became one of the incorporators of the Boston Porcelain & Glass Company, which then located on the site. The low price, a mere \$100, must have been the corporation's incentive to attract this business to Lechmere's Point. The company failed after only three years, but it was taken over by what became the area's most successful early industry, the New England Glass Company, thus establishing a substantial industrial complex north of Bridge Street.

With the courthouse assured, the Lechmere Point Corporation made nine land sales in 1813, more than in any previous year, some of which included more than one lot. But the unstable financial climate and stagnant business conditions caused by the War of 1812 forced at least five of these transactions to be voided for nonpayment. The years 1814–16 brought only four

recorded sales and no new industries, so the proprietors began to reorganize. In 1814, they decided to run their corporation through a board of directors rather than by general shareholders' meetings, and they arranged with the Canal Bridge Corporation to assume all the shares in the Prison Point Dam Corporation. In 1814, four years after its inception, the Lechmere Point Corporation was listed on the Cambridge tax rolls as owning five houses, one store, one tavern, two boardinghouses, and 250 acres of land.

When the courthouse opened in 1816, the proprietors sought to stimulate sales by liberalizing the building restrictions, allowing wood, brick, or stone at the owner's option provided that "no wooden building except dwelling houses at least two stories in height shall be built within 30 feet of any street without special license" and that no wooden building more than 10 feet high could be used for any kind of manufacturing that used fire (LPC deeds). They also advertised the advantageous location of Lechmere's Point and the availability of toll-free passage and easy financing.

NOTICE

Lechmere Point Lots

The attention of all persons who are desirous of building, is now respectfully invited to the LANDS belonging to the Lechmere Point Corporation, which are now offered for sale. — This Land is situated on the Charles river, and is united to the towns of Boston and Charlestown, by two commodious bridges. The distance from the Court-House at Lechmere Point, to the old State-House, in Boston, does not much exceed one mile. Wide and commodious streets have been laid out in every direction. The lots are divided into different dimensions, and adapted for houses, stores, and buildings of every description. Cellars and wells of excellent water, are made with the greatest possible ease, solid foundations for building and good springs of water being found at a moderate depth.

All the materials for building may be brought by water carriage, to the landing near the sites of the house lots. The great roads leading through this tract, are equally near with any others to the middle, west-

ern, and northerly parts of the state, and are pleasanter and in better condition than any of them.

Wood, and provisions of all sorts, in great abundance, pass constantly through the principal streets, and the public buildings of the county are there located.

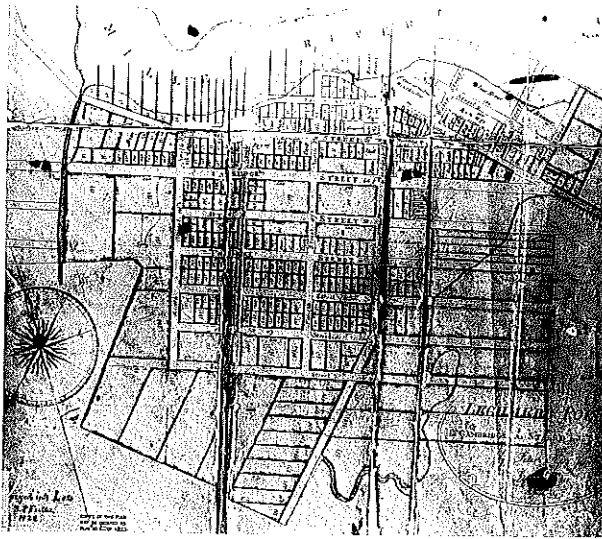
By a late regulation, all persons inhabiting any house built on the tract within five years, will be entitled to pass the bridge, free of toll for themselves and their families, their horses and carriages. And the purchasers of lots first sold will have a long credit, upon paying a small part of the purchase money down, and the interest punctually.

An opportunity is thus offered to persons to build, to obtain lots suitable for buildings of all descriptions, and possessing all the advantages of land situated within the limits of Boston, at prices much less than they must pay for lots actually within these limits — and they will not be under the restrictions of the town, but may build with wood. It must be obvious, that those who invest their money in estates thus situated, will invest it to the greatest advantage, as property at this place must rapidly increase in value, with the increasing growth and prosperity of the capital of which it will be in fact a part, in everything but the name, and which at this moment affords most of the advantages to be found in the town; and some which the town does not possess. To all persons whose professional duties are performed at stated and regular hours, to those who have the privilege of commanding their own time; to such as are desirous of making extensive manufacturing, or mechanical establishments, are offered the advantages of most delightful, healthy, and airy situations, with room sufficient for their conveniences, accessible by land or water, within a few minutes walk of the center of the capital, and destined to become a flourishing and prosperous suburb.

Persons disposed to purchase, may apply to the Treasurer of the Corporation. H. G. OTIS, Jun. at his office, Court-square—or to Mr. PAYNE, State-street.

Columbian Centinel, June 26, 1816

The toll-free incentive was not particularly successful, and the proprietors found it difficult to control. In



30. Lechmere Point, 1822, with the street grid extended into the marshes and surveyed into lots by S. P. Fuller

1818, they decided against offering toll-free rights to future settlers. At the same time, they voted to rent some of their recently built houses to officers of the court, suggesting that the housing shortages Winthrop had complained about in 1816 were still a problem.

At this time, the Lechmere Point Corporation was not doing well. The bridge had not been as profitable as it had expected. In its first ten years, the Canal Bridge Corporation had been forced to pay a bounty of \$11,176.66 to vessels using the draw. Traffic had varied greatly, from a low of 51 boats during the War of 1812 to a high of 721 in 1818, so that in some years the financial burden was great.

In addition, East Cambridge was not developing into the thriving adjunct to Boston that Craigie had envisioned, and Craigie himself was suffering severe financial difficulties. During his last years he was virtually imprisoned in his house on Brattle Street as he attempted to avoid process servers, creditors, and lawyers. Only on Sundays could he venture out safely to attend Christ Church. Craigie died on September 19,

1819, and a dreary, sparsely attended funeral marked his passing. His death was not even mentioned in the minutes of the Lechmere Point Corporation.

Ironically, sales began to pick up somewhat in 1819: a second industry, a soap factory, was built next to the glassworks, and Amos Binney, a merchant and U.S. Navy agent in Boston, became a director of the corporation and began buying land, particularly along North Street, where he built rows of workers' housing. But the corporation seemed discouraged and in 1820, two years before its charter would expire, began devising methods of disposing of its property. All its land was appraised and auctions were held in 1821. The proceeds of \$60,000 were to be divided among the proprietors at the rate of \$50 per share, but shareholders were encouraged to take property in lieu of a cash dividend. The largest shareholders at this date were Amos Binney, 150 shares; William Payne, 229; and Christopher Gore, 92. Craigie's estate, in contrast, held only 28 shares.

In 1822, the Lechmere Point Corporation hired S. P. Fuller to survey its land and to extend the 1811 Tufts plan to include more lots, particularly in the flats (Fig. 30). A schedule of unsold lands belonging to the corporation was published, listing 324 lots to be sold at a public auction on September 18, 1822, at the Lechmere Point Hotel (Fig. 31). Even the hotel was for sale, having been leased out since its construction. All remaining land was to be turned over to the Canal Bridge Corporation. Having auctioned its land and declared a final dividend of \$73.23 $\frac{2}{3}$ per share, the Lechmere Point Corporation quietly closed its books.

The Canal Bridge Corporation, 1807-46

The Canal Bridge Corporation, which had been responsible since its formation in 1807 for managing the Canal Bridge, became actively involved in Lechmere Point real estate in 1822. An 1822 amendment to the Lechmere Point Corporation's charter granted a six-month extension to the life of that corporation and gave the proprietors two options for disposing of unsold real

estate: distribute it among the various proprietors or sell it to the Canal Bridge Corporation. The amendment limited to 10 acres the amount of land that could be transferred to the Canal Bridge, but that figure does not appear to have been respected.

On October 21, 1822, the Lechmere Point Corporation turned over to the Proprietors of the Canal Bridge Corporation two entire blocks between Otis, Cambridge, Third, and Fifth streets, the hay scales lot at the junction of Gore and Bridge streets, the flats between Otis and Thorndike streets east of the courthouse, and "all flats and other land belonging or appertaining to the Lechmere Point Corporation which have not been granted or conveyed or contracted to be granted." The two corporations were already closely connected, both having been established by Andrew Craigie. The president of the Canal Bridge Corporation in 1822, William Payne, had long been active in the Lechmere Point Corporation, which owned shares in the bridge. Others also held shares in both corporations. The deed conveying the property states a price of only \$10, and that there were other considerations or that any of the money collected from land sales was to revert to the Lechmere Point Corporation or its proprietors is not revealed.

In spite of their connections, the transition was not as smooth as the residents of Lechmere's Point might have expected. After the dissolution of the Lechmere Point Corporation, the Canal Bridge Corporation did not wish to continue toll-free passage for residents and began collecting tolls from all who used the bridge. In 1823, forty-three residents and major landowners protested this action, but they were not able to change the decision. This burdened both new and old residents until 1858, when the bridge became toll-free. In 1823, the population of East Cambridge was reported to be close to 1,000, and tolls on the bridge averaged \$200 to \$300 per week.

In 1823, the Canal Bridge Corporation began selling its recently acquired property and promoting development. Sarah Brooks, the widow of one of Lechmere Point's earliest residents and businessmen Calvin Brooks, purchased the triangular hay scales lot just east of the Brooks Tavern which the Lechmere Point

SCHEDULE

OF

UNSOLD LANDS,

BELONGING TO THE

LECHMERE POINT CORPORATION.

SURVEYED MAY 25, 1822, BY S. P. FULLER.

12856

13

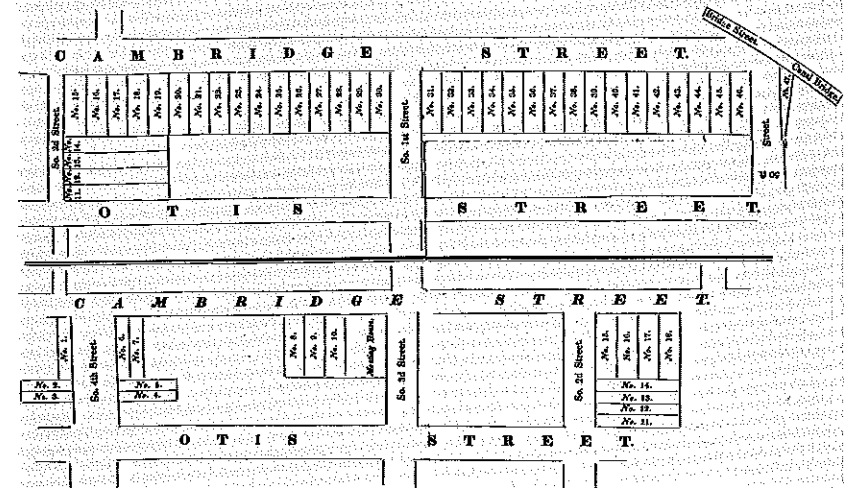
No.	Species of Property.	How Fronting.	Front.	Depth in Feet.	Remarks.
314	Lot north side Concord-street, next west No. 313	Concord-street	160	500	Containing 1 acre 3 qrs. 13 $\frac{1}{8}$ rds. (leased 3 years)
315	Do do do next west No. 314	do	160	500	do 1 A. 3 Q. 13 $\frac{1}{8}$ R. do
316	Do do do east side county road	do	160	500	do 1 3 13 $\frac{1}{8}$ do
317	Do do do west side county road	do	150	500	do 1 3 35 $\frac{1}{8}$ leased 1 year
318	Do do do next west No. 317	do	150	500	do 1 2 35 $\frac{1}{8}$ do
319	Do do do next west No. 318	do	150	500	do 1 2 35 $\frac{1}{8}$ do
320	Do do do next west No. 319	do	107 front } 111 rear }	500	do 1 1 2 $\frac{1}{8}$ do
321	Lot south side Concord-st. east corner Inman's [lane]	do	270 front } 271 rear }	176 west line } 149 east line }	do 1 0 1 leased 3 years
322	Do do do next east No. 321	do	377 front } 278 rear }	149 west line } 122 east line }	do 0 3 17 $\frac{1}{8}$ do
323	Lot uninclosed near Burial Ground	do	136		do 31
324	Hotel and out buildings, fronting Bridge	on Bridge	94 $\frac{1}{8}$ front } 180 rear }	190 on Bridge-st. } 203 $\frac{1}{8}$ on Camb. st. }	Containing 26,075 square feet, (leased 5 years at \$800 per ann.)

To be sold on WEDNESDAY, the 18th day of September, at the Hotel, at Lechmere Point, commencing at 9 o'clock, A. M. and to be continued from time to time, until all the lots are sold.

31. Schedule of unsold lands, Lechmere Point Corporation, 1822 3194

TO BE SOLD AT PUBLIC AUCTION, BY THE PROPRIETORS OF THE CANAL BRIDGE, On Wednesday the 7th day of June next, 10 o'clock, A. M. at Hastings' Tavern, Lechmere Point, near the Bridge, FORTY FIVE LOTS OF LAND,

Situated on Cambridge, South Second, and South Fourth Streets.
CONDITIONS OF SALE—20 per cent. cash on the offer of the deed to the purchaser—20 per cent. on or before the 7th day of June, 1827—20 per cent. on or before the 7th day of June, 1828—20 per cent. on or before the 7th day of June, 1830, with interest, annually, till paid, to be secured by mortgage on the land sold. The purchaser of a lot, to have the privilege of taking the adjoining lot at the same price.
STEPHEN BROWN, Auctioneer.

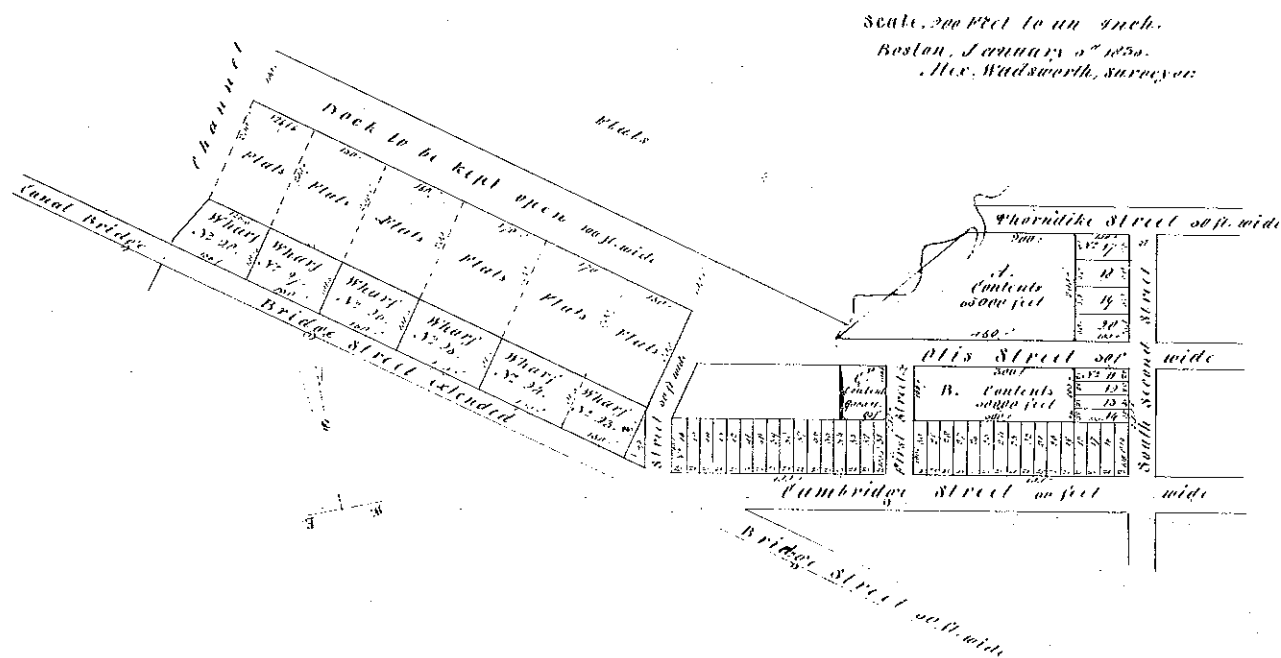


32. Auction notice, Proprietors of the Canal Bridge, June 7, 1826 917

proprietors had erected in 1809. The corporation also donated part of a lot on Third Street to the trustees of the Methodist church with the condition that they build a church by November 1824 and a schoolhouse and "suitable dwelling house for the clergyman" by November 1825. In 1824, Amos Binney bought a lot on the tide flats near his industrial land north of North Street. No other early land sales are recorded. Instead, the corporation decided to sell its property by public auction.

Figure 32 reproduces the Canal Bridge proprietors' advertisement for its June 7, 1826, auction of 45 lots, 37 of which were on Cambridge Street east of Second Street. The Cambridge Street lots were uniformly narrow at 25 by 100 feet, but many were purchased together to make larger parcels, especially by such seasoned Lechmere Point entrepreneurs as Amos Binney, Edmund Munroe, Ebenezer Francis, and John Callender. Of the Cambridge Street lots, only 8 were sold to Lechmere Point residents, whereas 23 were sold to Boston merchants connected with the Lechmere Point Corporation, most of whom already owned land in East Cambridge. Some 5 lots were sold to tailors, 2 to laborers, and 1 to a mason, presumably for their own use, but the others were bought for speculation. The total for all lots sold was almost \$16,000, an average price of \$350 per lot.

The Canal Bridge Corporation was also busy creating new lots by filling in land beside the bridge to make wharves and attract industrial enterprises that needed large amounts of land and ready access to water transportation. In 1826, a new wharf was created and a bulkhead constructed at considerable expense. After selling land on the north side of the bridgehead to the Boston & Lowell Railroad in 1832 and allowing it to fill in the west 100 feet of the bridge and build a 200-foot wharf, the corporation created new water frontage by filling in land for wharves on the south side of the bridge (Fig. 33). Filling operations were expensive, and the corporation paid more than \$12,000 to fill an area of approximately 400,000 square feet. Earlier filling operations had used earth from the top of Putnam Hill, but by this period development in East Cambridge had progressed sufficiently to make this impractical. The



33. Wharves and lots on the south side of the Canal Bridge, 1835

railroad, however, soon had fill available from cuttings along the line in Charlestown and Medford and used it to make land for a terminal. The new wharves were successfully sold at auction in October 1834 for a total of \$18,000, \$6,000 more than the filling costs. Five of the six new wharf lots were sold to Boston merchants. In selling these lots, the Canal Bridge Corporation reserved an 8-foot strip along Bridge Street and required the purchaser to construct a permanent sidewalk at least 6 feet wide that would become part of the public highway.

At the same auction, twenty residential lots along Cambridge and Otis streets were also sold. These lots were in the two blocks between Third and Fourth streets, blocks that the Lechmere Point Corporation had reserved since 1811.

In the late 1830s and 1840s the corporation seemed to be liquidating its holdings, perhaps in response to

repeated offers to purchase the bridge and make it toll-free. The 1840s brought numerous sales of watery terrain along the Miller's River to companies that already owned property there, among them Winchester's soap factory and the New England Glass Company. These sales extended the purchasers' rights into the tide flats to the low water mark but required extensive filling to be useful.

In 1828, the General Court raised the possibility of a new company's purchasing both the West Boston and Canal bridges and making them toll-free. An attempt to carry out this plan in 1836 came to nothing, but in March 1846 a group of Cambridge residents, mostly Cambridgeport men, obtained a charter creating the Hancock Free Bridge Corporation. They intended to build a third bridge between the two existing bridges or to purchase the two existing bridges if the proprietors would sell. The new bridge was never built; within



34. Massachusetts General Hospital, Craigie's Bridge, East Cambridge, and the McLean Asylum, c. 1846-51 3194

a few months the Canal Bridge Corporation had voted to sell its bridge for \$60,000. The purchase was completed on July 1, 1846 (Fig. 34).

The Canal Bridge did not become free for another twelve years, as the new corporation's charter allowed it to collect tolls until the purchase price and a maintenance fund of \$150,000 had been collected (Fig. 35). Under the new management, the bridge was thoroughly repaired in 1852, when a large part of the superstructure was renewed and the gravel paving was replaced with cobblestones. On January 30, 1858, the two bridges were turned over to the city, and a great celebration marked their becoming "free public avenues forever." In 1870, the General Court passed an act transferring the maintenance of the Canal and West Boston bridges to two commissioners from Cambridge and Boston, with expenses shared equally by the two

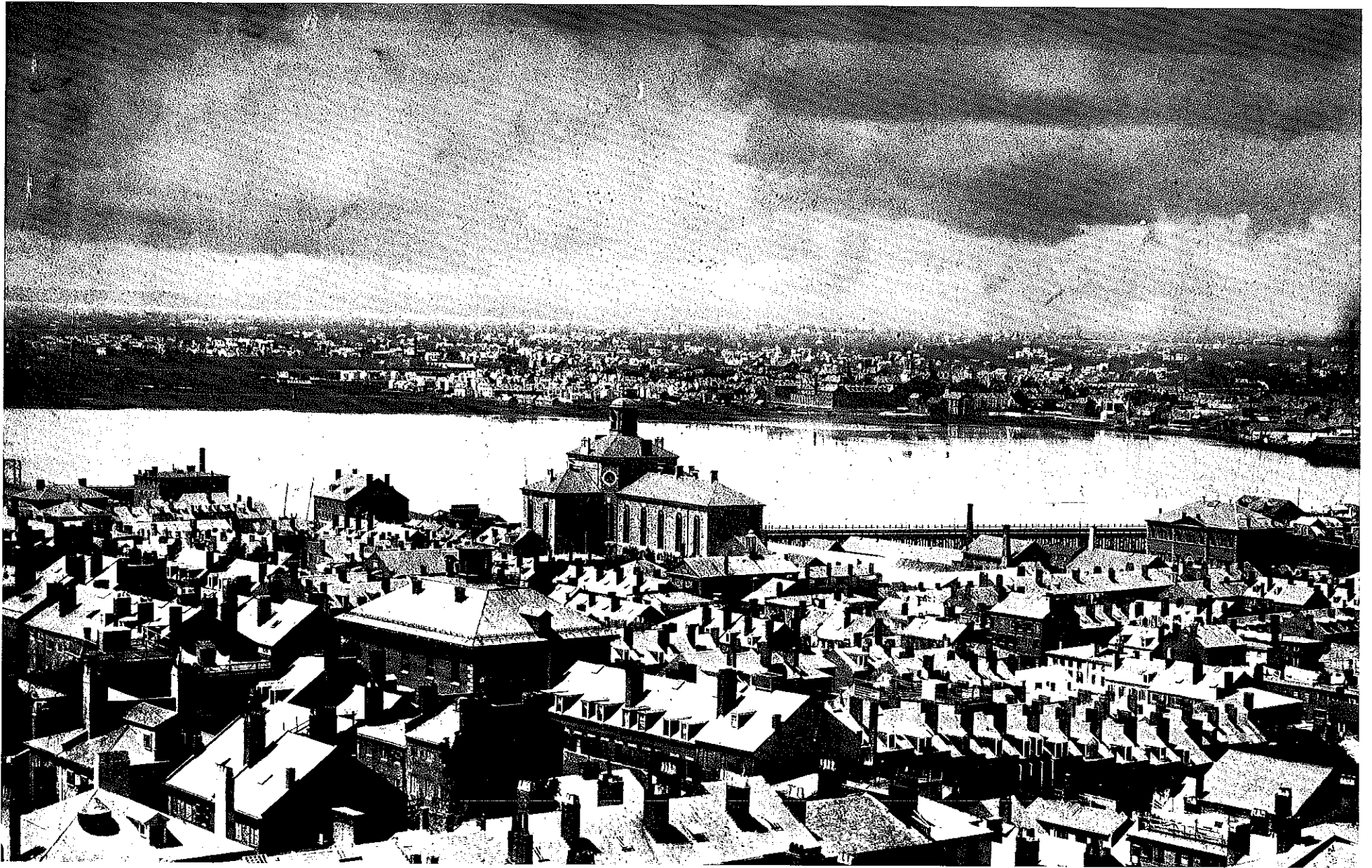
cities. The Canal Bridge served until 1905, when it was replaced by the Charles River Dam in the same location.

With the sale of the bridge and most of its land, the Canal Bridge Corporation's duties were coming to an end. On July 1, 1846, the day of the bridge sale, the Proprietors of the Canal Bridge conveyed to Levi Marsh of Boston 18 acres of flats on the south side of the bridge, near the bridgehead, to be held in trust for the proprietors and to be sold for their benefit; this he did on September 14, 1846, for \$7,300. This was described in the deeds as being "the only remaining lot belonging to said proprietors remaining unsold." The last recorded transaction was the sale of an open dock, 100 feet wide, along the south edge of the bridge wharf lots, an area that later became the north leg of the Lechmere Canal. The business of the corporation was



35. Former toll house on Craigie's Bridge in 1899

now completed. In the second half of the 19th century, land in East Cambridge would be developed by a series of new corporations (Fig. 36).



36. East Cambridge from the State House, c. 1851-69 4196



37. East Cambridge east of Fifth Street, aerial view, c. 1925 12862

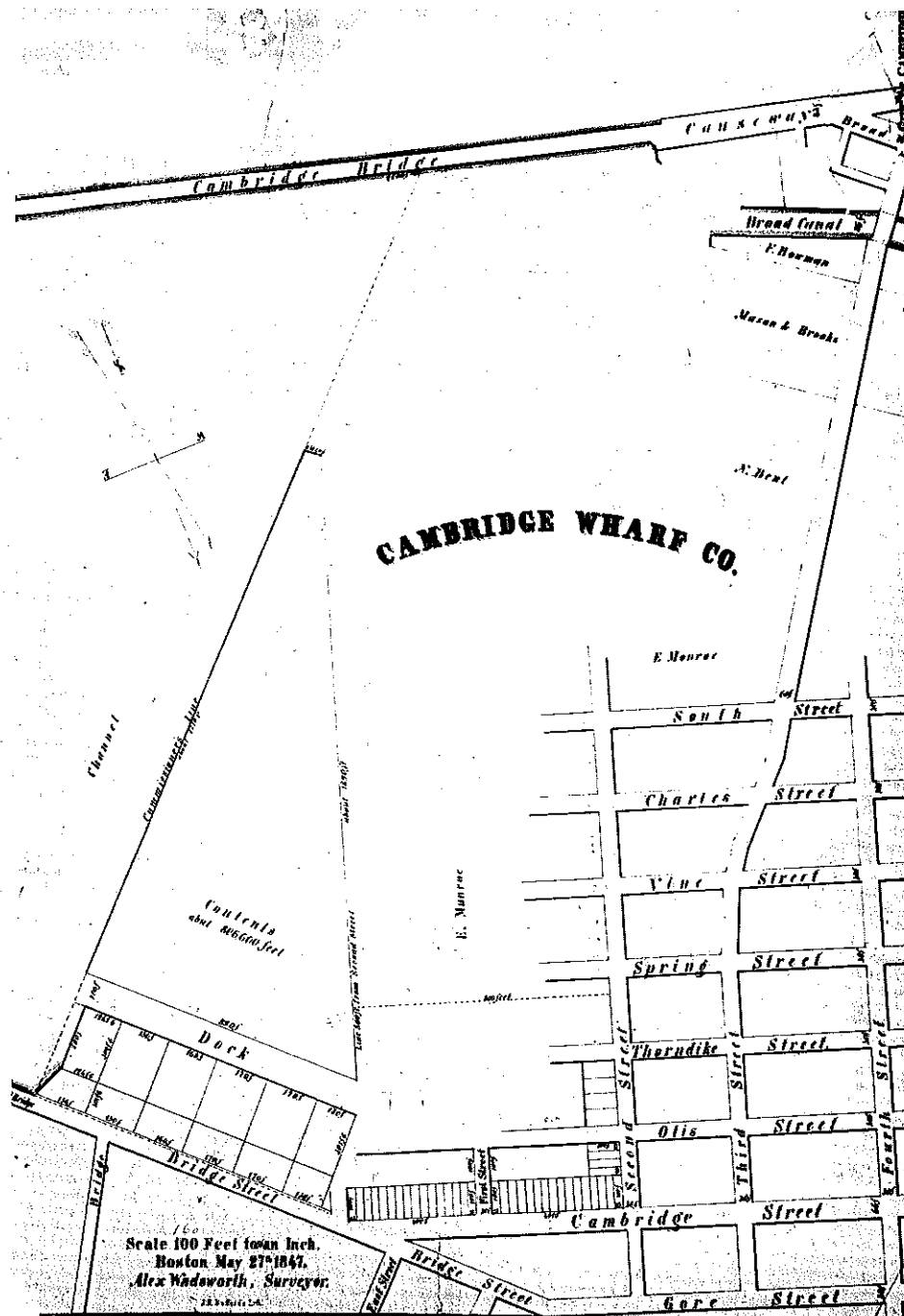
Filling the Marshes and Rivers for Development

South of Cambridge Street, 1846–1961

The creation of new land south of Cambridge Street largely took place east of Second Street and below Charles Street. It involved a number of false starts, corporate failures, and setbacks, for the economics of converting mud flats and marshland into usable property proved complicated and costly (Fig. 37).

In 1846, the Canal Bridge Corporation conveyed some 18 acres of flats on the south side of the Craigie Bridge to Ezekiel Bates, Caleb Pratt, and John Monks in trust for seventeen others, most of whom were from Boston. This group intended to enclose all or part of this land by a seawall. In 1847, Pratt, Monks, and Asa Swallow were incorporated as the Cambridge Wharf Company, which was authorized to buy and develop land in East Cambridge between the West Boston and Craigie bridges (Fig. 38). At the same time, William Easton, the first president of the company, appointed a committee to ascertain if a "passageway" could be obtained from the bridges to the company's property. Without this passageway, the plans for a seawall and wharves were stymied.

In June 1873, after twenty-five years of inaction, the Cambridge Wharf Company sold the entire premises to Fred Pope, who mortgaged it back to the company. A complicated series of transactions put some of the property in the hands of James Woodbury and Solomon Woods, who were partners in the Cambridge Improvement Company. But in 1876 both Pope and the Improvement Company defaulted on taxes, and the par-



38. Cambridge Wharf Company land, 1847 1289/20

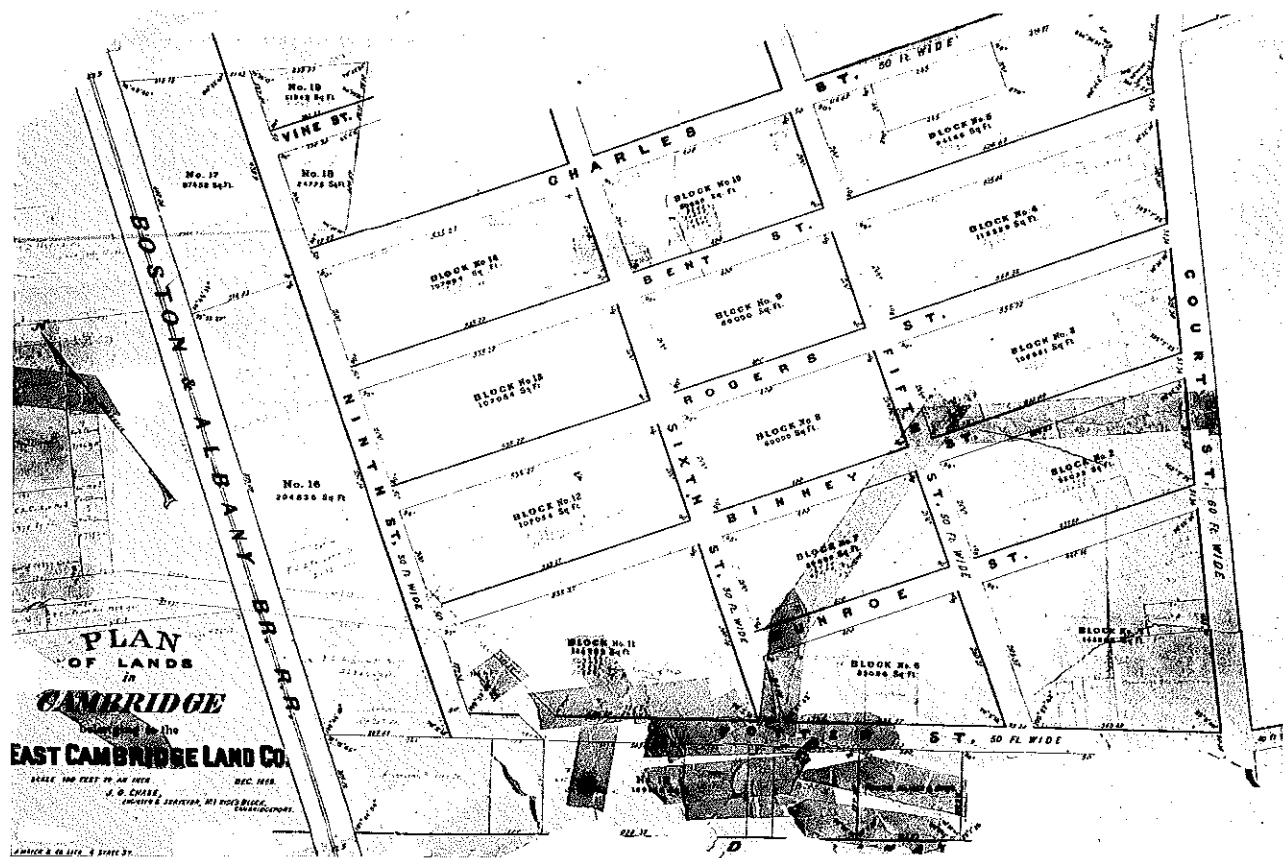


39. East Cambridge Land Company plan, 1865 1285/9

cels reverted to the inactive Wharf Company. Finally, in 1890, the property was sold to Frederic H. Viaux, but nothing much was done until plans for the entire Cambridge waterfront were developed later in the decade.

