

October 31, 2001

3

*Stephen H. Kaiser  
191 Hamilton Street  
Cambridge, Mass. 02139*

**To :** Cambridge City Council  
c/o Margaret Drury, Cambridge City Clerk

**From :** Steve Kaiser, ACN Zoning Analyst *SKK*

**SUBJECT: Submission of Reports for Communications Agenda**

I am submitting the following report on map boundary issues for the Communication portion of the City Council agenda and request that this report be placed on the communications agenda. The original version of the report was in 11" x 17" format and was distributed to all members of the City Council. The attached is a copy of this report suitable for 8 1/2" x 11" format.

Also for the communications agenda is my Report, "Zoning Flaws and remediation for the Eastern Cambridge Area," dated October 25, 2001.

2001 OCT 31 AM 10:34  
CITY CLERK  
MARGARET DRURY

**History and Analysis of  
the Millers River Section of  
the Cambridge-Somerville Boundary**

prepared for

*Cambridge City Council*

by

Association of Cambridge Neighborhoods  
S. Kaiser, Zoning Analyst

October 2001

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# **Research and Analysis of the Cambridge-Somerville Boundary Line**

## **EXECUTIVE SUMMARY**

Current Cambridge mapping, especially the primary maps on the GIS system, include an unauthorized change to the boundary line with Somerville. The original boundary the historic curving channel of the Millers River. This river has been completely filled along the Somerville line and its original alignment has not been marked or surveyed in the field. Over the years, many maps have been prepared showing numerous variations on the Millers River alignment, with each map maker drawing a slightly different line. The best map showing the river and its tidelands rights is the 1873 Bowker map shown in Exhibit B. All subsequent maps are at best somewhat lesser variations on the Bowker map in representing the Millers River.

The attempts to modify and straighten the City boundaries with Somerville first appeared in 1874, and began appearing more frequently in private insurance maps as early as 1900. Sanborn maps from 1927 to the present show a straightened boundary completely at odds with the accepted boundaries of the cities of Cambridge and Somerville -- at least until 1989. Shortly after the North Point rezoning of 1989, Guilford industries retained survey consultant Gunther Engineering to draw up a new boundary, and by an unknown process this alignment began to appear in Cambridge mapping as early as 1989. Only in 1998 did the GIS mapping include the new straightened boundary on all city-wide mapping.

**RECOMMENDATION :** City officials should abandon the erroneous linearized boundary shown in Cambridge maps over the last decade, and temporarily restore all mapping to the previous boundary of the historic Millers River. This older line also matches the maps from Somerville. This long-standing confusion over city boundaries should be resolved through negotiations between Cambridge and Somerville, with the filing of legislation to establish a simple and undisputed boundary to replace the wavy line of the Millers River, and the accurate surveying of the new line, in a full, proper and legal proceeding.

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## **Sources and Acknowledgments**

**The compilations of all the attached mapping data would not have been possible without the assistance of key collections and repositories of historical mapping, atlases and legislative information. Primary sources included the State House Library of Massachusetts, the Middlesex County Registry of Deeds, the Cambridge Historical Commission, and the DEP Waterways Division, in all cases including exceptional staff assistance. Roger Frymire provided digital camera and imaging work for map exhibits B and K. Elie Yarden gave me a copy of the map in early September of this year which allowed me to note the changed boundaries for the first time and bring these to the attention of the Cambridge City Council.**

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## INTRODUCTION AND STATEMENT OF THE PROBLEM

In the past dozen years, several city plans have shown a modified boundary in the North Point Area, labeled as area I-A on the Assessor's maps. These modifications occurred without any City Council or State Legislative action, and first appeared in 1989 and then were uniformly adopted in the city-wide GIS mapping of 1998 -- including the Assessor's maps, Zoning Map, and ECaPS study and zoning proposals. This unauthorized and erroneous boundary was also included in the September 26 Zoning Recommendations of the Planning Board to the City Council.

This boundary change on the city maps substitutes a predominantly straight line border for the traditional wavy-line S-shaped boundary between Cambridge and Somerville. One of the results of this change is to show the City of Cambridge taking over three acres of land which previously was shown as being in Somerville and which are today included in maps of Somerville. As a minimum, the Cambridge and Somerville maps no longer have boundaries that match up. Furthermore, the predominant opinion among virtually all officials is that the Cambridge map of the North Point boundary is in error and should be corrected.

My letter of September 24, 2001 generated City Council Order O-35 of the same date and subsequent letter response (Appendix A). The analysis which follows presents the degree of historical research at this time into the description and mapping of the North Point boundary with Somerville. The boundaries between Cambridge and Boston was set by legislation in 1910 and between Somerville and Boston were established earlier in 1894 legislative action. The only city boundary at North Point which has not been established by legislation in the past 100-150 years is that between Cambridge and Somerville.

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## **Chapter 1 ..... HISTORY OF BOUNDARY LEGISLATION**

**In the beginning, the area we now call Cambridge was an informal collection of European settlers, with virtually no native Indians in the 1620-1630 period because of smallpox epidemics. The town of "Newe Towne" was laid out on July 26, 1631 as a tract of common land. On March 6, 1632, the legal boundaries between Newe Towne and Charlestown (which then included Somerville) were set at the easterly end by the channel of the Millers River. This boundary as it exists today between McGrath Highway to the West and the Boston/Cambridge/Somerville common boundary point has not been changed since 1632 by any legislation or officially authorized municipal action. (There were some minor modifications in 1761, 1802, 1818 1820 and 1856/1862, but none appear to have affected the Millers River area). In 1638, Newe Towne became established as the town of Cambridge, and by Chapter 109 of the Acts of 1846 became the City of Cambridge.**

**The westerly part of Charlestown was separated off and established as the town of Somerville (Chapter 76 of the Acts of 1842) with no boundary changes with Cambridge. In 1871, Somerville was incorporated as a city (Chapter 182). By Chapter 224 of the Acts of 1891, the boundary between Somerville and Boston was established as a series of straight lines beginning at the Boston/Cambridge/Somerville common boundary point and extending north to the Mystic River. This common point was established by the confluence of the Millers River and the Mill Pond Channel, and the boundary with Boston followed the Mill Pond Channel in an erratic, wavy-line manner similar to the Millers River (Exhibit B). This channel extended north towards Sullivan Square and initially served as a tidal dam and later was modified as the access channel for vessels from Boston Harbor/Charles River seeking access to the Middlesex Canal. The canal was part of the canal-and-turnpike craze in the early years of the 19th century : it extended north through Woburn and Wilmington but quickly expired with the advent of the railroads.**

**The Cambridge-Boston border was redefined by Chapter 312 of the Acts of 1910, which set a series of straight lines to replace the wavy riverbed lines of the Charles River and entrance to Millers River (Exhibit M). This legislative action left the Cambridge-Somerville section of the Millers River as the only remaining municipal boundary defined by a historical stream bed.**

**In 1903, the Board of Harbor and Land Commissioners issued their "Atlas of the Boundaries of the Cities of Cambridge, Somerville and Waltham..." covering communities**

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**in Middlesex County. The description of the Cambridge-Somerville boundary began at the three-point corner where Boston, Somerville and Cambridge meet within the North Point rail yards :**

**“Beginning at the corner of Boston, Cambridge and Somerville, an unmarked point in the old channel of Millers River, south 17° 38’ east and about 235 feet distant from the witness mark, a granite monument marked B S and standing 2 feet south of the southerly rail of the main track of the Fitchburg division of the Boston and Maine railroad; thence westerly, along the old channel of Millers river, about 1-2 mile to corner 1-4, a granite monument situated at the fence line on the northeasterly side of Bridge Street; thence along the old channel of Millers river to corner 1-2, a stone monument set 20 inches below the surface of the ground in the rear of the main building of the John P. Squire & CO Corporation on Gore Street; thence south 25° 51’ west 399 feet to corner 1, a granite monument marked S C 1 and situated in the basement of a building belonging to the John P. Squire & Co. Corporation; thence north 72° 01’ west 1,050 feet to corner 2; a granite monument marked C S 2 and situated in the back yard of the rear tenement on Porter Street, 175 feet east of Harding Street in Cambridge .... ”**

**This description shows that from the Boston boundary to Gore Street the alignment of the Cambridge-Somerville boundary follows the old channel of the Millers River. The actual geometry of this river alignment appears never to have been established in words and numbers : maps appear to have been the primary representation. Already in 1903, parts of the old channel had been obliterated by filling operations, both legal and illegal. The last filling occurred in 1962, when the entire length of the Millers River was reduced to an underground culvert, with no open water along the Cambridge-Somerville boundary.**

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## **Chapter 2 FILLING AND MAPPING OF THE MILLERS RIVER UP TO 1989**

The Millers River is shown on the very old maps as “Gibbon’s Creek” in 1635, “North River” in 1759, “Willis Creek “ in 1775, “Millers Creek” in 1830, 1854 and 1873, and “Millers River” in 1811 and from 1894 to the present in all maps. The Millers River watershed is quite small, not more than 1,500 acres, so the normal stream flow is quite low. However, the tidal estuary extended inland to the southwest of Bridge Street (now O’Brien Highway) so that a large mud flat area extended from Bridge Street to the Millers River junction with the Charles River -- also historically a mud flat area. The Millers River continued to flow through the mud flats even at low tide, and over the centuries the river cut the winding S-shaped riverbed which is typical of the traditional boundary maps.

The best mapping of the Millers River, the low water extent of its stream bed, and the alignment of the Mill Pond Channel is included in the 1873 map by E. K. Bowker of Cambridgeport (Exhibit B). Such a document would be of prime importance for determinations of tidelands permits and land ownership. This map also shows the confluence with the Mill Pond Channel, which defined the traditional shared boundary point of Boston, Cambridge and Somerville. The Bowker map also shows the initial Boston Harbor line along the Cambridge side only. This line set a precedent for many future property boundaries in North Point, as well as later efforts to straighten the boundary and move it north into Somerville.

The first evidence of mapping confusion over the boundary appeared in the 1873 and 1874 maps by G. M. Hopkins, which showed an index map of Somerville with a winding course for Miller River and the Mill Pond Channel (Exhibit C). However, a more detailed map displayed invented straight-line boundaries along the Millers River and Mill Pond Channel (Exhibit D). These two simple straight lines have not been found on any other mapping, and were probably the result of frustration by the mapmaker of finding an accurate depiction of the river boundaries. In an earlier atlas of Cambridge, Hopkins had left the two boundaries blank and incomplete. The evident inconsistencies in these atlases indicate how difficult it was 150 years ago to achieve accurate boundary mapping.

The 1877 state report (Exhibit E) shows some of the details of the confluence of the Millers River and Mill Pond Channel, as well as filling already begun by area railroads. The late 19th Century also witnessed the beginnings of detailed city mapping by private companies for insurance purposes. The primary examples were by Bromley of Philadelphia and Sanborn of New York. The Bromley map of 1884 (Exhibit F) includes an

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almost complete Millers River boundary For the 1886 Bromley map of Cambridge (Exhibit G-1 and 2) the city line follows the old Millers River in the "Squires" area to the west and up to today's Special District 1 but leaves out about 2/3 of the boundary along North Point. The 1894 Bromley map showed a similar treatment to the west but showed no city boundary at all for North Point (Exhibit H). The 1895 Bromley map (Exhibit I) showed a curved dip in the easterly section, but a straight line segment on the west to Bridge Street. The most revealing map is the proposed filling of the Millers River in June 1896 by the B&M Railroad (Exhibit J). The proposed filling occurs primarily in the area now owned by Guilford and designated as 32R Charlestown Avenue. This large parcel is partially penetrated by the dip of the Millers River boundary (see Exhibit I), yet the 1896 permit shows no city boundary lines and refers only to filling in Cambridge. Because there is no reference to or approval of filling in Somerville, the subsequent filling of over an acre in Somerville is technically illegal and not permitted.

The first appearance of the straightened boundary (as shown on current Cambridge maps) appeared on the 1900 Stadly maps (not available for photocopying). Maps seldom explain themselves, and there is no explanation of where this new alignment came from, although it is probable the preference of the B&M Railroad.

The 1910 map (Exhibit K) illustrates the last legal boundary change involving the three cities of Boston, Cambridge and Somerville. The dark line indicates what is the new red boundary line as shown on the original blueprint, approved by the City Engineers of Cambridge and Boston. The Cambridge-Somerville boundary is shown in part as clearly the wavy S-shaped Millers River alignment. The 1912 Bromley map (Exhibit L) shows the old boundary with Boston but also shows how the expansion of railroad tracks now covers part of the major S-bend in the Millers River. However, the 1916 Bromley map boundary for Cambridge is fragmentary but truly unique. As shown in Exhibit M, with curved sections turning towards Somerville but going off the map. Another unique boundary is shown on a 1923 Waterways permit map (Exhibit N).

In 1927, the Sanborn maps (Exhibit O) began for the first time to show a boundary along the Somerville border, and in this case replicated the 1900 Stadly line as well as the current straight-line boundary of Cambridge maps. Sanborn has retained this boundary in all of its mapping since 1927. It should be noted that within the past year, Cambridge has stopped its subscription to the Sanborn services, due at least in part to concern over inaccuracy in the mapping. The 1930 Bromley map (not available for copying) shows a

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similar straightened boundary, but has a curved connection over the easterly 300-feet to connect to the Boston line. The Sanborn map shows straight line segments.

The Waterways map for 1929 by the B&M Railroad (Exhibit P) shows a very wavy boundary line with Somerville, with no straightened sections. It is close to but does not exactly match the 1873 Bowker map. This permit is correctly labeled for filling in Boston, Somerville and Cambridge. By 1962, the last of the Cambridge-Somerville filling occurred (Exhibit Q-1 and Q-2) with the installation of a 24-inch and 36-inch pipe conduit to carry the Millers River through past the newly filled lane. The permit language (Exhibit Q-3, 4) show that the railroad was claiming all of the land to be "its property" despite the fact that the Commonwealth owns all tidelands below the historic mean low water mark (see Bowker plan of 1873, Exhibit B). The State permit was granted with the express condition that non non-railroad structures could be built on the filled land without "further license authorization."

Another interesting document (Exhibit R) is the 1962 taking of Lot 29A from the bankrupt B&M Railroad, for non-payment of taxes. The parcel contained 1.3 million square foot and the price was \$72,115 to cover taxes and interest. Insufficient time was available to permit further research into the disposition of these lands, some of which were sold by B&M to other parties, yet are included in the total Guilford master plan for North Point. Current Assessors maps show large sections of land (8 to 10 acres) which are no listed and hence are untaxed. Their exact ownership and status should be known, because the major blank parcel abuts the Somerville line (as shown on the Cambridge Assessor's maps) for several thousand feet but may also be traversed by the old winding Millers River alignment and its associated state public tidelands ownership.

In 1988, North Point was rezoned to allow for more intense development and increased heights. The height diagram (Exhibit S) from existing Section 16.000 shows the wavy-line boundary with Somerville and represents the current zoning as of today.

### **Chapter 3    MAPPING OF THE MILLERS RIVER FROM 1989-2001**

Shortly after the passage of the North Point rezoning of 1988 (with extensive discussions with Guilford), Cambridge maps began to show changed boundaries. The April 1989 Assessor's Map shows the traditional S-bend boundary (Exhibit T), while another city map of the same date (Exhibit U) shows a straight line formulation like the

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Sanborn Maps (Exhibit O). Nevertheless, the city Zoning Map of 1990 (modifications of the 1962 map) showed the curved boundary (Exhibit V). Another Public Works map of 1996 (Exhibit W-1,2) showed a curving alignment for area 7 to the west and I-A east to Boston. The 1998 Assessors map (Exhibits X-1, 2 and 3) show a gently curved Somerville boundary, with two variations for the easterly 300 feet -- one straight and the other curved. Two boundary liens are shown between Boston and Cambridge. Two boundary lines are also shown at the westerly tip of North Point and Special District 1 at the Somerville line. The City's current Zoning Map (dated from 1998, Exhibit Y) shows the a predominantly straightened boundary, although the westerly boundary appears to follow the old Millers River and is more curved than the Assessor's map. Somerville city maps from 1999 (Exhibit Z) contain a generally wavy but gently rounded boundary contour. Current Cambridge maps fail to match up with these Somerville maps.

