

CHARLESTOWN NAVAL SHIPYARD

COMPREHENSIVE UPDATE

FOR

HISTORIC MONUMENT AREA
(Cumulative Biennial Report - 2000)



CITY OF BOSTON

THOMAS M. MENINO, MAYOR

BOSTON REDEVELOPMENT AUTHORITY

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July 26, 2000

Ms. Alisa McCann, Architectural Historian
United States Department of the Interior
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200 Chestnut Street
Philadelphia, PA 19106

Dear Ms. McCann:

On behalf of the Boston Redevelopment Authority ("BRA"), enclosed please find a copy of Charlestown Naval Shipyard – Comprehensive Update for Historic Monument Area (Cumulative Biennial Report – 2000). The Biennial Report is organized in the following sections: Section I – Introduction, Section II – Historic Monument Area Reuse Status, Section III – Audit of Buildings and Sites prepared by McGinley Hart & Associates, Section IV – Economic Impact of the Historic Monument Area, Section V – Completing the Program of Preservation and Utilization, Section VI – Historic Monument Area Ground Lease Abstracts.

As indicated in previous correspondence and subsequent conversations with BRA staff, the Biennial Report includes an independent audit of preservation, rehabilitation and stabilization efforts to date, recent updates from the U.S. Army Corps of Engineers regarding remedial action plans under the Defense Environmental Restoration Program – Formerly Used Defense Sites for Building 105 (Chain Forge) and Building 108 (Boiler House), and Ground Lease abstracts for Historic Monument Area buildings.

The reuse of the Boston Naval Shipyard has been carried-out in accordance with the Program of Preservation and Utilization and has positioned the Navy Yard as Boston's newest mixed-use harborfront community.

The Program of Preservation contemplated the preservation and/or rehabilitation of twenty-seven (27) buildings of historical significance within the Navy Yard. Most of the Navy Yard's historic structures are concentrated in the Historic Monument Area (HMA). Of the twenty-seven buildings to be preserved, six (6) are located in what is known as the New Development Area ("NDA") and twenty-one (21) are situated in the HMA. Previously completed construction within the NDA, which serves as the Navy Yard's residential core, has yielded 888 residential units at a total development cost in excess of \$116,000,000. Some 1,700 people now refer to the Navy Yard as "Home".

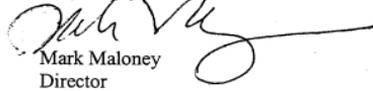
Ms. Alisa McCann
July 26, 2000
Page Two

More than two decades of stewardship by the BRA has attracted private investment totaling \$339,800,000 within the HMA alone. This private investment has yielded 1,927,000 square feet of office, retail, research, childcare, cultural/recreational, parking and housing (244 units) space. Housing creation within the NDA and HMA has produced 1,132 units of which approximately thirty (30%) percent are sold as affordable units to low and moderate income families. To date, sixteen (16) of the twenty-one (21) buildings, representing 76% of the historic structures within the Historic Monument Area have achieved a high standard of quality redevelopment, including preservation, restoration and rehabilitation.

In addition to fulfilling the reuse objectives of the Program of Preservation and Utilization, redevelopment within the HMA has resulted in significant fiscal benefits, including the creation of 2,995 permanent jobs, 1,710 construction jobs, which when combined produces over \$26,000,000 annually in federal and state income taxes.

Future redevelopment, including the fulfillment of the Yard's End Master Plan will generate an additional investment of nearly \$1 billion and will produce yet another 3,500 permanent new jobs and 3,400 construction jobs. We look forward to completing the Program of Preservation and Utilization and thank the National Park Service for its valuable service and continued assistance.

Very truly yours,



Mark Maloney
Director

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I. Introduction

The distinction of the Charlestown Navy Yard is far-reaching, with historical significance encompassing the Revolutionary War, the Civil War and World War II. On June 17, 1775 the British troops landed at Moulton's Point (in the general location of Building 105) and formed for the first assault on "Bunker Hill". In honor of the 25th anniversary of the Battle of Bunker Hill, the Massachusetts Legislature approved an Act authorizing the United States of America to purchase a tract of land in Charlestown for use as a naval yard. The U.S.S. Frolic, an 18-gun Sloop was launched on June 22, 1813 from the Navy Yard's first ship house or "Shipways," which enabled ships to be built in any weather. Thirty-nine (39) ships of war were built in the Navy Yard from 1813 to 1868 and many more were repaired or outfitted.

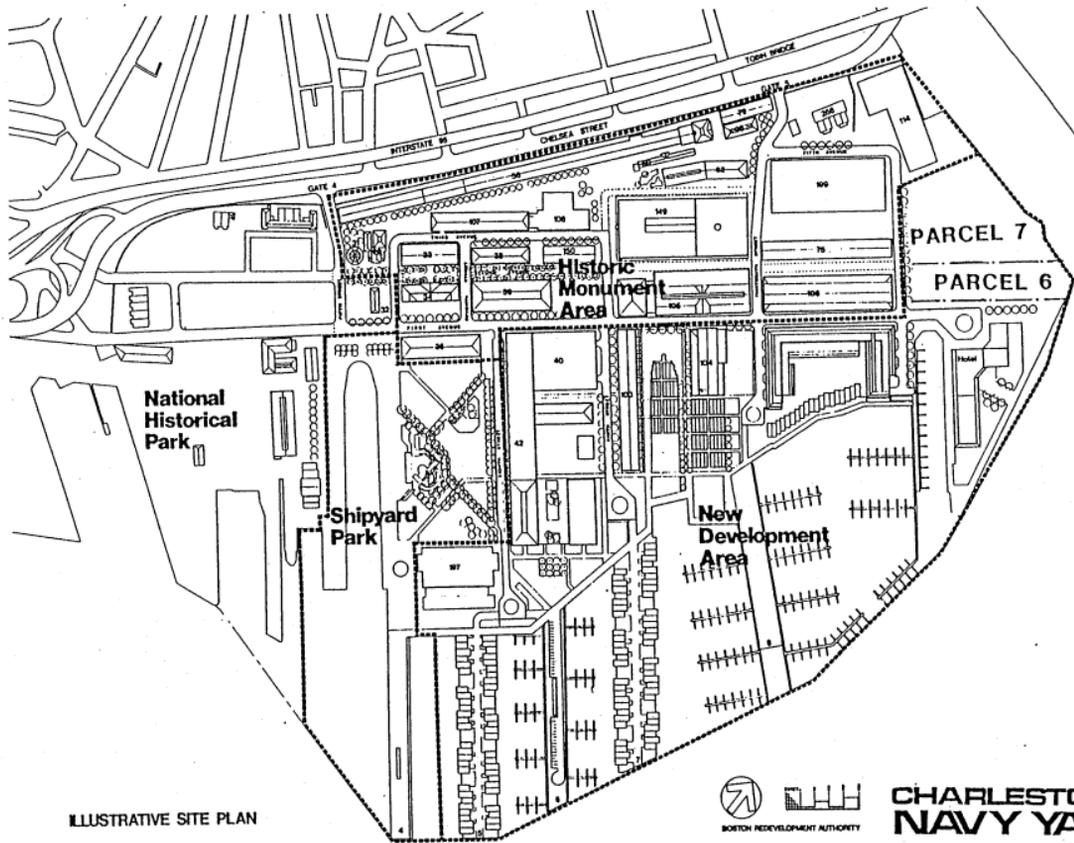
In 1855, the ironclad U.S.S. Merrimack was launched from the Shipways and was later engaged by the Monitor in one of the Civil War's most famous sea battles. World War II is viewed as the high point of naval activity in the Yard. Between 1939 and 1945 some 6,000 vessels were built, repaired, overhauled, converted or outfitted at the Navy Yard. Its contemporary significance stems from its emergence, after decommission, as one of the largest historic preservation and waterfront revitalization efforts in the country.

On July 1, 1974, the U.S. Navy locked the gates of the Navy Yard, after nearly 175 years of operation. The closing of the Navy Yard abruptly severed the economic lifeline of over 5,000 families. In the best of times, this would have presented a significant challenge, but in the 1970's, herculean efforts would be necessary to overcome a gripping economic downturn in Boston. Rather than viewing the Navy Yard as a collection of "mothballed" buildings, the Boston Redevelopment Authority ("BRA") saw an opportunity to conserve its architectural and historical significance while creating a new mixed-use development that would serve as an economic engine for Boston.

By Deed, dated July 7, 1978, the United States of America, acting by and through the Administrator of the General Services Administration ("GSA") conveyed to the Boston Redevelopment Authority a 30.9 acre portion of the former Boston Naval Shipyard, Charlestown (known as the "Charlestown Navy Yard"), which portion is commonly referred to as the "Historic Monument Area." This deed was recorded in the Suffolk County Registry of Deeds, on May 25, 1979, at Book 9182, Page 149.

This conveyance was made subject to a certain Memorandum Of Agreement ("MOA") executed in October of 1977, by and among the General Services ("GSA") Administration, the Massachusetts State Historic Preservation Officer ("MSHPO"), the Advisory Council on Historic Preservation ("ACHP"), with the concurrence of the BRA. It was mutually agreed by the GSA, MSHPO and ACHP that implementation of the undertaking, in accordance with the BRA's "Program of Preservation and Utilization" (on file in the office of the Associate Director, Preservation of Historic Properties, National Park Service, Washington, D.C.) and attached letter of October 6, 1977 and accompanying correspondence from Mr. L. F. Bretta, Regional Commissioner, Public Buildings Service, GSA, will satisfactorily mitigate any adverse effect on the property.

The Program of Preservation and Utilization set the framework for the preservation and/or rehabilitation of twenty-seven (27) buildings of historical significance within the Navy Yard. Most of the Navy Yard's historic structures are concentrated in the Historic Monument Area (HMA). Of the twenty-seven buildings to be preserved, six (6) are located in what is known as the New Development Area ("NDA") and twenty-one (21) are situated in the HMA. The NDA structures, including Buildings' 40, 42, 103, 104, 197 have been successfully rehabilitated for residential uses, while Building 228 was restored for marina uses. More than two decades of stewardship by the BRA has attracted significant private investment in the HMA, yielding 1,927,000 square feet of office, retail, research, childcare, cultural/recreational, housing (244 units), and parking development. The public/private partnerships forged by the BRA and its selected development entities has positioned the Navy Yard as Boston's newest mixed-use harborfront community.



ILLUSTRATIVE SITE PLAN



**CHARLESTOWN
NAVY YARD**



II. Historic Monument Area Reuse Status

Guided by the principles espoused by the Program of Preservation and Utilization and the Restoration/Rehabilitation Guidelines established to carry it out, the Navy Yard has been woven back to the Charlestown community, one of Boston's oldest neighborhoods. The Historic Monument Area (HMA) represents 31 of the Navy Yard's 105 acres and contains a high concentration of historic structures that are being refitted for office, retail, research, childcare, cultural/recreational, housing and parking uses. Streets and pedestrian areas reflect the 19th century history of the Navy Yard and create an attractive and historically appropriate environment throughout.

While the necessity of creating new jobs for local residents was clear, it was also imperative that the Navy Yard's architectural and historical significance be retained. To date, sixteen (16) of the twenty-one (21) buildings, representing 76% of the historic structures within the Historic Monument Area have achieved a high standard of quality redevelopment, including preservation, restoration and rehabilitation. As certified by McGinley Hart & Associates, Architects and Preservation Planners, the following buildings were successfully renovated between 1979 and 1989:

<u>Building No.</u>	<u>Name</u>	<u>Built</u>
33	Billings Building	1850
34	Parris Building	1837
36	Ironsides Place	1850's
39	Carriage House	1863
106	The Basilica	1905
120	John Paul Jones House	1905
149	Constitution Park	1919
199	Parking Facility	1942
266	Captain's Quarters	1824

It was also reported in 1991 that the following building renovations were underway and/or nearing completion:

<u>Building No.</u>	<u>Name</u>	<u>Built</u>
38	Cooper Building	1854
62	Hemp House	1837
79	Boiler House	1852
96	Power House	1899

Since that time, the aforementioned building renovations have been completed as well as the following rehabilitation efforts:

<u>Building No.</u>	<u>Name</u>	<u>Built</u>
31	Muster House	1852
75	Timber House	1848
P	Officer's Quarters	1913
Parcel 150	(former site of substation)	N/A
Gate 6	N/A	N/A

Building(s) currently under construction and nearing completion:

<u>Building No.</u>	<u>Name</u>	<u>Built</u>
114	Boatworks Building	1905

Completed HMA Development

Site	Office	Retail	Research	Child Care	Cultural Rec./FPA	Housing		Parking		Total G.S.F.
						Units	G.S.F.	Spaces	G.S.F.	
Bldg 31	5,000									5,000
Bldg 33	39,000	5,000								44,000
Bldg 34	45,000	5,000								50,000
Bldg 36	61,000			4,000						65,000
Bldg 38			32,000							32,000
Bldg 39	94,000									94,000
Bldg 62	37,000									37,000
Bldg 75			24,000							24,000
Bldg 79			14,000							14,000
Bldg 96			10,000							10,000
Bldg 106						92	119,100			119,100
Bldg 114			90,000		5,000					100,000
Bldg 120	16,000									16,000
Bldg 149		5,000	645,000							650,000
Bldg 199								1,386	545,000	545,000
Bldg 266	14,000			8,000						22,000
Bldg P	5,000									5,000
Parcel 150					44,000	152	51,000			95,000
TOTAL	316,000	15,000	815,000	12,000	49,000	244	170,100	1,386	545,000	1,927,100

III. Audit of Buildings and Sites

The following Audit of Buildings and Sites was prepared by McGinley Hart & Associates during June/July 2000. Redevelopment within the Historic Monument Area (HMA) has been pursued in compliance with the applicable provisions of the Program of Preservation and Utilization, the Charlestown Urban Renewal Plan (Project No. Mass. R-55), the Charlestown Navy Yard Master Plan, the City of Boston Zoning Code, and the Massachusetts Building Code.

III - AUDIT OF BUILDINGS AND SITES

**HISTORIC MONUMENT AREA
CHARLESTOWN NAVY YARD
BOSTON, MASSACHUSETTS**

**BOSTON REDEVELOPMENT AUTHORITY
ONE CITY HALL SQUARE
BOSTON, MASSACHUSETTS 02201
Mark Maloney, Director**

**McGinley Hart & Associates, LLP
Architects and Preservation Planners
77 North Washington Street
Boston, MA 02114**

July 24, 2000

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INTRODUCTION AND METHODOLOGY

Introduction and Methodology

McGinley Hart & Associates was retained by the Boston Redevelopment Authority to undertake an historic preservation audit of the Historic Monument Area at the Charlestown Navy Yard during June and July, 2000. The audit is a component of the 2000 Biennial Report of the Boston Redevelopment Authority to the National Park Service on the status of the Historic Monument Area.

This audit represents a review and evaluation of all buildings, structures and sites as to their compliance with the Program for Preservation and Utilization and the Design Guidelines, as amended, within the Historic Monument Area as defined on the plan that is contained in this report. McGinley Hart & Associates had previously undertaken for the 1990 Biennial Report the evaluation of all buildings within the Charlestown Navy Yard that were conveyed by the Federal Government to the Boston Redevelopment Authority and was familiar with most of the structures and development projects within this historic area that is a designated National Historic Landmark. As historical architects and preservation planners, McGinley Hart & Associates is intimately familiar with Secretary of the Interior's *Standards for the Treatment of Historic Properties*, as well as the Program for Preservation and Utilization and Design Guidelines for the Historic Monument Area and the overall Charlestown Navy Yard.

The audit was undertaken in a logical and sequential manner that utilized the previous 1990 Biennial Report as a basis for this review and evaluation. That document and the status of the applicable provisions of the Program for Preservation and Utilization and the Design Guidelines were reviewed for each building and site within the Historic Monument Area. Next, all Design Guidelines that were completed or amended since 1990 were reviewed, including the recent Design Guidelines that were submitted to the National Park Service on June 27, 2000 for their review and approval. This audit has been undertaken in accordance with these recently submitted Design Guidelines.

An exterior field inspection was then undertaken of all buildings, structures and sites within the Historic Monument Area. Where the Design Guidelines included interior features, those interior features were also inspected. Interiors of Building 105 (Chain Forge) and Building 108 (Power Plant) were not inspected, as these buildings contain hazardous materials and access is prohibited by the U.S. Army Corps of Engineers that has jurisdiction over these structures at the present time. Building elevations and key architectural features were photographed with a digital camera with an emphasis on buildings and sites that have been developed or altered since the 1990 Biennial Report.

Each building, structure and site was then evaluated and audited for conformance with their applicable Design Guidelines and the Program for Preservation and Utilization. The results were then summarized on individual building and site evaluation forms that are contained in this report. The results are also summarized and are shown on the accompanying plan in this report.

McGinley Hart & Associates certifies that all digitized photographs contained in this report are true images and no modification or electronic alteration of the images has been undertaken.

SUMMARY OF FINDINGS

Summary of Findings

This July 2000 Audit indicates that redevelopment of the Historic Monument Area to date has been undertaken in compliance with the Program for Preservation and Utilization and the Design Guidelines, as originally established and recently amended for certain structures and sites. This audit included a review and evaluation of all buildings and sites within the Historic Monument Area. More detailed information is contained in the section on **Individual Buildings and Site Evaluations**.

A summary of our findings is as follows:

A. Buildings Developed Prior to 1990

There were nine buildings that were completely rehabilitated prior to 1990 and were in compliance with the Program for Preservation and Utilization and the Design Guidelines at that time. A July, 2000 field inspection of each building and a review of the guidelines indicates that these nine structures have not been altered and remain in compliance. These structures are as follows:

<u>No.</u>	<u>Name</u>	<u>Status</u>
33	Billings Building	No Changes, In Compliance
34	Parris Building	No Changes, In Compliance
36	Ironsides Place	No Changes, In Compliance
39	Carriage House	No Changes, In Compliance
106	The Basilica	No Changes, In Compliance
120	John Paul Jones House	No Changes, In Compliance
149	Constitution Park	No Changes, In Compliance
199	Parking Facility	No Changes, In Compliance
266	Captain's Quarters	No Changes, In Compliance

B. Buildings and Sites Developed Since 1990

There are eight buildings and two sites in the Historic Monument Area that have been developed since 1990. Two of these structures (Buildings 38 and 62) were substantially rehabilitated prior to 1990 but were not completed until 1993 and 1994 respectively.

Two sites have been redeveloped: Parcel 150 has been developed with a new structure that was specifically designed to meet the Design Guidelines and accommodates a YMCA. Gate 6 was developed and completed in 1997 to provide additional access into the Yard's End section of the Navy Yard. The design of Gate 6 was reviewed and approved by all historical agencies prior to its construction.

Building 31, the Muster House, has been meticulously restored as a signature historic structure at the southern end of the Historic Monument Area, adjacent to the National Historic Park. Building 75, the last remaining of several timber sheds that were early components of the Navy Yard, was rehabilitated and adaptively reused for contemporary, biomedical research purposes.

Building 107, the Anchor Building, serves as the National Park Service's maintenance and service facility for the National Historic Park and is technically not subject to the Design Guidelines, since it has been returned to the U.S. Department of the Interior, National Park Service. During the past several years, the National Park Service has undertaken rehabilitation of various building elements:

- slate roof and skylight repairs on the southwest and northeast roofs
- copper flashing, gutters, downspouts and hip flashing replacements
- southwest roof dormer rehabilitation
- related masonry rehabilitation

All of the above work has been carried out in compliance with the Design Guidelines. Additional work remains to be done to rehabilitate and/or replace various windows, masonry and fill elements on the building facades, particularly the northwest elevation.

All ten buildings and sites are summarized as follows:

<u>No.</u>	<u>Name</u>	<u>Year Started</u>	<u>Year Completed</u>	<u>Status</u>
31	Muster House	1997	1998	In Compliance
38	Cooper Building	(prior to 1990)	1993	In Compliance
62	Hemp House	(prior to 1990)	1994	In Compliance
75	Timber House	1993	1994	In Compliance
79/96	Power House/Boiler House	1992	1994	In Compliance
107*	Anchor Building	1992	1996	In Compliance
150	YMCA (New Building)	1991	1992	In Compliance
P	Officers' Quarters	1993	1994	In Compliance
-	Gate 6	1995	1997	In Compliance

* Building 107 is owned by the U.S. Department of the Interior, National Park Service and is now part of the Boston National Historical Park.

C. Buildings Under Rehabilitation

Building 114, the Boatworks, is currently 65% complete of a substantial rehabilitation of this structure which forms the northern boundary of the Historic Monument Area at the Little Mystic Channel. All work undertaken to date is in compliance with the recently submitted Design Considerations. The building may be summarized as follows:

<u>No.</u>	<u>Name</u>	<u>Year Started</u>	<u>Anticipated Completion</u>	<u>Status</u>
114	Boatworks	Fall, 1998	December, 2000	65% completed. All work to date is in compliance with Design Guidelines

D. Stabilized Buildings and Sites Remaining to be Developed

Five buildings and sites remain to be redeveloped in the Historic Monument Area. The three buildings (58 - Ropewalk, 60 - Tar House, and 105 - Chain Forge) are three of the most significant historic structures in the overall Charlestown Navy Yard. Due to their unique characteristic -size, configuration, construction and Haz Mat (hazardous materials) conditions-these structures have been the most difficult to successfully redevelop. The three buildings were stabilized by the Boston Redevelopment Authority between 1993-1995. Extensive roof and waterproofing measures were carried out on the Ropewalk and Chain Forge to protect their historical integrity. The work was intended not as permanent rehabilitation measures, but as temporary repairs that would protect the structure from further deterioration until redevelopment could be attracted to these buildings. All work was designed and carried out consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and the Design Guidelines.

A Summary of each building and site is as follows:

<u>No.</u>	<u>Name</u>	<u>Status</u>
39A	Vacant Site	BRA has prepared an RFP and has recently advertised for redevelopers. (See Appendix C)
58	Ropewalk	Stabilized in 1993-1994. BRA solicited letters of interest in May, 2000. Four responses were received. (See Appendix B) Developer kit now being prepared by BRA to solicit definitive proposals.
60	Tar House	Stabilized in 1993-1994. Inactive. Building interior is saturated with tar resulting from its long use in the rope making, tarring process. Its adaptive use for habitable occupancy without destruction of the historic fabric seems doubtful. A passive interpretive element to the rope-making process would be a possibility in connection with the Double Interpretive Loop.
105	Chain Forge	Extensive stabilization of this large structure was completed in 1995. Building is currently under remediation-related jurisdiction of the Army Corps of Engineers as an element of its Remedial Action Plan for Building 105. The Boston Redevelopment Authority intends to pursue development proposals in accordance with the Program for Preservation and Utilization and the Design Guidelines as soon as the Remedial Action Plan is completed. (See Section V, The Program of Preservation and Utilization).
108	Power Plant	Building will be demolished as soon as remediation is complete. PCB's have been recently discovered in this structure. A Work Plan is being revised by the Army Corps of Engineers to address the environmental consequences of this matter. (See Section V, The Program of Preservation and Utilization).

E. Recommendations for Completion

Of the twenty-five buildings and sites that comprise the Historic Monument Area, 20 components have been completed and are in compliance with the Program for Preservation and Utilization and the Design Guidelines, as amended. In addition, one major building (Building 114 - the Boatworks) is 65% complete and will be finished by the end of this year.

There are five buildings and sites that remain to be developed in the Historic Monument Area. All five components have been subject to Haz Mat conditions that have impacted their redevelopment to varying degrees.

It is recommended that the following actions be taken to complete the redevelopment of the remaining five buildings and sites:

1. Parcel 39A

The Boston Redevelopment Authority should continue with due diligence the pursuit of a redeveloper that can successfully develop the site in compliance with the Program for Preservation and Utilization and the Design Guidelines.

2. Building 108

The Army Corps of Engineers should complete the revision of their Work Plan to address the environmental issues of recently-discovered PCBs and complete with due diligence their Remediation Plan for Building 108 and the Boston Redevelopment Authority should demolish the building and develop the site as permitted by the Rehabilitation Guidelines.

3. Building 60 - Tar House

In the opinion of this consultant, the rehabilitation of the Tar House for habitable occupancy will be extremely difficult without removal of the Haz Mat conditions of the extensive saturation of pine tar on all interior surfaces, particularly on the ground floor. To remediate this condition would probably require the destruction of historic building fabric throughout the interior of the structure. Indeed, the tar itself and the interior condition of the building is a component of the historic rope-making process by the U.S. Navy for over 130 years at this site. A possible adaptive use could be as a dramatic exhibit of the function of the Tar House in the rope-making process as a component of the Double Interpretive Loop. A transparent, air-tight enclosure could be constructed to lead visitors through the first floor with lighted interpretive exhibits on both sides of the enclosure. The second floor possibly could be remediated as storage space and connected through the overhead bridge to the Ropewalk. This bridge is required to be restored as part of the Design Guidelines and the roof was covered with a rubber membrane as part of the 1993-1994 stabilization effort. The possible use of the second floor of the Tar House should be explored and coordinated with the RFP solicitation of the Ropewalk now being prepared by the Boston Redevelopment Authority.

4. Building 58 - Ropewalk and Building 105 - Chain Forge

As previously indicated, these two unique buildings along with Building 60 - the Tar House, are three of the most significant historic buildings in the Historic Monument Area and the overall Charlestown Navy Yard. All three structures were stabilized by the Boston Redevelopment Authority during 1993-1995.

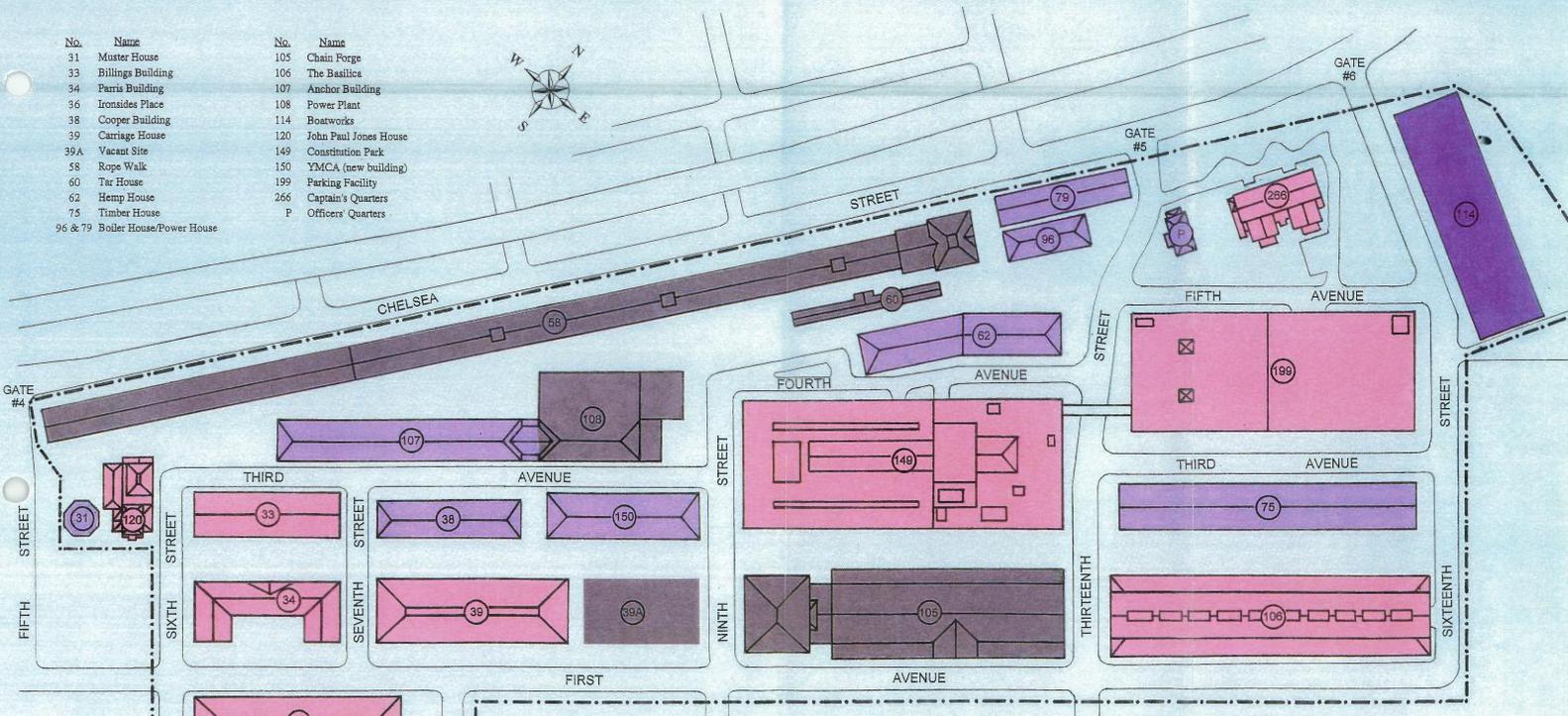
These two large and unique structures must be rehabilitated and preserved in order to maintain the integrity of the Historic Monument Area. The Boston Redevelopment Authority is presently pursuing the development process for the Ropewalk and the Army Corps of Engineers needs to complete its Remediation Plan for the Chain Forge.

Both structures will require a very substantial investment to properly rehabilitate them and preserve their integrity. The successful redevelopment of the other buildings in the Navy Yard has been achieved but these two significant properties have not attracted developer interest to date. It is the recommendation of this consultant that a joint city, state and federal effort be made to secure public preservation funding sufficient to restore the exterior features of both buildings. This would be a strong financial incentive that is probably required to attract potential developers that must have a financially feasible project to proceed with implementation. This process has been pioneered by the Boston National Historical Park as a partnership with many of its privately owned components. It is strongly recommended that a blue-ribbon task force be formed to explore this recommendation as soon as possible.

PLAN OF HISTORIC MONUMENT AREA

- | | |
|---------|--------------------------|
| No. | Name |
| 31 | Master House |
| 33 | Billings Building |
| 34 | Parris Building |
| 96 | Ironsides Place |
| 98 | Cooper Building |
| 39 | Carriage House |
| 99A | Vacant Site |
| 58 | Rope Walk |
| 60 | Tar House |
| 62 | Hemp House |
| 75 | Timber House |
| 96 & 79 | Boiler House/Power House |

- | | |
|-----|-----------------------|
| No. | Name |
| 105 | Chain Forge |
| 106 | The Basilica |
| 107 | Anchor Building |
| 108 | Power Plant |
| 114 | Boatworks |
| 120 | John Paul Jones House |
| 149 | Constitution Park |
| 150 | YMCA (new building) |
| 199 | Parking Facility |
| 266 | Captain's Quarters |
| P | Officers' Quarters |



Legend

- 31 Muster House
- Buildings Developed Prior to 1990 & In Compliance
- Buildings Developed Since 1990 & In Compliance
- Buildings Under Rehabilitation & Appear In Compliance
- Stabilized Buildings/Sites to be Developed
- Historic Monument Area Boundary

HISTORIC MONUMENT AREA
CHARLESTOWN NAVY YARD

McGinley Hart & Associates LLP
Architects & Preservation Planners
77 North Washington Street
Boston, MA 02114

July 2000



DRY DOCK NO. 2

CHANGES TO GUIDELINES SINCE 1990

Changes to Guidelines Since 1990

- Building 39A** Guidelines were developed covering the envelope, fenestration, wall finish and detailing for buildings on this site. The Boston Redevelopment Authority has issued an RFP for development of the site in accordance with the established Guidelines.
- Building 114** To take into consideration changes resulting from the loss of a wing for the construction of Gate 6 and damage resulting from an extensive fire the Guidelines for Building 114 were altered. Rehabilitation work on the building is 65% complete and it is scheduled for completion in December 2000. The project is in conformance with the Guidelines.
- Building 150** Guidelines were developed covering the envelope, fenestration and detailing of this site. The YMCA has been completed according to these Guidelines.
- Building 199** It was determined that the roof of Building 199 could be used as an additional parking deck. Guidelines were developed to allow for lighting standards at the roof level.
- Gate 6** In an effort to promote the development of Yard's End, the Boston Redevelopment Authority was allowed to develop Gate 6 to facilitate traffic flow at the east end of the yard. This included the extension of Sixteenth Street and the reconfiguration of the fence and wall along Chelsea Street.

**STABILIZATION OF ROPEWALK,
TAR HOUSE AND CHAIN FORGE**

Stabilization and Repairs

In 1991 The BRA engaged an architectural/engineering consultant team skilled in historic preservation to review the conditions and make a report on the needs for the stabilization of Building 58 - the Ropewalk, Building 60 - the Tar House and Building 105 - the Chain Forge.

While guidelines had been developed for the restoration of these three structures, no concrete development projects were forthcoming after more than fifteen years and there was concern that these structures required some structural stabilization and that the building envelope in each case required remedial work to prevent the further deterioration of the structures. The Boston Redevelopment Authority engaged the consultant team of McGinley Hart and Associates with Boston Building Consultants to survey the structures and develop Stabilization Guidelines, and later, specifications for implementation of their recommendations. The result was two packages, one for the the Ropewalk and Tar House and the other for the Chain Forge, consisting of outline specifications, detail sketches and quantities for unit pricing.

In 1993 and 1994 these packages were developed into a complete set of plans and specifications that reflected the need to plan for longer term stabilization of the buildings awaiting a development proposal that would effectively incorporate the overall Design Guidelines and the complete rehabilitation of the buildings. The plans for the Rope Walk and Tar House stabilization were developed in the summer of 1993 and went out to bid in September 1993 and construction lasted through the winter into the spring of 1994. The plans for the Chain Forge were developed in 1994 and were undertaken in two phases with the work substantially complete in the late fall of 1995.

The work on the Ropewalk and Tar House consisted of roofing and select carpentry repairs to ensure weather-tightness, selective brick and stone repointing for weather-tightness and building stability, door and window boarding to secure the buildings against intruders and selective shoring to arrest further deterioration of failed/failing structural members.

The majority of the slates on the Ropewalk and the Tar House had been previously nailed to the roof sheathing with untreated ferrous nails which had begun to rust and fail, allowing slates to begin to slide off the roof. This failure seems to have been concentrated in given areas but distributed throughout the entire roof. While stabilization plans called for the replacement of a given number of slates in a given section of the roof, with extra work tradeoffs, about 5% of the slate roofing was ultimately relaid or renailed. As long as the building remains unoccupied, it is anticipated that there will be a continued deterioration of the ferrous slate nails and the ongoing need to selectively renailed roofing slates. The problem was less severe on the Tar House where less than 100 slates needed renailed or replacement.

At the Ropewalk where the roof truss failed adjoining the Headhouse, the roof sheathing was overlaid with plywood and a rubber membrane roofing was installed as an interim measure until such time as the roof truss is completely repaired/replaced. In an effort to prevent further deterioration of the wood truss bridge between the Ropewalk and Tar House a new 2x4 frame with plywood sheathing was installed over the existing roof sheathing and this received recovery board and a rubber membrane roof. In addition to the roof work, the wood "penthouses" and ventilators on both buildings were stabilized and repaired and the existing skylights and skylight curbs were covered with copper sheetmetal covers.

During roof repairs it was discovered that the eaves on the lower section of the Ropewalk included over and the first course of slate was begun. Over the years the mortar in this brickwork had

become severely eroded, creating an instability at the eave line. Although it was necessary to repoint most of the brickwork at the eaves an effort was made to retain as much of the existing cap flashing as possible.

On the Ropewalk, it was necessary to repoint portions of the the granite structure and World War I era brick addition along Chelsea Street where water had been allowed to run free over the structure, mostly from missing or improperly connected downspouts. While the Tar House required similar selective repointing at the eaves and a few window sills, the northeast, gable end and the addition at the southwest inexplicably required almost a 100% repointing.

During the survey of Buildings 58 and 60 the engineers had noted that the hip rafters in the addition at the southwest end of the Tar House had deteriorated and, as a result, they had inadequate bearing to adequately support the roof structure. They also noted that the previously mentioned southeasterly end of the first truss where the Ropewalk meets the Headhouse had failed due to water infiltration and subsequent rotting of the principal members. In both cases the engineer designed systems of timber frame support that were installed by the contractor to prevent any further deterioration or complete failure of the members.

Finally, in an effort to keep vandals and vagrants out of the buildings, the existing expanded heavy metal mesh screens were inspected for integrity and repaired where appropriate. Where windows lacked protective screening or the existing screening was beyond repair, the windows were covered with gray painted plywood with ventilation holes and through bolted to strongbacks securely supported against the interior masonry walls.

A survey of the 1993 work taken in conjunction with the year 2000 audit shows the work retains its integrity. Until such time as the building is redeveloped, it would be advisable for monies to be set aside for selective slate reailing every 3-5 years to maintain the general integrity of the roof enclosure on Buildings 58 and 60.

While the final Stabilization Work for Building 105 was being developed and issues relating to HazMat remediation were being resolved, the Boston Redevelopment Authority undertook emergency repairs to the Building to remove loose and damaged brickwork at various locations around the building, broken and damaged wood sash from the forge area and loose sheetmetal work from the roof and eaves. This work was completed in the spring of 1995.

By the fall of 1995, the Army Corps of Engineers had resolved the HazMat issue for the Boston Redevelopment Authority by declaring the interior of Building 105 off limits to all but properly trained and attired experts.

When the second phase of the work began, the masons restored the loose brickwork removed from the Headhouse cornice and pilasters and repointed about 10% of the remaining brickwork. Where the rusting of the structural steel columns on the Headhouse caused rust jacking of the corner pilasters, the masons installed a series of "L" shaped brackets to help hold the remaining brickwork in place.

Initial observation had indicated that the slate roof on the Headhouse would require significant reailing and/or reattachment and that the gutters would require re-lining. In addition, the Boston Redevelopment Authority asked that snowguards be installed on the roof to protect passersby from snow slides. The roof deck of the Headhouse is a nailable concrete deck with a moderately deteriorated top surface. As a result of this deterioration twice the number of slates required reailing/reattachment as anticipated. As an interim measure the Headhouse gutters were lined with

a rubber membrane. While this stopped the water runoff from infiltrating the wall cavity it does have the potential to allow unwanted moisture buildup in the gutter assembly.

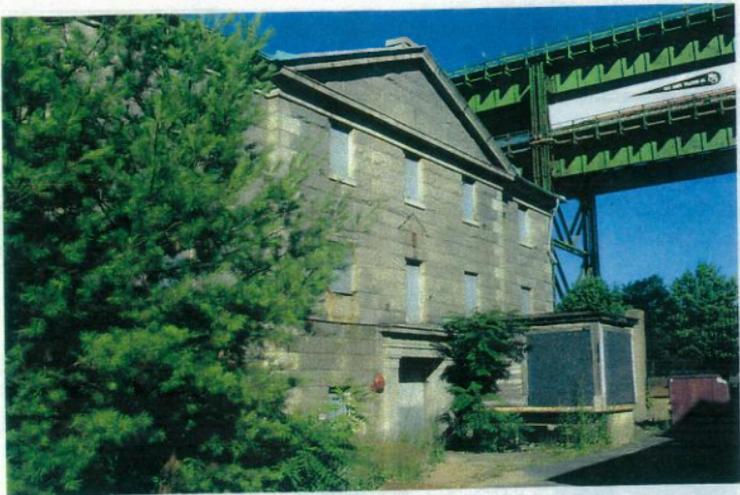
On the Forge Building itself where the metal roofing on wood decking had failed or was missing, the rotted decking was removed and replaced and the new decking was shingled using three tab asphalt shingles in a greenish color to evoke the patina of the original copped cladding. Where original sheetmetal remained it was carefully preserved in place to help with future restoration details.

The link structure between the Headhouse and Forge was in particularly bad condition and the second floor was covered with asbestos. In an effort to encapsulate the second floor, the stairs were boarded up as were all the windows. The deteriorated roof deck at the link was covered with plywood and recovery board and the entire roof and upper clerestory were covered with a rubber membrane roofing.

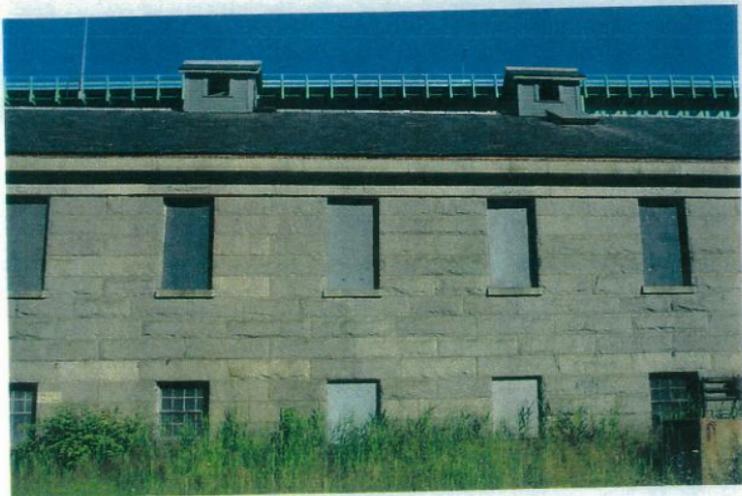
While the first floor windows of the Forge Building had been boarded for years, the wood sash at the second level were severely deteriorated and in need of care. In addition most of the glass in these windows was broken and there was concern as to the best method to keep birds and rocks from entering the building. As part of the emergency work all operable sash sections that could not be brought to a vertical position had been removed and stored in the interior of the Building. As part of the final stabilization, all broken and cracked lites of glass were removed and the principal window framing members were painted. Instead of the heavy "anchor" type chain link fence recommended by the engineer, a high-strength, fine grid plastic netting was installed over the entire window band. The texture of this netting is so fine that it is nearly invisible more than ten feet away from the building.

Since completion of the stabilization work in 1995 the Army Corps of Engineers has taken over the site and begun comprehensive HazMat remediation on the building interior. To ensure the safety of the public the roof and windows have been covered with white plastic sheeting, obscuring some of the stabilization work.

A survey of the 1995 work taken in conjunction with the year 2000 audit shows the work retains its integrity. Until such time as the building is redeveloped, it would be advisable for monies to be set aside for selective slate retiling and a gutter survey every 3-5 years to maintain the general integrity of the roof enclosure on the Headhouse.



View of Ropewalk Headhouse showing repaired gutters, downspout and boarded windows and loading dock.

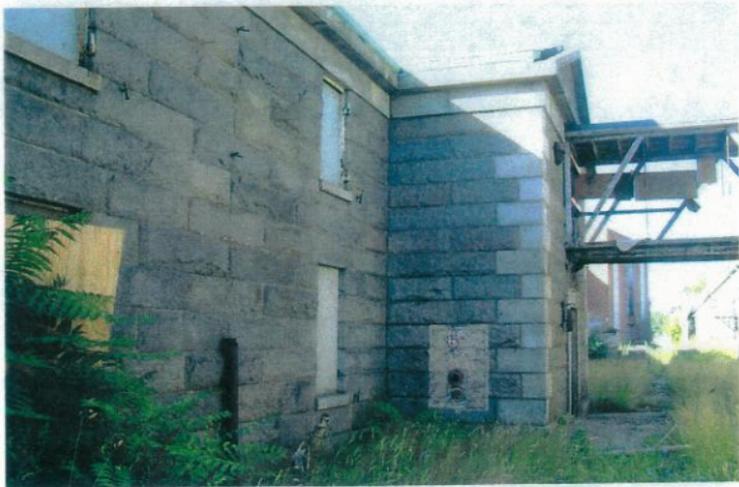


View of a portion of the Ropewalk showing restored cupolas, repaired slate roof, covered skylights, rebuilt brick eave detail and three generations of window coverings.

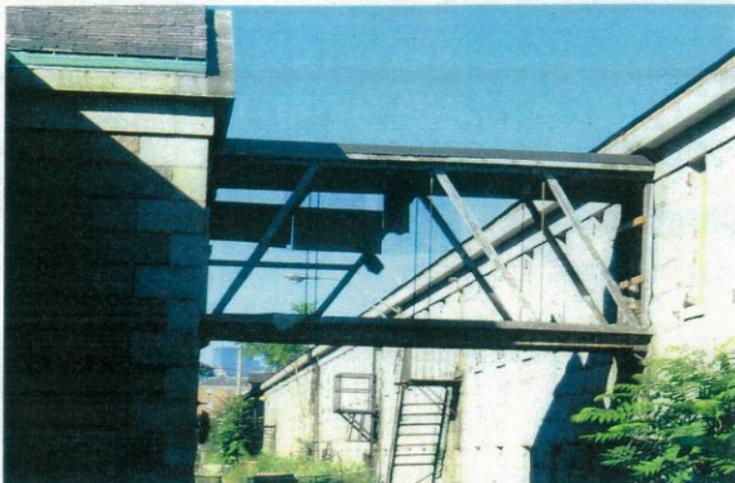


Looking south from the Ropewalk at the Tar House before stabilization.

8/93



Similar view at grade after completion of building stabilization.



Looking southwest at stabilized bridge between Ropewalk and Tar House.



Looking north at the Tar House addition which required nearly 100% repointing.



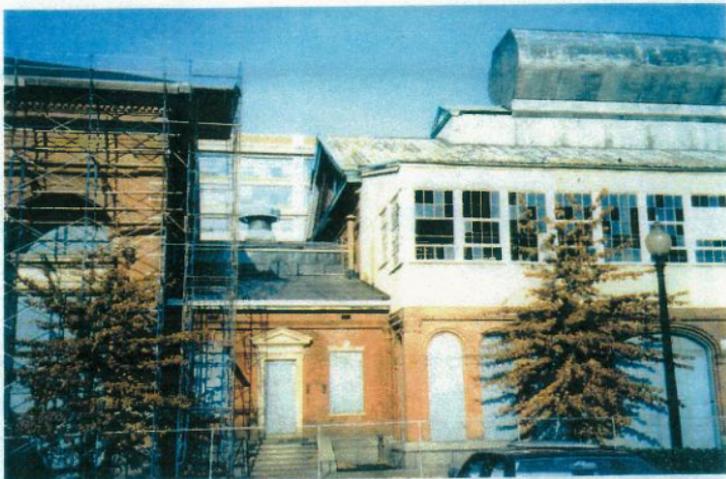
General view looking north along First Avenue prior to commencement of stabilization work.

8/95

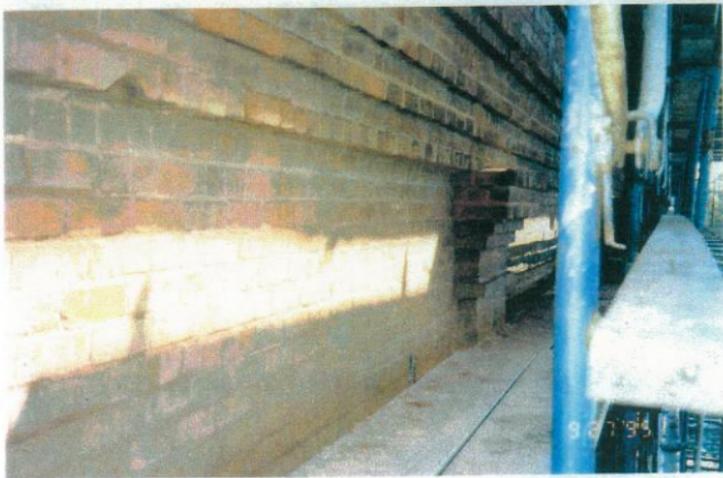


View to the northeast showing roof repairs underway of First Avenue gable.

9/95



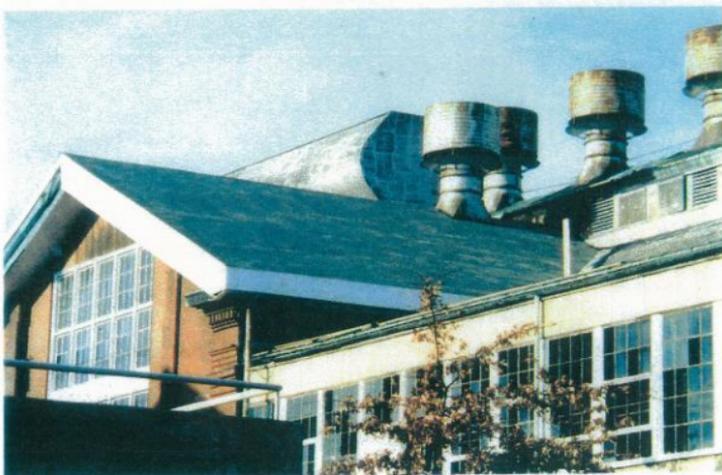
View looking northwest showing connector with new membrane roof and repairs to sheetmetal roof. 10/95



Detail view showing cornice repairs/repointing nearing completion.



General view looking north along First Avenue showing project nearing completion.



Completion photograph showing asphalt shingles on the First Avenue gable, removed sash and bird netting in place.

INDIVIDUAL BUILDING AND SITE EVALUATIONS

**Historic Monument Area
Charlestown Navy Yard**

Name: Muster House **Building No:** 31

Location: 31 Fifth Street, corner of Second Avenue

Lessee: The Royalston Trust (acquired in 1999)
41 Monument Square, Charlestown, MA

Status: Superior restoration completed in accordance with Guidelines - 1998
In Compliance with Guidelines.

Comments: Slate roof on cupola and 6/6 sash differ from Guidelines. However, the 1981 Historic Structures Report clearly shows slate on the cupola roof after 1871. All historic plans and photographs show 6/6 sash in second and third floor window openings. Existing conditions did not allow for restoration of lightwells as per guidelines.



View looking northwest from First Avenue.

6/29/00

Required Action: None



View looking east from Gate 4.

6/29/00



Detail view looking east showing restored canopy and ground plane.

6/29/00



View looking northwest at principal entrance.

6/29/00



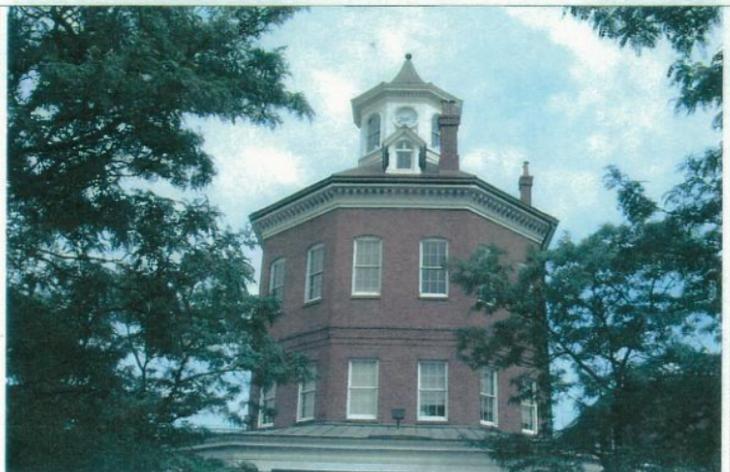
View of detail of porch cornice.