In the meantime another development group, the East Cambridge Land Company, had been incorporated in 1861 with broad powers to buy land in most of East Cambridge below Cambridge Street. The company's holdings, however, were primarily marshland south of Charles Street. Between 1860 and 1869, one of the incorporators of the company, Estes Howe, assumed mortgages worth \$17,200 on lots that he then turned over to the company. The first known development plan for this area was dated 1865; it proposed a new grid system south of Charles Street, with streets running perpendicular to Third Street and thus at an angle to Charles Street (Fig. 39). Whereas the Cambridge Wharf and the Cambridge Improvement companies had to deal with filling mud flats visible only at low tide, the East Cambridge Land Company's property was salt marsh and should have been easier to develop. However, the map shows that even this marshland was waterlogged and difficult of access, for it was riddled with ditches and pools of standing water. Its development did not go smoothly or rapidly.

In 1869, the company increased its holdings by purchasing a piece of the Munroe property, on the west side of Third Street, and developed a new layout to conform to the existing street grid. The company's entire property, about 75 acres, was surveyed and offered for sale in the orderly numbered blocks and streets seen on J. G. Chase's 1869 map, but the water problems were still substantial (Fig. 40). By 1890, the company had sold only 60 percent of its holdings and its charter had to be extended twice, but it still fared considerably better than either the Cambridge Wharf or the Cambridge Improvement Company. The East Cambridge Land Company eventually attracted a number of industries, mostly expanding Boston firms looking for reasonably priced large lots of open land away from residential areas. Many were heavy industries, including the Boston Bridge Works, the George F. Blake Manufacturing Company, and Alden Speare's



40. East Cambridge Land Company survey, 1869, J. G. Chase 1286/11

Sons; they relied on the railroad access provided by the Rogers Street track, which opened in 1876. This former marshy area south of Bent Street and west of Third Street now acts as a buffer between the residential area to the north and the recent commercial development south of Binney Street.

The improvement of the land east of Third Street between Main and Cambridge streets had an equally rocky history and included the creation of the Lechmere Canal. The 1865 map shows Munroe and Howe as owners of this land, but in March 1874, the Cambridge Improvement Company (including Woodbury, Woods, and Sereno Nickerson) was formed to deal with this largely underwater area. Woodbury had taken title

to all of Munroe's estate east of Third Street in 1872, to Howe's property east of Third Street in 1873, and to part of the Cambridge Wharf Company land in 1873. He and Woods turned over all this land to the Improvement Company in the spring of 1874 (Fig. 41).

In July, the Board of Harbor Commissioners granted a license to Woodbury, Woods, and Fred Pope (who by now possessed all the Cambridge Wharf Company's land) to improve the commercial frontage on the Cambridge side of the Charles River. At the same time, the board required them to improve the channels of the Charles River between the Craigie and Brookline bridges as compensation for tidewater displaced.

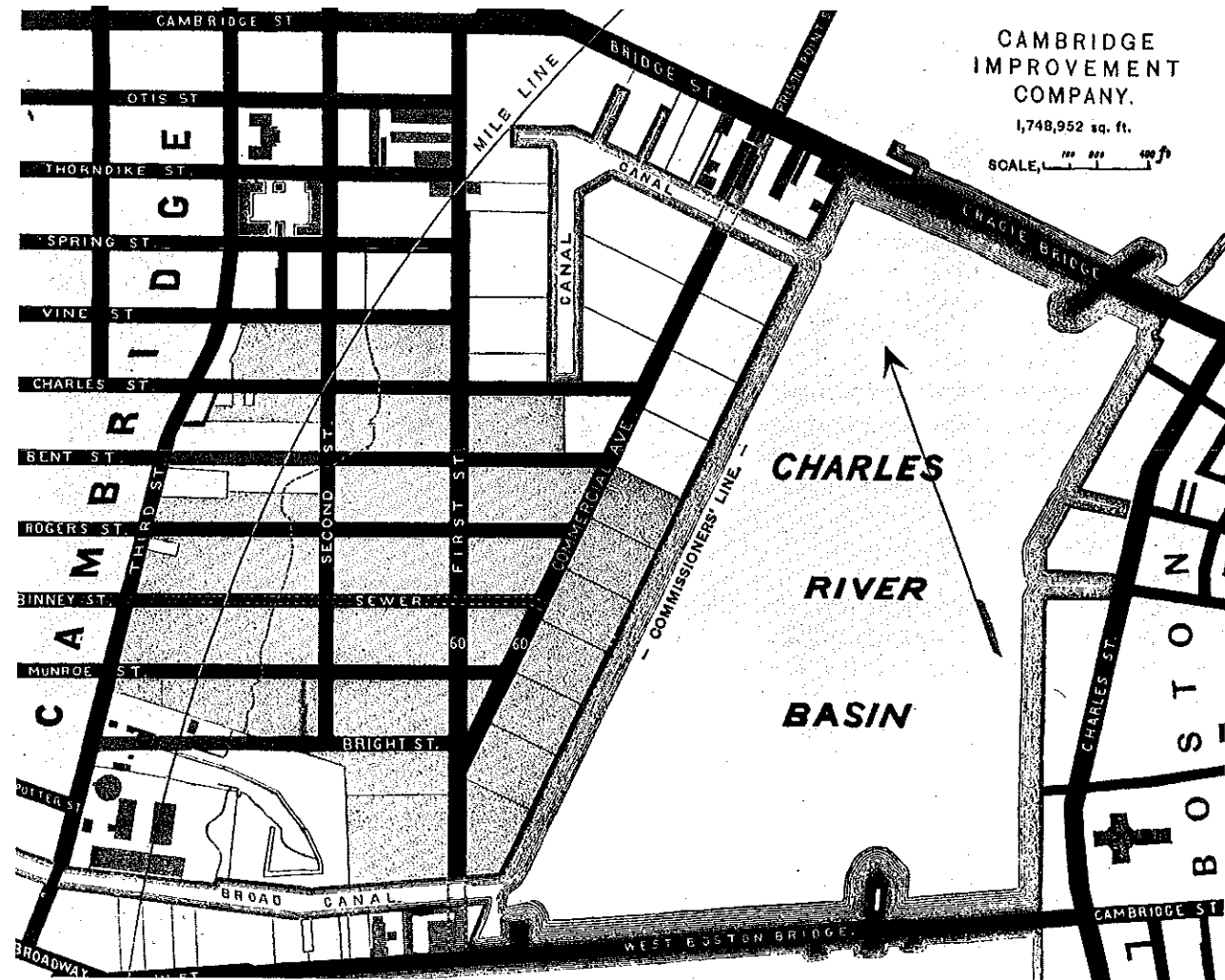
In October 1874, the Cambridge Improvement Com-

pany began work on the south branch of the Lechmere Canal, 120 feet wide and 900 feet long. By the close of the season, 600 feet of wooden bulkhead along the west side of the canal had been completed. In April 1875, the company let contracts for dredging the canal, deepening it to 3 or 4 feet below mean low water; the material removed from the canal was deposited behind the bulkhead. At the same time, dredging began on the main channel of the basin and work began on the foundation for the seawall, 500 feet of which was completed. In September, the seawall itself was begun. In 1875, the American Net & Twine Company erected the first building on filled land sold by the Cambridge Improvement Company. The building's 1982 renovation into modern office space was one of the first in a new wave of similar developments in this area.

In 1874, the Improvement Company also secured an extension of First Street to Main Street against the opposition of wharf owners, who would lose valuable river frontage. But the company's victory was short-lived. After the Panic of 1873, the city, already burdened by the cost of building the Binney Street sewer, decided that the cost of extending First Street should be borne by the speculators. When the work was completed in 1877, the Improvement Company suspended operations to await more favorable economic times. Its layout of streets east of Third Street, however, remained as planned.

Through the 1880s and 1890s, individuals continued to fill in the flats. First Street was completed by 1892, and filling was begun on both sides of the street between the Broad Canal and Binney Street.

In 1892, the thrust of development in this area changed when the Cambridge Park Commissioners (Henry Yerxa, Jonathan O'Brien, and George Howland Cox) employed the firm of Olmsted, Olmsted & Eliot to design a park system for the city. Their preliminary report, dated December 9, 1893, proposed reserving the whole Cambridge riverbank for a park and described a 1,500-foot-long river front park in East Cambridge between Binney Street and the Lechmere Canal, which they called "The Front" (Fig. 42). The landscape architects also envisioned a dam upstream from the Craigie Bridge to connect with Charlesbank park on the Boston side of the river. The Front was



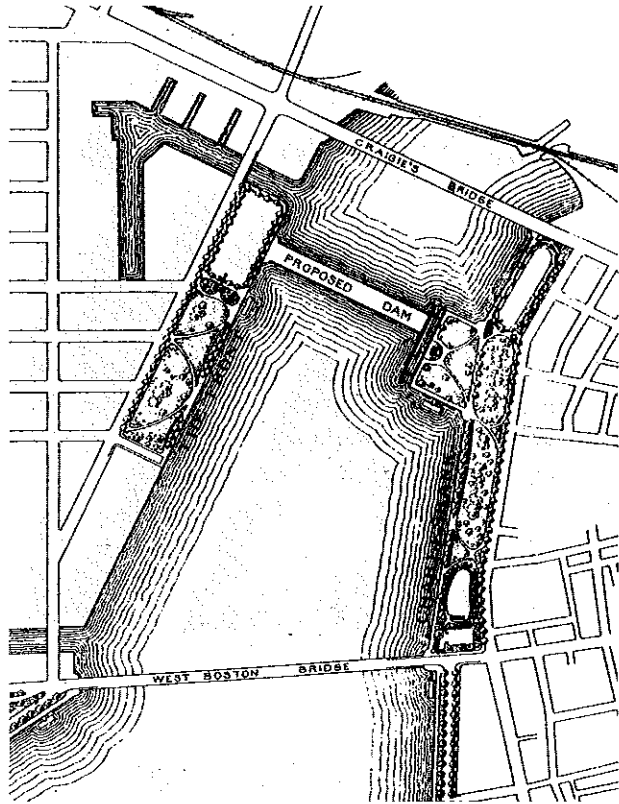
41. Cambridge Improvement Company land (shaded), 1875. 3037

intended to preserve the view of the river basin while providing boating facilities, a beach, and a place for children's games. In addition, they urged that Commercial Avenue be finished to the Prison Point Bridge.

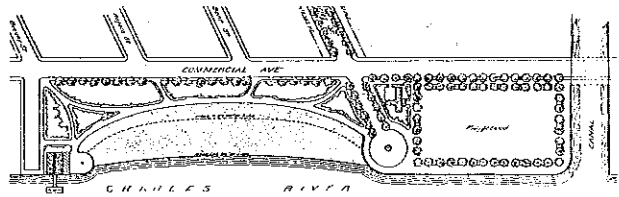
Olmsted, Olmsted & Eliot's preliminary plan for the Front, published in 1894, showed a curved beach on the southern half, with a boathouse and landing at the southern corner (Fig. 43). The northern portion was to contain an open gravel playground accessible from Charles Street and a public convenience and park ser-

vice building concealed by shrubbery. This plan was never carried out; the proposal to build a dam was defeated in 1894, and the architects felt the water was too polluted for a beach.

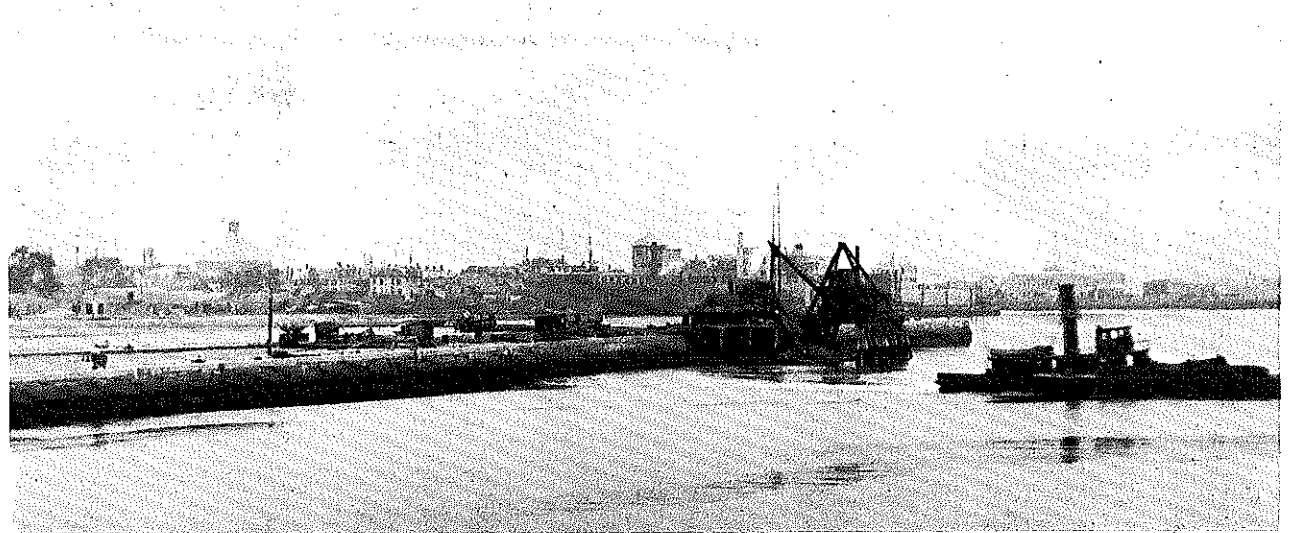
In 1895, the City of Cambridge assumed the responsibility for filling the remaining flats. The harbor commissioners granted the city a license to build a seawall and fill the space between Binney Street and the Lechmere Canal along the commissioners' line (Fig. 44). The seawall was constructed by 1895 when filling the



42. Plan of public reservations on the Charles River, 1893, Olmsted, Olmsted & Eliot



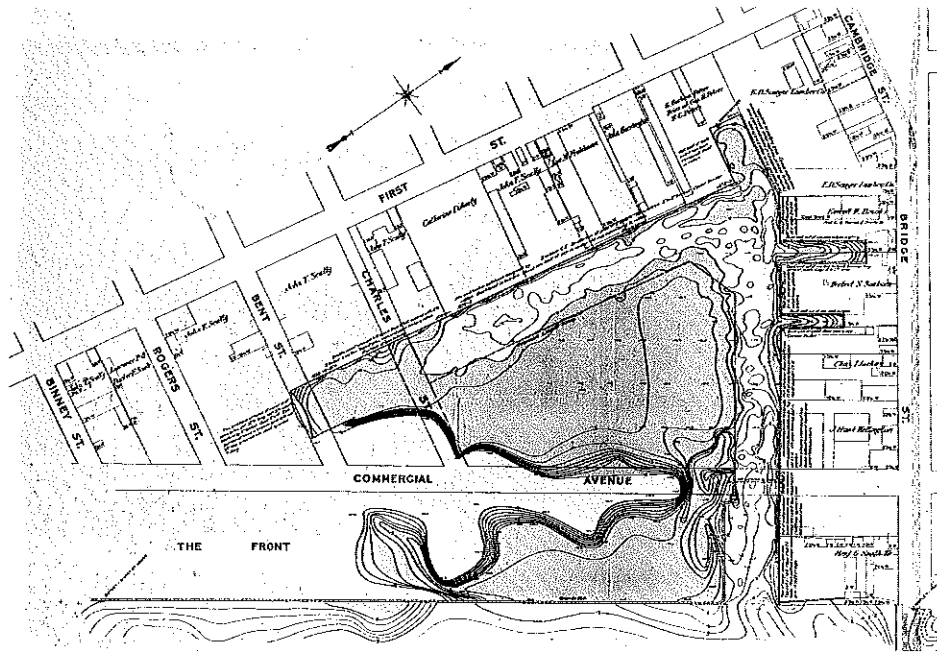
43. Plan of "The Front," 1894, Olmsted, Olmsted & Eliot 2647



44. Building the seawall at the Front, c. 1895 3062



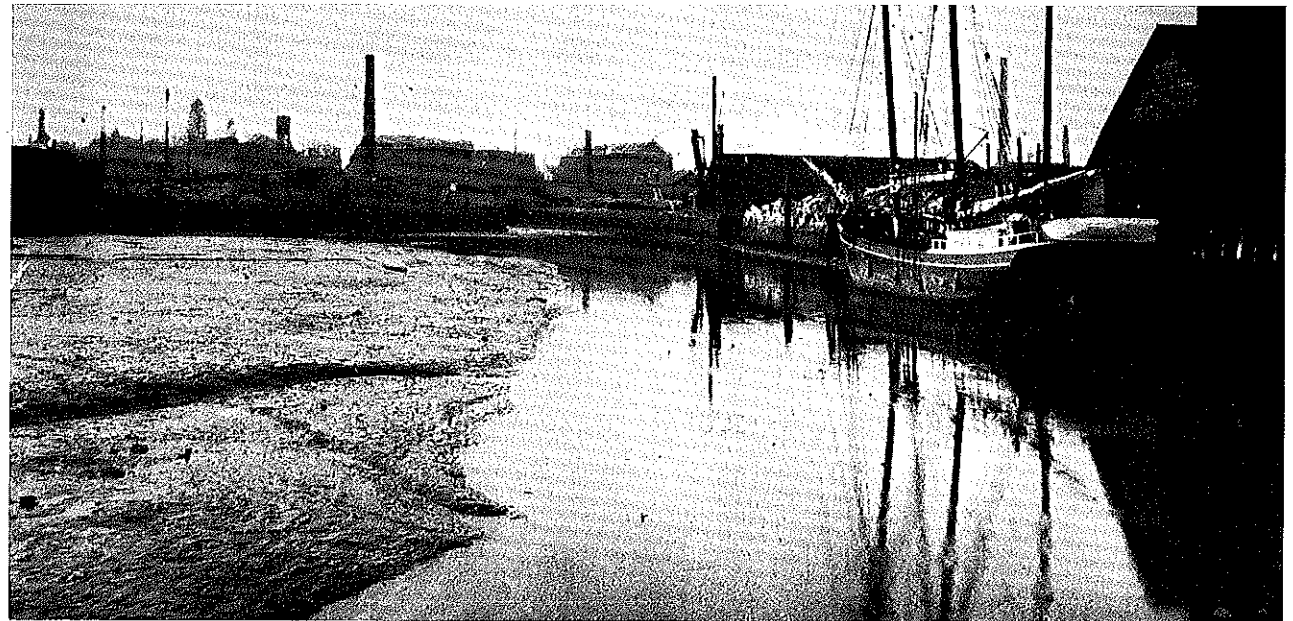
45. Fill in place for Commercial Avenue, from the north side of the Lechmere Canal, 1900 3059



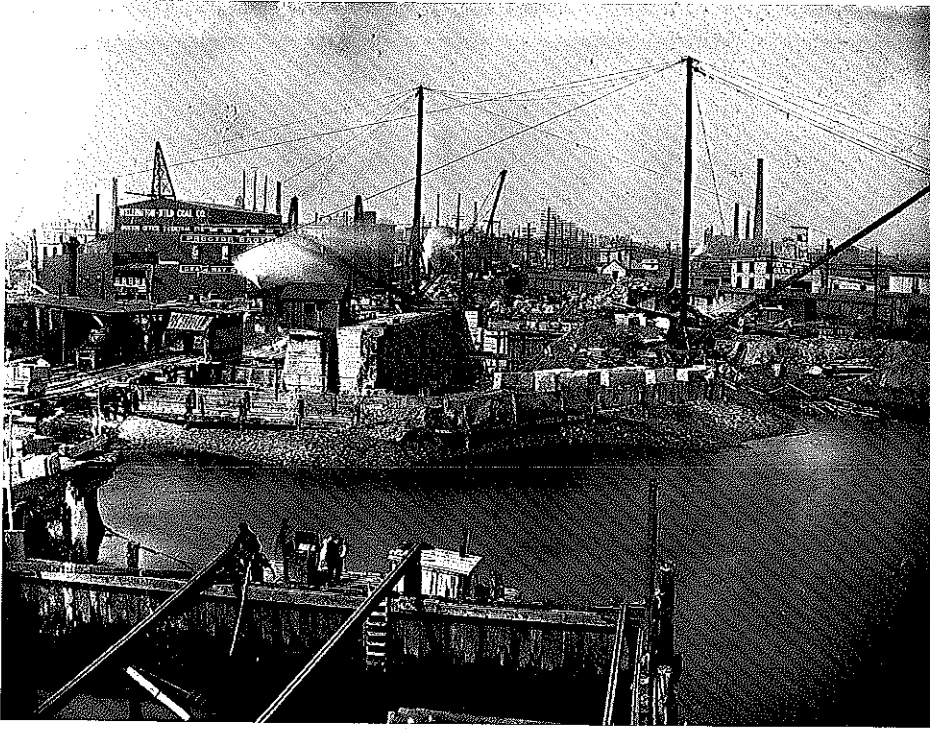
46. Lechmere Canal conditions in 1902 L243



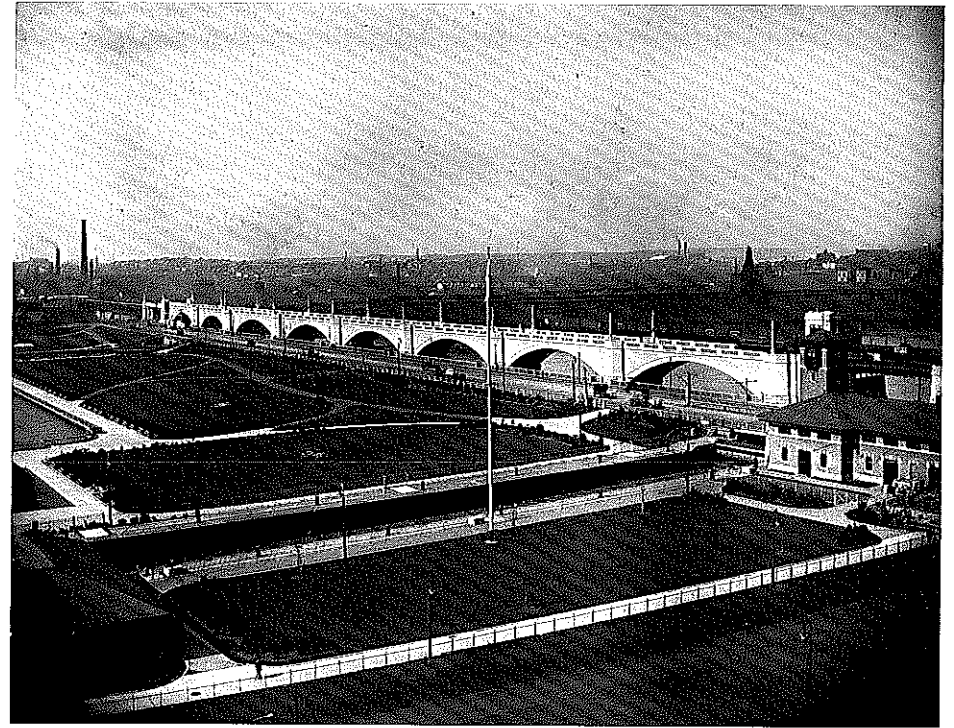
47. Broad Canal, west of Third Street at low tide, 1902-
1282/5



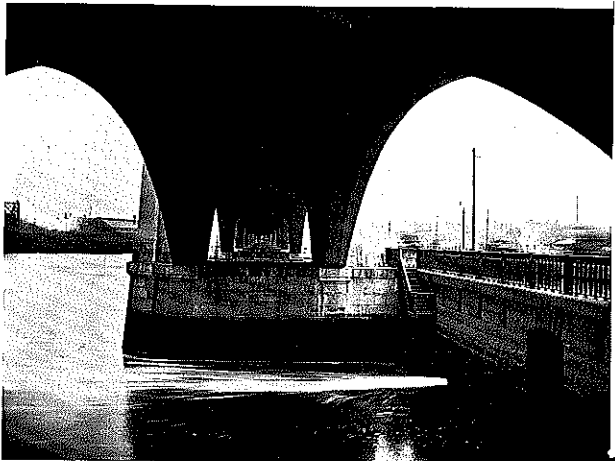
48. Lechmere Canal at half tide, 1902 50
1282/7



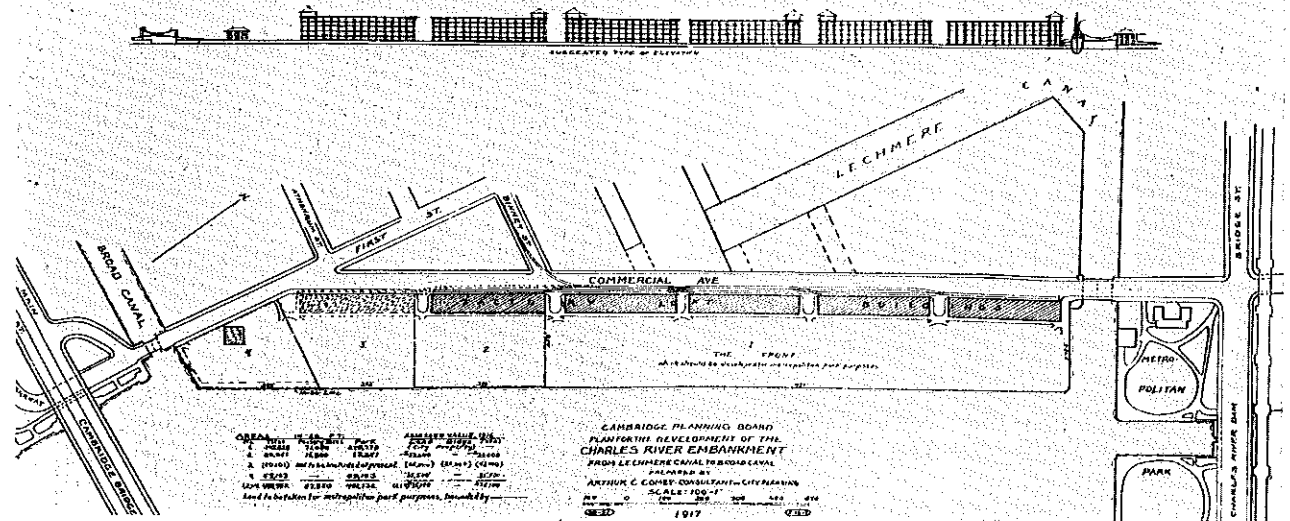
49. Charles River Dam under construction, 1908 716



50. Charles River Dam and viaduct with lock in foreground, 1913 734



51. East Cambridge Viaduct, view toward Boston, 1912; small boat lock in Charles River Dam at right 790



52. Plan for the Charles River Embankment, 1917 3036

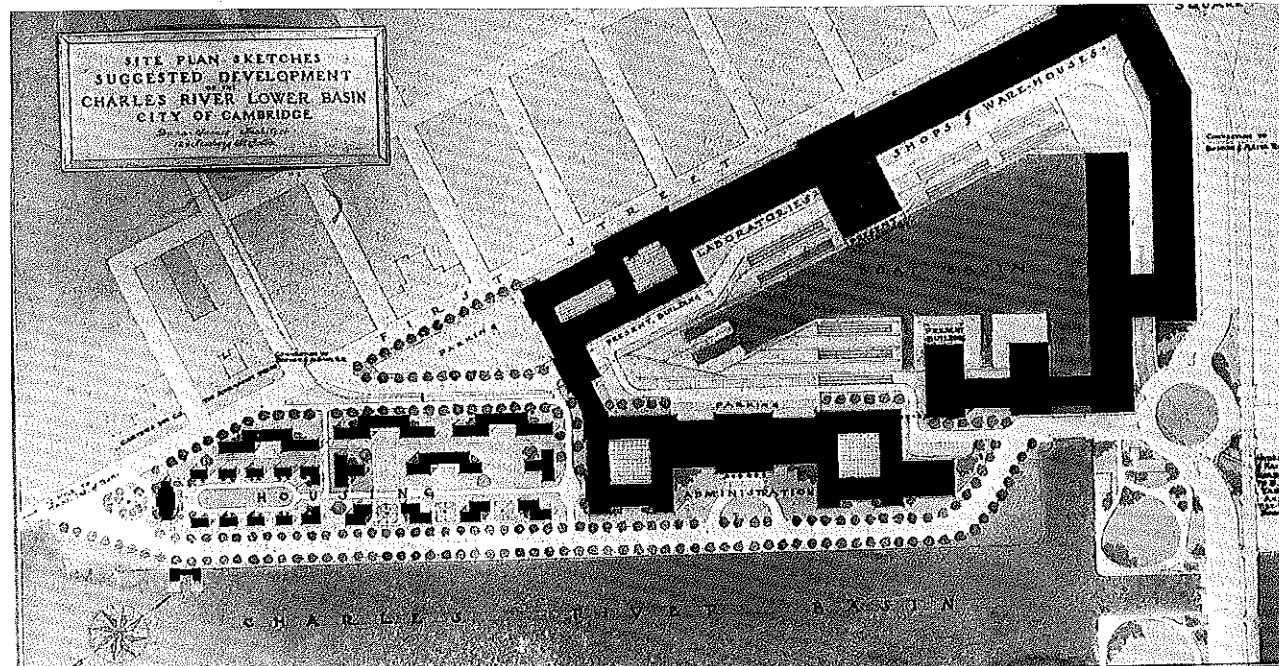
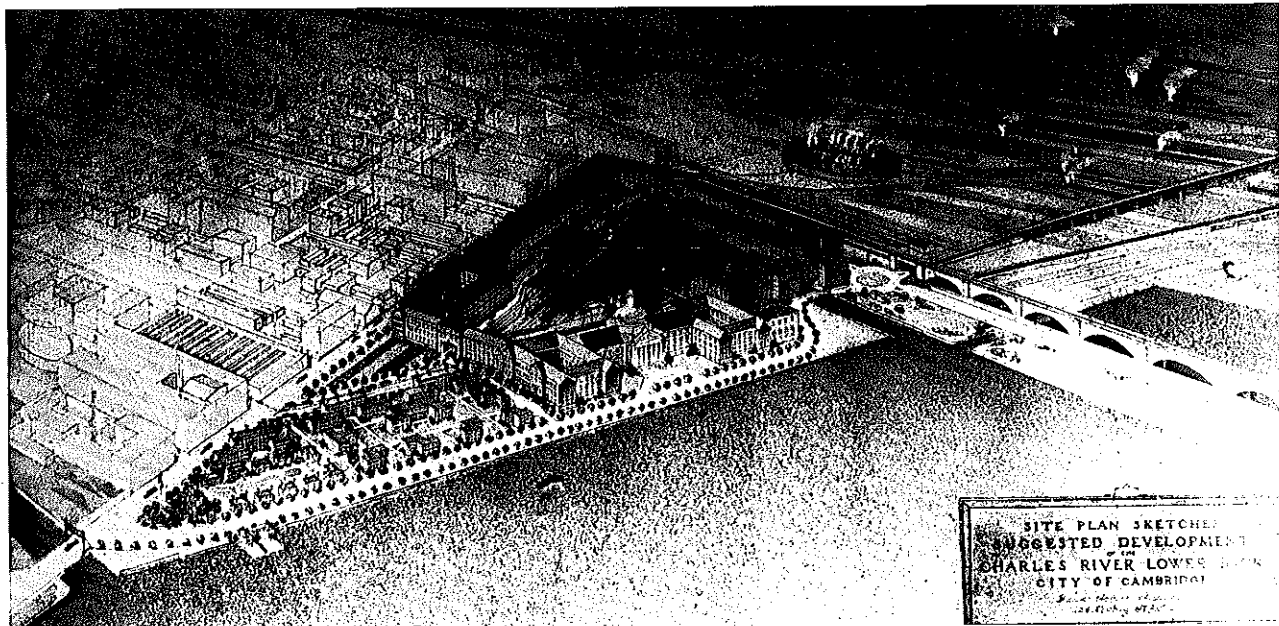
area for the park was begun. By 1897, Commercial Avenue was nearly completed, and in 1898, Binney Street was extended across First Street to Commercial Avenue. Most of the fill at this time came from subway construction in Boston (Fig. 45).