In 2001, Sasaki Associates prepared a sketch plan for possible development of the Guilford land (Exhibit AA), which shows the Guilford lane as encompassing virtually all the land within North Point west of the Prison Point Bridge -- except for the 5 acres of the Cambridge Companies near East Street. The Maytag parcel, as well as the "lost" 8 acres of land at the western tip is included. The Guilford holdings include about 15 acres in Somerville, about 2 acres in Boston and about 45 acres in Cambridge, for a total of about 62 acres of developable land. The Cambridge-Somerville line winds an S-pattern through the overall development parcel -- with a 50-100 foot strip of state-owned public tidelands following this same line.

Beginning in 2000 and continuing into the Summer of 2001, the ECaPS study process for the planning and rezoning of Eastern Cambridge produced many maps of the North Point area, all of which has the misfit straightened boundary. Even though the Sasaki plan contained the accurate city boundary along the Millers River (Exhibit AA), no representative of Guilford or the city sought to correct the ECaPS plans. These erroneous maps were also submitted to the Planning Board as part of the rezoning review, and were included in the Planning Board's September 26 submission to the City Council. The two maps (Exhibits AB and AC) are at the end of Part I of the zoning package and carry no numbering identification, although the text makes reference to "Map 13.71" in Section 13.74.3 (1) and to "Map 13.81" in Section 13.74.11.

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## **Chapter 4 CONCLUSIONS AND RECOMMENDATIONS**

**The Cambridge-Somerville boundary at North Point has remained the same since 1632, following the channel or "thread" of the old Millers River. This boundary is the only riverine boundary in the state which has been completely filled, with demarcation of the original river alignment having never been supplanted by survey markers. Therefore the 369 years since the boundary was set in 1632 has seen great but justified confusion over proper mapping and location. To the best of my knowledge, the river bed has never been surveyed and the alignments shown vary slightly or significantly from map to map. generally, the map makers have been giving a good faith effort to try to represent the Millers River boundary, and one might understand their preference for simply drawing a straight line, which Hopkins apparently did in 1974.**

**Chapter 42, Section 7 of the Mass General Laws deals with the setting of Town Boundaries, and any such changes must be subject to acts of the state legislature. Unfortunately, the wording is arcane and refers to disputes between towns being submitted to a concurrence at town meeting. A reasonable modern interpretation would be that any boundary change would require the approval of the City Council of Cambridge and the Board of Alderman of Somerville, with submission to the state highway department " for review of clarity and engineering accuracy. " The state highway department may make engineering corrections, and their corrected description of the new bounds is what is submitted to the general court. If approved, Cambridge and Somerville will engage the services of a registered land surveyor to provide a detailed description of the changes, with such a survey submitted to the state highway department for approval as to accuracy. The City officials will then place survey monuments or markers to complete the process of resetting the boundaries.**

**In the 1998 incorporation of the straightened boundary lines into its city-wide GIS mapping, the City of Cambridge complied with none of the provisions of Chapter 42, Section 7. How these changes were many in city mapping and setting city boundaries, including taking in 3 acres of what was previously Somerville land is a matter for further investigation. Some local reports indicate that a surveyor, Gunther Engineering, was retained by Guilford Industries to redraw the boundary. Anyone can suggest a new boundary, but the changes appear to have been made without consultation with the City of Somerville and without providing the required state legislation, accurate surveying and checking for accuracy by the state highway department.**

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**The best solution is to seek new legislation, with preliminary surveys and proposals for agreement between the elected officials of Cambridge and Somerville. Such legislation would also seek to resolve all of the illegal tidelands filling of the past and the existence of Commonwealth tidelands along the old alignment of the Millers River.**

**While this new legislation is being prepared, there should be an open., public process to plan for the development of the Guilford lands which now cover parts of Cambridge, Somerville and Boston. The ECaPS planning process was incomplete, especially with regard to traffic and parking from this 62-acre development site. Coordinated zoning should be provided by all three cities to assure that adequate transit and community services are provided to the area, with sufficient usable open space and public accessibility – in exchange for the surrender of state interests in the Millers River tidelands. New surveys and maps would be prepared to give both Cambridge and Somerville clear, simple and accurate definition of city boundaries and land parcels.**

**===== END =====**

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## **BIBLIOGRAPHY**

- Board of Harbor and Land Commissioners, Boundary Map for Cambridge/Somerville 1903**  
**Board of Harbor Commissioners, "Drainage Area of the Millers River" Map 1872**  
**E. K. Bowker, "Compiled Plan showing Milers Creek and a Portion of the Charles River,"**  
**Dec. 2, 1873 655 Main Street, Cambridgeport**  
**Bromley Maps of 1894, 1900, 1916 and 1930 for Cambridge**  
**Bromley Maps of 1896, 1900, 1916 and 1930 for Somerville**  
**Bromley Maps of 1912 for Boston**  
**Cambridge Historical Commission, Survey of the Architectural History of Cambridge :**  
**Report One East Cambridge (revised edition) 1988**  
**Cambridge Planning Board, September 26 recommendations to City Council on**  
**zoning amendments for East Cambridge (ECaPS).**  
**G. M. Hopkins, Atlases of Cambridge & Somerville, 1873, 1874**  
**Mass Department of Environmental Protection, Permit 1079 granted Nov. 5, 1929 and**  
**Permit #4632 granted December 4, 1962, B&M railroad filling of Millers River**  
**Sasaki Associates, Sketch Plan for North Point Development, February 2001**  
**Massachusetts Electronic Atlas at [MASSATLAS.HCL.HARVARD.EDU](http://MASSATLAS.HCL.HARVARD.EDU)**  
**Sanborn Maps of 1900, 1927, 1934, 1962, 1975, 1983**  
**Geo. W. Stadly & Co. Middlesex County Atlas Vol. 1, Boston 1900**



# City of Cambridge

O-35.

IN CITY COUNCIL

September 24, 2001

COUNCILLOR BORN  
COUNCILLOR BRAUDE  
COUNCILLOR DAVIS  
COUNCILLOR DECKER  
MAYOR GALLUCCIO  
VICE MAYOR MAHER  
COUNCILLOR REEVES  
COUNCILLOR SULLIVAN  
COUNCILLOR TOOMEY

**ORDERED:** That the City Manager be and hereby is requested to refer the attached letter from Stephen Kaiser to the Community Development Department, the City Engineer and the City Solicitor for quick response.

In City Council September 24, 2001.  
Adopted by the affirmative vote of nine members.  
Attest:- D. Margaret Drury, City Clerk.

A true copy;

ATTEST:-

A handwritten signature in cursive script that reads "D. Margaret Drury".

D. Margaret Drury  
City Clerk

**Exhibi**  
Council Orc



# CAMBRIDGE CITY COUNCIL

CITY HALL, CAMBRIDGE, MASSACHUSETTS 02139

(617) 349-4280

FAX (617) 349-4287

TTY/TDD (617) 349-4242

Kathleen Leahy Born  
City Councillor

(DRAFT)

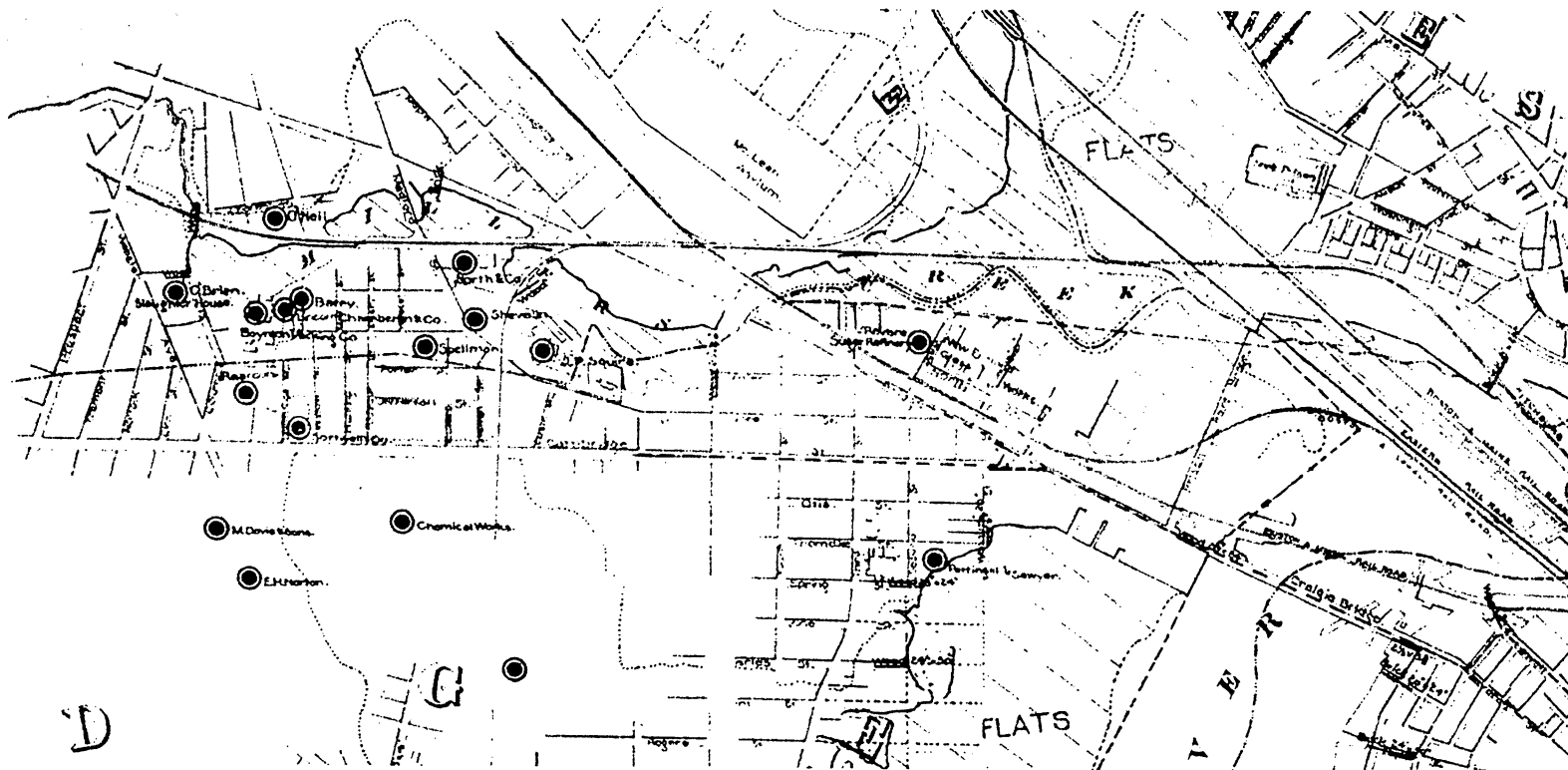
**TO:** Steve Kaiser  
**FROM:** Councillor Kathleen Born  
**DATE:** October 5, 2001

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The City Law Department will issue a memo regarding the Cambridge Somerville border for the Council meeting on Monday.

As you are probably aware, the Zoning Map of the City notes that all zoning lines are "approximate." We may add language to the new zoning to the effect that where the ordinance references the Cambridge Somerville line, the final location of the line will be determined by the City's Engineering Department and other relevant city or state departments.

**A-2, 3**  
er, Response



1873 Map by E. K. Bowker of  
Millers Creek and Charles River  
indicating stream bed and low  
water lines.

**Exhibit B**  
E. K. Bowker Map of 1873

OUTLINE AND INDEX  
MAP OF

SOMERVILLE.

MASSACHUSETTS

Scale: 1200 feet per inch.

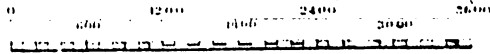
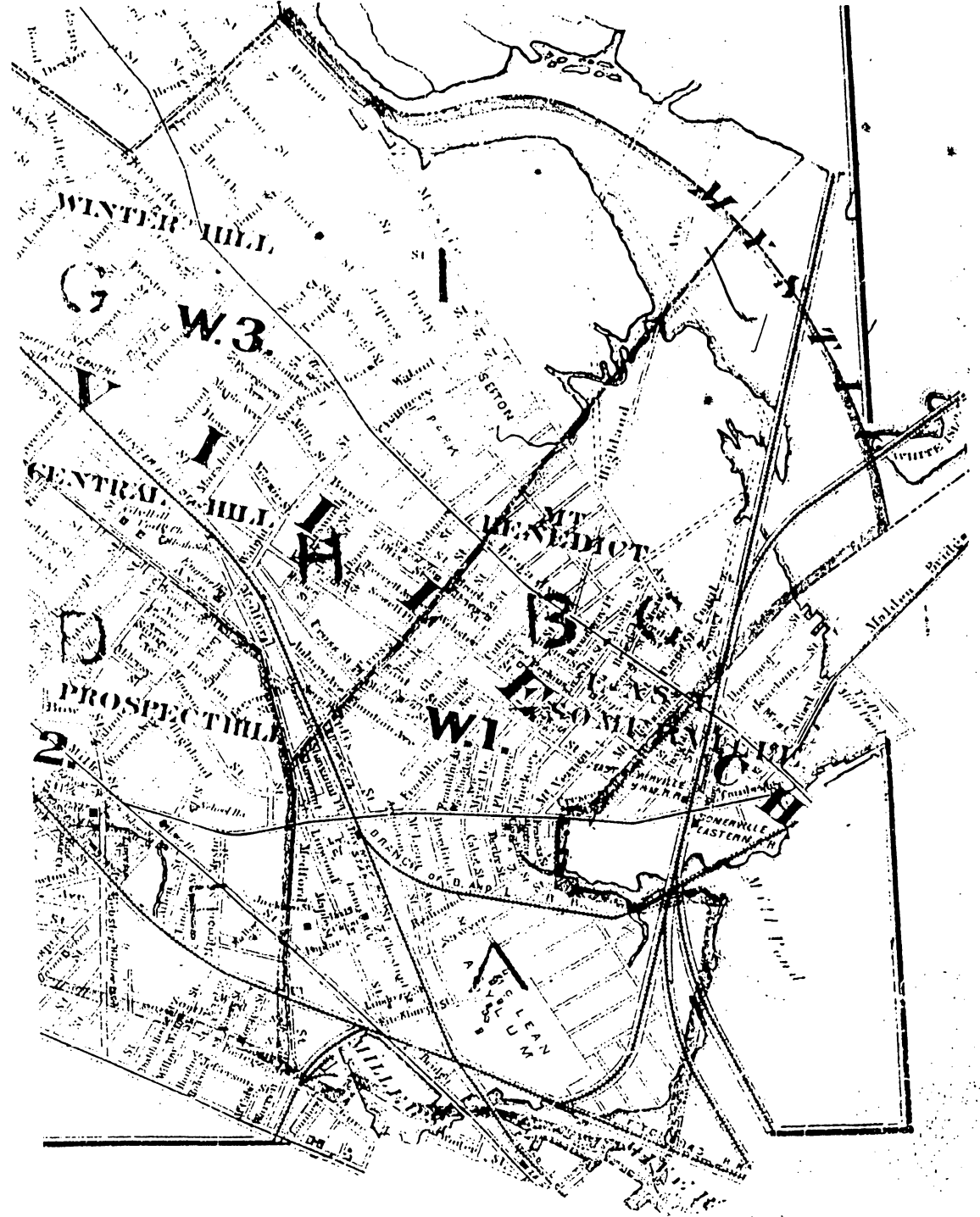
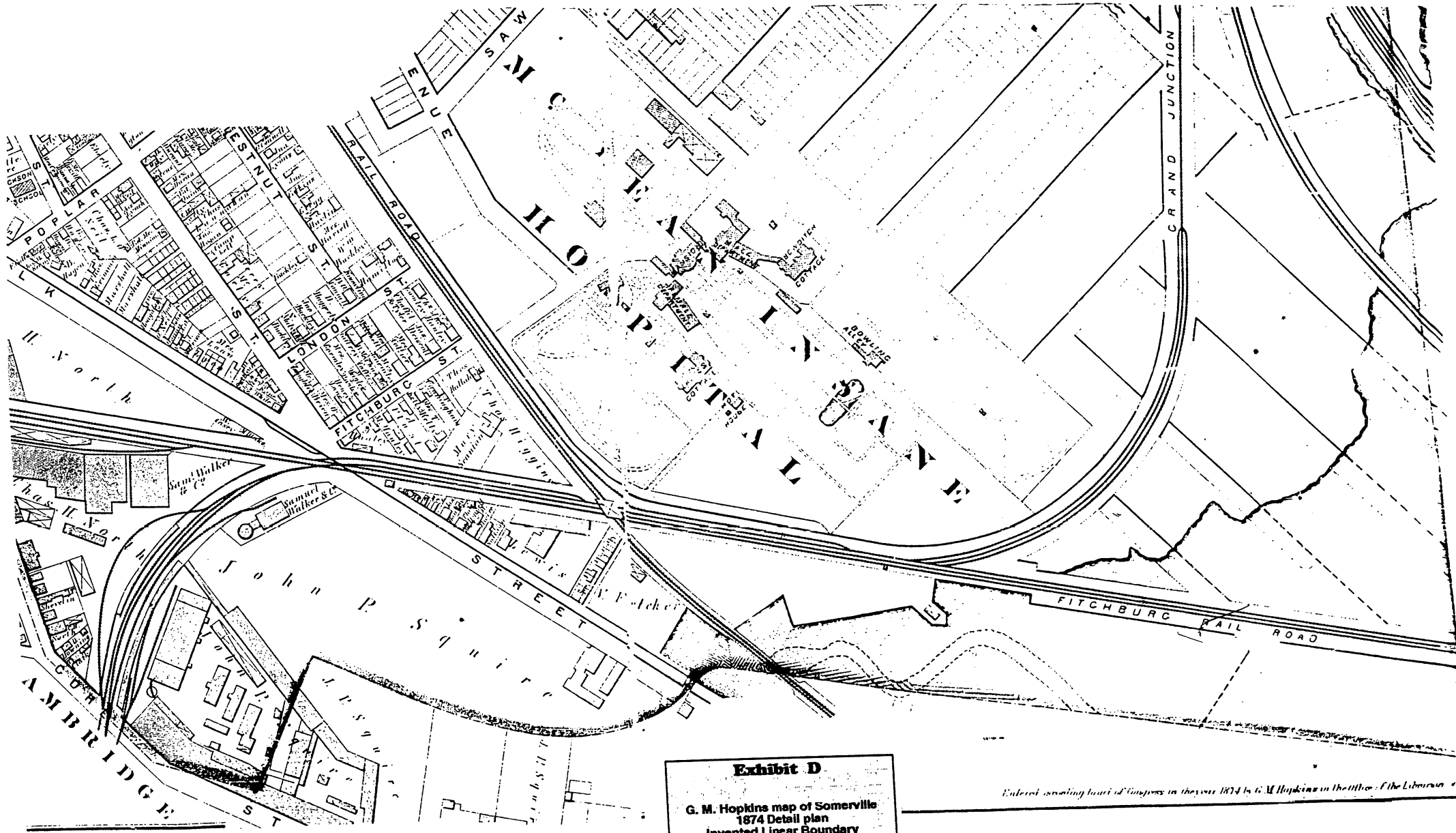