6/29/00



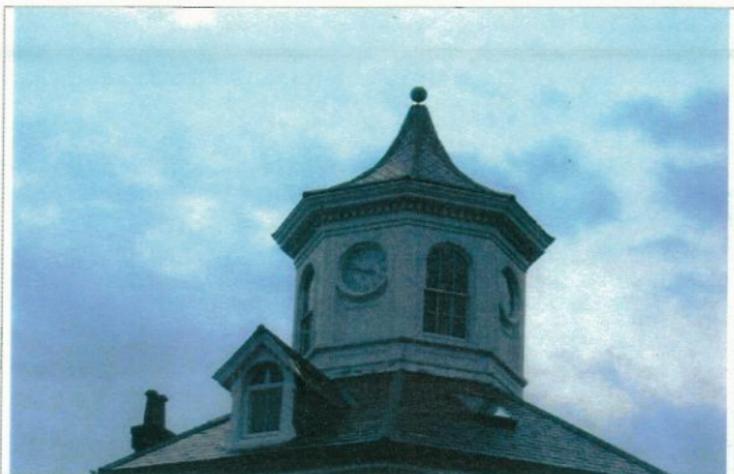
Detail view looking northeast showing first floor elevation.

6/29/00



View looking northeast at upper elevation.

6/29/00



View looking west at upper portion of roof.

6/29/00



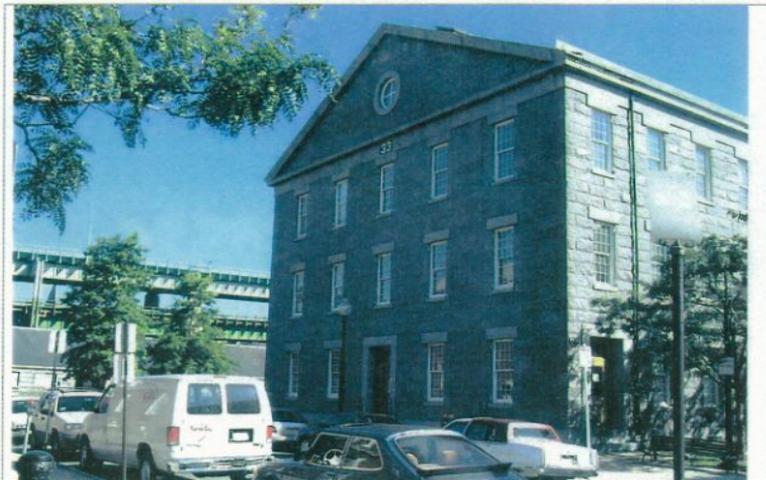
View showing detail of upper cornices.

6/29/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Billings Building **Building No:** 33
Location: Third Avenue
Lessee: Kilkee Ltd. PTRN
Status: Substantially complete in 1990.
In compliance with Guidelines.

Comments: Addition demolished and related restoration completed between 1991 and 1993 as defined in the Guidelines. Lightwell detail modified slightly with ground plane. No other changes have been made to the exterior of the building since 1990.



View looking north showing gable end (southwest) and main (southeast) elevation.

7/21/00

Required Action: None.



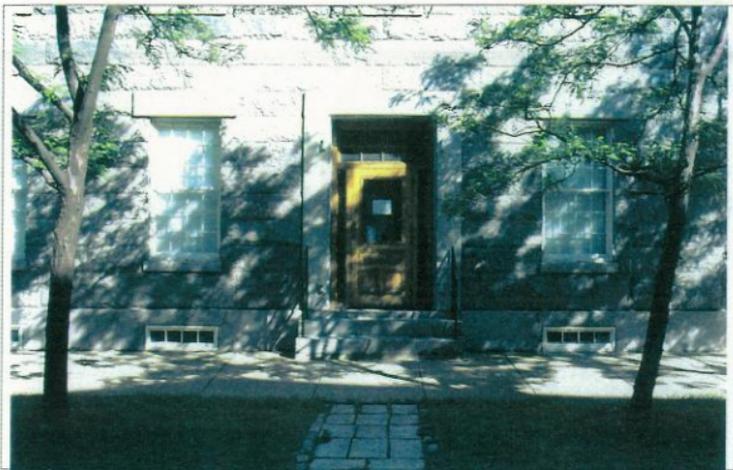
View looking north showing restored stairs, doors, windows and basement sash on southeast elevation facing Second Avenue.

7/16/00



View looking west showing restored stairs, doors, windows and basement sash on southeast elevation facing Second Avenue.

7/16/00



Looking northwest at typical side entrance facing Second Avenue.

7/21/00



Looking northwest at main entrance facing Second Avenue.

7/21/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Parris Building

Building No: 34

Location: Second Avenue

Lessee: Navy Yard Plaza Development Associates, Inc.

Status: Completed in 1990.
In compliance with Guidelines.

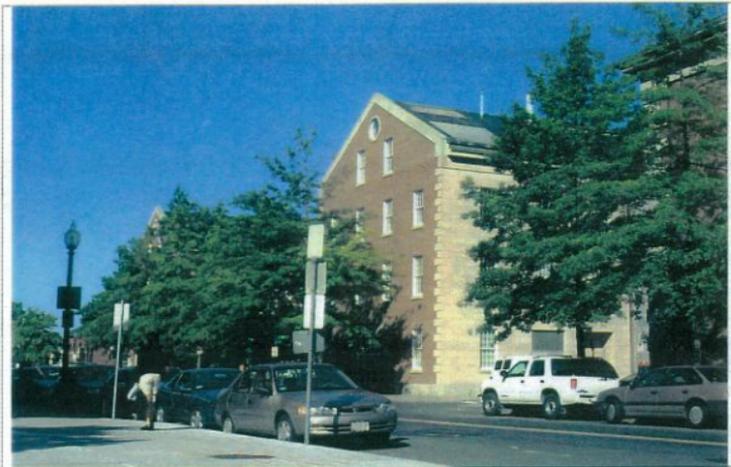
Comments: South side of Building 34 was designated as special ground plane area.
Sensitive flanking additions were added at the southeast as allowed.
No changes since 1990.



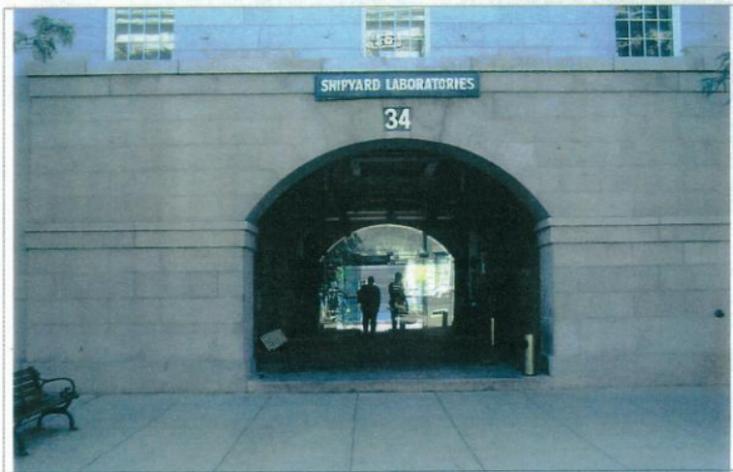
View looking north showing southeast and southwest elevations.

7/16/00

Required Action: None.



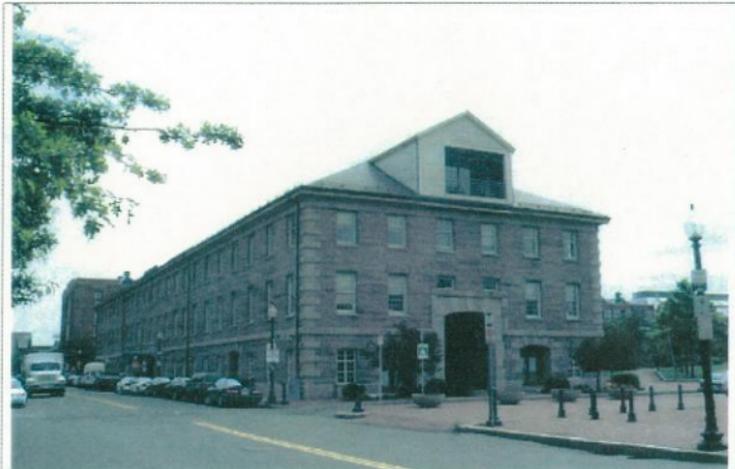
View looking west from First Avenue and Eighth Street at the northeast addition at First Avenue and Seventh Street. 7/21/00



View looking southeasterly from Second Avenue through to First Avenue beyond. Note restored passageway and signage. 7/21/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Ironsides Place **Building No:** 36
Location: First Avenue
Lessee: Incubator Associates
Status: Completed in 1990.
In compliance with Guidelines.
Comments: No changes have been made to the exterior of the building since 1990



View looking east from First Avenue

6/29/00

Required Action: None.



View looking North Across Sixth Street

6/29/00



First floor detail of southwest elevation looking east. Note replacement windows and recessed doors.

6/29/00



View looking north at southeast elevation of the building.

7/24/00

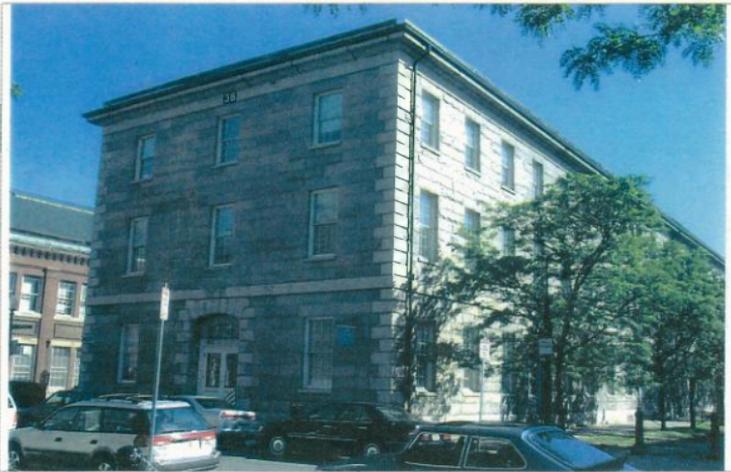


Looking South from First Avenue at northeast elevation.

6/29/00

**Historic Monument Area
Charlestown Navy Yard**

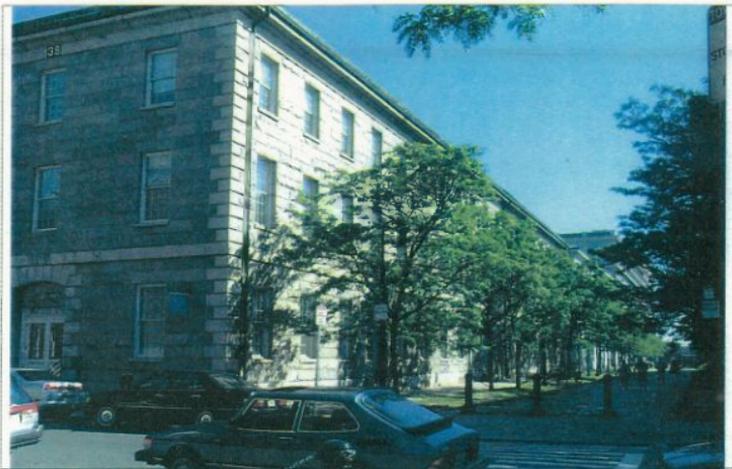
Name: Cooper Building **Building No:** 38
Location: Third Avenue
Lessee: Building 38 Ventures Limited Partnership
Status: Completed 1993.
In compliance with Guidelines.
Comments: Addition demolished after 1990. Guidelines followed on subsequent rehabilitation.



View looking north showing the southwest and southeast elevations.

7/21/00

Required Action: None



View looking northeasterly down Second Avenue showing the southeast elevation.

7/21/00



View looking to the northwest showing a detail of the main entrance and flanking windows fronting Second Avenue.

7/21/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Carriage House **Building No:** 39
Location: First Avenue
Lessee: Navy Yard Plaza Development Associates, Inc.
Status: Completed in 1990.
In Compliance with Guidelines.

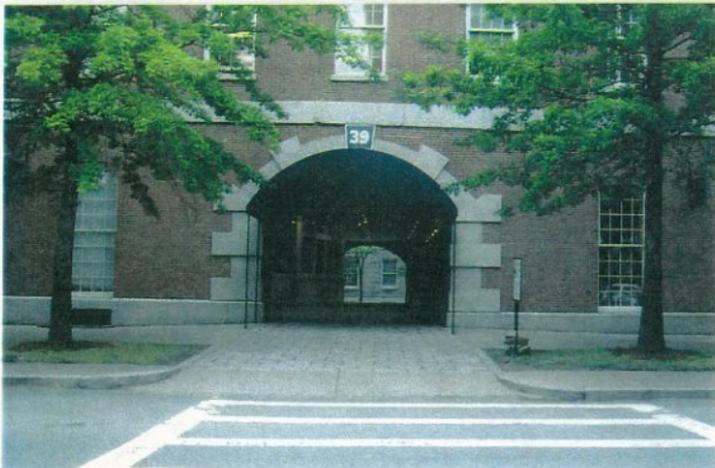
Comments: After 1990 Biennial Report was submitted, the demolition of the addition and subsequent rehabilitation were completed as specified in the Guidelines.



View looking north showing restored Seventh Street elevation.

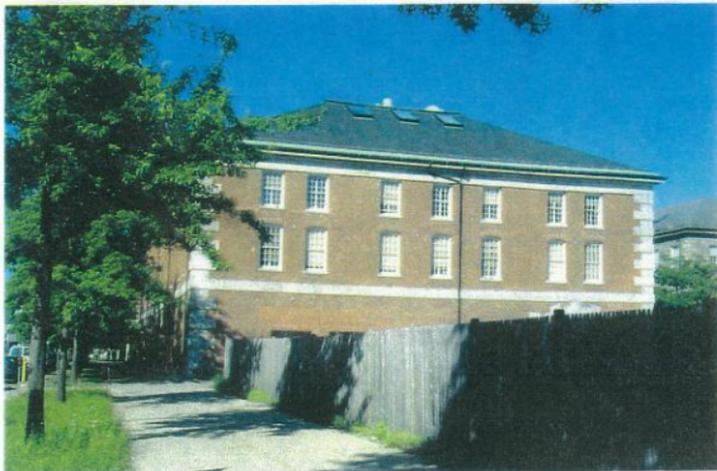
7/16/00

Required Action: None.



View looking northwest at entrance passageway between First and Second Avenues.

7/29/00



View looking west from the intersection of First Avenue and Ninth Street at the northeast elevation.

7/21/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Building Site 39A **Building No:** 39A

Location: First Avenue at Ninth Street

Lessee:

Status: Final Design Guidelines on File with the National Park Service.
RFPs for development have been issued by the BRA

Comments: Site has been environmentally cleared and is available for development in accordance with the Design Guidelines.



View looking west from the intersection of First Avenue and Ninth Street at Building Lot 39A

6/29/00

Required Action: Pursue development in accordance with the Plan for Preservation and Utilization and the Design Guidelines for this parcel.

**Historic Monument Area
Charlestown Navy Yard**

Name: Rope Walk **Building No:** 58

Location: Forms Northwest Boundary of Navy Yard along Chelsea Street

Lessee: Not Applicable

Status: Building was stabilized in 1993-94 in accordance with recommendations prepared by McGinley Hart & Associates in 1991-92. BRA has recently sought letters of interest from developers.

Comments: See attached Continuation Sheet (Page 2).



View looking south across Chelsea Street at Ropewalk Headhouse.

7/16/00

Required Action: See attached Continuation Sheet (Page 2).

Continuation Sheet**Comments:**

Designated for Preservation.
Frame addition designated for demolition.
58 selective restoration.

Flirtation Walk designated as special treatment area for ground plane.

Re-establish historic character based on historic photos and plans.

Building 58: Exhibit 20, 000 on first floor; park collections and storage
24, 000 on 2nd and 3rd floor; adaptive reuse of 53, 000 S.F.

Design for Flirtation Walk to be developed as an element of the Double Interpretive Loop in the revised Yard's End Master Plan. Trees and historic benches along Flirtation Walk. Exhibit "F" attached.

BRA with support of the National Park Service should consider a request through the local Congressional delegation an appropriation in the Federal budget to undertake exterior restoration/stabilization while developing a use program with the National Park Service.

Required Action:

1. According to MOA, the BRA agreed to submit to the Secretary of Interior (NPS) for review subsequent to transfer of property all preservation, use and financial plans for this building.
2. Further stabilization and/or complete envelope restoration of building is recommended to prevent further deterioration and enhance desirability for reuse.
3. Prepare RFP with Final Restoration Guidelines and submit to National Park Service for approval prior to soliciting development proposals.
4. Coordinate reuse program with the development of the Double Interpretive Loop Plan.



View looking south showing northwest elevation of Ropewalk along Chelsea Street.

7/16/00



View looking south from Chelsea Street showing 20th century brick addition to Ropewalk.

7/16/00

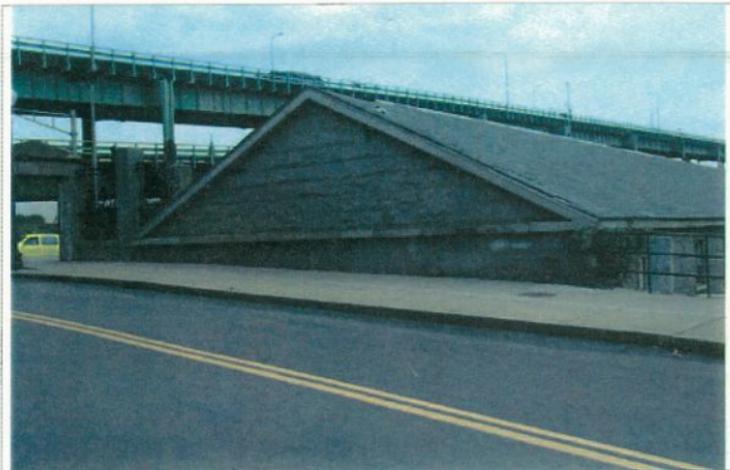


Detail view of northeast elevation showing metal screening and plywood enclosures at windows. 7/16/00



View looking west at stabilized cupola and covered skylight.

6/29/00



View looking north showing southwest elevation at Gate 4.

6/29/00



View looking northeast along cornice line of southeast elevation.

6/29/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Tar House **Building No:** 60
Location: Between the Ropewalk building and Fourth Avenue.
Lessee: Not Applicable
Status: Building was stabilized in 1993-94 in accordance with recommendations prepared by McGinley Hart & Associates in 1991-92. BRA has recently sought letters of interest from developers.
Comments: See attached Continuation Sheet (Page 2).



View to north from Fourth Avenue showing east elevation of Building 60. 7/16/00

Required Action: See attached Continuation Sheet (Page 2).

Continuation Sheet

- Comments:**
- Designated for Preservation.
 - Extent of use for 60 to be determined.
 - Flirtation Walk designated as special treatment area for ground plane.

 - Re-establish historic character based on historic photos and plans.

 - Building 60: Building exterior to be preserved; lease interior.

 - Design for Flirtation Walk to be developed as an element of the Double Interpretive Loop in the revised Yard's End Master Plan. Trees and historic benches along Flirtation Walk. Exhibit "F" attached.

 - BRA with support of the National Park Service should consider a request through the local Congressional delegation an appropriation in the Federal budget to undertake exterior restoration/stabilization while developing a use program with the National Park Service.
- Required Action:**
- According to MOA, the BRA agreed to submit to the Secretary of Interior (NPS) for review subsequent to transfer of property all preservation, use and financial plans for this building.

 - Further stabilization and/or complete envelope restoration of building is recommended to prevent further deterioration and enhance desirability for reuse.

 - Prepare RFP with Final Restoration Guidelines and submit to National Park Service for approval prior to soliciting development proposals.

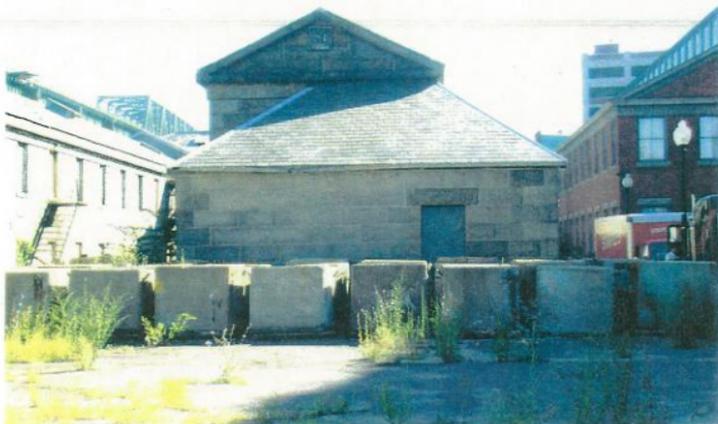
 - Coordinate reuse program with the development of the Double Interpretive Loop Plan.



View looking east at northwest elevation showing proximity to the Ropewalk Building. 7/21/00



Detail looking south at entrance pavilion on northwest elevation. Note stabilized bridge connecting to the Ropewalk Building. 7/21/00



View looking northeast at southwest addition which required significant roof and masonry repairs.

7/21/00



Detail view showing typical boarding of window openings, Buildings 58 and 60.

7/21/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Hemp House **Building No:** 62

Location: Fourth Avenue at Thirteenth Street

Lessee: Massachusetts General Hospital

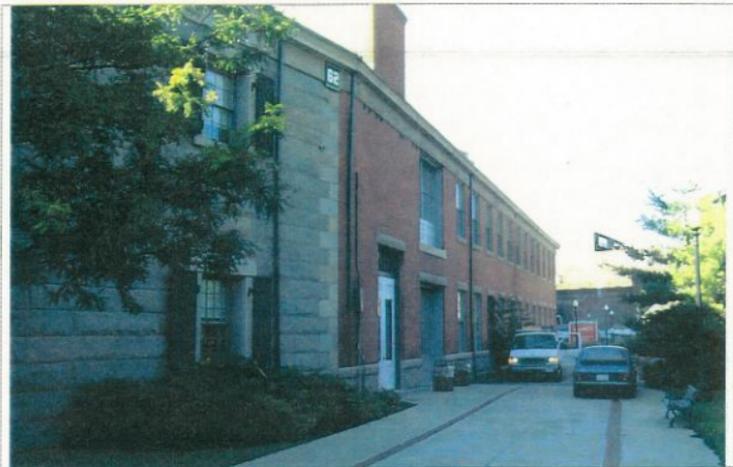
Status: Substantial completion by 1990. All work not in compliance with the Guidelines in 1990 was repaired and /or completed in conformance with the Guidelines including the treatment of the ground plane by 1994. In full compliance.

Comments: Restored scales remain as exhibits in the lobby.



View looking south from Thirteenth Street near Gate 5 showing original portion of building. 6/29/00

Required Action: None.



View looking southwest showing northwest elevation showing later brick addition.

7/21/00



View looking north showing south (rear) elevation.

7/16/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Timber House **Building No:** 75
Location: Third Avenue
Lessee: BioTransplant, Inc.
Status: Work Completed 1994. In compliance with Design Guidelines.
Artificial slate roof installed in 1993 has failed and is being replaced in the summer of 2000 with a natural slate product in compliance with the Guidelines.
Comments: None.



View to the south showing the new entrance in the northwest quadrant.

6/29/00

Required Action: Review at completion of re-roofing to ensure compliance with Design Guidelines.



View looking west along Second Avenue. Scaffold is in place for roof replacement.

6/29/00



Detail view of main entrance looking southeast.

6/29/00



Detail view showing glazed wall and retained original wood doors.

6/29/00



Detail view of original door configuration, note "75" on third stone above grade at center.

6/29/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Power House / Boiler House

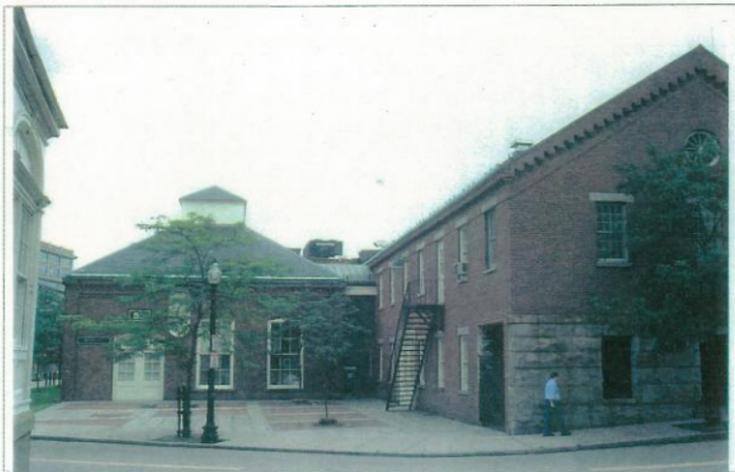
Building No: 79 & 96

Location: Thirteenth Street

Present Lessee: Charlestown Navy Yard LLC

Status: Completed in 1994. In compliance with Design Guidelines.

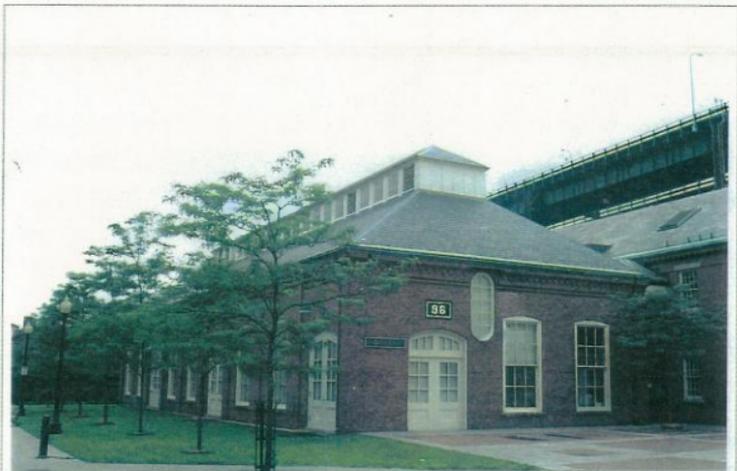
Comments: None



View to the southwest showing entry "courtyard".

6/29/00

Required Action: None.



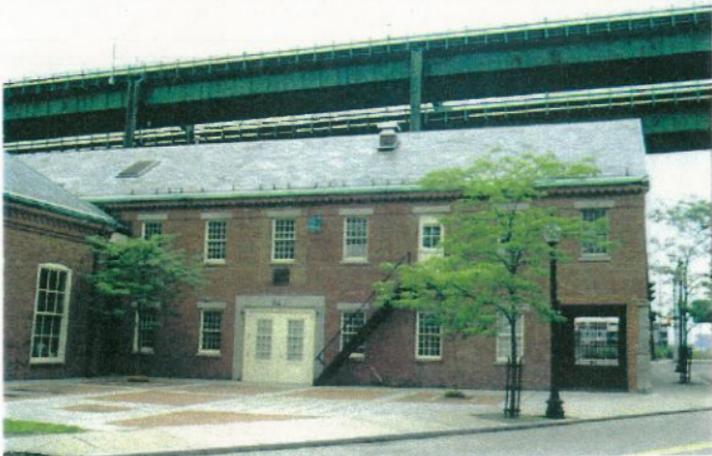
View looking to the west showing Building 96.

6/29/00



View looking northwest at the southwest elevations of Building 96 in the foreground and Building 79 in the background.

7/21/00



View looking to the northwest showing southeast facing entrance to Building 79.

6/29/00



View looking to the southwest along Chelsea Street showing the northwest elevation of Building 79.

7/16/00

Historic Monument Area Charlestown Navy Yard

Name: Chain Forge

Building No: 105

Location: First Avenue

Lessee: Not Applicable

Status: NPS & BRA jointly drafted guidelines which provide for selected restoration of building including 29 pieces of machinery in situ. Engineering evaluation to stabilize building completed in 1992. Stabilization in two phases 1994 and 1995.

Comments: Building is presently under the control of the Army Corps of Engineers while its Hazardous Materials Mitigation Plan is being implemented.



View looking to the west showing the principal elevation on First Avenue.

6/29/00

Required Action: See attached Continuation Sheet (Page 2).

Continuation Sheet**Comments:**

Designated for preservation, minimal adaptation.

Design guidelines to be developed and reviewed with NPS prior to seeking new developers.

Preserve chain-making equipment.

Master Plan proposal to issue new RFP with NPS consistent with guidelines.

Contents of building under preservation requirements, machinery acquired by Smithsonian transferred to NPS.

BRA prepared stabilization plans in consultation with with an engineering consultant. Stabilization plan completed in two phases in 1995-96.

BRA with support of the National Park Service should consider a request through the local Congressional Delegation an appropriation in the Federal budget to undertake a complete exterior restoration while developing a use program with NPS.

Use program for the Chain Forge will be coordinated with the development of the Double Interpretive Loop, a major element of the revised Yard's End Plans.



View looking south at Thirteenth Street elevation showing encapsulation at windows for HazMat mitigation.

6/29/00



View looking southwest along Second Avenue at northwest elevation.

6/29/00



View looking west at the northeast end of the building at First Avenue and Thirteenth Street. 6/29/00



View looking northeast showing stabilization repairs and encapsulation for HazMat mitigation. 6/29/00

**Historic Monument Area
Charlestown Navy Yard**

Name: The Basilica **Building No:** 106

Location: First Avenue

Present Lessee: Basilica Associates

Status: Completed in 1990.
In Compliance.

Comments: In compliance with guidelines.



View looking southwest from Yard's End.

6/29/00

Required Action: None.



View looking west along First Avenue from Sixteenth Street.

6/29/00



Detail view of entrance on Thirteenth Street.

6/29/00



Typical wall detail of northwest elevation from Second Avenue.

6/29/00



Typical side entry detail of northwest elevation from Second Avenue.

6/29/00

**Historic Monument Area
Charlestown Navy Yard**

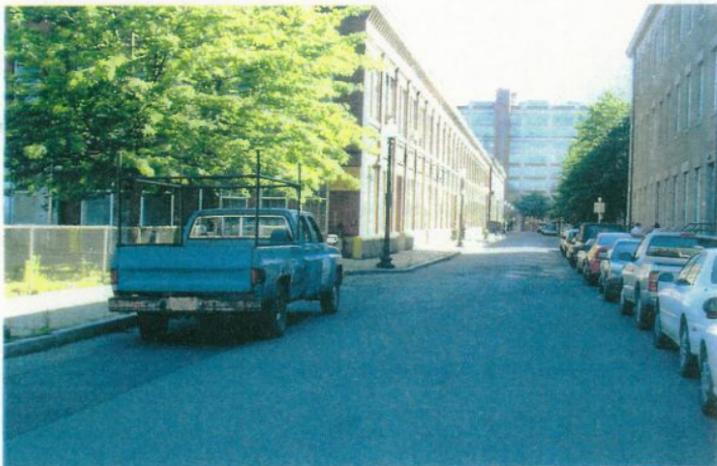
Name: Anchor Building **Building No:** 107

Location: Third Avenue

Present Owner: U.S. Department of the Interior, National Park Service
(Technically Building 107 is not part of the HMA and its Guidelines.)

Status: Used by NPS as principal service and maintenance building for the National Park.
Building occupied and substantially rehabilitated in accordance with Guidelines.
Roof stabilization and restoration complete.

Comments: Master Plan includes plans for Anchor Park. Anchor Park to be installed in grass field adjacent to Building 107 as part of the Double Interpretive Loop Plan.



Oblique view looking northeast down Third Avenue with southeast elevation at left.

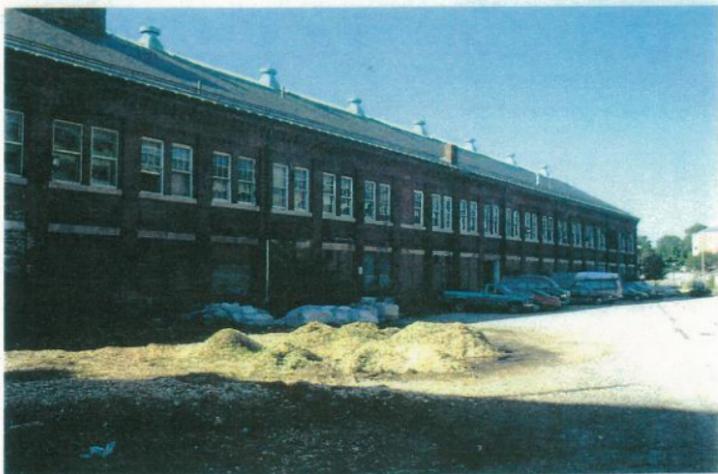
7/21/00

Required Action: None



View looking northwest at the southeasterly side of building. Note historic signage.

7/16/00



View looking southwest at northeast elevation. Note restored gutter and roofing.

7/21/00



View looking southeast at the easterly portion of the northeast elevation where low buildings were removed at the link with Building 108.

7/21/00



Detail of southwest elevation showing restored dormer, gutter and downspouts.

7/21/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Power Plant **Building No:** 108

Location: Third Avenue and Ninth Street

Present Lessee: Not Applicable

Status: Presently in remediation related jurisdiction of the Army Corps of Engineers. Awaits completion of Hazardous Materials remediation prior to demolition and redevelopment of the site in accordance with the Guidelines.

Comments: Funding and completion of HazMat remediation should be a priority to remove this dilapidated structure which detracts from the integrity of the Historic Monument Area.



View looking west at Third Avenue elevation on left and the Ninth Street elevation on the right. 7/16/00

Required Action: Funding should be diligently pursued to complete HazMat remediation and demolition of the structure so that the site can be properly re-developed.

Continuation Sheet

Comments: Designated for demolition.

Guidelines permit retention, partial retention, new addition or all new construction contained within original volume.

Revised Yard's End Plan proposes to demolish existing building and develop new structure compatible in scale, mass and material with the Historic Monument Area and to develop a portion of the site as an open space component at Ninth Street and the Interpretive Loop.



View looking west across the northeast elevation of building showing partial demolition.

7/16/00



View looking southwest from Fourth Avenue showing a portion of the northeast elevation.

7/16/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Boatworks

Building No: 114

Location: Fifth Avenue / Sixteenth Street

Present Lessee: Massachusetts Biomedical Research Corporation.

Status: No compliance issues as work advances toward a December 2000 completion.

Comments: Under construction with anticipated completion in late 2000. Addition allowed at east end of northeast elevation is not included in present development. Mechanical penthouse is under review. Bandsaw is to be rehabilitated and relocated as an exterior exhibit.



View looking northwest along Sixteenth Street showing rehabilitation in progress on Building 114.

6/29/00

Required Action: Rehabilitation should be monitored to ensure that the completed project is in compliance with the Design Guidelines.



View looking east showing southwest elevation and Sixteenth Street access to Gate #6.

7/16/00



View looking southwest from Moran Terminal showing northeast elevation of Building 114.

7/16/00

**Historic Monument Area
Charlestown Navy Yard**

Name: John Paul Jones House

Building No: 120

Location: Sixth Street

Present Lessee: Navy Yard Dispensary Building LLC

Status: Completed in 1990. No changes since 1990 survey.
In compliance.

Comments:



View looking west at northeast and southeast elevations

7/21/00

Required Action: None



View looking east from Gate 4.

6/29/00



View looking south from Anchor Park area adjacent to Building 107 and the Ropewalk.

7/21/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Constitution Park

Building No: 149

Location: Ninth Street

Present Lessee: Partners Healthcare Systems, Inc.

Status: Completed in 1990.
In compliance with Design Guidelines.

Comments: Some minor changes from guidelines mostly related to retention of exterior pipe supports and industrial detailing.



Looking east at oblique view of northwest elevation.

7/21/00

Required Action: None.



View looking south showing a portion of the northeast elevation and the entrance at Fourth Avenue and Thirteenth Street. 7/16/00



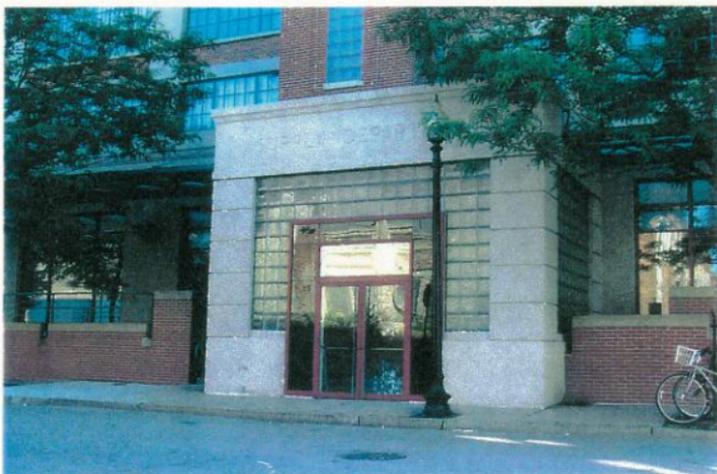
Detail view of a portion of the northeast wall showing window and spandrel details.

7/16/00



View looking north at south entrance at Second Avenue and Ninth Street.

6/29/00



Detail view looking northeast at the restored entrance on Ninth Street.

7/21/00

**Historic Monument Area
Charlestown Navy Yard**

Name: YMCA (new building) **Building No:** 150

Location: Second Avenue

Lessee: The Massachusetts Trustees of the International Committees of the Young Men's Christian Association for Army and Navy Work, Inc. Armed Services YMCA of Boston.

Status: Completed in 1992
In Compliance with final Design Guidelines.

Comments: None.



View to the west showing the front elevation facing Second Avenue.

6/29/00

Required Action: None.



View looking northwest across Second Avenue at main entrance to Building 150.

6/29/00



View looking south showing northwest elevation along Third Avenue.

6/29/00



Detail view looking south showing northeast elevation and part of northwest elevation.

6/29/00



Detail view at first floor level showing building details.

6/29/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Parking Facility

Building No: 199

Location: Fifth Avenue between Thirteenth and Sixteenth Streets.

Present Lessee: Partners Healthcare Systems, Inc.

Status: Completed in 1990.

Comments: In compliance.



View looking southwest at northeast elevation.

6/29/00

Required Action: None.



Oblique view looking west showing southeast elevation and elevator tower at west end.

7/16/00



View looking west at northeast elevation. Note loading dock infill and window treatments.

7/16/00



View looking southwest at portion of northwest elevation seen from Gate 6.

7/16/00



Oblique view of northwest elevation.

7/16/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Captain's Quarters

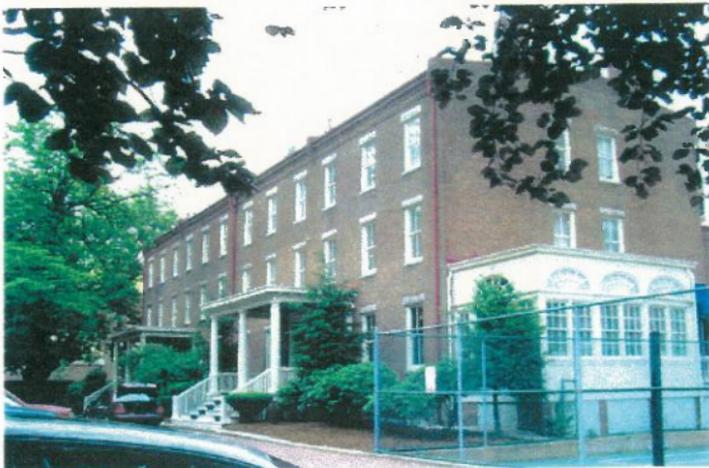
Building No: 266

Location: Fifth Avenue

Present Lessee: Levco Development Corporation

Status: Completed in 1990.
In compliance.

Comments: None.



View looking northeast at front elevation .

6/29/00

Required Action: None.



View looking east showing entry facades.

6/29/00



View looking northeast showing southwest elevation.

6/29/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Officer's Quarters **Building No:** P
Location: Thirteenth Street
Lessee: Levco Development Corporation
Status: Completed in 1993-94
In Compliance with Design Guidelines.
Comments: None.



View looking northeast at front elevation on Thirteenth Street.

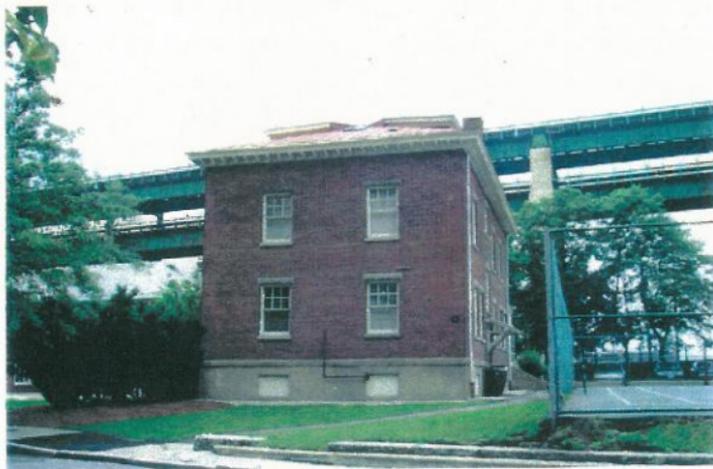
6/29/00

Required Action: None



View looking southeast showing northwest elevation.

6/29/00



View looking northwest showing southeast elevation.

6/29/00

**Historic Monument Area
Charlestown Navy Yard**

Name: Gate 6

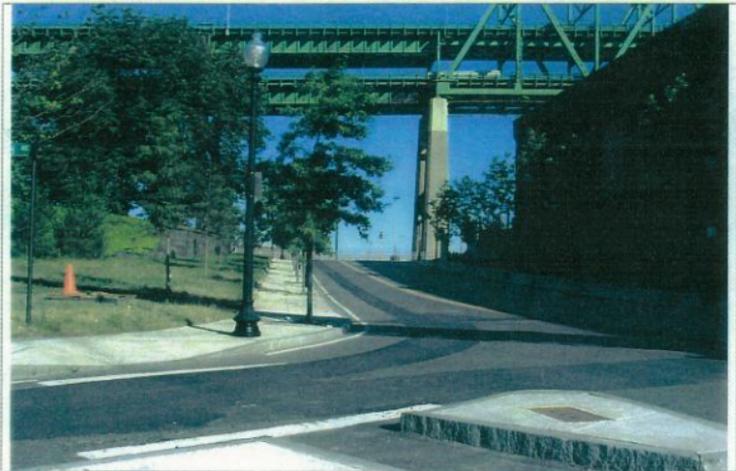
Building No: Gate 6

Location: Intersection of Sixteenth Street and Chelsea Street

Owner: Boston Redevelopment Authority

Status: In Compliance with Guidelines

Comments: None



View looking northwest along Sixteenth Street Extension to Gate 6 and intersection with Chelsea Street.
7/21/00

Required Action: Gate 6 and Sixteenth Street Extension is to be turned over to the City of Boston as a public street.



View looking southeast from Chelsea Street at Gate 6 and Intersection with Sixteenth Street. 7/21/00



Detail view of west side of Gate 6 showing new granite post and restored brick and stone wall with iron fence. 7/23/00

IV. Economic Impact of Historic Monument Area Redevelopment

In little over two decades, the Charlestown Navy Yard, and the Historic Monument Area (HMA) in particular, have emerged as the economic engine for Boston originally envisioned by the Program of Preservation and Utilization ("PPU"). By continuing to focus on the reuse objectives of the PPU, the BRA has retained the historical and architectural character of the site, while maximizing the reuse potential of its buildings. The BRA has successfully pursued capital infrastructure and environmental remediation projects with various Federal and State funds totaling \$22.9 million. This public investment has allowed the BRA to aggressively target development in the Charlestown Navy Yard and its success can be measured by the amount of private investment, which currently exceeds \$456 million, a ratio of 95% private investment versus 5% public investment. The HISTORIC MONUMENT AREA alone has witnessed an investment of over \$339 million and generates annual real estate taxes in excess of \$3.5 million.

As devastating as the closing of the "Yard" was to Boston and its residents, its redevelopment of the Navy Yard presented the city with a unique opportunity to create new places to live and work with an eye toward a new and diverse economy of office, retail, research, child care, cultural/recreational, and housing opportunities. In order to be successful, the BRA, in preparing its Application and PPU, recognized that an adaptive reuse program must, as its cornerstone, be highly sensitive to the architectural and historical significance of the Navy Yard's structures so that upon completion it would remain a historic resource for Bostonians and visitors alike.

The City's efforts to establish a diversified new economy bore fruit in 1987 with the opening of the Massachusetts General Hospital ("MGH") Research Center in Building 149. Through site marketing efforts, the BRA realized that the growing medical research industry prescribed a need for large floorplates and heavy load bearing capacity, which the Navy Yard's sturdy buildings appeared well-suited to meet. Today, Partners HealthCare Systems founded in 1994 by the merger of MGH and Brigham and Women's Hospital, occupies approximately 850,000 square feet in the HMA. With MGH's research headquarters firmly situated, interest in the Navy Yard as a medical research center flourished, capturing the interest of several biotechnology companies, including Diacrin, Inc. (Bldg 79/96), Biotransplant (Bldg 75) and Ergo Science (Building 36). This attraction has also expanded to the international biotechnology community, which has recently shown interest in the continuing Navy Yard development.

Boston leads all other cities in receipt of healthcare research grants from the National Institutes of Health and has more institutions than any other city in the list of top 100 grant recipients; six of the top seven independent U.S. hospitals receiving NIH grants in 1989 were in Boston. Research conducted by Boston's prominent institutions of higher education and medicine will continue to spawn industries in biotechnology, pharmaceutical products, computer software, medical instruments, and other high technology areas. The Navy Yard is now poised to be the primary campus of this new burgeoning economic activity.

One of the most important economic benefits generated by the medical research industry is the broad range of job opportunities, across a wide spectrum of education and salary levels. According to the Medical Industry Survey conducted by the Boston Redevelopment Authority's Research Department, approximately 55% of the jobs in medical research carried out at Boston hospitals are held by people who possess no higher than a Bachelor's degree, i.e., by people without "advanced" degrees. Of those, 24% hold no higher than a high school diploma, demonstrating the location's opportunity for career growth.

Hospital Research Employment By Education Level and Occupation

	Medical Research Employment	Percent Employed	Jobholders with		
			Advanced Degree	Bachelor's Degree	High School Diploma/A.A.
Research Scientists	2,090	34.5	1,973	117	0
Doctors	755	12.5	755	0	0
Laboratory Technicians	1,598	26.4	0	1,347	252
Computer Technicians	82	1.3	0	82	0
Administrative	331	5.5	3	309	18
Secretaries/Clerks	892	14.7	0	0	892
Janitorial	116	1.9	0	0	116
Other	187	3.1	0	6	181
TOTAL	6,050	100%	2,732	1,860	1,458
PERCENT	100%	N/A	45.20%	30.80%	24.10%

Note: Employment is based on Full Time Equivalent Employment data provided by 12 hospitals and extrapolated to the total 17.

Source: BRA Research Department, Medical Industry Survey.

The biomedical research industry is rapidly evolving and additional positions in finance, production, quality control, marketing, sales, and other functions supporting the basic research will be created as the industry matures.

This biomedical research growth provides substantial job opportunities and other benefits to Boston, the region, and the Charlestown community in particular. For example, a biomedical researcher worker in the Navy Yard earns a wage and pays income taxes on those earnings. But, he or she will likely spend the remaining wages on goods and services purchased in Charlestown, in Boston or elsewhere in the region. By doing so, the incomes of local merchants and service people are enhanced. In turn, these people will pay income taxes on their wages and subsequent purchases. Thus, the economic activity generated in the Navy Yard is "multiplied" throughout the regional economy, with the substantial Federal income taxes as well as income and sales taxes to the Commonwealth of Massachusetts.

Notwithstanding the multiplier effect, development within the HMA has generated the following direct economic benefits:

- \$339,800,000 (Cumulative Total Development Costs)
- 2,995 permanent jobs
- \$96,100,000 (Cumulative Annual Permanent Wages)
- 1,710 construction jobs
- \$58,500,000 (Cumulative Construction Wages)
- \$20,485,209 (Annual Federal Income Tax on Permanent Wages)
- \$12,484,619 (Cumulative Federal Income Tax on Construction Wages)
- \$6,336,560 (Annual State Income Tax on Permanent Wages)
- \$3,861,702 (Cumulative State Income Tax on Construction Wages)
- \$4,050,020 (City of Boston Property Tax)
- \$3,500,000 (Cumulative Linkage to Create Affordable Housing)
- \$143,000 (job training funds generated from development)
- Development of two childcare centers providing over 150 child-care slots.

CHARLESTOWN NAVY YARD; HISTORIC MONUMENT AREA 1978-2000

USE	BUILDING SPACE (1,000s S.F.)	INVESTMENT (1989 \$ millions)		CONSTRUCTION JOBS (FTExYrs)	(Net New) PERMANENT JOBS	PAYROLL (1989 \$ Millions)	
		CONST.	T.D.C.*			CONSTRUCTION (ONE TIME)	PERMANENT ANNUAL
OFFICE	316.0	\$30.0	\$45.0	219	1,138	\$7.5	\$30.6
RETAIL	15.0	\$1.4	\$2.1	10	34	\$0.4	\$0.4
MEDICAL RESEARCH	820.0	\$136.9	\$205.4	1,000	1,730	\$34.2	\$62.9
CHILD CARE	12.0	\$1.3	\$2.0	10	46	\$0.3	\$1.0
CULTURAL/RECREATIONAL	44.0	\$5.2	\$7.7	38	40	\$1.3	\$1.0
HOUSING	170.1	\$11.2	\$16.8	82	2	\$2.8	\$0.0
PARKING	545.0	\$24.6	\$37.0	180	5	\$6.2	\$0.1
PUBLIC ACCOMODATION	5.0	\$0.5	\$0.8	4	0	\$0.1	\$0.0
INFRASTRUCTURE **		\$16.4	\$16.4	120		\$4.1	
ARMY CORPS (DERP-FUDS)		\$6.5	\$6.5	47		\$1.6	
TOTAL	1,927.1	\$234.1	\$339.8	1,710	2,995	\$58.5	\$96.1

HOUSING LINKAGE: \$3,464,575 (nominal current dollars)
 JOBS LINKAGE: \$143,000 (nominal current dollars)

	1989 Constant Dollars	1999 Dollars	
Federal Income Tax Permanent Payroll	\$15,464,209	\$20,485,667	ANNUALLY RECURRING REVENUES REALIZED BY F.Y.99
Federal Income Tax Construction Payroll	\$9,424,382	\$12,484,619	One time revenues
State Income Tax on Permanent Payroll	\$4,783,339	\$6,336,560	ANNUALLY RECURRING REVENUES REALIZED BY F.Y.99
State Income Tax on Construction Payroll	\$2,915,120	\$3,861,702	One time revenues
Boston Property Taxes		\$4,050,020	ANNUALLY RECURRING REVENUES REALIZED BY F.Y.99

Income taxes estimated as 4.98% of payroll for Mass. (*Massachusetts Statistics of Income report, 1995; Mass. Dept of Revenue) and 16.1% US (1997 Massachusetts wage & salary income, AGI adjusted, and Income Tax; IRS web data)

NOTE:

*Total Development Costs (TDC) are assumed to be 60% hard construction costs, 30% soft costs, and 10% site value.
 ** Includes demolition at Yard's End in lieu of license fee "in kind".