In 1899, the landscape architects revised their first plan for the Front, now called the East Cambridge Embankment. The new plan included a beach at the southwesterly end, a field house, and a playground. A concert grove was placed across from the field house, and a system of walks radiated from the bandstand to all parts of the grounds to complete the scheme. Even this revised plan, however, was delayed indefinitely.

The turn of the century brought many changes to the East Cambridge river front. By 1902, Athenaeum Street had been laid out to meet the needs of the Athenaeum Press, constructed in 1895. The Lechmere Canal had been extended as far as Bent Street by John Scully, who then owned most of the land surrounding it (Fig. 46). The most important change, however, came in 1903, when the General Court voted to create the Charles River Basin by constructing a dam at the Craigie Bridge.

The idea of damming the river disturbed commercial property owners in East Cambridge, particularly the merchants along the Broad and Lechmere canals (Figs. 47–48). When the dam was considered in 1902, Albert Pilsbury presented their concerns to the General Court's Committee on the Charles River Dam. He stated that the owners would withdraw all opposition to the dam if they were guaranteed a navigable channel deep enough to accommodate coal-bearing barges and schooners. When the act was passed in 1903, it contained specific provisions for keeping open the two canals. Through the 1940s, reports of the Cambridge Park Department and the Metropolitan District Commission contain numerous references to appropriations for ice breaking, dredging, and repairing walls in the canals. Eventually, however, the canals went out of general use, and in the 1960s the Broad Canal west of Third Street and the south branch of the Lechmere Canal were filled in.

The old Craigie Bridge was removed in 1905, and the dam and a viaduct for streetcars were completed



53–54. Proposed development of the Lechmere Triangle, c. 1925–30, Dana Somes, architect

in 1912 (Fig. 49). In keeping with the concept of the Charles River Basin as a body of water surrounded by parkland, the dam included a broad, landscaped open space with a maintenance building and boathouse on the Cambridge side and locks on the Boston side (Fig. 50). In a coordinated effort, the Boston Elevated Railway simultaneously constructed the East Cambridge viaduct, which was designed to screen the railroad yards downstream from the basin (Fig. 51). The result was an extraordinary product of the City Beautiful movement; the soaring arches of the viaduct and the generously proportioned boulevard were in strong contrast to the Craigie Bridge, which had stood substantially unchanged since 1809. The construction of the Museum of Science, which began with acquisition of the site in 1949, has unfortunately obliterated the entire park.

With the completion of the dam, conditions appeared ideal for the waterfront park that the Olmsted firm had envisioned for East Cambridge. In 1913, however, the city decided to lease its land between Commercial Avenue and the river. Originally limited to wharves, terminals, and other shipping facilities, the property was eventually opened up to all commercial uses.

In 1916, the City Council first voted to turn the whole river front parkway area over to the Metropolitan Park Commission. In 1917, however, the Cambridge Planning Board proposed constructing municipally owned factories along the Front. The plan that the board submitted to the City Council suggested constructing factory loft buildings along Commercial Avenue while conveying a 200-foot-wide park along the river to the Park Commission as part of the Charles River Reservation (Fig. 52). A special act of the General Court was required to convert land intended for parks to commercial purposes, and an act releasing the Front and creating an industrial commission to guide its development was not finally approved until the early 1920s.

A narrow strip of the river front was granted to the Metropolitan District Commission for a park in the 1920s, but after Cambridge Parkway opened in 1928, between the Charles River Dam and the West Boston Bridge, the traffic posed such a hazard to children



55. Lower Basin aerial view, c. 1947, showing victory gardens along Cambridge Parkway

crossing the street that the bathhouse and ballfield near the river had to be abandoned. Olmsted obviously had not been able to consider the effect of the automobile in his 1894 plan. The need for recreational space in East Cambridge did not abate, however, and the canals continued to be used for illicit swimming by neighborhood children.

The parcel of land between Cambridge Parkway and Commercial Avenue proved difficult to develop, as no company wanted to build on leased land. By 1934, only an office and manufacturing building at 27 Commercial Avenue (1916) and the Diamond Match Company warehouse at 45 Commercial Avenue had been erected on private land between the canal and Commercial Ave-

nue, but nothing had been built between Commercial Avenue and Cambridge Parkway (see Fig. 37). Between 1925 and 1930, the Boston architect Dana Somes proposed an elaborate scheme for a development covering the entire area between First Street and Cambridge Parkway (Figs. 53–54). This comprehensive design included housing, factory, and warehouse space as well as parking, but it, too, remained only visionary, and the area remained virtually empty until the 1950s.

During World War II, this strip between Commercial Avenue and Cambridge Parkway was used for victory gardens, but in 1946 the city authorized the land to be sold rather than leased (Fig. 55). The first new struc-



56. Rendering of 65, 47, 37 Cambridge Parkway, c. 1950



57. Lower Basin aerial view, c. 1957



58. Charter House Hotel, 3-5 Cambridge Parkway, 1961, Curtis & Davis

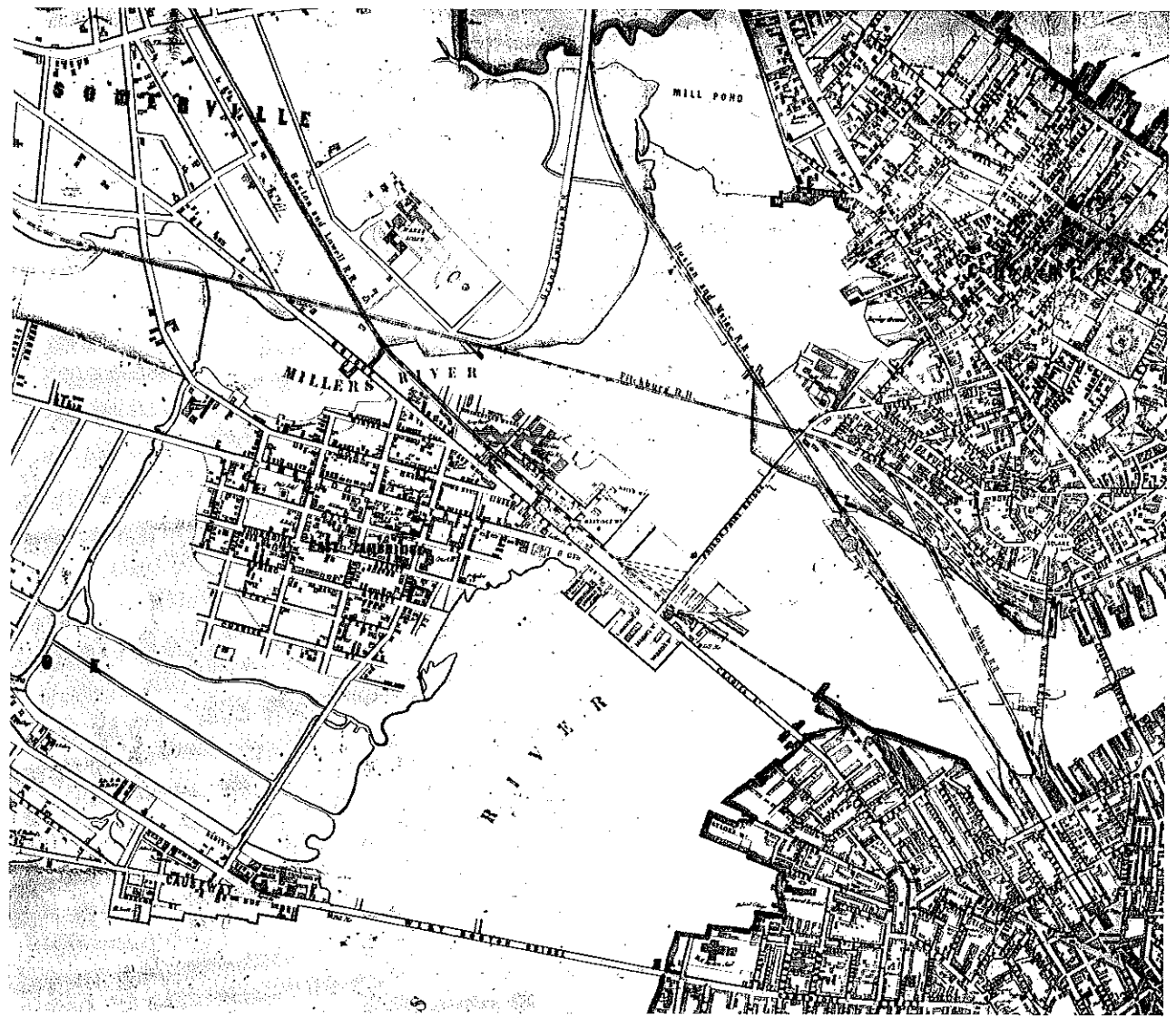
ture was a yellow brick veneer warehouse at 75 Cambridge Parkway for the Brown-Durrell Company, designed in 1946 by J. R. Worcester & Company. Development of this area gained momentum in 1950, when the Bostonians F. Murray Forbes of Cabot, Cabot & Forbes and Robert Nordblom of the Nordblom Company formed the Cambridge Parkway Investment Trust, bought the 180,000-square-foot parcel for \$1.25 a square foot, and planned \$700,000 worth of buildings. The city was concerned that any development on the river present an attractive face to Boston, so it mandated that any building constructed within the first ten years facing Cambridge Parkway had to be at least 35 feet in height and of brick or glazed tile construction. At the time of the sale, the trustees had already reached agreements with General Electric, Du Pont, and Parke Davis & Company for buildings designed by Jerome Foster (Fig. 56). Within a year, E. R. Squibb & Sons and Warren Brothers Construction Company had signed twenty-year leases (Fig. 57).

The development of the East Cambridge river front was completed in 1961 with the construction of the Charter House Motor Hotel at 3–5 Cambridge Parkway (Fig. 58), at the northern end of the street near the canal, although several parcels between Commercial Avenue and First Street remained empty. The next phase would involve the complete redevelopment of the Lechmere Canal area in the 1980s.

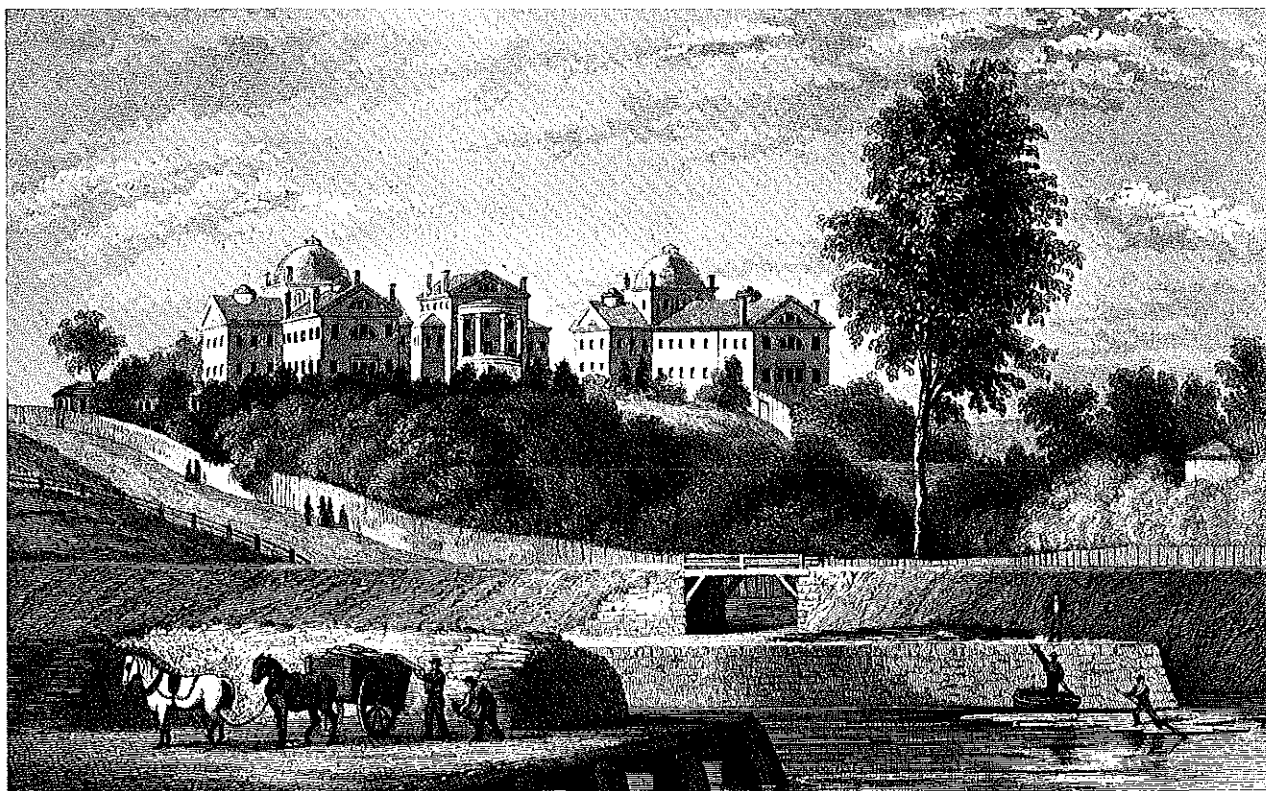
North of Bridge Street, 1873–1930

The Miller's River once occupied an extensive tidal basin shared by Cambridge, Charlestown, and Somerville (Fig. 59). The deepest channel lay close to the north shore of Lechmere's Point; a secondary channel lay along the Charlestown shore, close to the state prison, and was used by the Middlesex Canal to reach Boston. At the head of the basin in what is now Somerville, the Joseph Barrell mansion sat atop Cobble Hill, with an unobstructed view of Boston (Fig. 60).

The Barrell Mansion, designed by Charles Bulfinch and completed in 1793, was an important landmark. In 1816, the trustees of the Massachusetts General Hos-



59. Miller's River Basin and surroundings, 1852 .926



60. McLean Asylum in 1844, as seen from East Cambridge; Fitchburg Railroad embankment in middle distance ☉



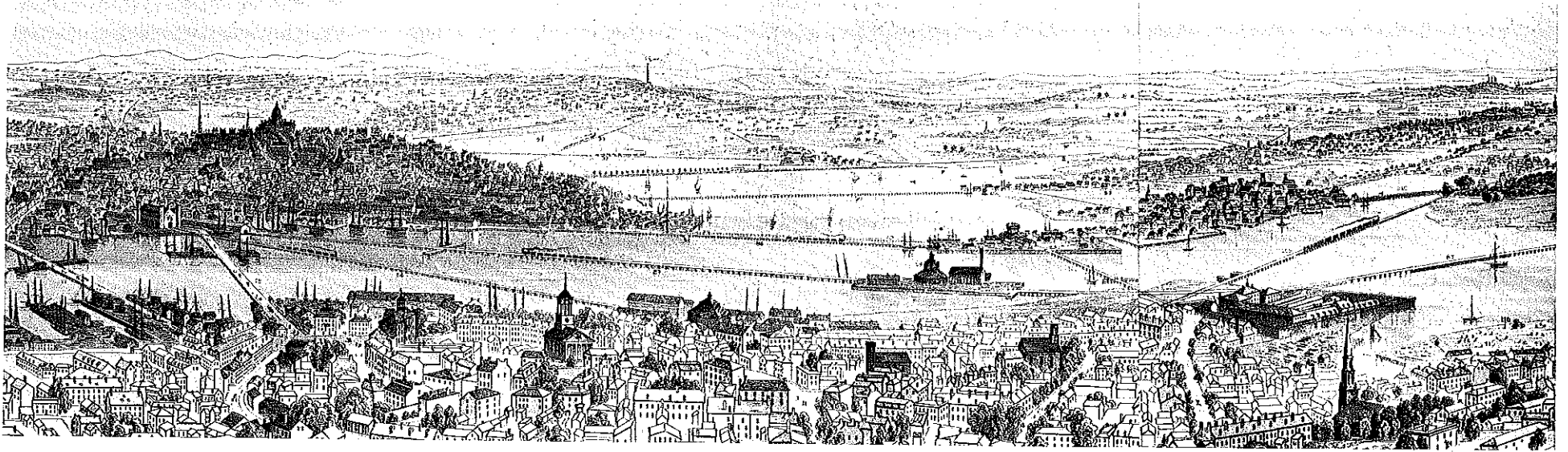
61. McLean Asylum grounds, c. 1900, with the Revere Sugar refinery and former New England Glass factory in background ☉

pital purchased the 200-acre estate from Barrell's heirs and retained Bulfinch to design two wings and convert the mansion to serve as the Asylum for the Insane at Charlestown; it became the McLean Asylum in 1826. It had its own wharf on the Miller's River, providing easy access to the hospital across the Charles. By 1870, the asylum was almost surrounded by railroad tracks and industries (Fig. 61), and in 1895 it moved to its present site in Belmont. All the buildings were razed, and Cobble Hill was leveled.

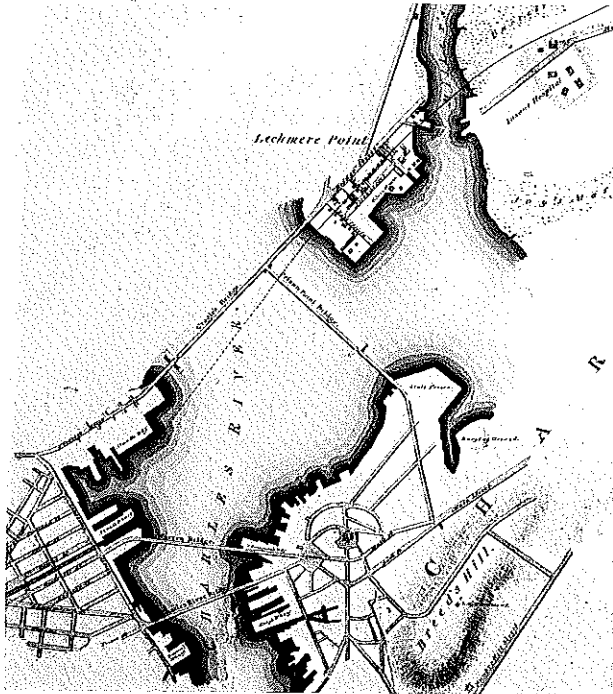
Between 1832 and 1854, four main line railroads entering Boston from the north and west crossed the basin on trestles to reach depots on Causeway Street, and a belt line traversed them all. At first, most of the yards and engine houses were built on piles over the flats (Fig. 62), but soon the companies began to fill in the basin. Once the Middlesex Canal ceased operation, the north side of the basin could be completely filled, but the main channel of the Miller's River was maintained until the 1920s so ships could reach industries along the East Cambridge shore.

The Boston & Lowell Railroad, the first to enter Boston from the north, was incorporated in 1830. In 1832, it surveyed a line that bridged the Miller's River and ran across East Cambridge between Bridge Street and the New England Glass Company to a terminal near the Prison Point Bridge. This route required only a relatively short bridge across the Charles, which was built a few years later (Fig. 63). In 1854, when the railroad opened a route from East Street to a new passenger station in Boston, its roundhouse, shops, and yards remained near the Prison Point Bridge (see Figs. 127–128). To expand, the company had two choices: fill in the Miller's River or buy additional land west of East Street (Fig. 64).

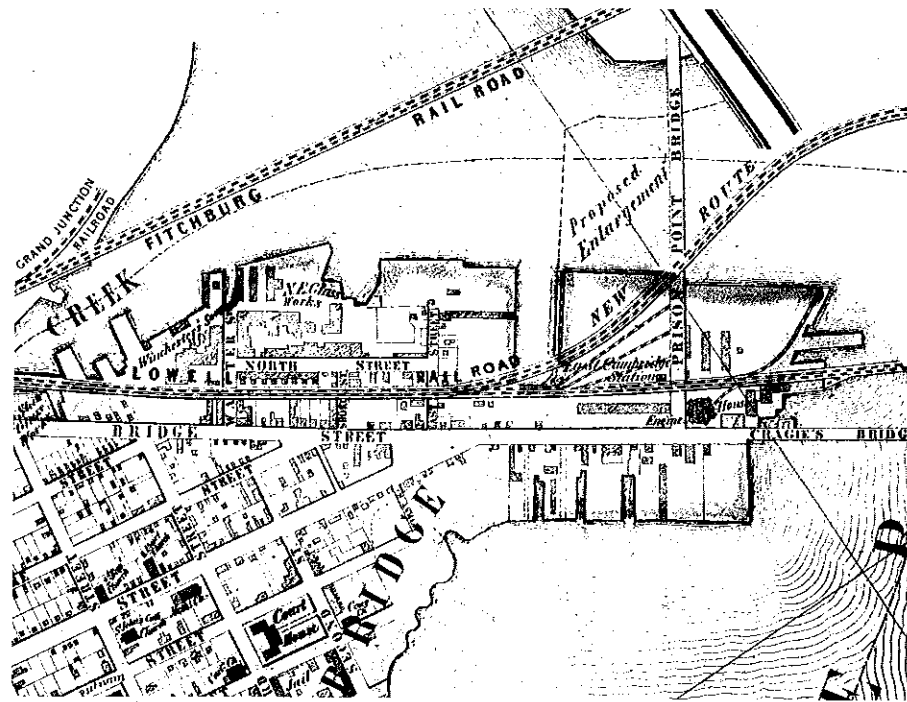
In the 1860s and early 1870s, the railroad pursued the first alternative. Its title included rights to certain upland along the Miller's River, and fill could be obtained from excavations at the company's other holdings. In 1873, the railroad filled in one acre along the river to enlarge the freight yards used for lumber and other bulk freight destined for Boston. This task required constructing 500 feet of seawall, as well as 900 feet of wooden bulkhead to protect further filling.



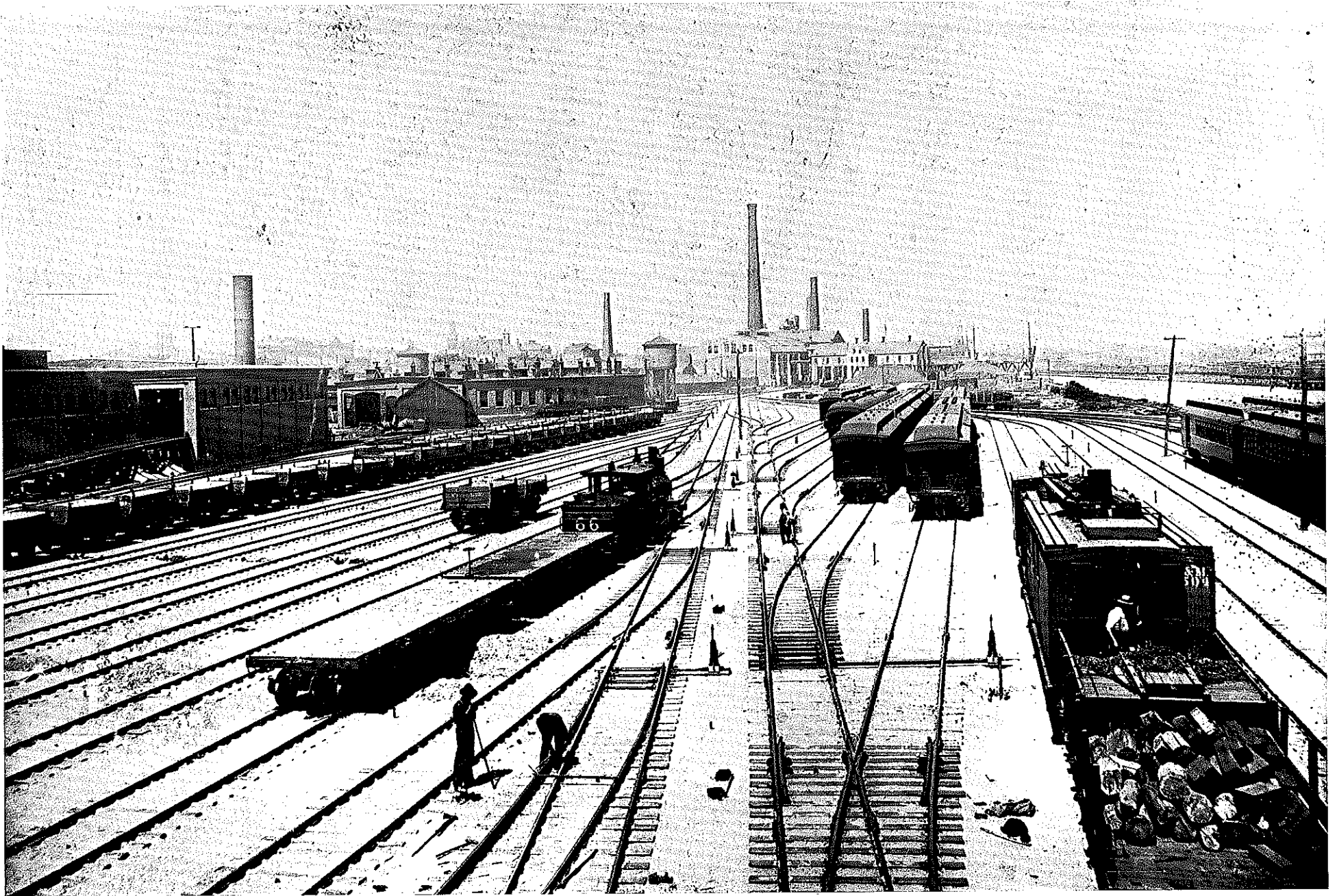
62. View from the Bunker Hill Monument, 1846. Left to right: State House; Charles River; East Cambridge; Miller's River; McLean Hospital; Charlestown Neck 3080



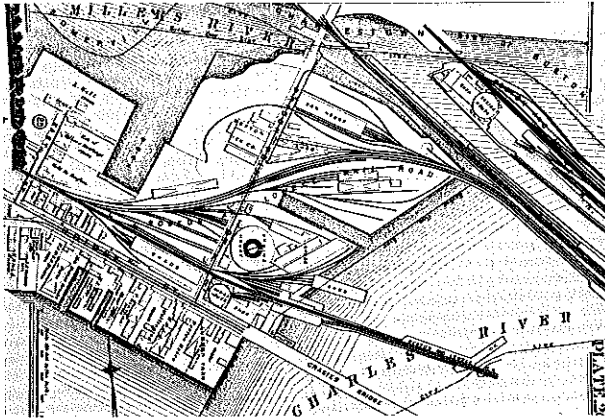
63. Route of the Boston & Lowell Railroad, 1832
flat file



64. Miller's River frontage, 1854 1286/10



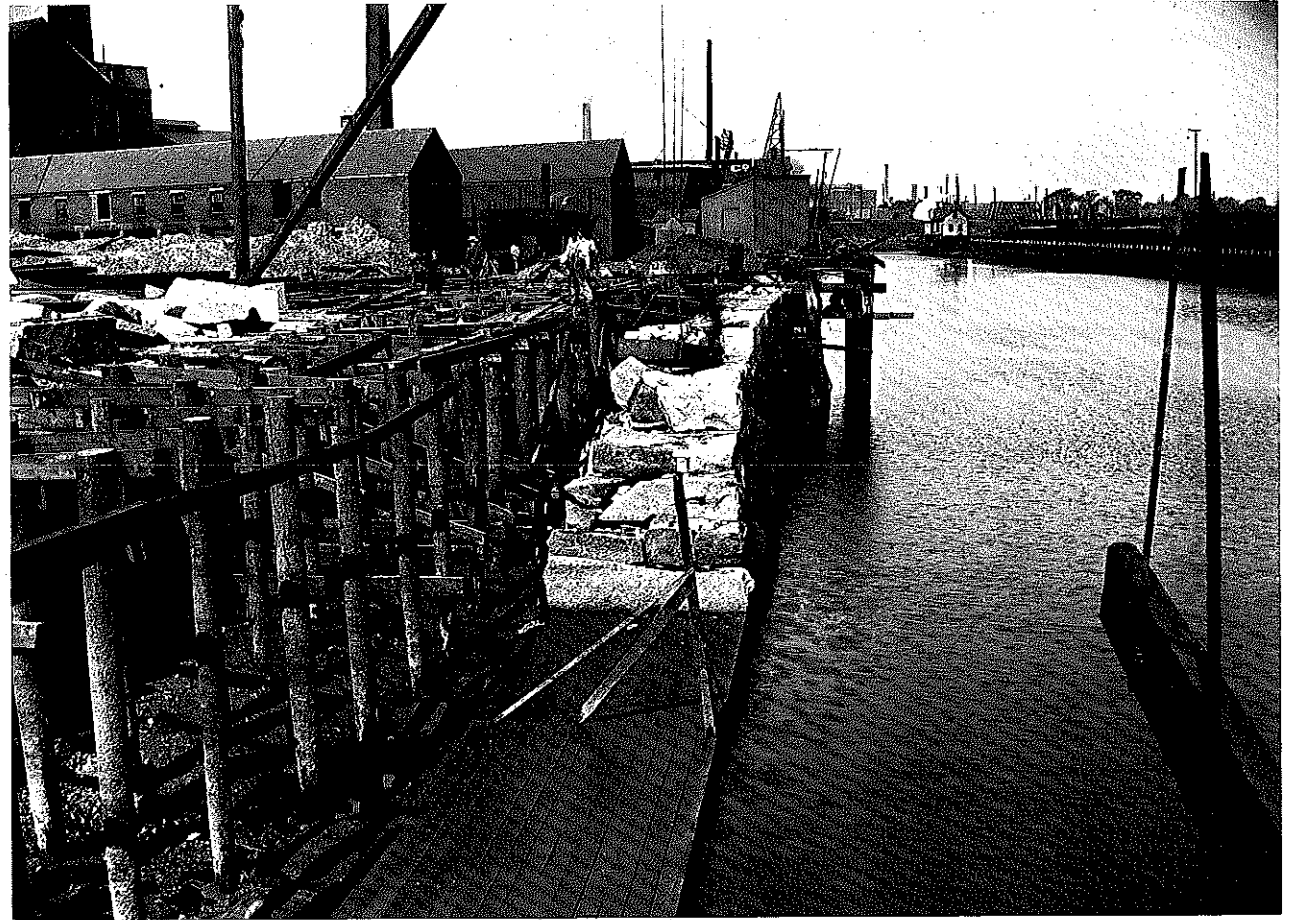
65. Boston & Maine Railroad yard 4, looking toward the former New England Glass factory, c. 1891-1903 2997



66. Boston & Lowell Railroad yards, 1886 1286/5

This work was abruptly curtailed, however, in 1874, when the Board of Harbor Commissioners sued the railroad for filling the flats without its approval. The legal question centered on whether an owner, who under his title had begun work on the flats before the passage of the act in 1866, could continue without authorization from the harbor commissioners or the legislature and without paying compensation for tide-water displaced. In addition, the commissioners sued both Cambridge and Somerville to restrain them from filling in the basins above the Boston & Lowell Railroad. Under Chapter 304 of the Acts of 1873, these cities had been authorized to abate the nuisance of the Miller's River, and their solution was to fill in the river. However, the commissioners wanted to review all filling plans and the commonwealth to be compensated for any tidewater displaced. They feared that filling in the Miller's River would adversely affect the depth of Boston Harbor. Although the Supreme Judicial Court decided in 1875 in favor of the commissioners, the Boston & Lowell had to pay only for tidewater displaced and filling accomplished since the legal proceedings had begun.