Exhibit C

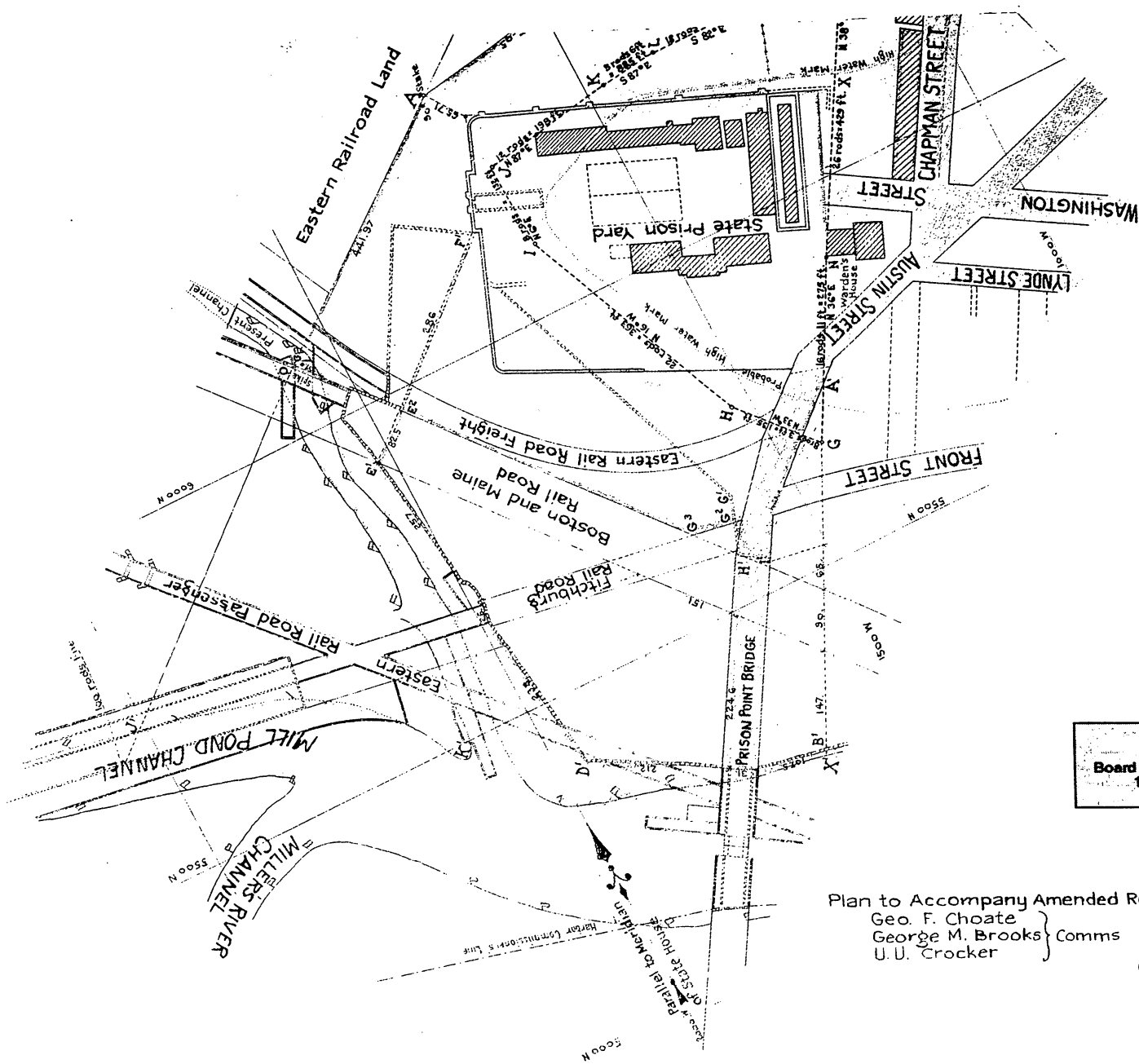
G. M. Hopkins map of Somerville  
1874 Index Plan





**Exhibit D**  
G. M. Hopkins map of Somerville  
1874 Detail plan  
Invented Linear Boundary

*Entered according to Act of Congress in the year 1874 by G. M. Hopkins in the Office of the Librarian of Congress*



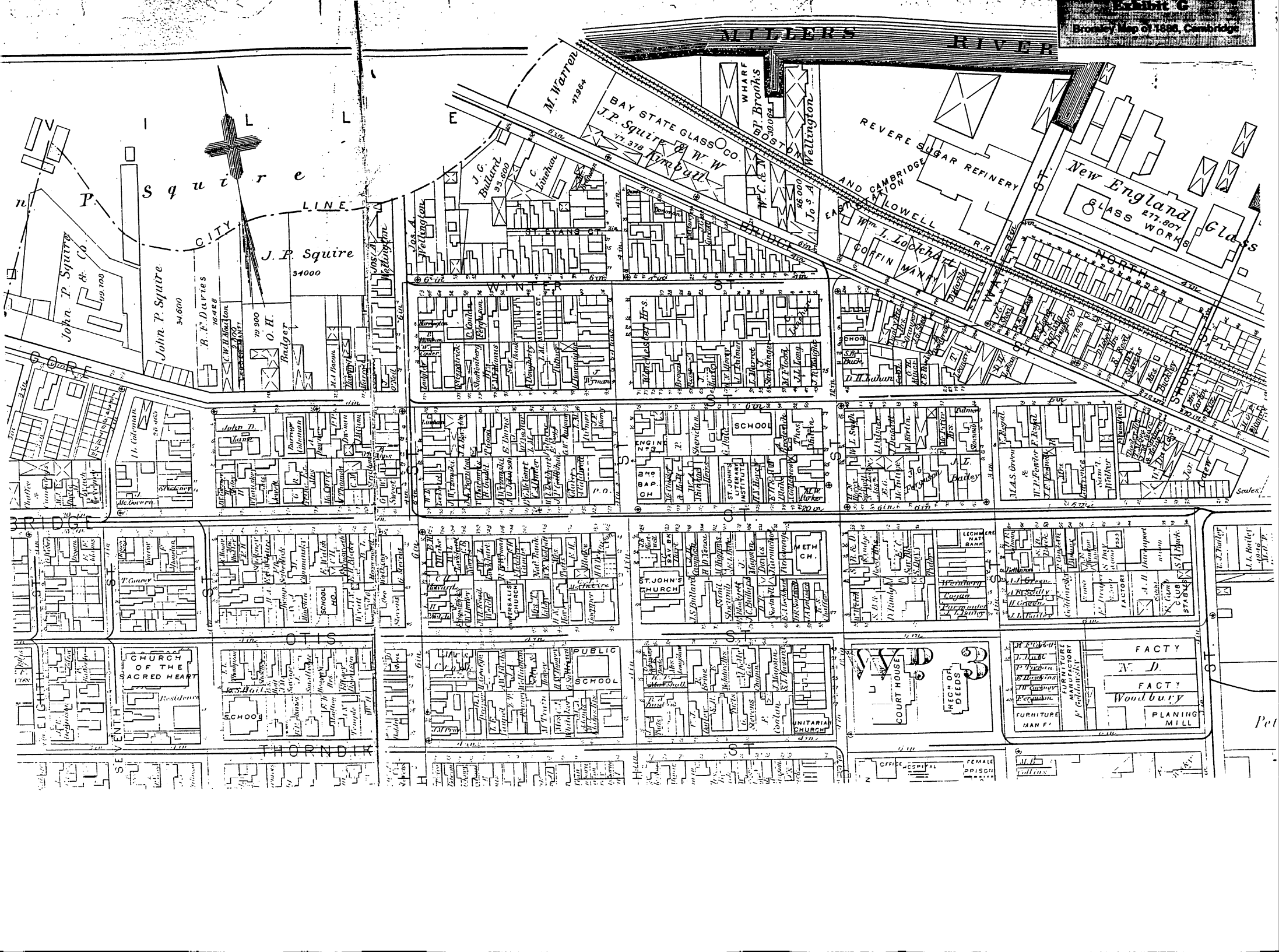
**Exhibit E**  
 Board of Harbor Commissioners,  
 1877 Map of Channels

Plan to Accompany Amended Report of the Commissioners on State Prison Flats.  
 Geo. F. Choate }  
 George M. Brooks } Comms  
 U. U. Crocker }

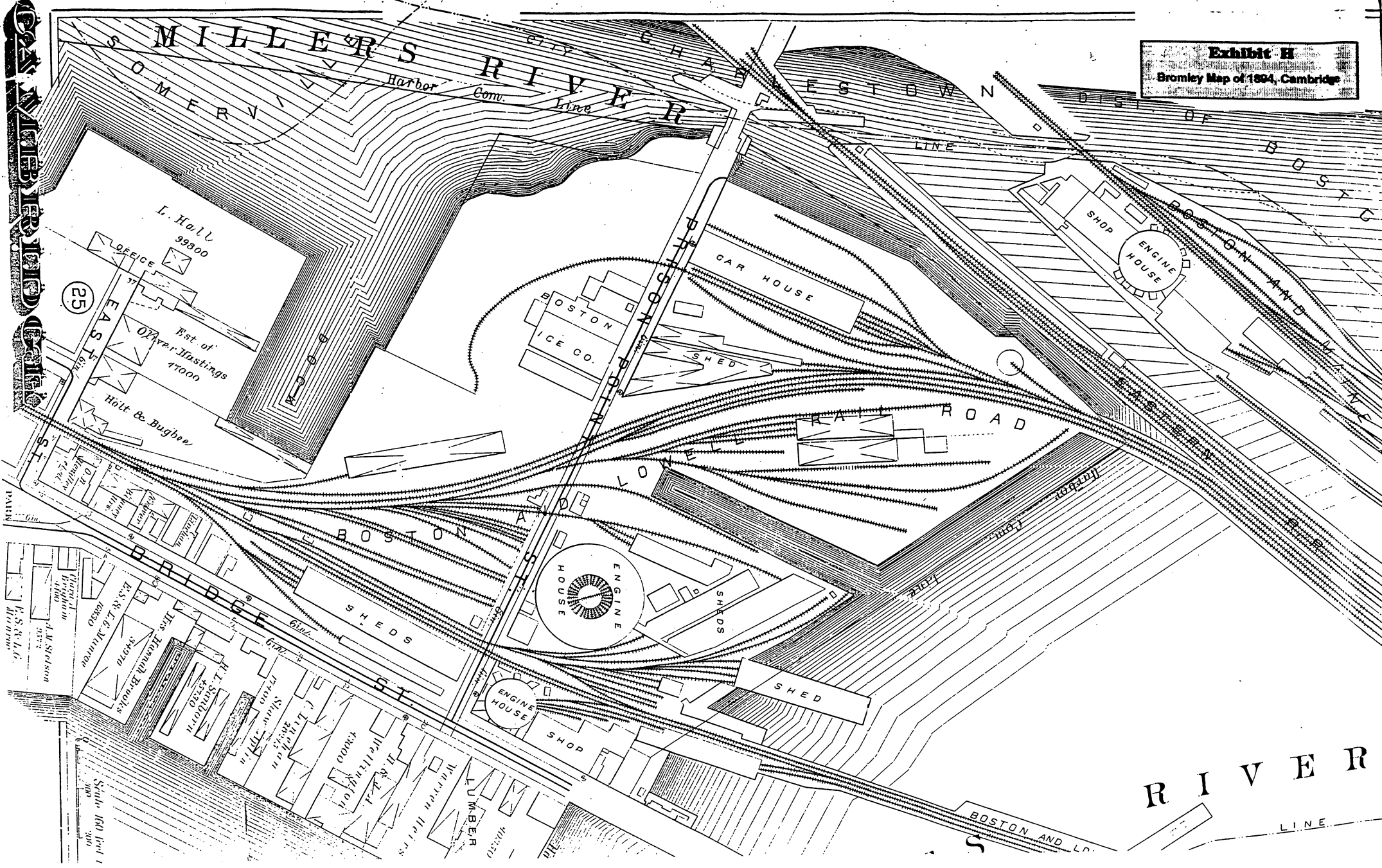
July 11th 1877

(Original on file.)  
 (Scale of this sheet: 1 inch = 150 feet.)