In addition to these benefits, Partners HealthCare System provided health center subsidies to the MGH-Charlestown HealthCare Center, totaling \$1.53 million in FY98 and has provided an equal amount in the FY 99 budget. The Charlestown community also received funding from Partners Community Benefit Programs, totaling \$490,000 in FY 98. Partners anticipates spending \$360,000 in FY 99 on its Charlestown Community Benefits Program. These funds include YouthCare (formerly known as Camp Bunker Hill). YouthCare provides therapeutic summer camp and after school programs for children with behavioral and learning disabilities. Partners also distributes an additional \$189,000 annually under its Smart Choices program to community-based non-profit organizations working to improve the Charlestown community.

The success of the Program of Preservation and Utilization is evident when one visits the Navy Yard and enjoys its rich architectural heritage. What is less tangible and of primary importance, is the impact such a rebirth has on a neighborhood, a city, and a region. Investment in the physical realm and commensurate investment in the community build a human foundation for future prosperity: investments in education, in research laboratories, in health care, in housing, in cultural and recreational facilities, in young companies, and in young families. That such a quality redevelopment has been attained through the implementation of the Program of Preservation is testimony to the care and vision of the Federal, State, and local authorities who crafted and continue to carryout the Plan.

V. Completing the Program of Preservation and Utilization

Just as the last decade was critical period for the successful redevelopment of the Navy Yard, the next decade will complement this success and bring the long-awaited conversion of Yard's End. Fulfillment of the Yard's End Master Plan will generate an additional investment of nearly \$1 billion and will produce approximately 3,500 permanent new jobs and 3,400 construction jobs. Previously completed construction within the New Development Area, which serves as the Navy Yard's residential core has yielded 888 residential units at a total development cost in excess of \$116,000,000. Some 1,700 people now refer to the Navy Yard as "home."

Initially, local financial wisdom viewed the Navy Yard's prospects for success as limited. Today, the Navy Yard serves as a national model for waterfront redevelopment. Accordingly, the Historic Monument Area's conversion has forever established the economic viability of the Navy Yard. It has further provided the foundation for future economic opportunities, while validating the initial vision to rebuild the Navy Yard. This vision was based on the principal that an effective and careful preservation and reuse plan would result in the greatest of public benefits.

The Navy Yard's rich past exists today in the many historic buildings of the Historic Monument Area (HMA). However, there are four (4) buildings within the HMA that have yet to be preserved through redevelopment. Three of the buildings are of the highest architectural and historical significance, including Building 58 (the "Ropewalk Building"), Building 60 (the "Tar House") and Building 105 (the "Chain Forge"). Building 108 (the Boiler House) is the one remaining building. The Rehabilitation Guidelines for the building includes a demolition option, which the U.S. Army Corps of Engineers (the "Army Corps") will carry out upon successful completion of its ongoing remediation program.

Currently, Buildings 105 and Building 108 are under the remediation related jurisdiction of the U.S. Army Corps of Engineers under the Defense Environmental Restoration Program - Formerly Used Defense Sites (DERP-FUDS) program. The purpose of the DERP-FUDS program, administered by the Corps, is to clean-up previously owned Department of Defense (DOD) properties, where the former DOD occupant has vacated the site and is responsible for hazardous wastes and structurally unsafe building conditions attributable to its DOD occupation.

To determine which sites would be suitable for inclusion in the DERP-FUDS program, the Army Corps conducted several Navy Yard site-inspections throughout the summer and fall of 1991. Based upon the information compiled during these inspections, the Northeast Division prepared an Inventory Progress Report ("IPR") containing recommendations for specific remedial action. On September 4, 1991 the Army Corps issued a Finding and Determination of Eligibility for the Naval Shipyard under the DERP-FUDS program. A copy of the DERP-FUDS Findings and Determination of Eligibility and associated Army Corps communications are attached as **Appendix "A."**

The program concentrated its attention on the demolition of unsafe buildings, containerized wastes, hazardous toxic wastes, as well as building remediation and stabilization.

Seven (7) underground storage tanks and one (1) above-grade tank have been removed. The Army Corps is also responsible for the testing and removal of any environmental contaminants associated with Buildings 105, 131, 193, and 203. The Army Corps Project also calls for the complete demolition and removal of four buildings (108, 203, 206, and 277), as well as other Shipyard sites such as light towers, piers, and marine railways. To date, \$6.5 million has been appropriated to fund the ongoing DERP-FUDS Program for the Navy Yard. These expenditures make the presentation and rehabilitation of these buildings more feasible.

A recent Army Corps status report on Building 108 indicates that PCB's were discovered during a sampling round in May 2000. Further investigation indicates that the PCB's are in paint layers on some walls and metal, requiring disposal of PCB contaminated debris as "bulk waste". A Work Plan is being revised to include the presence of PCB's in building debris, additional sampling and air monitoring. The Army Corps' contract engineers plan to occupy the site toward the end of July 2000 and work in the Area 1- Compressor/Turbine Room should begin by September 1, 2000.

With respect to Building 105, an immediate hazard condition was reported to the Massachusetts Department of Environmental Protection (DEP) on March 21, 1995, requiring an immediate response under the Massachusetts Contingency Plan (MCP). A Remedial Action Plan has been prepared in compliance with the MCP for Building 105 and the Army Corps is continuing to carry out this plan. Army Corps has engaged Stone & Webster, on the clean-up activities in Building 105, the former chain forge shop, at the Charlestown Navy Yard. In 1998, the contractor completed top to bottom vacuum cleaning of building's entire interior surfaces (except historic forging machines). In the spring and summer of 1999, the contractor completed top to bottom sampling in the entire building.

Currently, the contractor is finalizing a risk assessment, which takes the levels of each different contaminant and determines how much of each can be left behind in order for the building to be considered clean. The U.S. Army Corps of Engineers (USACE) reviewed the risk assessment initially, returned it with comments back to the contractor, and has the assessment again for final comments. Once USACE completes the final review, the risk assessment will be presented to the Environmental Protection Agency (EPA) for review and approval of the proposed clean-up levels. The risk assessment is expected to be sent to the EPA in September 2000. It is estimated that the EPA review will take 3-6 months. Pending no significant recommended changes to the clean up goals in the risk assessment, the contractor will develop a work plan and remediation on the site should commence in the spring of 2001.

Other environmental issues currently being address by the BRA include the operating of sewers, storm drains, catch basins, connectors, and appurtenances associated with the Navy Yard's wastewater facilities. Boston suffers from substantial overprocessing of stormwater runoff due to outdated combined sewer and stormwater systems ("CSO's"), infiltration, and inflow. The treatment of excess stormwater is very costly, as the Commonwealth's Deer Island Sewer Treatment Plant is called upon to process expected sewer flows as well as a substantial amount of unnecessary stormwater and infiltration that has entered the system. Unfortunately, the Navy Yard is subject to tidal influences that have been found to contribute to such infiltration and inflow. In order to reduce the environmental consequences of these influences, the BRA, in

cooperation with the Boston Water and Sewer Commission and the Massachusetts Water Resources Authority, has recently completed a \$1.24 million Infiltration and Inflow Reduction Program. By eliminating or reducing the occurrence of infiltration and inflow, the capacity of Boston's entire sewer and stormwater system is increased.

Requests for Proposals

The BRA has recently solicited letters of interest regarding the restoration of the Ropewalk Building (58) in accordance with the Restoration Guidelines and the PPU. We have received four (4) Letters of Interest, which are enclosed as **Appendix "B"**. We anticipate the issuance and advertisement of an appropriate Developer's Kit/Request for Proposals ("RFP") for the Ropewalk Building (58) and Tar House Building (60) this coming fall. In accordance with the PPU, we will forward a draft copy of the RFP to the Department of the Interior for review once it is prepared. Selected development proposals will be reviewed by the BRA, the Boston Landmarks Commission, and the Massachusetts Historic Commission for compliance with the Restoration Guidelines.

We have recently issued an RFP for Parcel 39A, which contained the revised Guidelines. A copy of the Parcel 39A RFP is attached as **Appendix "C"**. Copies of the development proposals received by the BRA will be forwarded to the National Park Service upon submission.

VI. Historic Monument Area- Ground Lease Abstracts

The following Ground Lease Abstracts summarize the Ground Lease provisions for each completed Historic Monument Area (HMA) building. Initial Base Rent terms for all HMA Ground Leases range from \$.75 – \$1.25 per square foot and adjusted annually based on the Consumer Price Index (see Independent Auditors Report/Statement of Revenues and Expenses attached as **Appendix “D”**).

Building Number: 31

Name: Muster House
Landlord: Boston Redevelopment Authority
Lessee: Trustees of Royalston Trust
Term: 65 years
April 4, 1997 – 2062
Uses: Office, Retail, and Commercial

Building Number: 33

Name: Billings Building
Landlord: Boston Redevelopment Authority
Lessee: Building 33 L.L.C.
Term: 80 years
July 3, 1986 - 2066
Uses: Office, Retail, and Commercial

Building Number: 34

Name: Parris Building
Landlord: Boston Redevelopment Authority
Lessee: Navy Yard Plaza Development Associates – 34 Limited Partnership
Term: 80 years
December 18, 1985- 2065
Uses: Office, Retail, and Commercial

Building Number: 36

Name: Ironsides Place
Landlord: Boston Redevelopment Authority
Lessee: Incubator Associates
Term: 80 years
December 27, 1984 – 2064
Uses: Office, Retail, and Commercial (Child Care)

Building Number: 38

Name: Cooper Building
Landlord: Boston Redevelopment Authority
Lessee: Building 38 Ventures Limited Partnership
Term: 80 years
June 30, 1988 – 2068
Uses: Office, Retail, and Commercial (Research)

Building Number: 39

Name: Carriage Building
Landlord: Boston Redevelopment Authority
Lessee: Navy Yard Plaza Development Associates – 39 Limited Partnership
Term: 80 years
July 9, 1987 - 2067
Uses: Office, Retail, and Commercial

Building Number: 62

Name: Hemp House
Landlord: Boston Redevelopment Authority
Lessee: Massachusetts General Hospital Professional Services Corporation
Term: 65 years
July 8, 1988 – 2053
Uses: Office, Retail, and Commercial

Building Number: 75

Name: Timber House
Landlord: Boston Redevelopment Authority
Lessee: Bio Lease Inc.
Term: 80 years
April 27, 1994 – 2059
Uses: Office and Commercial (Research/Labs)

Building Number: 79

Name: Boiler House
Landlord: Boston Redevelopment Authority
Lessee: ARE – 79/96 - Charlestown Navy Yard LLC.
Term: 65 years
September 23, 1988 – 2053
Uses: Office, Retail, and Commercial (Research)

Building Number: 96

Name: Power House Substation
Landlord: Boston Redevelopment Authority
Lessee: ARE – 79/96 - Charlestown Navy Yard LLC.
Term: 65 years
May 18, 1990 - 2055
Uses: Office, Retail, and Commercial

Building Number: 106

Name: The Basilica
Landlord: Boston Redevelopment Authority
Lessee: Basilica Realty Corporation
Term: 80 years
August 26, 1985 – 2088
Uses: Residential

Building Number: 114

Name: Boatworks Building
Landlord: Boston Redevelopment Authority
Lessee: Massachusetts Biomedical Research Corporation
Term: 65 years
September 1, 1988 - 2053
Uses: Office, Retail, and Commercial (Marina)

Building Number: 120

Name: John Paul Jones House
Landlord: Boston Redevelopment Authority
Lessee: Navy Yard Dispensary Building L.L.C.
Term: 65 years
October 31, 1985 – 2050
Uses: Office, Retail, and Commercial

Building Number: 149

Name: Constitution Office Park
Landlord: Boston Redevelopment Authority
Lessee: Partners Healthcare System, Inc.
Term: 80 years
May 23, 1985 – 2065
Uses: Office, Retail, and Commercial (Research)

Building Number: N/A

Name: Parcel 150

Landlord: Boston Redevelopment Authority
Lessee: The Massachusetts Trustees of the International Committee of the Young Men's Christian Association for Army and Navy Work, Inc. (Armed Services YMCA of Boston)
Term: 65 years
August 26, 1991 - 2088
Uses: Residential and Recreational

Building Number: 199

Name: Navy Yard Parking Facility
Landlord: Boston Redevelopment Authority
Lessee: Partners Healthcare System, Inc.
Term: 80 years
May 23, 1985 – 2065
Uses: Parking

Building Number: 266

Name: Captain's Quarters
Landlord: Boston Redevelopment Authority
Lessee: Harbor Development Associates L.L.C.
Term: 65 years
January 31, 1986 - 2051
Uses: Office, Residential, and Commercial (Child Care)

Building Number: P

Name: Officers Quarters
Landlord: Boston Redevelopment Authority
Lessee: New England Development L.L.C.
Term: 65 years
July 17, 1993 – 2058
Uses: Office and Commercial
Note: As an example of a standard HMA Ground Lease, a copy of the Building "P" Ground Lease is attached as **Appendix "E."**

ACKNOWLEDGMENTS

The Boston Redevelopment Authority would like to thank the following individuals for their valued contributions in preparing this Biennial Report:

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APPENDIX "A"

Defense Environmental Restoration Program
Formerly Used Defense Sites - Findings and Determination of Eligibility

PROJECT SUMMARY SHEET
FOR
DERP-FUDS BD/DR PROJECT NO. D01MA000102
BOSTON HISTORIC PARK AND B.R.A. PROPERTY
(CHARLESTOWN NAVAL SHIPYARD)
CHARLESTOWN, MASSACHUSETTS
SITE NO. D01MA000100
23 AUGUST 1991

DESCRIPTION OF BD/DR HAZARDS: The timber superstructure and metal components of Marine Railway No. 11 have rotted and rusted to such an extent that it is in danger of collapsing. The railway is a structural hazard.

Piers 9 and 10 have deck planks that are rotted or missing. The piers are structurally unsound. Also, the missing deck planks present a falling hazard to persons walking on the piers and a drowning hazard to persons who fall through the piers and land in the ocean.

Pier 11 contains three light towers approximately 75 feet high. The towers can be climbed using integral parts thereof, and thus present a climbing hazard. Also, the open platform at each tower's top poses a falling hazard.

The incinerator building (No. 203) contains gaps in the upper floor which drop approximately 8 feet to the lower floor and thereby presents a falling hazard. The incinerator building also contains flue openings over 8" x 8" leading to two chimney stacks approximately 75 feet and 100 feet high. This presents a miscellaneous hazard (confined space) where a person could climb into the chimney stacks and become trapped. The two chimney stacks have horizontal metal rungs running up their sides. The rungs act as a ladder and make the stacks climbing hazards.

The power plant building (No. 108) consists of numerous gantries, catwalks, and stairwells over six feet above the next lower level. Many of the gantrys, catwalks, and stairwells do not have railings or other protection against falling onto the lower level. The reinforced concrete slab floor, the platforms at each level of the building, and the roof of the power plant have holes larger than 8" x 8" and more than 6 feet deep. These holes were designed to accommodate cranes and other machinery within the building. The holes pose falling hazards. The power plant building also is structurally hazardous. Portions of concrete slabs in its boiler house have failed (perhaps through equipment

falling on the slabs), and reinforcement bars show through the concrete. The roof and flashing are in a deteriorated condition and leak. The power plant currently contains high levels of asbestos.

A gas storage shed building (No. 277) is missing a roof. As a result, the walls are not tied together. The walls may flex and fall inward or outward. The building is structurally hazardous.

When the site was visited by CENED personnel in May 1991, the former administration building (No. 206) was found to be structurally unsafe. It is a wood framed building that was temporary in nature and reaching the end of its useful life when DOD disposed of the property. The building has been exposed to the elements, and is deteriorated to the extent that it cannot be renovated. On a windy day, it could fall apart. This building contains asbestos. (Note: Since the time of CENED's site visit, the administration building has been destroyed by a fire.)

Pier 2 has deck planks that are rotted or missing. The missing deck planks present a falling hazard to persons walking on the pier and a drowning hazard to persons who fall through the pier and land in the ocean. The National Park Service has restored a portion of this pier.

The woodworking shop building (No. 114) now is in poor condition due to a fire that occurred sometime after 1975. However, at the time DOD ownership ceased, the woodworking shop was in structurally sound condition.

The B.R.A. requested that Drydock 5 be partially demolished by removing the deteriorated steel sheet piling that lines the drydock and removing any deteriorated concrete behind the piling. However, CENED has determined that the drydock is basically structurally sound, and was structurally sound when DOD ownership ceased.

The B.R.A. requested the removal of the electrical substation building (No. 226), the large warehouse building (No. 131), the fire pump station building (No. 225), two gas storage buildings (Nos. 165 and 165A), and the scrap salvage storage building (No. 193). However, CENED has determined that the buildings are structurally sound, and were structurally sound when DOD ownership ceased.

CENED evaluated the structural integrity of the general warehouse building (No. 75) and found it to be basically structurally sound.

PROJECT ELIGIBILITY: Records indicate all the structures were built and used by the Navy for the functioning of the Charlestown Naval Shipyard. The hazards posed by Marine Railway No. 11 (structural hazard), Piers 9 and 10 (falling and drowning hazards), the light towers (falling and climbing hazards), the incinerator building (falling and confinement hazards) and its chimney stacks (climbing hazards), the power plant (falling hazards), and the administration building (structural hazard) are the result of DOD utilization of the site and existed at the time DOD usage ceased. CENED does not know whether the gas storage shed building (structurally hazardous) had a roof at the time of DOD disposal, but the effort needed to reach such a determination is not warranted by the size of the building or the costs of its demolition and removal.

The woodworking shop building was not structurally hazardous at the time DOD ownership of the site ended. Therefore, the hazard at the woodworking shop does not qualify for remediation under DERP.

POLICY CONSIDERATIONS: The site has been under continuous public ownership since its transfer out of DOD, and execution of this project will not primarily benefit private interests. Marine Railway No. 11, Piers 9 and 10, the light towers, the incinerator building and chimneys, and the power plant have not been altered or beneficially used since DOD disposed of the site. CENED assumes that one gas storage shed has not been altered since DOD disposed of the site. The storage shed has not been beneficially used subsequent to DOD ownership.

The administration building has been altered by a fire since the time of DOD disposal. The building was structurally hazardous at the time of DOD disposal and immediately prior to the fire. The alteration of the building was not intentionally undertaken by a subsequent owner. The cost of removing the building after the fire is less than the cost of removing it had it not sustained the fire. In light of these circumstances, CENED believes that it within policy guidelines to remove the remains of the administration building.

The proposed project addressed asbestos-containing materials (ACM) as part of and incidental to the demolition of the power plant and the removal of rubble from the administration building.

Pier 2 has been altered by the National Park Service in its efforts to historically restore the pier. Therefore, the pier does not qualify for remediation under DERP-FUDS. Also, partial demolition of the pier is not appropriate under DERP-FUDS.

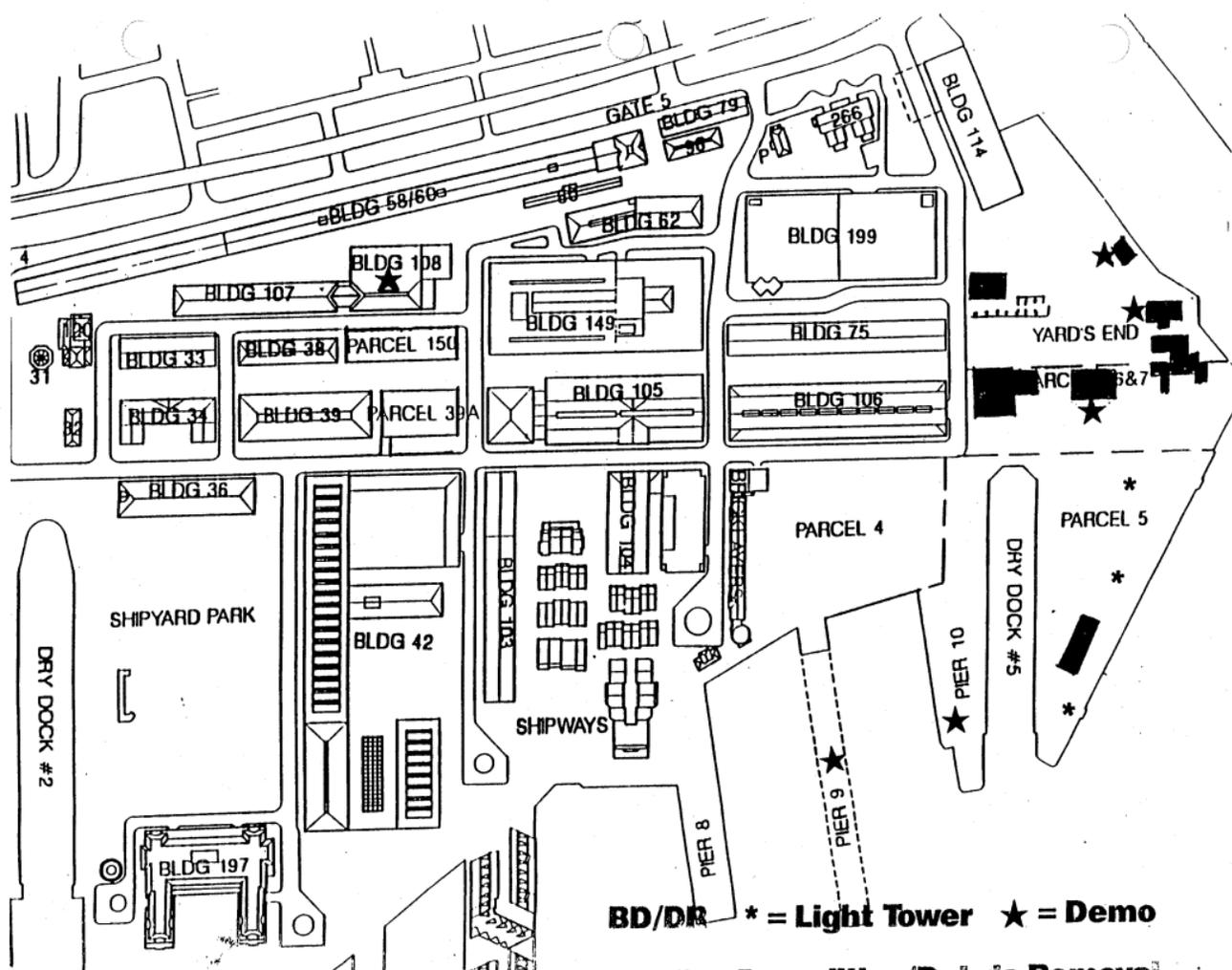
The language in the deed for the "Historic Monument Area" requires the property to be maintained as a historic monument. The power plant is within this property. Maintaining the condition of the power plant as it was when DOD disposed of the site would not remove the falling hazards. Thus, a DERP-FUDS project to remedy the hazards is appropriate. The deed requires that any buildings demolished on the property be recorded. Recordation will take place prior to demolition of the power plant.

The language in the deed for the "New Development Area" requires consultation with historic officers and agencies before structures on this property can be rehabilitated or demolished. Piers 9 and 10, the three light towers, the incinerator building and stacks, the gas storage shed, and the administration building are on this property. Consultation will take place before these structures are demolished and removed.

PROPOSED PROJECT: The proposed project involves the complete demolition and removal of Marine Railway 11; Piers 9 and 10; the three light towers on Pier 11; the incinerator building (No. 203) and incinerator chimney stacks; the power plant building (No. 108); one gas storage shed building (No. 277); and the administration building (No. 206). The incinerator chimney stacks will not be demolished and removed until the ash at the bottom of the stacks is sampled and, if contaminated, removed (see the proposed CON/HTW Project No. D01MA000101). The power plant will not be demolished and removed until the building has been recorded for history. Piers 9 and 10, the three light towers, the incinerator building and stacks, and the gas storage shed will not be demolished and removed until appropriate consultation on historic issues has been accomplished.

DD FORM 1391: Attached.

DIVISION POC: Robert L. Batt, CENED-RE-AM, 617-647-8590.



BD/DR * = Light Tower ★ = Demo



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254-9149

REPLY TO
ATTENTION OF

April 13, 1995

Engineering Management

Mr. John O'Brien
Boston Redevelopment Authority
One City Hall Square
Boston, Massachusetts 02201-1007

Re: DERP-FUDS, Project No. D01MA000104
Charlestown Navy Yard, Bldg. No. 105
Imminent Hazard Condition and
Immediate Response Action

Dear Mr. O'Brien:

The purpose of this letter is to notify you that an imminent hazard, as defined by the Massachusetts Contingency Plan (MCP), exists within Building No. 105. The Corps is conducting an Immediate Response Action in response to this condition and requests that you provide confirmation that none of your employees will enter the building under any circumstances.

Imminent Hazard Conditions

Site investigations conducted in 1992, 1993, and 1994, show that floor and wall surfaces in the forge shop are contaminated with materials used or generated during forging processes, including polychlorinated biphenyls (PCBs), dioxins, polynuclear aromatic hydrocarbons (PAHs), and metals. The imminent hazard is triggered by the presence of PCBs at high levels (up to 12,000 parts per million) in floor surface soil samples. The state specifies that under certain circumstances, the presence of PCBs at levels higher than 2 parts per million in soil may indicate a hazard and must be reported.

PCBs are regulated chemicals that reportedly are associated with increased incidence of cancer, chloracne (skin rash), minor birth abnormalities, and other symptoms. Exposure to PCBs can occur by ingestion due to hand-to-mouth contact, absorption through the skin, and inhalation of dust.

Building No. 105 is secured within a locked fence which prohibits access by the general public, however the building is still used for storage. Currently, Boston Redevelopment Authority and National Park Service employees appear to occasionally enter the building without personal protective equipment or protective clothing. An employee or contractor entering the building may be

exposed to PCBs if contaminated soil from the building floor becomes airborne as dust and is inhaled, or if it comes into contact with a building visitor's unprotected skin. In addition, contaminated soil may adhere to the clothing or shoes of employees or contractors, potentially resulting in exposure to people outside of the building.

Immediate Response Action

The imminent hazard condition was reported to the Massachusetts Department of Environmental Protection (DEP) on March 21, 1995. An Immediate Response Action is required by the Massachusetts Contingency Plan to "abate, prevent, or eliminate" the imminent hazard. Building 105 is already undergoing investigation by the Corps of Engineers to assess contamination and remediation alternatives. Therefore, this Immediate Response Action will consist of the following:

1. Posting a "704 Diamond" sign (in accordance with National Fire Protection Association Hazard Code Ratings) at the building entrance, indicating chemical hazards within the building.
2. Notifying the Boston Fire Department District Three Fire Chief of chemical hazards within the building so that appropriate precautions will be taken in the event of an emergency.
3. Notifying, in writing, the Boston Redevelopment Authority and the National Park Service of the imminent hazard condition, and requesting confirmation that no employees will enter the building under any circumstances.

Items one and two have been performed. This letter fulfills the third requirement.

The Corps of Engineers hereby requests that you take any action necessary to prohibit your agency's employees, contractors, or visitors from entering the building, unless they comply with Federal Occupational Safety and Health Standards (OSHA, 29 CFR 1910), which specify training, medical monitoring, and use of personal protective equipment. Suggested actions include issuing a written policy prohibiting access to Building 105, posting of this policy in areas used by employees, and, most important, identifying and directly contacting those employees that have keys to the building and their supervisors and communicating this policy to them.

We further request that you send us a letter by May 1, 1995, confirming that you have taken actions to prohibit access. Once

this letter has been received, the Massachusetts DEP will consider the Immediate Response Action to be completed.

If you have any questions, please do not hesitate to contact Chuck Wener of this office at 647-8743.

Your continued cooperation in this matter is appreciated.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. Reardon", written over a horizontal line.

Richard D. Reardon
Director of Engineering

**Boston
Redevelopment
Authority**

May 1, 1995

Mr. Richard D. Reardon
Director of Engineering
New England Division
U.S. Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254-9149

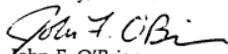
Re: Charlestown Navy Yard, Building 105

Dear Mr. Reardon:

Enclosed please find the requisite notification prescribed by you letter of April 13, 1995. Appropriate Boston Redevelopment Authority staff have received copies of this transmittal and have been instructed to comply with the directives of your office. I understand that Mr. Charles Wener is currently managing the Building 105 project and as such all access matters will be referred to his office.

I trust this is an appropriate resolution of the matter at hand. It is our hope that the Army Corps will pursue a comprehensive response action in an effort to remediate this potentially hazardous situation. If you have any additional information concerning the remediation process please call me at (617) 722-4200 extension 4349.

Sincerely,


John F. O'Brien
Project Manager
Economic Development

One City Hall Square
Boston, MA 02201-1007
Tel (617) 722-4300
Fax (617) 527-5916

Equal Opportunity
Affirmative Action Employer
EEO/DFWP/AA/ADA



MEMORANDUM

TO: PAUL McCANN, EXECUTIVE ASSISTANT TO THE DIRECTOR
MICHAEL BARTOSIAK, ASSISTANT DIRECTOR FOR REAL ESTATE SERVICES

FROM: BRIAN DELOREY, ASSISTANT DIRECTOR FOR ECONOMIC DEVELOPMENT

DATE: MAY 1, 1995

SUBJECT: CHARLESTOWN NAVY YARD, BUILDING 105 NOTICE OF IMMINENT
HAZARD CONDITION AND IMMEDIATE RESPONSE ACTION.

The U.S. Army Corps of Engineers has recently confirmed the presence of PCBs at high levels within Building 105. In accordance with the attached letter dated April 13, 1995 from the U.S. Army Corps of Engineers, all BRA employees, contractors and visitors are prohibited from entering Building 105 unless such activities comply with Federal Occupational Safety and Health Standards (OSHA, 29 CFR 1910) which specify training, medical monitoring, and the use of personal protective equipment.

Therefore, only representatives of the U.S. Army Corps of Engineers, Metcalf & Eddy Inc., and those engaged in ongoing remediation or building stabilization shall be allowed to enter the building. Future access to the building shall be subject to the review and approval of the U.S. Army Corp of Engineers and shall be in compliance with the prescribed OSHA standards. For all matters concerning Building 105, please contact Mr. Charles Wener, Army Corps of Engineers, Engineering Management at (647-8743).

cc: B. Barbato
D. Carlson
J. Gibbs
D. Hurley
M. Kearney
J. O'Brien
E. O'Donnell
F. Whitlock



DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
895 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO
ATTENTION OF

July 24, 2000

Construction/Operations Directorate
North Central Resident Office

SUBJECT: Update Report on Remedial Action, Former Charlestown
Navy Yard - Building 105, Boston, Massachusetts

John O'Brien
Boston Redevelopment Authority
1 City Hall Plaza
Boston, MA 02201-1007

Dear Mr. O'Brien:

Pursuant to our conversation earlier this week, here is an update report regarding the progress of our contractor, Stone & Webster, on the clean-up activities in Building 105, the former chain forge shop, at the Charlestown Navy Yard.

In 1998, the contractor completed top to bottom vacuum cleaning of building's entire interior surfaces (except historic forging machines). In the spring and summer of 1999, the contractor completed top to bottom sampling in the entire building.

Currently the contractor is finalizing a risk assessment, which takes the levels of each different contaminant and determines how much of each can be left behind in order for the building to be considered clean. The U.S. Army Corps of Engineers (USACE) reviewed the risk assessment initially, returned it with comments back to the contractor, and has the assessment again for final comments. Once USACE completes the final review, the risk assessment will be presented to the Environmental Protection Agency (EPA) for review and approval of the proposed clean-up levels. The risk assessment is expected to be sent to the EPA in September 2000. It is estimated that the EPA review will take 3-6 months. Pending no significant recommended changes to the clean up goals in the risk assessment, the contractor will develop of work plan and remediation on the site should commence in the spring of 2001.

Please refer any further questions to the undersigned at
(978) 772-0148/0159.

Sincerely,



JAN C. MALAIKAL
Captain, U. S. Army
Project Engineer

CF: (DACW33-97-D-0002, Del. Order 1)
Con/Ops file
Eng Mng - Lemire
NCRO(2) - file, McDowell



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

July 24, 2000

Construction/Operations Directorate
North Central Resident Office

SUBJECT: Update Report on Demolition of Building 108, Former Charlestown Navy Yard, Charlestown, Massachusetts

Mr. Dick Mulligan
Boston Redevelopment Authority
One City Hall Plaza
Boston, MA 02201-1007

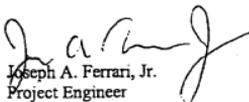
Dear Mr. Mulligan:

As requested, here is an update report regarding the progress of our contractor, Stone & Webster, on the clean-up and demolition activities in Building 108 at the Charlestown Navy Yard:

- Further investigation of PCBs discovered during first round of sampling was made in May 2000. Results indicate that PCBs are in paint layers on some walls and metal. This will require disposal of PCB contaminated debris as 'bulk waste'.
- The Work Plan is being revised to include presence of PCBs in building debris, additional sampling, and air monitoring. Revised plan will be available next week.
- Stone & Webster and GZA are planning to mobilize to the site by mid-August 2000. Work in Area 1 – Compressor/Turbine Room should begin by the end of August 2000.
- A meeting to discuss work progress and future schedule is being set up with BRA, Park Service, Corps and contractors for the week of July 24th.

If you have any questions, please contact John McDowell, Jim Morocco or myself at (978) 772-0148/0159. Thank you.

Sincerely,


Joseph A. Ferran, Jr.
Project Engineer

CF: Contracting
PPM – Holtham
NCRO

APPENDIX "B"

Ropewalk Building (58) – Letters of Interest



June 12, 2000

Mr. Mark Maloney
Director
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007

JUN 15 '00 AM 10:53 DRP

Dear Mr. Maloney,

The revitalization of the Ropewalk is the most complicated restoration project in Boston, even more difficult than the revitalization of the Fanueil Hall Markets. Kenney Development Co., Inc. (KDC) is interested in and looks forward to that challenge.

KDC has previously studied the building for several potential users but they were concerned with the projected cost and complexity of the building. Having managed the restoration of thirteen (13) historic structures, KDC is aware of the issues involved and the compromises required.

Because of its physical configuration, the historic guidelines, and the Park Service museum requirements, the restoration of the Ropewalk is of doubtful feasibility without external assistance. It is also unlikely that public funding will be available except in limited amounts. KDC proposes to subsidize the restoration from another more predictable development project. In addition by collaborating with the MIT Sea Grant College Program, we propose to devote a portion of the building to aquaculture, an activity which is uniquely compatible with the historic structure and continues its traditional maritime use.

The KDC proposal is to subsidize the approximately \$15,000,000 cost of the Ropewalk restoration with the construction of an approximately 180,000 square foot office building on the 25,000 sf site of Building 108. KDC would assume the remaining asbestos removal costs on that site.

The proposed mis of uses for the Ropewalk would be as follows:

- Office Space – 65,000 sf
- Ropemaking Exhibit – not to exceed 15,000 sf
- Aquaculture Laboratory – 8,000 sf
- Aquaculture Incubator – not to exceed 32,000 sf

We have had discussions with Cliff Goudey of the MIT Sea Grant College Program regarding the use of up to 40,000 sf of the building's first floor for aquaculture. The location, proximity to the harbor, and the building's interior arrangement is very amenable to such activities. Under such an approach, our overall plan is not compromised by the low overhead and restrictive development guidelines associated with the historic first floor of the Ropewalk Building.

Through research grants, contracts and collaborative programs with industrial sponsors, MIT would fund the operational infrastructure needed for the aquaculture activities. They would outfit their research spaces with tanks and associated recirculation equipment and provide essential support service to tenants in the incubator portion of the building. In addition, similar to agreements already in place between MIT and the Park Service, MIT would develop educational and interpretive activities for students and visitors. Initial funding for some aspects of MIT's aquaculture research activity is already in place and Cliff is anxious to be allowed the temporary, pre-development use of a small portion of the space

KDC has redeveloped four buildings in the Navy Yard (33, 34, 38, and 39) at a development cost exceeding \$25,000,000. MIT Sea Grant is successfully growing fish in Building 125 of the Charlestown Navy Yard, but desperately needs space to expand that activity. We are confident that we can meet the challenges inherent in restoring the Ropewalk. I would be happy to share these thoughts with you and your staff in greater detail.

Yours very truly,

A handwritten signature in dark ink that reads "Robert T. Kenney". The signature is written in a cursive style with a large, looped "K" at the end.

Robert T. Kenney
President

RTK/nlm

Cc: Cliff Goudey

.....

Ropewalk Associates, Ltd.

June 16, 2000

Mr. Mark Maloney
Director, Boston Redevelopment Authority
Boston City Hall
Boston, MA 02201-1007

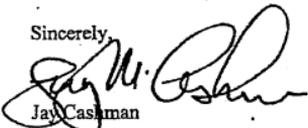
Mr. Maloney,

In response to the "Requested Letters of Interest" advertised recently by the Authority for the re-use of the historic building in the Charlestown Navy Yard known as the "Ropewalk Building," I have assembled a Developmental Team which has been through this building on several occasions over the last few weeks. This team, including architects, has extensive experience at doing Historical Restoration, including several buildings in the Charlestown Navy Yard.

We believe the best re-use of the Ropewalk Building would be residential. We project approximately 75 units of rental housing while protecting the rich historic nature of the building. We further anticipate the use of creative financing through the Massachusetts Housing Financing Agency in order that a substantial number of the units would be affordable in accordance with the Housing Policy of the City of Boston. Parking for the rental units would be in Building 149 which is relatively unused on nights and weekends when residents would need parking.

We look forward to working with the BRA and the community on this exciting development.

Sincerely,



Jay M. Cashman

Ropewalk Associates, Ltd.

.....

Cresset Development
51 Melcher Street, 7th Floor
Boston, MA 02210
Tel: (617) 695-9100
Fax: (617) 695-9101

June 15, 2000

Mr. Mark Maloney
Director, Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007

RE: The Ropewalk, Building #58
Charlestown Navy Yard

Dear Mr. Maloney:

Cresset Development, part of Cresset Group, has thoroughly reviewed the Ropewalk Building and would like to develop this historic structure for commercial use. We feel that while the building configuration presents unique challenges, its historic features coupled with the Navy Yard's ambiance, will provide much needed alternative space in today's constrained commercial market.

Cresset Group is a collaborative of fully integrated commercial real estate companies offering development, management and construction management services to owners, investors, partners, joint venture funds and equity sources. Cresset Group was formed by a group of real estate professionals with a solid background in commercial real estate and a proven track record. They have each been involved in all aspects of acquisition, construction, development and management, from ground-up opportunities to stabilized assets. By drawing on their collective backgrounds and relationships in the real estate community, the company is building a strong team of professionals to offer an array of services and investment opportunities.

Cresset Development has the equity to move this project forward on a fast track basis and is currently in discussions with two tenants who have expressed significant interest in the Ropewalk.

Concept:

To renovate the building and surrounding grounds in conjunction with the BRA and National Park Service, as follows:

Exterior:

Commit to undertake first-class renovation standards in order to achieve the 20% historic tax benefit. We understand the Ropewalk's rich history and respect that the building's exterior will be subject to strict historical standards.

We would undertake to complete the landscaping adjacent to the property, which would be constructed to the standards of the Navy Yard, while providing amenities to the tenants of the Ropewalk and other surrounding buildings.

Interior:

We understand a portion of the property may be reserved in order to create a museum that will serve to demonstrate the Ropewalk's past operations while informing the general public of its unique history. Cresset is willing to help create the museum in its redevelopment plans.

We will undertake to preserve the unique features within the interior inclusive but not limited to the rail system, the exterior masonry walls, and the wood truss systems which form both the second floor and roof systems. All forms of MEP upgrades (mechanical, electrical and plumbing) will be respectful of the historic features and with proper planning and execution, work in concept with these features.

I have enclosed a representative project list of properties I have worked on which show a strong record on both historic/as well as general renovation projects. We at Cresset Group understand that the successful undertaking of the Ropewalk renovation must be undertaken with experience, equity and timing, and feel we can deliver all of these necessary ingredients.

I appreciate your consideration on this unique and challenging opportunity.

Sincerely,

A handwritten signature in black ink, appearing to read "E. Nardi". The signature is written in a cursive, somewhat stylized font with a long horizontal line extending to the right.

Edward Nardi
President

CRESSET DEVELOPMENT
REPRESENTATIVE PROJECT LIST OF RENOVATION PROJECTS

20% HISTORIC TAX CREDITS

695 Atlantic Avenue, Boston, MA (Former Essex Hotel)
Complete renovation and change of use; 440 room hotel to 200,000SF office & 25,000SF retail

114 State Street, Boston, MA
Complete renovation of 20,000SF building featuring one of two remaining cast iron facades in Boston

4 Liberty Square, Boston, MA
Renovation of 40,000SF office building in historic Liberty Square

131 State Street, Boston, MA
Renovation and change of use of existing 150,000SF office building to 94 rental apartments and 25,000SF of retail

Winthrop Square, Cambridge, MA
Mixed-use redevelopment of retail, office and residential featuring two historic structures

OTHER RENOVATION PROJECTS

88 Kingston Street, Boston, MA
Renovation of 1880's sweatshop to 50,000SF first class office

131 Tremont Street, Boston, MA
Renovation of 1920's office building to retail, office and for rent residential units

129 Tremont Street, Boston, MA
Renovation of 1890's office building

343 Congress Street, Boston, MA
Renovation and change of use of former 100,000SF parking garage to first class office space and retail

63 Endicott Street, Boston, MA
Renovation of 1880's warehouse to 28 loft residential units

The Atrium, Commonwealth Avenue, Boston, MA
Conversion of former Packer Automobile Plant to 186 residential units, 70,000SF of retail and 200 parking spaces

PARADIGM
PROPERTIES6/15/00
2:50 pm
(sm)

15 June 2000

Mark Maloney
Director
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201-1007

Dear Mark:

Please accept this letter of interest in receiving a Request for Proposal to redevelop the historic Ropewalk Building in the Charlestown Navy Yard. Paradigm Properties is interested in redeveloping the property into first class office space while both preserving the historic character and integrity of the building, as well as utilizing "green" building principles. "Green" building is a euphemism for employing ecologically responsible materials and systems in the development process. For example, we would anticipate using very high efficiency mechanical systems which would both conserve energy as well as deliver a more healthy environment to the occupants of the building.

31 Milk Street

Suite 901

Boston, MA 02109

Tel: 617 451 9800

Fax: 617 451 1144

Collectively, the Paradigm founders have a strong history of real estate operating skills and innovation. Key individuals participating in the company's development have over 150 years of experience in acquiring, developing, repositioning, owning and managing office property throughout the United States. In the last two and one half years, Paradigm has acquired over 2 million square feet of space and supported the business of over 3000 companies.

We very much look forward to continued exploration of this exciting project, and would appreciate receiving a Request for Proposal at your earliest convenience.

Sincerely,


Robert Burr
Senior Vice President, Investments

cc: Steve Allison, Paradigm Properties

APPENDIX "C"

Parcel 39A- Request for Proposals

REQUEST FOR PROPOSALS
CHARLESTOWN NAVY YARD
PARCEL 39A

City of Boston
Thomas M. Menino, Mayor

Boston Redevelopment Authority
Mark Maloney, Director

Clarence J. Jones, Chairman
Joseph W. Nigro, Jr., Co-Vice Chairman
Michael Taylor, Co-Vice Chairman
Consuelo G. Thornell, Treasurer
John M. Moscardelli, Member
Harry R. Collings, Secretary

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- I. INTRODUCTION
- II. PROPERTY DESCRIPTION
- III. EVALUATION CRITERIA
 - A. Development Concept
 - B. Selection Criteria
- IV. SUBMISSION REQUIREMENTS
- V. CONTRACT TERMS AND CONDITIONS

APPENDICES

I. INTRODUCTION

Redevelopment Parcel 39A in the Charlestown Navy Yard

The Boston Redevelopment Authority seeks proposals for the development of commercial, institutional, or research uses on Parcel 39A in the Charlestown Navy Yard. This parcel is located at the intersection of Ninth Street and First Avenue in the Charlestown Navy Yard. The Charlestown Navy Yard was decommissioned in 1974 and declared to be surplus by the Federal Government. Subsequently, an area of approximately 100 acres was conveyed by three separate deeds to the Boston Redevelopment Authority for preservation and redevelopment as a mixed-use community. The remaining 30 acres was transferred to the National Park Service for the national Historical Park - which features the USS Constitution - at the southwestern end of the Navy Yard. The entire Navy Yard is a National Landmark, and is within the Charlestown Urban Renewal Area.

The BRA portion of the Yard is divided into three areas: Shipyard Park, the Historic Monument Area, and the New Development Area. Parcel 39A is within the Historic Monument Area, which includes the Navy Yard's most significant historic buildings, and stretches from Gate 4 and Fifth Street to Gate 6 and Building 114. Shipyard Park is at the southern end of the Yard, and contains 16 acres of open space adjoining Dry Dock 2. The New Development Area roughly encompasses all parcels waterward of First Avenue and Sixteenth Street.

Navy Yard Development Update

To date, redevelopment of the Navy Yard has occurred in two distinct periods characterized by widely different goals and achievements. From 1976 to 1983, immediately following the City's acquisition of the Navy Yard, investment was directed to construction of luxury housing. From 1984 to 1989, this course was changed dramatically, with significant public benefits such as jobs, affordable housing, and open space leveraged from the economic attractiveness of a prime waterfront location. The biotech research industries fueled redevelopment of the Navy Yard into the 1990's and were a significant factor in the revisions included in the 1990 Master Plan.

In 1984, a new planning initiative was undertaken for Boston's waterfront - HARBORPARK. The principal goals of Harborpark are to provide an open accessible waterfront that includes opportunities for recreation, affordable housing and jobs for Boston residents. Harborpark will also result in improved public transportation, additional tax revenues, and a variety of cultural attractions.

Redevelopment of the Navy Yard was redirected to ensure that the Charlestown community shared in the benefits of Harborpark, enhancing policies of public access and benefits already inherent in the 1978 Master Plan guiding redevelopment of the Navy Yard. The challenge involved the development of a new economy with well-paying jobs that could once again provide a source of employment for neighborhood

residents. A diverse economy, rather than one solely reliant on office and service sector uses, was envisioned to provide a broad range of permanent as well as construction jobs. This reflected anticipated growth of biotech and information technologies.

After initiation of the planning process resulting in the 1990 Plan and the implementation of the Harborpark policies in 1984, the Navy Yard exhibited substantial growth and vitality. From 1984 to 1989, over \$433 million in private funds were invested in the Navy Yard. Over 2,000,000 square feet of space in new and rehabilitated buildings were completed. The number of construction jobs in the Navy Yard from 1984 to 1989 was 1,900. Permanent jobs have increased to over 5,000 in 2000. The City's efforts to establish a diversified new economy bore fruit beginning in 1987 with the opening of the Massachusetts General Hospital Research Center in Building 149, and followed since by the presence of biotech related operations in Buildings 3862, 75, , 79, 96, 114 and others.

A commitment that 25% of the total housing built in the Charlestown Navy Yard would be affordable replaced the prior goal of 10%. Of the 574 housing units constructed from 1984 to present, 171 units, or 30% of those built in this period, were affordable.

Over 13 acres of open space, including the completion of Shipyard Park, the Second Avenue pedestrian mall, and 8,000 linear feet of Harborwalk, have been completed. The open space, pedestrian walkways, and benches around Dry Dock 2 and within Shipyard Park have become cherished recreational amenities for all of Charlestown.

Nineteen historic buildings have been meticulously restored during this time to new uses. The numerous preservation and design awards garnered by these projects, as well as new projects such as the Bricklayer's Housing Project, and the Master Plan itself testify to the high standards of historic preservation and quality that have been achieved. The Navy Yard is the largest preservation and reuse effort in the country, with the private sector investing over \$600 million to date, and public investment totaling more than \$30 million.

Master Plan for the Yard's End

The Master Plan for Yard's End culminated an extensive community process which began in 1985. Over 85 public meetings were held with Charlestown residents, local merchants, various harbor users, organized labor and other interested organizations to chart a plan that fulfills community goals and objectives. The recurring themes have been affordable housing, increased open space and public access, historic preservation, cultural uses, neighborhood economic development, and job opportunities, while managing the transportation issues related to this growth.

Redevelopment envisioned at Yard's End includes the following:

- A cultural use at Dry Dock 5/Parcel 5;
- A medical research center;
- A hotel/conference center; and
- Ground level service retail to animate public spaces.

The 1990 Master Plan for Yard's End was codified in the Zoning Code (Article 42F) and entailed further in the Supplemental Environmental Impact Report process. As part of that process, Parcel 39A was included as a development parcel and guidelines, pursuant to design guidelines required for all development in the Historic Monument Area, were drafted and approved through the Section 106 process.

Implementation of the full Navy Yard buildout will occur in phases. Each individual project that is developed will be subject to Article 80 Development Review under the Boston Zoning Code. In addition, each project must be in accordance with the Charlestown Urban Renewal Plan and the guidelines and conditions pursuant to which the Charlestown Navy Yard was transferred to the BRA and as amended thereafter.

II. PROPERTY DESCRIPTION

1. Location

Parcel 39A is located within the Charlestown Navy Yard, which itself is located within the Charlestown Urban Renewal Area. Within this area, First Avenue is typically described as running East-West. Parcel 39A is then bounded by Building 39 and a 25-foot easement to the west, First Avenue to the south, Ninth Street to the east, and the Second Avenue Pedestrian Mall to the north.

2. Parcel License Area

Total buildable parcel area includes approximately 26,660 square feet. License area may require rebuilding, repair, and maintenance of the adjacent area, including responsibility for a portion of the Second Avenue mall.

3. Ownership

Parcel 39A is currently owned by the Boston Redevelopment Authority, which acquired it from the Federal Government via a Deed of Transfer from the General Services Administration dated May 21, 1979, after the Federal Government declared the land to be surplus. The BRA will enter into a 65-year lease to allow redevelopment of the parcel to proceed under the approved guidelines.