After the court decision, however, all further filling was delayed until increased traffic required more land. During the late 1870s and early 1880s, the railroad



67. Former New England Glass Company wharf, Miller's River, 1902 3298

submitted several plans to the harbor commissioners to increase its wharf space. The largest filling operation occurred in 1878, when the flats on the east and west sides of Prison Point Street were reclaimed. By 1883, filling was extended on the west side of Prison Point Street to the old harbor commissioners line.

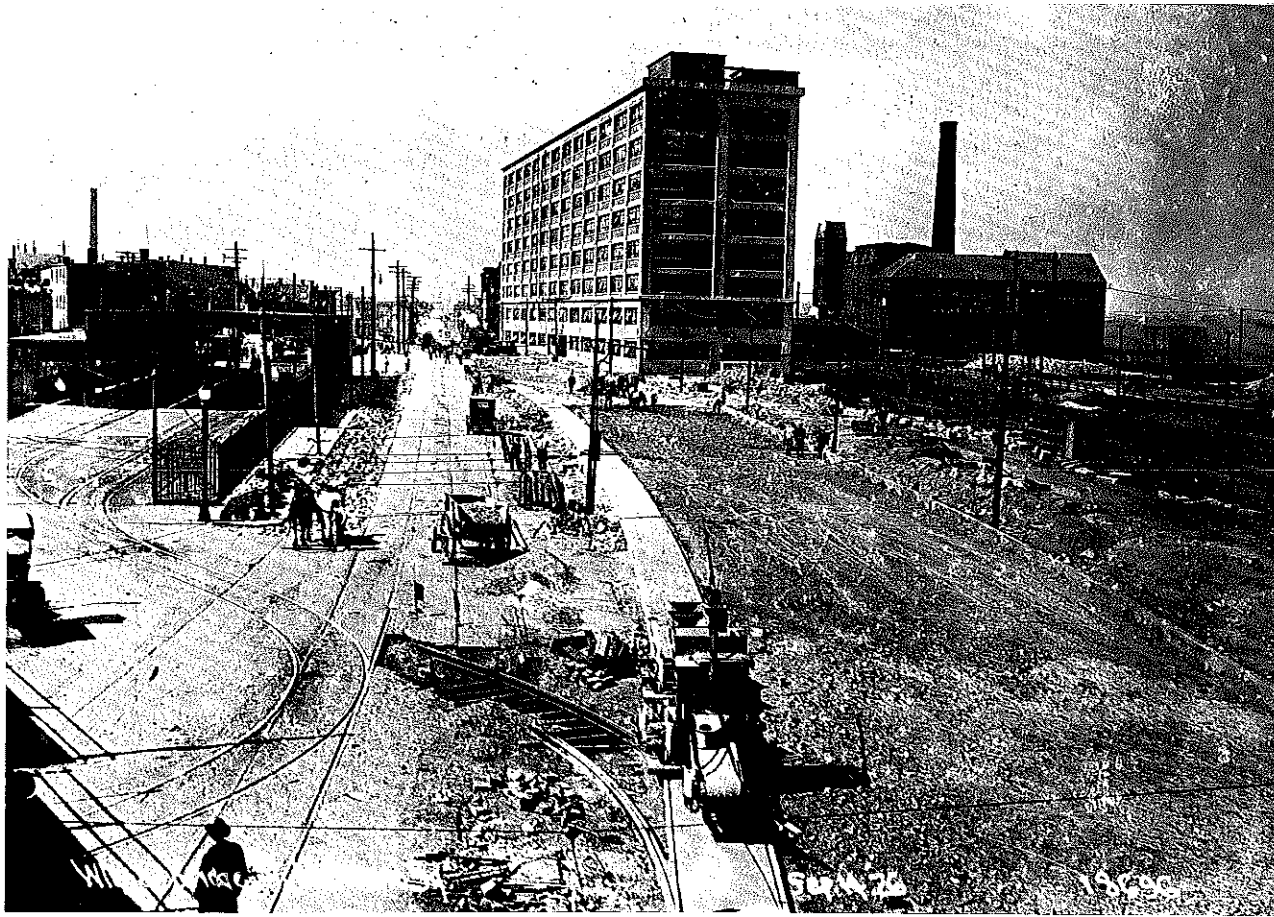
In 1887, the Boston & Maine Railroad leased the Boston & Lowell for a term of ninety-nine years, thus beginning a new phase of development north of Bridge Street. While the Boston & Lowell continued to hold title to its property, the Boston & Maine, as lessee, could exercise its rights to fill in the Miller's River. It

also actively sought to buy property west of East Street.

The 1886 *Cambridge Atlas* shows that tracks, round-houses, and auxiliary railroad buildings now covered most of the land on both sides of Prison Point Street (Figs. 65–66). In 1896, the harbor commissioners approved filling the last open dock on the south side of the Miller's River; the basin then assumed the form of a canal, with a continuous seawall and bulkhead (Fig. 67). During the next twenty years, the Boston & Maine acquired the property between the tracks and Bridge Street and greatly increased its holdings in East Cam-



68. Boston & Maine yards and the Miller's River, 1923 4195



69. Boston & Maine Railroad office building, 167-169 Bridge Street (1925, architect unknown), and construction of the Northern Artery 18696

office building in 1925 at 167-169 Bridge Street (Fig. 69). This eight-story reinforced concrete structure housed a thousand employees, but was vacated by the railroad after the completion of the present North Station in 1928. At about the same time, Bridge Street was widened on both sides and designated the Northern Artery, and the railroad completed the demolition of all the factories and houses that once stood north of the Boston & Lowell tracks.

In the 1950s, the decline of rail traffic in northern New England led to the contraction of the railroad's facilities. A new management sold off much of the yards for commercial use, and most of the area from Bridge Street (now Msgr. O'Brien Highway) to the Somerville line is now filled with a random collection of freight transfer facilities and warehouses, many of them built in the 1950s and 1960s. The original street pattern and all the early industries have disappeared, and no evidence remains of the Miller's River except an inlet on the Charlestown line. Studies are now under way to convert the area to new uses, although the remaining Boston & Maine yards—now owned by the Massachusetts Bay Transportation Authority—are considered essential for freight and passenger traffic.

bridge. To expand its freight yards even further, in 1895 the railroad purchased McLean Asylum in Somerville, demolished the buildings, and leveled the hill on which it stood.

Land ownership in this part of East Cambridge was simplified in 1918 when the Boston & Lowell was merged into the Boston & Maine. The railroad continued to buy property. In 1921, it purchased from the West End Street Railway Company its generating station in the former factory of the New England Glass Company, between Water, Short, and North streets

and the Miller's River, and demolished the great glass house chimney and all the remaining buildings. Among the last industries north of Bridge Street to relinquish its property to the railroad was the Revere Sugar refinery. In 1918, the refinery began moving to Charlestown and in 1925 sold its property to the railroad. By this time the grand scale of the yards could only be comprehended from the air (Fig. 68).

In preparation for demolishing the four stations of its predecessors and constructing the present North Station on Causeway Street, the railroad constructed an



70. Lechmere Canal, 1976 1026/32

20th-Century Redevelopment: The Lechmere Triangle and Kendall Square

The Lechmere Triangle development project and the Kendall Square Urban Renewal Project offer striking contrasts in the planning and execution of urban redevelopment: they differ in planning and design theory, implementation, funding, and result. The differences are fundamental. Kendall Square represents a theory of urban renewal that was conceived in the 1920s and came to fruition in the 1950s and '60s, whereas the concepts embodied in the Lechmere Triangle project evolved in the 1960s and '70s in direct opposition to the earlier approach. Both projects are moving to successful conclusions, fueled by an expanding regional economy.

The Lechmere Triangle

After World War II, many industries in East Cambridge went out of business or moved, a pattern typical of older New England industrial areas. By the 1970s, the blocks near the Lechmere Canal, dominated by empty structures and parking lots, looked bleak (Fig. 70). Several significant structures, such as the National Casket Company building at 122 First Street (Fig. 71), were demolished, and others, including the former Middlesex County Courthouse, were vacant and threatened with destruction. The city began to realize that to change this situation, it would need a plan for stimulating and guiding development. Large property owners hoped for a renaissance based on large-scale redevelopment. Neighborhood residents, on the other

hand, feared the impact of this approach. The zoning reflected the industrial uses that had prevailed since the late 19th century: there was no limit on height, and no housing was allowed.

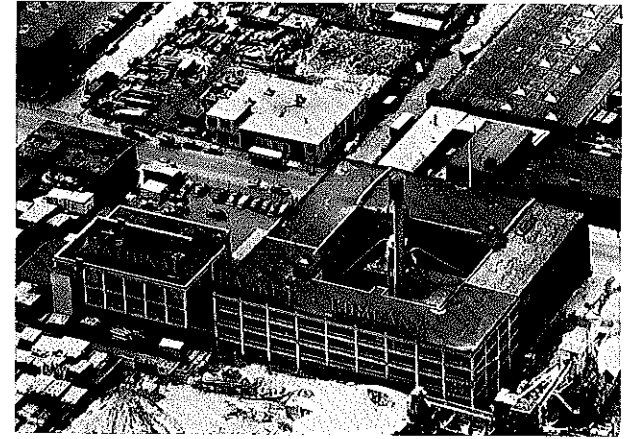
Between 1975 and 1977, the Community Development Department conducted a planning and urban design study on behalf of the Planning Board to help resolve these conflicts. The resulting *East Cambridge Riverfront Plan*, published in 1978, established development goals for the following decades. The plan tried to encourage the private sector to develop a lively mix of activities, with a balance of housing, retail, and office uses. These uses were to be located in a variety of structures, both new and renovated, as the plan emphasized the importance of historic rehabilitation and provided guidelines for new buildings.

These privately developed buildings were to be set amid a network of new public parks and pathways that would form a connected sequence of open spaces. The heart of this system would be a new Lechmere Canal Park, with a 60-foot-high fountain in the middle of the reconstructed canal (Fig. 72). A public arcade centering on the fountain would allow people to walk south to a new, triangular Charles Park. Across Commercial Avenue would be the new Front Park. As part of this project, traffic on Cambridge Parkway would be redirected onto a widened Commercial Avenue and the river front landscaped with only a narrow roadway (Fig. 73).

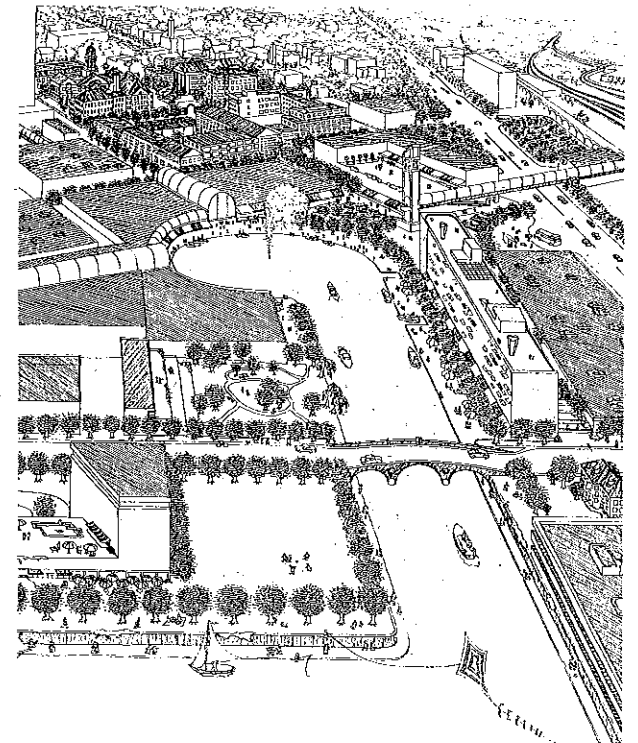
As the plan suggested, the City Council adopted a comprehensive rezoning for the area in late 1978, designating it a Planned Unit Development (PUD). This measure greatly reduced the allowable density, created an overall height limit of 120 feet, encouraged housing, and established a design review process for all but the smallest projects.

The plan is being executed with few modifications. Aided by generous federal and state subsidies and a booming regional economy, the Lechmere Triangle will contain a new urban center oriented to research, retail sales, and expensive housing in a fully planned environment next to the older neighborhood (Fig. 74).

Funds for the redevelopment have come from a variety of public and private sources. The city was



71. National Casket Company, 122 First Street (demolished), 1902, William H. Jones L-61



72. Rendering of proposed Lechmere Canal Park, 1978
flat file

awarded a \$6.8 million Urban Development Action Grant (UDAG) by the U.S. Department of Housing and Urban Development that enabled it to improve roads and build a parking garage and the Lechmere Canal Park. Initially, private interests invested about \$63.5 million to match the UDAG grant. The buildings in this first phase included the Rowland Institute, the expansion of the Sonesta Hotel and an adjacent new office building, the rehabilitation of the Carter's Ink building for office use, and a small office building at First and Thorndike streets. By 1990, public grants totaling \$46.8 million will have been matched by private investment of about \$540 million.

The public improvements associated with the Lechmere Triangle project are unprecedented in Cambridge for their rich design. Lechmere Canal Park, by Carol R. Johnson & Associates, transformed the disused canal. The seawall was rebuilt with Deer Isle granite, and the basin was made into a circle with a 60-foot-high fountain as a focal point. On an axis with Thorndike Street, the fountain connects visually to the restored Bulfinch Courthouse and the older residential neighborhood. To the south, it establishes the center line for a pedestrian arcade by the shopping mall and leads to Charles Park, three blocks away. Other features of Lechmere Canal Park include a waterside pavilion inspired by Victorian gazebos, extensive plantings, works of art, benches, and paving (Fig. 75).

The new Front Park breaks the expanse of building along the river front, connects with the enlarged esplanade along the parkway, and creates a focus for the surrounding new buildings. It will also connect visually across Commercial Avenue to Charles Park.

Charles Park will be a triangular public space surrounded by the Lotus building on the west, the Galleria on the north, and the Sonesta Hotel and office building on the east. It will connect Front Park and the river front to the pedestrian arcade and Lechmere Canal Park. The adjacent developers have donated land and money for its design and construction.

The city has provided parking and reconstructed key arteries to accommodate the greater traffic that will be generated in the area. On the block bounded by First, Second, Thorndike, and Spring streets, the city now

offers about a thousand parking spaces in a two-phase garage. The initial phase, on First Street, was designed by Sturgis, Vitols Associates (Fig. 76). Faced with waterstruck brick and containing ground-floor retail space, the garage is harmonious with its older neighbors, such as the rehabilitated Irving & Casson factory. The second phase, designed by Wallace Floyd Associates, is a simpler structure and is enlivened by works of art that are part of the architectural design (Fig. 77).

The rebuilding of major streets in East Cambridge, including First Street, Msgr. O'Brien Highway, Cambridge Street, Commercial Avenue, and Binney Street, has been essential to support redevelopment. This \$20

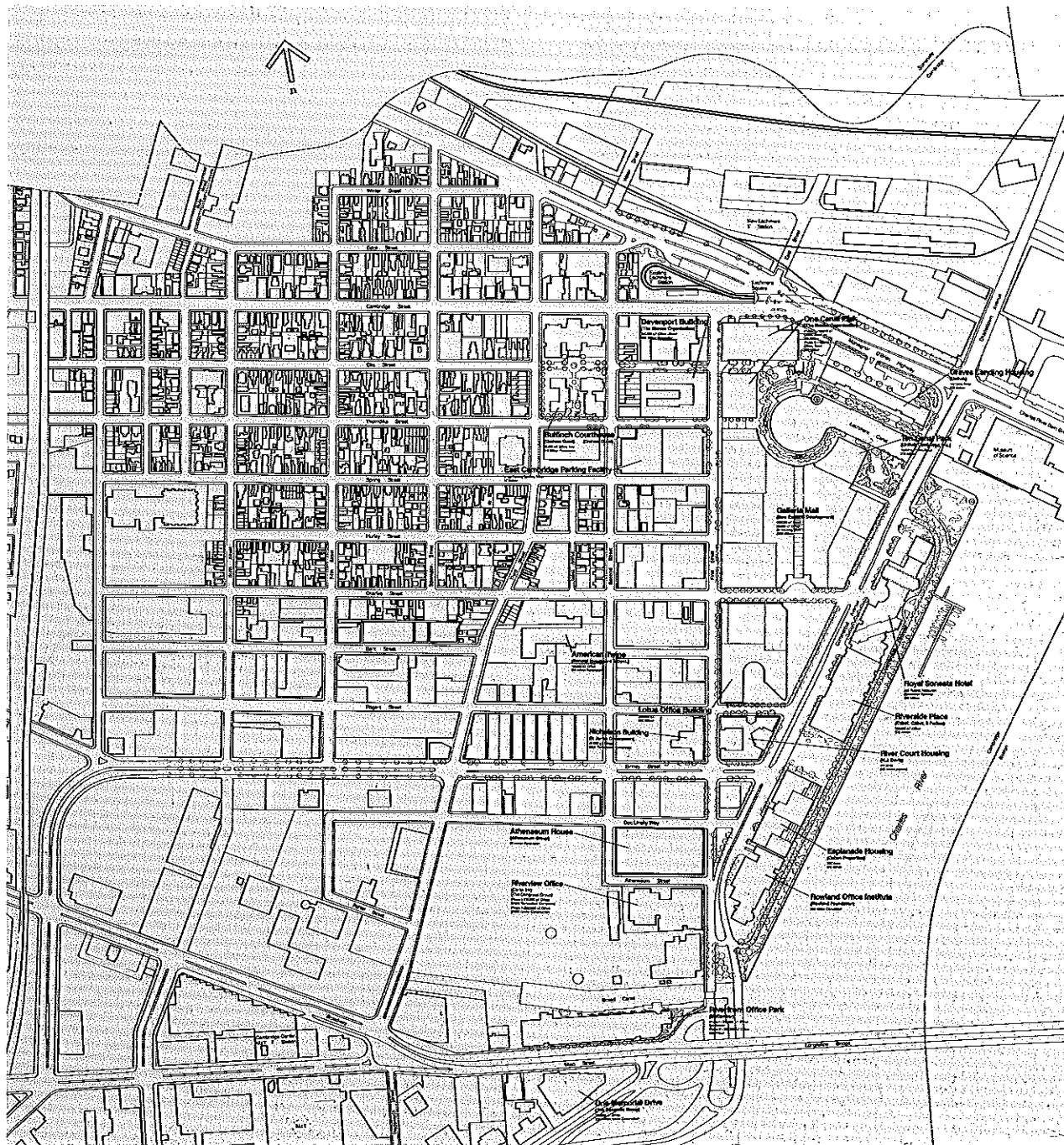
million project also included a new stone-faced steel arch bridge to replace the old drawbridge over the Lechmere Canal and creation of more parkland along Cambridge Parkway by reducing the former six lanes of pavement to a narrow access road and diverting traffic to Commercial Avenue. Otis and Thorndike streets have also been treated as major pedestrian ways, leading from the old Middlesex County Courthouse to Lechmere Canal Park.

In 1981, the first three projects completed under the 1978 plan set the tone for the future. Along First Street, the rehabilitation of the Athenaeum Press and Ashton Valve Company buildings into office space



73. East Cambridge river front model, 1978
ALAN Ward





74. East Cambridge development plan, 1988



75. Lechmere Canal Park, 1982-87, Carol Johnson & Associates

helped confirm the importance of historic structures as a context for development. The reinstatement of the statue of Athena on the pediment of the Athenaeum Press building, now called Athenaeum House, symbolized a new enthusiasm for the history of East Cambridge (Fig. 78). Just to the east is the Rowland Research Institute, by Hugh Stubbins & Associates (Fig. 79). This low building on the river's edge is a modern composition, but it respects the masonry tradition of the surrounding industrial area.

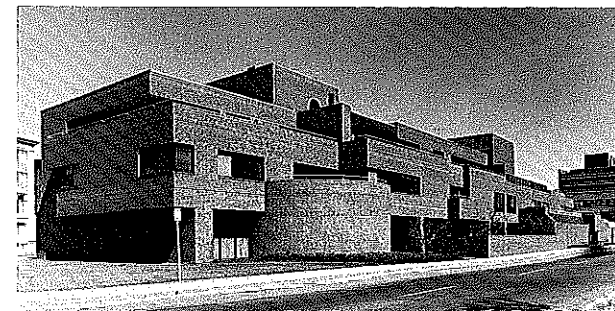
Between 1983 and 1985, three more new and rehabilitated structures opened. The historic rehabilitation of the American Net & Twine factory on Second Street into offices was completed in 1983 (Fig. 80). The 1910 Carter's Ink building on First Street, just south of the Athenaeum House, was renovated in 1984-85 and a penthouse added (Fig. 81). A new lobby was created behind the original building, linking it to a



76. City parking garage, phase I, 55 First Street, 1984, Sturgis, Vitols Associates



78. Athenaeum House, 215 First Street, 1895, Lockwood, Greene & Company. Renovation by Symmes, Maini & McKee, 1979-83
4857



79. Rowland Institute, 100 Cambridge Parkway, 1981, Hugh Stubbins & Associates 5850-12



77. Untitled art work by George Greenamyre, 1988, on city parking garage, phase II, 68 Second Street, 1987, Wallace Floyd Associates



80. American Twine Office Park, 222 Third Street, 1875, original architect unknown. Renovation by Sutphin, Morris & Associates, 1982

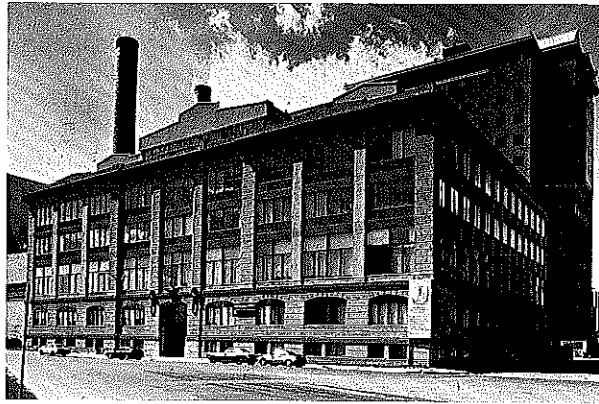
new 200-foot-high office and parking structure topped by a dramatic gabled roof by Huygens & DiMella. Perhaps nowhere else in the area is there such a vivid juxtaposition of old and new.

Another contrast was provided in 1984, when the Sonesta Hotel was joined by a Postmodern addition designed by John Olson, Architects (Fig. 82). Next door, the restrained modernist character of the Riverside Place office building, designed by Hugh Stubbins Associates and completed in 1985, contrasts with its more exuberant neighbor (Fig. 83).

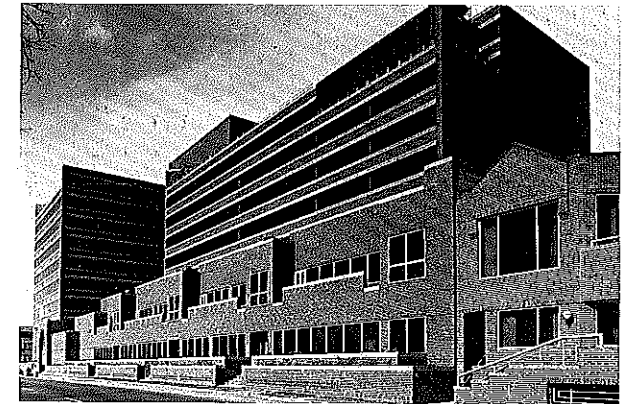
One of the showpieces of East Cambridge is Bulfinch Square, completed in 1986 on the block bounded by Second, Third, Otis, and Thorndike streets. (Chapter III gives a complete history of the courthouse complex.) The sensitive handling of the courthouse and the adjacent county buildings by Graham Gund Associates has established a high standard for historic preservation (Fig. 84).

Between 1985 and 1987, three private projects abutting Lechmere Canal Park began to take shape. The first was the Ten Canal Park (Interleaf) office building, with ground-floor retail space, for which Unihab Incorporated was both architect and developer (Fig. 85). The curved west wall of the building helps define the edge of the circular canal basin. Across the canal is Thomas Graves' Landing, a 166-unit condominium, also by Unihab (Fig. 86).

One Canal Park, designed by Tsoi/Kobus & Associates and completed in 1988, is the result of a competition sponsored by the city, which had acquired the land by eminent domain in 1978 (Fig. 87). The height and massing as well as the architectural treatment of this building were conceived to complement the restored Davenport Building, part of the extensive factory of Irving & Casson-A. H. Davenport, furniture makers (Fig. 88). This complex includes brick and frame buildings dating from 1869 to 1910 that have been converted into a mix of office and retail space by the Marcus Organization. Like the Bulfinch Courthouse and the American Net & Twine building, the Davenport building is a historic rehabilitation that conforms to National Park Service standards. While their preservation is highly desirable, the visual sterilization of



81. Riverview Office Complex (Carter's Ink Building), 245 First Street, 1909, Densmore & LeClear. Renovation by Priestly, Sterling, 1983, and office tower by Huygens & DiMella, 1985 4857



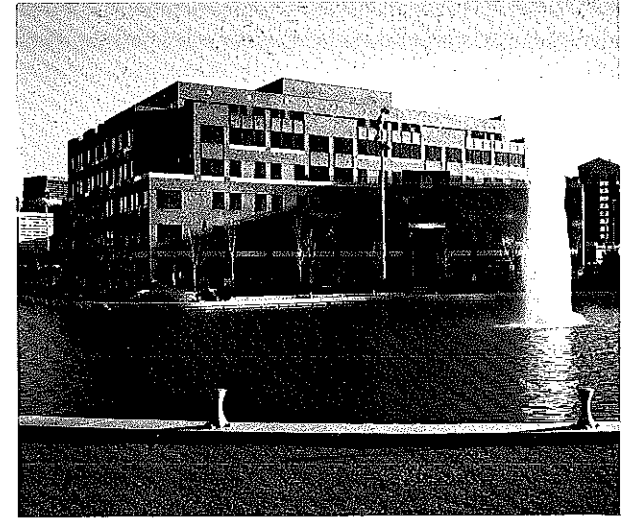
83. Riverside Place, 55 Cambridge Parkway, 1984, Hugh Stubbins & Associates 5853-14



82. Sonesta Hotel addition, 3 Cambridge Parkway, 1984, John Olson 12



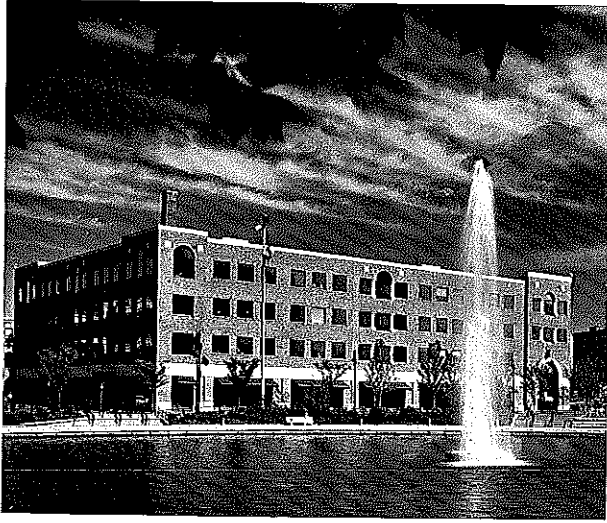
84. Bulfinch Square, 52 Otis Street, 1813–1924. Historic rehabilitation by Graham Gund Associates, 1981–86 ²



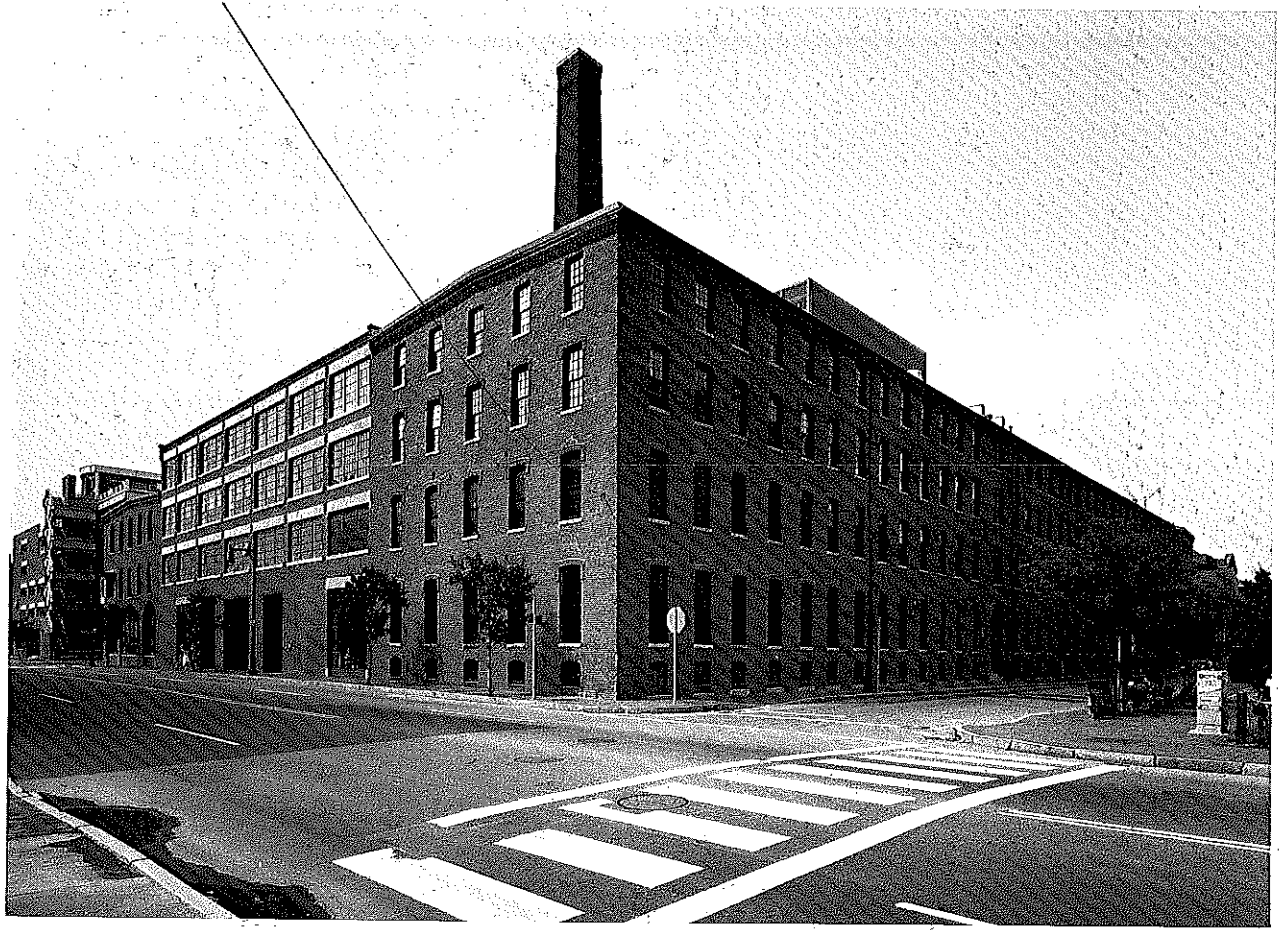
85. Interleaf Building, 10 Canal Park, 1984, Unihab Incorporated



86. Thomas Graves' Landing, 4–6 Canal Park (Msgr. O'Brien Highway at Commercial Avenue), 1985, Unihab Incorporated



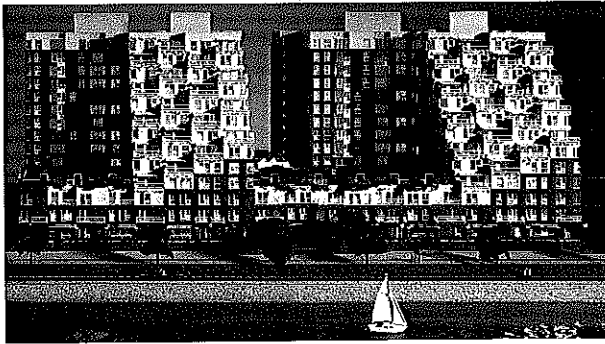
87. One Canal Park (40 First Street), 1986, Tsoi/Kobus & Associates



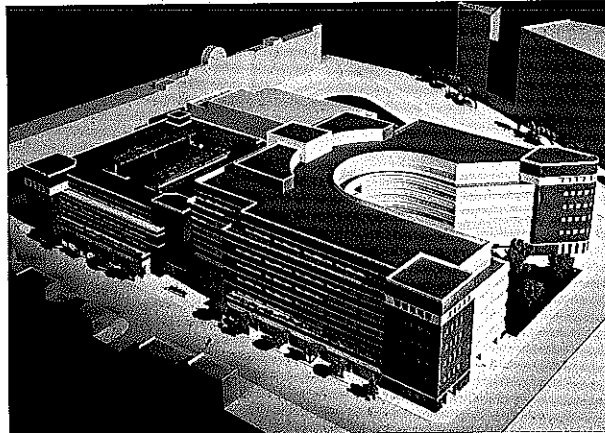
88. Davenport Building, 35 First Street, 1869–1910. Renovations by Sutphin Associates, 1985–88



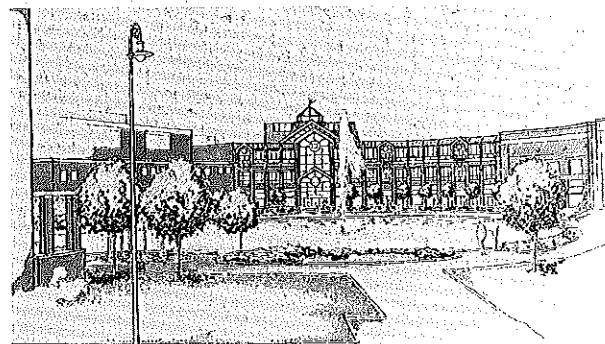
89. River Court (rendering), Commercial Avenue between Rogers and Binney streets, 1987, SBA/Steffian Bradley Associates



90. The Esplanade (model), Cambridge Parkway, 1987, Moshe Safdie & Associates ⑦



91. Lotus Building (model), 1 Rogers Street, 1988, Tsoi/Kobus & Associates 40



92. Cambridgeside Galleria (rendering), view from Lechmere Canal, 1988, Arrowstreet ⑦

these former factories diminishes the character of the neighborhood.