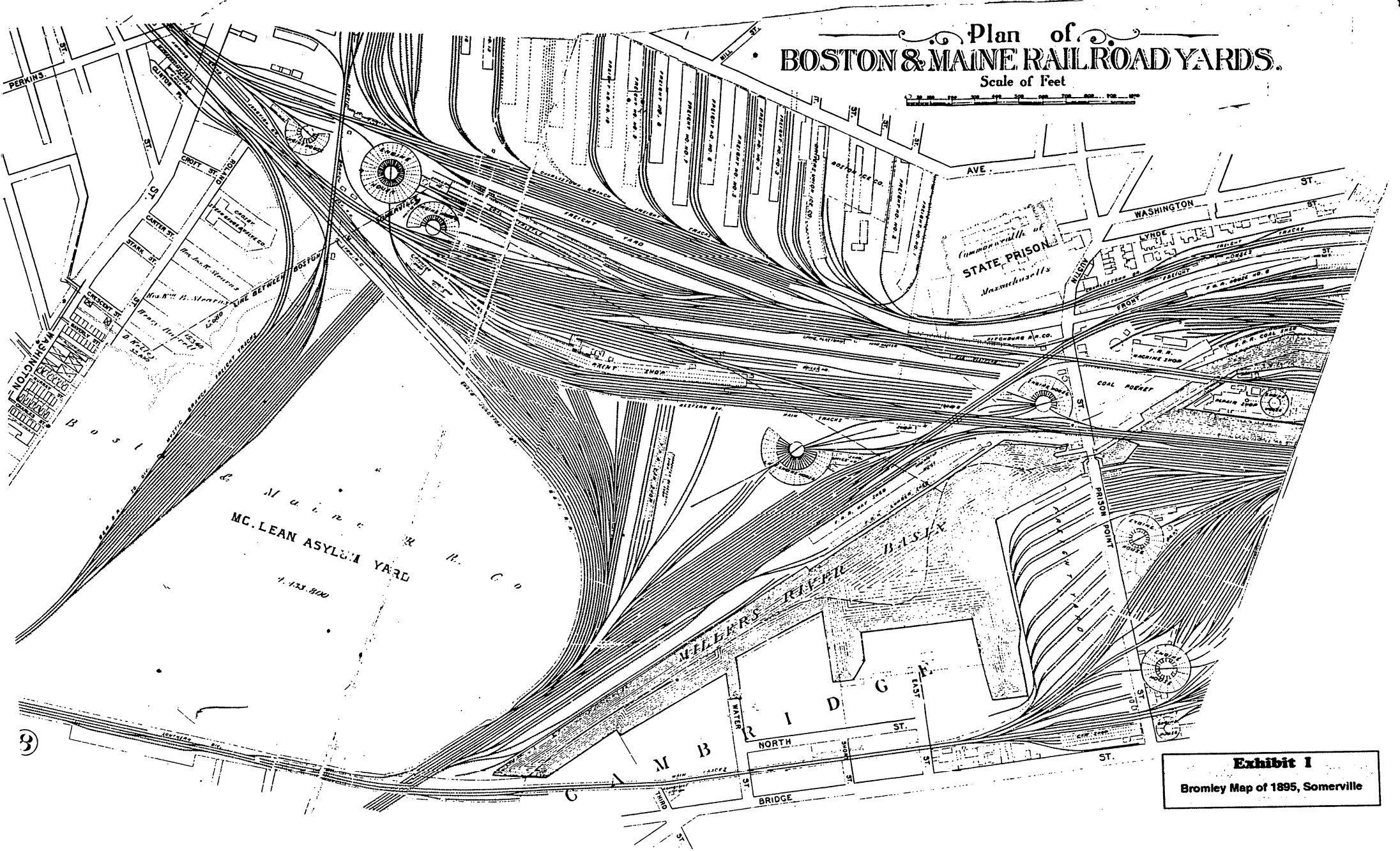


**Exhibit H**  
Bromley Map of 1894, Cambridge



# Plan of BOSTON & MAINE RAILROAD YARDS.

Scale of Feet

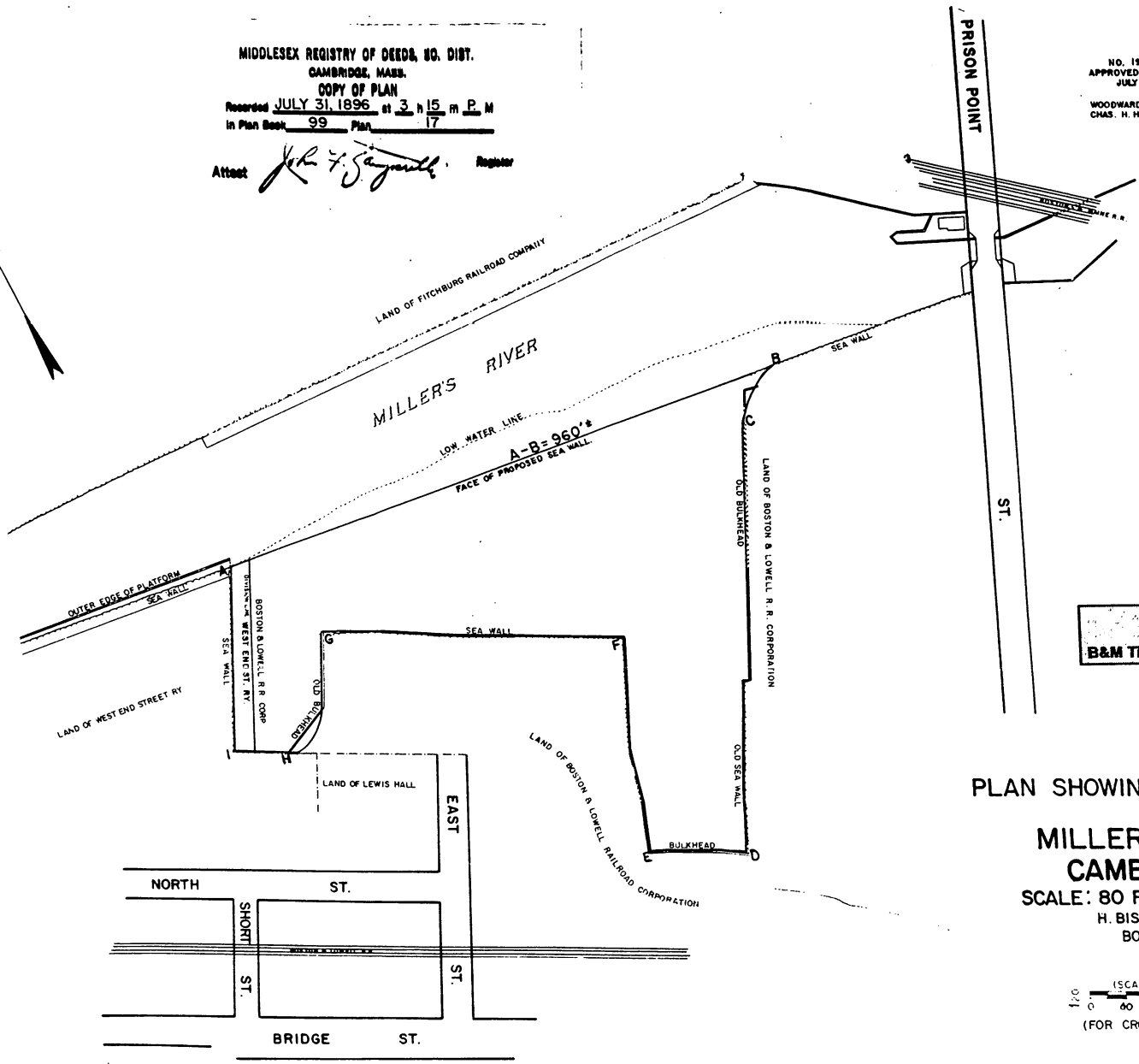
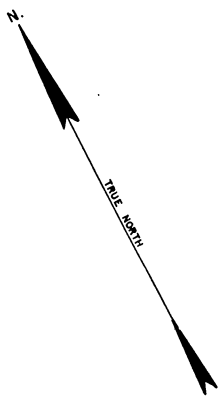


**Exhibit I**  
Bromley Map of 1895, Somerville

MIDDLESEX REGISTRY OF DEEDS, SO. DIST.  
 CAMBRIDGE, MASS.  
 COPY OF PLAN  
 Recorded JULY 31, 1896 at 3 15 P. M.  
 in Plan Book 99 Plan 17

Attest *J. F. Seymour* Register

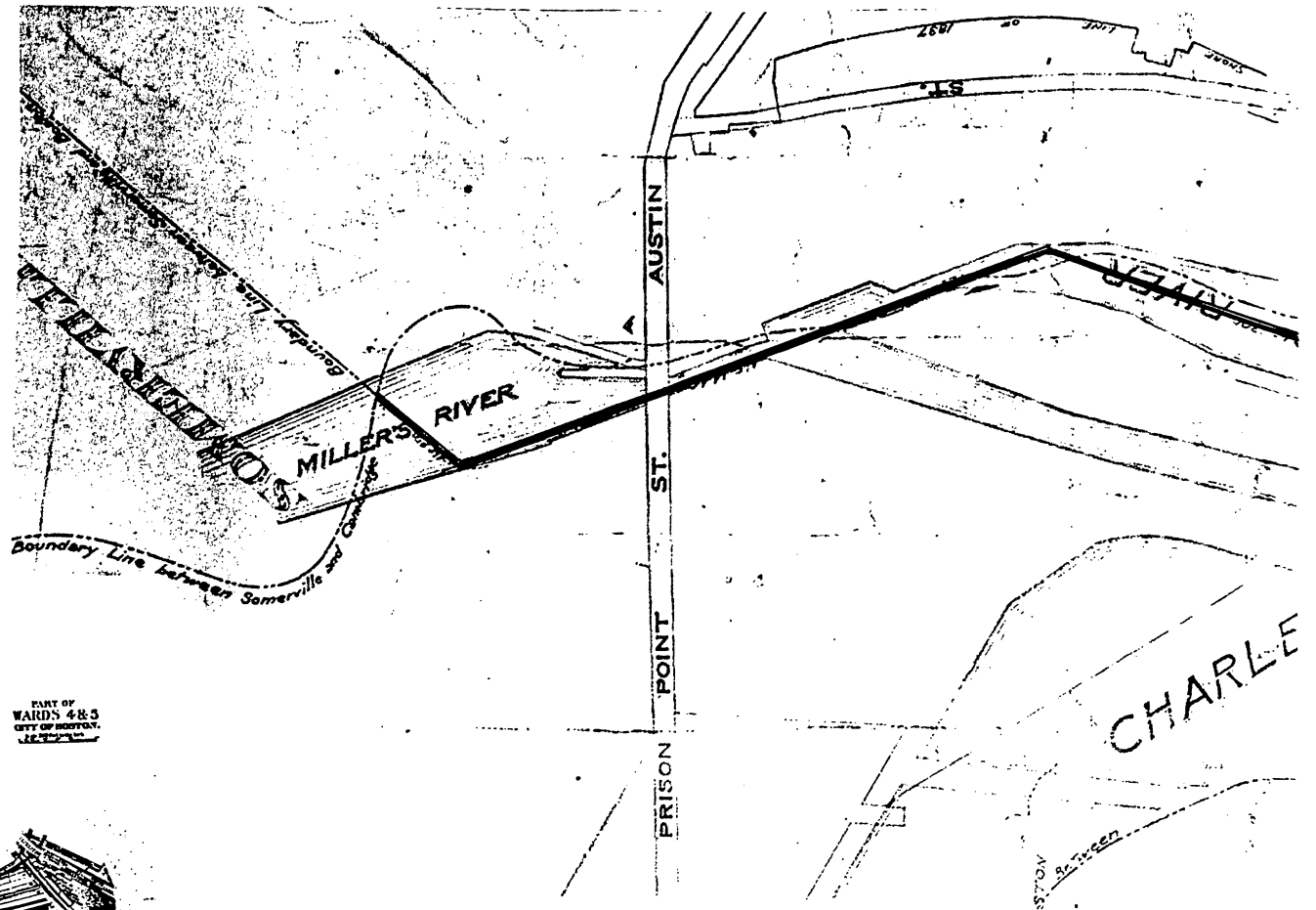
NO. 1940.  
 APPROVED BY HARBOR AND LAND COMMISSION  
 JULY 14, 1896.  
 WOODWARD, EMERY  
 CHAS. H. HOWLAND



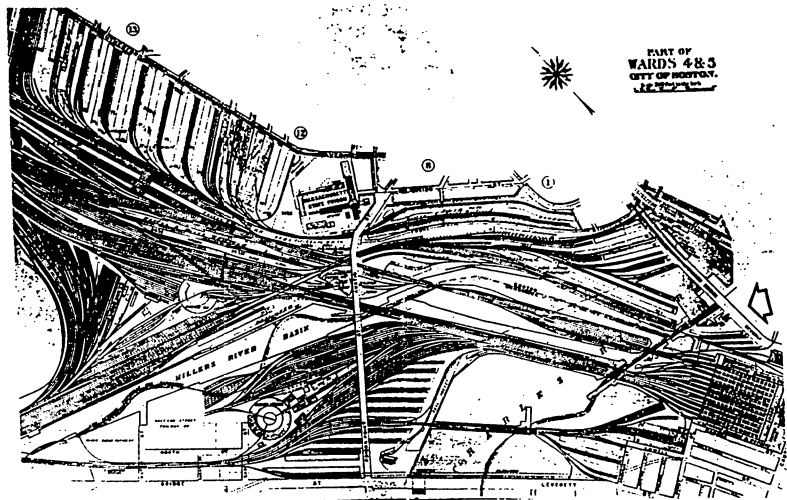
**Exhibit J**  
 B&M Tidelands Filling Permit of 1896.

PLAN SHOWING PROPOSED FILLING  
 AT  
 MILLER'S RIVER BASIN  
 CAMBRIDGE, MASS.  
 SCALE: 80 FT. PER INCH JUNE, 1896.  
 H. BISSELL CHIEF ENGINEER,  
 BOSTON & MAINE R. R.

(ORIGINAL ON FILE)  
 (SCALE OF THIS PLAN IN FEET)  
 0 60 120 240 360  
 (FOR CROSS SECTION SEE ORIGINAL)



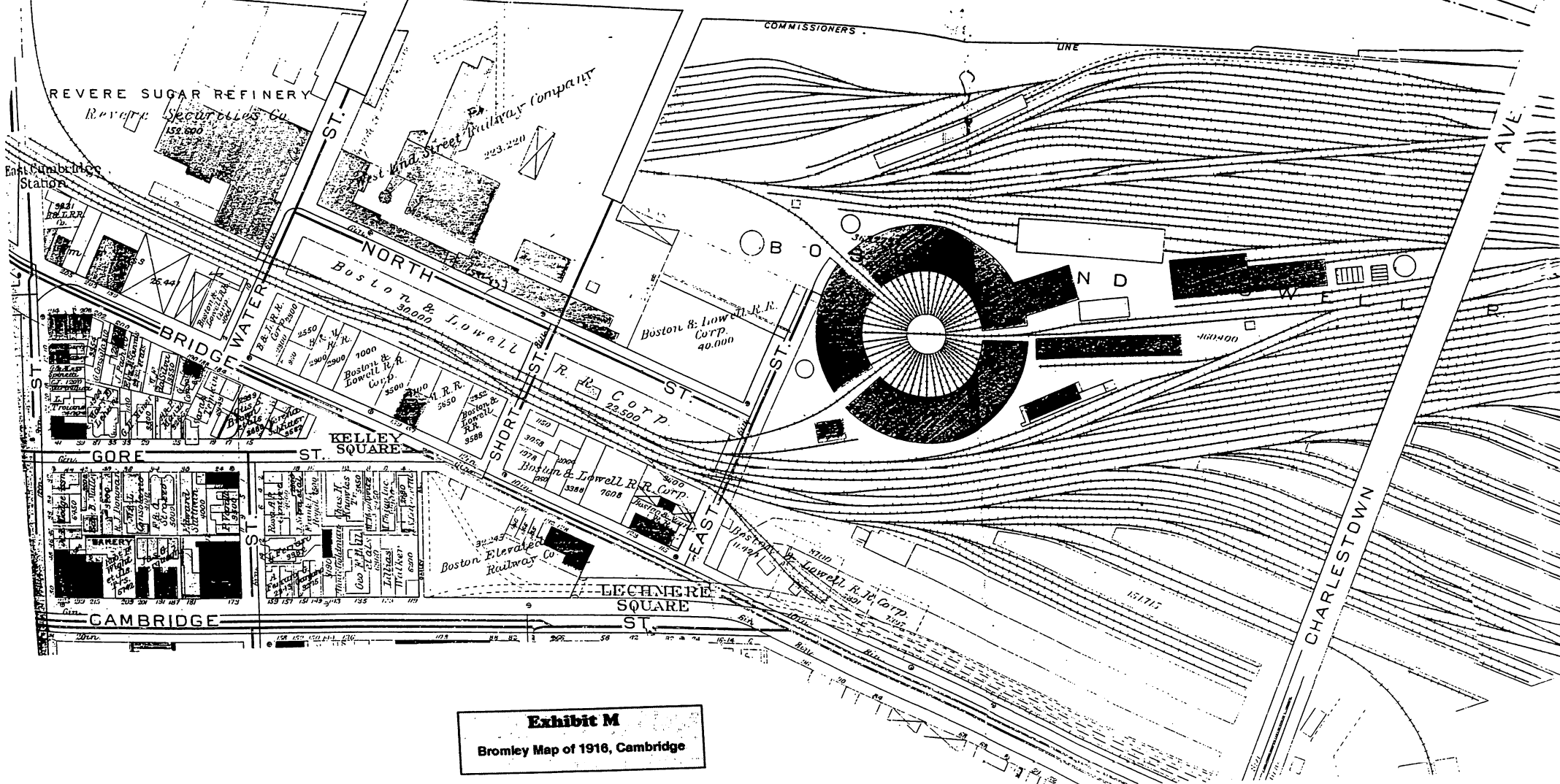
**Exhibit K**  
 Boundary Map : Boston/Cambridge  
 Chapter 312 of 1910