Attachments: Site map
Locus map

III. EVALUATION CRITERIA

A. Development Concept

1. Goals and Objectives

The development concept is simply stated: to construct a building in conformance with the guidelines which complements the existing usage patterns in the Navy Yard and enhances its viability as a major mixed-use development. The guidelines in essence call for a massing envelope that will "complete the picture" of the array of smaller-scale buildings that form an historic ensemble in this section of the Historic Monument Area. The massing envelope describes a hipped roof building with a cornice and a ridge line at roughly the same height as the adjacent buildings within the Historic Monument area. The strong public presences along First and Second Avenues should be acknowledged. Uses should contemplate jobs requiring a broad range of skills that will enable hiring of local residents. The goal is to fill in the gap created by the existing empty lot with an active, and hopefully activating, use.

Pedestrian activity is expected to increase along First Avenue as people walk between the attractions at either end of the Yard. This will enhance the potential future viability of service retail uses on the ground floor of existing and new buildings. Therefore ground floor programming should not preclude the possibility of future retail operation.

A through-block lobby passage, similar to those in the buildings in this immediate area (33, 34, 39, etc.), should be contemplated.

2. Design and Development Guidelines

(a) Concept

The building design shall respect the Parcel 39A Rehabilitation Guidelines developed during the 1990 Master Plan and SEIR process. Guidelines are attached.

(b) Public Access

- (1) The potential for retail programming on the ground floor shall not be precluded. The building should be designed with entries and a pass-through lobby space which maximizes interaction with the public, within limits imposed by the guidelines.

- (2) A 25-foot wide pedestrian passage shall be provided between Building 39 and 39A's structure.

c. Uses

Commercial, office and research uses will be considered. Active or interactive uses are encouraged on the ground floor. Uses shall conform to those allowed under zoning (Article 42F).

d. Bulk and Massing

The gross floor area is a function entirely of the useable floor area that can be accommodated within the massing envelope specified in the Rehabilitation Guidelines. The massing specified in the Guidelines shall not be exceeded.

e. Height

- (1) Height shall be as specified in the Rehabilitation Guidelines, as implied above. Cornice and roof peak heights shall conform with those of the adjacent historic ensemble.
- (2) Roof-mounted mechanical equipment is limited by the Guidelines; it must be concealed from view and integrated into the overall building design.

f. Setbacks

All building or portion of building must be set back a minimum of 25 feet from Building 39. Care during construction will be required to avoid damage to the root pile system which helps to anchor the structure of Building 39.

g. Views and Vistas

The building shall align with the street walls established by Buildings 39 and 150, thereby acknowledging the strong view corridors of First and Second Avenues.

h. Vehicular Access and Circulation

- (1) Parking must be provided in the basement. Access to parking is strongly preferred from Ninth Street.
- (2) The designated redeveloper will be required to complete a full Transportation Access Plan and comply with Article 80 -

Development Review Requirements of the Boston Zoning Code in subsequent phases of project review. This will insure that any potential traffic impacts of the Parcel 39A project, in the context of surrounding redevelopment, are identified and adequately mitigated.

- (3) Service areas for the development must be inconspicuously located, safe, fully enclosed and must not detract from the historic ambience of the Navy Yard. The layout and design of service areas should minimize the length of ground floor street wall, if any, dedicated to these uses.

h. Public Open Space, Pedestrian Ways, and Amenities

- (1) The level of quality and details set by adjacent sidewalks and pedestrian ways shall be continued and extended around Parcel 39A in order to lend coherence to the public realm of the entire Navy Yard. The Redeveloper shall assume responsibility for all repair and restoration, as well as maintenance of adjacent improvements.
- (2) The design of the 25' easement/public passage between Building 39 and 39A will be coordinated with the Lessee of Building 39.

i. Character and Materials

The general appearance of the exterior facades of the proposed building should respect the historic stone masonry and brick character of the surrounding historic Navy Yard buildings. See the Rehabilitation Guidelines.

B. Selection Criteria and Conditions

The overriding standard to be used by the Authority in its review of proposals will be the maximization of the overall program objectives and other public benefits. Criteria for review will include:

- Achievement of development concept, and goals and objectives.
- Public benefits offered by the proposed development including jobs, tax revenues, urban design amenities and other neighborhood improvements.
- Feasibility of carrying out the proposed development.

- Compliance of the proposed development with the enclosed design and development guidelines.
- Demonstrated production, management experience, capability and financial strength of the development team.
- Demonstrated team operating capacity for uses proposed.

The parcel will be disposed of in "as is" condition. The designee will pay for the cost of any utility relocation not paid by a utility company.

Development proposal will be subject to the applicable Urban Renewal Plan, as amended, and all City of Boston Zoning and Building regulations and procedures, application Federal, State and Preservation reviews. The Boston Redevelopment Authority will have design review control. The development will be assessed and taxed by the City of Boston under M.G.L. Chapter 59 Real Estate Assessment procedures.

IV. SUBMISSION REQUIREMENTS

Submission Requirements for Proposals

All applicants are requested to submit six (6) copies of the submission material required by 12:00 noon on July 21, 2000 to:

Mark Maloney, Director
Boston Redevelopment Authority
One City Hall Square / 9th Floor
Boston, MA 02201

Attention: Richard Mulligan

All proposals will be reviewed by and subject to the criteria, procedures, submission requirements, and development and design guidelines outlined in this document. Following an initial review of the submissions, additional information may be requested from competitors. All financial information for individual team members will be held confidential.

All development teams submitting qualified proposals will be invited to make a formal presentation to the Authority during the initial phase of the selection process. After reviewing each proposal, the Authority may, at its discretion, select several finalists and request them to develop their proposals further, based on second-stage BRA terms and conditions.

The Authority will recommend tentative designation of the developer whose proposal best meets the criteria for maximizing the benefits of the project to the City. The designated development team will be subject to subsequent stages of BRA design and

development review prior to consideration for final designation, and to any applicable state environmental reviews. Compliance with the Boston Zoning Code, the Charlestown Urban Renewal Plan, and applicable guidelines and conditions pursuant to which the Historic Monument Area was transferred to the BRA, will be required of all proposals.

The Authority reserves the right to reject any and all proposals.

Six (6) copies of each submission are required.

Applicant Information

1. Letter of Interest introducing the development team, including the developer, architect, and other consultants.
2. Relevant past experience of development team.
3. Redeveloper's Statement of Public Disclosure, and Redeveloper's Statement of —Qualifications and Financial Responsibility.

Development Proposals

1. Project summary, including a description of proposed uses and public amenities, proposed ownership (Lessee) structure, and anticipated development schedule.

Financial Information

1. Development pro forma - See Appendix A.
2. Development schedule and financial plan.

Design Submission

1. Conceptual elevations of all facades.
2. A conceptual site plan in sufficient detail at the scale of 1"=40' to describe the character and scope of the proposed project. The plan must identify the proposed pedestrian, vehicular, and service access parking. The site plan shall be made available for public viewing and be duplicated at a reduced size to fit the 8½" x 11" format of the RFP.
3. Eye-level exterior perspective views showing the proposed project in the context of the site boundaries and nearby buildings.
4. Any additional plans, elevations, and sections as may be required to understand the organization of the building.

5. Description of the major materials to be used for exterior facades and the major public outdoor spaces.
6. Up to date aerial photo.

Submission Fee

1. A submission fee of \$500.00 is required, drawn to the order of, or assigned to the Boston Redevelopment Authority. The Authority is under no obligation to earn interest. The fee will be retained by the Authority for processing the submission.

V. CONTRACT TERMS AND CONDITIOINS

Contract Terms and Conditions

In compliance with M.G.L.A. Chapter 30B, the terms of the final agreements relative to the proposed disposition must be in substantial compliance with the terms and conditions for the proposed development set out in the RFP.

Accordingly, such terms and conditions will be incorporated in the following documents prior to final designation:

1. A Lease Agreement setting out terms and conditions for conveyance of the property, which will be consistent with the development concept, goals and objectives set forth in this Request for Proposals.
2. If applicable, a Cooperation Agreement, including, but not limited to, a Transportation Access Plan Agreement, a Construction Management Plan Agreement, and a management plan for public access.
3. A Boston Residents Construction Employment Plan, pursuant to Chapter 12 of the Ordinances of 1986 of the City of Boston, as amended by Chapter 17 of said Ordinances, and Executive Order Extending Boston Residents Job Policy, signed by the Mayor on July 12, 1985.
4. Any applicable agreements relating to the development terms for the Historic Monument Area, pursuant to the conveyance between the GSA and the BRA.

VI. APPENDICES

Required Financial Information - Parcel 39A - Charlestown Navy Yard

DEVELOPMENT PRO FORMA includes all the information normally found in a development pro forma, by phase. This includes, but is not limited to:

- Presumed lease agreements, inclusive of required annual \$2.00 psf of building area payable monthly.
- Description of project components, e.g., potential retail space, offices, garage, etc., shown in gross square feet (gsf).
- All hard costs -- total per unit, by phase. The breakdown must include: site preparation; site improvements; demolition; building; furniture, fixtures and equipment; general contractor's overhead and profit; and any other major categories of expense pertinent to the proposed project.
- All soft costs -- total and per unit, by phase. The breakdown must include: architectural and exhibit designers; engineering; legal; accounting; developer's fees; mortgage/syndication brokerage fees; other professional fees; construction interest; insurance; permits; and any other major categories of expense pertinent to the proposed project.
- All contingencies -- on a total and per unit, by phase. Specify whether the contingency is for: hard costs, soft costs, or total cost; design or construction; financing; or other critical component of total project cost.
- Sources of debt and equity for total project cost.
- All assumptions regarding financing terms on leasing, pre-development, construction, and permanent loans. The breakdown must include financing fees, interest rates, draw-down schedule and terms, participation, amortization, and any other critical information.
- Any other project-related expense not included in the above categories.
- Calculation of total project cost -- total and per unit, by phase, if applicable.
- Public benefits.
- Economic aspects.

CERTIFICATE OF TAX AND EMPLOYMENT SECURITY COMPLIANCE

Pursuant to Massachusetts General Laws Chapter 62C, §49A¹, and Chapter 151A, §19A(b)², I _____

(Name)

(Title)

(Name of Bidder)

whose principal place of business is located at _____

_____, do hereby certify that:

- A. The above-named Bidder has made all required filings of state taxes, has paid all state taxes required under law, and has no outstanding obligation to the Commonwealth's Department of Revenue.
- B. The above-named Bidder/Employer has complied with all laws of the Commonwealth relating to contributions and payments in lieu of contributions.

Signed under the penalties of perjury this _____ day of _____, 1997.

Federal Identification Number

(Name)

By: _____

Title: _____

¹"No contract or other agreement for the purpose of providing goods, services or real estate to any... agencies (of the Commonwealth) shall be entered into, renewed or extended with any person unless such person certifies in writing under penalties of perjury, that he has complied with all laws of the Commonwealth relating to taxes."

²"No contract or other agreement for the purpose of providing... physical space to any agency or instrumentality of the Commonwealth shall be entered into, renewed or extended with any employer unless such employer certifies in writing under penalties of perjury, that said employer has complied with all laws of the Commonwealth relating to contributions and payments in lieu of contributions."

Project _____ Date _____
 Developer _____ Tel.#/Contact Person _____

CONDOMINIUM COST OF OWNERSHIP PRO FORMA

(Estimates in 19__ Dollars)
 (Use __% inflation factor from 19__)

Total Number of Units _____

Total: 1 Bedroom _____ 3 Bedroom _____
 2 Bedroom _____ Other _____

<u>List Each Unit</u>			
<u>No. of Bedrooms</u>	<u>Unit Size (NSF)</u>	<u>Unit Price</u>	<u>Downpayment</u>

	<u>Market</u>	<u>Subsidized</u>
Annual Common Area Charges (\$___/NSF)	\$ _____	\$ _____
Annual Real Estate Taxes (\$___/NSF)	\$ _____	\$ _____
Annual Mortgage Payment (___% on \$ _____ for ___ years)	\$ _____	\$ _____
Annual Service Charges (please specify membership fees, special services, etc.)	\$ _____	\$ _____
Total Annual Cost of Ownership (Before-tax)	\$ _____	\$ _____
Total Monthly Cost of Ownership (Before-tax)	\$ _____	\$ _____

Project _____ Date _____
Developer _____ Tel./Contact Person _____

CONDOMINIUM SALES PRO FORMA

(Estimates in 19__ Dollars)
(Use ___% inflation factor 19__)

CONDOMINIUM UNITS

Gross Sales Proceeds
Gross Condominium Sales/NSF \$ _____ \$ _____
Less Total Condominium Units Development Cost
Total Condominium Units Cost/NSF \$ _____ (_____)
Net Profit (Before Taxes) _____
Return on Gross Sales Proceeds _____ %
(Net Profit/Gross Sales Proceeds)

CONDOMINIUM PARKING SPACES

Gross Sales Proceeds
Gross Condominium Sales/NSF \$ _____ \$ _____
Less Total Condominium Units Development Cost
Total Condominium Units Cost/NSF \$ _____ (_____)
Net Profit (Before Taxes) _____
Return on Gross Sales Proceeds _____ %
(Net Profit/Gross Sales Proceeds)

TOTAL SALES

Total Condominium Gross Sales Proceeds \$ _____
Less Total Condominium Development Costs (_____)
Net Profit (Before Taxes) _____
Total Return on Gross Condo Sales Proceeds _____
(Net Profit/Total Gross Sales Proceeds) _____
Return on Equity _____
Equity Participation (Amount and % of
Total Condominium Cost) \$ _____ (_____)

Project _____
Developer _____

Date _____
Tel.#/Contact Person _____

RESIDENTIAL CONDOMINIUM DEVELOPMENT PRO FORMA

(Estimates in 19__ Dollars)

(Provide Phased Information Where Necessary)

TOTAL HARD COSTS

Condominium Units (\$_____/GSF)	\$ _____	\$ _____
Unit Finishes (\$_____/NSF)	_____	
Condominium Parking (\$_____/GSF)	_____	
(# of spaces)		
Site Costs (\$_____/GSF)	_____	
Premium Costs (\$_____/GSF)	_____	
Other (specify)	_____	

TOTAL SOFT COSTS

Architect/Engineering	\$ _____	\$ _____
Marketing/Brokerage/Advertising	_____	
Developer's Fee	_____	
Legal	_____	
Permits & Fees (specify)		
Construction Period Costs		
Construction Loan Interest (___ mos. @		
___% with average balance of		
\$ _____)	_____	
Financing Fees	_____	
Real Estate Taxes and Linkage	_____	
during Construction (___ mos.)	_____	
Sales Period Costs		
Loan Interest (___ mos. @ ___% with		
average balance of \$ _____)	_____	
Sale Period Real Estate Taxes	_____	
(___ mos.)	_____	
Sale Period Operating Expenses	_____	
Other (specify)	_____	
Other Related Costs (specify)	_____	

CONTINGENCY (___% of \$ _____) _____

TOTAL CONDOMINIUM DEVELOPMENT COSTS

Soft Costs as % Hard Costs	_____	\$ _____
Soft Costs as % TDC	_____	

Project _____ Date _____
Developer _____ Tel.#/Contact Person _____

OPERATING PRO FORMA FOR RESIDENTIAL RENTAL PROPERTY

(Carry Out 10 Years and Indicate Inflation Factor)

RENTAL INCOME
Rent/Month: 1 Bed _____ 2 Bed _____ Other _____

TOTAL RESIDENTIAL INCOME \$ _____
PARKING INCOME (attach parking rata structure) \$ _____
MISCELLANEOUS INCOME (e.g., Laundry) \$ _____
POTENTIAL GROSS INCOME \$ _____
VACANCY (___%) (\$ _____)
EFFECTIVE GROSS INCOME \$ _____

OPERATING EXPENSES
Residential (\$ _____/NSF) \$ _____
Parking (\$ _____/space) \$ _____
TOTAL OPERATING EXPENSES (\$ _____)

REAL ESTATE TAXES
Residential (\$ _____/NSF) \$ _____
Parking (\$ _____/space) \$ _____
TOTAL OPERATING EXPENSES (\$ _____)

BRA BASE RENT* (\$ _____)

NET INCOME AVAILABLE FOR DEBT SERVICE \$ _____

FINANCING**
Debt Service (___% on \$ _____ for ___ yrs.) (\$ _____)

CASH FLOW \$ _____

EQUITY PARTICIPATION (if applicable)
(Amount and % of Total Development Cost) \$ _____

RETURN ON EQUITY (Cash Flow/Equity) _____%

RETURN ON TOTAL DEVELOPMENT COST _____%
(Net Income Available/total Development Cost)

* If applicable

** Specify type and priority of repayment

Project _____ Date _____
Developer _____ Tel./Contact Person _____

DEVELOPMENT PRO FORMA FOR RESIDENTIAL RENTAL PROPERTY

(Estimates in 19__ Dollars)

(Using ___% Inflation Factor from 19__)

RESIDENTIAL UNITS

Number of Residential Units _____

Mix of Units

1 Bed _____
2 Bed _____
Other _____

Average Unit Size (GSF, NSF)

1 Bed _____
2 Bed _____
Other _____

Number of Parking Spaces _____

SQUARE FOOTAGE

Residential GSF _____
Parking GSF _____
TOTAL GSF _____

ACQUISITION \$ _____

CONSTRUCTION COSTS

Rehabilitation (\$ _____/GSF) \$ _____
New Construction (\$ _____/GSF) _____
Parking (\$ _____/space) _____
Site Improvements (\$ _____/Land SF) _____
Other (\$ _____/GSF) _____
TOTAL \$ _____

RELATED COSTS \$ _____

Architect/Engineering _____
Marketing/Brokerage _____
Developer Fees _____
Miscellaneous Fees _____
(Legal, Acctg. Ins., Title) _____
Construction Loan Interest (___ mos. @ ___% _____
with average balance of \$ _____) _____
Financing Fees (specify) _____
Other Related Costs (specify) _____
TOTAL \$ _____

CONTINGENCY (___% OF \$ _____) \$ _____

TOTAL DEVELOPMENT COST (TDC) \$ _____

Project _____ Date _____
Developer _____ Tel./Contact Person _____

RESIDENTIAL DEVELOPMENT PROGRAM

FORM OF OWNERSHIP

(Rental, Condominium, Cooperative) _____

TOTAL LAND SQUARE FOOTAGE _____

TOTAL UNITS _____

Mix of Units _____

Studio _____

1 Bedroom _____

2 Bedroom _____

Other _____

PARKING _____ space

TOTAL GROSS SQUARE FOOTAGE _____

_____ GSF

_____ NSF

Average Unit Size

Studio _____ GSF _____ NSF

1 Bedroom _____ GSF _____ NSF

2 Bedroom _____ GSF _____ NSF

Other _____ GSF _____ NSF

Parking _____ GSF

COMMERCIAL DEVELOPMENT PROGRAM

TOTAL LAND SQUARE FOOTAGE _____

TOTAL GROSS SQUARE FOOTAGE _____

Office _____

Retail _____

Other (please specify) _____

Parking (if applicable) _____

TOTAL NET SQUARE FOOTAGE _____

Office _____

Retail _____

Other (please specify) _____

SECTION 40J
DISCLOSURE STATEMENT OF PERSONS HAVING
BENEFICIAL INTEREST IN REAL PROPERTY

No agreement to rent or to sell real property to or to rent or purchase real property from a public agency, and no renewal or extension of such agreement, shall be valid and no payment shall be made to the lessor or seller of such property unless a statement, signed, under the penalties of perjury, has been filed by the lessor, lessee, seller or purchaser, and in the case of a corporation by a duly authorized officer thereof giving the true names and addresses of all persons who have or will have a direct or indirect beneficial interest in said property with the deputy commissioner of capital planning and operation. The provisions of this section shall not apply to any stockholder of a corporation the stock of which is listed for sale to the general public with the securities and exchange commission, if such stockholder holds less than ten percent of the outstanding stock entitled to vote at the annual meeting of such corporation.

A disclosure statement shall also be made in writing, under penalty of perjury, during the term of a rental agreement in case of any change of interest in such property, as provided for above, within thirty days of such change.

Any official elected to public office in the commonwealth, or any employee of the division of capital planning and operations disclosing beneficial interest in real property pursuant to this section, shall identify his/her position as part of the disclosure statement. The deputy commissioner shall notify the state ethics commission of such names, and shall make copies of any and all disclosure statements received available to the state ethics commission upon request.

The deputy commissioner shall keep a copy of each disclosure statement received available for public inspection during regular business hours.

Added by St. 1980, c. 579, Section 12.

1980 enactment - St. 1980 c. 579 Section 12 was approved July 16, 1980, and by Section 66 made effective July 1, 1981. See also Historical Note under Section 39A of this chapter.

Library References States West 85, 89, 95. C.J.S. Sections 145, 149, 150, 156.

**DISCLOSURE STATEMENT CONCERNING BENEFICIAL
INTEREST REQUIRED BY SECTION 40J OF
CHAPTER 7 OF THE GENERAL LAWS**

- 1. Location: _____
- 2. Grantor or Lessor: _____
- 3. Grantee or Lessee: _____

4. I hereby state, under the penalties of perjury, that the true names and addresses of all persons who have or will have a director or indirect beneficial interest (including the amount of their beneficial interest accurate to within one-half percent) in the above-listed property are listed below in compliance with the provisions of Section 40J of Chapter 7 (see attached Statute).

Names and residence of all persons with said beneficial interest:

<u>Name</u>	<u>Address</u>	<u>Percentage Interest</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

5. The undersigned also acknowledged and states that none of the above-listed individuals is an official elected to public office in the Commonwealth of Massachusetts, nor is an employee of the State Department of Capital Planning and Operations, or the Boston Redevelopment Authority.

SIGNED under the penalties of perjury.

Signature: _____

Date: _____

APPENDIX E
DISCLOSURE STATEMENT

DISCLOSURE STATEMENT

Any person submitting a development proposal to the City of Boston must truthfully complete this statement and submit it prior to being formally designated for any project.

1. Do any of the principals owe the City of Boston any monies for incurred real estate taxes, rents, water and sewer charges or other indebtedness?

2. Are any of the principals employed by the City of Boston? If so, in what capacity. (Please include name of agency or department and position held in that agency or department.)

3. Have any of the principals previously owned any real estate? If so, where and what type of property?

4. Were any of the principals ever the owners of any property upon which the City of Boston foreclosed for his/her failure to pay real estate taxes or other indebtedness?

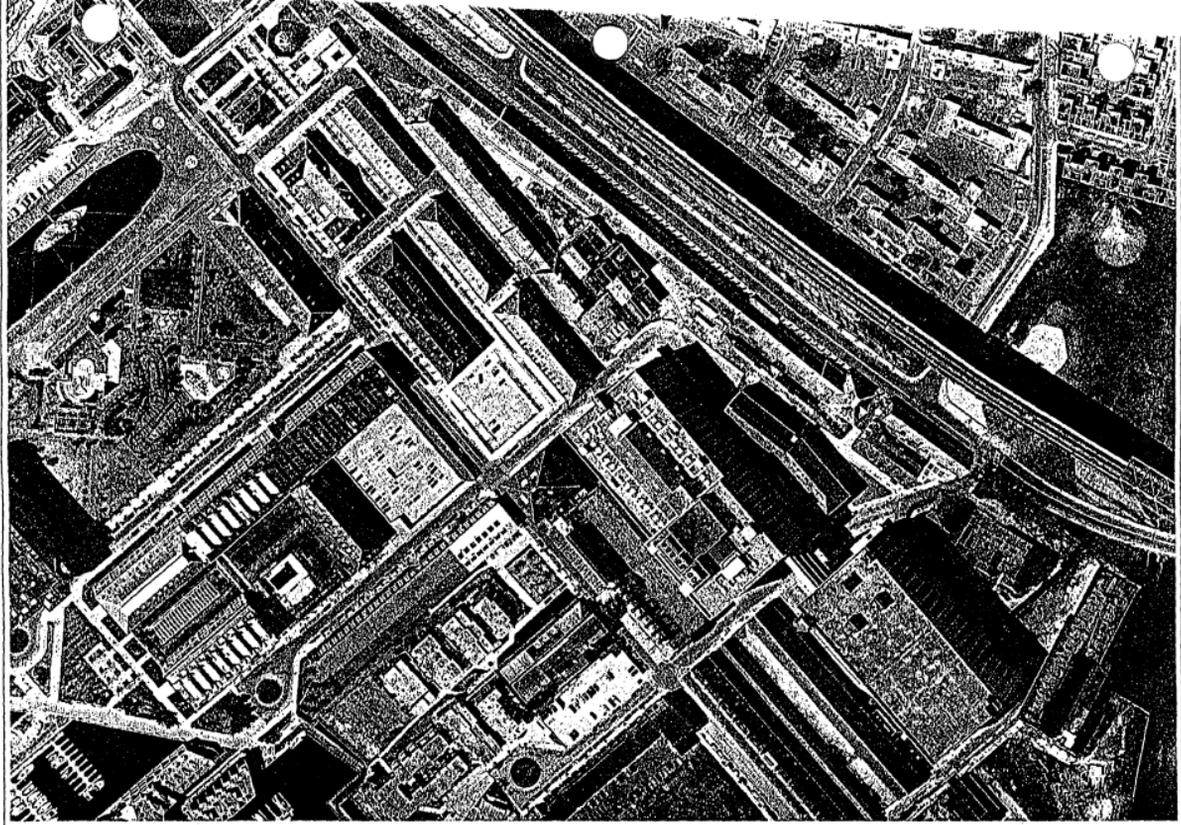
5. Have any of the principals ever been convicted of any arson related crimes currently under indictment for any such crimes?

6. Have any of the principals been convicted of violating any law, code, ordinance regarding conditions of human habitation within the last three (3) years?

SIGNED UNDER THE PAINS AND PENALTIES OF PERJURY THIS _____
DAY OF _____, 19__.

SIGNATURE: _____

ADDRESS: _____



Summary of Proposed Treatment Parcel 39A

The guidelines for this parcel are written to encourage the construction of a building either imitative or reflective of the brick and granite buildings which abut the parcel (Buildings 38, 39, and the Headhouse of 105.) Therefore, the massing, facade and material requirements are important, and proposals will be judged by the success of their visual relationship to the surrounding structures. The facade planes of Parcel 39A will align with those (north and south elevations) of Building 39 to the west and Parcel 150 (east elevation) to the north.

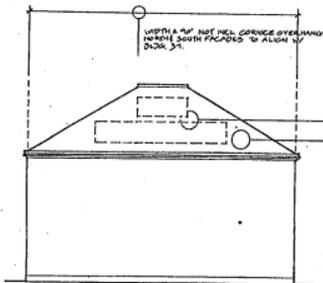
Facade design options include the following treatments:

Traditional Granite - Floor levels and fenestration to closely match surrounding buildings, including window details. Multi-pane sash recommended.

Contemporary - Floor levels determined by use. Fenestration should be regular. Design should be reflective of existing facades, not imitative.

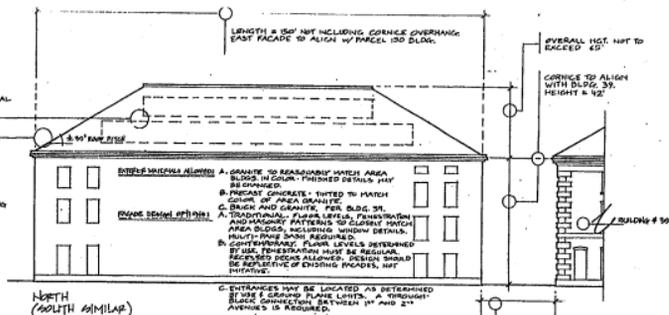
Entrances may be located as determined by use and ground plane limits. Servicing shall be limited to the First Avenue side. Because of this parcel's visibility and key location, no recessed decks will be allowed in the roof planes and skylights limited to certain areas.

The development parcel is located at the eastern end of Building 39 and is bounded by First Avenue, Ninth Street, and Second Avenue. Due to the close proximity and costly installation of sub-surface "root piles" used to reconstruct Building 39, the development proposal for Parcel 39A must include engineering and foundation designs that protect the shoring of Building 39 during the construction period. A 25-foot setback from Building 39, similar to that between Building 38 and Parcel 150, will aid in this effort while maintaining an appropriate spacing.



EAST
(WEST SIMILAR)

GENERAL NOTES:
 1. LOCATIONS TO BE ALIGNED WITH FIRST AVENUE (SOUTH) AND SECOND AVENUE (NORTH) FACADES.
 2. CORNICES - TOP PORTION OF BUILDING IS TO EXCEED LINES SHOWN, INCLUDING MECHANICAL EQUIPMENT (OTHER THAN AIRHAND UNITS), AT LEAST 75% OF THE NEW FACED SURFACES SHALL COINCIDE WITH THE EXISTING FINISH.



NORTH
(SOUTH SIMILAR)

RESTRICTION NOTES:
 1. ALL WINDOWS OTHER THAN ROOF WINDOWS (AS SHOWN) AND BAYNET WINDOWS (AS PERMITTED) SHALL BE DOUBLE-HUNG OPERABLE WINDOWS RECESSED A MINIMUM OF 2' FROM THE PLANE OF THE FACADE.
 2. WINDOW GLASS SHALL BE CLEAR UNLESS TINTED OR MIRRORED.
 3. WINDOWS SHALL BE RECESSED IN MINIMUM 12" FROM CORNICE SLOTTING.
 4. NO APPLIED OR SHOP-IN WINDOWS SHALL BE ALLOWED.

BNS/C

BOSTON NAVAL SHIPYARD AT CHARLESTOWN

REHABILITATION GUIDELINES

DRAWING 1 OF 1

DATE 6-28-74

BOSTON REDEVELOPMENT AUTHORITY

PARCEL

39A

APPENDIX "D"

HMA – Independent Auditors' Report/Statement of Revenues and Expenses



**BOSTON REDEVELOPMENT AUTHORITY
HISTORIC MONUMENT AREA**

Statement of Revenues and Expenses

For the Periods July 25, 1977 (Inception) through September 30, 1989
and
October 1, 1989 through June 30, 1999

(With Independent Auditors' Report Thereon)



99 High Street
Boston, MA 02110-2371

Telephone 617 988 1000
Fax 617 988 0800

Independent Auditors' Report

The Board of Directors
Boston Redevelopment Authority:

We have audited the accompanying statement of revenues and expenses arising from cash transactions of the Boston Redevelopment Authority's (the "Authority") Historic Monument Area for the period October 1, 1989 through June 30, 1999. This financial statement is the responsibility of the Authority's management. Our responsibility is to express an opinion on this financial statement based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statement is free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statement. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

The accompanying statement of revenues and expenses was prepared to present excess revenues (expenses) of the Boston Redevelopment Authority's Historic Monument Area pursuant to the Deed and Application for Transfer agreement as described in note 1, and is not intended to be a complete presentation of the Authority's operations.

As described in note 2, this financial statement is prepared on the basis of cash receipts and disbursements, which is a comprehensive basis of accounting other than generally accepted accounting principles.

In our opinion, the financial statement referred to above presents fairly, in all material respects, the revenues and expenses arising from cash transactions of the Boston Redevelopment Authority's Historic Monument Area for the period October 1, 1989 through June 30, 1999, on the basis of accounting described in note 2.

The accompanying statement of revenues and expenses arising from cash transactions of the Boston Redevelopment Authority's Historic Monument Area for the period July 25, 1977 (inception) through September 30, 1989 was reported on by other auditors in their Agreed-Upon Procedures Report dated August 27, 1990, which indicated that they were not aware of any material modifications that would need to be made to that statement for it to be in compliance with the Deed and Application for Transfer of the Historical Monument Area at The Charlestown Navy Yard to the Boston Redevelopment Authority.

This report is intended solely for the information and use of the board of directors and management of the Boston Redevelopment Authority and the General Services Administration of the United States of America and is not intended to be and should not be used by anyone other than these specified parties.

KPMG LLP

May 5, 2000

**BOSTON REDEVELOPMENT AUTHORITY
HISTORIC MONUMENT AREA**

Statement of Revenues and Expenses

For the Periods July 25, 1977 (inception) through September 30, 1989
and
October 1, 1989 through June 30, 1999

	* July 25, 1977 through September 30, 1989	October 1, 1989 through June 30, 1999
Expenses:		
A. Repair, rehabilitation and restoration (note 3):		
Construction	\$ 12,117,151	904,669
Engineering	1,261,206	569,603
Technical services	227,288	210,107
Indirect contractual services	41,569	20,214
Other	31,388	4,443
	<hr/> 13,678,602	<hr/> 1,709,036
B. Recurring maintenance requirements (note 3):		
Direct labor and benefits	3,713,510	2,113,352
Building and land maintenance	867,210	325,491
Security	1,176,816	974,872
Utilities	64,521	62,676
Supplies and equipment	74,542	50,748
	<hr/> 5,896,599	<hr/> 3,527,139
C. Administration and operations (note 3):		
Occupancy (note 4)	3,073,499	5,046,685
Indirect labor and benefits	1,079,772	1,361,474
Indirect overhead distribution	400,755	266,540
Audits	87,650	65,000
Printing and graphics	62,073	35,932
Legal	50,290	237,480
Other	71,177	60,383
	<hr/> 4,825,216	<hr/> 7,073,494
Total expenses	24,400,417	12,309,669
D. Revenues:		
Rental, lease and other income (note 5)	9,294,444	10,960,466
Federal grant income	9,414,430	436,907
	<hr/> 18,708,874	<hr/> 11,397,373
Excess (expenses)	(5,691,543)	(912,296)
Accumulated excess (expenses), beginning of period	—	(5,691,543)
Accumulated excess (expenses), end of period	\$ (5,691,543)	<u>(6,603,839)</u>

* Not covered by accompanying auditors' opinion.

See accompanying notes to financial statement.

**BOSTON REDEVELOPMENT AUTHORITY
HISTORIC MONUMENT AREA**

Notes to Financial Statement

(1) The Boston Redevelopment Authority and Historic Monument Area

The Boston Redevelopment Authority (the "Authority") was established in 1957 pursuant to Chapter 121B, as amended, of the General Laws of Massachusetts, to administer community development projects and to function as the planning agency of the City of Boston (the "City"). The Authority is governed by a five member Board of Directors appointed for terms of five years. The operations of the Authority include the operations of the Historic Monument Area ("HMA"). The Authority is a component unit of the City.

In July 1977, the General Services Administration of the United States of America transferred the former Boston Naval Shipyard at Charlestown (the "Shipyard"), including a portion designated as the HMA, to the Authority. The terms and conditions of the transfer as they relate to the HMA are contained in the Deed and Application for Transfer of the Shipyard to the Authority for Historic Monument Purposes ("Deed and Application"). The Deed and Application stipulate the following:

- a) The HMA is to be managed to maximize conservation of the historic and architectural character of the site while at the same time maximizing the reuse potential of the buildings in the Shipyard for economically viable purposes.
- b) Any income in excess of costs of repair, rehabilitation, restoration and maintenance shall be used by the Authority for historic preservation and park projects administered by the Authority.
- c) HMA expenditures are to be in compliance with the requirements of Cost Principles Applicable to Grants and Controls with State and Local Governments. Such requirements are currently codified in Cost Principles for State and Local Government, Office of Management and Budget Circular A-87.

(2) Summary of Significant Accounting Policies

(a) Basis of Presentation

The accompanying statements of revenues and expenses are prepared in accordance with the terms and conditions of the Deed and Application. The reporting periods covered by this report are not intended to be comparable but rather represent the periods subject to an independent review.

(b) Basis of Accounting

The accompanying statements of revenues and expenses are maintained on the cash basis of accounting as required by the Deed and Application. Under the cash basis of accounting, revenues are recorded when received and expenditures are recorded when paid.

**BOSTON REDEVELOPMENT AUTHORITY
HISTORIC MONUMENT AREA**

Notes to Financial Statement

(c) *Use of Estimates*

The preparation of the statement of revenues and expenses in conformity with the Deed and Application requires management to make estimates and assumptions that affect the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

(3) **Allocated Expenses**

HMA expenses include an allocation of the costs associated with the development and maintenance of the Shipyard. For the period October 1, 1989 through June 30, 1999, such allocation amounted to approximately \$4,545,000. This allocation is based upon the relative acreage of the HMA to the Shipyard.

(4) **Occupancy**

In order for the Authority to maximize the economic viability of the Shipyard, the Authority rented office space from a third party within the HMA for the period September 15, 1986 through December 31, 1995. The Authority has included such occupancy costs amounting to approximately \$5,044,000 for the period October 1, 1989 through December 31, 1995 in the accompanying statement of revenues and expenses.

(5) **Lease Revenue**

The Authority is a lessor of property located within the HMA under noncancelable operating leases expiring in various years through 2088.

Minimum future rentals to be received on such noncancelable leases as of June 30, 1999 for each of the next five years and thereafter are as follows:

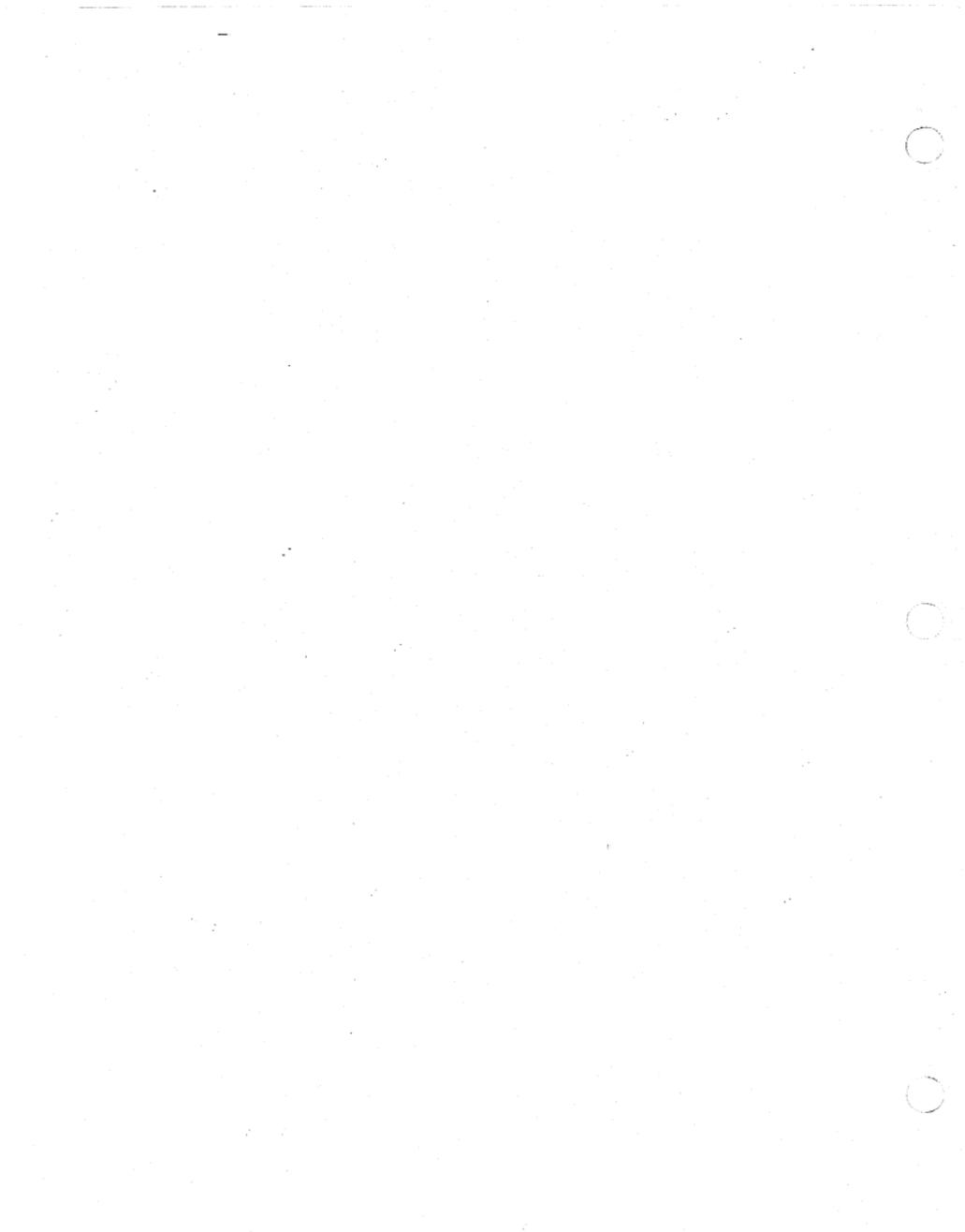
<u>Year ending</u>	<u>Amount</u>
2000	\$ 1,327,554
2001	1,327,554
2002	1,327,554
2003	1,327,554
2004	1,327,554
Thereafter	<u>78,996,062</u>
Total minimum future rentals	\$ <u>85,633,832</u>

APPENDIX "E"

HMA Standard Ground Lease – Building "P"

**GROUND LEASE
BY AND BETWEEN
BOSTON REDEVELOPMENT AUTHORITY
AND
BUILDING "F" ASSOCIATES LIMITED PARTNERSHIP

BUILDING "F"
CHARLESTOWN NAVY YARD
CHARLESTOWN, MASSACHUSETTS**



BUILDING "P" - LEASE

THIS GROUND LEASE is entered into this 1st day of December, 1993 by and between the Boston Redevelopment Authority, a public body politic and corporate organized under the laws of the Commonwealth of Massachusetts ("Landlord"), and Building "P" Associates Limited Partnership, a Massachusetts limited partnership ("Tenant") and its successors and assigns. Landlord and Tenant shall be collectively referred to hereinafter as the "Parties." (Persons reviewing this Lease will find most definitions in Articles 1, 2, 3 and 31.)

ARTICLE 1

PREMISES

1.1 Lease. Landlord, for and in consideration of the rents hereinafter reserved by Landlord and the covenants and agreements hereinafter contained on the part of the Tenant to be paid, kept and performed, does hereby lease to Tenant, and Tenant does hereby lease, take and hire upon and subject to the terms and conditions herein set forth, the Leased Premises.

1.2 Leased Premises. The term "Leased Premises" shall mean the land and building commonly known as Building "P", situated in the Charlestown Navy Yard, Charlestown, Boston, Suffolk County, Massachusetts, as more particularly described in Exhibit "A" attached hereto and as shown on the plan entitled "Compiled Plan of Land, Building "P", Charlestown Navy Yard in Charlestown, MA" prepared by R. H. Cole Associates dated March 9, 1992 (the "Site Plan"), to be recorded herewith, together with any and all rights of access, easements or other rights now appurtenant or as may be necessary for said Leased Premises to be used as set forth herein, but specifically excluding all right and interest, if any, of Landlord in and to the fee in the land lying in the public streets and private ways abutting the Leased Premises subject, however, to the exceptions to fee title described as the Permitted Title Exceptions set forth in Exhibit "B" attached hereto.

1.3 Improvements. The term "Improvements" shall mean all improvements, structures, buildings, interiors, landscaping, paving, pipes and conduits, roads, walkways, fixtures, Exterior Space (as defined in Section 31.27 herein) and, to the extent of Tenant's interest therein, fencing and utility lines, existing on the Leased Premises at the Lease Commencement Date, and all alterations and additions thereto and replacements thereof, and any other buildings, structures or improvements hereafter erected on the Leased Premises.

1.4 Building Service Equipment. The term "Building Service Equipment" shall mean all apparatus, machinery, devices, fixtures, appurtenances, equipment and personal property necessary for the proper maintenance, protection, conservation and

operation of the Improvements other than moveable trade fixtures, machinery and equipment and in particular shall include, without limiting the generality of the foregoing, the following, if any: awnings, shades, screens and blinds; asphalt, vinyl composition and other floor, wall and ceiling coverings; partitions, doors and hardware; elevators, escalators and hoists; heating, plumbing and ventilating apparatus; gas, electric and steam fixtures; chutes, ducts and tanks; oil burners, furnaces, heaters, incinerators and boilers; air cooling and air conditioning equipment; washroom, toilet and lavatory fixtures and equipment; engines, pumps, dynamos, motors, generators, electrical wiring and equipment; tools, building supplies, lobby decorations and window washing hoists and equipment; garage equipment and gardening and landscaping equipment; and all additions thereto and replacements thereof, but excluding from Building Service Equipment, any property which is owned by Occupancy Tenants and used by them in connection with the operation of their respective spaces and not in connection with the operation of the Improvements as a whole.

1.5 Property. The term "Property" shall mean the Leased Premises, the Improvements and the Building Service Equipment.

ARTICLE 2

TERM

2.1 Term. The term of this Lease is for sixty-five (65) years commencing June 17, 1993 (the "Lease Commencement Date"), and ending at midnight on May 17, 2058 (the "Lease Expiration Date"), unless sooner termination as provided for in this Lease.

ARTICLE 3

RENT

3.1 Annual Rent. Commencing on the Lease Commencement Date, Tenant covenants and agrees to pay to Landlord without demand, abatement deduction or offset, as rent, in lawful money of the United States, annual rental as follows:

A. Option Payments and Construction Period Rent. Tenant shall make monthly Option Payments commencing as of October 1, 1991 at the rate of Fifteen Cents (\$.15) per gross square foot per annum of the existing building, said Option Payments to be made until the date of issuance of a Building Permit. Said Option Payments shall increase by Fifteen Cents (\$.15) per gross square foot at each three (3) month interval starting April 1, 1992, until the issuance of a Building Permit. Tenant shall pay Construction Period Rent at the rate of Sixty-Three Cents (\$.63) per gross square foot per annum of the existing building calculated to be five thousand four hundred seventy (5,470) gross square feet payable monthly in advance, commencing on the date of issuance of the Building Permit or upon commencement of

work in accordance with Section 7.1(q) of this Lease. Said construction rent shall continue until the receipt of a Certificate of Occupancy and shall be calculated at an annual rate of Three Thousand Four Hundred Forty-Six and 10/100 Dollars (\$3,446.10), which sum shall be paid in monthly installments of Two Hundred Eighty-Seven and 18/100 Dollars (\$287.18).

B. Base Rent. Tenant shall pay for each Lease Year or partial Lease Year during the term hereof Base Rent at the annual rate of One Dollar and 25/100 (\$1.25) per gross square foot of the existing building calculated at five thousand four hundred seventy (5,470) gross square feet. Said Base Rent shall be calculated at an annual rate of Six Thousand Eight Hundred Thirty-Seven and 50/100 (\$6,837.50) Dollars, which sum shall be paid in monthly installments of Five Hundred Sixty-Nine and 79/100 Dollars (\$569.79) payable in advance on the first day of each month, except that the first such payment shall be one month after the issuance of a Certificate of Occupancy and shall be prorated if such Certificate of Occupancy is issued on other than the first day of the month. If the Certificate of Occupancy is issued on other than the first day of the month, the same proration shall apply to the rent due for the last month of the Term of this Lease. Tenant shall also pay as additional rent \$.50 per gross square foot for outdoor space as further described in Section 5.2 herein.

On the fifth (5th) anniversary of the Lease Commencement Date, the Base Rent (including the additional Base Rent for the Exterior Space) shall be adjusted by an amount equal to the cumulative percent change in the Consumer Price Index for All Urban Consumers CPI-U, Boston, Massachusetts ("CPI") for the preceding five (5) years. On the sixth (6th) anniversary of the Lease Commencement Date and every year thereafter, the Base Rent shall be adjusted by an amount equal to the percent change from the previous year's CPI; provided, however, that in no year shall the increase in Base Rent exceed five percent (5%).

C. Additional Rent. Tenant shall also pay as additional rent:

(1) Net Cash Flow. Annually for each Lease Year or partial Lease Year during the term hereof upon Tenant's initial attainment of an 80% occupancy level a sum equal to fifteen percent (15%) of the amount of the Net Cash Flow for each such Lease Year ("Percentage Rent"), payable monthly in advance based on a budget prepared annually and submitted to Landlord not less than sixty (60) days prior to the beginning of each Lease year; and

(2) Net Refinancing Proceeds. As and when the same are received by or made available to or for the benefit of Tenant, fifteen percent (15%) of all Net Refinancing Proceeds.

D. Definitions. For purposes of this Lease, the following terms shall have the following meanings:

(1) Net Cash Flow. The term "Net Cash Flow" shall mean the amount by which Gross Revenue during any given Lease Year exceeds Allowed Deductions during such Lease Year.

(2) The term "Gross Revenue" shall mean:

(a) Gross Revenue. All revenues and the fair market value of all services, goods or the like of every type and from every source whatsoever (including without limitation Occupancy Tenants) received by the Tenant, or received for the benefit of Tenant, with respect to the use, occupancy or other utilization of space in, or other facilities of, the Property under any use, occupancy or other agreements, written or oral and however denominated (other than security and other deposits returnable upon expiration of any occupancy lease, except that any such security and other deposits which become the property of the Tenant shall be treated as part of Gross Revenue at such time as they become the property of Tenant);

(b) Payments from the Tenant at market rentals for any space which it or any person associated with it occupies or uses in the Property, the Tenant hereby agreeing to make such payments on an annual basis. The market rentals therefor shall be based upon rentals for reasonable comparable space in the Property and as if such space were leased for a term of five (5) years, such market rental rate to be re-calculated at five (5) year intervals;

(c) All interest earned on a reserve account taken as an Allowed Deduction under Section 3.1(D)(3)(a), except to the extent such interest is retained in and as a part of such reserve account, subject to the limitations set out in said Article 3, Section 3.1(D)(3)(a).

(3) Allowed Deductions. The term "Allowed Deductions" shall mean the following amounts actually paid with respect to the Lease Year in question:

(a) All Impositions (as hereinafter defined in Article 4, Section 4.1) and all reasonable and customary charges incurred for the maintenance, protection, conservation and operation of the Property in the manner required or permitted by this Lease and consistent with the operation and management from time to time of like rehabilitated properties in the City of Boston as and to the extent the same are considered ordinary in the business and necessary for its operation, including without limitation, payments made by Tenant for taxes, insurance premiums, legal expenses, management expenses, telephone and utilities, fuel, repairs and maintenance, accounting, statistical or bookkeeping services or equipment, salaries, advertising and promotion, commissions and other compensation for leasing, alterations and repairs incidental to the marketing and leasing of the Property to potential Occupancy Tenants and to make space ready for Occupancy Tenants, other charges for operation and management of the Property and the Partnership; and

amounts paid to a reserve account, actually maintained by Tenant and held by the Depository, for replacements and capital improvements, provided that, with respect to any such reserve account:

(i) the amount deposited therein in any lease Year shall not exceed two percent (2%) of Gross Revenues for such Lease Year; and

(ii) withdrawals made therefrom shall only be for the purpose of paying for the acquisition and installation of physical assets which replace, or appreciably lengthen the life of an existing asset or add to the asset base of the Property.