Two residential projects toward the southern end of the development will add an unprecedented degree of luxury to the East Cambridge housing market when completed in 1989. Between the Ashton Valve (now Lotus Development) building on First Street and Front Park along Commercial Avenue is the 14-story, 171-unit River Court residential condominium, by SBA/Stefian Bradley Associates (Fig. 89). A 50-foot-high building and courtyard faces First Street, while a more monumental structure 120 feet high faces Front Park. Just south of Front Park on the river is The Esplanade, a 13-story, 206-unit project by Moshe Safdie & Associates at 75 Cambridge Parkway (Fig. 90). The architect intends to create a Cambridge-style Habitat, although it will differ considerably from its Montreal antecedent. Condominiums in this building will sell for \$176,000 to more than \$1 million, and residents will enjoy a doorman, concierge, health club, and roof garden.

To the north of River Court will be One Rogers Street, an office building for the Lotus Development Corporation, for which ground was broken in June 1988 (Fig. 91). Designed by Tsoi/Kobus & Associates, One Rogers Street occupies almost an entire city block, but the building's mass is relieved by a south-facing semi-circular courtyard.

The largest single project in the development area is a mixed-use center on a 10-acre site known as the Cambridgeside Galleria (Fig. 92). The Galleria will include three "anchor" stores, Sears, Roebuck & Company, Lechmere Sales, and Filene's, as well as many smaller shops, 80 condominiums, and an office building. The shops will line the First Street edge of the project and a three-level arcade between the Lechmere Canal and Charles Park. The Galleria will complete the spatial definition of Lechmere Canal Park, introduce housing to the southeastern end of the park, and bring immense activity to the entire area.

The radical transformation of the East Cambridge river front brings to a conclusion a planning process that began with the Cambridge Wharf Company in 1847 and has preoccupied the Cambridge Planning Board

since at least 1917. The offices and warehouses of the 1950s were expected to complete the development of the river front, and no one could have foreseen that they would be replaced so rapidly (Figs. 93-94).

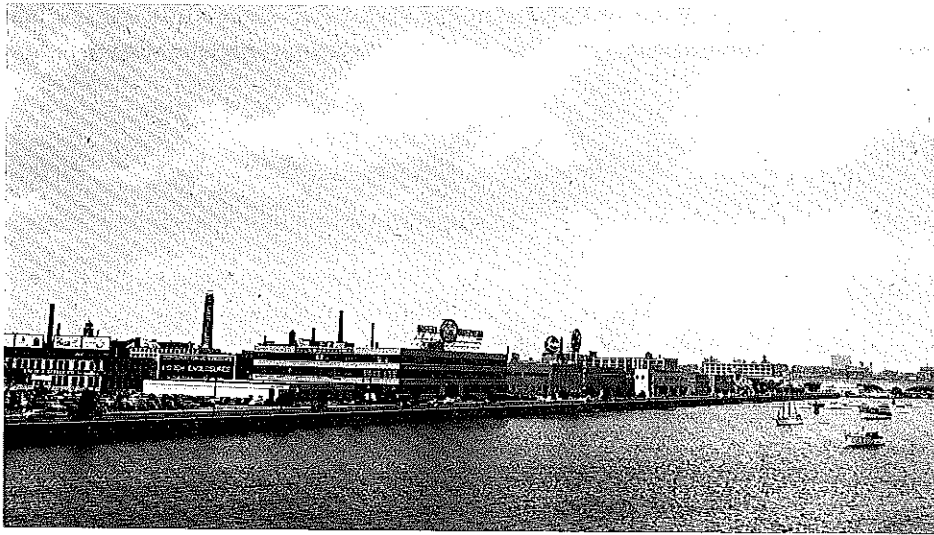
Kendall Square

Although Kendall Square is outside East Cambridge, its location next to the survey area, its parallel history of industrial development, and its recent redevelopment make it an instructive contrast with the Lechmere Triangle.

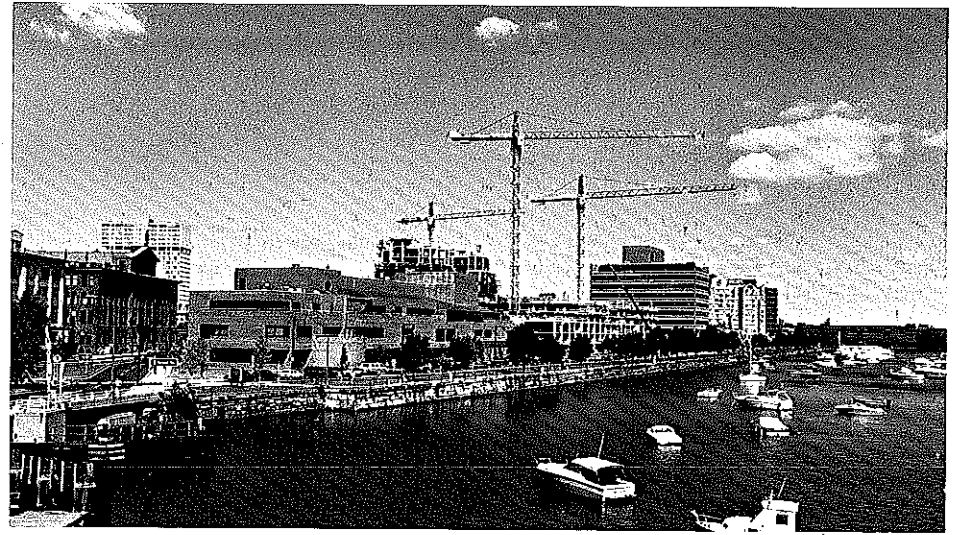
The West Boston Bridge opened in 1793, but significant commercial activity in the area of today's Kendall Square did not begin until after 1800. In 1805 two turnpikes, Broadway and Hampshire Street, were authorized to improve access from the bridge to inland Massachusetts towns, and by 1806 a network of canals accommodated coastal shipping (see Fig. 27). The intersection of Broadway with the causeway leading to the bridge (now Main Street) was called Dock Square, and the area as a whole was called the Lower Port.

The Embargo of 1807 and the War of 1812 prevented the area from developing as a port, so Cambridgeport came to depend on commercial traffic passing over the West Boston Bridge. In 1806, Royal Makepeace built six brick stores on Broadway at what became the corner of Court (now Third) Street, but they stood alone in the marshes for several decades (Fig. 96). The Lower Port was still surrounded by marshes, which inhibited development, and the preeminence of the West Boston Bridge as a commercial thoroughfare proved short-lived. In 1847, the publishers of the first Cambridge city directory complained that the railroads bypassing Cambridge and the opening of the new Quincy Market in Boston "have almost annihilated the extensive trade which was formerly carried on between the Port and the country towns, even as far back as the borders of Vermont and New Hampshire."

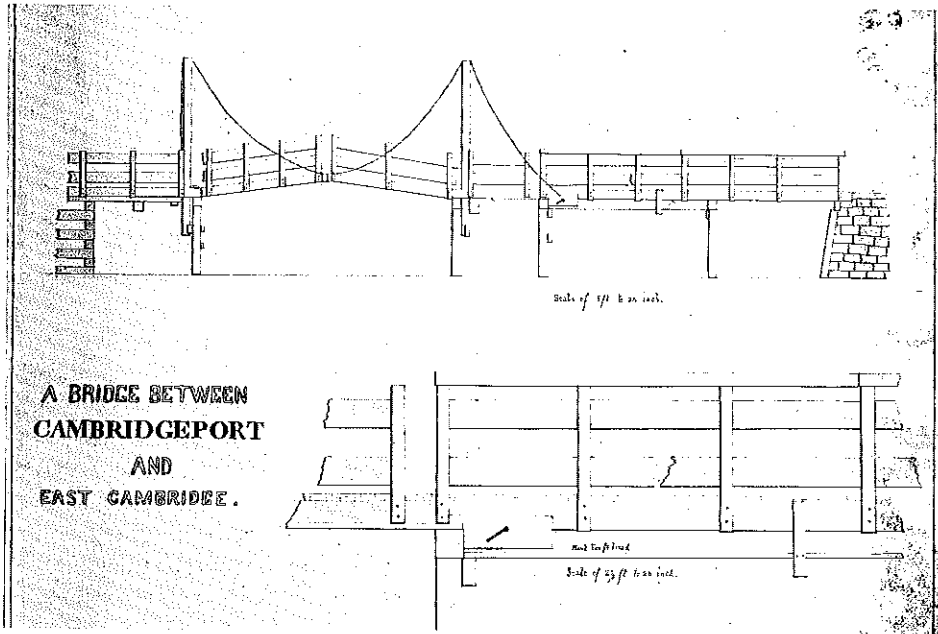
With the rise of Boston as a manufacturing center in the second half of the 19th century, the Lower Port became a desirable location for the shipment and storage of bulk materials. By 1854, filling had created solid



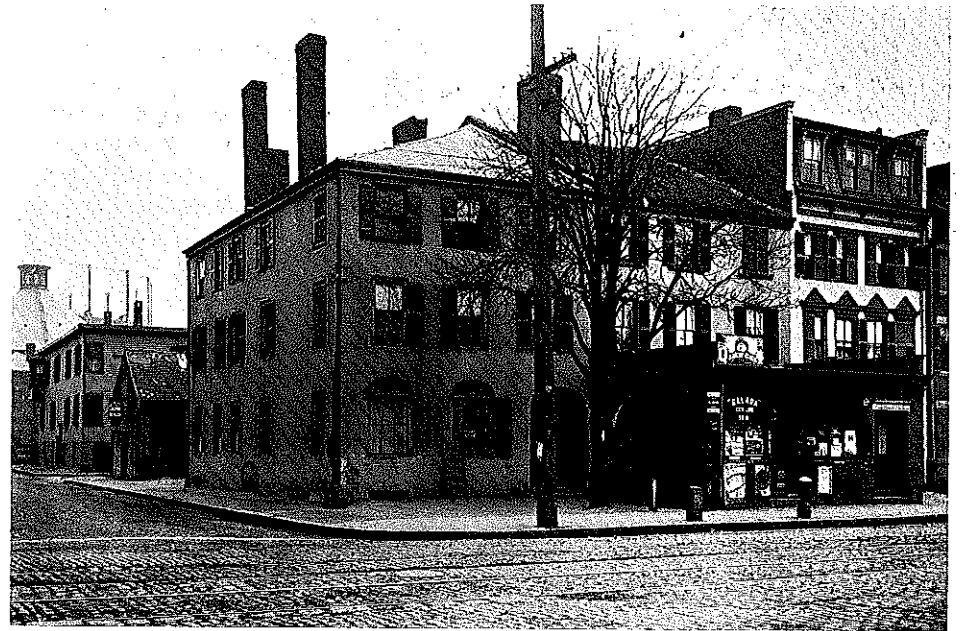
93. East Cambridge river front, c. 1954 1457



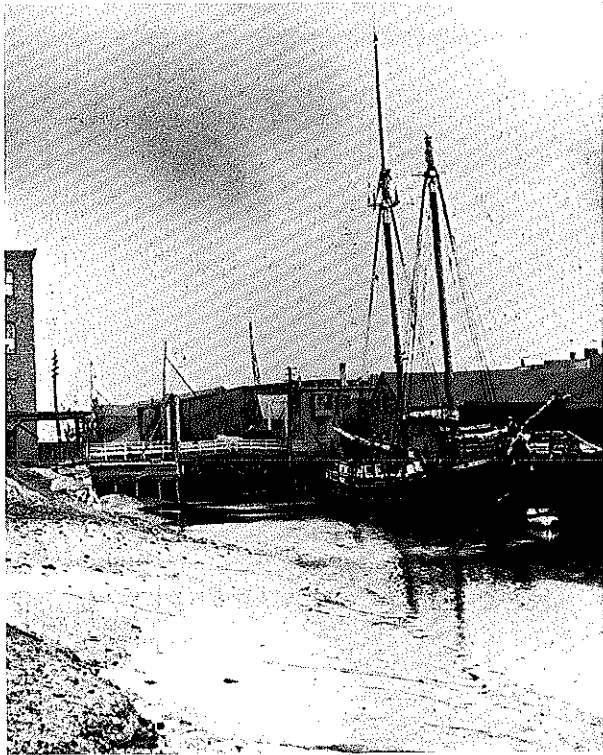
94. East Cambridge river front, 1988 12.88/13



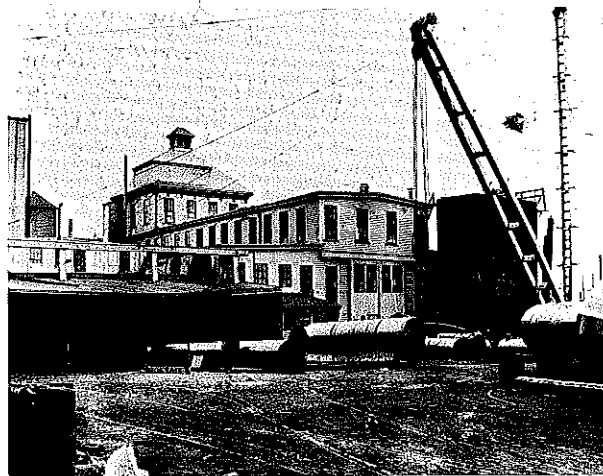
95. Third Street drawbridge over the Broad Canal, c. 1875
flat file



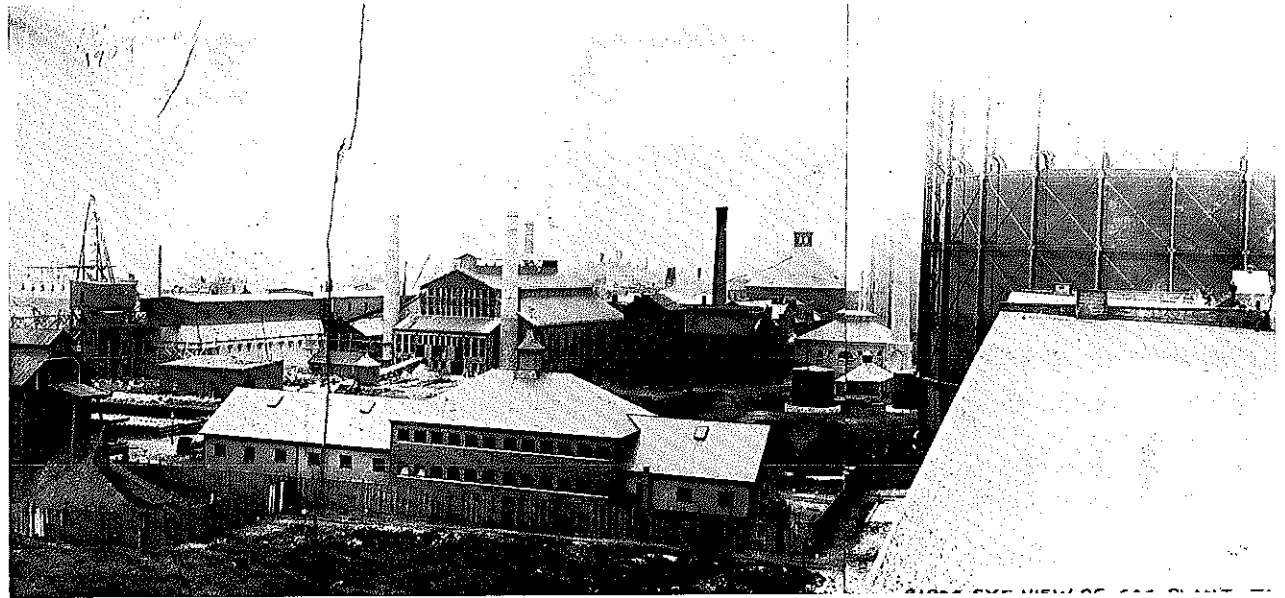
96. Royal Makepeace Stores, 7-12 Broadway, corner of Third Street, 1806. Photograph 1899
3069



97. Schooner at William Wood & Company lumber wharf, Broad Canal at Third Street, 1892 2522



99. Charles River Iron Works (Edward Kendall & Sons), 134 Main Street, 1899 3082



98. Cambridge Gas Light Company, Third Street at the Broad Canal, c. 1905 1249

land out of the triangle between the Broad Canal and the Charles River along Broadway and Main Street east of Portland Street, and wharves for coal, lumber, and stone lined the south sides of the causeway and the Broad Canal (Fig. 97). In 1868, service began on the Grand Junction Branch of the Boston & Albany Railroad, which gave Cambridge industries access to all the lines entering Boston from the north and west.

In the 1870s, the Lower Port began to attract more manufacturers, especially in the corridor along the Broad Canal and Broadway, as coal was still most economically moved by water. In 1871, the Cambridge Gas Light Company built a new plant on Third Street, just north of the Broad Canal, and in 1874 concentrated all its production there (Fig. 98). Other industries settling in this area included rubber factories, foundries, soap factories, and iron fabricators (Fig. 99).

In the 1890s, the triangle between Broadway, Main Street, and the railroad was still a residential neighborhood with its own elementary school (Fig. 100). By this time, the intersection of Broadway and Main Street

had been renamed Kendall Square. Edward Kendall was a prominent businessman who had established his boiler factory on Main Street at the intersection of Broadway in 1860. He was also a deacon and politician who ran for governor in 1893. When the first subway train ran from Park Street to Cambridge in 1912, Kendall was among the passengers, who cheered him as the train pulled into the Kendall Square station.

The area still contained many wooden sheds and storage buildings, frame houses, and large tracts of open land, but the coming of the subway made the area increasingly attractive for manufacturing. By 1930, so many factories had been built in Cambridgeport that Cambridge was said to have had "a metamorphosis that characterizes it as much of an industrial boom town as Akron, Ohio, or Detroit, Michigan" (Stone, vol. 1, p. 773). Much of the 300 percent gain in manufacturing in the previous ten years had taken place in new factories in the Kendall Square area, whereas East Cambridge was the scene of displacement and contraction among its more mature industries (Fig. 101).

After World War II, the industrial development of Cambridge ended. Some industrial buildings were converted to offices and laboratories, but many companies closed or moved to other regions. As they did, the Massachusetts Institute of Technology (MIT) often purchased their vacant factories (Fig. 102).

In the 1960s, Kendall Square became a microcosm of postwar urban renewal. Technology Square, at Main and Portland streets, was the first major project (Fig. 103). Comprising four buildings erected in place of factories and tenements between 1961 and 1966, Tech Square was developed by Cabot, Cabot & Forbes in association with MIT and the Cambridge Redevelopment Authority (CRA). Containing offices and laboratories for science and engineering firms, this complex set a new standard for development in the area.

The catalyst for the complete redevelopment of Kendall Square came in 1964, when the National Aeronautics and Space Administration announced that it would build its Electronics Research Center in Cambridge. At the same time, the city decided that blighted conditions in Kendall Square made it an appropriate location for a federally funded urban renewal project. NASA's center was established on September 1, 1964, in temporary facilities at Tech Square.

In August 1965, the CRA and the City Council approved a plan for the Kendall Square Urban Renewal Area that involved placing the Electronics Research Center on a 29-acre rectangular site just north of Broadway and redeveloping the adjacent triangle bounded by Broadway, Main Street, and the railroad tracks into high-density, tax-generating uses. Between 1966 and 1969, the CRA conveyed 14½ acres of the site to NASA. In this period, approximately 110 businesses were relocated, the existing buildings were razed, and the Broad Canal was partially filled.

The NASA complex, begun in 1965, comprised the first new buildings in the Kendall Square Urban Renewal Area. The original design by Edward Durell Stone underwent substantial revision. The initial scheme called for three twenty-four-story towers surrounded by courtyards and low-rise perimeter buildings on a superblock bounded by Broadway and Binney and Third streets. At the entrance was to be a monumental



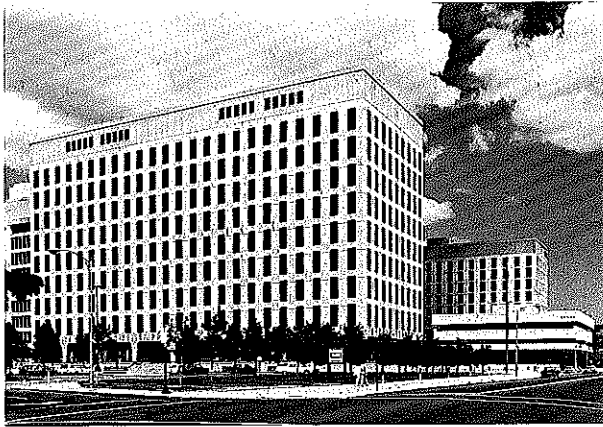
100. Kendall Square, 1899 3082



101. Broad Canal looking east from the Boston & Albany Railroad, 1966 2848



102. Kendall Square and MIT, aerial view, c. 1950 No 287

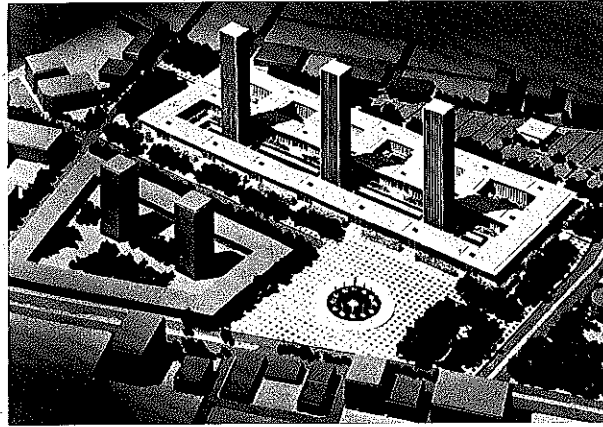


103. Technology Square, 565 Main Street, 1961–66; Cabot, Cabot & Forbes, Eduardo Catalano, and Pietro Belluschi 1451

courtyard with a circular fountain (Fig. 104). Only one tan brick tower, at half the original scale, was built. This slender twelve-story building, begun in 1968 and completed in 1970, reflects Stone's New York Civic Center (1963) and the University of Massachusetts (Amherst) Library (1965) (Fig. 105). Surrounding the tower are one- and two-story buildings in a more austere concrete modern style by The Architects Collaborative and Jackson & Moreland.

Across Third Street and outside the urban renewal area, the privately owned Cambridge Gateway, by Emery Roth & Sons, was built between 1968 and 1970 (Fig. 106). Developed by the Badger Corporation, which had been displaced by the urban renewal project, this office complex of reinforced concrete consists of a large tower and a curved garage in the brutalist Modern style. A twin tower planned for the eastern end of the garage was not built.

Fifteen years later, Cambridge Gateway was joined by two even more massive structures that were also outside the urban renewal area. The first phase of the Riverfront Office Park (Saddlebrook) building is a rather severe modern structure by Cambridge Seven Associates (Fig. 107). The use of red brick was required to help this building relate to its context; some ground-floor retail space animates the street level. The



104. Kendall Square proposal, 1965, Edward Durrell Stone
2513

lighting and landscaping along Main Street and Broad Canal, which were completed in the second phase, help integrate this project with its surroundings. Directly across Main Street, the One Memorial Drive office building was completed in 1987. This project was not subject to design review. These massive buildings overwhelm the Longfellow Bridge and create a forbidding gateway to Kendall Square (Fig. 108).

In spite of a substantial investment, federal priorities shifted in December 1969; NASA's mushrooming budget was curtailed, and 800 employees were affected by the closing of the Cambridge facility. In 1970, however, the Nixon administration, under strong local pressure, converted it into the Transportation Systems Center of the U.S. Department of Transportation and hired 425 NASA scientists and technicians.

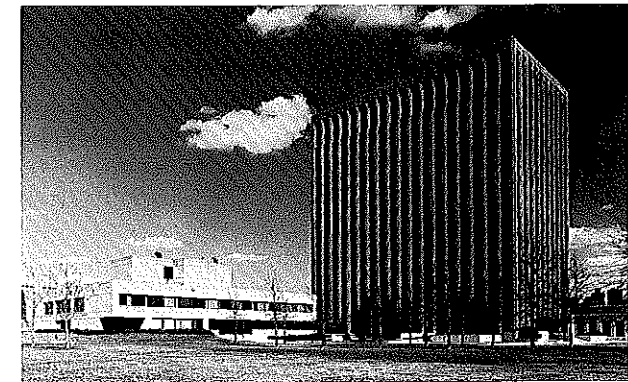
NASA's withdrawal forced the CRA to revise its thinking on the Kendall Square area, and between 1972 and 1974 a number of alternatives were proposed. The CRA began a new plan for the entire site while also working to retrieve its rights to the surplus NASA land west of Sixth Street. In July 1973, the City Council passed an order emphasizing blue-collar and nonprofessional white-collar jobs as priorities in the redevelopment of Kendall Square. In October 1974, the council endorsed a plan supported by the East Cambridge Plan-

ning Team, MIT, and the Kendall Square Businessmen's Association.

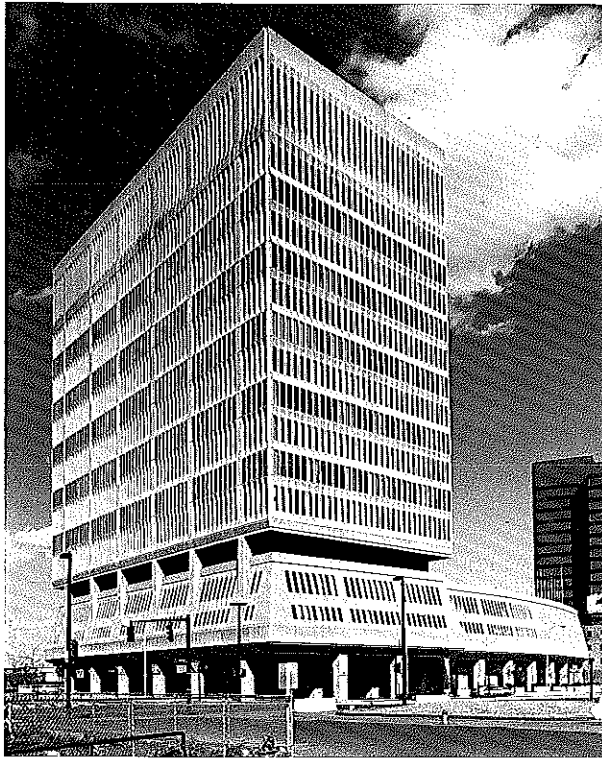
After 1974, the Kendall Square project regained momentum. In 1976, the CRA hired R. M. Bradley to provide marketing and development services and Monacelli Associates to prepare urban design controls. Finally, in 1977, the City Council unanimously approved the necessary amendments to the Urban Renewal Plan, including a new Cambridge Center mixed-use development zoning classification for the 24-acre undeveloped portion of the area.

In 1978, after a lengthy competition, the CRA selected Boston Properties to develop Parcels 3 and 4. A development agreement was signed in 1979, and in 1982 another agreement covered the remaining 11 acres of Parcel 2 (Fig. 109). Boston Properties initially retained Davis & Brody of New York City as master planner and architect, but that firm was replaced in 1980 by Moshe Safdie & Associates. The CRA retained Monacelli Associates as urban design consultants, and as landscape architects first Carol R. Johnson & Associates and then the Halverson Company.

The Cambridge Center Master Plan provided for 2.5 million square feet of new development in nineteen individual buildings related by their siting, massing, and materials to create a sense of harmony and an identity for the project as a whole. It was intended to accommodate a wide range of complementary uses. High-



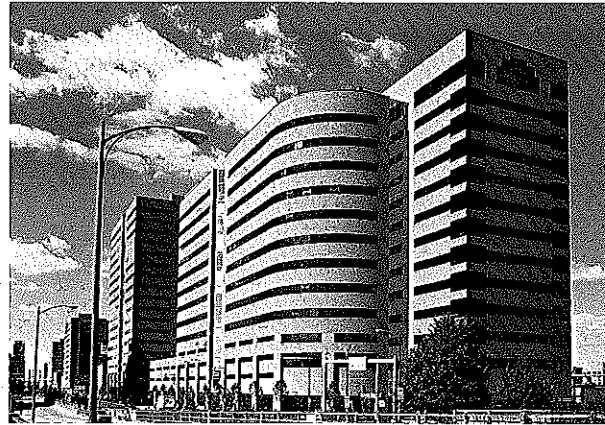
105. NASA Electronics Research Center (now Transportation Systems Center), 55 Broadway, 1968–70, Edward Durrell Stone
4857-20



106. Cambridge Gateway, 11 Broadway, 1968-70, Emery Roth & Sons 5852-16

rise and mid-rise buildings with first-class office space are concentrated in the triangle between Main Street, Broadway, and the "western connector" extension of Binney Street on Parcels 3 and 4; housing on the Broadway side of Parcel 3 is designed to offer views of the Charles River, Boston, and Cambridge; and buildings of two to five stories on Parcel 2 north of Broadway provide space for research, development, and laboratory functions, the clearinghouse facilities of financial institutions, and light manufacturing. Other services at Cambridge Center include a hotel with business and conference facilities, more than 100,000 square feet of retail space, parking garages, parks, public plazas, and improved roadways.