**Exhibit L**  
 Bromley Map of 1912, Boston

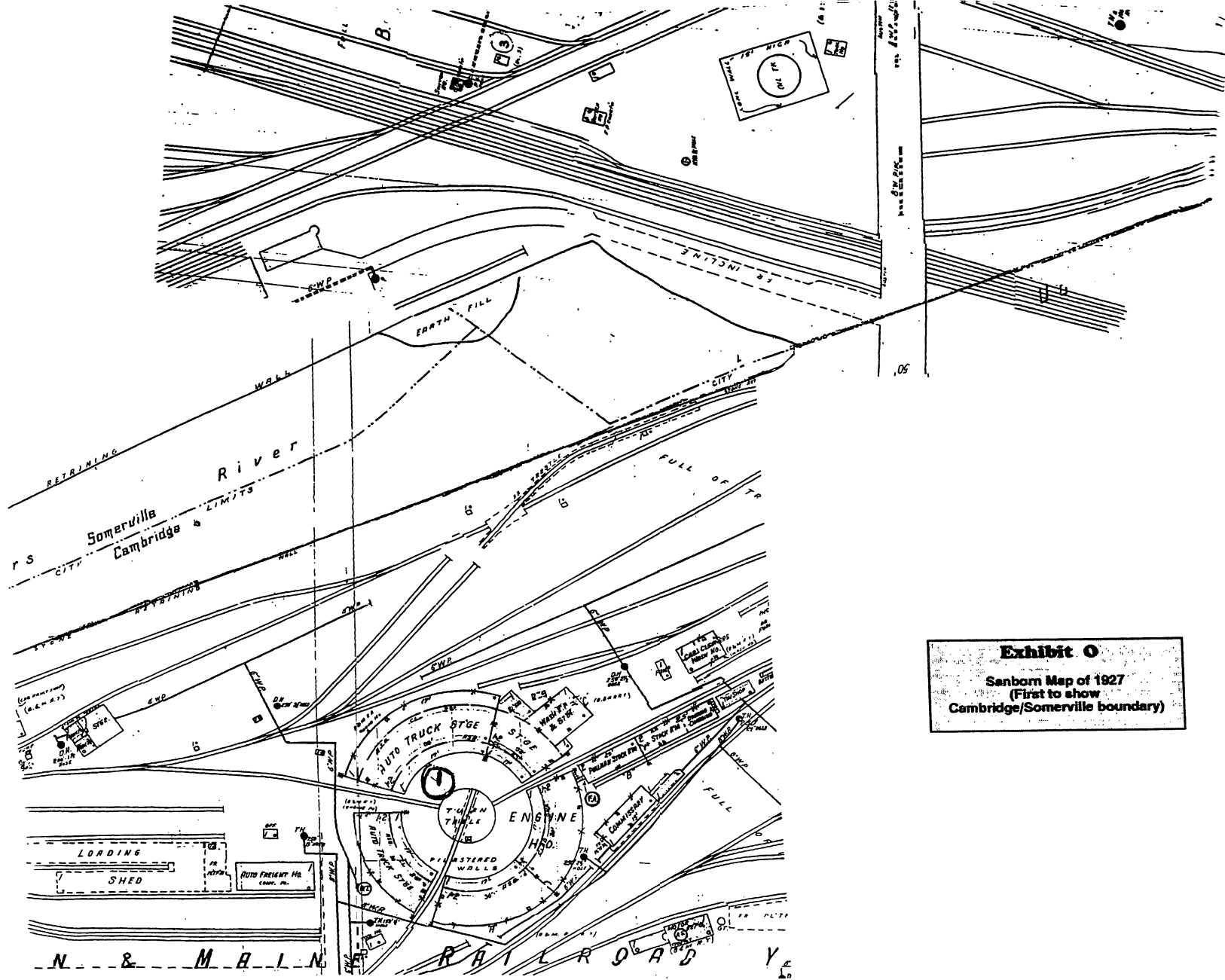
126. Miller's River Basin and Boston & Maine Railroad yards in Boston, Charlestown, and East Cambridge, 1912. The photograph in Figure 125 was taken from the point indicated.

# M I L L E R S R I V E R

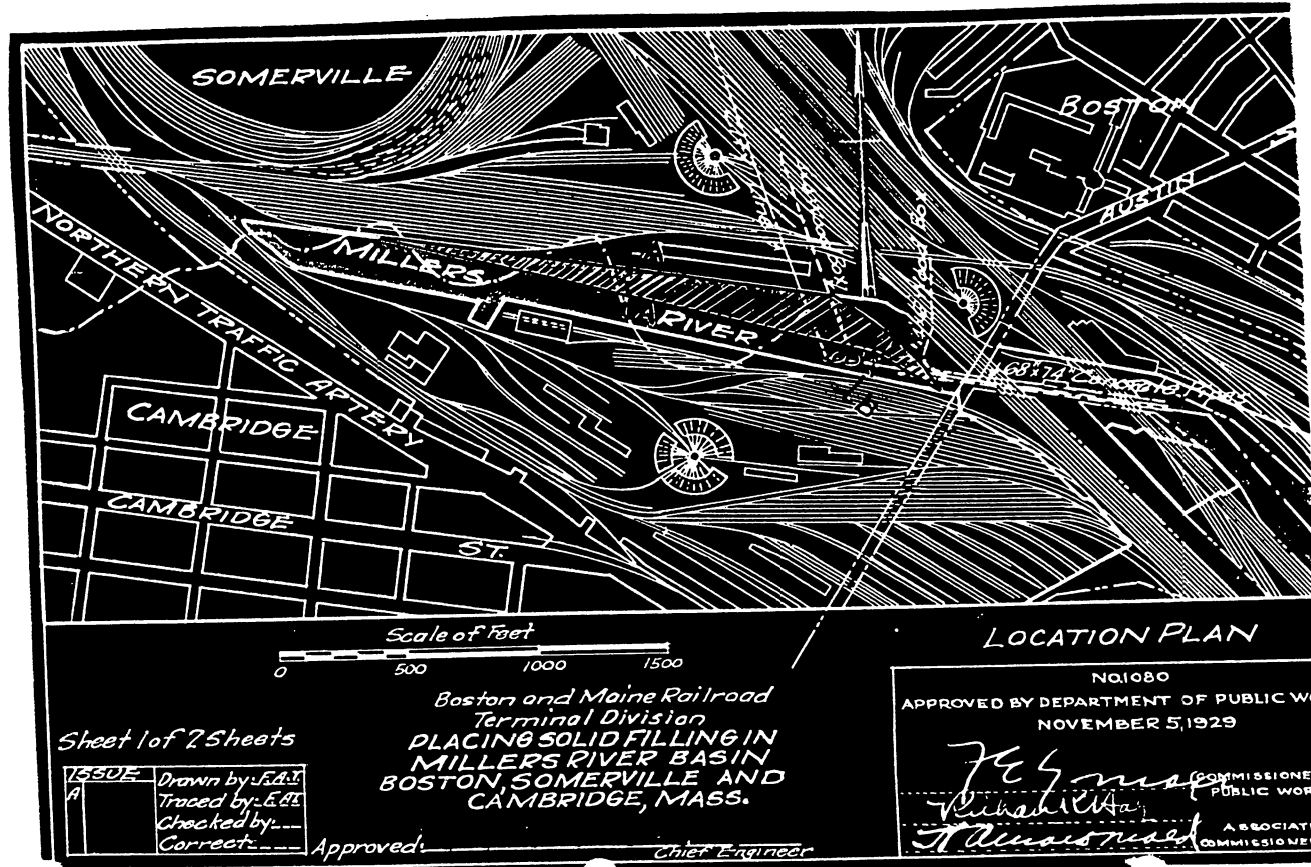


**Exhibit M**  
Bromley Map of 1916, Cambridge





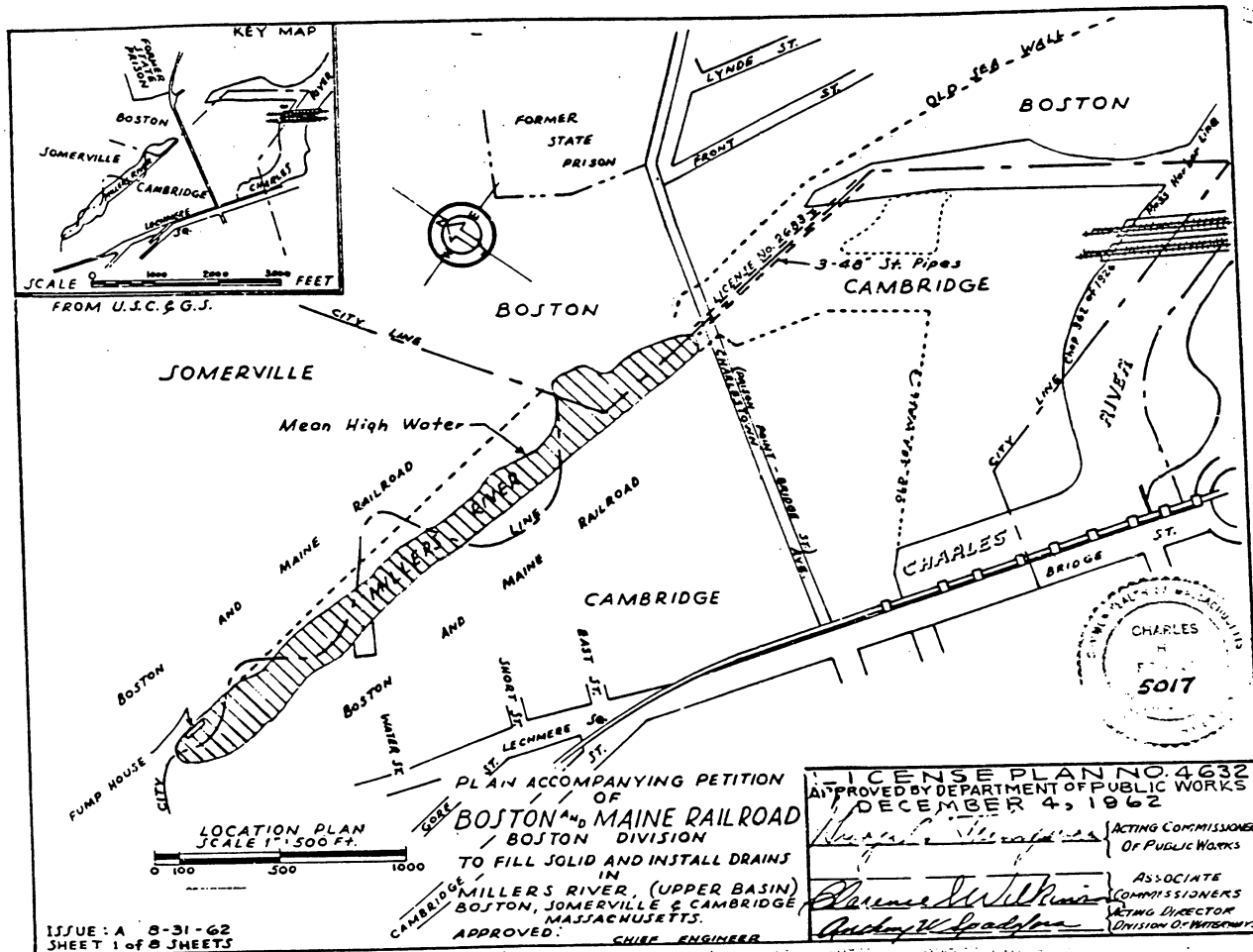
**Exhibit O**  
 Sanborn Map of 1927  
 (First to show  
 Cambridge/Somerville boundary)



**Exhibit P**  
B&M Waterways filling Permit  
for 1929 with wavy boundary

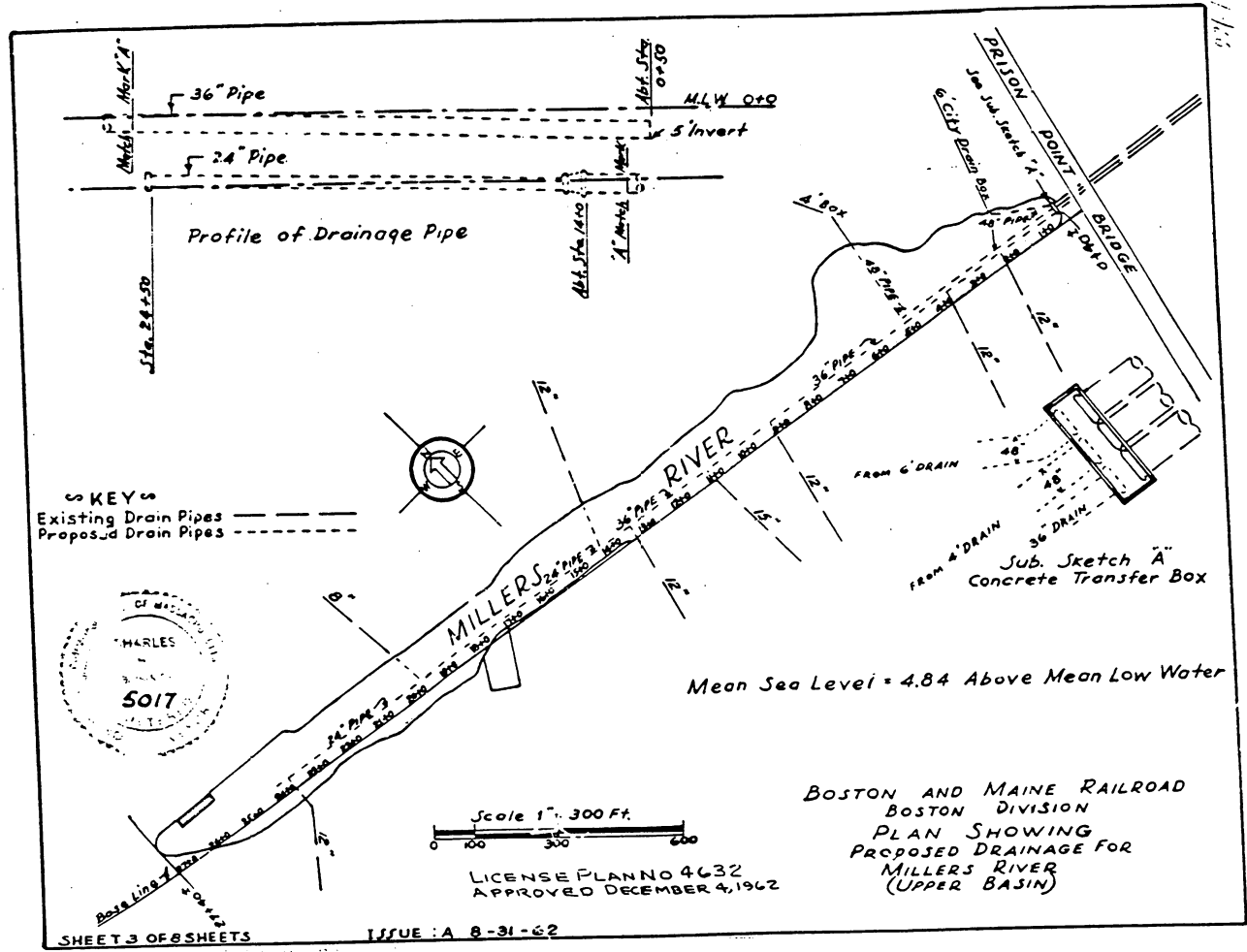
Middlesex Registry of Deeds, So. Dist.  
 CAMBRIDGE, MASS.  
 Plan Number 1488(AOES) of 1963.  
 Rec'd OCT. 24, 1963 at 2:24 P.M.  
 With LICENSE D. No. 298  
 BOSTON & MAINE R.R.  
 DEPARTMENT OF PUBLIC WORKS  
 Recorded Book 10388 Page 243  
 Attest: \_\_\_\_\_ REGISTER

*Signature*



**Exhibit Q-1**  
 B&M Tidelands filling for 1962  
 with wavy boundary shown

Middlesex Registry of Deeds, So. Dist.  
 CAMBRIDGE, MASS.  
 Plan Number 1488 (COF8) of 1963  
 Rec'd OCT. 24, 1963 at 2:24 P.M.  
 With LICENSE Doc. No. 298  
 BOSTON & MAINE R.R.  
 DEPARTMENT OF PUBLIC WORKS  
 Recorded, Book 10388, Page 243  
 Attest: *[Signature]* REGISTER



**Exhibit Q-2**  
 Alignment of Millers River Pipes  
 B&M Railroad, 1962

KS-60-5

OCT 24 63 PM 2:24 298RE \*\*\*5.60

Form WD 54  
24-1071-231:05

The Commonwealth of Massachusetts

No. 4632.