(b) Payments made by Tenant to Landlord of Base Rent;

(c) Payments made by Tenant for fees pursuant to Article 30, Section 30.2;

(d) an amount which shall be computed by multiplying Total Project Costs (as defined in Section 31.10, below) by twelve and one-half percent (12.5%);

(e) If Tenant is required, in connection with the restoration of damage or destruction caused by casualty or as a consequence of a taking by eminent domain, to deposit any amount or amounts with the Depository under the Provisions of Section 13.1 (c), a deduction shall be allowed and calculated in order to amortize each amount so deposited over the shorter of (i) the useful life of the restoration or repair, or (ii) the then balance of the term of this Lease, (except with respect to amounts so deposited because Tenant has failed to maintain casualty insurance on the Improvements in accordance with the Provisions of this Lease).

(f) If Tenant commences restoration of damage caused by casualty or as a consequence of a taking by eminent domain prior to collection of the "Amounts" (as defined in Section 13.1) receivable with respect to such casualty or taking, a deduction shall be allowed for all interest incurred by Tenant, prior to the receipt of the amounts, for the interim financing of such restoration.

Except as otherwise herein provided, Allowed Deductions shall be computed on a cash basis in accordance with generally accepted accounting principles consistently applied.

(4) Financing. The term "Financing" means the original principal amount of funds provided by an Institution (as defined in Section 31.6) either (i) entirely as debt secured by a Leasehold Mortgage on the Property, or (ii) partly as debt so secured and partly as an equity investment in the Property.

(5) Refinancing. The term "Refinancing" means replacing all or a portion of the then existing Financing with new Financing, except that Refinancing shall not include the replacement of the initial construction financing for the Improvements by the initial permanent financing except to the extent that said permanent financing exceeds total project costs.

(6) Net Refinancing Proceeds. The term "Net Refinancing Proceeds" means the amount by which the proceeds of Refinancing (reduced by the reasonable expenses incurred by Tenant in connection with the Refinancing) exceed the greater of Total Project Costs or the then outstanding principal balance of the existing Financing.

E. Percentage Rent. In order that Landlord may receive the Percentage Rent required hereunder in equal monthly installments during each Lease Year, Tenant agrees to submit to Landlord not less than sixty (60) days prior to the beginning of each Lease Year a budget (the "Percentage Rent Budget") which shall set forth a detailed projection (using the foregoing definitions and setting their computations out in separate calculations) of Percentage Rent for the ensuing Lease Year. Except as provided below, notwithstanding a dispute by the Landlord of the reasonableness of the Percentage Rent Budget, Tenant shall pay to Landlord, as Percentage Rent, commencing on the first day of the first month of such ensuing Lease Year and thereafter continue to pay to Landlord on the first day of each month of such Lease Year, an amount equal to one-twelfth (1/12th) of the Percentage Rent projected in such budget, or one-twelfth (1/12th) of the actual Percentage Rent paid to Landlord for the Preceding Lease Years, whichever is greater, but only if the greater amount does not exceed the lesser amount by more than 20 percent (20%); otherwise, payments shall be based on the lesser figure plus twenty percent (20%) thereof.

Landlord may at any time, within sixty (60) days after the receipt of the Percentage Rent Budget make such investigations and inquiries as Landlord determines to be appropriate in order to evaluate the reasonableness thereof (including without limitation, an audit and/or examination of the books and records of Tenant with respect to all financial matters relevant to the operation of the Property). If, within said sixty (60) day period Landlord should determine in the exercise of its reasonable judgment that the Percentage Rent Budget understates the amount of Percentage Rent reasonably to be anticipated for the ensuing Lease Year, then Landlord may make a revised estimate of the Percentage Rent anticipated for such Lease Year ("Adjusted Percentage Rent") and, based thereon, Tenant shall increase its monthly payments of Percentage Rent for the remainder of such Lease Year so as more accurately to reflect Percentage Rent as estimated by Landlord to be due for such ensuing Lease Year. After paying three (3) consecutive months of Adjusted Percentage Rent, if Tenant can provide a CPA's financial statement which supports Tenant's Percentage Rent Budgets and evidences an overpayment of Percentage Rent by Tenant then Tenant shall be credited in the next following month with such

amounts as Tenant has overpaid and Tenant shall pay in the subsequent months the amount indicated by Tenant's CPA.

F. Year End Financial Statement. Within ninety (90) days after the end of each Lease Year, Tenant shall furnish to Landlord a detailed, true, correct and complete statement (the "Year End Financial Statement") of all income, expenses, and other financial matters reasonably necessary to determine, and setting forth a calculation of, the amount of Net Cash Flow of the Property and of the Percentage Rent due Landlord for the immediately preceding Lease Year, prepared in conformity with the requirements of this Lease by an independent certified public accounting firm selected by Tenant and approved by Landlord. Without limitation, the Year End Financial Statement shall provide (a) a complete statement of revenues and expenses on a cash basis; (b) a statement showing changes in the balance of all reserve accounts and financing secured in whole or in part by the Property; and (c) a reconciliation with financial statements for which an opinion has been rendered, audited under generally accepted auditing standards. If the Year End Financial Statement shows a deficiency in the payment of Percentage Rent for the preceding Lease Year, Tenant shall promptly pay such deficiency and if the Year End Financial Statement shows an overpayment of Percentage Rent, the amount of such overpayment shall be credited against payment of Base Rent, Percentage Rent and additional rent next falling due hereunder, but reserving in the Landlord the right, in all events, first to offset against such overpayment any sums owing but unpaid by Tenant to Landlord under this Lease.

G. Annual Statement Concerning Occupancy Tenants. At the time Tenant delivers to Landlord the Year End Financial Statement, Tenant shall also deliver a statement setting forth the name of each current Occupancy Tenant, the term of the leases under which Occupancy Tenants hold possession, the rental being paid under said leases, the square footage and location of the areas subject to said subleases, and such additional information as Landlord may require after written notice to Tenant of the same.

H. Audit. Landlord reserves the right to conduct an independent audit of Tenants records regarding all fiscal matters relevant to the Property to ascertain the accuracy of any Year End Financial Statement submitted by Tenant. This independent audit may be conducted at any time within two (2) years of the end of any Lease Year and may be conducted by an accounting firm of Landlord's choice. Such independent audit shall be conducted by a nationally recognized accounting firm (or by an independent certified public accountant selected by Landlord and approved by Tenant, which approval shall not be unreasonably withheld) and if the amount of Net Cash Flow as shown on such independent audit shall exceed by more than five percent (5%) that shown in any such Year End Financial Statement submitted by Tenant, the Tenant shall pay the total cost thereof, otherwise, the cost of such audit shall be borne by Landlord.

I. Quarterly Statement. On or before the 15th day of each April, July, October and January during the term of this Lease, Tenant shall deliver to Landlord, if Landlord so requests by written notice to Tenant, a statement itemizing the Gross Revenue and the Allowed Deductions during the quarter-annual period just ended (i.e., the quarter-annual periods ending, respectively, March 31, June 30, September 30 and December 31) together with a statement as to any (i) Occupancy Tenants terminated and/or canceled, (ii) new Occupancy Tenants created, and (iii) such other information as may be relevant to the computation of amounts due Landlord hereunder.

3.2 Rent - Absolutely Net Requirement. It is the intention of the parties hereto that the rent provided for in this Article shall be absolutely net to Landlord throughout the term of this Lease. Except for any debt service charges incurred in connection with financing obtained by Landlord or its reversion hereunder or interest herein and except as otherwise expressly provided in this Lease, in order that such rent shall be absolutely net to Landlord, Tenant shall pay and save Landlord harmless from and against all Impositions, insurance premiums, carrying charges, costs, expenses and obligations of every kind and nature whatsoever relating to the ownership, leasing or operation of the Property which may arise, accrue or become due during the term of this Lease.

ARTICLE 4

PAYMENT OF TAXES AND OTHER CHARGES

4.1 Impositions. Commencing on the Lease Commencement Date and continuing for the entire term of this Lease, as part of the consideration of this Lease and as additional rent hereunder, Tenant agrees to pay and discharge, or cause to be paid and discharged promptly as the same may become due and payable, all taxes, assessments, charges, license fees, municipal liens, levies, excise taxes or imposts, whether general or special, ordinary or extraordinary, imposed by any governmental authority as a result of or with respect to the ownership or use of the Leased Premises or the Improvements or the Building Service Equipment located thereon which may be levied, assessed, charged or imposed, or may be or become a lien or charge upon the Property, or any part thereof or upon the leasehold estate hereby created, or upon the Landlord solely by reason of its ownership of the Leased Premises. If at any time during the term of this Lease the methods of taxation or assessment or rate determination applicable to real and personal property prevailing at the Lease Commencement Date shall be altered so that in lieu of any Imposition described in this paragraph there shall be levied, assessed or imposed an alternate tax, however designated, such alternate tax shall be deemed an Imposition for the purposes of this Lease (including this Article) and Tenant shall pay and discharge such Imposition as provided by this Article. Nothing contained in this Lease shall be construed as imposing upon Tenant any obligation to pay any income, estate, inheritance,

succession, capital levy or transfer tax imposed on the Landlord and growing out of or levied in connection with the Landlord's right in the Leased Premises.

4.2 Payment of Impositions. Any Impositions required to be paid by Tenant which shall relate to the Lease Year during which the term of this Lease shall commence or terminate shall be prorated between Landlord and Tenant as of the date of such commencement or termination. Tenant shall pay all assessments and charges of every type whether general, special, ordinary or extraordinary, which are assessed or levied against or with respect to the Property during the term of this Lease. If the law expressly permits the payment of such assessments or levies in installments, Tenant may utilize the permitted installment method, but shall pay each installment thereon before delinquency. If Tenant shall have permitted or elected to have such assessments or levies made payable in installments over a period of time which extends beyond the date this Lease expires or otherwise terminates, the entire unpaid balance of such assessments or levies against the Property during the term hereof and applicable to the period of the leasehold estate created hereby shall be paid by Tenant prior to or upon the expiration of the term hereof or upon any earlier termination of this Lease by depositing such unpaid balance in cash with Landlord, except to the extent that any Occupancy Tenants are required to pay such amounts pursuant to the terms of subleases allowed hereby.

4.3 Receipt for Payment of Impositions. Tenant shall within ten (10) business days of payment and in any event on Landlord's request, deliver to Landlord copies or duplicate receipts (or, if the same are not available, other materials acceptable to Landlord) showing timely payment of all Impositions paid by Tenant as required by this Lease.

4.4 Timely Payments. Tenant shall make all payments of all Impositions directly to the charging authority before delinquency and before any fine, interest or penalty shall become due or be imposed by operation of law for their nonpayment. In the event Tenant fails to make timely payment, Tenant shall be liable for all fines, interest and penalties imposed, and related costs.

4.5 Apportionment of Leased Premises Not Separately Taxed. In the event that the Leased Premises are not separately taxed or assessed, then, in that event, the Imposition as levied shall be apportioned between the Leased Premises and such other areas with which it is assessed in such manner that Tenant shall pay only an equitable portion of any such Imposition. Landlord shall indemnify and hold Tenant harmless from all loss, cost and expense which it may suffer or incur because of the failure on the part of Landlord to pay the Impositions on the Property for which Landlord is responsible of which the Leased Premises are a part, provided that Tenant shall not be in default of its obligations to pay its equitable portion of such Impositions.

4.6 Tenant Right to Contest Imposition. Subject to the provisions hereof, Tenant shall have the right to contest or review by appropriate legal or administrative

proceedings, any Imposition or other charge or levy which the Tenant is required to pay pursuant to the provisions of this Article.

Whenever the Tenant desires to contest the amount or validity of any Imposition, it shall first give written notice to the Landlord of its intention to do so, and, at the option of the Landlord, the Tenant shall, from time to time during the pendency of such proceedings, deposit with the Depository (as defined in Section 31.14), in an interest bearing account, as security for the payment of such Imposition, money in the amount owed, to pay said Imposition, together with all interest and penalties in connection therewith, and all charges that maybe assessed against or become a charge on the Property or any part thereof, in said proceedings. Any monies so deposited by Tenant and the reasonable cost of providing such security shall be an "Allowed Deduction" at the time paid or incurred for purposes of the calculation of "Net Cash Flow" under Article 3, Section 3.1(D)(1), provided that, when the need for such security terminates, the balance of any money so deposited and not applied in payment of an Imposition shall be treated as Gross Revenue under Section 3.1(D)(2). If the Tenant shall not have theretofore paid, removed and discharged the Imposition and the interest and penalties in connection therewith, and the charges accruing in such proceedings, then, upon the termination of such proceedings, the money (together with any interest hereunder) shall at the direction of the Landlord, be applied to the payment, removal and discharge of said Imposition, if any, then payable, the interest and penalties in connection therewith, and the charges accruing in such proceedings, and the balance, if any, shall be paid or returned to the Tenant, but reserving in the Landlord the right to direct that the money (together with any interest hereunder) be paid to it in order to offset against such balance any sums owing but unpaid by Tenant to Landlord under this Lease.

In the event that the money so deposited shall be insufficient for this purpose, the Tenant shall forthwith pay over to the Depository the amount of money owed, in Landlord's reasonable opinion, together with the money pursuant to this Section 4.6, to pay the same.

Nothing in this Article, except as hereinabove provided, shall be construed as relieving, modifying or extending the Tenant's covenant to pay any such Imposition and all other charges incident thereto at the time and in the manner provided in this Article.

4.7 Landlord's Obligation to Participate. The Landlord shall join in any such proceeding where such joinder shall be necessary in order to properly prosecute such proceeding and the Landlord shall have first been fully indemnified against all liability in connection therewith. The Landlord may retain its own counsel or request that Tenant provide Landlord with appropriate legal representation. The Landlord shall not be subject to any liability for the payment of any costs or expenses in connection with any proceeding brought by the Tenant, and the Tenant covenants to indemnify and

save harmless the Landlord from any such costs or expenses, including reasonable legal fees.

4.8 Evidence of Non-Payment. The certificate, advice or bill of the appropriate official designated by law to make or issue the same or to receive payment of any such Imposition of the non-payment of any such Imposition, shall be prima facie evidence that such Imposition is due and unpaid at the time of the making or issuance of such certificate, advice or bill.

4.9 Occupancy Tenant's Payment of Taxes for Renting Premises. The Tenant shall also pay or cause to be paid all taxes or excises on rent and income received by the Tenant from Occupancy Tenants, all permit, inspection and license fees, franchise or transfer taxes and all other public charges, however described, made or imposed by the City of Boston, the Commonwealth of Massachusetts, the federal government or all other public authority by reason of or in respect of the Tenant's interest in this Lease transaction or any document to which the Landlord and the Tenant (or the Tenant alone) is a party, creating or transferring an interest or estate in the Property or any part thereof, or by reason or in respect of the business of the Tenant or the occupancy, use or possession of the Property, or any part thereof, or of any sidewalk, street or alley, or part thereof, adjoining the same, including any permit and inspection fees, or taxes or other public charges made or imposed upon the Landlord as owner of the Leased Premises by reason of the Tenant's involvement with the Property.

4.10 Occupancy Tenant's Payment of Property Taxes. It is the express intent of the Parties that the Property be fully taxable to the Tenant as if the Tenant were the fee owner thereof, notwithstanding any law or regulation to the contrary and the Tenant hereby agrees to make no claim or take any action the purpose of which would be to claim that the Property is exempt, directly or indirectly from taxation. If the Property shall for any reason be treated as so exempt, the Tenant shall pay, in semi-annual payments on January 1 and July 1 of each Lease Year, a sum which would equal the amount of taxes that would be reasonably levied against the Property by the City of Boston but for its tax exempt status, as if the Tenant were the fee owner thereof, and all such payments shall be Impositions for all purposes of this Lease, including this Article 4, and the calculation of Net Cash Flow under Article 3, Section 3.1(C). Such sums shall be payable to the Landlord and shall be deemed additional rent and shall be determined by the Landlord using as the basis therefor the amount of taxes assessed against reasonably comparable properties in the City of Boston. The parties agree that the Landlord shall be the beneficiary of the receipts under Sections 4.5 and 4.10 of this Article.

For purposes of this Section 4.10, it is hereby agreed that commencing on the Lease Commencement Date and continuing until the July 1 date subsequent to the first tax assessment date subsequent to the Lease Commencement Date, Tenant shall pay to the Landlord its pro rata payment in lieu of tax using the Base Rent

capitalized at 10% (ten percent) as the assessment is multiplied by the latest commercial tax rate of \$39.99, which computation amounts to Two Thousand Six Hundred Twenty-Nine Dollars and 00/100 Cents (\$2,734.32). Such payment in lieu of tax shall be due and payable to the Landlord on the Lease Commencement Date.

If at any time during the term of this Lease, the Property were to be taxed directly to Tenant or Landlord by the City of Boston, Tenant shall retain all rights to appeal such assessment including but not limited to the right to seek a tax abatement.

4.11 Security Fee. Tenant shall pay a security fee equal to \$.05 per gross square foot of the improvements to the Property for the support of security services in the Navy Yard. This fee shall commence one (1) month after Tenant's receipt of a Certificate of Occupancy. This obligation shall continue until such time as the Landlord determines that such security services are no longer necessary. Said fee shall be subject to an escalation formula for the remainder of the lease term. The calculation of the escalation formula shall be at Landlord's sole discretion and shall be applied uniformly to all like Tenants of the Charlestown Navy Yard.

4.12 Maintenance Fee. Tenant shall pay an annual maintenance fee equal to \$.05 per gross square foot of the Improvements to the Property commencing one month after the Tenant's receipt of a Certificate of Occupancy and thereafter is subject to an escalation formula for the remainder of the lease term. The calculation of the escalation formula shall be at Landlord's sole discretion and shall be applied uniformly to all like Tenants of the Charlestown Navy Yard.

4.13 Charlestown Neighborhood Contribution. Tenant shall pay a Charlestown Neighborhood Contribution based upon the gross square footage of the Improvements to the Property which total 5,470 gross square feet and calculated at the rate of Two and 00/100 (\$.20) Dollars per gross square foot, or Ten Thousand Nine Hundred Forty and 00/100 (\$10,940.00) Dollars. Landlord acknowledges that one-half of the Charlestown Neighborhood Contribution has previously been paid by Tenant and the remaining balance shall be paid upon the issuance of a Certificate of Occupancy.

ARTICLE 5

POSSESSION, USE, COMPLIANCE WITH LAWS, MAINTENANCE AND REPAIRS

5.1 Delivery of Leased Premises. Possession of the Leased Premises shall be delivered by Landlord to Tenant upon the Lease Commencement Date free and clear of all tenants and occupants, and also free of all liens and encumbrances, all except for those matters disclosed in the Permitted Exceptions set forth in Exhibit "B" and such other liens, rights or encumbrances as the Tenant may have approved in writing. The Leased Premises are to be delivered in their present condition, "as is", it being agreed that the Tenant has had an opportunity to examine the same in all

respects (including subsurface conditions and utilities), that the Landlord has made no representations or warranties of any kind with respect to such condition, and that the Landlord shall have no obligation to do any work with respect to the Leased Premises, or the condition thereof.

5.2 Use of Lease Premises. The Leased Premises and the Improvements shall continuously and without interruption, subject to vacancies arising in the ordinary course of the operation of the Property, be used and devoted solely to a mixture of office, retail and commercial space, all in accordance with legal requirements as are from time to time applicable thereto and for no other purpose without first obtaining the consent of Landlord, which consent Landlord shall not unreasonably withhold.

5.3 Maintenance and Repairs. The Tenant agrees throughout the term of this Lease, at the Tenant's sole cost and expense, properly to maintain, or cause to be maintained, the Property and each and every part thereof in good order and condition in all respects, subject to reasonable wear and tear (but not obsolescence), free of accumulation of dirt, rubbish, snow and ice, and to make all necessary repairs, interior and exterior, structural and non-structural, ordinary as well as extraordinary, foreseen as well as unforeseen, in order to maintain the Property as required hereby. When used in this Article, the term "repair" shall include replacements or renewals when necessary, and all such repairs made by the Tenant shall be at least equal in quality and class to the original work. The provisions and conditions of Section 13.2, 13.3 and 13.4 of Article 13 hereof applicable to changes or alterations shall mutatis mutandis, apply to maintenance and repairs required under this Section.

5.4 Compliance with Laws. The Tenant agrees throughout the term of this Lease, at the Tenant's sole cost and expense, promptly to comply with, and cause the Property to be maintained in conformity with, and not in violation of, all laws and ordinances (including without limitation the provisions of the Plan) as described in Section 31.9 and the orders, rules, regulations and requirements of the federal, state and city governments and appropriate departments, commissions, boards, bureaus, agencies and offices thereof, and the orders, rules, regulations and requirements of the water, sewer, electrical or other inspection departments with jurisdiction in the City of Boston and Board of Fire Underwriters (or any other body now or hereafter constituted exercising similar functions), whether such laws, ordinances, orders, rules, regulations and requirements are foreseen or unforeseen, ordinary, or extraordinary, and whether or not the same require structural repairs or alterations. The Tenant will, likewise, observe and comply with the requirements of all policies of public liability, fire and all other policies of insurance at any time in force with reference to the Property (or Improvements thereon). The provisions and conditions of Sections 13.2, 13.3 and 13.4 of Article 13 hereof applicable to changes or alterations shall mutatis mutandis, apply to work required to be done under this Section.

The Tenant shall not, however, be in violation of the foregoing requirements when, in good faith, it contests, by appropriate legal proceedings, the

validity or applicability of any law, ordinance, order, rule, regulation or requirement of any governmental agency and, unless civil or criminal liability against the Landlord may result therefrom, the Tenant may delay compliance therewith until the final determination of such proceeding, provided, in the case of any contest and delay in compliance:

(a) the Tenant shall notify the Landlord forthwith, upon notice or knowledge of any violation or alleged violation of any such law, ordinance, order, rule, regulation or requirement, of its intention to contest the same; and, thereafter, shall, from time to time, and on the request of the Landlord, advise the Landlord of the status of any such proceedings;

(b) the Tenant shall indemnify, save harmless and defend the Landlord (with counsel of Tenant's selection, but subject to approval by Landlord, which approval shall not be unreasonably withheld), from any loss, cost, liability or expense which may be incurred by the Landlord by reason of such non-compliance or delay;

(c) the Tenant shall prosecute such contest of validity or applicability to conclusion with all due diligence; and

(d) the Tenant shall pay over to the Depository, on the request of the Landlord, security for the faithful performance and observance of its obligation to comply with any such law, ordinance, order, rule, regulation or requirement, and for, the payment of any penalties which may accrue by reason of non-performance or delay in compliance therewith, if it should be finally determined that the same is valid and applicable.

The provisions of Section 4.6 hereof (relative to the contest of Impositions) shall be applicable, mutatis mutandis, to the time, amounts and kind of security which the Landlord may require under this Section, and the holding and disposition of the same, to the end that, for this purpose, the cost and expense of possible compliance with governmental requirements aforesaid shall be treated as an Imposition.

5.5 Indemnification. The Tenant agrees to indemnify, defend (with counsel of the Landlord's selection, but subject to approval by Tenant, which approval shall not be unreasonably withheld), and save harmless the Landlord against and from any and all claims by or on behalf of any person, firm or corporation, arising during the term of this Lease or any period in which Tenant shall occupy or operate any part or all of the Property from the conduct or management of, or from any work or thing whatsoever done in or about the Property, and will further indemnify, defend (with counsel of the Landlord's selection, but subject to approval by Tenant, which approval shall not be unreasonably withheld) and save harmless the Landlord against and from any and all claims arising during (even though asserted after) the term of this Lease from any condition of the Property, or arising from any breach or default on the part of the

Tenant in the performance of any covenant or agreement on the part of the Tenant to be performed under the terms of the Lease, or arising from any act or neglect of the Tenant or any of its agents, contractors, servants, employees or licensees, or anyone claiming by, through or under the Tenant, or arising from any accident, injury or damage whatsoever caused to any person, firm or corporation occurring during the term of this Lease, in or about the Property. Notwithstanding the foregoing, nothing herein shall obligate the Tenant to indemnify, defend or save harmless the Landlord from any claims arising solely out of the negligence or default of Landlord, its agents, contractors, servants or employees.

5.6 Tenant's Obligation to Pay Landlord's Cost. The Tenant agrees to pay and be liable for the payment of all costs and charges, including the reasonable fees of counsel engaged by the Landlord and the amounts of all judgments and decrees in any action or proceeding incurred in exercising rights of the Landlord under this Lease on account of any default or breach of condition by the Tenant, or occurrence of condition which, under this Lease, confers upon the Landlord the right to exercise remedies available to the Landlord in the event of default of the Tenant, including, without limitation, such costs and expenses incurred in enforcing the Landlord's right to possession of the Property after the expiration or early termination of the term of this Lease to the extent the Landlord prevails in such actions or proceedings

5.7 Sidewalks. For the purposes of this Article, sidewalks which adjoin or abut the Leased Premises and the areas referred to under Article 26 hereof (relative to quiet enjoyment), shall throughout the term of this Lease, be kept by Tenant free of accumulation of dirt, rubbish, snow and ice. The Landlord and Tenant agree that no commercial activities shall be conducted upon the areas referred to in the preceding sentence without their mutual written consent.

To the extent that legal liability for maintenance thereof is imposed upon any private owner of property in the jurisdiction in which the Leased Premises lies, the Tenant shall perform the obligations on the part of any such owner required to be performed under applicable law with respect to any other public areas, such as streets and vaults, adjoining the Leased Premises, for which under applicable law, a private owner of property abutting the same may be responsible.

ARTICLE 6

CESSATION OF USE; NO ABATEMENT OF RENT

6.1 Payment of Rent - No Abatement Due to Cessation of Use. Except as otherwise specifically provided in this Lease, this Lease shall not be terminated, the respective obligations of the parties shall not be affected and no abatement, refund, offset, diminution or reduction of Base Rent, Percentage Rent or amounts due as additional rent shall be claimed by or allowed to Tenant or any person claiming by, through or under Tenant, under any circumstances whatsoever, whether for

inconvenience, discomfort, interruption, cessation or loss of business, or otherwise, or whether arising from the making of alterations, changes, additions, improvements or repairs to any building or other improvements now on, under or above or which may hereafter be erected on, under or above, the Leased Premises, or whether by virtue of or because of any present or future governmental laws, ordinances, regulations, direction or action, or for any other cause or reason whatsoever and whether or not stated in or implied by the foregoing.

ARTICLE 7

DESIGN REVIEW; CONSTRUCTION OF IMPROVEMENTS; CERTIFICATE OF COMPLETION

7.1 (a) Review of Design Materials - Conformity to Design Development. The Development Review Procedures of the Boston Redevelopment Authority, dated 1985, as revised in 1986, which are hereby incorporated by reference as a part of this Agreement (the "Development Review Procedures"), set forth the formal stages of submissions and approvals of the Schematic Design, the Design Development and the Contract Documents (collectively, the "Design Materials") for the improvements to be constructed and installed by the Tenant in the redevelopment of the Leased Premises. In the event that any provision of the Development Review Procedure shall be inconsistent with any other provision of this Lease, then this Lease shall prevail over such inconsistent provision; otherwise, the Development Review Procedures shall be treated as supplemental to this Lease.

The scope of review by the Landlord of Design Materials submitted in accordance with this Article 7 and the Development Review Procedures shall not extend to the design or layout of interior spaces not visible by the general public, nor to structural, electrical, mechanical or plumbing designs except to the extent that the selection of any structural, electrical, mechanical or plumbing system impacts the design of exterior elements of the Improvements, including without limitations sidewall and roof penetrations.

(b) Review of Contract Documents - Conformity to Design Development. Within sixty (60) days after the date hereof, Tenant shall submit to Landlord the Contract Documents for the Improvements (as described in the Development Review Procedures) provided, however, that Tenant shall not be required to submit structural, electrical, mechanical or plumbing plans and specifications except to the extent that such systems impact the exterior elements of the Improvements. The Landlord shall review the Contract Documents for conformity with the approved Design Development and shall, within ten (10) business days of receipt thereof, either approve the Contract Documents or notify the Tenant in writing of disapproval, specifying the respects in which the Contract Documents are disapproved.

In the event of a disapproval, the Tenant shall within thirty (30) days after the Tenant receives the written notice of such disapproval, resubmit the Contract Documents altered in those respects specified by the Landlord as the grounds for disapproval. The resubmission shall be subject to the review and approval of the Landlord in accordance with the Development Review Procedures and the timetable hereinabove provided for an original submission, until the Contract Documents shall be approved by the Landlord.

If the Tenant receives no notification from the Landlord of such disapproval; within ten (10) business days after submission of the Contract Documents or any correction thereof, as the case may be, such Contract Documents or any corrected Contract Documents shall be deemed approved by the Landlord.

(c) Conformity to Meet Certified Historic Structure Requirements. The Landlord hereby acknowledges that it is the intention of the Tenant to undertake the Improvements in a manner which will qualify as the rehabilitation of a "certified historic structure" as defined in Section 48(g) of the Internal Revenue Code of 1954, as amended, which will require that the Secretary of the Interior of the United States (hereinafter referred to as the "Secretary"), approve the Contract Documents for and the construction of the Improvements. The Landlord hereby agrees that it shall administer the Development Review Procedures and the granting of approvals of Design Materials hereunder consistent with the requirements of said Secretary. In any case in which there shall be a conflict between the requirements of the Landlord and the requirements of the Secretary for approval under Section 48(g) of the Internal Revenue Code, as amended, of the Design Material or construction of the Improvements, and such conflict is not resolved within thirty (30) days after the Secretary notifies the Tenant of such requirements, the requirements of said Secretary shall govern and shall bind the Landlord with respect to the items required by the Secretary.

(d) Further Design Review. With respect, to approvals of the Landlord under this Article 7, Section 7.1(a) through 7.1(c), above, once approval has been given of a submission stage, further review will be limited to consideration of the development or refinement of the previously approved submissions or to new elements which were not present in previous submissions.

(e) Redesign of Improvements. The Landlord acknowledges that the construction of the Improvements as shown in the Schematic Design requires the issuance to the Tenant of federal, state and municipal permits and approvals, some of which may depend upon examination of various elements of the Premises, including without limitation, approval by the Secretary and environmental impacts not fully assessed on the date hereof. If the Tenant is unable to obtain all such necessary permits and approvals for construction of such Improvements, the Tenant shall redesign the Improvements to conform to any limitations or conditions imposed by the Secretary or such environmental review or in any such permit or approval, and the

Landlord shall recognize any such limitation or condition in its response to submissions of Design Materials by the Tenant hereunder. In the event any such resubmission is required, the time for performance of the Tenant's obligations pursuant to this Agreement shall be extended for the periods of time required for the preparation of such resubmission.

(f) Minor Modifications to Plan. If the approved Schematic Design, Design Development or the Contract Documents for the Improvements shall be at variance with any development or dimensional controls of the Plan applicable to the Site, the Landlord shall adopt such minor modifications to such Plans as may be, in the opinion of the Landlord, necessary to construct the Improvements in accordance with the approved Design Materials.

(g) "Fast-Track" Construction. As part of its submission of Contract Documents, or prior to submission of completed Contract Documents but after approval or deemed approval of Design Development, the Tenant may submit plans and specifications prepared by the Architect for purposes of commencing work with respect to certain elements of the Improvements which may include site work, interior demolition, foundation work and other similar items which the Tenant proposes to commence on a "fast-track" basis. The Landlord will promptly review said plans and specifications for "fast-track" construction and shall approve commencement of work on specific "fast-track" construction elements which are demonstrated to the satisfaction of the Landlord to be consistent with those portions of the Design Materials previously approved and with elements of the Contract Documents, if any have then been submitted by the Tenant, which are acceptable to the Landlord. As a condition to proceeding with construction of any "fast-track" element, Tenant must deliver to Landlord a copy of the construction contract for construction of such "fast-track" elements, a building permit for such "fast-track" elements, insurance naming the Landlord as an Additional Insured with respect to such construction activity, and a performance and payment bond for such elements.

7.2 Pre-approved Documents. Landlord acknowledges that, prior to the execution of this Lease, Tenant has submitted to Landlord and Landlord has approved the Schematic Design and Design Development Documents for the Improvements and Landlord has granted Schematic Design Approval by letter executed by the Director, and thus Tenant has fulfilled all Schematic and Design Development requirements established therefor by the Development Review Procedures.

7.3 Landlord's Consent to Work. Tenant shall not apply for a building permit with respect to all or any part of the Improvements or with respect to any changes or alterations requiring Landlord's approval under Section 8.1 hereof without the prior certification of Landlord that the work to be done or completed as set forth in the permit application is in accordance with said Final Working Drawings and Specifications, as initially approved by Landlord or deemed approved pursuant hereto, or as subsequently amended and approved by Landlord. No work shall be done with

respect to all or any part of the Improvements or with respect to such changes or alterations unless such work conforms with such approved, or amended and approved, Final Working Drawings and Specifications for that portion of the work to be performed. Notwithstanding the foregoing, Tenant may with Landlord's approval, apply for a building permit prior to the completion of Final Working Drawings for the purpose of commencing work with respect to certain elements of the Improvements in accordance with the procedures set forth in Section 7.1(g) of this Lease.

7.4 Tenant's Construction Obligations. With respect to the Improvements:

(a) Construction - Commencement Date. The Tenant shall begin the construction of the Improvements in accordance with the approved Final Working Drawings and Specifications as soon after the Lease Commencement Date as is reasonably practicable.

(b) Improvements. The Tenant shall diligently prosecute to completion the construction of the Improvements and shall substantially complete such construction not later than eighteen (18) months from the first to occur of the Lease Commencement Date or the date on which any work is started on the Leased Premises relating to construction of the Improvements under Section 7.1(q), as such period may be extended pursuant to the provisions of Section 7.10 hereof, or such additional time beyond such eighteen (18) month period (as such 18 month period may be extended pursuant to Section 7.10 hereof) as may be approved by Landlord, which approval shall not be unreasonably withheld. Withholding of consent requested hereto due to financial difficulties shall not be treated as unreasonable action by Landlord.

(c) Estimated Progress Schedule. Tenant shall submit to Landlord for its approval a detailed estimated progress schedule prior to construction of the Improvements. The schedule shall be resubmitted not more often than quarterly until the construction of the Improvements has been completed, with actual progress shown in each submission. Each submission shall be accompanied by a written report by Tenant citing any adjustments to the progress forecast, analyzing the causes thereof, and, where applicable, noting corrective efforts. Such work of Tenant shall be subject to inspection by representatives of Landlord, and Landlord shall endeavor to notify Tenant promptly of any respects in which Landlord observes that Tenant is not proceeding with construction of the Improvements as required by this Lease and shall promptly furnish to Tenant copies of all reports prepared by representatives of Landlord in connection with such inspections. Upon receipt of such notification, Tenant shall promptly undertake and proceed diligently to cure any such defects to the reasonable satisfaction of Landlord. Nothing herein shall be treated as allowing the Tenant an extension of time deadlines without Landlord's prior written consent (except as provided in Section 7.10 hereof), nor shall Landlord's inspections or actions or failure to act hereunder render Landlord liable to Tenant or any other party for failure of the Improvements to be constructed as required by the terms of the Lease.

(d) Change Order. No change order or modification (referred hereinafter as "Change Order") for an addition to or extension of the Improvements (as shown on the Final Working Drawings and Specifications) which would affect in any way the external appearance of public lobbies, arcades, open spaces or landscaping, or the external appearance of any building (including roof and penthouse) shall be issued or implemented unless such Change Order shall have been submitted to and approved in writing by Landlord prior to its issuance and implementation. If Landlord shall neither approve nor disapprove in writing within ten (10) days of receipt of such notice containing a Change Order, then it shall be treated as having been approved. In the event Tenant shall fail to comply with the foregoing requirements, Landlord may, within a reasonable time after discovery thereof by Landlord, direct in writing that Tenant remove, modify or reconstruct such portion or portions of the Improvements erected or being erected as are not in conformance thereof. Tenant shall promptly comply with such a directive. In addition to any other remedies available under this lease, Landlord may enforce the provisions of this subsection (d) by an action in a court of appropriate jurisdiction to compel specific performance. Tenant shall send Landlord a copy of any other change order or modification relating to the Improvements as soon as the same has been approved by the Architect.

(e) Interior Space. With respect to the layout of the interior spaces which are visible by the general public, the following applies:

(i) Ceilings subject to view from outside the building shall be either smooth-finish white or off-white painted gypsum board, or suspended acoustical tile. Suspended acoustical tile shall be white or off-white in color, with small, non-directional surface texture. Suspension system shall be concealed. Ceiling systems shall provide a monolithic finished appearance, while maintaining accessibility to equipment space above ceiling where required.

(ii) Lighting fixtures mounted on ceiling areas subject to view from outside the building shall be limited to recessed fixtures with reflectors which minimize glare and brightness when viewed obliquely from below. Fixtures with lenses mounted flush or projected below the surface of the ceiling plane shall be prohibited.

7.5 Architect/General Contractor. Tenant shall not discharge the Architect or General Contractor without cause or hire new or additional Architects or General Contractors or substantially alter or substantially amend the contract for architectural services between the Architect and the Tenant or the Construction Contract between the Tenant and the General Contractor without in each instance obtaining the written consent of Landlord which consent Landlord shall not unreasonably withhold.

7.6 Signs. No sign shall be erected or placed on the exterior of any Improvement on the Leased Premises, or on any portion of the Leased Premises which is not enclosed within a building unless the character, location, design, size, shape, form and lighting of such sign shall have been approved by Landlord in writing.

Without limiting in any way the scope of Landlord's review, no sign shall be approved which does not meet the following standards. Signs may only be erected or placed upon the ground floor street facade of each store, if any, or other individual ground floor use as approved by the Landlord. Flashing signs, internal illuminated signs, exposed neon signs or signs relating to businesses other than those, if any, on the Leased Premises, shall not be permitted. All allowed signs shall conform to applicable laws and regulations, including the Boston Sign Code, the Plan and Zoning requirements.

7.7 Works of Art. Tenant shall provide as part of the Improvements, and off-site work performed by Tenant (including without limitation, work within the areas referred to in Exhibit "A") in connection with and relating to the construction of the improvements works of art reasonably satisfactory to Landlord and shall expend for such works of art a sum at least equal to one percent (1%) of the construction costs. In this connection, Tenant shall submit to Landlord a general program for employment of art to support and enhance the Improvements. The term "works of art" as used herein shall include ornaments, arrangements, or effects created through the use of sculpture, base-relief, mosaics, frescos, murals, prints, tapestries, paintings, fountains which are sculptural in themselves or designed to enhance the setting of the sculpture, and non-standard street and open space treatments and other improvements, including the restoration of historical artifacts within the building, having an increment of aesthetic value as approved by the Landlord. The Landlord agrees that all or a portion of the aforementioned 1% amount to be expended to acquire suitable works of art may be expended off site as a contribution to enhance the facilities or as a contribution to the operating budget of any cultural institution as may be mutually agreed upon between Landlord and Tenant.

7.8 Handicapped Access. It is the general policy of Landlord that all buildings constructed or rehabilitated in urban renewal project areas shall be so designed to accommodate persons who are physically handicapped. In furtherance of this policy, and without limiting Tenant's obligation to comply with all legal requirements applicable thereto, the Design Materials (including the Contract Documents) shall include provisions conforming, insofar as practical, with: (a) the rules and regulations promulgated by the Architectural Barriers Board of the Commonwealth of Massachusetts which rules and regulations, as amended from time to time, are hereby incorporated herein by reference; and (b) the requirements of the Americans with Disabilities Act (P.L. 101-336), as amended, and any rules and regulations thereunder, as may be amended from time to time, all of which are incorporated herein by reference. Landlord shall take into consideration the provisions and objectives of such Specifications in its review of and action upon the Final Working Drawings and Specifications.

7.9 Construction Safeguards. Tenant shall erect and properly maintain at all times as required by the conditions and the progress of work performed by or at the

request of the Tenant from time to time during the term of this Lease, all necessary safeguards for the protection of workers and the public, in and around the property.

7.10 Completion of Construction and Force Majeure. Tenant agrees for itself and every successor in interest to the leasehold estate in the Leased Premises, or any part thereof, that Tenant will take all steps necessary to enable it to, and that it will, commence construction of the Improvements, and that it will diligently prosecute and complete the same, in accordance with the times set forth therefore in Section 7.4(a) and (b) hereof; provided however, that Tenant's obligations under Sections 7.4(a) and (b) hereof are subject only to delays occasioned by acts of God, general unavailability of labor or materials, governmental restrictions, strikes and other labor difficulties not caused by Tenant or like causes beyond the reasonable control of the Tenant. Financial inability to proceed shall never be treated as a cause beyond the Tenant's reasonable control.

It is intended and agreed that the agreements and covenants contained in Section 7.4 hereof shall be covenants running with the land and that they shall be, in any event, and without regard to technical classification or designation, legal or otherwise, and, except only as otherwise specifically provided in this Lease, to the fullest extent permitted by law and equity, binding for the benefit of the Landlord and enforceable by Landlord against Tenant and every successor in interest to or of the leasehold estate in the Leased Premises or any part thereof or any interest therein.

Landlord shall cooperate with and assist Tenant in every reasonable way in Tenant's efforts to obtain all governmental consents, approvals, permits or variances which may be required for the construction of the Improvements, but this obligation shall not require the expenditure of any monies by Landlord (including, without limitation, expenditures for permits or approvals of any type).

7.11 Cooperation Agreement. Landlord shall during the term of this Lease comply with the terms and provisions of the Cooperation Agreement relating to the Plan between it and the City of Boston, dated June 10, 1965, as amended, (which is hereby incorporated herein by reference), and shall enforce all of its rights thereunder, to the extent such enforcement shall be necessary in Tenant's reasonable judgment to enable Tenant to meet its obligations hereunder.

7.12 Substantial Completion/Certificate of Completion. The Improvements shall be deemed substantially completed for the purposes of this Lease when built in accordance with the provisions of this Lease, the approved Final Working Drawings and Specifications, and any approved modifications thereof, except for (i) items of work and adjustment of equipment and fixtures which can be completed after occupancy has been taken, i.e. so-called punch list items, (ii) landscaping and other similar items which cannot then be completed because of climatic conditions, and (iii) with respect to the interior office and items of interior work normally left for completion or to be completed by agreement pursuant to the requirements of specific

Occupancy Tenant of any portion or portions of said office space, such as the construction of interior partitions and doors, the distribution of electrical outlets and switches, the location of ventilation ducts and returns, the placement of lighting fixtures, and the installation of ceilings. The construction of the Improvements shall be incontestably deemed substantially completed for the purposes of this Lease upon the issuance of a Certificate of Completion by the Landlord.

If the Landlord issues a Certificate of Completion prior to completion of the work described in clauses (ii) and (iii) above and any and all other work which, in the reasonable opinion of the Landlord should be completed prior to the issuance of a Certificate of Completion, then the Tenant shall deposit with the Landlord, or, if required by any mortgagee, with the holder of the first mortgage on the Property pursuant to an escrow or holdback agreement approved by the Landlord, as security for the completion of such work an amount which, in the opinion of the Landlord, would cover the cost of such completion. Said deposit, if deposited with the Landlord, shall be in cash or by certified check or by other security satisfactory to the Landlord. The deposit shall be delivered simultaneously with the issuance of the Certificate of Completion. If such work is not so completed to the satisfaction of the Landlord, within a reasonable time after the issuance of such Certificate of Completion, and in any event within one (1) year of such issuance, except for the work described in clause (iii) above which shall be completed within a reasonable time of the leasing of each portion of such space, then the Landlord may apply such deposit to completion of such work.

Promptly after substantial completion of the Improvements in accordance with the provisions of this Lease, the Landlord will furnish the Tenant with the Certificate of Completion so certifying. Such certification by the Landlord shall be a conclusive determination of satisfaction and termination of the agreements and covenants in this Lease with respect to the obligations of the Tenant and its successors and assigns to commence and complete the Improvements, except that such certification and such determination shall not constitute evidence of compliance with or satisfaction of any obligation of the Tenant to any holder of a mortgage, or any insurer of a mortgage, securing money loaned to finance the Improvements or any part thereof.

The certification provided for in this Section 7.12 shall be in such form as will enable recordation in the Registry of Deeds for Suffolk County, Commonwealth of Massachusetts or registration with the Suffolk Registry District of the Land Court.

Tenant agrees that Landlord shall be under no obligation to issue a Certificate of Completion until such time as the Landlord has had a reasonable opportunity to inspect the Improvements constructed pursuant to the provisions of this Lease, the Final Working Drawings and Specifications (as modified by any Change Order approved by Landlord), provided, however, that the Landlord may commence such inspection, for certification purposes within one hundred and twenty (120) days

after the receipt of a Certificate of Occupancy issued by the City of Boston Inspectional Services Department.

If, after inspection of the Improvements, Landlord shall refuse or fail to issue a Certificate of Completion in accordance with the provisions of this Section 7.12, Landlord shall, within thirty (30) days after receipt by Landlord of a notice containing a written request by Tenant, provide Tenant with a written statement, indicating in adequate detail in what respect Tenant has failed to substantially complete the Improvements in accordance with the provisions of this Lease, and what measures or actions will be necessary in the reasonable opinion of Landlord for Tenant to take or perform in order to obtain a Certificate of Completion. If Landlord shall refuse or fail to provide Tenant with such a written statement within thirty (30) days of a request therefor by Tenant, the Improvements shall be deemed to have been completed in accordance with the Final Plans and Specifications and the Certificate of Completion shall be deemed to have been issued.

7.13 Statement of Total Project Costs. Within one hundred and twenty (120) days of the issuance of the Certificate of Occupancy, Tenant shall provide Landlord with a statement of Total Project Costs, except for the costs related to the work described in Section 7.12 (iii), certified by a certified public accountant and such statement shall be subject to Landlord's approval which approval shall not be unreasonably withheld. If Landlord shall refuse or fail to approve such statement in accordance with the provisions of this Section 7.13, Landlord shall, within thirty (30) days after receipt of such statement, provide Tenant with a written statement indicating in adequate detail in what respect the statement is unsatisfactory to Landlord and what modifications will be necessary, in the opinion of Landlord, for Tenant to make such statement to conform to accounting industry standards. If Landlord shall refuse or fail to provide Tenant with such written statement within thirty (30) days after receipt of such statement, the statement shall be deemed to have been approved by the Landlord. Such statement may be amended by the Tenant during the three year period following issuance of a Certificate of Occupancy to reflect any escalation of Total Project Costs pursuant to Section 31.10 herein and provided that such amended statement shall be subject to the approval of the Landlord as set forth herein.

ARTICLE 8

CHANGES AND ALTERATIONS

8.1 Additions and Changes. After the Improvements required by this Lease to be constructed by the Tenant on the Leased Premises or any portion thereof have been completed, the Tenant shall not, without the prior written approval of Landlord, reconstruct, demolish, subtract therefrom, make any additions thereto or extensions thereof, or change the materials, design, dimensions or color thereof, nor permit the same by any Occupancy Tenant or any other person, if such reconstruction,

demolition, subtraction, addition, extension or change would affect in any way the external appearance of public lobbies, arcades, open spaces or landscaping, or the external appearance of any building (including roof and penthouse) except that the restoration of the Improvements (including emergency repairs) after a casualty or eminent domain taking to the condition required to exist prior to such event, shall not require Landlord's approval. In the event of such casualty Tenant shall submit to Landlord written notice of Tenants intent to commence such restorations or repairs.

8.2 Required Procedures. In requesting such approval, Tenant shall submit to Landlord for its approval such plans, specifications and other materials for the proposed work as are required by the Development Review Procedures and Article 7 of this Lease, all within such reasonable time limits as Landlord shall require therefor.

8.3 Pre-Work Requirements. If Landlord shall consent to any alterations, addition, change or modification requiring such consent under Section 8.1 hereof, the same shall be accomplished by Tenant in compliance with these requirements:

(a) Permits and Authorizations. No work shall be undertaken until the Tenant shall have produced and paid for, or caused to be paid for, so far as the same may be required from time to time, all governmental permits and authorizations of the various governmental agencies having jurisdiction. The Landlord agrees to join in the application for such permits or authorizations whenever such action is necessary, but at the Tenant's sole cost and expense.

(b) Tenant's Ability to Pay for Cost. No work shall be undertaken until the Tenant shall have presented evidence acceptable to Landlord of Tenant's ability to pay for the cost thereof. All such decisions made by Landlord shall be based upon a reasonableness standard.

(c) Estimation of Cost of Work. Any work, the cost of which is reasonably estimated at Fifty Thousand Dollars (\$50,000) or more, shall not be undertaken or permitted, except after compliance with the requirements of Article 13, below.

8.4 Landlord's Remedies. If the Tenant shall fail to comply with the foregoing requirements of this Article 8, the Landlord may, without limiting other remedies available to it, direct in writing that the Tenant modify, reconstruct or remove any work done without the prior written approval of the Landlord. The Tenant shall promptly comply with such a directive, and shall not proceed further with any work until such directive is satisfied. Landlord shall apply a reasonableness standard to any such directive.

ARTICLE 9

MECHANICS' AND OTHER LIENS

9.1 Mechanics' and Other Liens. The Tenant agrees that it shall not suffer or permit any mechanics', laborer's materialmen's or other liens to attach against or be filed against the Property or any part thereof, by reason of work, labor, services or materials supplied or claimed to have been supplied to or on behalf of the Tenant or to anyone claiming by, through or under the Tenant (Landlord and Tenant hereby expressly agreeing that Landlord shall have no liability whatsoever on account of any such liens, such liability being hereby expressly denied and prohibited). If any mechanics', laborer's materialmen's or other liens shall at any time be filed against the Property, or any part thereof, the Tenant shall cause the same to be discharged of record within forty-five (45) days after the date of filing the same unless, within such forty-five (45) day period, the Tenant shall furnish the Landlord with satisfactory evidence that it has instituted appropriate legal proceedings to contest any such lien which will prevent the enforcement thereof prior to the final determination of such proceedings and has deposited with the Depository (as defined in Article 31.14), or with the Court in which the lien is being contested, money in an amount sufficient in Landlord's reasonable opinion from time to time to assure payment of the lien, together with interest, penalties, court costs and attorneys' fees arising in such proceedings, or a surety bond reasonably satisfactory to Landlord, for an amount sufficient to guarantee the payment of such lien, together with interest, penalties, court costs and attorneys' fees.

9.2 Landlord's Right to Cure. The Tenant agrees diligently to prosecute such proceedings to a final determination or conclusion. If the Tenant shall fail to discharge such mechanics', laborers', materialmen's or other liens within such period or, in the event it desires to contest such lien by appropriate legal proceedings fails to comply with any of the foregoing requirements in connection therewith and diligently to prosecute such proceedings to a final determination or conclusion, then, in addition to any other right or remedy by the Landlord, the Landlord may, but shall not be obligated to, discharge the same either by requiring the Depository to pay (to the extent of the monies hereby held by it) the amount claimed to be due or by procuring the discharge of such lien by deposit in Court or by giving security or in such manner as is, or may be, prescribed by law. Any amount paid by the Landlord for any of the aforesaid purposes, and all reasonable legal and other expenses of the Landlord incident to obtaining the discharge of such liens, with all necessary disbursements in connection therewith, with interest thereon at the rate hereinafter set forth from date of payment, shall be paid by the Tenant to the Landlord on demand, and, if unpaid, may be treated as additional rent due hereunder.