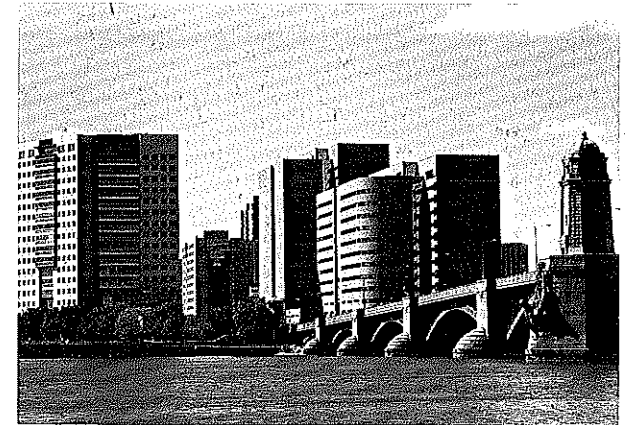
A chronology of buildings gives an idea of Kendall Square's new identity in the 1980s. While Boston Prop-



107. Riverfront Office Park, 101 Main Street, 1982 and 1986, Cambridge Seven Associates 1289/

erties has acted as the developer for all the new buildings, the CRA has design review authority and retains ownership of the land until each building is approved. Although the buildings have been designed by a variety of firms, the almost uniform use of Hanley brick as a building material (except for the garages) and design review enforce conformity. Parks, streets, and landscaping have been completed by the CRA.

Parcel 4 was the first area in Cambridge Center to be completed, with six buildings of varying heights and uses (Fig. 110). Five Cambridge Center (1981), at the corner of Main Street and the midblock connector, was the first privately developed structure in the renewal area (Fig. 111). This thirteen-story office building with ground-floor retail space was designed by Davis & Brody. Large concrete pillars and strip windows banded by half-round metal detailing provide interest on the Main Street side. Four Cambridge Center (1983), at the other corner of Broadway and the connector, is a twelve-story office building by Moshe Safdie that also contains retail space at the ground level (Fig. 112). The interplay of brick and glass animates the facade and produces an articulated silhouette that avoids the boxlike quality of many modern office buildings. Large windows extend almost to the ground, making the brightly painted lobbies along Broadway noticeable from the street. Between Four and Five Cambridge

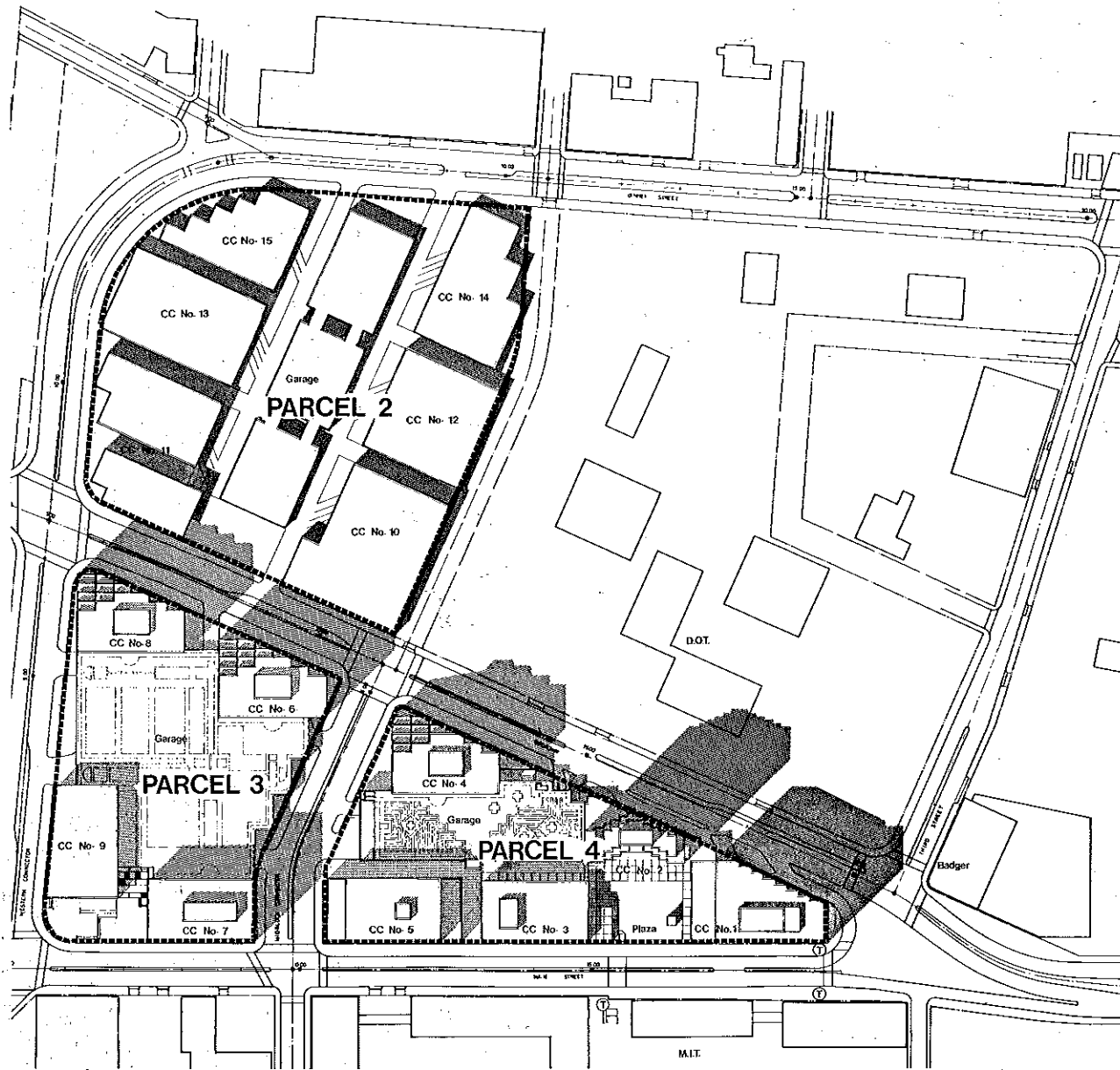


108. One Memorial Drive, 1986, Huygens & DiMella, and Riverfront Office Park 1289/33

Center, the 863-car Parcel 4 garage was also designed by the Safdie firm. Built of precast concrete, it was opened in 1983. A one-acre park designed by the SWA Group occupies the roof of the garage and is open to the public.

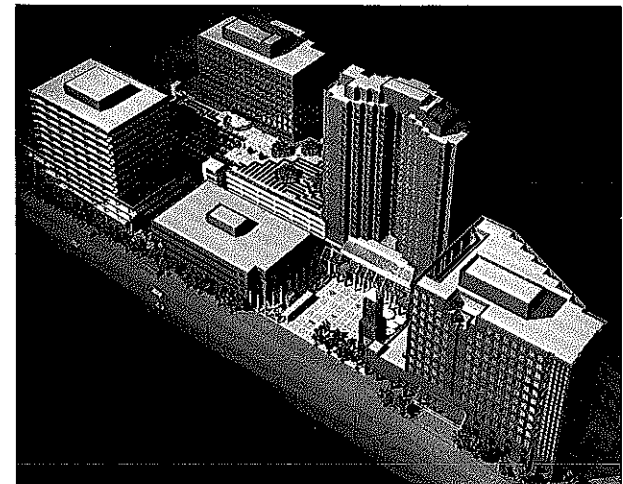
The twenty-five-story, 431-room Marriott Hotel (1986) by Moshe Safdie is the tallest building in Cambridge Center and the city's largest hotel (Fig. 113). The massive brick and glass structure faces Main Street to the south, where it opens onto a large public plaza designed by Safdie and the German sculptor Karl Schlamming in cooperation with Monacelli Associates (Fig. 114). The hotel site also extends north to Broadway, where the motor entrance is emphasized by a wide brick band that extends nearly the length of the building. Stepped facades on both the Main Street and Broadway sides create large corner windows.

Two additional mixed-use buildings complete the development of Parcel 4. Three Cambridge Center (1987), a four-story building by Safdie, contains the Harvard Cooperative Society on the ground floor and lower level and office space above. The store opens into a tall glass shed containing the Kendall Square subway station entrance and a food court for informal dining. At the junction of Main Street and Broadway stands One Cambridge Center (1987), also by Safdie (Fig. 115). Because of its unusually shaped lot abutting



109. Cambridge Center, completed and future development, 1987

flat file



110. Parcel 4, Cambridge Center (model)

9



111. Five Cambridge Center (Main and Ames streets), 1981, Davis & Brody *8*

Point Park to the east and the public plaza to the west, this twelve-story brick and glass office building has four public facades and occupies one of the most prominent sites in Cambridge Center, but it does not provide the dramatic focal point that it might have. It replaces the Kendall substation, built by the Boston Elevated Railway Company in 1911. The side facing Boston has tall, indented glass panels that echo the triangular shape of Point Park. The large corrugated doors at ground level show that the building stands in part over a new substation, but create an odd appearance for this prominent facade. The lost opportunity for street-level activity is to be regretted.

The six-story Nine Cambridge Center (1984) was the first building on Parcel 3 (Fig. 116). Designed by Goody, Clancy & Associates, it contains the Whitehead Institute for Biomedical Research. The remainder of Parcel 3 awaits development.

Parcel 2, north of Broadway, has been designated primarily for research and development and light industry in a series of low-rise structures. Fourteen Cambridge Center (1982–83), by Huygens & Dimella, is a two-story tan brick laboratory and office building occupied by Biogen. Long strips of windows emphasize the building's horizontal quality, in contrast to the verticality of much of Cambridge Center. Eleven Cambridge Center (1984) is a four-story building designed by Safdie as the headquarters and research facilities of Symbolics, Inc. (Fig. 117). The brick and black anodized aluminum pergolas with trailing vines were designed to take advantage of its prominent corner location.

The main public improvements in Cambridge Center are parks, plantings, and streets, in addition to the plaza and rooftop garden already discussed. Point Park, at the apex of Main Street and Broadway, acts as a gateway to Cambridge Center. The design was a collaboration among Monacelli Associates, the Halverson Company, and the artist Otto Piene of MIT. The linear park from Binney Street to Broadway has been designed to connect residential East Cambridge to the business community in Kendall Square. Other improvements include new streets, planted median strips, brick sidewalks, and landscaping. The Kendall Square sub-

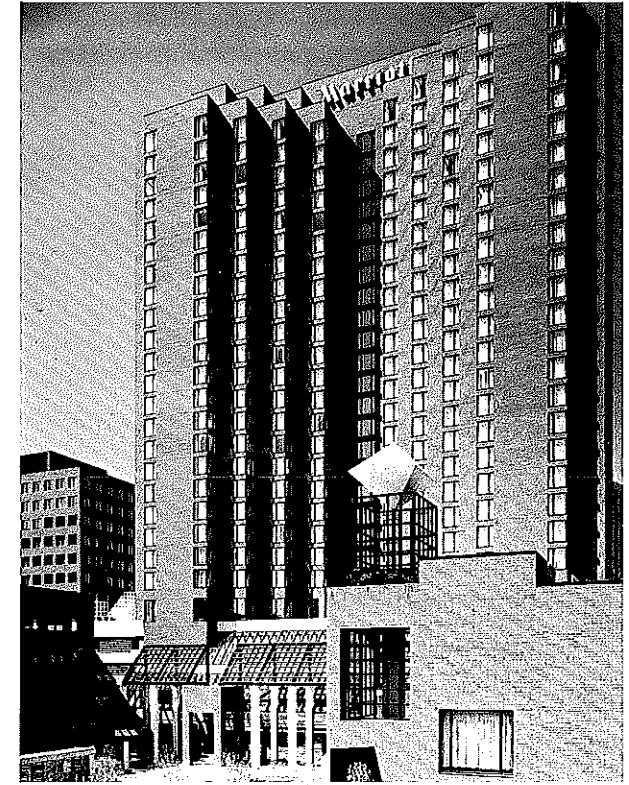


112. Four Cambridge Center (Broadway at Ames Street), 1983, Moshe Safdie & Associates 1

way station, enlarged and modernized in 1987, has new entrances that connect directly to Cambridge Center.

The Kendall Square–Cambridge Center area has historically served as a valuable incubator for research and development firms. Attracted by its proximity to MIT, many businesses dealing with biotechnology, artificial intelligence, and computer technology have spent their formative years here, but as the price of office and research space rises it becomes questionable whether the area can continue to serve this purpose. The CRA's goals include attracting general businesses, such as insurance companies and financial services, retail stores, and housing to achieve a truly mixed-use district.

From conception to execution, Kendall Square stands in contrast to the Lechmere Triangle. The urban renewal program that funded the CRA project was rooted in the urban design precepts of Le Corbusier, who conceived of a modern city of isolated towers on vast superblocks linked by highways. This fundamentally anti-urban concept first found expression in the slum clearance programs of the 1930s, which in Cambridge almost eliminated the neighborhood west of Kendall Square. The Housing Act of 1949 enabled communities to implement clearance and redevelopment



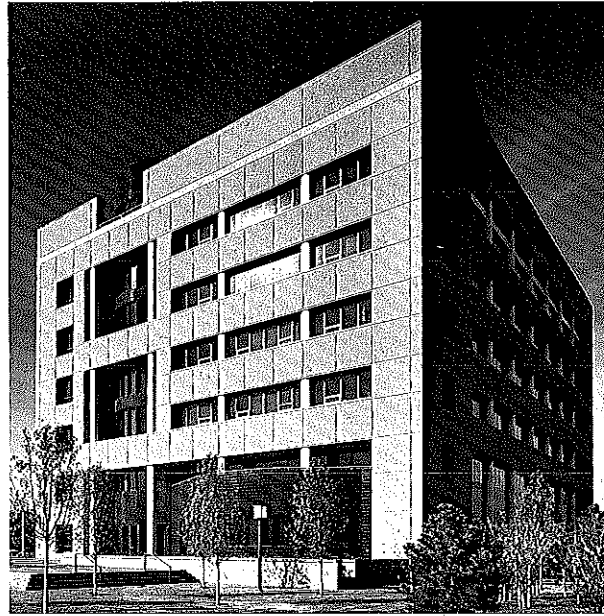
113. Cambridge Center Marriott Hotel (50 Broadway), 1986, Moshe Safdie & Associates 2



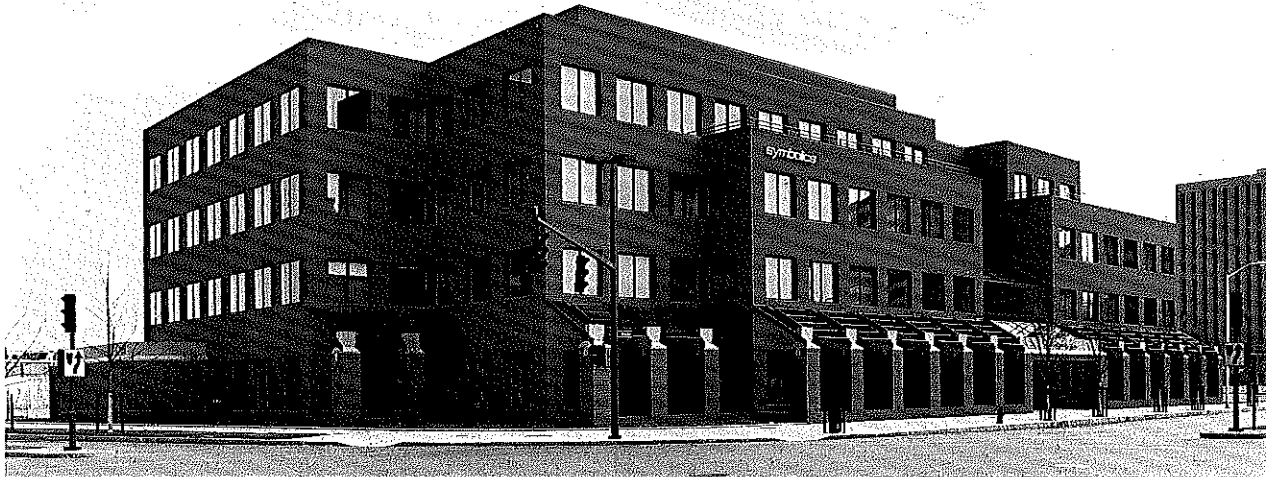
114. Cambridge Center plaza, 1987, Moshe Safdie & Associates 0



115. One Cambridge Center (Broadway at Main Street), 1987, Moshe Safdie & Associates



116. Whitehead Institute for Biomedical Research, Nine Cambridge Center (Main Street and Western Connector), 1984, Goody, Clancy & Associates



117. Eleven Cambridge Center (Broadway at Binney Street), 1984, Moshe Safdie & Associates 4853-28

programs through independent local authorities funded by the federal government. At Kendall Square, the first plan was a clear expression of Corbusian concepts and resulted in a project completely unrelated to local needs and context. While the CRA has updated the original plan to conform to contemporary urban design theory, and buildings have been brought out to the sidewalks to create a more urban environment, the design of most Cambridge Center buildings reflects their enforced uniformity. The area as a whole still lacks the critical mass of density, mixed use, and visual interest necessary to create a vital urban neighborhood.

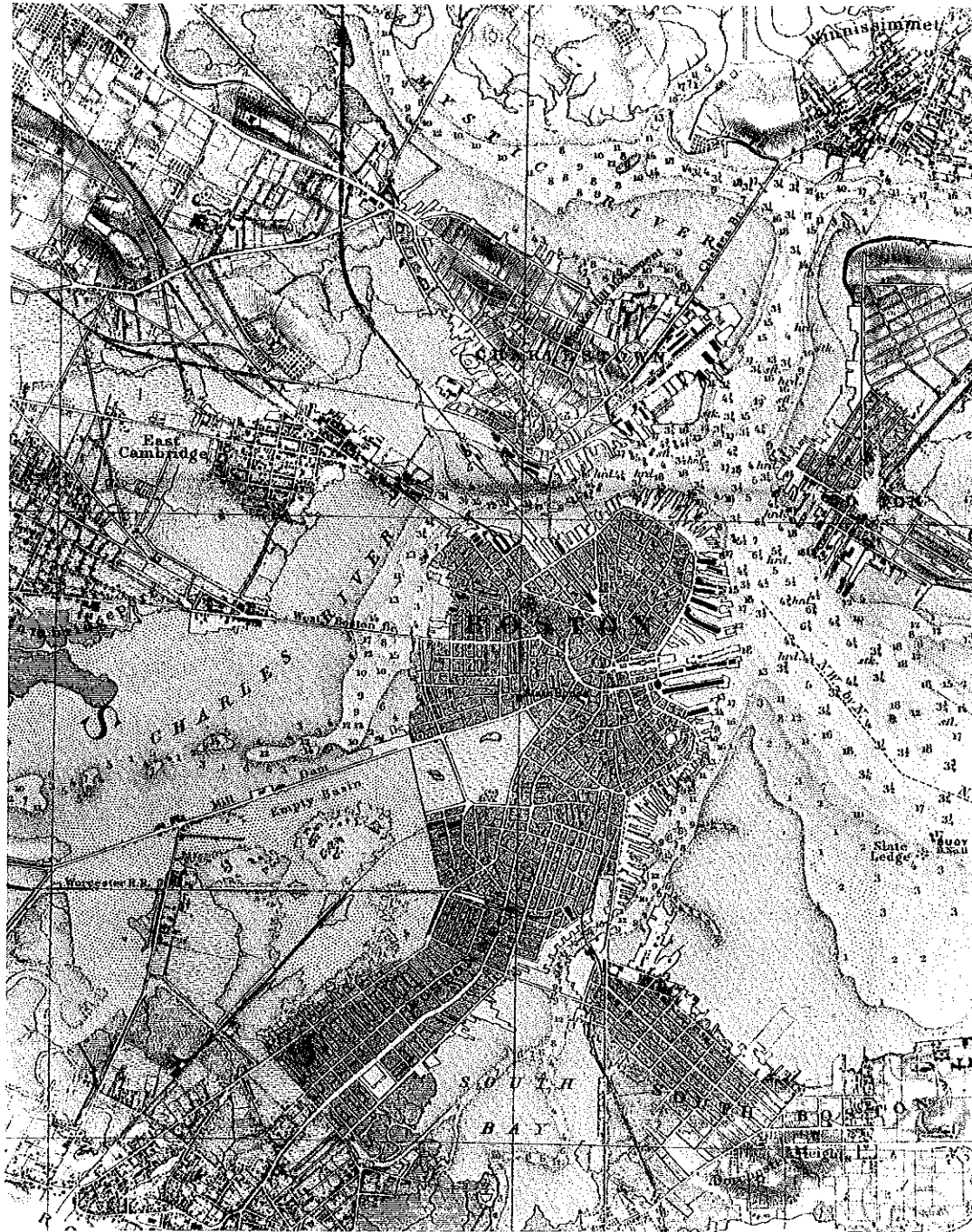
The planners of the Lechmere Triangle project have followed different precepts. Forgoing uniformity and absolute control, the Cambridge Community Development Department has emphasized a mix of imaginative public improvements, the rehabilitation of significant older buildings, and original architecture. Diversity has been encouraged by a funding mechanism leveraging public improvements to stimulate private investment that is much closer to free-market concepts; in contrast to Kendall Square, almost no development land in the Lechmere Triangle is publicly owned. While neither project will be completed for some years to come, the development at Lechmere holds greater promise of becoming part of the social and architectural fabric of its surroundings than does Cambridge Center.

Transportation

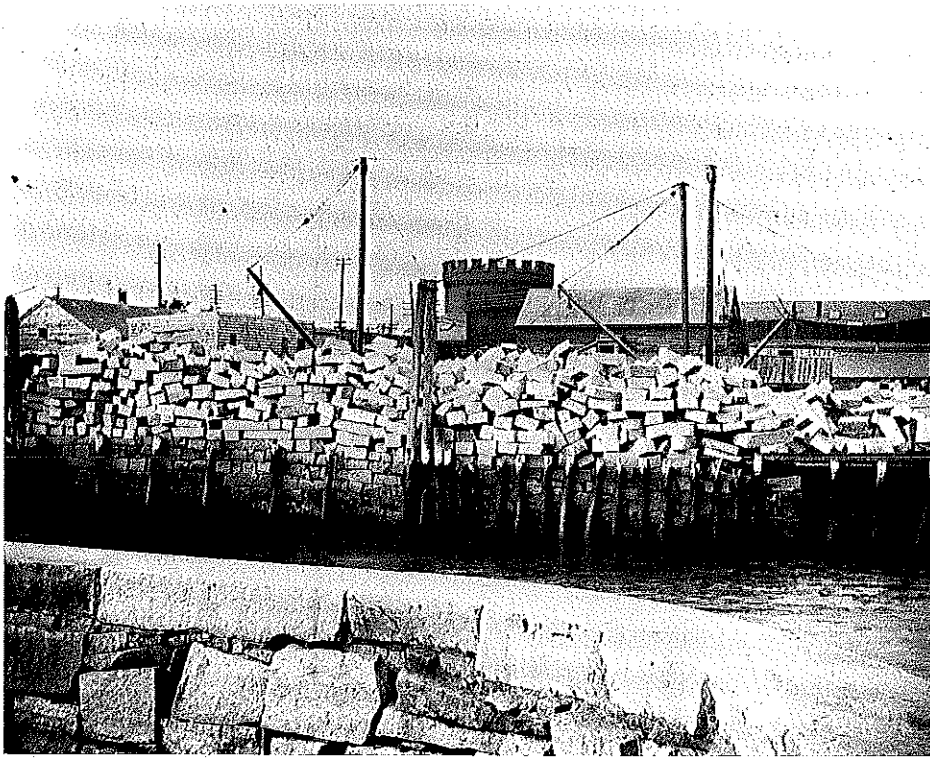
The strategic location of East Cambridge opposite Boston is nowhere more clearly demonstrated than in its access to transportation (Fig. 118). From colonial times until the early 19th century, the rivers and creeks enabled small boats to reach many interior points. Since development required accessibility, this made East Cambridge a successful venture long before the Lower Port, which had been established earlier but was hampered by poor access to the navigable channels of the Charles River and by the long delay in opening the Grand Junction Railroad. Boston was surrounded by water, and Lechmere's Point was, after Charlestown, the closest high ground on the inland side of the Shawmut Peninsula. Among the outlying necks and islands of Charlestown, Lechmere's Point, Dorchester Neck, and Noodles Island, East Cambridge had a natural advantage because it lay between Boston and the inland towns.

Water Transportation

From the time of settlement until the closure of the Charles River Dam in 1908, the Charles River was a tidal stream that was fully navigable only at high water. A huge tidal basin opposite Cambridgeport separated Boston proper from Roxbury and Brookline, and another, smaller basin divided Lechmere's Point from Charlestown. The channel of the river was narrow and skirted the Boston shore, so that at low tide the river was navigable only to a point just upstream of the West



118. Charles River navigation channels, 1857 3097

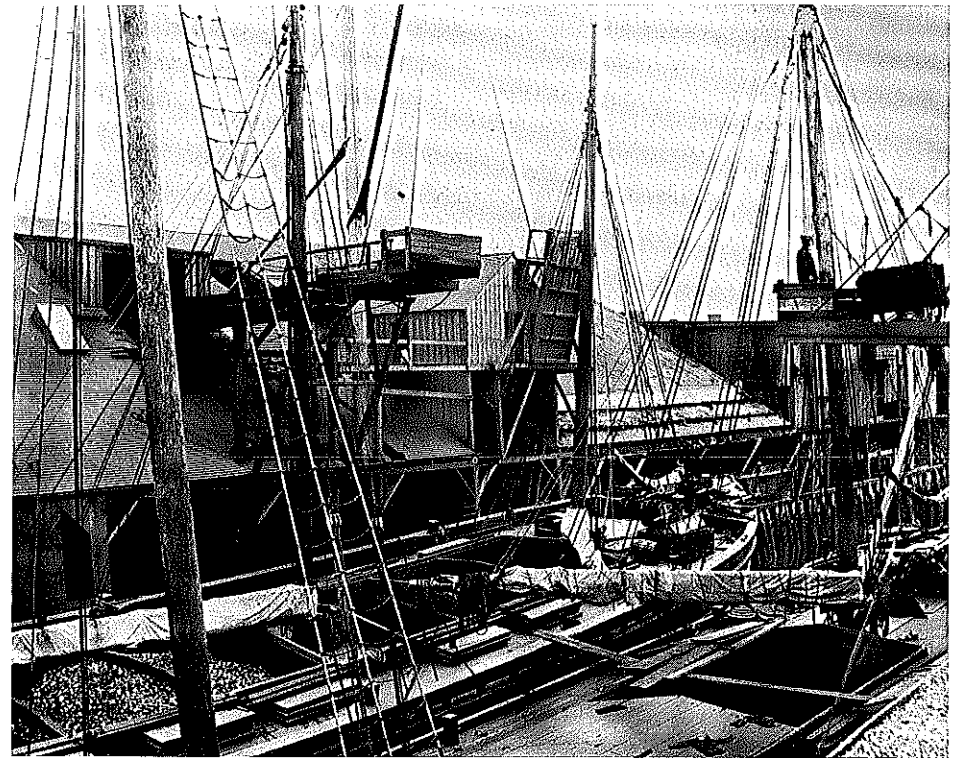


119. Ricker's stone wharf, Lechmere Canal, 1900. Boston & Lowell roundhouse in the distance

3056

Boston Bridge. At high tide, the river was navigable by schooner to Watertown Square and remained so until construction of the Longfellow Bridge in 1906. The entire Cambridge side of the river was a half-tide shore, with flats exposed much of the time and no deep water along the shore to float a ship at low tide. This impediment was not insuperable, however; coastal schooners, shoal draft vessels designed for such conditions, would wait in the channel for the rising tide and tie up to a wharf before the falling tide stranded them on the flats.

Navigation was more seriously restrained by the increasing number of drawbridges that obstructed the channel. As already noted, one condition of the charter for the Canal Bridge was that ship owners be compensated for each passage of the draw; by 1900 the eight highway and railroad bridges downstream were a real



120. Unloading colliers, Broad Canal, 1899 3075

obstacle course. Nonetheless, as late as 1896 the Prison Point draw on the Miller's River opened 552 times, and the Canal Bridge draw opened 4,468 times.

Most of the waterborne traffic consisted of coastal schooners which carried raw materials consigned to East Cambridge firms. Cargoes were primarily coal from Baltimore and Norfolk, sugar from the Caribbean, lumber from Maine and the Maritimes, and granite from Cape Ann and the Maine coast (Figs. 119–120). Coastal shipping began to decline with the expansion of the railroad network after the Civil War. The lumber traffic began to shift to the railroads before 1890, but commerce in stone and coal was heavy well into the 1920s. Traffic on the Miller's River is thought to have ceased in the 1920s, when the West End Street Railway closed its generating plant and the Revere Sugar refinery moved to Charlestown, but the Broad and Lechmere



121. Wet storage of piles, Lechmere Canal, c. 1920

2153

canals stayed in use much longer (Fig. 121). The Cambridge Electric Light Company's Kendall Station received oil by barge until 1985, but in 1988 the drawbridges on the Broad Canal were permanently closed, making further commercial navigation impossible.

The other mode of water transportation in the early 19th century was the Middlesex Canal, which extended 27 miles from Charlestown to Middlesex Village in Chelmsford, just upstream from the future site of Lowell. Incorporated in 1793 and completed in 1803, the canal tapped the forests and farms of northern Middlesex County and the Merrimack River valley as far north as Concord, New Hampshire. Passengers and freight were carried in canal boats, and logs were rafted (see Fig. 60).

The southern terminus of the canal was the Charles-

town millpond, a tidal basin with a milldam at the head of the bay separating Charlestown from Lechmere's Point (Fig. 122). The dam and its mills had been established between 1670 and 1675 and were purchased by the proprietors of the canal in 1803. The millpond provided a basin for the canal boats, and rafts of timber could be stored behind booms below the dam. Provisions were made for freight boats to go through locks into the salt water of the bay; in the absence of a towpath, boats were drawn by hand across the Charles River by an arrangement of buoys and cables. On the Boston side, the proprietors maintained offices and shops on the Almshouse Wharf at the end of the Mill Creek Canal, which crossed Boston to the harbor. The construction of the North Canal between the Miller's River and the Broad Canal after 1811 may have been

intended to provide a protected route to the canals in the Lower Port. Although one traveler tells of going to East Cambridge to board the packet boat *General Sullivan* for Chelmsford, there is only circumstantial evidence linking commercial traffic on the Middlesex Canal to the Cambridgeport canal system.

The completion of the Boston & Lowell Railroad in 1835 meant the death of the Middlesex Canal. In 1843, the agent of the canal noted:

The year [the Lowell Railroad] went into full operation, the receipts of the canal were reduced by one-third; when the Nashua & Lowell went into operation they were reduced another third. Those of last year and the present will not be sufficient to cover the expenditures for repairs and current expenses. The future has but a gloomy prospect. (Clarke, p. 124)

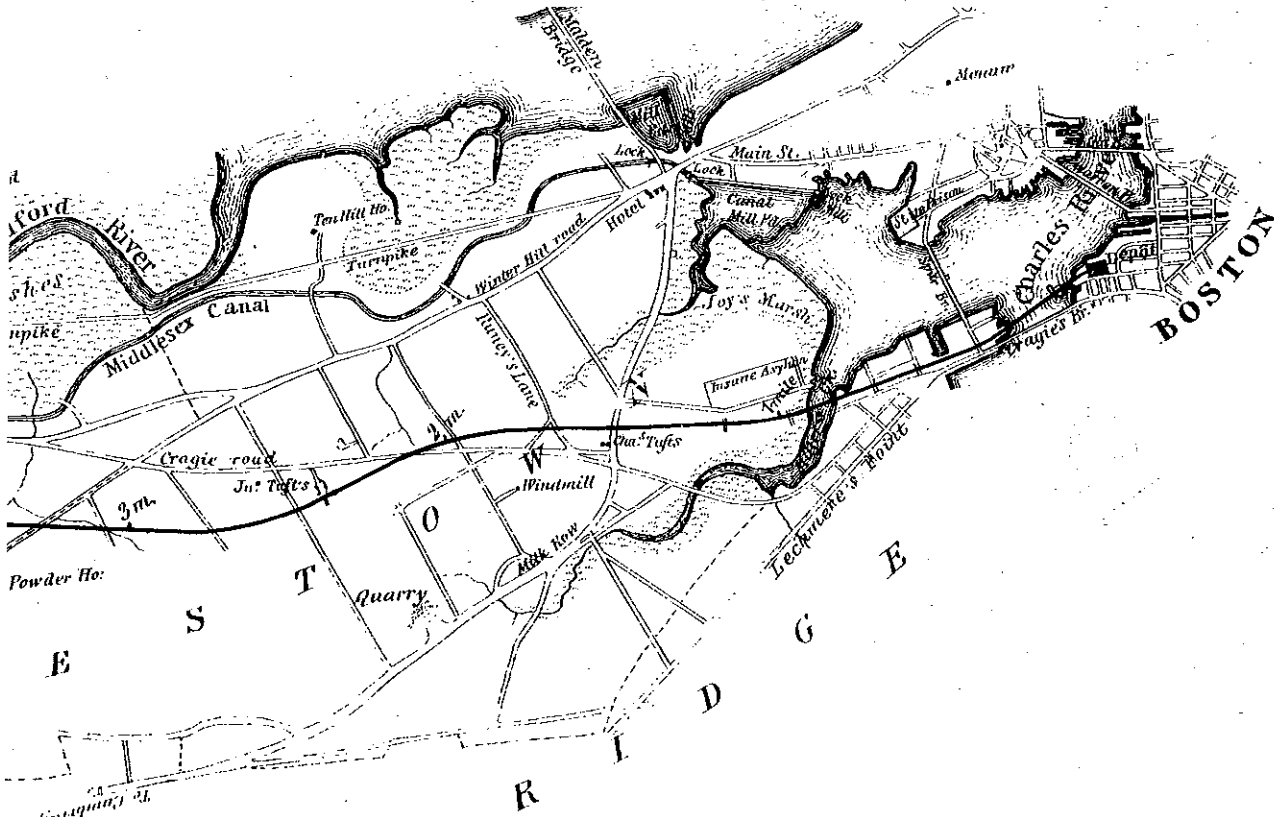
Business continued to decline, and by 1852 the property had been sold and the canal closed.