Whereas the Boston and Maine Railroad-----

of Boston-----, in the County of Suffolk----- and Commonwealth aforesaid, has applied to the Department of Public Works for license to fill solid in Millers River, at its property in the cities of Boston, Somerville and Cambridge,-----

and has submitted plans of the same; and whereas due notice of said application, and of the time and place fixed for a hearing thereon, has been given, as required by law, to the Mayors and City Councils-- of the cities-----of Boston, Somerville and-- Cambridge;-----

Now said Department, having heard all parties desiring to be heard, and having fully considered said application, hereby, subject to the approval of the Governor and Council, authorizes and licenses the said-----

Boston and Maine Railroad-----, subject to the provisions of the ninety-first chapter of the General Laws, and of all laws which are or may be in force applicable thereto, to fill solid the Upper Basin of Millers River, at its property in the cities of Boston, Somerville and Cambridge, in conformity with the accompanying plan No. 4632 (eight sheets).

Solid fill may be placed in the entire "Upper Basin", so-called, of said river extending a distance of 2,700 feet, more or less, from the present mean high water line at the upstream end of said basin to the present mean high water line at the downstream end, with varying widths between the mean high water lines on existing fill and retaining structures, in the location shown on said plans and in accordance with the details there indicated.

Existing areas of solid fill adjacent to the basin area authorized to be filled hereby, not previously licensed, may be maintained as now placed in the tidewaters of said river.

Drains connecting with existing drains on the perimeter of said area to be filled shall be installed through said fill extending downstream to a transfer box or chamber at the upstream end of 3 existing 48 inch drain pipes installed under license No. 2683 of the Department of Public Works.

This license is granted upon the express condition that the licensee shall construct said drains in accordance with acceptable engineering practice, and alter the size of the pipes shown, or provide additional drains in accordance with a hydraulic report to be made by a competent engineer which the licensee shall provide sufficiently in advance of any extensive filling so as to assure proper provision for all drainage now carried into said basin.

All drains and appurtenances as finally decided upon as a result of said hydraulic report, including replacement of said existing 48 inch pipes if required, shall be satisfactory to the Department of Public Works and shall be maintained in good condition by the licensee, its successors or assigns, at all times.

The filling shall be conducted in such a manner as to not cause creation of stagnant pools or trapped areas of water, and so as to prevent blocking of said pipes installed under license No. 2683, or replacements thereof, and said fill shall contain no putrescible or other material likely to result in foul or offensive odors or increased pollution of tidal waters.

This license is granted upon the further express condition that no structures shall be placed on the fill except with further license authorization from the Department of Public Works, or its successors, other than those appurtenant to the presently proposed railroad purposes, which are more particularly designated as expansion of the licensee's so-called Piggy-back or T.O.F.C. facilities.

Nothing in this license shall be construed as authorizing encroachment on property not owned or controlled by the licensee except with the consent of the owner or owners thereof.

This license is granted subject to all applicable Federal, State, County and Municipal laws, ordinances and regulations.-----

The plan of said work, numbered -----4 6 3 2,----- is on file in the office of said Department, and duplicate of said plan accompanies this License, and is to be referred to as a part hereof.

The amount of tide-water displaced by the work hereby authorized shall be ascertained by said Department, and compensation therefor shall be made by the said ----- Boston and Maine Railroad, its-----heirs, successors

**Exhibit Q-3**  
Text of B&M Waterways/Tidelands Permit of 1962

SEE PLAN IN RECORD BOOK 2388 PAGE 243

and assigns, by paying into the treasury of the Commonwealth thirty-seven and one-half (37½) cents for each cubic yard so displaced, being the amount hereby assessed by said Department.

Nothing in this License shall be so construed as to impair the legal rights of any person.

This License shall be void unless the same and the accompanying plan are recorded within one year from the date hereof, in the Registry of Deeds for the Southern District of the County of Middlesex and for the County of Suffolk.

In Witness Whereof, said Department of Public Works have hereunto set their hands this-----fourth----- day of-----December,-----in the year nineteen hundred and sixty-two.

Approval recommended, *George A. Thompson* Acting Commissioner } Department of Public Works  
*Clarence Williams*  
*Anthony M. Spadafino* Acting Director Division of Waterways.

THE COMMONWEALTH OF MASSACHUSETTS

This license is approved in consideration of the payment into the treasury of the Commonwealth by the said Boston and Maine Railroad----- of the further sum of seventeen thousand nine hundred eighty-seven and fifty one hundredths (17,987.50) dollars,----- the amount determined by the Governor and council as a just and equitable charge for rights and privileges hereby granted in land of the Commonwealth.

Approved by the Governor and Council.

BOSTON, *Dec 13, 1962*

*Henry G. Deane*  
Executive Secretary.

**Exhibit Q-4**  
End of text for B&M Tidelands  
Fill permit of 1962

DEC 17-62 AM 10:27 95RE \*\*\*4.00

BK10184 PG462

18400

[THIS INSTRUMENT NOT VALID UNLESS RECORDED WITHIN 60 DAYS OF THE DATE OF TAKING] INSTRUMENT OF TAKING FORM 301

THE COMMONWEALTH OF MASSACHUSETTS

City of Cambridge  
NAME OF CITY OR TOWN

OFFICE OF THE COLLECTOR OF TAXES

I, Frederick J. Reardon, Collector of Taxes for the City of Cambridge, pursuant and subject to the provisions of General Laws, Chapter 60, Sections 53 and 54, hereby take for said city the following described land:

DESCRIPTION OF LAND

(The description must be sufficiently accurate to identify the premises and must agree with the notice of taking. In the case of registered land, the Certificate of Title Number and the Registry Volume and Page must be given.)

Msgr. O'Brien Highway; a parcel of land with the buildings thereon, being Lot No. 29A on Block Plan 1A, dated January, 1927 in the office of the Assessors of the City of Cambridge and containing 1,310,909 square feet.

Said land is taken for non-payment of taxes as defined in Section 43 of said Chapter 60 assessed thereon to Boston and Maine Railroad for the year 1961, which were not paid within fourteen days after demand therefor made upon Boston and Maine Railroad on December 1, 1961, and now remain unpaid together with interest and incidental expenses and costs to the date of taking in the amounts hereinafter specified, after notice of intention to take said land given as required by law.

1961 TAXES REMAINING UNPAID	Bal.	\$ 70,275.64
INTEREST TO THE DATE OF TAKING		1,834.98
INCIDENTAL EXPENSES AND COSTS TO THE DATE OF TAKING		4.50
SUM FOR WHICH LAND IS TAKEN		\$ 72,115.12

WITNESS my hand and seal this 25th day of October, 1962

*Frederick J. Reardon*, Collector of Taxes for the City of Cambridge

THE COMMONWEALTH OF MASSACHUSETTS

Middlesex, SS.

Then personally appeared the above named Frederick J. Reardon and acknowledged the foregoing instrument to be his free act and deed as Collector of Taxes,

before me, *Paul J. Kelly* Notary Public

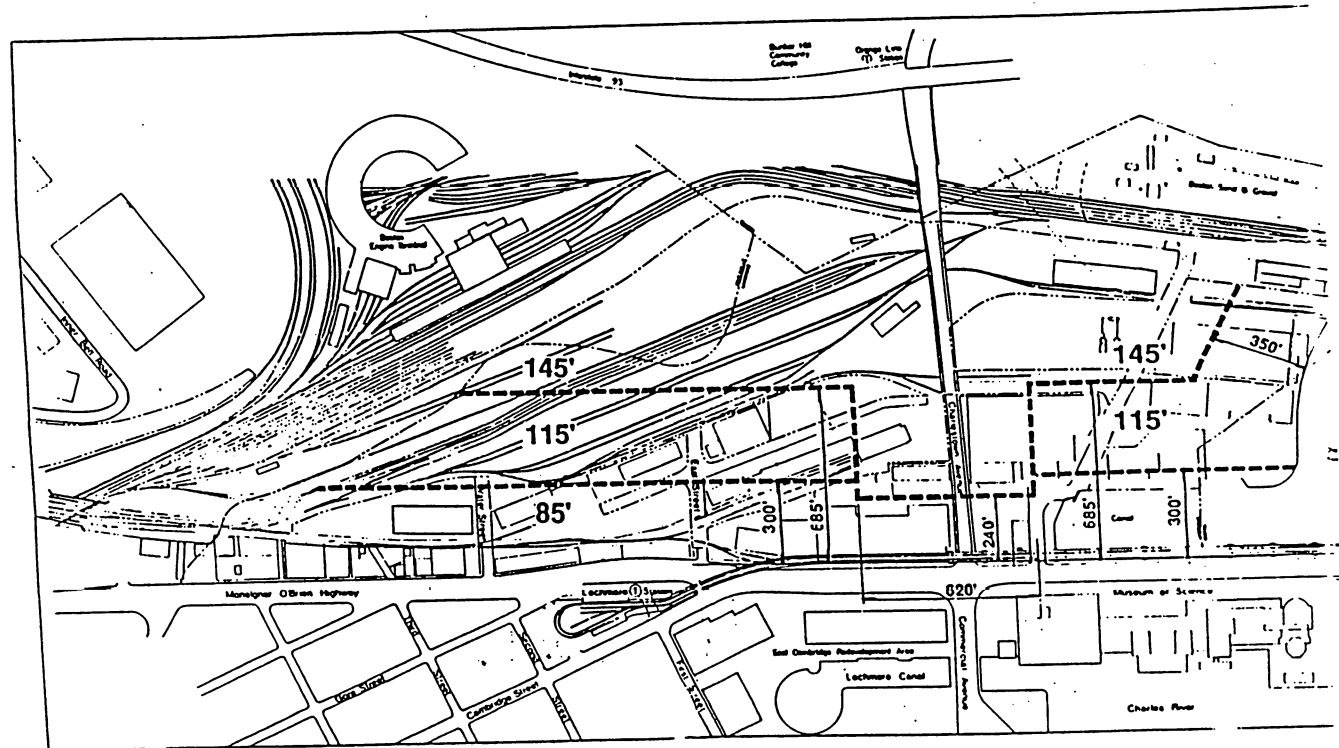
My commission expires March 10, 1967

Received and entered with Registry of Deeds, Book, Page, Document No., Certificate of Title No.

Attest: Register

DISCLAIMER  
BOOK 10310 P 37

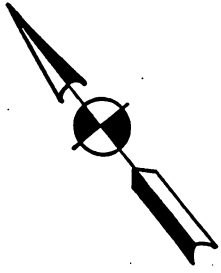
Exhibit A  
Cambridge Action to take  
1.3 million acres of railroad land  
for non-payment of taxes



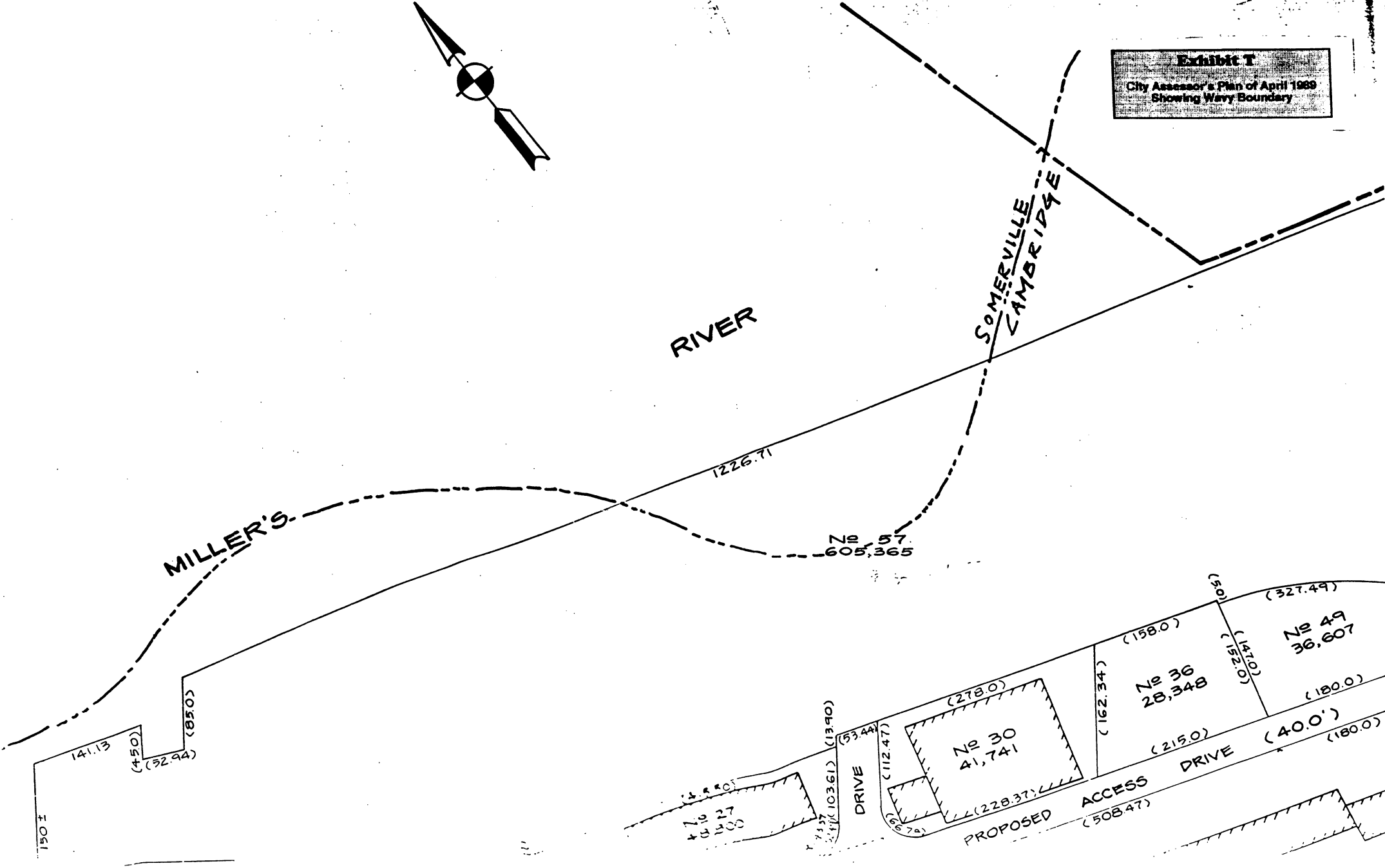
North Point

Height Diagram

**Exhibit S**  
 Existing North Point zoning : height  
 diagram, Section 16.000



**Exhibit T**  
City Assessor's Plan of April 1989  
Showing Wavy Boundary



**Exhibit U**  
 City Assessor's Plan of April 1989  
 Showing Straightened boundary



**RIVER**  
**BRIDGE**

1226.71

1 2 3  
 6 25.765

No 36  
 28,348

No 49  
 36,607

(1580)  
 (152)  
 (1414.0)  
 (1800)  
 (1000)

(48601)

No 100  
 294,423

(13040)  
 (500)  
 (4937)

5315 112.13 5314

643 22 No 85 10,294

**AVE.**

No 77 1740  
 (17854)

No 76 385  
 No 75 401

21B

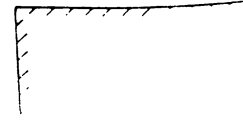
(230.33)