Nothing contained in this Article shall imply any consent or agreement on the part of the Landlord to subject the Landlord's estate to liability under any mechanics', materialmen's or other lien law.

ARTICLE 10

INSURANCE

10.1 Fire and Casualty Insurance. The Tenant shall, at the Tenant's sole cost and expense, keep the Improvements and the Building Service Equipment (but not including moveable trade fixtures, machinery and equipment) insured in the name of the Tenant and the Landlord and the Leasehold Mortgagee, if required by the Leasehold Mortgagee (and if the Leasehold Mortgagee agrees that the proceeds thereof shall be applied in accordance with the provisions of this Lease), as their respective interests may appear: (1) against loss or damage by fire and (2) against such other risks as Landlord may reasonably require and as are now or may hereafter be covered on buildings similar in construction, general location, use and occupancy, to the Improvements, including, but without limiting the generality of the foregoing, windstorm, hail, explosion, riot and civil commotion, damage from aircraft and vehicles and smoke damage, together with so-called demolition and increased cost of reconstruction coverage, as and when insurance against such risks is obtainable. The amount of insurance shall be equal to the replacement cost thereof (which shall mean actual replacement cost without deduction for physical depreciation), excluding excavation costs and costs of foundations, footings and underground installations. The replacement cost thereof shall be accepted by the company issuing such casualty loss policy and evidenced by an "agreed amount endorsement" or waiver of coinsurance, or other evidence satisfactory to Landlord. Not more frequently than annually, the Landlord shall have the right to notify the Tenant that it elects to have the replacement cost redetermined by the insurance company then providing coverage. The redetermination shall be made promptly in such manner as is acceptable to Landlord, the insurance company, and the Leasehold Mortgagee and each party shall be promptly notified of the result. The insurance policy shall be adjusted according to the redetermination, and Tenant shall pay any increase in the premiums.

10.2 Rental Value Insurance. Tenant shall, at its sole cost and expense, procure and maintain during the term hereof rent or rental value insurance naming Tenant and Landlord as insureds, as their interests may appear, in an amount equal to not less than one hundred percent (100%) of (i) the annual Base Rent due Landlord hereunder, and (ii) the annual Percentage Rent due Landlord hereunder (based upon the actual amount of Percentage Rent paid Landlord for the most recent Lease Year preceding the date of the insurance contract).

10.3 Other Insurance. The Tenant shall also maintain, at the Tenant's sole cost and expense, but for the mutual benefit of the Landlord and the Tenant as co-insured, and in the name of the Landlord and the Tenant, and the Leasehold Mortgagee, if required by the Leasehold Mortgagee:

(a) General Public Liability. Comprehensive general public liability insurance against claims for personal injury, death or property damage occurring upon, in or about the Leased Premises or the Improvements or any elevators or escalators therein, and on, in or about the adjoining streets and passageways, as defined by the Site Plan which is Exhibit A hereto, such insurance to afford protection with combined single limit coverage of not less than One Million (\$1,000,000) Dollars. Such insurance shall provide coverage not only on an accident basis but also on an occurrence basis; and such limits shall be subject to increases as Landlord may from time to time reasonably require;

(b) Flood Insurance. Flood insurance in such amount as Landlord may reasonably require, if the Leased Premises shall be situated in an area designated by the United States Government, or any political subdivision thereof, as a "flood hazard area or by whatever designation the result of which is to require such insurance coverage as a condition to obtaining a mortgage loan from a federally regulated institution; and

(c) Steam Boiler Insurance. Steam boiler insurance on all steam boilers, pressure boilers or other apparatus in such amounts as Landlord may from time to time reasonably require;

(d) Broadened Coverage of Existing Insurance. Such other forms of insurance (including broadened coverage of existing insurance) and in such amounts as Landlord may from time to time reasonably require consistent with the requirements of institutional lenders with respect to like properties in Boston.

10.4 Claim Settlement. Every insured loss shall be adjusted and settled promptly by the Parties (including the Leasehold Mortgagee, if the Leasehold Mortgagee is named as an insured on any policy as permitted by this Lease) and the insurer. The discussions and negotiations with the insurer respecting adjustment and settlement shall be primarily conducted by Tenant, but any proposed settlement must be finally approved by the Landlord, and the Leasehold Mortgagee if the Leasehold Mortgagee is named as an insured. All insurance proceeds and all amounts payable as a result of such settlements (collectively, "Proceeds") (less, in either case, costs, fees and expenses incurred in the collection thereof, which shall be paid out of such Proceeds) shall be paid to the Depository and applied by it as hereinafter set forth.

10.5 Disbursement of Proceeds from Rental Insurance. Proceeds from rental insurance, less any cost of recovery, shall be applied to the Tenant's obligation for the payment of the Base Rent, Percentage Rent, and Additional Rent and to satisfy any other unpaid obligation of Tenant to Landlord hereunder and the Tenant shall be relieved from its obligation to make such payments to the extent that such Proceeds are so applied. The balance of Proceeds from rental insurance, if any, shall be paid first to the Leasehold Mortgagee as its interests shall appear and then to the Tenant if the Tenant is not then in default hereunder.

10.6 Disbursement of Casualty Insurance Proceeds. Proceeds attributable to any casualty shall be applied by the Depository to the repair and restoration of Improvements and Building Service Equipment in accordance with the provisions of Article 11 and Article 13 hereof, or if the Proceeds shall be less than Two Hundred Thousand (\$200,000) Dollars and the Tenant shall not be in default hereunder, such Proceeds shall be paid to the Tenant, which agrees to use the same to accomplish repair or restoration as required by this Lease and to retain the balance, if any, after such repair or restoration as Tenant's absolute and unconditional property subject to the rights of any Leasehold Mortgagee, provided, however, that if this Lease should terminate because of the Tenant's default prior to the time that the Tenant has made or completed such repair or restoration, such Proceeds shall be paid to the Landlord as its absolute and unconditional property. Notwithstanding the foregoing, if this Lease should terminate under those circumstances in which a Leasehold Mortgagee has the right to demand and does in fact demand a new lease in accordance with the provisions of Article 23, Section 23(h), then upon the execution of such new lease, such Proceeds shall, if less than \$200,000, be paid over to the Leasehold Mortgagee or its designee as Tenant under such new lease or if in excess of \$200,000, shall be paid to the Depository and shall be disbursed for the purposes of repair and restoration and any excess disposed of in accordance with the provisions of this Section 10.6.

10.7 Other Proceeds. Other Proceeds shall be applied by the Depository as the Landlord, and Tenant and Leasehold Mortgagee direct.

10.8 Insurance Policies. All policies of insurance hereinbefore referred to shall be written by companies authorized to do business in the Commonwealth of Massachusetts satisfactory to the Landlord, and shall be written in such form as shall be acceptable to the Landlord. All policies of insurance shall provide that any act or negligence of Tenant shall not prejudice the rights of Landlord as a party insured under said policies, and notwithstanding the fact that the Landlord has agreed that the proceeds of such insurance shall be used in the restoration or rebuilding of Improvements and Building Service Equipment located upon the Leased Premises. All policies of insurance shall contain an agreement by the insurers that such policies shall not be canceled or materially changed without at least thirty (30) days' prior written notice to the Landlord, the Leasehold Mortgagee and such other parties as may be named as insureds thereunder.

The Tenant shall deliver to the Landlord, on or before the commencement of the term of this Lease, all such policies of insurance (or certificates or certified copies thereof, if the original of any such policy is required to be delivered to a Leasehold Mortgagee), in the amounts and covering the risks hereinabove provided, endorsed "Premium Paid" by the company or agency issuing the same, and the Tenant shall deliver to the Landlord, not less than thirty (30) days' prior to the expiration of any then current policy, a new policy in replacement thereof, endorsed "Premium Paid" by the company or agency issuing the same. However, if the

insurance is carried under a blanket policy, as permitted by Section 10.10 hereof, the Tenant may deliver certifications thereof, specifying the amount of insurance allocated to the Property in lieu of the original policy, as long as the possession of such certificates confers upon the holder thereof the same rights as the holder would have if in possession of the original of such insurance policies.

10.9 Insurance During Construction/Worker's Compensation. During the course of any construction of the Improvements or of any construction requiring Landlord's approval under Section 8.1 hereof, and in any other situation when such coverage may be appropriate in the Landlord's judgment, Tenant shall carry and pay for, or cause to be carried and paid for (i) appropriate builder's risk insurance and (ii) owner's contingent or protective liability insurance naming Landlord as an additional insured covering claims not covered by or under the terms of the above-required comprehensive public liability insurance, with combined single limit coverage of not less than One Million (\$1,000,000) Dollars.

In addition thereto, at any other time when the Tenant maintains employees incident to operations on the Property, the Tenant shall also carry and pay for, or cause to be carried and paid for, workers' compensation insurance in statutory amounts covering all persons (other than employees of the Landlord, if any), with respect to whom death or injury claims could be asserted against the Property or any part thereof, or the interests of the Landlord or the Tenant therein.

The Tenant shall deliver to the Landlord certificates of insurance evidencing all workers' compensation insurance policies and renewals thereof, promptly as and when such policies are issued and renewed. The Tenant's fulfillment of the statutory requirements relating to self-insurance under workers' compensation laws shall, upon proof of such compliance satisfactory to the Landlord, be treated as compliance with the workers' compensation insurance requirements of this Article.

10.10 Blanket Policies. Any insurance required to be furnished by the Tenant may be effected by a policy or policies of blanket insurance, provided, however, that the amount of the total insurance allocated to the Property, as herein defined, shall be such as to furnish in protection the equivalent of separate policies in the amounts herein required, and provided further that, in all other respects, any such policy or policies shall comply with the other provisions of this Lease.

10.11 Release and Waiver of Subrogation. The aforesaid minimum limits of insurance policies shall in no event limit the liability of Tenant hereunder. Insofar as and to the extent that the following provision may be effective without invalidating or making it impossible to secure insurance coverage obtainable from responsible insurance companies doing business in Massachusetts (even though extra premium may result therefrom) Landlord and Tenant mutually agree that, with respect to any loss which is covered by insurance then being carried by them, respectively, the one carrying such insurance and suffering said loss releases the other of and from any and

all claims with respect to such loss; and they further mutually agree that their respective insurance companies shall have no right of subrogation against the other on account thereof. If, at the written request of one party, this release and nonsubrogation provision is waived, then the obligation of reimbursement shall cease for such period of time as such waiver shall be effective, but nothing contained in this Section shall be deemed to modify or otherwise affect releases elsewhere herein contained of either party for claims. Tenant shall bear all costs incurred by either party in complying with this Section 10.11.

ARTICLE 11

DAMAGE TO OR DESTRUCTION OF THE PROPERTY

11.1 Damage or Destruction - Survival of Lease. The Tenant agrees that, in case of damage to or destruction of any part of the Property by fire or otherwise, or should any part of the Property become untenable or unusable for any reason, this Lease shall not terminate nor shall the respective rights or obligations of the Landlord and the Tenant be affected in any way, except as specifically provided in this Lease.

The terms "damage or destruction", for the purposes of applying this provision of this Lease, shall refer to any condition requiring correction to make the Property, or any part thereof, tenable or usable for its intended purposes.

11.2 Notification of Landlord and Repair of Damage. The Tenant agrees that, in the event of any damage or destruction, the Tenant shall promptly notify the Landlord. Tenant, at its sole cost and expense, shall promptly repair, restore and rebuild the Property, or cause the same to be repaired, restored and rebuilt, so that, upon the completion thereof, the Property shall have been restored to the condition required immediately prior to such damage or destruction. The provisions and conditions of Article 13 governing procedures applicable to restoration, changes or alterations of Improvements shall be applicable to work required to be done under this Article.

11.3 Proceeds - Application to Repair and Restoration. All Proceeds (except as otherwise provided in Section 10.5 with respect to rent insurance) shall be held and applied to the payment of the cost of repairing, restoring and rebuilding required by this Article in accordance with the provisions of Article 10, Section 10.6 and Article 13 hereof.

ARTICLE 12

CONDEMNATION

12.1 Eminent Domain - Right to Participation, Award. With respect to any exercise of the power of eminent domain (hereinafter referred to as a "Proceeding") or

any agreement in lieu of condemnation (hereinafter referred to in this Article as an "Agreement") between the Landlord, the Tenant and those authorized or purporting to be authorized to exercise the power of eminent domain, for a conveyance to a condemning authority, such conveyance being hereafter in this Article referred to as "conveyed" or as a "conveyance"), the Tenant and the Leasehold Mortgagee, in cooperation with the Landlord, shall have the right to participate in negotiations, any Proceeding or any Agreement leading to an Award (as hereinafter defined) to protect their respective interests hereunder. The total Net Award made in such Proceeding or the consideration paid or payable pursuant to such Agreement (hereinafter collectively or separately referred to as the "Award"), shall be paid by whomever received to the Depository, which shall apply the same as herein provided. The term "Net Award" shall mean the total Award, less all costs, expenses and attorneys' fees incurred in the collection thereof.

12.2 Termination of Lease. If, during the term of this Lease, the entire Property shall be taken as a result of a Proceeding or an Agreement, this Lease and all right, title and interest of the Tenant hereunder shall terminate and come to an end on the date title shall vest in the condemning authority pursuant to such Proceeding or Agreement, but shall not terminate as to the Award. In that event, the Base Rent, Percentage Rent, Additional Rent, Impositions or other charges herein provided to be paid by the Tenant shall be apportioned to the date title shall vest in the condemning authority in such Proceedings or pursuant to such Agreement, and any amounts prepaid by Tenant in excess of its liability based on such apportionment shall be refunded by Landlord to the Tenant.

12.3 Apportionment of Net Award. As to any such taking, the Net Award shall be apportioned between the parties as follows:

- (a) The value of Landlord's interest in the Property. This shall be the then fair market value of the Leased Premises as vacant land, determined as if no taking had occurred; and
- (b) The value of Tenant's interest in the Property. This shall be the then fair market value of the Improvements and the Building Service Equipment.

12.4 Application of Net Award. After making the determinations described in §12.3 the Net Award shall be disbursed by the Depository as follows:

- (a) First, to the Landlord; and
- (b) Second, to the Tenant.

12.5 Dispute as to Value/ Apportionment - Power of Appraisers. If the Landlord and the Tenant are unable to agree on the apportionment of the Net Award, said apportionment shall be set by an independent panel of three appraisers, each of

whom shall have recognized expertise, and not less than five (5) years professional experience in the valuation of downtown large-scale urban commercial real estate in the City of Boston, of whom one is to be selected by the Landlord, one is to be selected by the Tenant, and the third is to be selected by mutual agreement of the two first selected. Each Party shall pay its own appraiser's fees and costs and one-half (1/2) of the fees and costs of the third appraiser. In the event that a majority of the panel cannot agree upon the apportionment, then the determination of the third appraiser selected by the Landlord and Tenant's appraisers shall control.

12.6 Partial Taking - No Diminution of Leased Premises. If during the term of this Lease, a part of the property shall be taken and such taking does not diminish any portion of the Leased Premises this Lease shall terminate as to the part of the Property which is taken, upon the date title is vested in the condemning authority in such Proceeding or pursuant to such Agreement, but this Lease shall continue in full force and effect as to the remainder of the Property. Notwithstanding the foregoing, the Tenant hereby waives any and all claims against the Landlord or the City of Boston to awards of damages, if any, to compensate or the closing, laying out or change of grade of any street or other public way within or fronting or abutting on the Leased Premises which, pursuant to the Urban Renewal Plan on the date hereof, is to be or is closed, laid out or changed in grade. The Landlord hereby waives the right to any share of the award of damages to the Landlord's interest in the Property arising out of any taking made by the Landlord.

As to any such taking (or portion thereof) for which compensation has not been waived by Tenant, the net Award shall be distributed as follows:

(a) **Restoration.** Subject to the provisions of Article 13 hereof, first to the Tenant, an amount not exceeding the actual cost reasonably incurred by the Tenant in performing restoration of the Property and any other obligation under the Lease imposed upon Tenant as the result of the taking.

(b) **Distribution of Net Award.** The balance, if any, of the Net Award shall be paid to the Landlord.

12.7 Partial Taking - Diminished Leased Premises. If, during the term of this Lease, a part of the Property shall be taken and such taking diminishes any portion of the Leased Premises this Lease shall terminate and come to an end as to the part of the Property which is taken, upon the date title is vested in the condemning authority in such Proceeding or pursuant to such Agreement, but shall not terminate as to the Award for part of the Property which is taken, and otherwise this Lease shall continue in full force and effect as to the remainder of the Property, subject to the following provisions.

If there is a taking of the type provided for in this §12.7, then, as to the part of the Property not so taken, the Tenant covenants and agrees, for itself and its

successors in interest, that the Tenant shall, at its sole cost and expense (subject to reimbursement to the extent hereinafter provided), promptly restore that portion of the Property not so taken to a complete architectural unit for the use and occupancy of the Tenant (and those claiming under Tenant) as expressed in this Lease. The provisions and conditions in Article 13 hereof applicable shall apply to the work required to be done under this Section. As to any such taking, the Net Award shall be distributed in accordance with §§12.3, 12.4 and 12.5.

If there is a taking provided for in this §12.7 and the restoration of the Property results in Improvements of lesser internal leasable area than the Improvements prior to the taking, Rent shall be abated from and after the date of taking in proportion to the diminution of the total internal leasable area of the Improvements, but otherwise there shall be no abatement in or reduction of the rent or other charges.

In the event a taking provided for in this §12.7 so diminishes or impairs the use of the Improvements that, notwithstanding restoration, the Tenant would be unable to make any kind of economic use of the remainder thereof for the purposes permitted by this Lease, the Tenant, at its option exercisable by notice to Landlord given not later than ninety (90) days after title is vested in the condemning authority in such Proceeding or pursuant to such Agreement, may terminate this Lease as of such date. The rent, impositions or other charges herein provided to be paid by the Tenant shall be apportioned to said date and any amounts prepaid by Tenant in excess of its liability based on such apportionment shall be refunded by the Landlord to the Tenant. In the event Tenant elects to so terminate this lease, the Net Award shall be allocated and distributed in the manner provided in §§12.3, 12.4 and 12.5.

12.8 Taking of Space Outside Leased Premises. If there shall be a taking or conveyance, as aforesaid, of any vault or other space not included within the Leased Premises as above described, or a taking or conveyance which shall result in the removal of projecting portions of any Improvements upon any street for which the Tenant is not entitled to compensation as a matter of law, or a taking or conveyance of an underground right-of-way for a subway, conduit or other purpose not necessitating the demolition or substantial alteration of any portion of any of the Improvements, any such taking or conveyance shall not be treated as taking of any part of the Leased Premises or the Property for the purposes of this Article unless the use of the Improvements is by such taking or conveyance. This Lease shall not be affected by any such taking or conveyance of the nature of this §12.8 provided, shall be done by the Tenant, and the provisions and conditions of Article 13 shall apply to any alteration required to be done under this Section.

12.9 Use Award. If the use of the Leased Premises or the Improvements, or any part thereof, shall be taken by the exercise of the power of eminent domain for a period of time, definite or indefinite, whether or not for the entire unexpired portion of the term of this Lease or for a period greater than the same, this Lease shall,

nevertheless, continue in full force and effect and the Tenant shall have the right (except as hereinafter provided) to receive the entire Award (which Award, in the case provided for by this §12.9, is called the "Use Award") which is allocable to that part of the unexpired portion of the term of this Lease to which the Use Award relates. The Tenant shall have no rights against the Landlord by reason of such taking, including without limitation, any right to an abatement of rent or any other charges payable by the Tenant, or the performance of any obligation to be performed by the Tenant, and the rights and liabilities of the Landlord and the Tenant to each other shall be the same as if the Leasehold Mortgagee, in cooperation with the Landlord, shall have the right to participate in negotiations relative to any such taking or the Use Award in order to be certain that their respective interests thereunder are protected, with all cost and expense thereof to be a first charge against the Use Award.

The Use Award shall be paid, however, by the Tenant to the Depository for application as hereinafter set forth, after deduction therefrom of all cost and expense reasonably incurred incident to obtaining such Use Award.

The Use Award shall be held and disbursed as follows:

(a) If the same is payable in monthly or other periodic installments, such installments shall, as received by the Depository, be applied on account of, and to the extent of, the Tenant's obligations on account of annual rental and proportionate shares of other charges payable by the Tenant on account of such period; and the dollar value of obligations to be performed by the Tenant shall, on a proportionate basis, also be satisfied from such periodic installments.

Any balance of such periodic installments remaining shall be applied to or for the account of the Tenant subject to the rights of Leasehold Mortgagee, except that, if such taking shall be for a period extending beyond the expiration of the term of this Lease, the Landlord (or such Institution) shall be entitled to the entire Use Award attributable to the period after such expiration;

(b) Where the Use Award is in a lump sum or payable in installments less frequently than quarterly, the lump sum or other installments, together with investment earnings thereon, if any, shall be divided by the number of months included in the period for which such use Award has been made and the quotient thereof shall be applied monthly, in accordance with subparagraph (a), above; and

(c) To the extent a Use Award is allocable to the cost of repairs and restoration following the termination of a temporary taking, the same shall be treated as Proceeds, within the meaning of Article 13, below, and applied consistent therewith.

ARTICLE 13

CONDITIONS GOVERNING REPAIR, RESTORATION, CHANGES AND ALTERATIONS

13.1 Disbursement of Net Award. Whenever, under provisions of Article 11 or Article 12 of this Lease, the Tenant shall be obligated to restore, rebuild, repair or make alterations to the Property, the cost of which will exceed Two Hundred Thousand Dollars (\$200,000) (or, in and after the twenty-fifth Lease Year based upon the CPI, the amount being equivalent in value at the time in question to Two Hundred Thousand (\$200,000) Dollars in 1993, herein called the "Value Equivalent"), the amount of the Proceeds, or the amount of the Net Award (which amounts are hereinafter collectively referred to in this Article as "Amounts"), as the case may be, shall be held and disbursed in accordance with the following provisions:

(a) Casualty Loss. Amounts on account of any casualty loss, Proceeding or Agreement (hereinafter collectively referred to as the "Event"), shall be delivered to the Depository as soon as available and in all events prior to commencement of the work of repair and restoration (hereinafter referred to as the "Work");

(b) Schedule of Estimated Costs. Tenant shall submit to Landlord, for the approval of Landlord, a schedule of the estimated cost of the Work to be performed in accordance with the plans and specifications approved by the Landlord pursuant to Section 13.2;

(c) Payment to Depository of Cost of Work. Before the commencement of the Work, Tenant shall pay to the Depository a sum equal to the amount by which the estimated cost of the Work, as determined by Landlord on the basis of Tenant's estimate as approved by the Landlord, exceeds the Amounts theretofore delivered to the Depository under Section 13.1(a);

(d) Certificate of Cost of Labor and Materials. During the progress of the Work, Tenant shall submit to Landlord and the Depository, at periodic intervals, but not more frequently than quarterly, a certificate approved as to accuracy by Tenant's architect or engineer and by any consultant engaged by Landlord under subparagraph (f) of this Section 13.1, showing the cost of labor and materials incorporated into the Work, or suitably stored at the Leased Premises, during the period specified in the certificate and the amount properly due and owing to contractors and suppliers on account thereof, which period shall not include any part of the period covered by any other such certificate. Depository, upon receipt of such certificate and approval(s) thereof by Landlord and Leasehold Mortgagee, shall pay to Tenant, from the deposit, if any, made with it by Tenant, and, upon the exhaustion thereof, from the Amounts, ninety percent (90%) of the lesser of such cost or amounts due and owing to contractors and suppliers on account thereof (disregarding any retainage which Tenant may have the right to withhold from amounts due and owing to contractors and

suppliers, but which shall include, in making such computation, amounts due and owing to contractors and suppliers on account of work previously done and certified but, as to which, ninety percent (90%) payment thereof has not been made), as shown by such certificate. When required by Landlord or the Leasehold Mortgagee and as a condition to any payment by Depository, evidence satisfactory to the Landlord shall be furnished to the effect that the Depository is holding sums so deposited and Amounts remaining undisbursed which are sufficient for the payment of all remaining costs of the Work. If such evidence shall indicate the Depository is not holding funds which are so sufficient, the Tenant shall forthwith deposit with the Depository the amount of the deficit, which it shall hold and disburse as above set forth;

(e) Payment of Balance After Satisfaction. Upon completion of the Work and delivery to Landlord and Depository of a certificate from Tenant that the Work has been completed and all bills for labor and materials incurred in connection therewith have been paid, supported by a surety company bond or title evidence for which provision is hereinafter made, assuring such payment, together with a certificate from the Tenant's architect or engineer that the Work has been completed in accordance with the Final Working Drawings and Specifications (as amended, with Landlord's approval) the Depository shall, in the case of Amounts which are Proceeds of insurance, pay the balance in its possession to the Tenant, and, in the case of the Proceeds of any Proceeding or Agreement, apply the balance first to reimbursement to Tenant under (c) or (d), and then to the Landlord, the Tenant and anyone claiming by, through or under the Tenant (including the Leasehold Mortgagee), those portions of any balance in Depository's possession to which the respective parties may be entitled pursuant to Subsection 12.4(a)(ii); and

(f) Landlord's Right to Retain Consultants. If Landlord or Leasehold Mortgagee determines that, prior to giving its approval to any plans and specifications or estimated schedule of costs, or before honoring certificates calling for payment from the funds to be deposited with Landlord, it is appropriate to retain, for itself, independent professional assistance of an architectural or engineering consultant, Landlord shall have the right to do so, and, if the Tenant shall not be proceeding as required hereunder with respect to prosecution of the Work, the reasonable fees and expenses of such consultant for such services shall be paid by Tenant and shall be treated as a part of the cost of the Work in determining amounts required to be made available for such purposes.

13.2 Restoration, Repair. Any restoration, rebuilding, repair or alteration undertaken by Tenant pursuant to Article 11 or 12 of this Lease, the cost of which will exceed Two Hundred Thousand Dollars (\$200,000) (or, in and after the fifth Lease Year based upon the CPI, the Value Equivalent) or any construction requiring approval of the Landlord under Section 8.1 hereof shall construct Improvements which shall conform to the Final Working Drawings and Specifications once said documents are submitted by Tenant, and reviewed and approved by Landlord in accordance with the Development Review Procedures, or in accordance with such amended working

drawings and specifications as from time to time Tenant may propose and Landlord may approve. In the event that Tenant shall propose such amended working drawings and specifications, Tenant shall comply with the provisions of the Development Review Procedures attached hereto as Exhibit "C", and the provisions of Section 7.2, 7.3(c) and 7.4 through 7.11, inclusive, of this Lease shall be applicable to such restoration, rebuilding, repair or alteration.

13.3 Changes Which Constitute Work. Reconstruction, demolition, subtractions, additions, extensions or changes which Tenant proposes to make in accordance with the terms of Article 8 hereof, shall be subject to this Article, by which it is intended that such changes or alterations shall be treated as being attributable to an Event, within the meaning of Section 13.1 hereof, the changes or alterations shall be treated as Work within the meaning of 13.1, and all requirements in Section 13.1 dealing with the conditions under which the Work may proceed, shall be applicable to such changes or alterations, except that no deposit need be made with the Depository if, in fact, the changes or alterations proposed do not arise from an Event.

13.4 Tenant's Obligation to Commence and Complete Work. With respect to all Work governed by this Article (including work pursuant to Article 11), the Tenant shall promptly commence and diligently complete the same within a reasonable time, subject only to delays occasioned by timing of receipts of Amounts, claims arising from an Event, acts of God, general unavailability of labor or materials, governmental restrictions or like causes beyond the reasonable control of the Tenant, but financial inability (except delays in pursuing claims for and receipts of Amounts) to proceed shall never be treated as a cause beyond the Tenant's control.

13.5 Lien Waivers. Whenever payments are made to or for the account of the Tenant under this Article, the Landlord and/or the Depository shall be entitled to require, concurrently therewith, assurance, by means of a surety company bond, title insurance or an opinion from a reputable attorney acceptable to Landlord that no claims on account of mechanics' or materialmen's liens may arise on account of work performed or materials supplied covered by the Tenant's certificate, on the basis of which the Depository makes such payment.

ARTICLE 14

WASTE

14.1 Waste. The Tenant covenants not to do or suffer any waste or damage, disfigurement or injury to the Property, or permit or suffer any overloading of the floors of the Improvements thereof.

14.2 Waste Disposal. The Tenant shall be responsible for the disposal of all tenant and sub-tenant disposable waste and shall provide adequate receptacles, dumpsters or barrels for collection by city services or private disposal contractors.

ARTICLE 15

INSPECTION OF PREMISES

15.1 Landlord's Right to Inspection. The Tenant agrees to permit the Landlord and its authorized representatives to enter the Property at all times during usual business hours for the purpose of inspecting the same and for the purpose of making any necessary repairs to the Property or performing any work therein that the Tenant has failed to make or perform and which Landlord may reasonably determine to be necessary to comply with any laws, ordinances, rules, regulations or requirements of any public authority or to prevent waste or deterioration in connection with the Property. The Landlord shall not be entitled to exercise rights hereunder other than inspection except after the expiration of any grace periods available to Tenant or except where Landlord shall determine that prompt attention is required to prevent injury to persons or property or to the Improvements, in which latter situation Landlord shall give to Tenant such notice, if any, as may be appropriate in the circumstances.

Nothing herein shall imply any duty upon the part of the Landlord to do any such work which, under any provision of this Lease, the Tenant may, be required to perform, and the performance thereof by the Landlord shall not constitute a waiver of the Tenant's default in failing to perform the same.

The Landlord may, during the progress of any work performed by it on the Leased Premises, keep and store upon the Leased Premises, in a manner that will not interfere substantially with the rights of any Tenant or any Occupancy Tenant, all necessary materials, tools and equipment. The Landlord shall not, in any event, be liable for inconvenience, annoyance, disturbance, loss of business or other direct or consequential damage to the Tenant by reason of making repairs or the performance of any work on the Leased Premises, or on account of bringing materials, supplies and equipment onto or through the Leased Premises during the course thereof, and the obligations of the Tenant under this Lease shall not thereby be affected in any manner whatsoever.

15.2 Landlord's Right to Show Premises. The Landlord is hereby given the right during usual business hours to enter the Property during the term of this Lease for the purpose of showing the same to prospective purchasers and mortgagees, where the reasonable business purposes of the Landlord make such display appropriate, during the final twelve (12) months of the term of this Lease, to exhibit the same to prospective tenants. Where, under any provision of this Article 15, access is sought by Landlord to areas not normally accessible to the public, Landlord shall give Tenant forty-eight (48) hours' prior notice before entering the Property and Tenant shall make such areas available for entry by Landlord.

ARTICLE 16

PAYMENTS TO PUBLIC UTILITIES

16.1 Payment Obligations. Tenant shall pay, or cause to be paid when due, all use and consumption charges and service fees and the like for all public utilities used upon or furnished to the Property during the term hereof, including, without limitation, charges for water, gas, electricity, telephone and cable service.

16.2 Permits and Licenses. In addition to paying for all utility use and consumption charges and service fees as hereinabove required, the Tenant shall also, at its sole cost and expense, procure any and all necessary permits, licenses or other authorizations required for the lawful and proper installation and maintenance upon the Property of poles, wires, pipes, conduits, tubes and other equipment and appliances for use in supplying any utilities servicing the Property.

ARTICLE 17

LANDLORD'S RIGHT TO PERFORM TENANT'S COVENANTS

17.1 Landlord's Right to Perform. The Tenant covenants and agrees that, if it shall at any time fail to make required payments of principal and interest under, any Leasehold Mortgage permitted pursuant to the provisions hereof, or fail to pay any Imposition pursuant to the provisions of Article 4, hereof, or to takeout, pay for, maintain or deliver any of the insurance policies provided for in Article 10 hereof, or shall fail to make any other payment, perform any other act or comply with any other covenant on its part to be made, performed or complied with as provided in this Lease, and in any such case such failure shall have continued beyond any grace period, permitted delay or notice period herein or in any such Leasehold Mortgage provided for the payment or performance thereof, the Landlord shall have the right, without any obligation to do so, without waiving Landlord's other rights or remedies hereunder except after ten (10) days' notice, without notice to or demand upon the Tenant in an emergency and without waiving or releasing the Tenant from any obligations of the Tenant contained in this Lease, pay any such mortgage payment, pay any Imposition, effect any such insurance coverage and pay premiums therefor, and may make any other payment, perform any other act or comply with any other covenant on the part of the Tenant to be made, performed and complied with, as provided in this Lease, in such manner and to such extent as the Landlord may deem desirable, and, in exercising any such rights, pay necessary and incidental reasonable costs and expenses, and employ counsel and incur and pay their reasonable fees and expenses.

17.2 Tenant's Duty to Reimburse Landlord. Tenant shall on demand reimburse Landlord for all amounts expended by or on behalf of Landlord and the same shall be

treated as additional rent thereunder. Interest thereon at the rate hereinafter set forth shall be paid thereon from the date Landlord shall make any such expenditure.

ARTICLE 18

LANDLORD'S REMEDIES AND BREACH

18.1 Landlord's Remedies. Upon an "Event of Default" (as defined in Section 18.2 herein) Landlord shall have the following remedies, in addition to all other rights and remedies provided by law or otherwise provided in this Lease, to which Landlord may resort cumulatively, or in the alternative and in any order:

(a) Right to Recover Rent. Landlord may, at Landlord's election, keep this Lease in effect and enforce all of its rights and remedies under this Lease, including the right to recover the rent and other sums as they become due by appropriate legal action.

(b) Terminate Lease. Landlord may, at Landlord's election, terminate this Lease by giving Tenant one hundred twenty (120) days' prior written notice of termination. In accordance with the terms of this Lease, all of Tenant's right in the Property shall terminate upon expiration of such notice period and Tenant shall surrender and vacate the Property in broom clean condition, and Landlord may re-enter and take possession of the Property and eject Tenant or any Occupancy Tenant, or any other person or persons claiming any right under or through Tenant or eject some and not others or eject none; provided, however, that Landlord shall not eject any Occupancy Tenant who Landlord is required to recognize pursuant to Section 20.3 hereof. This Lease may also be terminated by judgment specifically providing for termination. Any termination under this Section shall not relieve Tenant from the payment of any sums then due to Landlord or from any claim for damages or rent previously accrued or then accruing against Tenant. In no event shall any one or more of the following actions taken by Landlord, after the occurrence of an Event of Default, in the absence of a written election by Landlord to terminate this Lease, constitute a termination of this Lease:

(i) Appointment of a receiver in order to protect Landlord's interest hereunder;

(ii) Consent to any subletting of the Property or assignment of this Lease by Tenant, whether pursuant to the provisions hereof with relation to assignment or subletting, or otherwise;

(iii) Any other action by Landlord or Landlord's agents intended to mitigate the adverse effects of any breach of this Lease by Tenant, including, without limitation, action to maintain and preserve the Property or any action taken to relet the

Property, or any portions thereof, for the account of Tenant and in the name of Tenant.

(c) Landlord's Right of Re-Entry. Landlord may at Landlord's election re-enter and take possession of the Property and, without terminating this Lease, and at any time from time to time, relet the Property or any part or parts of it for the account and in the names of Tenant or otherwise. Tenant shall nevertheless pay to Landlord on the due dates specified in this Lease all sums required of Tenant under this Lease, plus Landlord's expenses, less the proceeds of any such reletting. No act by or on behalf of Landlord, including those described in subparagraphs (b)(i), (ii) and (iii), above, under this provision shall constitute termination of Tenant's right to possession under this Lease unless Landlord gives Tenant written notice of termination as set forth hereinabove.

(d) Termination of Lease - Award of Damages. In the event Landlord terminates this Lease, Landlord shall be entitled at Landlord's election to damages in the following sums:

(i) The worth at the time of award of the unpaid rent which has been earned at the time of termination; plus

(ii) The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the fair market rental value reasonably achievable for such period; plus

(iii) The worth at the time of award of the amount by which the unpaid rent for the balance of the term after the time of award exceeds the fair market rental value reasonably achievable for such period; and

(iv) Any other amount necessary to compensate Landlord for all detriment proximately caused by Tenant's failure to perform Tenant's obligations under this Lease, or which in the ordinary course of things would be likely to result therefrom, including, without limitation, the following: (a) expenses for cleaning, repairing or restoring the Property; (b) expenses for altering, remodeling, or otherwise improving the Property for the purpose of reletting including installation of leasehold improvements (whether such installation be funded by a reduction of rent, direct payment or allowance to Tenant, or otherwise); (c) broker's fees, normal and required costs of carrying the Property such as taxes and insurance premiums hereon, utilities and security precautions; (d) in retaking possession of the Property; and (e) attorneys' fees and court costs.

(v) The "worth at the time of award" of the amounts referred to in subparagraphs (i) and (ii), above, is computed by allowing interest at the rate hereinafter set forth. The "worth at the time of award" of the amount referred to in

subparagraph (iii), above, is computed by discounting such amount at the discount rate of the Federal Reserve Bank of Boston at the time of the award.

(vi) For purposes hereof, there shall be treated as Percentage Rent for any period after any default an amount at an annual rate equal to the average annual Percentage Rent which the Tenant was obligated to pay the Landlord under this Lease either (y) from the commencement of the term hereof to the date of such default, or (z) during the last three (3) Lease Years prior to the date of such default -- whichever is the greater.

(vii) In any instance in which a Leasehold Mortgagee exercises the right to cure or to demand a new lease in accordance with the provisions of Paragraph 23 of this Lease, such cure shall include the worth of all unpaid rent as hereinabove defined, earned through the date on which such cure is tendered or with respect to a demand for a new lease, the worth of all such unpaid rent earned through the date on which rent under such new lease commences to accrue, plus, in either instance, all damages which would be due to Landlord under Subparagraph (iv) above.

18.2 Breach of Lease - Events of Default. A breach of this Lease shall exist if any of the following events (severally "Event of Default" and collectively "Events of Default") shall occur:

(a) Failure to Pay Base or Percentage Rent. Tenant shall have failed to pay the Base Rent or the Percentage Rent when and as the same shall be due and payable and such failure shall continue for a period of thirty (30) days after written notice from Landlord;

(b) Failure to Pay Other Charges, Additional Rent or Imposition. Tenant shall have failed to pay any other charge, additional rent, Imposition or any obligation of Tenant requiring the payment of money under the terms of this Lease (other than the payment of Base Rent or Percentage Rent) for sixty (60) days after written notice from Landlord;

(c) Failure to Perform Lease Covenant. Tenant shall have failed to perform any term, covenant or condition of this Lease to be performed by Tenant, except those requiring the payment of money, and Tenant shall have failed to cure the same within one hundred and twenty (120) days after written notice from Landlord, except that, where such failure could not reasonably be cured within said one hundred and twenty (120) day period, Tenant shall not be in default, and no Event of Default shall exist, unless Tenant has failed to promptly commence and thereafter be continuing to make diligent and reasonable efforts to cure such failure as soon as practicable;

(d) Assignment of Assets to Benefit Creditors. Tenant shall have made a general assignment of its assets for the benefit of its creditors;

(e) Tenant Abandoned Leased Premises. Tenant shall have abandoned the Leased Premises;

(f) Tenants Adjudged Bankrupt or Insolvent. (i) A court shall have made or entered any decree or order adjudging Tenant to be bankrupt or insolvent; (ii) a petition seeking reorganization of Tenant or an arrangement under the bankruptcy laws or any other applicable debtor's relief law or statute of the United States or any State thereof is filed against Tenant and not dismissed within one hundred and twenty (120) days thereafter; (iii) a receiver, trustee, or assignee of Tenant in bankruptcy or insolvency or for its property is appointed and not discharged within one hundred and twenty (120) days thereafter; (iv) a court shall have made or entered any decree directing the winding up or liquidation of Tenant and such decrees or order shall have continued for a period of one hundred and twenty (120) days; or (v) Tenant shall have voluntarily submitted to or filed a petition seeking any such decree or order;

(g) Sequestration, Attachment, Execution, or Levy on Tenant's Interest. The sequestration or attachment of or execution or other levy on Tenant's interest in this Lease or the Leased Premises or any Improvements located thereon shall have occurred and Tenant shall have failed to obtain a return or release of such property within sixty (60) days thereafter, or any extension of time approved by Landlord, or prior to sale pursuant to such levy, whichever first occurs; or

(h) Inability to Meet Debts. Tenant shall have admitted in writing its inability to meet its debts as they mature.

ARTICLE 19

ASSIGNMENT

19.1 Purpose of Lease. This Lease is being entered into as a means of permitting and encouraging the development of the Leased Premises in accordance with the terms hereof and not for speculation in landholding. Tenant acknowledges that, in view of:

(a) the importance of the undertaking set forth herein to the Landlord;

(b) the substantial public aids that have been and/or will be made available by law, the federal government and the City for the purpose of making such undertakings possible (without however, acknowledging or denying that any installations or structures which have or may be added to the Premises by Tenant were added with "federal aid" as that term is used in Paragraph 3 on Page 11 of a

certain deed from the United States of America to Landlord dated July 7, 1978 and recorded with Suffolk County Registry of Deeds, Book 8182, Page 149).

(c) the importance of the identity of the parties in control of the Tenant and the Property; and

(d) the fact that a transfer of all or part of the legal or beneficial ownership in the Tenant, or any other act or transaction involving or resulting in a significant change in ownership or distribution of such ownership is for practical purposes a transfer or disposition of the interest in the Property then owned by Tenant; the qualifications and identity of Tenant are of particular concern to the Landlord. Tenant further recognizes that it is because of such qualifications and identity that the Landlord is entering into this Lease, and, in so doing, is further willing to accept and rely on the obligations of the Tenant for the faithful performance of all undertakings and covenants hereby to be performed by it.

19.2 Restrictions on Transfer. For the reasons set forth in Section 19.1 hereof and, except as otherwise provided herein and Article 20 hereof and in Article 23 hereof, it is hereby agreed that, commencing on the Lease Commencement Date and continuing for a period five (5) years from the issuance by the Landlord of the Certificate of Completion with respect to the Improvements:

(a) Part of Tenant's Right. No transfer (by assignment or otherwise) on all or any substantial part of Tenant's rights under this Lease or of the Tenant's interest in the leasehold estate created hereby or the Property shall be made or suffered.

(b) Change of Legal or Beneficial Interest. No transfer upon change of legal or beneficial interests in Tenant (or any successor entity to the Tenant permitted hereunder) and no transfer of any general partnership interests in the Tenant by sale, pledge or otherwise, shall be made or suffered. The Prohibitions expressed in (a) and (b), above, against transfer of Tenant's interest under this Lease and against transfer of a legal or beneficial interest in Tenant shall not apply to the following:

- (i) a transfer by reason of death or legal incapacity of an individual;
- (ii) the granting of a Leasehold Mortgage, or to a transfer by the holder of a Leasehold Mortgage or by any party holding in good faith by, through or under a Leasehold Mortgage;
- (iii) transfers not exceeding in the aggregate ten percent (10%) of the general partners' interests in Tenant (legal or beneficial) or not exceeding in the aggregate fifty percent (50%) of the stock or other form of ownership interest in any general partner of the Tenant which has less than ten percent (10%) of the total general partner interests; and

(iv) transfers of limited partner's interest or the admission of limited partners to the partnership provided such transfers are in accordance with Article 19.

19.3 Transfers with Landlord's Consent. After the end of the five year period subsequent to the issuance of the Certificate of Completion, there may be made a transfer otherwise prohibited prior to such time, but only with the prior written consent of the Landlord. Landlord agrees not to unreasonably withhold such consent, taking into consideration the reputation, experience in management of real estate and financial capacity of any proposed transferee to perform the obligations of Tenant hereunder. Where Landlord has given such consent to Tenant to effect any proposed transfer, such transfer shall be effective in the case of a transfer of the leasehold interest hereunder only if the Improvements are transferred concurrently therewith as hereinafter set forth and in all cases only upon compliance with the following conditions:

(i) At the time of such transfer there shall not exist hereunder any Event of Default or any event which would become an Event of Default with notice and the passage of time therefrom;

(ii) The Tenant shall have furnished or caused to be furnished to Landlord assurances by the transferee reasonably satisfactory to Landlord that the transferee is not insolvent and will not be rendered insolvent by assumption of the obligations of the Tenant under this Lease. For the purposes of this provision, insolvency shall mean and include inability to meet the obligations of the transfer as and when the same become due and payable; and

(iii) In the case of a transfer of the leasehold interest hereunder, other than the grant of a Leasehold Mortgage, such transferee shall assume, by written instrument reasonably satisfactory to the Landlord, directly with the Landlord, the obligations on the part of the Tenant to be performed and observed under this Lease.

19.4 Documentation of Transfer. No transfer of the Tenant's interest under this Lease shall be effective unless accomplished by suitable written instrument recorded in the office in which, by law, records relating to real estate in Boston, Massachusetts are required to be filed to be effective against bona fide purchasers for value of such property, and a true and correct copy thereof, certified as such by the Tenant and the transferee, shall have been sent to the Landlord in the same fashion in which notices are required to be given under the terms of this Lease.

19.5 Landlord's Share of Net Transfer Proceeds. Tenant shall pay to the Landlord as and when the same are received by or made available to or for the benefit of Tenant, fifteen percent (15%) of all Net Transfer Proceeds. Net transfer proceeds shall be determined by deducting from the transfer price the following:

(i) Total Project Costs, or if greater, the amount of Financing or Refinancing to which a

fifteen percent (15%) payment has already been made, (ii) all payments made to third parties and partners on account of obligations of the partnership in the form of notes and/or mortgages, letters of indebtedness, guarantees and the like, (iii) repayment to partners of their initial and/or any subsequent capital contribution or any other type of equity investment or loan to the Tenant, (iv) all expenses prorated as of the date of transfer which relate to the operation of the Property, including the requirement to fund a cash reserve account, and (v) all expenses required in connection with the transfer in order to deliver good, clear and marketable leasehold title to the Property. The transfer price shall be the value of the consideration paid by the transferee to the Tenant.

19.5 Miscellaneous. For the purposes of this Article 19:

(a) The Tenant agrees that the ownership of this Lease and all of the Tenant's rights, title and interest in and to the Improvements shall be non-separable, and that an attempt to transfer any of the Tenant's right, title or interest in the Improvements shall be null and void and a breach of this Lease, unless accompanied by a transfer and assignment of the Tenant's estate under this Lease.

(b) References herein to transfer of the Tenant's interest in this Lease of the Tenant's estate mean a sale, assignment or other disposition of the entire interest of the Tenant in the Property. Partial transfers shall not be permitted, except for subleases, to which reference is specifically hereinafter made in Article 20.

(c) A sublease of all of the Property for any material part of the term of this Lease (which shall in any event mean a period which is five (5) years or more in duration) shall, for the purposes of this Article 19, be a transfer.

(d) Any transfer which is not permitted hereby and which is made without Landlord's consent shall be void and of no force or effect.

ARTICLE 20

SUBLETTING

20.1 Right to Sublet. Subject to the use restrictions contained in this Lease, and subject to this Section and the other terms and conditions of this Lease, Tenant may sublet any part of the Property at any time and from time to time to such Occupancy Tenants upon such terms and conditions as Tenant shall deem fit and proper.

20.2 Occupancy Tenants. Landlord hereby agrees, for the benefit of any Occupancy Tenant under any sublease for use or occupancy of space in or on the Improvements or the Property which meet the requirements of this Article 20 and which meet the following criteria, that, upon termination of this Lease (and

notwithstanding any contrary provision required to be included in such leases pursuant to Section 20.3, below, but only as long as such person has satisfied its attornment obligations as provided in said Section 20.3) it will recognize and give effect to all such subleases then in effect which (a) have priority over any Leasehold Mortgage or as to which the holders of any Leasehold Mortgage have entered into an agreement to recognize and give effect to such sublease in the event of a foreclosure of any Leasehold Mortgage, and (b) are so-called "net" leases containing requirements for the payment by such Occupancy Tenant of rental in monthly installments and additional rental for increases in real estate taxes and operating expenses as may have been (at the time of execution of such sublease) customary in leases of rehabilitated office space in the City of Boston.

Landlord shall enter into recordable instruments with any such Occupancy Tenant, as requested by the Tenant, embodying the provisions of this Section 20.2, provided that such instrument requires, as a condition of the Landlord's obligation, that such person shall attorn to Landlord simultaneously with such termination (i.e., each such person shall agree directly with the Landlord, by written instrument reasonably satisfactory to the Landlord, that it will perform all its obligations as subtenant under such sublease for the benefit of Landlord, as if Landlord were the sub-landlord named in the sublease).

The Tenant covenants and agrees that in the event of the cancellation or termination of this Lease prior to the expiration of the term hereof, unless Landlord shall have previously agreed in writing to recognize any such leases or subleases following the expiration or sooner termination of this Lease, Landlord shall have the option to terminate or cancel each such lease or sublease; provided, with regard to (i) leases or subleases which Landlord shall have agreed in writing to so recognize, and (ii) leases or subleases which Landlord does not elect to so cancel or terminate, the Occupancy Tenant under each such lease or sublease shall make full and complete attornment to Landlord for the balance of the term of such lease or sublease with the same force and effect as though said lease or sublease were originally made directly from the Landlord to the Occupancy Tenant.

20.3 Attornment Provisions of Sublease. Each sublease or lease entered into by the Tenant shall contain provisions substantially similar to the following provisions, unless Landlord shall otherwise specifically agree:

"If, at any time during the term of this lease, the Landlord of the Demised Premises shall be the holder of a leasehold estate covering premises which include the Demised Premises, and if such leasehold estate shall terminate or be terminated for any reason, the lessee agrees, at the election and upon demand of any owner of the premises which include the Demised Premises, to attorn, from time to time, to any such owner, upon the terms and conditions set forth herein, for the remainder of the term demised by this lease. The foregoing provisions shall inure to the benefit of any such owner, shall apply to the tenancy

of the lessee hereunder, and shall be self-operative upon any such demand, without requiring any further instrument to give effect to said provisions. The lessee hereunder, however, upon demand of any such owner, agrees to execute, from time to time, an instrument in confirmation of the foregoing provisions, satisfactory to such owner, in which the lessee shall acknowledge such attornment and shall set forth the terms and conditions of its tenancy, which shall be the same as those set forth herein and shall apply for the remainder of the term originally demised in this lease. However, until such owner shall require such attornment, or shall otherwise elect, the lessee shall pay to such owner, from and after the time of such termination, the rent and all other charges payable by the lessee and shall perform, for the benefit of such owner, all obligations of the lessee to be performed under its lease. Nothing contained in this paragraph shall be construed to impair any right, privilege or option of any such owner."