Railroads

The immediate geography of Boston prescribed that railroads entering the city from the north make their approach across the bay separating Lechmere's Point from Charlestown. From the 1830s to the 1850s, seven companies laid tracks across the bay, intersecting each other's lines and dividing the flats into awkwardly shaped parcels. The manner in which this was done was determined by the immediate objectives of each company and was not part of any overall plan (Figs. 123-124).

The first railroad into Boston from the north was the Boston & Lowell, which was completed in 1835. It had the easiest route: skirting the south slopes of Central and Prospect hills in Somerville, the line bridged the Miller's River below the Barrell mansion to reach a temporary terminus in East Cambridge (see Figs. 63 and 122).

Soon afterward, the Charlestown Branch Railroad was chartered to run from the Boston & Lowell line just south of the Barrell house to the wharves in Charlestown via a trestle across the flats. This line



122. Miller's River Basin in 1832, showing the terminal facilities of the Middlesex Canal and the Boston & Lowell Railroad

12 84/14

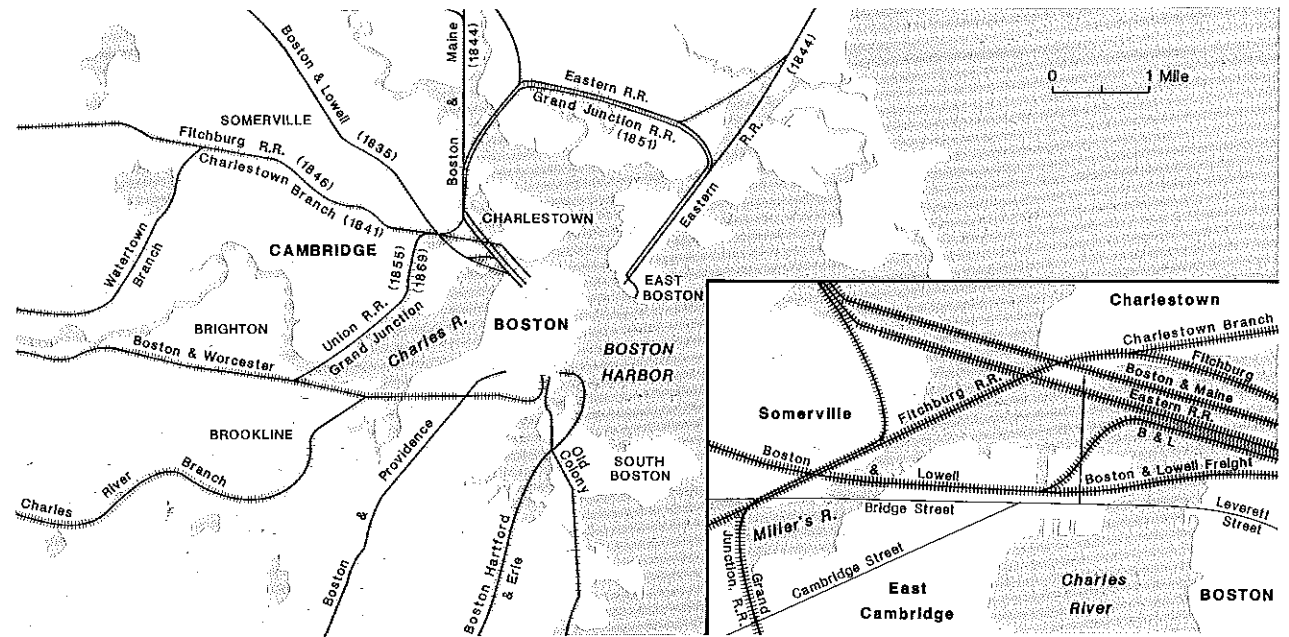
provided access to deep water shipping and became an important connection. In 1841, it was extended to Fresh Pond, yielding a great traffic in ice and brick from North Cambridge. In 1846, however, it was taken over by the Fitchburg Railroad as the nucleus of a route that eventually extended through the Hoosac Tunnel to Mechanicville, New York, and what had been a friendly connection of the Boston & Lowell became a competitive one.

The next railroad across the bay was the Boston & Maine from Portland via Haverhill, which in 1844 was built down the Mystic Valley and across Charlestown Neck, crossing the Charlestown Branch at grade near the Prison Point Bridge. This crossing was paralleled in 1854 by the Eastern Railroad from Portland via Newburyport, which had originally terminated in East Boston in 1838. All the companies had Boston depots, either on Causeway Street or in Haymarket Square, and all were in the possession of the Boston & Maine by 1900. Connecting all the northern lines was the Grand Junction branch of the Boston & Albany Railroad, the Boston & Maine's great rival.

Together, these lines created a vast network of trestles, junctions, and engine terminals sprawled across the flats (Figs. 125–126). None of the routes was free of level crossings with another, a feature that impeded service well into the 20th century. Despite this profusion of railroads, East Cambridge was directly served only by the Boston & Lowell and the Grand Junction.

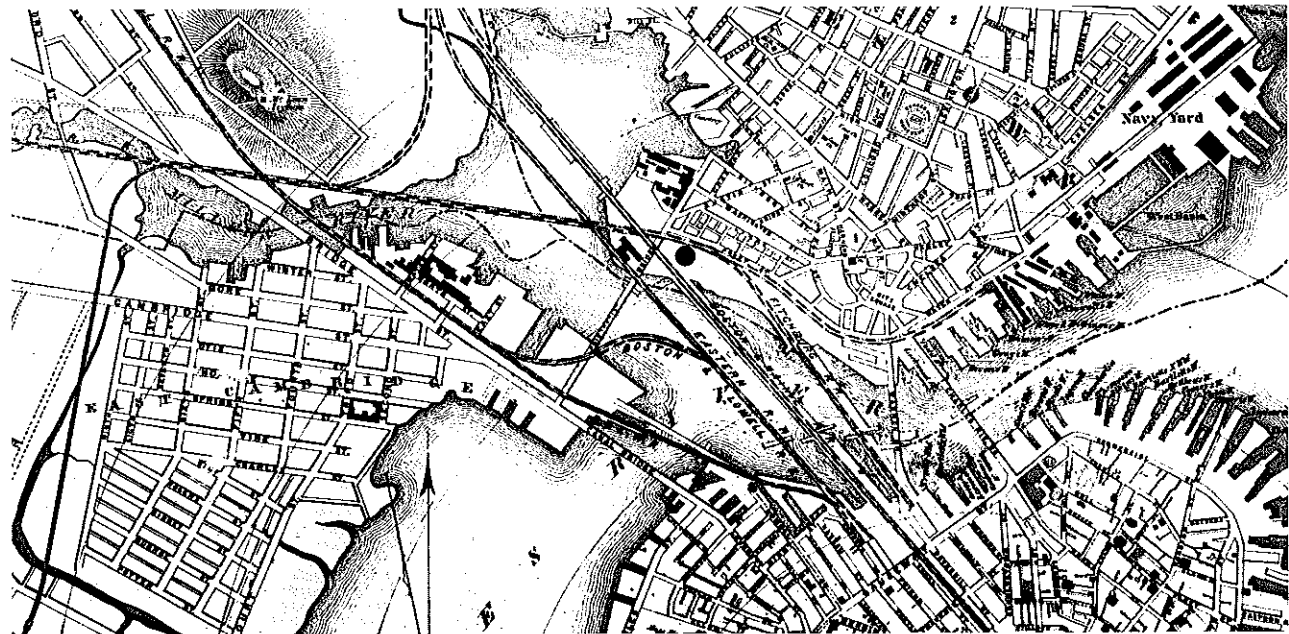
The Boston & Lowell Railroad was the first railroad chartered in Massachusetts, and it was given exclusive rights to operate a railroad between Boston and Lowell for thirty years. The railroad opened on June 24, 1835. For the first few years the terminal was in East Cambridge, at the Prison Point Bridge, although an act of 1832 permitted building a bridge from Boston across the Charles to Cambridge or Charlestown between the Canal and Warren bridges. The route was left to the discretion of the company; the only restriction was that it stay at least 100 feet away from the Prison Point and the Canal bridges. Later a station was established at the corner of Brighton and Leverett streets in Boston.

In 1847, the Boston & Lowell was authorized to construct a branch from East Cambridge to a new



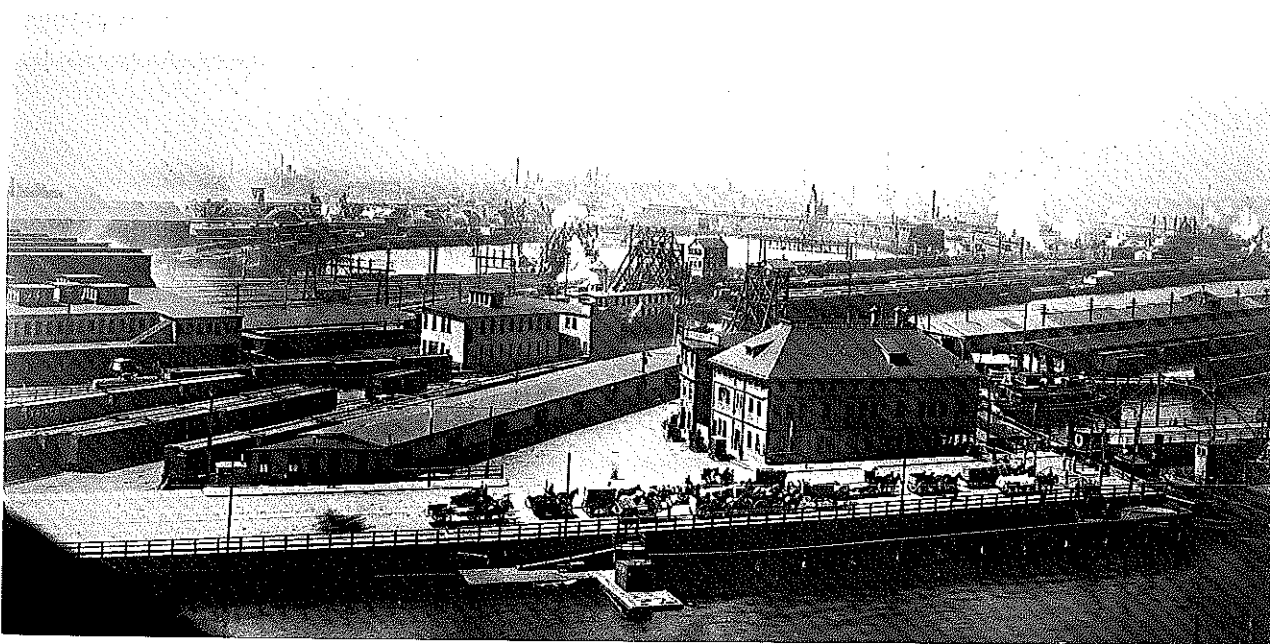
123. Railroads entering Boston, 1830–65

flat file



124. Railroads entering Boston from the north, 1865

1284/30



125. Warren Bridge and Boston & Maine yards, looking toward East Cambridge, 1911 2516B

station on Causeway Street, but it did not do so. In 1853, it was again granted permission to construct a branch, either from East Street in East Cambridge to a bridge next to the Eastern Railroad or as an extension of the existing track along the waterfront to Traverse Street in Boston. The railroad chose the first route, and in 1857, after filling more flats in East Cambridge and throwing a second bridge across the Charles, it opened a new station on Causeway Street. The new route bypassed the East Cambridge passenger station on Prison Point Street, which was moved to Third Street. The old route was then used only for freight.

The Boston & Lowell provided a valuable link between the towns of Middlesex County and the county seat at Lechmere's Point. Beginning in 1835 with two round trips a day between Boston and Lowell at a fare of \$1, it had expanded by 1851 to fifteen trains daily at a fare of 60 cents. The railroad's East Cambridge station was a simple one-and-a-half-story gable-roofed

structure, with deep eaves supported by long, curved brackets that created a shelter for waiting passengers (Fig. 127). Tall, round-headed windows and paired doorways facing the platform were the most prominent features of the building. Five of its seven rooms served as living quarters for the station agent; the other two were separate waiting rooms for male and female passengers. Passenger trains stopped in East Cambridge until the late 1920s, when competition from the street railways caused service to be terminated; the station was demolished in 1928.

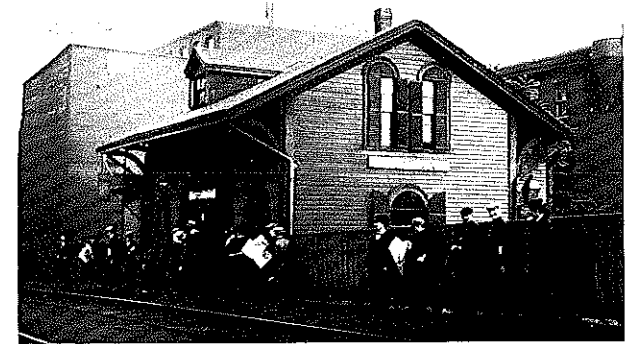
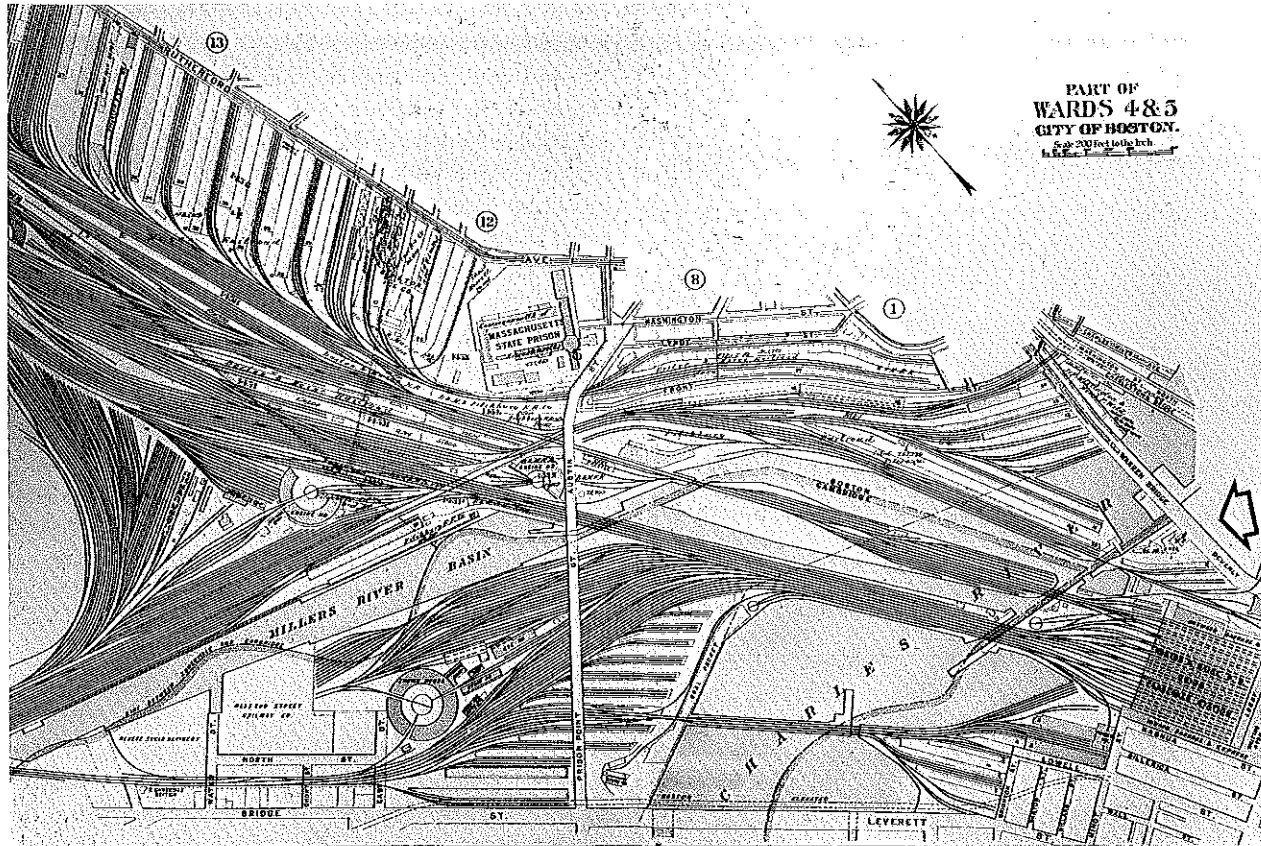
Architecturally, the most significant Boston & Lowell structure in East Cambridge was the first roundhouse, a castellated granite structure built in 1845 at the corner of the Canal and Prison Point bridges. Designed by George M. Dexter, it was similar to engine houses elsewhere on the line (Figs. 128–129). A second engine house was built just north of the first and was extended to shelter five additional locomotives in 1873. Farther

north, a still larger engine house was built in 1886, just before the company was leased to the Boston & Maine. By this time, the railroad had also built a number of sheds for hay, lumber, and ice, as well as car and locomotive shops for its own use. All these were demolished by 1903 in an expansion of the freight yards, and a new roundhouse was built west of the Prison Point Bridge. This, in turn, was demolished after World War II; the present Boston Engine Terminal is in Somerville.

The Grand Junction Branch in Cambridge had a shaky beginning that belied the strategic role it was to play. None of the seven railroads that entered Boston by 1855 initially planned to interchange traffic, yet all wished to gain access to the deep water piers in South Boston, Charlestown, or East Boston. Of these locations, the most important in the 1850s was the Cunard wharf in East Boston, from which regular steamship service to Liverpool had begun in 1840. Of all the railroads entering Boston, the Boston & Worcester was most in need of deep water access.

The Grand Junction Railroad & Depot Company came into existence in 1846 as the Chelsea Branch Railroad. It was initially chartered to construct a line from the Eastern Railroad in East Boston to Chelsea. In 1848, it was renamed and authorized to cross the Mystic River into Somerville to interchange with other railroads there and to build piers on the 1.5 million square feet of flats it owned in East Boston. Both tasks were accomplished by 1851. According to the first annual report of the Grand Junction in 1848, the extension would provide a "perfect chain of communication between the Grand Junction Depot and all the interior railroads, extending through the manufacturing districts of Massachusetts, Maine, New Hampshire and Vermont, to both Canada and the Great West, over which the manufacturers and products of this vast extent of country will come to a shipping depot." The need to link the port in East Boston with New York, the West, and Canada was the chief reason that, as early as 1852, the Grand Junction sought to negotiate with the Union Railroad and the Boston & Worcester, with which the Union was to connect.

The Union Railroad was incorporated in 1848 to con-



127. Boston & Lowell Railroad, East Cambridge station, c. 1910 photograph 1020/12

tracks and began operations in 1869. Later, the Boston & Albany built a freight house on Binney Street and laid spur tracks along Rogers Street (1876) and Munroe Street (1909) to service factories directly and to encourage industrial development south of Charles Street (see Fig. 414). The Grand Junction Branch became the only practical connection between the railroads north and south of the city, and it remains so today.

While the Grand Junction Branch never carried passengers, its importance as a freight line cannot be overestimated. The volume of trains seems unbelievable today, but in 1901, during a movement to separate all the grade crossings in the city, it was found that on a typical day, Cambridge Street was blocked for 63 minutes by 42 trains totaling 523 cars (Fig. 130). Today, there are no shippers left in East Cambridge, and trains are infrequent.

Omnibus Lines and Street Railways

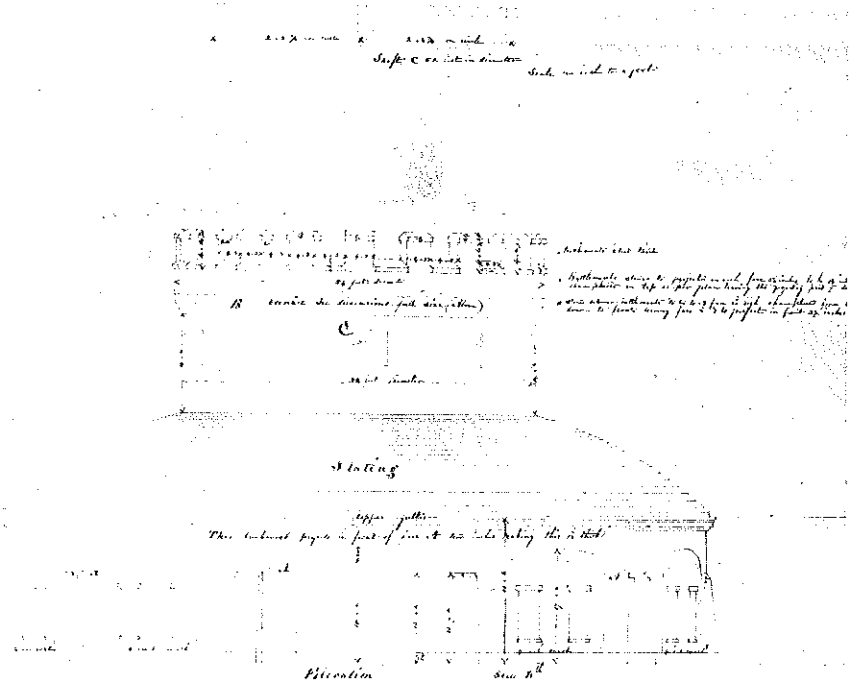
The evolution of Bridge and Cambridge streets into main highways between Boston and the interior towns gave East Cambridge a strategic position when public transit systems developed in the 1830s. While relatively few routes originated in East Cambridge, the area benefited from frequent service on lines between Boston and Old Cambridge and later, Somerville and Medford. When the street railroads were electrified in

126. Miller's River Basin and Boston & Maine Railroad yards in Boston, Charlestown, and East Cambridge, 1912. The photograph in Figure 125. was taken from the point indicated. 2797

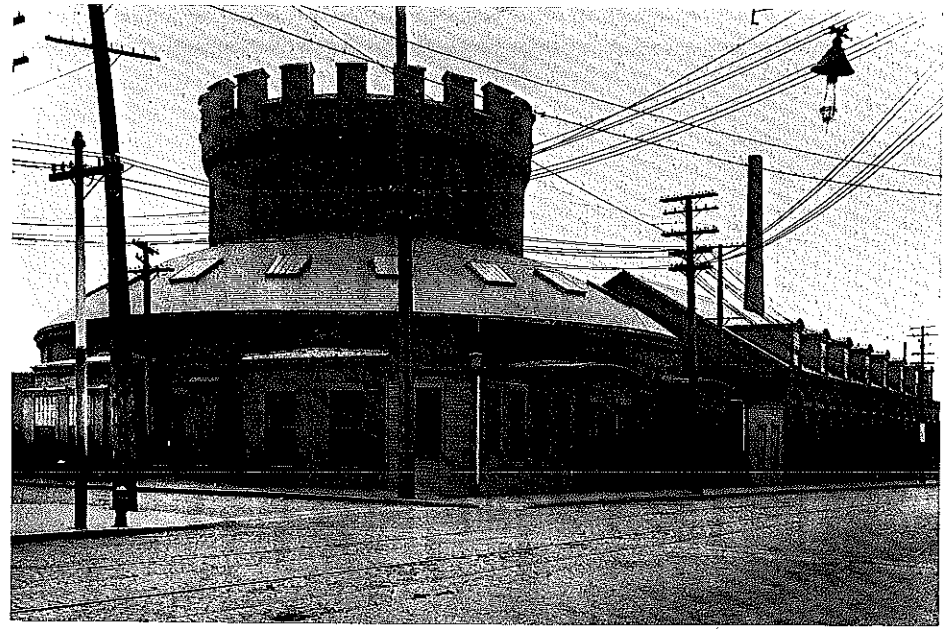
struct a line from Somerville to Brookline, starting on the Fitchburg Railroad near its junction with the Boston & Lowell. From there it was to run across the marshes on the western side of East Cambridge and along the Charles River to connect with the Boston & Worcester at Cottage Farm in Brookline. The incorporators, Isaac Livermore, Charles Davenport, and Newell Bent, represented interests in Cambridgeport. In 1853, the Union Railroad was authorized to lease its property to the Grand Junction Railroad, and the deadline for completing the line was extended to 1855.

The Boston & Worcester invested \$100,000 in the Grand Junction in 1853. In return for helping construct

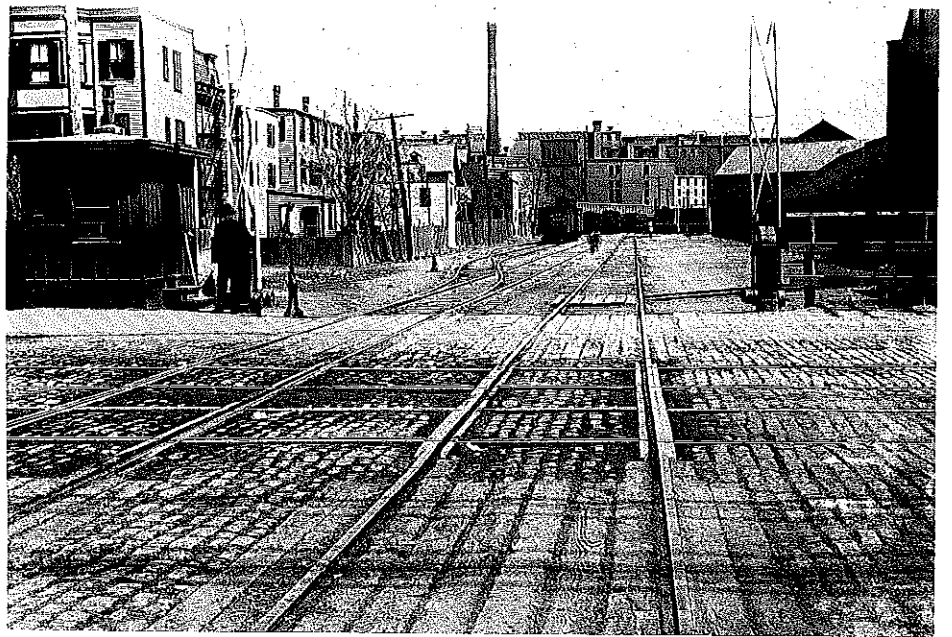
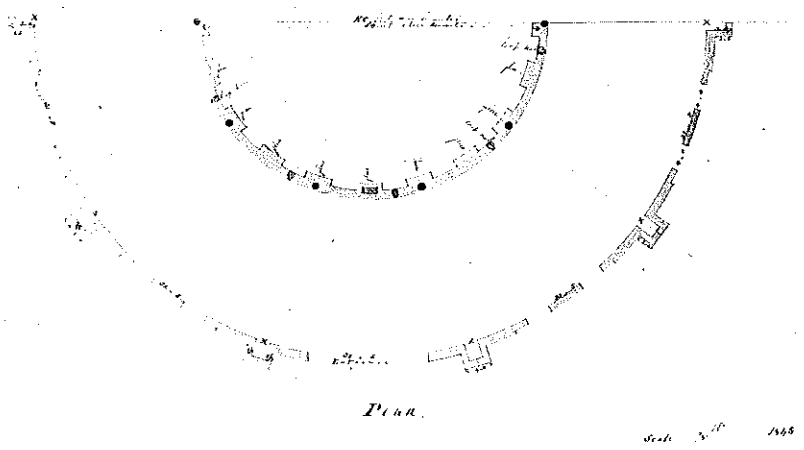
the line through Cambridge and Somerville, the Boston & Worcester was to receive a lease of wharf facilities in East Boston. Service began in 1855, but only a short time later a storm washed out a bridge. The Grand Junction, deep in debt, was unable to make repairs and service came to a halt. The Boston & Worcester refused to resuscitate the company and went to court. Litigation dragged on until 1866, when a legislative act authorized the Boston & Worcester to take over the Grand Junction's franchise and properties. A merger of the Boston & Worcester and the Western railroads took effect in 1868 and created a new corporation, the Boston & Albany Railroad. It at once relaid the Union



128. Boston & Lowell Railroad roundhouse, 1854, original plans by George M. Dexter



129. Boston & Lowell Railroad roundhouse, Prison Point and Bridge streets, 1900 photograph
3058



130. Grand Junction Branch, looking north from Cambridge Street, c. 1910
8676-D



131. East Cambridge horsecar in Harvard Square, c. 1865
2756

the 1890s, the lines were extended to more distant towns. Traffic became so heavy by 1910 that streetcars were segregated from road traffic by a viaduct parallel to the Charles River Dam. In the 1880s, East Cambridge was also the site of a daring experimental steam-powered monorail, which its promoter, Joe V. Meigs, hoped to convince Boston to adopt for its transit system.

Four factors influenced the development of public transportation from omnibus to trolley: speed, capacity, comfort, and cost. An omnibus progressed at about 5 miles per hour, carried up to 20 people, and charged between 2½ and 15 cents. Horsecars charged between 2½ cents and 12 cents, ran at 7 or 8 miles per hour, and carried up to 48 people; they were better ventilated and considerably quieter than omnibuses. Electric cars were well heated and lighted, ran at 13–15 miles per hour, carried 90 passengers, and charged a standard 5 cents. The early electric cars were extremely noisy and caused many complaints from home owners. Each advance in the time-distance-cost relationship affected the population mix of every area served. New lines opened up suburban housing opportunities for the economically successful, and lower fares allowed workingmen to ride rather than walk.