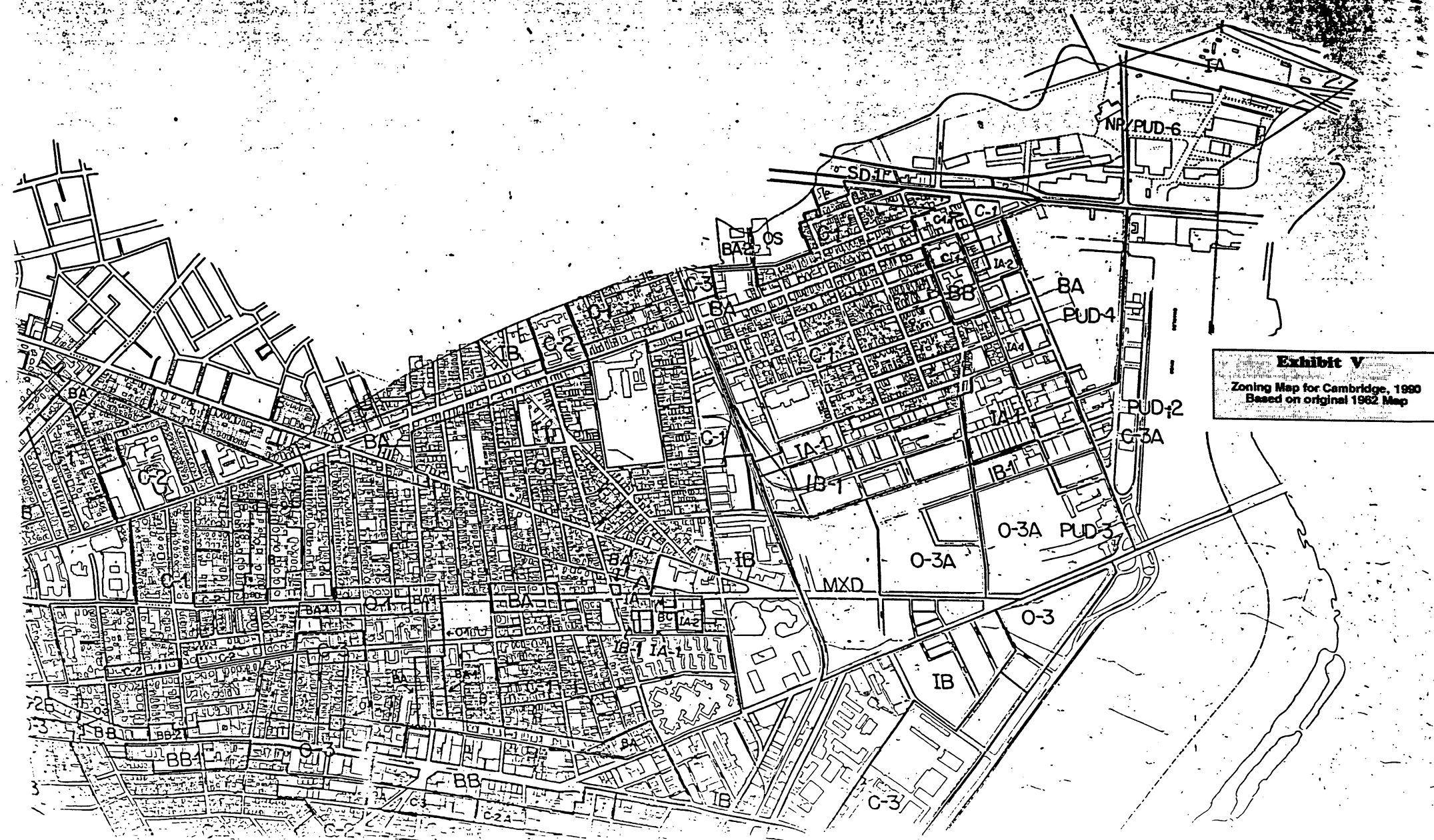
(8601)