ARTICLE 21

LANDLORD'S SECURITY INTEREST; COVENANT AGAINST ENCUMBRANCES; ASSIGNMENT OF SUBLEASES

21.1 Conditional Assignment of Leases. Further to secure the performance of all the obligations of the Tenant under this Lease and subject to Section 21.6, the Tenant hereby grants, bargains, sells and mortgages to the Landlord all right, title and interest of the Tenant in and to all equipment, goods, chattels and personal property located upon the Property and owned by the Tenant, and agrees to execute such financing statements as may be required by the Uniform Commercial Code as enacted and in force in the Commonwealth of Massachusetts, from time to time, to perfect the security interest intended to be created hereby. The Tenant hereby assigns to the Landlord all the rents, issues, profits and income under all present and future leases or subleases of all or any portion of the Property to secure the payment of the rents and all other charges payable by the Tenant under this Lease, as well as to secure the performance of all the covenants and provisions of the Tenant under this Lease, the non-occurrence of conditions under this Lease which confer upon the Landlord the right to terminate the same, or cause the termination of the same; and the Landlord shall be entitled, as a matter of right, to have a receiver appointed to take possession of the Property with power to collect the rents, issues, profits and income of the Property and relet the same under order of court or otherwise.

The Landlord agrees that, until a default shall occur hereunder, as to which notice has been given and the time within which to cure has elapsed, including such additional time as is allowed to Leasehold Mortgagee to cure, the Tenant may, subject to the rights and obligations of any Leasehold Mortgagee set out under Article 23 hereof (and whether such rights exist under its Leasehold Mortgage or documents given to it as supplemental security for its loan) collect, receive and enjoy

the rents, issues, profits and income of the Leased Premises, but the rents shall not be collected more than one month in advance of the due date thereof.

21.2 Title. The Tenant shall have no right or power to, and the Tenant shall not in any way, encumber the fee simple title of the Landlord in and to the Leased Premises or the interest of the Landlord in the Improvements and the Building Service Equipment, if any, nor shall such fee simple estate or other interest of the Landlord be in any way subject to any claim against the Tenant by way of lien, or otherwise, whether arising by operation of law, by express or implied contract or in any other manner, and any such encumbrance or claim by way of lien or otherwise upon the Leased Premises or the Improvements, whether arising by operation of law, by any act or omission of the Tenant or in any other manner, shall accrue only against the Leasehold Estate of the Tenant and the interest of the Tenant in the Improvements and the Building Service Equipment.

If any such encumbrance or claim by way of lien or otherwise shall exist or be asserted against the fee simple title of the Landlord in and to the Leased Premises or against the interest of the Landlord in the Improvements and the Building Service Equipment, then, in addition to any other right or remedy which the Landlord may have under this Lease or at law or in equity, the Landlord shall have the right, without any obligation to do so, to discharge or pay the same, including the payment of penalties, interest and costs claimed to be due, provided Tenant shall first have been notified of Landlord's intent to take such action and Tenant shall have failed to pay or cause to be discharged such encumbrance or lien within sixty (60) days thereafter. All amounts paid and all costs and expenses incurred by the Landlord (including reasonable attorneys' fees) pursuant to the provisions of this Section, together with interest thereon from the date of any payment or expenditure by Landlord at the annual rate hereinafter set forth, shall constitute additional rent hereunder and shall be payable by Tenant to the Landlord on demand.

21.3 Assignment of Subleases as Further Security. The Tenant hereby assigns to the Landlord all existing subleases affecting the Leased Premises and the Property, or any part hereof, and shall and does hereby assign any future subleases to the Landlord upon execution thereof, as further security for the payment of the rent reserved hereunder and for the performance of the covenants and provisions contained in this Lease. Such assignment of future subleases to the Landlord shall be in form satisfactory to the Landlord, and this assignment and any future assignments shall permit the Tenant to continue to collect the money falling due under such subleases, but not more than one month in advance, so long as there shall be no default under this Lease as to which notice has been given.

The Tenant covenants and agrees under this assignment and under any future assignment that it will not modify any such subleases so as to reduce the rent, shorten the term or otherwise reduce to any material extent the obligations of any Occupancy Tenant under its sublease, provided that the foregoing shall in no way limit

or restrict Tenant's ability to exercise any rights or remedies (including termination) in the event of default by an Occupancy Tenant under its sublease. The Tenant agrees to execute such instruments in confirmation of this assignment, containing such terms and provisions as the Landlord may reasonably require, consistent with the provisions of this Section 21.3.

21.4 Tenant's Obligations Under Sublease. The Tenant covenants and agrees to keep, perform and observe all the terms, covenants, provisions and conditions required to be performed and observed by the Tenant under each sublease now or hereafter made, to the end that all things shall be done which are necessary to keep unimpaired the Tenant's rights as landlord or sub-landlord under each lease or sublease, and diligently to pursue the remedies legally available to the Tenant to require each Occupancy Tenant to keep, perform and observe all of the covenants, provisions and conditions contained in such sublease on the part of such lessee or sub-lessee to be kept, performed and observed. In the event that the Tenant shall neglect, refuse or fail to do so, the Landlord shall, after fifteen (15) days prior notice to Tenant of Landlord's intent to do so, have the right, without limiting other remedies available to Landlord, to perform and comply with such sublease covenants, agreements and provisions, or may, in the name of the Tenant, pursue all remedies available to the Tenant as Landlord of sub-landlord to enforce compliance by said lessee or sublessee with said sublease covenants, agreements, and provisions, and any and all sums expended by the Landlord in performance and compliance therewith, or in the enforcement of such performance or compliance, including costs, expenses and attorneys' fees, shall bear interest from the date of any such expenditures at the annual rate hereinafter set forth until repaid, and shall be paid by the Tenant to the Landlord upon demand and shall constitute additional rent hereunder.

21.5 No Assumption by Landlord. The assignment by the Tenant to the Landlord of the Tenant's interest in any sublease, or the money payable thereunder, shall not constitute an assumption by the Landlord of any obligations of the Tenant thereunder, unless and until the Landlord shall specifically otherwise elect; and all subleases executed by the Tenant shall so provide, unless the Landlord shall otherwise consent in writing.

21.6 Interests of Leasehold Mortgagee. So long as this Lease shall be in effect and no default shall exist hereunder and, if the interested Leasehold Mortgagee shall be in compliance with provisions hereof then applicable to it, then the rights and interests granted to Landlord under the provisions of Section 21.1 and 21.3 of this Article 21 shall in all events be subject and subordinate to the rights and interests of such Leasehold Mortgagee under all the terms and provisions of any such Leasehold Mortgage and any other instrument or agreement given to secure or in connection with its loan to Tenant.

ARTICLE 22

TITLE TO IMPROVEMENTS; SURRENDER OF THE PROPERTY

22.1 Title. On the Lease Commencement Date Landlord shall possess, shall demise to Tenant and shall thereafter maintain good and clear record and marketable title to the Leased Premises, free from all liens and encumbrances and free of all tenants and occupants, subject only to the Permitted Exceptions. Landlord shall take no action nor permit any action or any failure to act which would result in or cause the creation of a lien or encumbrance upon the Leased Premises or otherwise cause title to or condition of the Leased Premises to fail to comply with the requirements of this Article 22. In furtherance and not in limitation of the foregoing, Landlord shall not take or permit any action in violation of the terms and provisions of the Deed from the General Services Administration of the United State of America to the Boston Redevelopment Authority recorded with Suffolk Registry of Deeds at Book 9182, Page 149.

22.2 Title to Improvements and Building Service Equipment. Landlord and Tenant acknowledge and agree that title to the Improvements and the Building Service Equipment is, shall be and shall remain in the Tenant until the termination of this Lease, however the same occurs. However, Tenant agrees that its interest in the Improvements and the Building Service Equipment shall become subject to the terms and conditions of this Lease and that any grantees or assignees of its interest in the Improvements, the Building Service Equipment or this Lease shall take subject to and be bound by the terms and conditions of this Lease, expressly including the following provisions:

(a) Upon the expiration or earlier termination of this Lease, however the same occurs, title to the Improvements and the Building Service Equipment, shall automatically vest in the Landlord and the Landlord shall be the sole and absolute owner thereof, free of any right, title, interest or estate of the Tenant therein, without the execution of any further instrument and without payment of any money or other consideration thereof, except, only, that in the event of the termination of this Lease under circumstances allowing the Leasehold Mortgagee to obtain a new lease under the provisions of Section 23.3(h), and, if at that time the Leasehold mortgagee shall exercise its rights under said Section 23.3(h), then subject to the Landlord's security interest as outlined in Article 21, the Tenant's interest in the Improvements and the Building Service Equipment, to the extent then existing, shall automatically pass to, vest in and belong to the Leasehold Mortgagee, or any permitted successor to the Leasehold mortgagee, until the termination of such new lease, however the same occurs. The Tenant shall execute such further assurances of title as may be requisite. The Tenant hereby grants, releases, transfers, sets over, assigns and conveys to the Landlord all of its right, title and interest in and to the Improvements and the Building Service Equipment effective upon the termination or expiration of this Lease. Nothing herein contained shall adversely affect Tenant's title to the Improvements and the

Building Service Equipment and any right that the Tenant may have to quiet enjoyment and possession so long as this Lease shall continue in force and effect and the Tenant shall not be in default hereunder. Further, until the termination of this Lease, Tenant alone may claim depreciation of the Improvements and Building Service Equipment for all taxation purposes to the extent that it may legally be entitled to make such claim.

(b) The Tenant shall, upon such termination, well and truly surrender and deliver the Leased Premises and deliver the Improvements and the Building Service Equipment, excepting any Occupancy Tenant's moveable trade fixtures, machinery, equipment and personal property (without any payment or allowance whatever to the Tenant on account of or for the Improvements and the Building Service Equipment or any part thereof) to the possession and use of the Landlord, without fraud or delay and in the same order and condition originally constructed, as from time to time altered not in violation of this Lease, ordinary wear and tear only excepted.

(c) The Tenant covenants and agrees that, without the prior written consent of the Landlord, it will not execute and deliver or renew any sublease to an Occupancy Tenant which would extend beyond the term of this Lease (and, for the purposes of this provision, any rights of extension in any sublease shall be treated as having been exercised by the Occupancy), it being the intention of the parties that, except as the Landlord may otherwise agree, the Landlord, at the termination of this Lease, shall be the sole owner of the Property, not subject to any lease or subtenant's rights of any kind.

(d) The Landlord, upon termination of this Lease for any reason, may, without notice, re-enter upon the Property and possess itself thereof by summary proceedings, ejectment or otherwise, and may dispossess the Tenant and remove the Tenant and all other persons and property from the Property which it may elect so to dispossess, to the extent that it has not theretofore otherwise agreed, and may enjoy the Property and have the right to receive all rents and other income from the same, without hindrance or interference from the Tenant or anyone claiming by, through or under the Tenant. Any personal property of the Tenant remaining on the Property beyond thirty (30) days after termination of this Lease shall be treated as having been abandoned by it and be retained by the Landlord as its sole property or be disposed of, without liability or accountability, as the Landlord sees fit.

22.3 Confirming Documents. Tenant shall execute such documentation as Landlord may require to transfer or confirm transfer title to the Improvements and Building Service Equipment to Landlord, as hereinabove set forth.

22.4 Rule Against Perpetuities. If any rule of law shall forbid or frustrate the vesting in Landlord of the title to the Improvements and the Building Services Equipment in accordance with the provisions of this Article, then such vesting of title shall occur not later than twenty-one (21) years after the death of the last survivor of

Bridgid Maeve O'Brien, the child of John F. O'Brien, all presently of Roslindale, Massachusetts, or Matthew O'Brien, the son of Richard Kenneth O'Brien, both presently of Canton, Massachusetts). In the event such vesting shall occur due to the provisions of this paragraph and prior to the expiration or other termination of this Lease, this Lease shall continue in full force and effect.

ARTICLE 23

LEASEHOLD MORTGAGES

23.1 Right to Mortgage. Notwithstanding any other provisions of this Lease, the Tenant shall at all times and from time to time have the right to encumber, pledge or convey all, but not less than all, of its leasehold estate in the Leased Premises, its title to and interest in the Improvements and its title and interest in the Building Service Equipment by way of a bona fide Leasehold Mortgage (and, where appropriate, by grant of a security interest under the Uniform Commercial Code) to secure the payment of any loan or loans obtained by Tenant; provided, however, that Tenant shall give prior written notice to Landlord of its intent to exercise such rights hereunder, including in such notice the name(s) and address(es) of such Leasehold Mortgagee and any other information regarding Leasehold Mortgage and mortgage documents which Landlord may reasonably require.

23.2 Rights of Leasehold Mortgagee.

(a) If a Leasehold Mortgagee, through the operation of its contract to finance or refinance the Improvements and the Building Service Equipment, or by foreclosure, acquires Tenant's entire interest in the Property prior to the completion of the Improvements and the Building Service Equipment, and the Leasehold Mortgagee has complied with the provisions of Section 23.3(a) hereof, the Leasehold Mortgagee shall have the following options:

(i) by itself, its agent, designee or nominee, complete construction of the Improvements in accordance with the approved Final Working Drawings and Specifications and this Lease, and in all respects comply with the provisions of this Lease;

(ii) with the prior written consent of Landlord which shall not be unreasonably withheld or delayed, sell, assign or transfer Tenant's entire interest in the Property to a purchaser, assignee or transferee acceptable to Landlord who shall expressly assume all of the covenants, agreements and obligations of the Tenant and shall be entitled to all the rights and benefits of Tenant under this Lease in respect of the Property by written instrument satisfactory to the Landlord and recorded forthwith in the Suffolk County Registry of Deeds and the mortgagee of such purchaser, assignee or transferee shall be entitled to all of the rights of the Leasehold Mortgagee of Tenant provided the Mortgagee is a Qualifying Leasehold Mortgagee, except that

the consent of the Landlord shall not be required with respect to any sale, assignment or transfer of Tenant's entire interest in the Property to the Leasehold Mortgagee, its agent, designee or nominee, provided that such agent, designee or nominee is a wholly owned subsidiary of the Leasehold Mortgagee, or

(iii) reconvey the entire interest of Tenant in the Property to the Landlord.

(b) To obtain the benefit of one of the options under paragraph 23.2(a), the Leasehold Mortgagee must notify Landlord of the option it elects within sixty (60) days after it shall acquire title to or possession of the Property (whichever shall last occur). In the event that a Leasehold Mortgagee elects to complete construction pursuant to subparagraph (a)(i), above, or sells, assigns or transfers pursuant to subparagraph (a)(ii), above, the Landlord shall extend the time limits set forth in this Lease only as shall be reasonably necessary to complete the Improvements and the Building Service Equipment and, upon such completion, the Leasehold Mortgagee or purchaser of the leasehold estate, as the case may be, shall be entitled to the same rights, benefits and privileges available to Tenant hereunder, including Tenant's right to a Certificate of Completion pursuant to Section 7.12.

23.3 Notice to Leasehold Mortgagee and Right to Cure. If a Leasehold Mortgagee shall, by written notice to the Landlord given within thirty (30) days of the execution, delivery and recording of a Leasehold Mortgage, notify Landlord thereof of the name and address of the Leasehold Mortgagee for notice purposes, and of the recording reference of its Leasehold Mortgage, and with such notice shall furnish to the Landlord a true copy of its Leasehold Mortgage, Landlord agrees that so long as such Leasehold Mortgage shall remain unsatisfied of record, or until written notice of satisfaction thereof is given by the Leasehold Mortgagee to Landlord (whichever shall first occur) the following provisions shall apply:

(a) Landlord shall, promptly upon receipt of a communication purporting to constitute the notice provided for in the foregoing provisions of this Section 23.3, either provide the Leasehold Mortgagee submitting such communication with a written confirmation of the receipt of such communication and that the same constitutes the notice provided for in the foregoing provisions of this Section 23.3, or notify the Tenant in writing and such Leasehold Mortgagee of the rejection of such communication as not conforming with the foregoing provisions of this Section 23.3 and specifying the basis for such rejection. Each Leasehold Mortgagee which notifies Landlord in conformity with the foregoing provisions of this Section 23.3 is referred to in the following provisions of this Section 23.3 as a "Qualifying Leasehold Mortgagee";

(b) In the event of any assignment of a Leasehold Mortgage or in the event of a change of address for notice purposes of a Qualifying Leasehold Mortgagee or of an assignee of any such Leasehold Mortgagee, notice of the new name and address for notice purposes shall be provided to Landlord as a condition to

the continued availability of the rights hereunder of a Qualifying Leasehold Mortgagee;

(c) There shall be no cancellation, surrender, termination or modification of this Lease by joint action of Landlord and Tenant, or termination of this Lease by unilateral action of Tenant under the provisions of this Lease permitting such termination by Tenant, without in each case first securing the prior written consent of each Qualifying Leasehold Mortgagee;

(d) The Landlord shall, upon giving Tenant any notice of default, simultaneously give a copy of such notice to each Qualifying Leasehold Mortgagee and no notice of default given to Tenant shall be effective until a copy thereof has been given to each Qualifying Leasehold Mortgagee. Wherever in this Lease notice is to be given to a Qualifying Leasehold Mortgagee at its address specified in accordance with the foregoing provisions of this Section 23.3 and otherwise complying with the terms of the notice provisions of this Lease, such notice shall conclusively be treated as having been "given" within the meaning of the respective provisions calling for notice to a Qualifying Leasehold Mortgagee;

(e) Each Qualifying Leasehold Mortgagee shall have the same period, after such notice has been given to it, for remedying any default or causing the same to be remedied, as is given Tenant after the giving of such notice to Tenant, plus (x) in the case of a default in the payment of the Base Rent or the Percentage Rent, an additional period of ten (10) days, and (y) in the case of any other default, an additional period of thirty (30) days, and if such default cannot with due diligence be cured within such additional thirty (30) day period, an additional time thereafter, provided that such cure is initiated during such additional thirty (30) day period and thereafter, the curing of the same is prosecuted with diligence, and Landlord shall accept such performance by a Qualifying Leasehold Mortgagee as if performed by Tenant;

(f) Upon the happening of any of the Events of Default set forth in subsections (d), (e), (f), (g) or (h) of Section 18.2 of this Lease, the Landlord shall give notice thereof to each of the Qualifying Leasehold Mortgagees promptly after Landlord shall have knowledge of the happening of such event;

(g) In the case of any default by Tenant which is not susceptible of being cured by any Qualifying Leasehold Mortgagee, Landlord agrees that it will take no action to effect a termination of this Lease by reason of such default without first giving to each Qualifying Leasehold Mortgagee a reasonable period of time after notice under either (d) or (f), above, to obtain possession of the Leased Premises and to cure such default, in the case of a default which can be cured upon the obtaining of possession, or to institute foreclosure proceedings and to complete such foreclosure or otherwise to acquire the interest of Tenant under this Lease with diligence and without delay, in the case of a default which cannot be cured by any Qualifying Leasehold Mortgagee; provided, however, (i) that the period for obtaining possession

or acquiring the interests of Tenant by foreclosure or otherwise, as the case may be, shall be extended for the period during which such action is enjoined or stayed, (ii) that such Qualifying Leasehold Mortgagee shall pay or cause to be paid the Base Rent, Percentage Rent and other monetary obligations of Tenant under this Lease as the same become due, and to continue good faith efforts to perform all of Tenant's other obligations under this Lease which are susceptible of being performed by such Qualifying Leasehold Mortgagee, during the period of such forbearance, and (iii) that nothing herein shall require any Qualifying Leasehold Mortgagee to begin or continue such possession or foreclosure proceedings or preclude Landlord from exercising (subject to the provisions of this Article 23) any rights or remedies under this Lease with respect to any other defaults by Tenant during the period of such forbearance;

(h) In the event of a termination of this Lease for any reason other than by expiration of the term, the Qualifying Leasehold Mortgagee holding the senior Leasehold Mortgage shall have the right, in addition to the foregoing rights, to elect to demand a new lease of the Leased Premises, exercisable by notice in writing to the Landlord within sixty (60) days after the giving of notice by Landlord to each Qualifying Leasehold Mortgagee of such termination, for the balance of the term hereof effective as of the date of such termination, at the Base Rent, Percentage Rent and additional rent and upon all of the other terms, provisions, covenants and agreements set forth in this Lease except that Landlord shall not be required to warrant and defend the right of possession of the Tenant under such new lease against the Tenant herein or anyone claiming by, through or under the Tenant; provided that, concurrently with the delivery of such notice, the Leasehold Mortgagee shall have performed and thereafter shall continue to perform all obligations of Tenant hereunder capable of being performed by such Qualifying Leasehold Mortgagee which would have accrued hereunder had this Lease remained in force until the time of such delivery. The Parties shall act promptly after such notice and performance to execute such new lease. Any such new lease shall be superior and not subordinate to any mortgage upon Landlord's fee interest in the Leased Premises hereafter given; and any such new lease may, at the option of such Qualifying Leasehold Mortgagee, name as tenant a nominee of such Qualifying Leasehold Mortgagee. If as a result of any such termination the Landlord shall succeed to the interests of Tenant under any sublease of the Leased Premises or any portion thereof, Landlord shall execute and deliver an assignment of all such interests to the Tenant under the new lease simultaneously with the delivery of such new lease;

(i) The Leasehold Mortgagee shall be given notice of any arbitration of this Lease, and shall have the right to intervene therein and be made a party to such proceedings, and the parties hereto do hereby consent to such intervention.

23.4 Leasehold Mortgage. The term "Leasehold Mortgage" as used in this Article means one or more Leasehold Mortgages to an Institution which constitute from time to time a first or second lien on Tenant's entire interest in the Property, but in no event shall the aggregate original principal amounts thereof exceed, or be

subsequently increased to exceed, Total Project costs unless the conditions set forth in the following paragraph have been satisfied. Except as set forth in the preceding sentence, the terms of any Leasehold Mortgage may be as the Tenant may negotiate with any Leasehold Mortgagee. The rights provided in this Article 23 may be exercised only by such Institution as is a lienholder in such first or second position which becomes a Qualifying Leasehold Mortgagee and not by any other subordinate Leasehold Mortgagees, all such other subordinate Leasehold Mortgagees being hereby expressly prohibited. A deed of trust or other form of security deed shall be treated as the equivalent of a mortgage.

Tenant shall not grant a Leasehold Mortgage securing financing in excess of Total Project Costs unless the following terms are satisfied with respect to the financing secured by such Leasehold Mortgage:

1. The amount of financing shall be such that the Net Cash Flow for the most recently-ended Lease Year shall be equal to or greater than 115% of all annual payments, including debt service, due the Institution on account of such financing. For the purposes of this provision, Net Cash Flow shall be computed without the Allowed Deduction specified, in Section 3.1(C)(3)(c);
2. The "loan/value ratio" shall not exceed 0.80. For these purposes "loan/value ratio" means a fraction, the numerator of which is the amount of such financing and the denominator of which is the then fair market value of the Tenant's leasehold interest in the Property (determined by an independent MAI appraiser selected by Tenant and approved by Landlord);
3. The maturity of any such financing shall not be less than ten (10) years and annual payments, including debt service, due the Institution on account of such financing shall be constant except that a "balloon" payment may be provided at the end of the term of such financing;
4. The documentation, terms and conditions of the proposed Leasehold Mortgage must be reasonably satisfactory to counsel for the Landlord and be consistent with the provisions of this Lease;
5. The Tenant shall reimburse the Landlord for all reasonable costs and expenses incurred by Landlord incident to responding to any approval requested for any such Leasehold Mortgage financing, including the cost of any appraiser or expert hired by Landlord with respect thereto. Such costs and expenses shall be reimbursed to Landlord upon request and shall be promptly paid, whether or not the Landlord shall approve any proposed financing; and
6. The amount by which any Leasehold Mortgage exceeds Total Project Costs, Landlord's consent to the granting of such Leasehold Mortgage shall be required, and such consent shall not be unreasonably withheld.

23.5 Percentage Rent Abatement. Notwithstanding anything else herein contained to the contrary, if the holder (who is also a Qualifying Leasehold Mortgagee) of any Leasehold Mortgage expressly permitted hereby and constituting a First Lien on Tenant leasehold estate shall, in good faith and without intent to deprive the Landlord of its benefits hereunder, foreclose such Leasehold Mortgage and acquire such leasehold estate or in good faith accept a transfer of the Property from Tenant in lieu of foreclosure, or in good faith acquire such leasehold estate pursuant to the provisions of Section 23.3(h), the obligation of the Tenant to pay Percentage Rent shall thereafter be suspended and no payments due until such time as the Property and this Lease is assigned, transferred or sold to a third party other than the Qualifying Leasehold Mortgagee or any affiliated entity.

ARTICLE 24

HOLDING OVER

24.1 Holding Over. This Lease shall terminate without further notice at the expiration of the term, unless extended as herein expressly provided. Any holding over by Tenant after expiration shall not constitute a renewal or extension or give Tenant any rights in or to the Property except as expressly provided in this Lease.

ARTICLE 25

NOTICES

25.1 Notices. Any notice required or desired to be given pursuant to this Lease shall be in writing with copies directed as indicated below and shall be personally served, or, in lieu of personal service, by depositing same in the United States mail, postage prepaid, certified or registered mail. If such notice shall be addressed to Landlord, the address of Landlord is:

Boston Redevelopment Authority
One City Hall Square
Boston, Massachusetts 02201
ATTENTION: DIRECTOR

with a copy to:

Boston Redevelopment Authority
One City Hall Square
Boston, Massachusetts 02201
ATTENTION: Chief General Counsel

and if addressed to Tenant, the address of Tenant is:

Terrence W. Conroy
Conroy Development Corporation
One Thirteenth Street
Charlestown, MA 02129

Lewis Heafitz
Heafitz & Company
One Thirteenth Street
Charlestown, MA 02129

Gerald T. Doherty, Esq.
Bass & Doherty
40 Soldiers Field Place
Boston, MA 02135

Either Landlord or Tenant may change its respective address by giving written notice to the other in accordance with the provisions of this paragraph.

Any requests for approvals made by Tenant to Landlord where such approvals shall be deemed granted after a period of non-reply by Landlord shall, as a condition to the effectiveness thereof, be prefaced with the following language printed in capital letters in bold face type and be delivered by the United Postal Service by Certified or Registered Mail:

"NOTICE:

**THIS REQUEST FOR APPROVAL REQUIRES IMMEDIATE REPLY
FAILURE TO RESPOND WITHIN _____ DAYS
SHALL RESULT IN AUTOMATIC APPROVAL"**

ARTICLE 26

**QUIET ENJOYMENT; ENCROACHMENTS AND VAULTS;
LIMITATION OF LIABILITY**

26.1 The Landlord covenants that Tenant, upon paying the annual rent and all other charges herein provided for, and observing and keeping the covenants, agreements and conditions of this Lease on its part to be kept, shall lawfully and quietly hold, occupy and enjoy the Leased Premises during the term of this Lease, without hindrance or molestation of the Landlord, or any person or persons claiming under or through the Landlord, subject to the Permitted Exceptions and any other matters expressly hereinabove set forth; provided, however, that this covenant shall not extend to any vault, subway entrance, sub-sidewalk, sub-alley, or sub-street, if

any, now or hereafter used incident to or as an appurtenance to the Leased Premises, nor to any encroachments of the Improvements on premises other than the Leased Premises, including, but not limited to, the encroachment of any present or future building, wall or structure, either on the Leased Premises or on any property adjacent thereto, and the Landlord shall not be liable for any such encroachments, but the Tenant agrees to indemnify and save harmless the Landlord during the term of this Lease from and against any and all liability, penalty, damages, expense and judgment, whatsoever, on account of the location of any building, wall, structure or other encroachment on or partly on the Leased Premises, or on or partly on any property adjacent thereto.

Neither Landlord nor Tenant (and if Tenant is a partnership, joint venture or trust, no partner general or limited, venturer, trustee or beneficiary thereof) shall be personally liable for any of their respective obligations hereunder, and in the event of a claim by either party against the other, the claimant shall look solely to the interests of Landlord or Tenant in the Property, as the case may be, and not to any other assets for satisfaction of such claim.

The Landlord named herein, and its respective successors in title to the Landlord's interest under this Lease, shall be liable only for breaches occurring during its or their respective ownership of such Landlord's interest hereunder, and the Landlord shall never be liable to the Tenant for consequential damages arising out of defaults by Landlord hereunder the basis of facts actually known to it at the time of any such default by Landlord.

26.2 Limitation on Liability. It is expressly understood and agreed that all vaults now or hereafter built, projecting beyond the building line of the Leased Premises, are not included within the premises demised by this Lease, but the Tenant may occupy and use the same during the term of this Lease, subject to such laws, rules and regulations as may be imposed by the appropriate municipal departments with respect thereto. No revocation on the part of any municipal department or authority of the license to maintain and use such vaults shall in any way effect this Lease or the amount of the Base Rent, Percentage Rent or any other charges payable by the Tenant hereunder. If any such license to maintain and use such vaults shall be revoked, Tenant will, at its sole cost and expense, do and perform all such work as may be necessary to comply with any order revoking the same.

ARTICLE 27

ESTOPPEL CERTIFICATE

27.1 Estoppel Certificate. The Tenant and the Landlord agree at any time, and from time to time, upon not less than ten (10) business days' prior written notice by the one of them requesting the same, to execute, acknowledge and deliver to the other party and to a Qualified Leasehold Mortgagee which so requests, a statement in

writing, certifying that the Lease is unmodified and in full force and effect (or, if there have been modifications, that the same is in full force and effect as modified, and stating the modifications), and the dates to which the annual rent and other charges have been paid in advance, if any, and stating whether or not, to the best knowledge of the party executing such statement, there are defaults under this Lease, and, if so, specifying each such default, it being intended that any such statement delivered pursuant to this Article may be relied upon by any prospective purchaser or assignee of the fee or leasehold or any Leasehold Mortgagee or assignee of any Leasehold Mortgagee.

ARTICLE 28

REMEDIES CUMULATIVE

28.1 Remedies Cumulative. The specified remedies to which the Landlord or Tenant may resort under the terms of this Lease are cumulative and are not intended to be exclusive of any other remedies or means of redress to which the Landlord or Tenant may be lawfully entitled in case of any breach or threatened breach by the Landlord or Tenant, as the case may be, of any provision of this Lease. The failure of the Landlord or Tenant to insist in any one or more cases upon the strict performance of any of the covenants of this Lease, or to exercise any option herein contained, shall not be construed as a waiver or a relinquishment for the future of such covenant or option.

28.2 No Waiver. A receipt by the Landlord of rents, with knowledge of the breach of any covenant hereof, shall not be a waiver of such breach, and no waiver by the Landlord of any provision of this Lease shall be effective unless in writing and signed by the Landlord. Acceptance by Landlord (including, without limitation, of any draft remitting the same) of payments in amounts less than due the Landlord shall be treated as payments on account to the extent thereof, notwithstanding any statement of endorsement on or accompanying the same; and the acceptance by the Landlord from any person other than the Tenant on account of the Tenant's obligations shall not be treated as a waiver by the Landlord of any right the Landlord may have on account of an improper transfer of the Tenant's interest under this Lease.

28.3 Injunction. In addition to the other remedies provided in this Lease, the Landlord or the Tenant shall be entitled to restraint of the other, as the case may be, by injunction of the violation or attempted or threatened violation, of any of the covenants, conditions and provisions of this Lease.

BUILDING "P" GROUND LEASE

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ARTICLE 29

SURRENDER NOT A MERGER

29.1 Surrender Not a Merger. The voluntary or other surrender of this Lease by Tenant, or a mutual cancellation thereof, shall not work a merger and shall, at the option of Landlord, operate as an assignment to Landlord of any and/or all subleases of subtenants.

ARTICLE 30

ATTORNEYS' FEES AND OTHER COSTS

30.1 Attorney's Fee and Other Costs. In the event either party shall bring any action or legal proceedings for damages for an alleged breach of any provision of this Lease, or to enforce, protect, determine or establish any term or covenant of this Lease or right of such party, or in the case of Landlord to recover rent or to terminate the tenancy of the Leased Premises, and if, in such event, the party bringing the action or proceeding shall prevail (by settlement or otherwise) or substantially prevail in any such action or legal proceeding, then the prevailing party shall be entitled to recover from the other party as a part of such action or proceedings, or in a separate action brought for that purpose, reasonable attorneys' fees and court costs.

30.2 It is anticipated that, from time to time during the term of this Lease, the Landlord shall require the advice of counsel or other professional consultants in the examination of requests submitted by the Tenant, review and approval of documentation required from time to time to be provided by the Tenant to the Landlord under this Lease, and otherwise in the review of the exercise by the Tenant of any of its rights hereunder.

Accordingly, without limiting the Landlord's right to recover the reasonable fees and expenses of counsel incident to enforcing its obligations on default or breach of condition by the Tenant, the Tenant agrees to pay the Landlord reasonable fees and expenses of counsel and other professional consultants (but only to the extent not on the full time payroll of Landlord) incurred by the Landlord on account of services rendered incident to disposition of requests made by the Tenant under this Lease, including, without limitation, review and preparation of documentation required incident thereto, or in services rendered to the Landlord incident to the exercise by the Tenant of its rights hereunder which requires review or preparation of documentation, such as review and preparation of documentation in compliance with the Tenant's request that the Landlord enter into an agreement with a Leasehold Mortgagee of the type referred to in Article 23 hereof, all to the end that the rent paid by the Tenant shall be absolutely net to the Landlord; and the Landlord shall have the right to treat any such fees as Additional Rent, for the recovery of which the Landlord shall have all the remedies provided herein and such fees shall be an Allowed Deduction pursuant to

Article 3, Section 3.1(C)(3); but excluding from the operation of the foregoing provisions of this paragraph all such fees and expenses incurred incident to the Landlord's consideration of submissions or requests for approval, consent or the like where, under the terms of this Lease such submission, consent, approval or the like is required as a condition to an act by Tenant.

ARTICLE 31

DEFINITIONS

31.1 General Terms. Terms defined elsewhere in this Lease shall have the meanings ascribed to them. In addition, the terms defined below shall have the meanings ascribed to them wherever such terms shall appear in the Lease, unless the context requires otherwise.

31.2 Landlord. The term "Landlord" shall be limited to mean and include only the owner or owners at the time of the fee of the Leased Premises and, in the event of any transfer or transfers of title to the same, the Landlord herein named (and, in case of any subsequent transfers and conveyances, then the grantor) shall be automatically freed and released from and after the date of such transfer and conveyance of all liability as respects the performance of any covenants or obligations on the part of Landlord contained in this Lease thereafter to be performed, it being intended, hereby that the covenants and obligations contained in this Lease on the part of the Landlord shall, subject as aforesaid, be binding on Landlord, its successors and assigns, only during and in respect of their respective successive periods of ownership of the fee of the Leased Premises.

31.3 Occupancy Tenant Sublease. -The term "Occupancy Tenant" shall mean any tenant, subtenant, licensee, concessionaire or other party of any type entitled to the use or occupancy of space in or on the Improvements or the Property, under a sublease from Tenant, other than Tenant holding under this Lease, the term "Sublease" shall mean any lease or other agreement, written or oral, for the use or occupancy of any such space entered into between Tenant and an Occupancy Tenant. These terms shall refer to any such Occupancy Tenant or sublease whether such Occupancy Tenant or Sublease enjoys a position superior or subordinate to Tenant or this Lease.

31.4 Person. The term "person" shall include an individual, corporation, partnership, unincorporated organization or government, or any agency or political subdivision thereof and any other entity, whether or not incorporated. The use of the neuter gender shall include the masculine and the feminine and the use of the singular shall include the plural.

31.5 Rent. The terms "rent" or "rents" shall mean the Base Rent, monthly reserves, Percentage Rent and all amounts specified in this Lease as additional rent.

31.6 Institution. The term "Institution" shall mean any of the following:

(a) a bank, a wholly-owned subsidiary of a bank, insurance company, savings and loan association, trust company or a corporation, trust or association qualifying as a real estate investment trust under the provisions of Section 856 of the Internal Revenue Code, as amended (or like future provisions of such Code), chartered under the laws of the United States of America or any state thereof, and with a principal place of business in one of such states and combined capital and surplus account (or, in the case of a mutual company, the equivalent thereof) of not less than \$100,000,000;

(b) an educational institution with a capital endowment of not less than \$100,000,000;

(c) a pension fund established by and for any business corporation or corporations, or by and for any group of employees of a governmental body or of a religious or educational institution or for any trade union, and, in each such case, having a net worth, determined in accordance with recognized accounting practices, of not less than \$100,000,000.

31.7 Leasehold Mortgage. The term "Leasehold Mortgage" shall mean any mortgage or Tenant's estate created under this Lease which is permitted by the terms of Article 23. The term "Leasehold Mortgage" shall mean the holder of any Leasehold mortgage.

31.8 Moveable Trade Fixtures, Machinery and Equipment. The expression "movable trade fixtures, machinery and equipment", or words of similar import, shall include all furnishings, chattels, personal property and equipment, and all additions, replacements or articles in substitution thereof, of every kind and description which are not now or hereafter affixed and attached to the Improvements and which are not used, or procured for use, in connection with the operation of the Improvements, owned by others than Tenant, and all furnishings, chattels, personal property and equipment and all additions, replacements or articles in substitution thereof, of every kind and description which are owned by occupants of space in the Improvements or the Leased Premises, whether or not so affixed and attached, so long as the same are readily movable without material damage or injury to the Improvements.

31.9 Plan. The term "Plan" shall mean the Charlestown Urban Renewal Plan as amended and as in effect on the Lease Commencement Date.

31.10 Total Project Costs. The term "Total Project Costs" shall mean all bona fide costs incurred in construction of the Improvements, the cost of Building Service Equipment, on-going tenant fit-up and off-site improvements relating to or installed in connection with the Improvements and the changes, alterations and restoration of the same, and shall include without limitation the following items: (i) amounts paid by

Tenant to the contractors under construction contracts; (ii) amounts paid to the Architect and to architectural and engineering consultants; (iii) amounts paid for borings, surveys, tests, historical and environmental investigations; (iv) costs of insurance during construction including builders risk, public liability and workers' compensation; (v) costs of relocation of existing structures and facilities necessitated by construction and all other costs of site preparation; (vi) Base Rent, Impositions and all interest paid during construction; (vii) costs of fees, permits, licenses; (viii) a developer's fee for services and overhead not to exceed \$50,000.00; (ix) such amounts, as Tenant shall justify to Landlord's reasonable satisfaction as having been incurred by Tenant on account of operating losses of the Property and Occupancy Tenant inducement costs (collectively "operating losses"), but not in excess of the amount of operating and Occupancy Tenant inducement costs incurred during the period ending 36 months after the issuance of Certificate of Occupancy, provided that operating losses shall only be included until such time as ninety percent (90 %) of the office space shall be leased, and further provided if during the first 12 months of the 36 month period, operating losses exceed \$600,000, then the amount allowed under this clause (ix) shall be limited to operating losses incurred during the first 12 months of such 36 month period, and if operating losses incurred during such 12 month period are \$600,000 or less than the amount allowed under this clause (ix) for operating losses incurred during such entire 36 month period shall not exceed \$600,000; (x) costs of legal, accounting, planning, appraisal and other consulting services, placement fees, commissions, recording fees, title insurance premiums and charges and other costs and charges incurred in connection with the acquisition of the leasehold interest created by this Lease and the construction and financing of the Improvements and such off-site improvements. Notwithstanding the above, the Total Project Costs shall include only those costs incurred during the period ending 36 months after issuance of the Certificate of Occupancy or until such time as ninety percent (90%) of the leasable space shall be leased, whichever is later. For the purposes of calculating the Total Project Costs, the term "Ongoing tenant fit-up and off-site improvements" shall not include costs incurred by Tenant for which the Tenant is reimbursed by direct payment(s) by the subtenant.

31.11 Architect. The term "Architect" shall mean only the architectural firm of Cubellis Associates, or such substitute therefor as shall be approved by Landlord.

31.12 General Contractor. The term "General Contractor" shall mean only the firm of Conroy Construction Company or such substitute therefor as shall be approved by Landlord.

31.13 Term. The term "term" or "term of this Lease" or "Lease term" shall include properly exercised extensions thereof allowed hereby. Any reference to the "termination of this Lease" shall be deemed to include any termination hereof by expiration, default or otherwise.

31.14 Depository. The term "Depository" shall mean a bank or trust company chartered under the laws of the United States of America or the Commonwealth of Massachusetts with a combined capital and surplus account of not less \$50,000,000, which shall be selected by the mutual agreement of the Landlord and the Tenant and, in accordance with such terms as the parties may agree and upon provision for indemnity suitable to it, shall agree to act as depository of funds for the purposes provided in this Lease. The Depository shall be under no obligation to cash or collect interest coupons on any securities deposited hereunder issued in coupon form, but shall hold such coupons subject to the order of the Tenant and the provisions of this Lease under which such securities were deposited. Cash deposited with the Depository shall be invested by the Depository in U.S. Treasury bills or notes or such other form of investment as shall be mutually acceptable to Landlord and Tenant and all amounts earned thereon shall be considered part of, and devoted to the purpose of, the deposit with any balance remaining after such purpose has been satisfied to Tenant.

31.15 Lease Year. The term "Lease Year" shall mean a calendar year commencing January 1 and ending on December 31 next following, except that the first Lease Year shall commence on the Lease Commencement Date and shall end on December 31 next following the Lease Commencement Date, and the last Lease Year shall end on the date the term of this Lease terminates or expires.

31.16 Leased Premises. The term "Leased Premises" shall mean the definition as set forth in Article 1, Section 1.2.

31.17 Improvements. The term "Improvements" shall mean the definition as set forth in Article 1, Section 1.3.

31.18 Building Service Equipment. The term "Building Service Equipment" shall mean the definition as set forth in Article 1, Section 1.4.

31.19 Net Refinancing Proceeds. The term "Net Refinancing Proceeds" shall mean the amount by which the proceeds of refinancing (reduced by the reasonable expenses incurred by Tenant in connection with the refinancing) exceed the greater of Total Project Cost or the then outstanding principal balance of the existing Financing.

31.20 Financing. The term "Financing" shall mean the original principal amount of funds provided by an Institution either (i) entirely as debt secured by a Leasehold Mortgage on the Property, or (ii) partly as debt so secured and partly as an equity investment in the Property.

31.21 Refinancing. The term "Refinancing" means replacing all or a portion of the then existing Financing with new Financing, except that Refinancing shall not include the replacement of the initial construction financing for the Improvements by the initial permanent financing, except to the extent that said permanent financing

exceeds total project costs including taxes, and any operating costs, including taxes, and operating deficits.

31.22 Final Working Drawings and Specifications. The term "Final Working Drawings and Specifications" means the plans and specifications approved by Landlord as part of the Contract Documents, as the same may thereafter be amended by Tenant with the approval of Landlord as set forth in Article 7, Section 7.4(d).

31.23 Tenant. The term "Tenant" shall mean Building "P" Associates Limited Partnership wherever such term appears.

31.24 Appurtenant Rights. The Parties acknowledge that the Leased Premises include any and all rights of access, easements or other rights now appurtenant or as may be necessary for said Leased Premises to be used as set forth herein including, without limitation:

(a) Below-grade footing easements, which easements shall be deemed to include the right of access to such footings for maintenance and repair purposes.

(b) An easement for travel by foot or vehicle along abutting land of Landlord and all streets and ways in said Historic Monument Parcel; all as shown on the plan entitled "Boston Redevelopment Authority, City of Boston - Suffolk County - Massachusetts, Boston Navy Shipyard - Charlestown, Land Parcel Plan Alternative I Revised by Parsons, Brinkerhoff, Quade & Douglas, Inc., dated May 31, 1978, recorded in the Suffolk County Registry of Deeds at Book 9182, Page 149 as they may now or hereafter exist or be relocated, throughout their respective courses, for all purposes for which streets and ways may be used in the City of Boston from time to time; provided any said street or way may be eliminated by the Landlord or its successors so long as it does not substantially interfere with the beneficial use of this easement.

(c) Easements (i) to use and connect from all parts of the Leased Premises into all present and future utility systems and appurtenances located within the Historic Monument Parcel, including but not limited to, water, sewer, electric, gas, oil, steam conduits, terminals, power stations, storage tanks and other distribution systems and power sources, (ii) to install any new utility service, including the aforesaid streets and ways as the same may now or hereafter exist or be relocated, and to connect into same from all parts of the Leased Premises and, (iii) to enter upon said Historic Monument Parcel to connect into any of the utility service systems described above and to install, maintain, relocate, enlarge, repair and replace any or all of the above-described utility systems.

(d) An easement for access and egress to and from Chelsea Street as it may now or hereafter exist or be named or relocated, through that area of the Historic Monument Parcel shown as "Gate 5" on the above-described plan, being thirty-three

(33) feet wide, more or less, in the Northwesterly line of said Parcel along Chelsea Street Northwesterly of Building 96, all as the said "Gate 5" may be widened or relocated from time to time and through any other gate or entrance way, however designated, to and from Chelsea Street in the Charlestown Navy Yard as now or hereafter located.

(e) An easement to go upon Property of the Landlord adjacent to the Leased Premises for purposes of the maintenance and repair of the exterior of the building comprising the Leased Premises.

The term "Leased Premises" specifically excludes all right and interest, if any, of Landlord in and to the fee in the land lying in the public streets and private ways abutting the Leased Premises. The "Leased Premises" are subject, however, to the exceptions to fee title described as the Permitted Exceptions set forth in Exhibit "B" attached hereto.

The easements reserved herein as appurtenant to the said Leased Premises shall not be extinguished by any defeasance of Landlord's title to the Historic Monument Parcel or to any part or all of the Leased Premised Parcels and shall be enforceable by the owner or owner of all or any part of the Leased Premises without exception, limitation, defeasance or merger because of the reversion of title of said Historic Monument Parcel to the grantor of the instrument recorded with the Suffolk Registry of Deeds at Book 9182, Page 149, and easements for the provision of utility services to the Leased Premises.

31.25 CPI. The term "CPI" means Consumer Price Index for All Urban Consumers, CIP-U, Boston, Massachusetts.

31.26 Development Review Procedures. The term "Development Review Procedures" means the document entitled "Development Review Procedures", Boston Redevelopment Authority, dated 1985, revised 1986.

31.27 Exterior Space. Intentionally deleted.

31.28 Certificate of Occupancy. The term "Certificate of Occupancy" shall mean the initial Certificate of Occupancy issued by the City of Boston Inspectional Services Department for any portion of the Leased Premises.

ARTICLE 32

NON-DISCRIMINATION; EMPLOYMENT; NO CONFLICTS

32.1 Non-Discrimination. Tenant for itself and all successors and assigns, agrees that in the redevelopment of the Leased Premises and in all construction activity undertaken with respect thereto:

(a) Tenant will not discriminate against any employee or applicant for employment because of race, color, sex, religion, age or national origin. Tenant shall take affirmative action to ensure that applicants are employed, and that employees are treated during their employment without regard to race, color, sex, religion, age or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or compensation and selection for training, including apprenticeship. Tenant agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

(b) Tenant will, in all solicitations or advertisements for employees placed by or on behalf of Tenant, state all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin.

(c) Tenant will send to each labor union or representative of workers with which Tenant has a collective bargaining agreement or other contract or understanding, a notice to be provided, advising the said labor union or worker's representative of Tenant's commitments under Section 202 of Executive Order #11246 of September 24, 1965, as amended by Executive Order #11375 of October 13, 1967, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) Tenant will comply, with all provisions of Executive Order #11246 of September 24, 1965, as amended by Executive Order #11375 of October 13, 1967, and the rules, regulations and relevant orders of the Secretary of Labor.

(e) Tenant will furnish all information and reports required by Executive Order #11246 of September 24, 1965, as amended by Executive Order #11375 of October 13, 1967, and by the rules, regulations and orders of the Secretary of Labor pursuant thereto, and will permit access to Tenant's books, records and accounts by the Landlord, the Secretary of Housing and Urban Development, and the Secretary of Labor, for purposes of investigation to ascertain compliance with such rules, regulations and orders.

(f) In the event of Tenant's noncompliance with the nondiscrimination clauses of this Section 32.1 or with any of the said rules, regulations or orders, upon written notice to Tenant, and the continuance of such noncompliance for sixty (60) days thereafter, Tenant may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, as amended by Executive Order #11375 of October 13, 1967, and such other sanctions may be imposed and remedies invoked as provided in Executive Order #11246 of September 24, 1965, as amended by Executive Order #11375 of October 13, 1967, or by rules, regulations or orders of the Secretary of Labor, or as otherwise provided by law.

(g) Tenant will include the provisions of paragraph (a) through (g) of this Section 32.1 in every contract or purchase order, and will require the inclusion of these provisions in every subcontract entered into by any of its contractors, unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order #11246 of September 24, 1965, as amended by Executive Order #11375 of October 13, 1967, so that such provisions will be binding upon each such contractor, subcontractor or vendor as the case may be. Tenant will take such action with respect to any construction contract, subcontract or purchase order as the Landlord directs as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event Tenant becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by the Landlord, Tenant may request the United States to enter into such litigation to protect the interest of the United States.

32.2 Boston Residents Construction Employment Plan. Tenant, for itself and all successors and assigns, agrees that in the redevelopment of the Leased Premises and in all construction activity undertaken with respect thereto, Tenant shall, prior to the issuance of any licenses or permit, submit to the Landlord a Residents Construction Employment Plan, and shall execute such plan which sets forth in detail the Tenant's plans to ensure that, on a craft by craft basis, the following standards are met: (1) at least 50 percent of the total employee worker-hours in each trade shall be by bona fide Boston residents, (2) at least 25 percent of the total employee worker-hours in each trade shall be by minority persons, and (3) at least 10 percent of the total employee worker-hours in each trade shall be women. (Worker-hours shall include work performed by persons filling apprenticeship and on-the-job training positions.) Such efforts consist of the following:

(a) Tenant shall incorporate in every general construction contract or construction management agreement an enumeration of the foregoing worker hour goals and shall impose a responsibility upon the contractor to pursue the efforts enumerated in this Section 32.2 and to incorporate such worker-hour goals in all subcontracts and impose upon all subcontractors the obligation to pursue such efforts;

(b) Landlord, Tenant, contractor, and every subcontractor shall each designate an individual to serve as affirmative action officer for the purpose of carrying out the efforts to achieve the worker-hour goals set forth herein;

(c) Contemporaneously with the start of construction, the affirmative action officers and other interested representatives of the Landlord, Tenant, contractor, and each subcontractor then selected shall hold a pre-job conference with appropriate union representatives of the construction trade unions for the purpose of reviewing the worker-hour goals applicable to the Improvements and the manning requirements for construction activity over the life of the construction period.