Omnibuses were the first vehicles designed specifically for local service. They evolved from “hourlies,” stagecoaches run over a short distance between urban centers. Before the introduction of hourlies, which first ran in Cambridge from Harvard Square to Boston in 1826, long-distance coaches, private carriages, and walking provided the only means of getting about. The

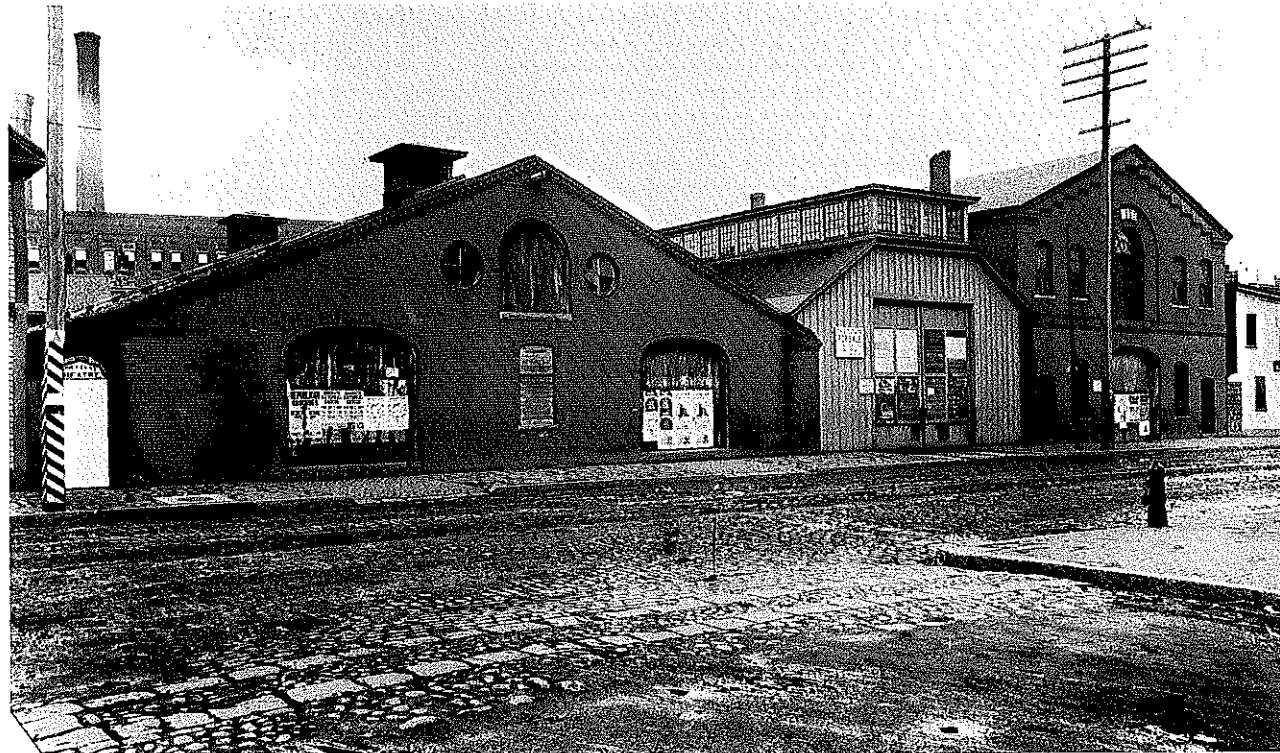
early omnibuses resembled elongated stagecoaches, but with a rear door and seats placed along the sides instead of crosswise. When additional seats were provided on the roof, the total capacity was about 20, compared to 9 in a coach.

The first hourly to run from Old Cambridge through East Cambridge was that of Ebenezer Kimball, who carried the mail. Begun in 1830, the coach ran every other hour five times a day and was announced by a post horn, the same signal used for long-distance stages. In 1831, East Cambridge was linked to Cambridgeport by Mark Bill’s hourly, which ran six times a day. Also in 1831, the first line originating in East Cambridge began operation when William Mansize purchased a small coach from Kimball for a route from Lechmere’s Point to Boston. This line was subse-

quently bought by Ebenezer Pratt, John and Moses Kimball, and A. Studley, and in 1839 by John L. Boynton, who ran it until a horsecar began operation in 1859.

In 1846, Boynton started another line from the Lechmere House to Boston’s City Hall, running every hour instead of every other hour. By 1852, Boynton had six two-horse coaches and made trips every half hour. He lived at 115 Cambridge Street and until 1854 kept his office on Cambridge Street opposite what was then the Universalist church between Third and Fourth streets. His omnibuses were named Metamora, Nameokee, Vesuvius, and Etna.

By the end of 1852, an omnibus ran every two hours from Harvard Square down Cambridge Street and over Craigie’s Bridge to Boston. The Cambridge Street route provided a direct connection between the First

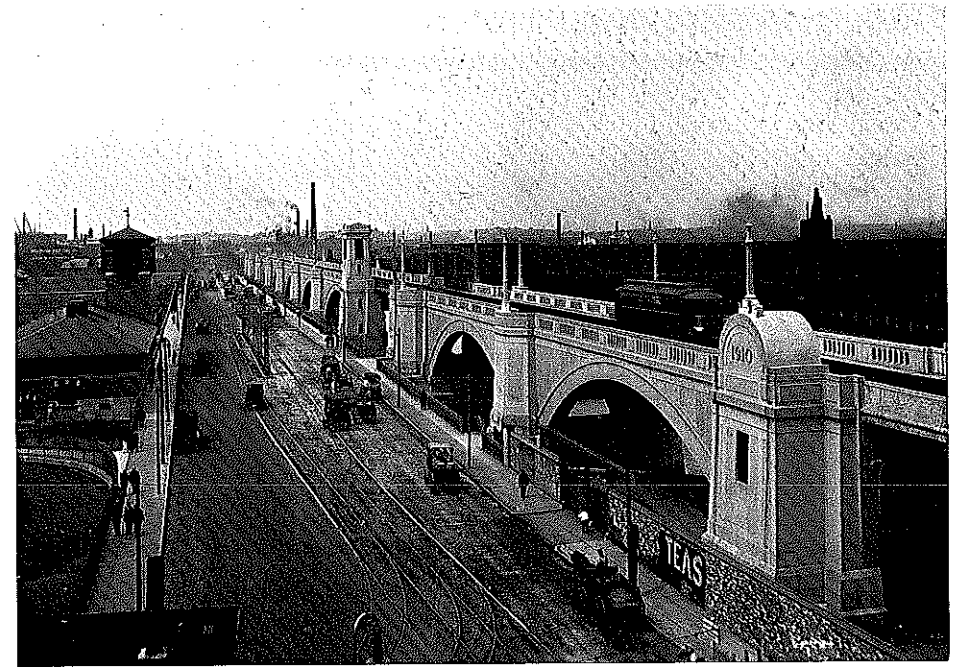


132. Union Railroad carbarn, 619 Cambridge Street, 1869, architect unknown. Photograph 1899
3004



133. West End Street Railway car 1414, on Cambridge Street, c. 1910

3050



134. East Cambridge viaduct and Charles River Dam, c. 1912

2852

and the Third wards and access from Harvard Square to the courthouse.

In spite of their convenience, the omnibuses did have drawbacks. The 10-cent fare proved too expensive for the average workingman, and the toll on the bridge kept the fare high. Omnibuses were also vulnerable to the weather and to poor road conditions.

These difficulties were solved by the introduction of horse-drawn cars running on tracks. The horsecar combined the speed, smoothness, and all-weather capability of a railway vehicle with the low cost, safety, and flexibility of an omnibus. This innovation increased ridership from the hundreds to the thousands and made the omnibus virtually obsolete.

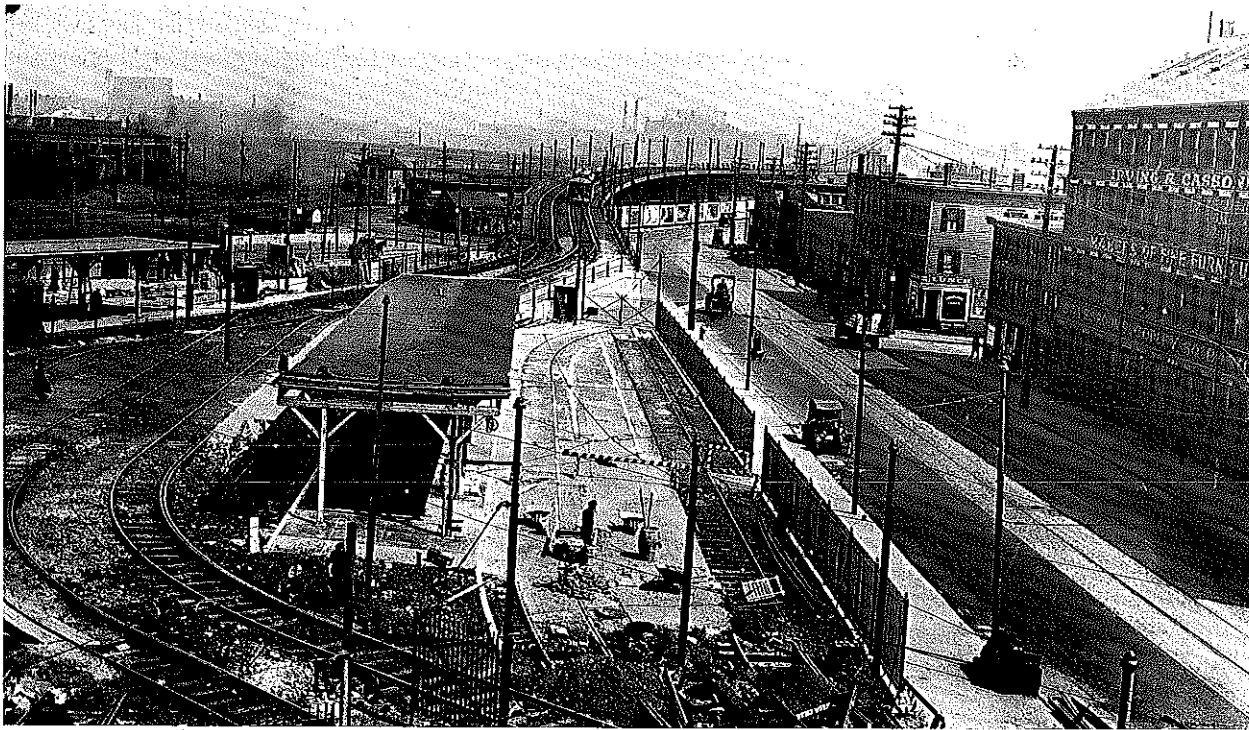
Cambridge followed only New York, New Orleans, and Paris in introducing horse-drawn street railways. In 1853, the Cambridge Railroad Company was incorporated by Gardiner G. Hubbard, Charles C. Little, and Isaac Livermore to provide horsecar service in Cambridge, but its funds were inadequate to equip the

road. In 1855, the Union Railway Company (not related to the Union Railroad) was incorporated, and it leased the Cambridge line. By 1856, horsecars ran from Old Cambridge to Boston via today's Massachusetts Avenue and Main Street over the West Boston Bridge. Not until 1859 did horsecars reach East Cambridge, when a branch was opened on Court Street (now Third Street) to Dock Square. The company hoped to run a direct line from East Cambridge to Boston by way of Bridge Street and Craigie's Bridge but had difficulty in obtaining permission for the Boston end. A Cambridge Street line opened soon after, with service from Harvard Square (Fig. 131). By 1866, a track had been laid over Craigie's Bridge and the Third Street track removed by order of the Board of Aldermen. In 1874, a new track was laid along Third Street to guard against a blockage on either bridge, but it did not see regular service until 1885, when Somerville cars began to run over it to Charles Street in Boston.

The car barn constructed at 617 Cambridge Street

in 1869 is an important survivor of this period (Fig. 132). Although the first floor has been altered by a storefront, the building remains relatively intact.

Apparently horsecar service in the 1870s was not all that it could have been, and in 1874 one of the incorporators of the Union Railway, J. C. Stiles, started a competing omnibus service with four coaches called the People's Line of Coaches. Although omnibuses had generally gone out of use years before, by 1876 Stiles was running a coach every ten minutes from Eighth Street in East Cambridge to Summer Street in Boston. By 1878, he operated twenty coaches and two barges and charged 5 cents. To meet this competition, the Union Railway improved the frequency of its service, the cleanliness of its cars, and the civility of its underpaid conductors. In 1879, it advertised fare reductions from 6 to 3 cents for People's riders. This policy applied only to the East Cambridge line, evidence that the Union was trying to drive People's out of business. Stiles managed to stay in business until 1883, when he



135. Lechmere terminal under construction, 1922 112-7

sold his operation to John Cassidy of Watertown. Stiles continued as superintendent, but within a few months the entire stock of sixty-seven horses, fifteen coaches, and four barges was sold at auction, and the horsecar once again became the dominant mode of transportation in East Cambridge.

In 1887, the Cambridge Railroad, as the Union Railway had been renamed in about 1884, became part of the West End Street Railway, and the electrification of the horsecar routes began in 1889 (Fig. 133). In 1894, the West End was absorbed by the Boston Elevated Railway, which was charged with developing rapid transit in the Boston area. Craigie's Bridge was identified as a major choke point, and it was determined to construct an elevated line in conjunction with the new Charles River Dam.

The electrified East Cambridge routes continued unchanged until 1912, when a high-level viaduct parallel

to the Charles River Dam permitted uninterrupted travel between Lechmere terminal and North Station. Designed by Peabody & Stearns to provide a strong visual closure to the Charles River Basin, the viaduct incorporated a drawbridge over the locks to allow schooners up the channel (Fig. 134). At first, all routes from the north continued over the viaduct to the Boston subway, but in 1922 the Lechmere terminal became a transfer station, ending direct service to Boston along Cambridge and Bridge streets (Fig. 135).

Beginning in 1936, the Cambridge Street service was replaced by trackless trolley buses; the Somerville routes were converted in 1941. Trackless trolley service continued in East Cambridge until 1963, with loops on Gore and Third streets from the Msgr. O'Brien Highway. Since then, streetcar service has continued on the Green Line to the Lechmere terminal. The present plans are to move the Lechmere station to the

north side of the highway, in part to accommodate a possible extension of service into Somerville along the former Boston & Lowell line.

The Meigs Elevated Railway

An unusual experiment in public transportation took place in East Cambridge when a monorail line was erected by Josiah Vincent Meigs in 1885–86 on the grounds of the former Bay State Glass Company and on open land behind Squire's meatpacking plant. Meigs was born in Tennessee in 1840 and spent his life inventing and patenting a variety of devices, from a breech-loading gun to special furniture. His lifelong interest, however, was in developing a safe and improved railway system, an invention that became the Meigs Elevated Railway.

By the age of fourteen, Meigs was already experimenting with railroad technology and had developed a new railroad car coupler. His determination to design an improved railway system increased after he was involved in a railroad accident while an apprentice on the Memphis & Charlestown Railroad in 1860.

In 1866, Meigs moved to Lowell to work under the patronage of General Benjamin Butler. Although his main job was to develop a breech-loading gun for Butler's U.S. Cartridge Company, Butler also supported his work on other inventions. When Meigs applied for his first railway patent in 1873, he had already been working on the project for six years.

The Meigs Elevated Railway emphasized safety, comfort, and convenience. The track structure consisted of two rails, one mounted above the other on a line of supports (Fig. 136). This single post system removed four fifths of the structure that darkened streets beneath other elevated systems. One pair of wheels angled at 45 degrees carried the weight of the engine, tender, and cars; another pair mounted horizontally inside the locomotive gripped the upper rail and provided the driving power (Figs. 137–138).

Accidents could occur in the Meigs system only if trains collided on the same track. In an emergency, the engineer could reverse the engine to augment normal

braking and individual cars could be detached by the flip of a valve. Each car also had its own independent braking system to break the force of a collision. The locomotive had a buffer extended by an air spring instead of the traditional cow catcher, and the cars were lighter, thereby reducing momentum. At the moment of collision, couplers locked down the ends of the cars, and the floors, platforms, and braces were reinforced to resist damage. Finally, the locomotive was controlled from a raised compartment where the engineer could both see the way and communicate with the crew.

The cars, like the engine, were cylindrical to diminish wind resistance and stresses. The interiors were lined with panels of fireproof material. Seventy-two upholstered seats were arranged as in a parlor car and moved independently, revolving and folding up to gain floor space for packages. The seats could accommodate 33 percent more passengers than a horsecar, with 2 inches more room per seat per passenger.

Meigs wanted his system to give workers a maximum commute of fifty minutes. Ten minutes each were allowed from home to the train and from the train to work, and no more than thirty minutes were to be spent on the train. Trains would operate at 20 miles per hour. By having 2.5 stops per mile, the maximum walking distance was reduced to .4 mile. Such a system would allow the worker to live in the suburbs and commute easily to work.

Massachusetts railway law required that a charter be approved by the General Court and locations approved by individual city councils before construction could begin. In 1880–81, Meigs presented his models and charter to the House, but the Senate refused to hear him. Undaunted, he returned the following year. Finally, in 1882–83 he gained the support of the House, but not the Senate. Many factors frustrated his attempts: lack of financial support, negative testimony from other railways, and sentiment against Butler.

Meigs gathered 64,000 signatures in support of his system. At last, on March 18, 1884, his charter passed, authorizing a railway between Bowdoin Square in Boston and Cambridge. But its conditions were so stringent that they made it virtually impossible to implement the project. The most detrimental sections were those

requiring the erection of a test track and the payment of all capital before construction began. Equally devastating was the financial panic that struck two months after he received his charter.

In order to encourage capital investment and to fulfill the terms of the charter, Meigs and his friends formed the Meigs Elevated Railway Construction Company, with headquarters at 225 Bridge Street in East Cambridge, and raised \$200,000 to construct an experimental track. The railway laws allowed city authorities to determine the location, gauge, grade, and speed of any street railway wishing to use its streets. As early as November 9, 1881, Meigs had petitioned the Cambridge aldermen for a location in Cambridge.

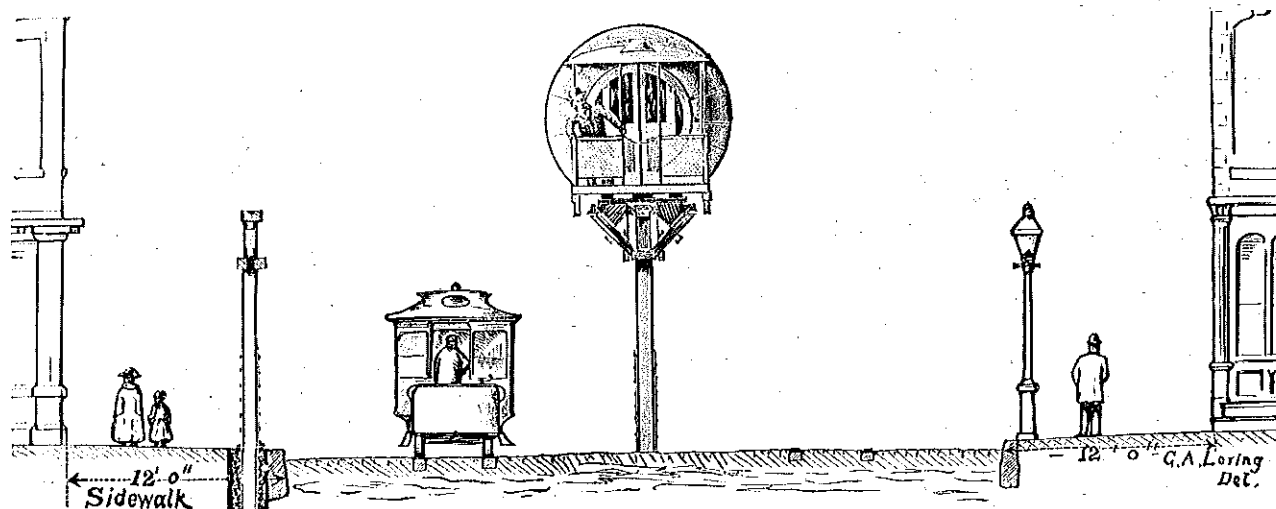
John P. Squire became a major stockholder in the company and donated a plot of undeveloped, filled land between the Boston & Lowell Railroad and his slaughterhouse to build the experimental track. Meigs was delighted to test his railroad on filled land to prove the train's feasibility. Although the charter required a mile of line to be built before a location in Boston could be obtained, only 1,133 feet were deemed necessary to test all the monorail's possible construction problems. One of the first plans showed a quarter-mile track that ran parallel to Bridge Street, then crossed the street at the Somerville line to form an oval behind Squire's

packinghouse. This layout was not built, possibly because it did not test the train's turning capabilities, and a more complicated scheme was followed.

The track as built consisted of 227 feet of level line parallel to Bridge Street that abruptly met a grade of 120 feet to the mile on a horseshoe curve with a 50-foot radius. This was followed by a 55-foot section with abrupt grade changes every 11 feet to 60, 120, 180, 240, 300, and 345 feet per mile. Meigs claimed this section alone would destroy an ordinary engine. At the steepest grade, the track made a quarter circle of 50-foot radius, then continued over two long spans of 46 and 22 feet that rose 3 feet in each length. The track continued over Bridge Street and went another 275 feet on level ground to a safety bumper (Fig. 139).

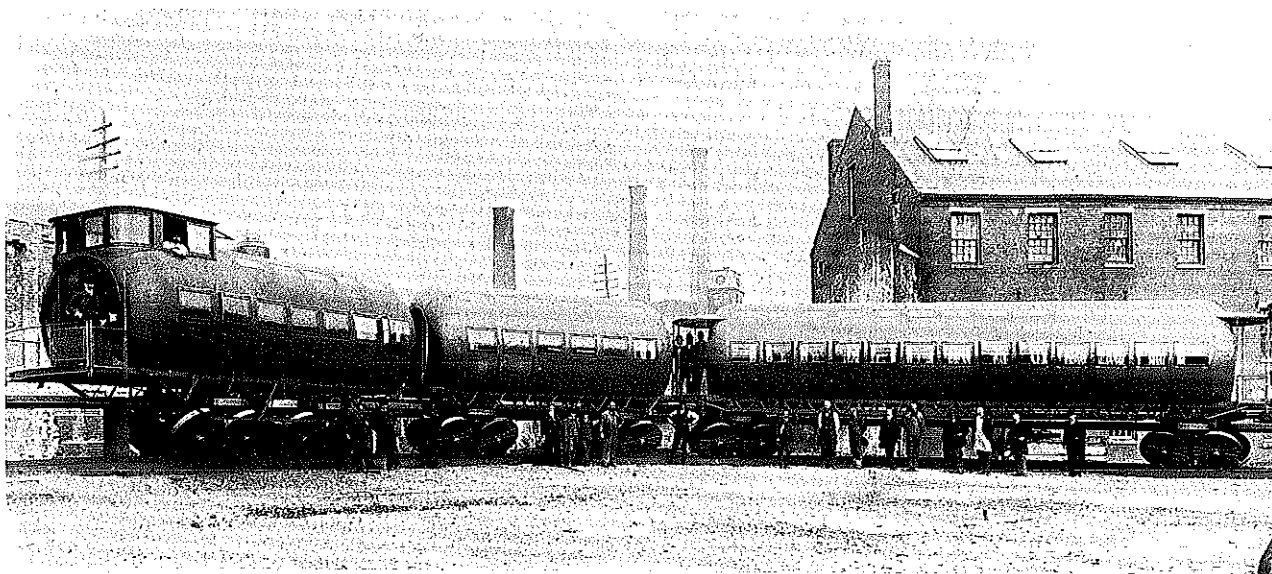
On October 27, 1886, the engineer George Stark, an "unbiased non-resident," was appointed by the Board of Railroad Commissioners to examine the safety and strength of the line. After two months of testing, Stark found the system to be both practical and safe.

Just as Meigs' hopes were rising, on February 4, 1887, an arsonist set fire to the passenger car in the shed. Only the wheels and the floor survived. Meigs began to rebuild immediately, placing temporary seats on the car floor so that the demonstrations could continue.



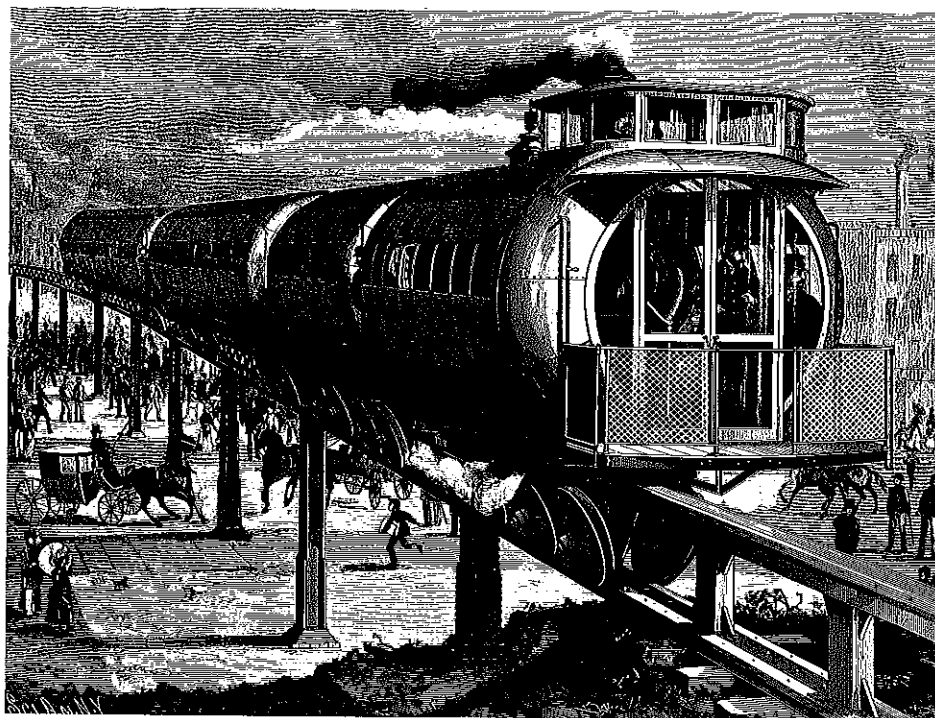
136. The Meigs system on a city street

Missing



137. Meigs engine and cars, c. 1886

m155119



138. The Meigs system

L-147

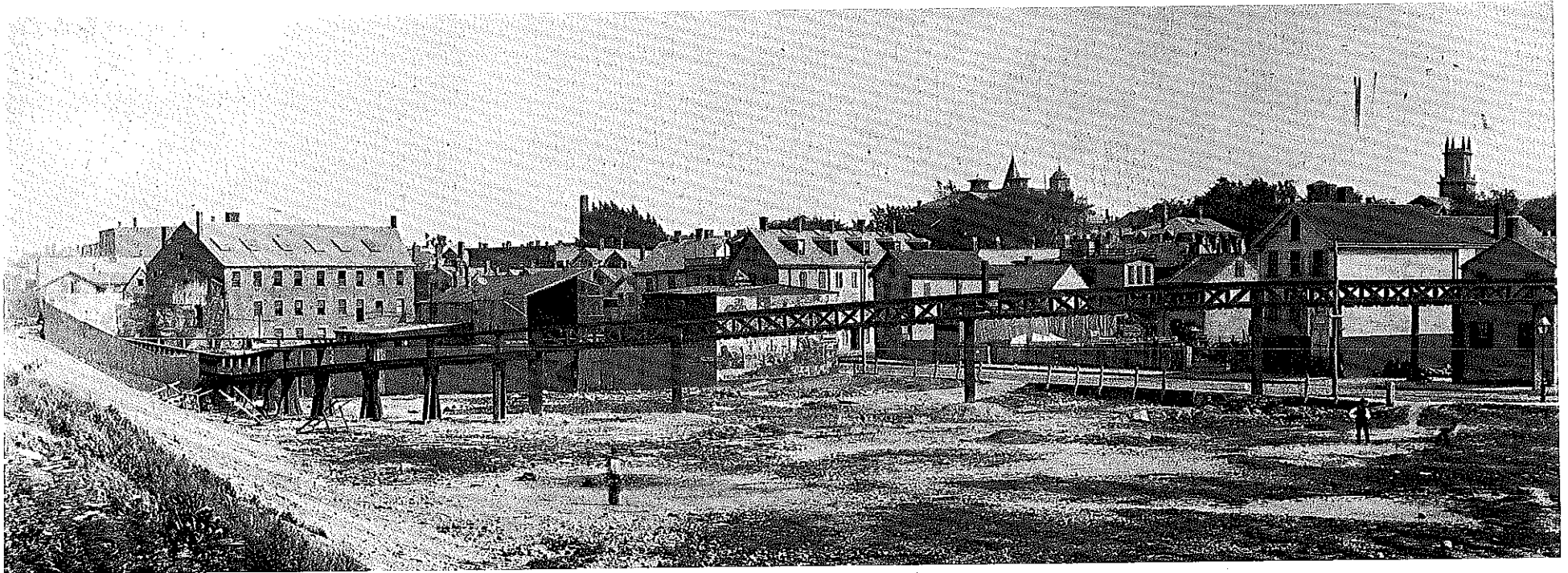
On March 30, 1887, the Cambridge Board of Aldermen granted Meigs a route from Bent Street to Ninth, Portland, and Main streets. The purpose of this route is not clear, and it was never built.

Unable to sell enough stock to raise the necessary capital, Meigs returned to the legislature in the spring of 1887 to have the charter amended to reduce the required 100 percent of capital stock to the usual 10 percent. The only positive result of the amendment, passed on May 19, 1888, was an extension of two more years in which to incorporate the railway (Fig. 140).

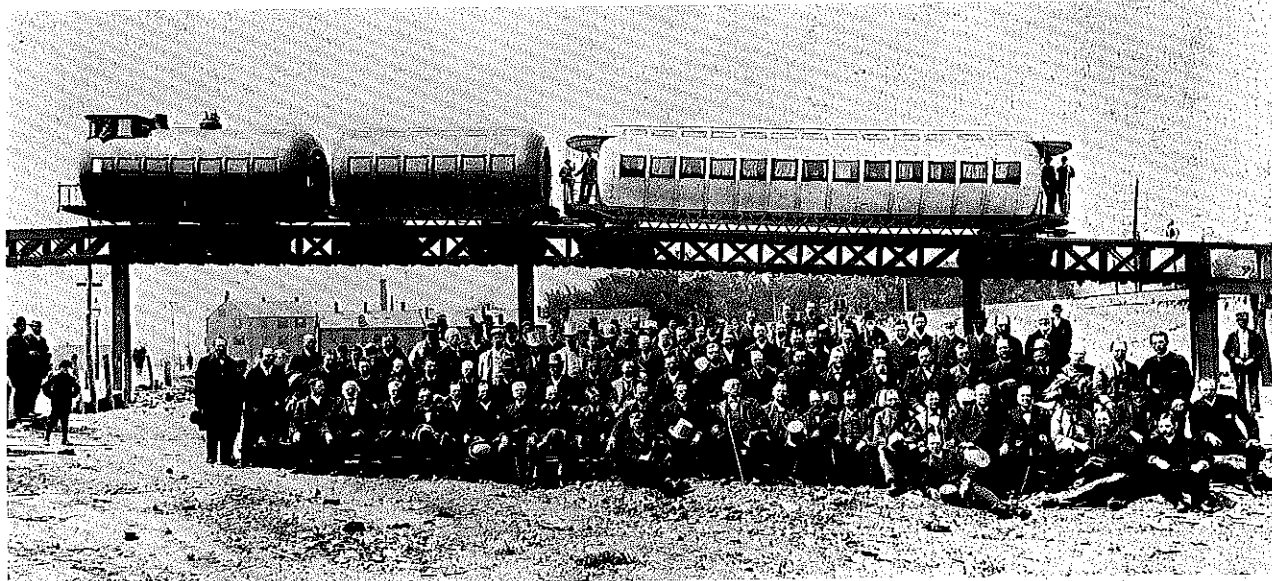
Ironically, it was neither capital nor legislation that finally sank the Meigs elevated railway, but the coming of electricity. The West End Street Railway began electrifying its routes in January 1889. Although the monorail could have been adapted to electric power, Meigs believed electricity was too expensive and could not provide the speed the system needed.

The next several years brought more setbacks for Meigs. On June 3, 1890, his system was recognized as one that could be used by any city or town in the commonwealth. On July 2, however, the West End Elevated Railway bill was passed, putting it in direct competition with the monorail. Vandalism to Meigs' cars continued during 1892 and 1893, and on April 27, 1894, the monorail made its last run. The experimental track was torn down to make way for a railroad siding.

A last ray of hope glimmered for Meigs on July 2, 1894, when the Boston Elevated Railway was incorporated to construct a rapid transit system on Meigs' plan or any other except that operating in Manhattan, which employed conventional steam-powered trains on a double elevated track. Meigs, stubborn and in a manner antithetical to his usual forward-looking approach, still insisted on steam and could not raise the necessary capital. In 1896, several major West End stockholders, who had leased their line to the Boston Elevated, purchased Meigs' franchise to extinguish his rights to operate in Boston. In 1897, the legislature amended the act of 1894 to allow the Manhattan elevated system, which was ultimately adopted, making Boston's narrow streets dark and congested — an effect that Meigs had hoped to avoid with his monorail.



139. Meigs Elevated Railway, looking east from the Boston & Lowell embankment toward the shops and carhouse, with Bridge Street at right
missing



140. Reception for the Philadelphia City Council, 1887 *2762*



141. East Cambridge in 1947. Spring Street in foreground; Fifth Street at left; Northern Artery at top