5897

NE 15 334.42

32R  
 24  
 22R  
 20  
 18

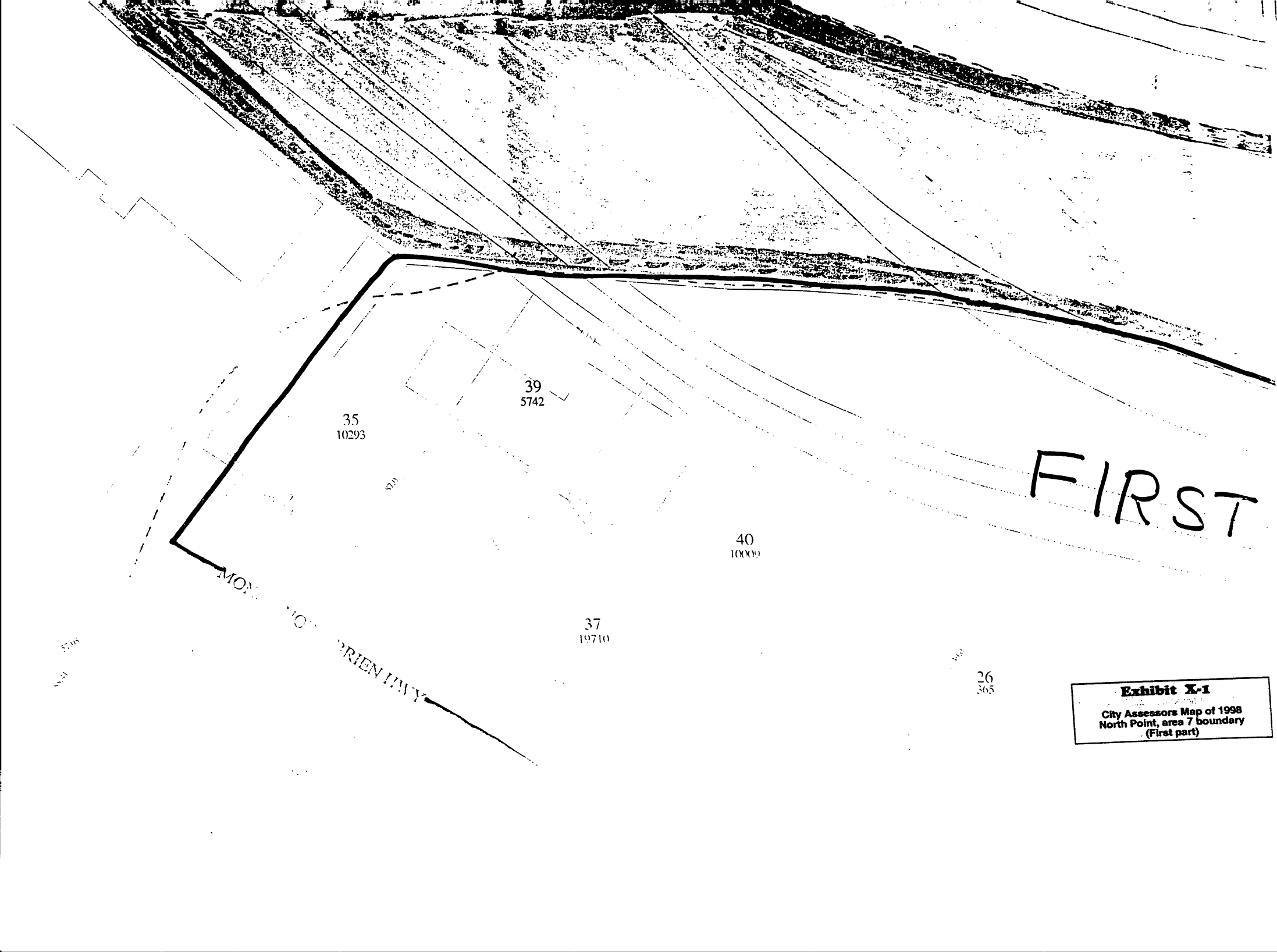




**Exhibit V**  
Zoning Map for Cambridge, 1990  
Based on original 1962 Map







FIRST

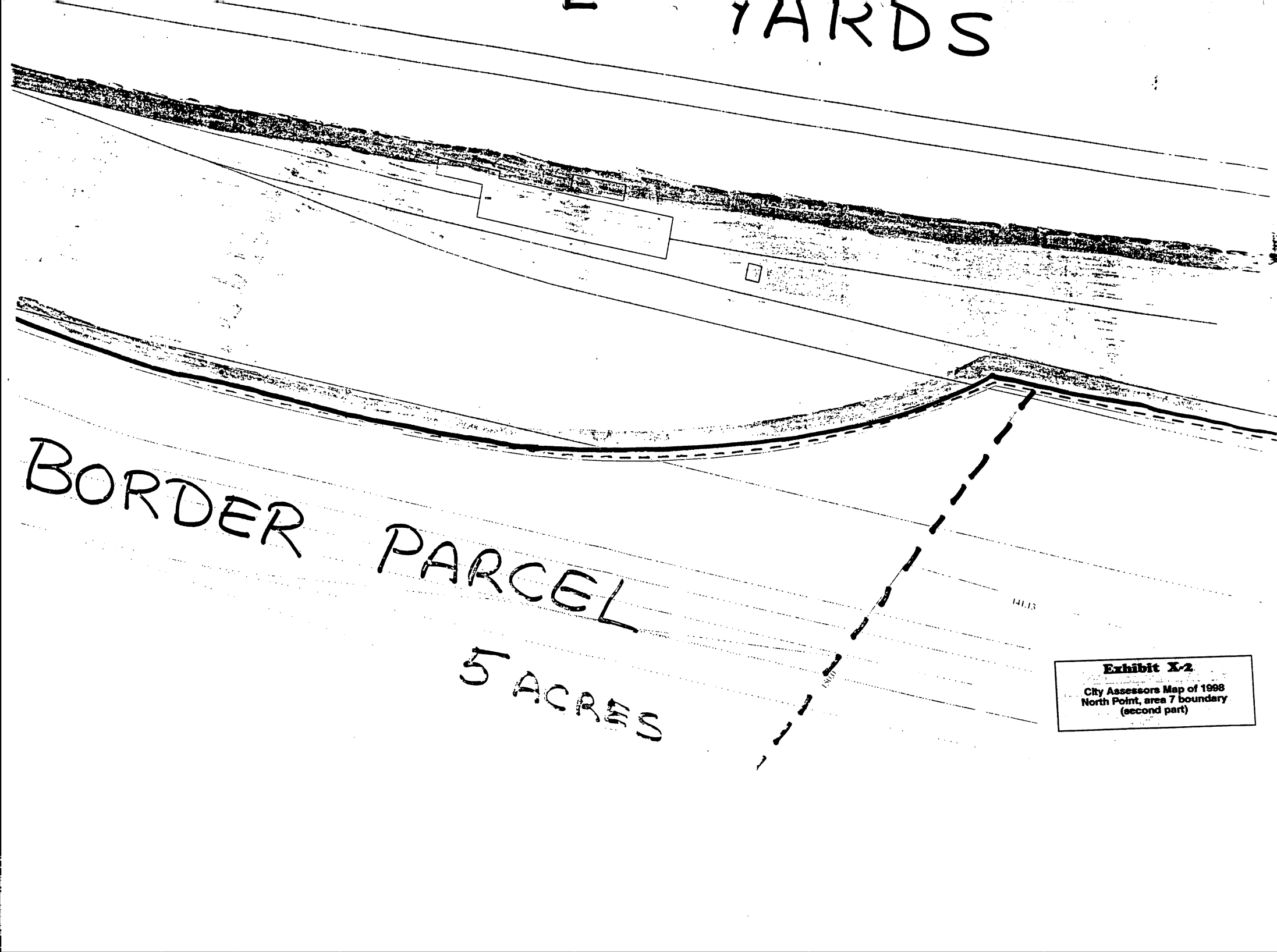
MONROE  
PRIEN HWY

**Exhibit X-1**  
City Assessors Map of 1998  
North Point, area 7 boundary  
(First part)

YARDS

BORDER PARCEL  
5 ACRES

**Exhibit X-2**  
City Assessor's Map of 1988  
North Point, area 7 boundary  
(second part)



RAIL YARDS

RAIL

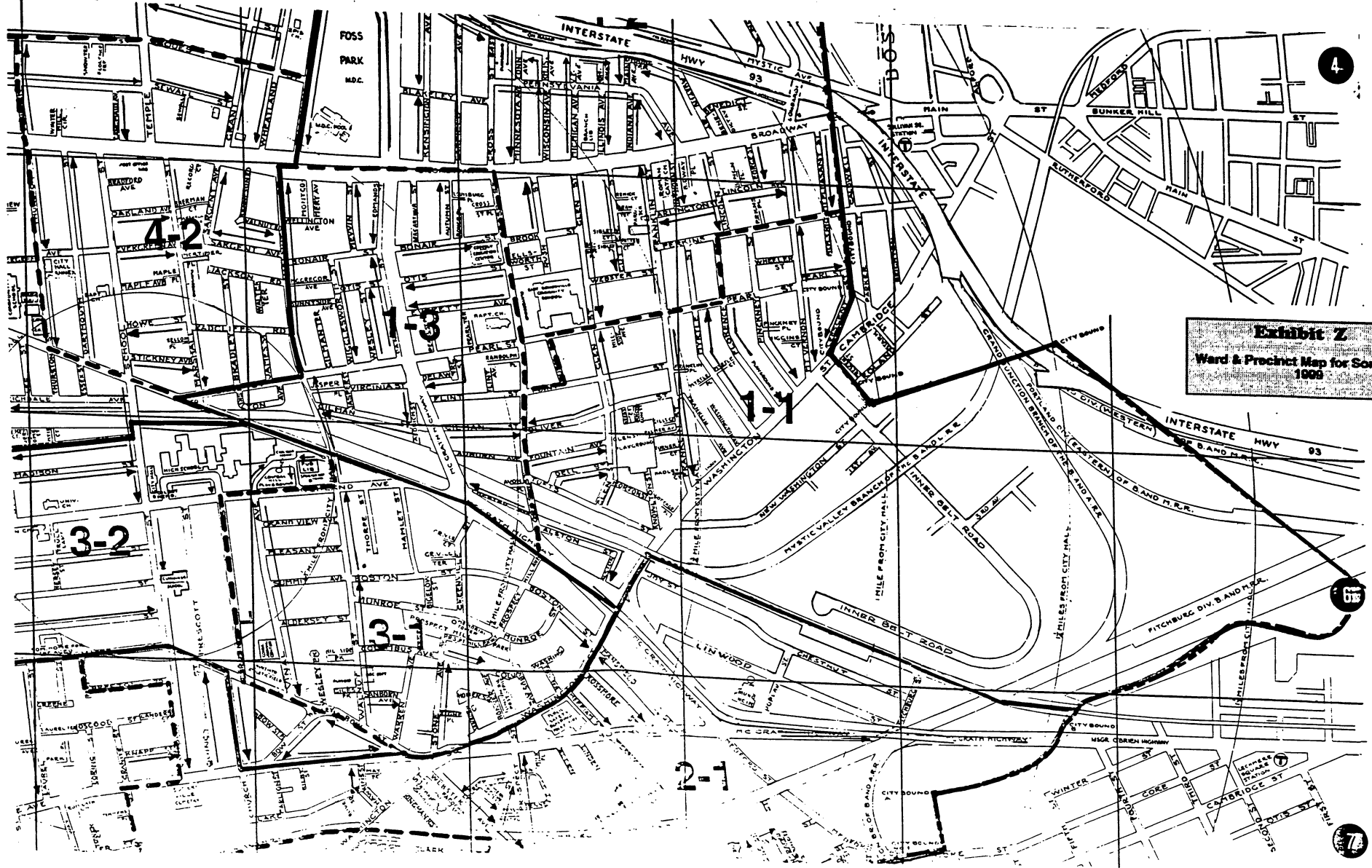
SECOND BORDER PARCEL

5 ACRES

OBRIEN

**Exhibit X-3**  
City Assessors Map of 1998  
North Point, area I-A boundary  
with two boundaries for Boston





**Exhibit Z**  
**Ward & Precinct Map for Somerville, 1998**

4






6

7



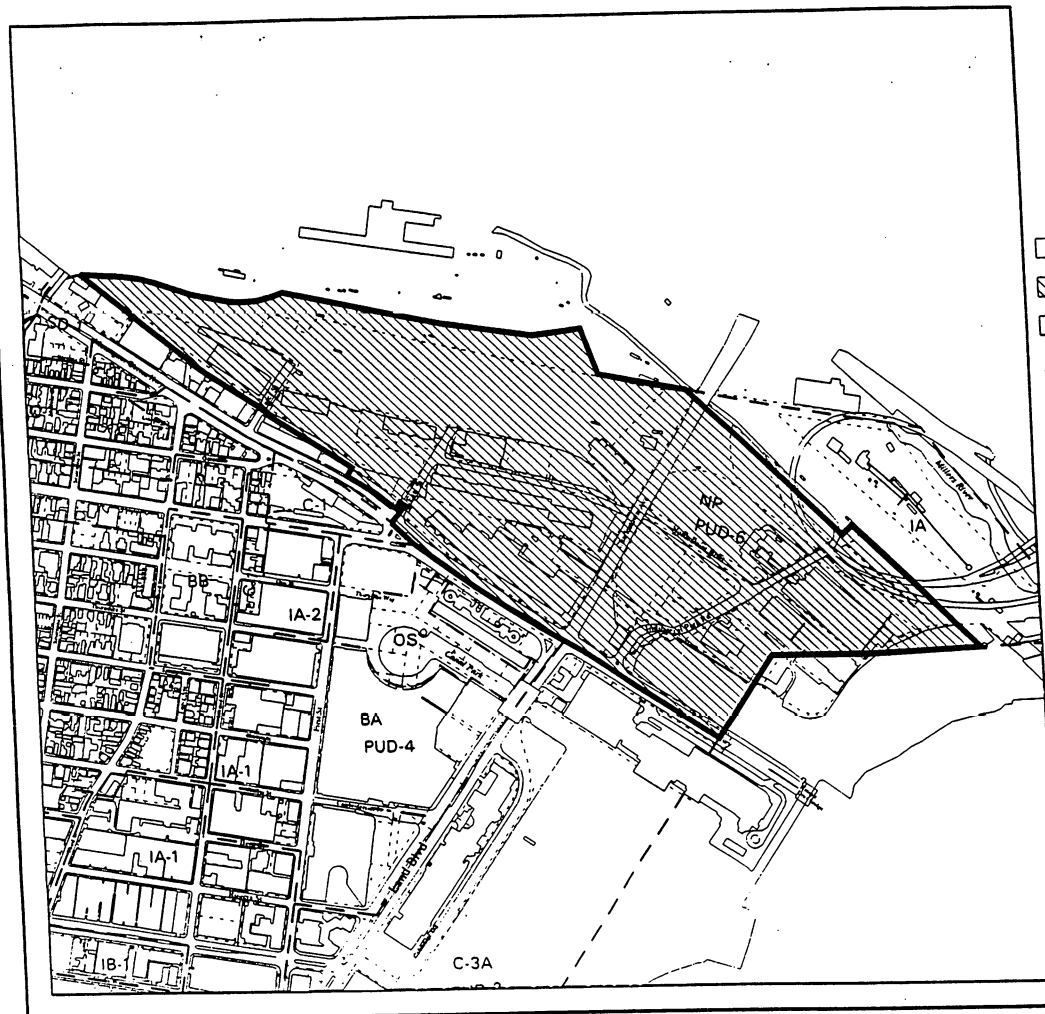
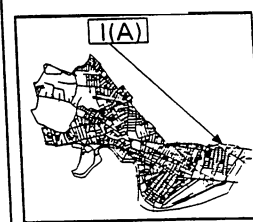
**Area I(A)**  
**North Point Base**  
**District and PUD-6**  
**No Map Change**

**Legend**

-  Open Water
-  Rezoning Area
-  Building Footprint
-  Zoning Districts
-  Parcel Line

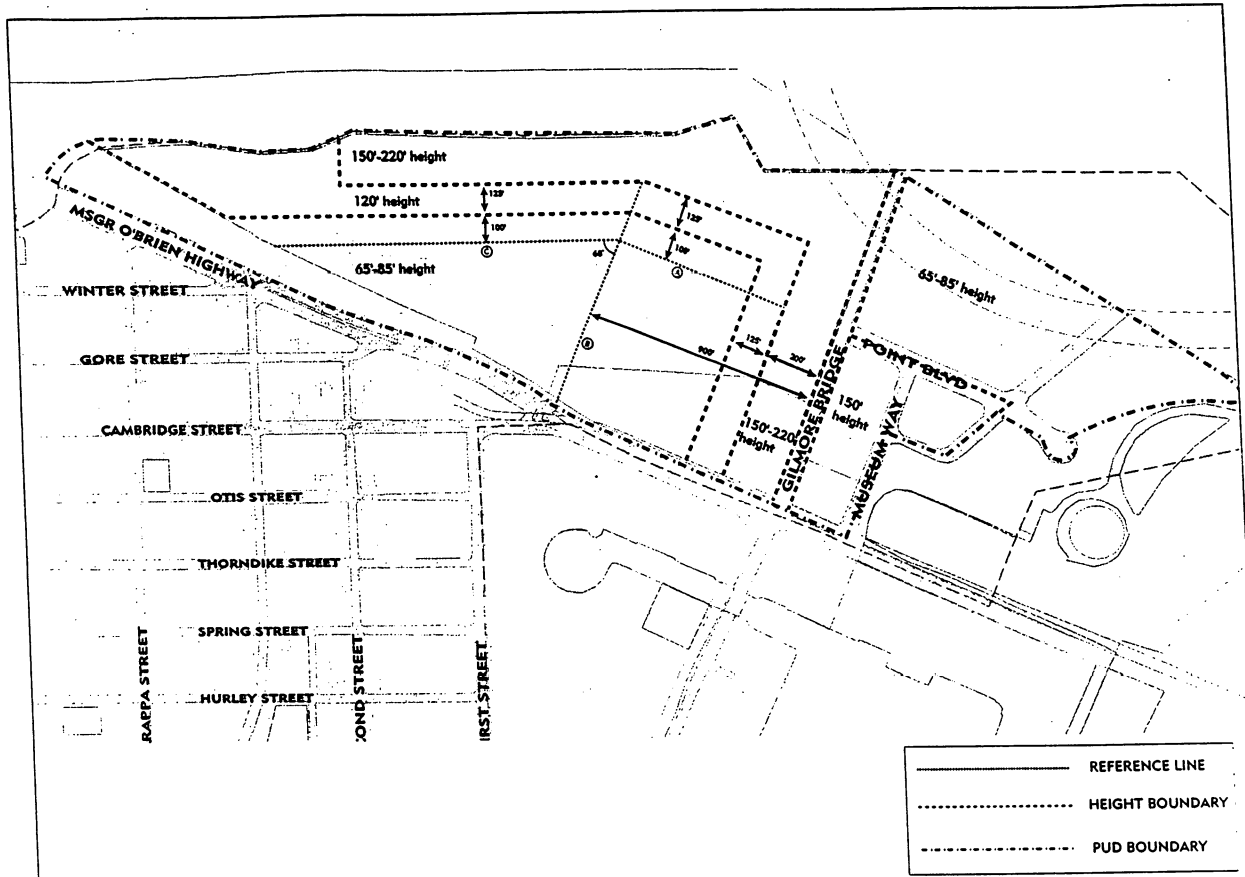


Scale  
 1 Inch = 7200 Feet



Planning Board Citywide Rezoning Proposal  
 June 7, 2001

**Exhibit AB**  
 Area I(A) map included in  
 September 26, 2001  
 Recommendations of the Cambridge  
 Planning Board



**EASTERN CAMBRIDGE PLANNING STUDY**  
 for the Cambridge Community Development Department:  
 Goody, Clancy & Associates • TAMS Consultants, Inc. • Byrne McKinney & Associates • Economics Research Associates • Connery Associates • SAS/Design

**NORTH POINT PUD - BUILDING HEIGHTS REGULATION MAP**  
 6.11.01



**Exhibit AC**  
 Building Height Regulation Map  
 Included in the September 26, 2001  
 recommendations of the Cambridge  
 Planning Board

**A History of RAILROAD LAND ASSEMBLY at North Point :  
the Key Origins of 100 years ago.**

The on-going controversy over land ownership and city boundaries at North Point is part of a long history of land development and tidelands permitting. The past 150 years were a time for tremendous burgeoning power by the railroad industry, and this power extended into virtually all forms of transportation (except automobiles) --including interurban rail, trolley cars, elevated transit systems, and steamship service. By World War I, the spread of automobiles throughout society began the decline of passenger rail, and the trucking industry caused a dramatic decline in rail freight shipments.

Yet 100 years ago, the North Point area of Cambridge had so many railroad tracks that map makers used a short cut to show certain areas, labeling them "full of tracks." From O'Brien Highway to Rutherford Avenue in Charlestown the entire area was given over to railroad uses by 1900. Today, we find the rail uses reduced to a virtual skeleton, with almost no sidings and vast amounts of unused land area. There are even rumors that all freight movement activities will be abandoned, leaving only the MBTA commuter rail activities.

Over 160 years ago, the railroad began its first operations in the Millers River basin, when it obtained a tidelands permit from the state legislature to "own and operate a railroad" on the land. Any land in an area which was historically above the low water tidal line was *private tidelands* and could be purchased. Any land which was originally below the low-water line (and thus covered by water at low tide) is designated as "*Commonwealth tidelands*" and fee title/ownership remains with the state, under the present jurisdiction of the state DEP Waterways program. This initial 1840 permit was expanded upon in later years until the railroad owned virtually all the land from North Point to Rutherford Avenue and had displaced operations such as the Revere Sugar Refinery and the McLean Hospital/Asylum.

The single biggest boost for the railroads was the Civil War. Railroads expanded functionally with wartime activity, but the tremendous deficit spending for the Union armies (\$400 million in annual costs, vs. \$50 million in total Federal revenues) gave extraordinary leverage to banking operations and related railroad/read estate magnates. Railroads benefiting from outright land grants and federal permitting of operations which overrode local controls. Companies received guarantees of monopoly as all levels of government similarly fell under the powerful spell of the railroad companies during the "gilded age" of super-magnates.

By 1900, there were major efforts to bring together all the regional railroads, trolley car companies, transit and steamship lines into one massive supertrust. In those unregulated times there were no laws against bribery. State legislatures were being bought lock, stock and barrel. Naturally we encounter a rich history of intrigue and Machiavellian manipulation, as well as simple brazen power and greed.

The controversial financier J. Pierpont Morgan was behind the effort to formally bring together the New Haven Railroad with the Boston & Maine, as well as Maine Central and other smaller routes. Already, the New Haven had subsumed 300 smaller companies and the Morgan rail empire extended over 18,000 miles. In 1906, there were seven large rail conglomerates, all about 20,000 miles each. Together they controlled 2/3 of the total rail mileage in the U.S. and were headed by the legacies of tycoons like Cornelius Vanderbilt, Jay Gould, James Hill, and Edward Harriman. Harriman was the only one smart enough, powerful enough and with adequate funding to take on Morgan. Railroad money controlled banks and legislatures, and railroad Presidents has more power than the President of the United States.

Morgan was different from the other "Robber Barons" because he dealt with governments and businesses in an interactive manner. He was the original practitioner of "public-private partnerships", whereby a powerful coziness existed between government and business officials. Governments would call on Morgan for help, and he and his financial empire could have effects on national political and economic policies which we today would normally associate only with government power.

Morgan's efforts to continually extend power ran afoul of bad luck, bad publicity and errors in judgment -- and his downfall occurred in Massachusetts. His "Last Hurrah" in railroad finance was an effort to extend the New Haven Railroad and consolidate its forces with the Boston and Maine.

The first formal appearance of a rail connector proposal occurred in the 1909 report of the Boston's Committee on Municipal Improvements. This official document proposed a 4-track rail tunnel to connect North and South Union Stations, along a route quite close to that of the existing Central Artery.

The plan represented a financial and corporate link as well. In 1903 Morgan appointed Charles Mellen as head of the New Haven to implement an acquisitions program involving railroads, steamboat lines, trolley lines, and shipping terminals. Oliver Jensen in his *American Heritage History of Railroads in America* describes what happened next :

*"The next competitors to be gathered in were the trolley lines. ... electric traction had been perfected only a few years before and had spread like wildfire not only over city streets but between towns and cities. The trolleys cut badly into the local passenger service of railroads in heavily populated areas like the New Haven's. By night, the trolleys carried freight, often to the customer's door, and that was competition too, the first since the days of the freight wagon and the stagecoach. ...*

*"So far so good. But it was in Massachusetts that Mellen ran into trouble. Despite the plain language of a state law that prohibited any railroad from acquiring directly or indirectly the stock of any other railroad company, he began to buy up trolleys and interurbans in the central and western parts of the Bay State. The angry governor called for legislative action, whereupon the New Haven brazenly suggested that the acquisitions be subject to a test case in the courts. Properly 'influenced', the lawgivers agreed. Such matters could be dragged out interminably, and decisions purchased. Meanwhile, Mellen promised to buy no more railroads. The legislators had barely gone home than Mellen brazenly bought four more streetcar companies and, in small quiet purchases, Massachusetts' own Boston & Maine Railroad, controlling most of northern New England."*

Mellen's first proposal to consolidate the New Haven and B&M was made to the Massachusetts Legislature in 1903, and in 1907 the stock buying began. By 1912, a new Democratic Governor Eugene Foss recommended a bill to the legislature to allow the rail systems to merge, to electrify all the suburban lines and to build the North-South connector tunnel. It appeared that Morgan had either persuaded or bought off all the opposition.

But not so.

At the turn of the century, the Boston & Maine was a traditional, stable Yankee company which had not been financially "tweaked" with paper stock manipulations. In 1906, B&M stockholders were alarmed at the Morgan acquisitions. They hired a young attorney named Louis Brandeis to represent their interests, and in the resulting tumult, the House of Morgan came crashing down, with a congressional investigation in 1912, Morgan's death in 1913 and an ICC investigation of railroad corruption in 1914. The sinking of the Titanic in 1912 also was damaging to Morgan. He owned the White Star Lines, operator of the Titanic, and he had a specially selected stateroom aboard, although he missed the maiden voyage and the disastrous encounter with an iceberg. The ship's reckless speed was laid to Morgan's rampant profiteering.

Jensen continues ....

*"At length, the Massachusetts Supreme Court ruled that the New Haven had to divest itself. Suddenly the trolley lines were taken over by a 'voluntary association' that was allowed to issue stock but not required to*

*make any financial reports; its members were principally (Diamond Jim) Brady and various directors of the New Haven.... The shares of the Boston & Maine, worth approximately \$14,000,000, were suddenly 'sold' to a Meriden, Connecticut, coal dealer named John L. Billard, whose net worth on the tax rolls ... was \$30,000, plus a horse, a buggy and a piano. Obliging, Mellen and Mr. Morgan 'introduced' him to the National City Bank, which loaned him money against the stock he bought. After this disguise was no longer necessary, he sold the stock not to a railroad (illegal, of course) but to the New England Navigation Company. A canny Yankee, Billard held out for a profit .... collecting \$2,913,648 on an investment of nothing at all. The Navigation Company, naturally, was a New Haven subsidiary. In turn it 'sold' the shares to a new holding company in Boston, a blind for New Haven control, and Mellen became president of the Boston & Maine -- and the Maine Central too."*

Investigations showed that the capitalization or stock value of the New Haven had risen from \$93 million to \$417 million in 10 years, yet less than half of the increase went into the railroad itself. Millions of dollars disappeared. The ICC reported in 1914 that Mellen's network of subsidiaries was "seemingly planned, created, and manipulated by lawyers expressly retained for the purpose of concealment or deception." Within 15 years, the mighty New Haven would go bankrupt, the first of several culminating in the Penn Central disaster of 1970.

The 1909 Rail Link plan, together with its engineering plans, appeared to be a model of civic-spirited virtue for the betterment of Boston and the rail riders to be served, but in truth was a slippery platform for the aspirations of the Morgan empire, and indeed represented the physical link which made the Boston and Maine stockholders feel so threatened. With the death of Morgan in 1913, the strength and aspirations of the railroad moguls had reached its peak. An era had passed, and the days of the swashbuckling rail tycoons were over.

Modern history shows several new twists. In 1982 the press reported that Timothy Mellen was interested in the purchase of the B&M railroad, which was just beginning to emerge from bankruptcy. The eventual results were the purchase of the B&M by the Guilford Company, which appeared to see the real estate components of the deal as more important than the rail operations. Starting in 1988, Guilford made major proposals for the rezoning of the North Point area, initially rejected by the Cambridge Planning Board, but eventually accepted with compromise language.

Shortly thereafter the controversy with Cambridge mapping began .....

3895

**Consent Communication #3**

A communication was received from Stephen H. Kaiser, regarding the zoning for the Eastern Cambridge area and transmitting analysis of the Cambridge-Somerville boundary line and map history.

**In City Council November 5, 2001**

**PLACED ON FILE**