(d) Each request for qualified construction workers made by any person involved in the construction of the Improvements to a union hiring hall or business agency shall contain a recitation of such worker-hour goals and a request that qualified referees for construction positions on the Improvements be selected in the same proportion as such goals; provided, however, that if at the time of any such manning request the requesting party's workforce composition falls short of any one or more of such goals, such manning request shall seek qualified referrals in such proportion among such categories as would be necessary to more fully achieve such goals. In the event that the union hiring hall or business agent to which or to whom such manning request has been submitted fails to comply with such request, the affirmative action office of such requesting party shall seek to verify that insufficient workers in the categories specified in such request are then shown on the unemployed list maintained by such union hiring hall or business agent by seeking to obtain an affidavit from the union hiring hall representative or business agents to such effect. Copies of any affidavit so obtained shall be forwarded to the affirmative action officer of the Landlord.

(e) All persons applying directly to the contractor, or subcontractor for employment in construction on the project who are not employed by the party to whom application is made will be referred to the affirmative action officer of the landlord and a written record of such referral shall be made, a copy of which shall be sent to such officer; and

(f) Tenant, contractor, and every subcontractor shall each maintain records reasonably necessary to ascertain compliance with the requirements of this Section for at least one year after the issuance of the Certificate of Completion and will make the same available for inspection by the Landlord upon reasonable notice.

32.3 Compliance with Mayor's Executive Order Re: Minority and Women Business Enterprises. Tenant, for itself and all successors and assigns, further agrees that in the redevelopment of the Leased Premises, Tenant shall comply with the Mayor's Executive Order on Minority Business Enterprise Development dated December 17, 1987 (the "Executive Order").

The Executive Order sets forth the following standards relative to contracting with Minority and Women Business Enterprises in all construction activity undertaken with respect to the Leased Premises, including the procurement of goods and services:

(a) at least 15% of the total construction contract amount shall be expended on Minority Business Enterprises;

(b) at least 5% of the total construction contract amount shall be expended on Women Business Enterprises.

The Tenant shall incorporate in every general construction contract or construction management agreement an enumeration of the foregoing goals and shall impose a responsibility upon the Contractor to submit the following information to the Tenant and the Landlord prior to the Commencement of Construction:

1. Projections of the types of work under the proposed contract that the Contractor intends to have performed by subcontract, the types of materials and services that the Contractor intends to have supplied by vendor contract, and an approximate timetable for the execution of such subcontracts and vendor contracts.

2. A completed Minority Business Utilization Form which lists the Minority Business Enterprise which will perform work or supply goods and services, and including any third-tier or other subcontractors to Minority Business Enterprises. A completed Women Business Utilization Form which lists the Women Business Enterprise which will perform work or supply the goods and services, and including any third-tier or other subcontractors to Women Business Enterprise. Each Women or Minority Business Enterprise shall be reported on said Form as either performing work or supplying goods or services, but not both.

3. A completed and signed Letter of Intent for each Minority or Women Business Enterprise proposed to be used by the Contractor, other than the contractor itself which lists the Contract items the Minority or Women Business Enterprise has proposed to perform or supply and the proposed price for each item.

4. A copy of executed subcontracts and vendor contracts shall be made available to the Landlord upon request. No Minority or Women Business Enterprise may be removed from the construction site, nor may any changes be made in the work or supply assignments, or reduction made in the dollar value thereof unless the Contractor proposes to substitute one or more Minority or Women Business Enterprises subject to the Landlord's prior approval in order to satisfy the stated requirements of this Section 32.3.

32.4 Conflict of Interests. No member of the Congress of the United States of America shall be admitted to any share or part thereof, or to any benefit to arise from this Lease. No member, official or employee of the Landlord shall have any personal interest, direct or indirect, in this Lease, nor shall any such member, official or employee participate in any decision relating to this Lease which affects his personal interest or the interests of any corporation, partnership or association with he directly or indirectly holds an interest as that term is defined in M.G.L. c.268A.

32.5 Limitation on Liability. No member, official or employee of the Landlord shall be personally liable to Tenant in the event of any default or breach by the Landlord or for any amount which may become due to Tenant or on any obligations under the terms of this Lease.

ARTICLE 33

PARKING

33.1 Parking. Landlord acknowledges that the structure in the Charlestown Navy Yard known as Building 199 has been developed as the parking facility to serve the occupants of the Charlestown Navy Yard. A minimum of five hundred (500) spaces are available to the occupants of the Charlestown Navy Yard, excluding the occupants of Building 149. Landlord pledges, subject to the provisions contained in the Ground Lease dated May 23, 1985 between the Boston Redevelopment Authority and Navy Yard Parking Associates/LNR Venture, to exercise its best efforts to assist the Tenant in obtaining access to parking spaces to meet its reasonable needs.

ARTICLE 34

GENERAL

34.1 Captions. The captions used in this Lease are for the purpose of convenience only and shall not be construed to define, limit or extend the meaning of any part of this Lease.

34.2 Counterparts/Duplicate Copies. Any executed copy of this Lease shall be deemed an original for all purposes.

34.3 Severability. In case any one or more of the provisions contained herein, except for the payment of rent, shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this Lease, but this Lease shall be construed as if such invalid, illegal or unenforceable provision had not been contained herein. This Lease shall be construed and enforced in accordance with the laws of the Commonwealth of Massachusetts.

34.4 Interpretation. The language in all parts of this Lease shall in cases be construed as a whole according to its fair meaning, and not strictly for or against either Landlord or Tenant. When the content of this Lease requires, the neuter gender includes the masculine, the feminine, a partnership or corporation or joint venture, and the singular includes the plural.

34.5 Covenants and Conditions. Each term and provision of this Lease performable by Tenant shall be construed to be both a covenant and a condition conferring upon Landlord, in the event of breach of any such term or condition, the right to terminate this Lease in accordance with and subject to the provisions of Article 18 and Article 23. The termination or expiration of this Lease shall not terminate obligations of the Tenant which remain unperformed at such time (for example, but without limitation, Tenant's obligation under Section 3.1.E, hereof).

34.6 Parties Bound. The covenants and agreements contained in this Lease shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns (to the extent this Lease is assignable under the terms hereof). The Landlord and Tenant each warrant and represent to the other that corporate or other action has been taken by the warranting party to authorize the execution and delivery of this Lease and that this Lease is valid and binding upon it in accordance with its terms.

34.7 Waiver. The waiver by Landlord or Tenant or any breach of any term, covenant or condition herein contained shall not be deemed to be a waiver of such term, covenant or condition or any subsequent breach of the same or any other term, covenant or condition herein contained.

34.8 Reasonable Standard. Each party hereto agrees to act reasonably and in good faith with respect to the performance and fulfillment of the terms of each and every covenant and condition contained in this Lease, and with respect to the exercise of each and every right reserved herein, and wherever in this Lease the consent, approval or exercise of judgment or discretion of either party is required or requested, such consent or approval shall not be withheld or delayed unreasonably, but shall be exercised reasonably and promptly; provided, however, that this Section shall not apply to the exercise of the Landlord's rights under provisions of this Lease relating to its approval of matters involving signs and design and appearance of the Leased Premises and the Improvements, as to all of which Landlord's approvals shall be given or withheld in its sole discretion. The provision in the preceding sentence shall only be applicable, however, during the Landlord's ownership (or ownership by a successor government agency having urban planning responsibility) of the Leased Premises, but in no event shall this limitation be construed in any case as a contractual limitation on the exercise by the Landlord (or such successor agency) of the regulatory powers conferred upon the Landlord (or such successor agency) by any provision of general or special law now in effect or hereafter enacted.

34.9 Interest. Where interest is provided to be paid hereunder, the rate therefor, on an annualized basis, shall be computed quarterly at the base rate (or its reasonable equivalent) from time to time charged by the First National Bank of Boston, but in no event more than the amount, if any, which would violate applicable usury prohibitions.

34.10 Transfer by Landlord. The Landlord hereby agrees that it shall provide to the Tenant not less than thirty (30) days prior written notice with respect to any voluntary transfer or voluntary disposition of the Landlord's interest in the Leased Premises, provided, however, that failure to give such notice shall not affect the validity of any transfer or disposition of the Landlord's interest.

34.11 Management. In recognition of the importance to the Landlord of the maintenance, management and operation of the Property in a first-class manner

consistent with that accorded like properties in the City of Boston, the Tenant agrees to have under written contract at all times a real estate management firm with recognized experience in the management of commercial property of type and use similar to the Leased Premises to provide management services customary for premises of the type, use and location of the Leased Premises.

34.12 No Partnership. It is hereby mutually agreed that between Landlord and Tenant that Landlord shall not, as the result of the rights granted in this Lease, be deemed or considered as co-owner, co-partner or co-venturer with Tenant in or with respect to the Leased Premises or the Property or with respect to any obligation of the Tenant under any sublease of any other contract, agreement or obligation in respect of the Leased Premises or the Property.

ARTICLE 35

INTEGRATION

35.1 Integration. This Lease and the Exhibits and addenda, if any, attached hereto, constitute the entire agreement between the Parties, and there are no agreements or representations between the Parties except as expressed herein. It is the intent of the Parties, in the event of inconsistencies among the documents, that the terms of this Lease be controlling. No subsequent change or addition to this Lease shall be binding unless in writing and signed by the Parties hereto.

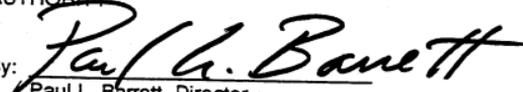
IN WITNESS WHEREOF, the parties hereto have executed this Lease as of the 1st day of December, 1993, under seal.

APPROVED AS TO FORM



Chief General Counsel

LANDLORD: BOSTON REDEVELOPMENT
AUTHORITY

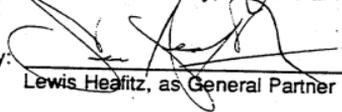
By: 

Paul L. Barrett, Director

TENANT: BUILDING "P" ASSOCIATES
LIMITED PARTNERSHIP

By: 

Terrence W. Conroy, as General Partner

By: 

Lewis Heafitz, as General Partner

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

December 1, 1993

Then personally appeared before me the above-named Lewis Heafitz and Terrence W. Conroy, as General Partners of Building "P" Associates Limited Partnership, who executed the foregoing Ground Lease on behalf of said Limited Partnership.



Notary Public

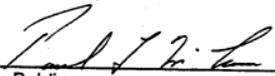
My Commission Expires: *March 3, 2000*

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

December 1, 1993

Then personally appeared before me the above-named Paul L. Barrett, as Director of the Boston Redevelopment Authority, who executed the foregoing Ground Lease on behalf of the Boston Redevelopment Authority.



Notary Public

My Commission Expires: *July 10, 1997*

EXHIBIT A
BUILDING "P"

LEGAL DESCRIPTION OF LEASED PREMISES

A certain parcel of land situated on the easterly side of 13th Street and the northerly side of 5th Avenue, in the City of Charlestown in the County of Suffolk, Commonwealth of Massachusetts, bound and described as follows:

Beginning at a point on the northerly side line of 5th Avenue and the intersection of 13th Street; thence

- o Northerly and curving to the right along the arc of a curve having radius of seven and fourteen hundredths (7.14) feet, a length of fourteen and fifteen hundredths (14.15) feet to a point at 13th Street; thence
- N 17-11-47 W Eighty-one and fifteen hundredths (81.15) feet to a point; thence
- N 59-26-03 W Seven and No hundredths (7.00) feet to a point; thence
- N 30-33-57 E Thirteen and ninety-eight hundredths (13.98) feet to a point; thence
- N 28-37-08 E Eighteen and thirty-nine hundredths (18.39) feet to a point; thence
- S 59-18-06 E One hundred twelve and ten hundredths (112.10) feet to a point; thence
- S 48-15-05 W Twenty-five and twenty-eight hundredths (25.28) feet to a point; thence
- N 40-46-34 W Four and fifty hundredths (4.50) feet to a point; thence
- S 49-13-26 W Sixty-four and forty-seven hundredths (64.47) feet to a point of beginning on 5th Avenue.

The above described Parcel is shown on a plan titled "Compiled Plan of Land, Building "P", Charlestown Navy Yard in Charlestown, MA, dated March 6, 1992 by R.H. Cole Associates containing 6,114 square feet, more or less.

EXHIBIT B

PERMITTED TITLE EXCEPTIONS

Covenants, agreements, terms and conditions of the Boston Redevelopment Authority Urban Renewal Plan, Charlestown Urban Renewal Area, Project No. Mass. 5-55 dated February 25, 1965, recorded in Book 8136, Page 704, as amended by instrument dated July 16, 1976, said amendment being approved by the Commonwealth of Massachusetts Executive Office of Communities and Development by letter dated January 28, 1977.

Easements, covenants, agreements, restrictions, conditions, and rights of re-entry created and referred to in deed from General Services Administration to Boston Redevelopment Authority dated July 7, 1978, recorded in Book 9182, Page 149.

Paragraph 4.04 of "Agreement" between Boston Redevelopment Authority (the "BRA"), as affected by respectively: (a) "First Amendment to Agreement dated December 7, 1978," between the BRA and Immobiliare New England Joint Venture ("Immobiliare New England J/V"), dated July 12, 1984; (b) "Agreement," by and between the BRA and Immobiliare New England J/V, dated July 12, 1984, recorded in Book 11062, Page 012; (c) "Assignment of Agreement," by Immobiliare New England J/V, as assignor, to the Trustees of Navy Yard Realty Trust, as assignee, dated July 25, 1986 and recorded in Book 12703, Page 315; (d) "Second Amendment to Agreement Dated December 7, 1978," between the BRA and Immobiliare New England, A Limited Partnership, a Massachusetts limited partnership (successor to Immobiliare New England J/V), dated June 25, 1987; and (e) "Amended and Restated Land Disposition Agreement," between the BRA and Immobiliare New England, A Limited Partnership, dated September 30, 1990.

Rights of the Federal government in the form of a Federal Navigational Servitude.

NOTE: The following items affect only rights of travel in streets and ways now existing or hereafter created in the Historic Monument Park as described in deed referred to in Schedule B Part I, item (3) and for utility tie-ins to systems now or hereafter existing in the Historic Monument Parcels and affect only the footing easements, to be granted in the lease to which this Schedule is attached.

Terms, provisions, covenants, and rights of reverter set forth in the deed of Parcel 3 of the Boston Redevelopment Authority Plan from Heritage Conservation and Recreation Service to the Boston Redevelopment Authority dated May 15, 1979, recorded May 25, 1979, with the said Registry of Deeds in Book 9182, Page 134.

Terms, provisions, covenants, and agreements contained in the Deed of parcel 2 on the Boston Redevelopment Plan from the General Service Administration to the

Boston Redevelopment Authority dated May 21, 1979, with said Registry of Deeds in Book 9182, Page 165.

Terms and provisions of the following deeds from the Boston Redevelopment Authority:

- (a) to Jeffrey A. Bullen, Trustee of Shipyard Quarters Trust dated March 24, 1982, recorded in Book 9928, Page 520.
- (b) to Jeffrey A. Bullen, Trustee of Shipyard Marina Trust dated March 24, 1982, recorded in Book 9928, Page 551.
- (c) to Immobiliare New England dated July 12, 1984, recorded in Book 11062, Page 3.
- (d) to Building 42 Associates dated May 24, 1979, recorded in Book 9182, Page 225.
- (e) to Building 103 Associates Limited Partnership Parcel 3A dated April 12, 1985, recorded May 9, 1985 as Instrument No. 222.
- (f) to Immobiliare New England dated April 12, 1985, recorded May 8, 1985, in Book 11573, Page 307.
- (g) to Immobiliare New England dated April 12, 1985, recorded May 8, 1985, in Book 11574, Page 6.

Quitclaim Deed of Easement by the United States of America, acting by and through the Regional Director, North Atlantic Region, National Park Service to Boston Redevelopment Authority dated February 8, 1985, recorded in Book 11511, Page 202.

Agreement to Exchange Real Property between National Park Service Division of the United States Department of Interior and Boston Redevelopment Authority dated April 2, 1979, recorded in Book 9182, Page 200.

**BOSTON RESIDENTS CONSTRUCTION EMPLOYMENT PLAN
BUILDING "P" IN THE CHARLESTOWN NAVY YARD**

WHEREAS, Building "P" Associates Limited Partnership, and the Boston Redevelopment Authority (the "BRA"), desire to bring the construction employment benefits of the Project, as hereinafter defined, to residents of the City of Boston, minorities and women;

WHEREAS, the BRA, as Landlord, and the Developer, as Tenant, executed on the date hereof, a certain Lease, entitled Building "P" Ground Lease (the "Lease") for the development of the Project;

WHEREAS, an ordinance entitled "Establishing The Boston Residents Jobs Policy," Chapter 30 of the Ordinances of 1983, was passed by the Boston City Council (the "City Council") on September 23, 1983 and signed by the Mayor of the City of Boston (the "Mayor") on October 14, 1983 (the "Jobs Policy Ordinance");

WHEREAS, the Mayor signed an Executive Order on July 12, 1985, entitled "Extending the Boston Residents Jobs Policy" (the "Jobs Policy Executive Order") and on July 25, 1985 the BRA by vote adopted as policy the standards as set forth in such Jobs Policy Executive Order;

WHEREAS, an ordinance entitled "Establishing the Boston Employment Commission," Chapter 12 of the Ordinances of 1986 was passed by the City Council on July 30, 1986 and signed by the Mayor on August 12, 1985, as amended by Chapter 17 of the Ordinances of 1986 which was passed by the Mayor on August 12, 1985, as amended by Chapter 17 of the Ordinances of 1986 which was passed by the City Council on September 10, 1986 and signed by the Mayor on September 26, 1986 and this ordinance as amended created the Boston Employment Commission ("BEC") with such powers and functions as set forth therein (the "BEC Ordinance");

WHEREAS, the Jobs Policy Ordinance and the Jobs Policy Executive Order are incorporated herein by reference as if fully set forth herein and the BEC Ordinance is annexed hereto as Exhibit "A" and made a part hereof;

WHEREAS, in accordance with Article 32, Section 32.2 of the Lease, the Developer agreed to submit to the BRA and execute a "Boston Residents Construction Employment Plan" prior to the issuance of any licenses or permits for the Project; and

WHEREAS, this plan is the "Boston Residents Construction Employment Plan" as referred to in said Article 32, Section 32.2 of the Lease (the "Plan");

NOW, THEREFORE, the Developer and the BRA (hereinafter collectively referred to as the "Parties") agree that the Plan for the Project is as follows:

SECTION 1. DEFINITIONS. In addition to terms elsewhere defined in this Plan, the following terms shall have the meanings set forth below. Capitalized terms used in this Plan without definition herein shall be as so defined and have the meanings ascribed to them in the BEC Ordinance.

1.1 **Contractor:** The general contractor for the Project engaged from time to time by the Developer and where the context requires any subcontractor thereto. In accordance with Article 31, Section 31.12 of the Lease, the general contractor for the Project shall be Conroy Construction Company, Inc. ("Conroy") under a construction contract between the developer and Conroy. This term shall include any successor or replacement general contractor for the Project under a construction contract with the Developer.

1.2 **On-Site Monitor:** An individual employed by the Contractor whose responsibility will be: (i) to serve as compliance officer for the purpose of pursuing the Boston Residents Employment Standards and (ii) the daily implementation of this Plan. As used in paragraphs 3.5 and 3.6, the phrase "On-Site Monitor" shall also include the individual designated by each subcontractor to serve as compliance officer for the purpose of pursuing the Boston Residents Employment Standards.

1.3 **Project:** Building "P" located within the Historic Monument Area of the Charlestown Navy Yard consists of a 2-story brick structure with a building area of approximately 5,470 gross square feet. Notwithstanding that the Project may not be a Covered Project, as that term is defined in Section 1(6), Subsections (i) and (ii) of the BEC Ordinance, the Parties agree that the Project shall be deemed to be a Covered Project for the purpose of the BEC Ordinance and this Plan in all respects. All of the provisions of the BEC Ordinance shall apply to the Project except where specifically stated herein.

Section II. GENERAL REQUIREMENTS

2.0 Developer shall use Best Efforts to ensure that the Boston Residents Construction Employment Standards are met by its Contractor in constructing the Project.

2.1 Developer shall incorporate into its construction contract with Contractor and shall require Contractor to incorporate into each of its subcontracts provisions requiring that Contractor and each subcontractor engaged in construction in connection with the Project comply with this Plan. The incorporation by reference of this Plan into any such construction contract or subcontract shall satisfy such obligation.

2.2 Documentation of the Developer's compliance herewith shall be maintained by the Developer; documentation of Contractor's compliance herewith shall be maintained by the On-Site Monitor. Developer shall provide copies of such

documentation to the BRA as required herein or as requested from time to time by the BRA.

2.3 Developer shall cause Contractor to prepare a projection of workforce needs over the course of construction of the Project and to complete the Projected Workforce Form attached hereto as Exhibit "B" and incorporated herein by reference. Contractor construction of the Project, but not more frequently than quarterly.

2.4 The BRA shall make determination as to compliance by Developer and Contractor with the Boston Residents Construction Employment Standards at time intervals set out in one of the following two schedules, whichever allows for more frequent determinations:

1. When the Project is 25, 50, 75 and 100 percent complete; or
2. Every three months from the date of commencement of construction of the Project.

"Percent complete" shall be measured by the percentage of the total worker hours expected to be worked on the Project as set forth in the projection of workforce needs shown on the Projected Workforce Form submitted pursuant to paragraph 2.3 above.

The Parties agree that the BRA may, at its election, assign its rights to monitor and make determinations as to non-compliance to BEC at any time. The BRA shall notify the Developer, and all Contractors of this assignment. No other document evidencing such assignment shall be required. Further, the Parties acknowledge and agree that the Economic Development and Industrial Corporation of Boston ("EDIC"), acting by and through its Jobs and Community Services Department, is the successor to the "Mayor's Office of Jobs and Community Services" or "OJCS", as described in the BEC Ordinance, Section 1(8) and shall have and may exercise all of the powers and functions of "OJCS" as enumerated in the BEC Ordinance.

2.6 Developer shall meet with Contractor no less frequently than weekly throughout the period of construction of the Project to review Boston Residents Construction Standards. Developer shall record and maintain minutes of such meetings and forward copies thereof to the BRA within ten (10) calendar days of such meetings.

2.7 Developer shall require that Contractor and each subcontractor designate an individual to serve as compliance officer for the purpose of pursuing the Boston Residents Construction Standards.

Section III. PROCEDURES

3.0 Developer shall furnish to the BRA the name, title, business address and telephone number of the person designated as the On-Site Monitor.

3.1 Prior to the commencement of construction, Developer and Contractor shall meet with representatives of the BRA for the purpose of discussing and agreeing upon the methods and procedures for the implementation of the provisions of this Plan. Such meeting (the "Pre-Construction Conference") shall be attended by subcontractors to the Contractor then selected, if any, who shall have been notified by mail of the time, place, and purpose of such Pre-Construction Conference at least three (3) days in advance thereof.

3.2 Prior to the commencement of construction, Contractor and each subcontractor thereto then selected, if any, shall meet with appropriate representatives of the construction trade unions, and the BRA for the purpose of reviewing the Boston Residents Construction Employment Standards and the estimated employment requirement for construction workers over the course of construction of the Project.

3.3 Within three (3) days after the employment or assignment of a worker to work on the Project, Contractor and each subcontractor will obtain from such worker a completed and signed Residency Verification Form in the form attached hereto as Exhibit "C" and incorporated herein by reference. The Residency Verification Form shall be submitted to the BRA together with the first Weekly Utilization Report on which such worker's employment is first reported. If the Contractor or subcontractor shall have requested a worker to complete such Residency Verification Form and the worker shall have refused to do so, in lieu of such Residency Verification Form, the Contractor or subcontractor shall submit a sworn statement that the worker has been requested to complete and sign such form but has refused.

3.4 One week following the commencement of construction of the Project and each week thereafter until such work is completed, the On-Site Monitor shall complete and submit to the BRA for the week just ended Weekly Utilization Reports in the form attached hereto as Exhibit "D" and incorporated herein by reference. In lieu of submission of the form attached hereto and with the consent of the BRA, the On-Site Monitor may submit payroll records containing the same information as required on the form attached hereto as Exhibit "D."

3.5 All persons applying directly to the Contractor or any subcontractor for employment in construction of the Project who are not employed by the person to whom application for employment is made shall be referred by such person to the BRA. The On-Site Monitor shall forward in writing to the BRA, within two (2) business days of receipt thereof, the names, home addresses and telephone numbers of all persons applying directly to the Contractor or any subcontractor for employment in construction of the Project who are not employed by the persons to whom application

for employment is made. The On-Site Monitor shall keep a written record of all referrals made to the BRA pursuant to this paragraph 3.5 of any person referred to the Contractor or any subcontractor by the BRA or EDIC but was not hired, and the reasons any persons so referred were not hired. It shall be a sufficient reason for failure to hire any person so applying or referred that employment of such person would not comply with any union security clauses contained in any applicable collective bargaining agreements to which construction of the Project is subject.

3.6 Each request for qualified construction workers made by the Contractor or any subcontractor to a union hiring hall, business agent, or contractor's association shall contain a recitation of the Boston Residents Construction Employment Standards in the Workforce Request Documentation Form attached hereto as Exhibit "E" and incorporated herein by reference. Each request shall state that referrals for construction positions be referred in the same proportion as such Boston Residents Construction Employment Standards; provided, however, that if at the time of any such labor request the requesting party's workforce composition falls short of the Boston Residents Construction Employment Standards in any one or more categories, such labor request shall seek referrals in such proportion among such categories as would be necessary to more fully achieve the proportions set forth in the Boston Residents Construction Employment Standards. In the event that the union hiring hall, business agent or contractor's association to whom or which such a request has been made fails to fully comply with such request, the requesting party's On-Site Monitor shall seek written confirmation from the union hiring hall, business agent or contractor's association that there are insufficient workers in the categories specified in such request then shown on the list of unemployed workers maintained by such union hiring hall, business agent or contractor's association. Copies of any confirmation so obtained shall be submitted promptly to the BRA. Copies of any request for qualified workers made at a time that the requesting party's workforce composition falls short of any one or more of the Boston Residents Construction Employment Standards shall be forward contemporaneously to EDIC.

3.7 Representatives of the BRA, BEC or EDIC may visit periodically the site of the Project during normal working hours to verify the information in the Weekly Utilization Reports, Residency Verification Forms, or other documentation submitted by the Contractor or the Developer. Such representatives shall comply with all safety and site control requirements imposed by the Contractor.

Section IV. DETERMINATION OF COMPLIANCE

4.0 Failure by Developer, or the Contractor, as the case may be, as determined by the BRA at the determination intervals set forth in paragraph 2.4 hereof, (i) to comply with the Boston Residents Construction Employment Standards, (ii) to comply with this Plan, or (iii) use Best Efforts in attempting to comply with the Boston Residents Construction Employment Standards, shall constitute non-compliance herewith. Any determination by the BRA of non-compliance as herein

defined shall be made only after the BRA has held a public hearing upon the issue of such non-compliance, notice of which shall have been given in writing to the Developer and Contractor at least fourteen (14) days prior to such hearing. Notwithstanding the foregoing to the contrary, the BRA shall be subject to all of the procedural requirements that apply to non-compliance determinations by BEC under the BEC Ordinance to the extent such requirements apply to the BRA under applicable law.

Section V. SANCTIONS

5.0 Upon determination by the BRA of non-compliance with the Boston Residents Construction Employment Standards, the BRA may at its election impose sanctions, as hereinafter described, against the Developer, or any Contractor. The sanctions that may be imposed are set forth in the BEC Ordinance, Section 9, Subsections (1), and (2) and (3). The Parties agree that the requirements of Section 8 of the BEC Ordinance with regard to the establishment of an escrow fund shall not apply to this Project in any respect.

5.1 All fines in accordance with the BEC Ordinance shall be deemed imposed upon the Developer, or any Contractor by the BRA in its capacity as the "contracting agency" within the meaning of the BEC Ordinance.

5.2 Developer, and the Contractor shall be subject to such sanctions as are authorized by the BEC Ordinance. Each Contractor shall execute a Confirmation Agreement in substantially the form attached hereto as Exhibit "F" and incorporated herein by reference prior to commencing any work on the Project.

5.3 The Parties agree that the BRA is authorized to enforce and/or collect sanctions or fine imposed in accordance with the BEC Ordinance and/or this Plan, including but not limited to, appropriate legal action. Notwithstanding the execution of this Plan or any Confirmation Agreement, respectively the Developer, or any Contractor shall not be deemed to have waived or otherwise forfeited any rights and defenses under applicable law to appeal a decision to impose sanctions or contest the enforcement or collection of any sanctions or fines.

Section VI. MISCELLANEOUS

6.0 The provisions of this Plan are severable, and if any shall be held invalid, unconstitutional or otherwise unenforceable by any court of competent jurisdiction, the decision of such court shall not affect or impair any of the remaining provisions.

6.1 This Plan shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts.

6.2 All notices required or permitted to be given under this Plan shall be in writing signed by duly authorized officers, and be deemed delivered if mailed, postage prepaid, by registered or certified mail, return receipt requested, or by hand to the principal office of the party to which it is directed, which is as follows unless otherwise designated by written notice to the other party:

Developer: Building "P" Associates, L.P.
The Captain's Quarters
Building 266
One Thirteenth Street
Charlestown, MA 02129

Lewis Heafitz
Heafitz & Company
One Thirteenth Street
Charlestown, MA 02129

with copy to: Gerald T. Doherty, Esq.
Bass & Doherty
40 Soldiers Field Place
Boston, MA 02135

BRA: Boston Redevelopment Authority
One City Hall Square / 9th Floor
Boston, MA 02201
Attention: Director's Office

with copy to: Office of Contract Compliance
Boston Redevelopment Authority
33 Third Avenue / Building 33
Charlestown Navy Yard
Charlestown, MA 02129
Attention: George Winston

6.3 Section titles of this Plan are for convenience of reference only and shall be disregarded in construing any provision hereof.

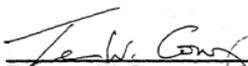
6.4 The provisions of this Plan shall be binding upon, and inure to the benefit of, the successors and assigns of the BRA and the successor owners of the Project.

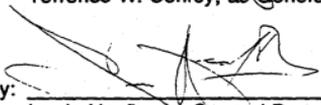
6.5 In case of any conflict or inconsistency between the provisions of this Plan, those of the BEC Ordinance, or those of any rules or regulations which may be adopted by the BEC pursuant to the BEC Ordinance, the provisions of the BEC Ordinance, or of such rules or regulations, shall apply and govern. Similarly, in the case of any conflict or inconsistency among the provisions of the Lease, the Jobs

Policy Ordinance, the Jobs Policy Executive Order and the BEC Ordinance and related rules or regulations thereunder, the provisions of the BEC Ordinance and such rules or regulations shall govern.

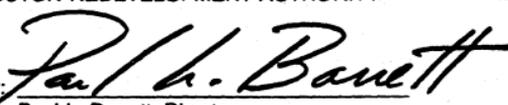
IN WITNESS WHEREOF, the Parties have caused this Plan to be executed and delivered on the 1st day of December, 1993.

BUILDING "P" ASSOCIATES LIMITED
PARTNERSHIP, BY ITS GENERAL
PARTNERS:

By: 
Terrence W. Conroy, as General Partner

By: 
Lewis Heafitz, as General Partner

BOSTON REDEVELOPMENT AUTHORITY

By: 
Paul L. Barrett, Director

DATE: 12/17/93

APPROVED AS TO FORM:


Kevin J. Morrison
Chief General Counsel
Boston Redevelopment Authority

SRPT.17
112993

BEC ORDINANCE

Consisting of Collectively: Chapter 12 of the Ordinances of 1986; As Amended By:
Chapter 17 of the Ordinances of 1986

CITY OF BOSTON



IN THE YEAR NINETEEN HUNDRED AND EIGHTY SIX

AN ORDINANCE

ESTABLISHING THE BOSTON EMPLOYMENT COMMISSION

Be it ordained by the City Council of Boston, in accordance with the provisions of Massachusetts General Laws Chapter 43B, Section 13, and any other applicable law, as follows:

Preamble: Policy of the City of Boston

1. WHEREAS there is a need to ensure that Boston residents
2. receive maximum benefits from the growing private economy of
3. their city and the economic resurgence of office, hotel,
4. retail, institutional, and unsubsidized residential
5. development, including the permanent jobs which emanate from
6. this economic expansion; and
7.

8. WHEREAS there is unemployment and underemployment in the
9. City of Boston, both among majority and minority residents; and

10. WHEREAS Boston is experiencing a resurgence in its economy
11. that is creating the potential for unprecedented economic
12. opportunity; and

13. WHEREAS Boston has fully established itself as the economic
14. center for the entire New England region and is generating
15. wealth and revenues for people throughout the region; and

16. WHEREAS one principal aspect of a strong and vibrant city
17. is the ability of its breadwinners to gain access to secure
18. jobs that pay a living wage; and

19. WHEREAS Black, Hispanic, Asian and Native American
20. residents of the City of Boston, as well as women residents

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1. have historically been underrepresented in the workforce; and

2. WHEREAS an Ordinance establishing the Boston Residents Jobs
3. Policy, Ordinances of 1983, Chapter 30, was promulgated to
4. insure that Boston residents, minorities, and women receive job
5. preference in projects that have city funds or state or federal
6. funds administered by the city; and

7. WHEREAS the Mayor issued an Executive Order relating to the
8. Boston Residents Jobs Policy, dated July 12, 1985, which
9. established Resident Construction Employment Standards to
10. further ensure employment for Boston residents, minorities, and
women; and

12. WHEREAS under the Boston Residents Jobs Policy, Boston
13. residents are enjoying greatly improved access to jobs in the
14. downtown construction industry; and

15. WHEREAS it is the policy of this City government to ensure
16. that all people enjoy fair and open access to employment in
17. permanent jobs in the private sector; and

18. WHEREAS it can be shown that broader cooperation from the
19. private sector can produce meaningful employment opportunities
20. for Boston residents who want and need them; and

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1. WHEREAS job placement is contingent upon proper job training
2. and without necessary skills some Boston residents cannot
3. secure permanent jobs; and

4. WHEREAS it is essential to the success of the 1983 Boston
5. Residents Jobs Policy Ordinance and the 1985 Mayor's Executive
6. Order that projects and employment plans be monitored, that
7. findings be made with respect to compliance, and that
8. recommendations for sanctions be determined, and that all this
9. be done in a manner that provides for the due process rights of
10. all parties; and

11. WHEREAS it is essential to engender an atmosphere of
12. cooperation between the public and private sectors with respect
13. to permanent jobs for Boston residents, minorities, and women;
14. and

15. WHEREAS the following is declared to be in the public
16. interest; now

17. THEREFORE, be it ordained as follows:

18. SECTION ONE: Definitions

19. For the purposes of this Ordinance, the following
20. definitions shall apply, unless the context otherwise requires:

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1. (1) "Best Efforts." Developers and contractors may rely on
2. traditional referral methods in the hiring of journeymen,
3. apprentices, advanced trainees and helpers. Developers and
4. contractors also shall implement affirmative action steps which
5. include the following to the extent that such steps do not
6. conflict with any applicable collective bargaining agreements:

7. As to Contractors:

8. (i) The contractor shall designate and shall require
9. each subcontractor to designate an individual to
10. serve as a compliance officer for the purpose of
11. pursuing the Boston Residents Construction
12. Employment Standards ("Standards").

13. (ii) Prior to the start of construction, the contractor
14. and each subcontractor then selected shall meet
15. with appropriate representatives of the
16. construction trade unions, representatives from the
17. Mayor's Office of Jobs and Community Services, and
18. the awarding or contracting authority for the
19. purpose of reviewing the Standards and the
20. estimated employment requirements for construction

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activity over the construction period of the Covered Project.

1. (iii) Whenever any person involved in the construction of
2. a Covered Project makes a request to a union hiring
3. hall, business agent or contractor's association
4. for qualified construction workers, the request
5. shall ask that those qualified applicants referred
6. for construction positions be referred in the
7. proportions specified in the Boston Resident
8. Construction Employment Standards and shall,
9. further, contain a recitation of such Standards.
10. However, if the requesting party's workforce
11. composition at any time falls short of any one or
12. more of the proportions specified in the Standards,
13. the requesting party shall adjust his or her
14. request so as to seek to more fully achieve the
15. proportions specified in the Standards. If the
16. union hiring hall, business agent or contractor's
17. association to whom a request for qualified
18. employees has been made fails to fully comply with
19. such request, the requesting party's compliance
20.

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1. officer shall seek written confirmation from the hall, agent or
2. association that there are insufficient employees in the
3. categories specified in the request and that such insufficiency
4. is documented on the unemployed list maintained by the hall,
5. agent or association. Copies of any confirmation so obtained
6. shall be forwarded to the Commission. Copies of any requests
7. for qualified employees made at a time that the requesting
8. party's workforce composition falls short of any one or more of
9. such Standards shall be forwarded contemporaneously to the
10. Skills Bank.

11. (iv) All persons applying directly to the Contractor or
12. any subcontractor for employment in construction on
13. a Covered Project who are not employed by the party
14. to whom application is made shall be referred by
15. said party to the Mayor's Office of Jobs and
16. Community Services, and a written record of such
17. referral shall be made by said party, a copy of
18. which shall be sent to such Office of Jobs and
19. Community Services.

20. (v) Contractors shall maintain a current file of the

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1. names, addresses, and telephone numbers of each Boston
2. resident, minority, and woman who has sought employment with
3. respect to a Covered Project, or who was referred to the
4. contractor by the Mayor's Office of Jobs and Community Services
5. but was not hired. The contractor shall maintain a record of
6. the reason any such person was not hired. If the construction
7. of the Covered Project is subject to any union collective
8. bargaining agreements, it shall be deemed a sufficient reason
9. for failure to hire that the applicant for employment was not a
10. union member.

11. (vi) The contractor shall in a timely manner complete
12. and submit to the Commission a projection of
13. workforce needs over the course of the construction
14. of the Covered Project. Such a submission shall
15. reflect needs by trade for each month of the
16. construction process.

17. (vii) The contractor shall obtain from each worker
18. employed in the construction of the Covered Project
19. a sworn statement containing the worker's name and
20. place of residence.

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1. (viii) One week following the commencement of construction
2. of the project, and each week thereafter until such
3. work is completed, the contractor shall complete
4. and submit to the Mayor's Office of Jobs and
5. Community Services for the week just ended a report
6. which reflects (a) for each employee, the
7. employee's name, place of residence, race, gender,
8. trade and the total number of worker hours he or
9. she worked, and (b) the total worker hours of its
10. total workforce.

11. (ix) The contractor and each subcontractor shall
12. maintain records reasonably necessary to ascertain
13. compliance with the steps detailed in clauses (i)
14. through (viii) hereof for at least one year after
15. the issuance of a Certificate of Occupancy for the
16. Covered Project. In its review of records of a
17. construction project submitted to demonstrate
18. compliance with these steps, the Commission shall
19. take into consideration any affirmative action
20. outreach programs and affirmative action job

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1. training programs of the particular trades participating in the
2. Covered Project.

3. As to Developers:

4. (x) Developers of Covered Projects shall incorporate in
5. every general construction contract or construction
6. management agreement an enumeration of the
7. Standards and shall impose a responsibility upon
8. any such general contractor or construction manager
9. to take all steps enumerated in clauses (i) - (ix)
10. in Section One (1) and to incorporate such
11. Standards in all subcontracts and impose upon all
12. subcontractors the obligation to take such steps.

13. (xi) The developer shall meet with the contractor no
14. less frequently than weekly throughout the period
15. of construction of the Covered Project to review
16. the contractor's compliance with such Standards and
17. steps. The developer shall maintain minutes of
18. such meetings and shall forward a copy of such
19. minutes to the Mayor's Office of Jobs and Community
20. Services within ten (10) days of each such meeting.

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1. (xii) The developer shall comply with the escrow deposit
2. requirements of Section Eight hereof.

3. (2) "Boston Employment Commission", hereinafter
4. "Commission." There shall be in the City a Commission known as
5. the Boston Employment Commission, consisting of seven (7)
6. members, all appointed by the Mayor. The Commission shall have
7. the powers and duties set forth in Section Three herein. The
8. members of the Commission shall be deemed special municipal
9. employees for purposes of Chapter 268A of the Massachusetts
10. General Laws.

11. (3) "Boston Resident." Any person for whom the principal
12. place where that person normally eats and sleeps and maintains
13. his or her normal personal and household effects is within the
14. city limits of the City of Boston.

15. (4) "Boston Residents Construction Employment Standards."
16. The standards as contained below:

17. (i) At least fifty percent (50%) of all Worker-Hours on
18. a craft-by-craft basis in Covered Projects shall be
19. worked by Boston Residents;

20. (ii) At least twenty-five percent (25%) of all

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Worker-Hours on a craft-by-craft basis in Covered Projects shall be worked by Minority Persons;

- (iii) At least ten percent (10%) of all Worker-Hours on a craft-by-craft basis in Covered Projects shall be worked by women.

(5) "Boston Resident New Hire Goals" The Commission will determine baseline hiring goals for Boston residents, minorities and women, such determination to be based upon a consideration of:

- (i) current workforce composition;
 - (ii) the composition of the workforce that is unemployed;
 - (iii) numbers and categories of new job opportunities being created in Boston; and
 - (iv) an examination of employment trends in Boston over the last 5 years.

The Commission shall reevaluate annually, and modify if appropriate, such goals based upon the number of permanent full-time equivalent new hires of Boston residents, minorities and women during the previous calendar year.

- (6) "Covered Projects." All projects, contracts, or

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1. agreements within the jurisdiction of:

2. (i) the Boston Residents Jobs Policy, Ordinances of
3. 1983, Chapter 30 (hereinafter referred to as "Jobs
4. Ordinance") and for which the contract or agreement
5. is executed after the effective date of this
6. ordinance; and

7. (ii) any new construction or substantial rehabilitation
8. project in the city to which any partial or full
9. building permit has not already been issued for
10. this specific construction or rehabilitation,
11. dedicated to a retail, restaurant, and/or
12. institutional use as defined in the Boston Zoning
13. Code, which requires approval by the Zoning Board
14. of Appeals and in which it is proposed to erect a
15. structure or structures having a total gross floor
16. area (exclusive of all accessory parking garage
17. space) in excess of one hundred thousand (100,000)
18. square feet or to enlarge or extend a structure or
19. structures so as to increase its (or their) gross
20. floor area (exclusive of all accessory parking

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1. garage space) by more than one hundred thousand (100,000)
2. square feet or to substantially rehabilitate a structure or
3. structures having, or to have, after rehabilitation, a gross
4. floor area (exclusive of accessory parking garage space) of
5. more than one hundred thousand (100,000) square feet.

6. (7) "Major Employer." Any corporation, partnership,
7. individual, or institution which employs more than five hundred
8. people to work within the City of Boston.

9. (8) "Mayor's Office of Jobs and Community Services,"
10. hereinafter "OJCS". The agency within the City of Boston
11. government responsible for compiling compliance information in
12. accordance with the Boston Residents Construction Employment
13. Standards and the Minority Business Enterprise/Women's Business
14. Enterprise Programs.

15. (9) "Minority Business Enterprise" ("MBE") A business
16. organization in which 51% in the aggregate of the beneficial
17. ownership is held by one or more minority persons.

18. (10) "Womens Business Enterprise" ("WBE") A business
19. organization in which 51% in the aggregate of the beneficial
20. ownership is held by one or more women.

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1. (11) "Minority Person" or "Minority". Any person who is
2. Black, Hispanic, Asian, or Native American, as these terms are
3. defined by the United States Census Bureau.

4. (12) "Permanent Job." Any full-time position, or its
5. equivalent, that an employer would fill year-round and continue
6. to fill indefinitely in a particular location.

7. (13) "Skills Bank." A job screening and referral bank
8. maintained by OJCS, which shall refer residents to available
9. jobs and/or to appropriate training programs, including but not
10. limited to, programs offered at the Hubert Humphrey
Occupational Resource Center.

12. (14) "Voluntary Employment Plan." Any plan to promote
13. hiring for jobs in Boston of Boston residents, minorities,
14. and/or women developed by a Major Employer or a group of Major
15. Employers.

16. (15) "Worker-Hours." The sum total of all hours worked by
17. all persons performing construction work.

18. SECTION TWO: Scope of Jurisdiction

19. The Commission's jurisdiction shall extend to: (1) Covered
20. Projects and (2) assistance in the formulation and monitoring

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1. of Voluntary Employment Plans.

2. SECTION THREE: Powers and Duties

3. A. Covered Projects

4. (1) The Commission shall make determinations as to
5. compliance by developers and contractors with the
6. Boston Residents Construction Employment
7. Standards. The Commission shall gather and receive
8. compliance information from OJCS, investigate
9. noncompliance complaints, make compliance
10. determinations and, where appropriate, shall
11. recommend sanctions to the awarding or contracting
12. authority. The Commission may gather compliance
13. information at any time and shall make compliance
14. determinations in phases for each Covered Project
15. in accordance with Sections Five, Six and Seven
16. herein. For projects under construction upon the
17. passage of this ordinance, all existing contracts
18. and agreements shall remain in full force and
19. effect and the provisions of this ordinance shall
20. not otherwise apply.

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1. (2) The Commission shall have the authority to
2. require developers of Covered Projects to submit:
3. (i) detailed plans which show how the developer
4. intends to meet the Boston Residents Construction
5. Employment Standards; and (ii) detailed plans
6. which show how the developer intends to meet
7. MBE/WBE goals contained in or applicable to City
8. contracts.

9. (3) In the review of such detailed plans, the
10. Commission shall consider any affirmative action
11. outreach programs and affirmative action job
12. training programs of the particular trades
13. participating in the Covered Project and
14. participation, if any, of the developer or the
15. contractor in any such program.

16. (4) The Commission shall monitor MBE/WBE goals
17. contained in or applicable to City contracts. The
18. Commission shall receive compliance information
19. from OJCS and shall recommend to the awarding or
20. contracting authority appropriate remedies for

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1. noncompliance.

2. (5) The Commission shall monitor Davis-Bacon Act
3. requirements contained in City agency or authority
4. contracts. The Commission shall receive
5. compliance information and shall forward any
6. information concerning apparent noncompliance to
7. appropriate federal agencies.

8. B. Voluntary Employment Plans

9. (1) The Commission shall meet with a group of
10. representatives of Major Employers to review
11. voluntary aggregate hiring goals set by said
12. employers.

13. (2) The Commission shall receive information
14. concerning the success in meeting the voluntary
15. aggregate hiring goals.

16. The Commission shall encourage a group representing
17. the Major Employers to issue an annual public
18. report on the success of this effort and of
19. voluntary business programs such as Boston Summer
20. Jobs Program, the Boston Compact and BostonWorks.

AN ORDINANCE

1. (3) The Commission shall encourage Major Employers
2. to adopt Voluntary Employment Plans, which promote
3. a collaboration between the public and private
4. sectors to expand employment opportunities for
5. Boston residents, minorities and women. The
6. Commission shall encourage Major Employers to
7. incorporate the Boston Resident New Hire Goals in
8. their Voluntary Employment Plans. The Commission
9. shall advise OJCS and other City agencies of the
10. amounts and types of assistance identified by Major
11. Employers as being necessary to achieve the goals
12. included in their Voluntary Employment Plans. Such
13. assistance may include, but is not limited to, job
14. training, adult literacy and referral services.
15. The Commission may conduct surveys to assess the
16. progress made toward hiring goals as to Boston
17. residents, minorities and women.

18. C. General

19. (1) The Commission shall have the authority to
20. promulgate regulations as to matters within the

AN ORDINANCE

1. Commission's purview after public notice and hearing and upon a
2. majority vote of all members.

3. (2) The Commission shall cause to be created, in
4. conjunction with the Mayor's Office of Jobs and
5. Community Services, a job training program. Said
6. job training program shall be conducted at the
7. appropriate sites which may include the Hubert
8. Humphrey Occupational Resource Center, or its
9. successor, or other appropriate skills training
10. facilities. The purpose of said training program
11. is to provide skills training to any Boston
12. Resident in order to be fully qualified for entry
13. into existing apprenticeship programs or jobs.
14. Subject to appropriation by the Mayor and the City
15. Council, any fines levied against the escrow fund
16. set out in Section Eight shall be for the benefit
17. of this jobs training program and no other.

18. SECTION FOUR: Composition

19. The Commission shall be composed of seven (7) members, all
20. of whom shall be appointed by the Mayor. The Commission shall

AN ORDINANCE

1. be representative of the interests of business, minorities,
2. women, organized labor, Boston Building Trades Council, and the
3. Mayor's Jobs Liaison Committee. Members of the Commission
4. shall have demonstrated commitment to equal employment
5. opportunity. All members of the Commission shall be Boston
6. residents or shall maintain their principal place of business
7. in Boston.

8. (1) Term of Office

9. Commission members shall be appointed to two-year terms,
10. and members shall serve until their successors are duly
11. appointed. If a vacancy on the Commission occurs before a term
12. expires, that vacancy shall be filled by appointment by the
13. Mayor for the balance of the unexpired term.

14. (2) Removal

15. The Mayor may remove a member for just cause by filing a
16. written statement to that effect with the City Clerk. Reasons
17. for just cause shall include but not be limited to a pattern of
18. nonattendance, lack of residency or employment in the City of
19. Boston, noncompliance with the procedures established under
20. Section Five herein, failure to disclose conflicts of interest,

AN ORDINANCE

1. incapacity due to illness, or conviction of a crime. The
2. Mayor's determination that just cause for removal exists shall
3. be conclusive.

4. (3) Chair

5. The Chairperson of the Commission shall be designated by
6. the Mayor and shall serve in that capacity for a term of two
7. years.

8. (4) Quorum

9. In no event shall a quorum be fewer than four members of
10. the Commission.

11. (5) Voting

12. Every vote of the Commission shall require an affirmative
13. vote of no fewer than four (4) members of the Commission.

14. SECTION FIVE: Procedures

15. Actions or determinations under Section Seven, Eight or
16. Nine herein shall be taken or made in accordance with the
17. following administrative procedures:

18. (1) Hearings and Notice to Parties. A party subject to
19. the jurisdiction and recommendation power of the
20. Commission shall be entitled to a hearing and shall

AN ORDINANCE

1. be given at least fourteen (14) calendar days notice of any
2. such hearing directly affecting his or her interests, such
3. notice to be in writing to the party and sent by mail, postage
4. prepaid, first class, to the party's usual place of business.

5. (2) Method. Decisions to recommend sanctioning a party
6. shall require a majority vote of the Commission.
7. The Commission shall adopt procedures, voted by a
8. majority of all members, to establish the time,
9. place, and manner for its members to meet and vote
10. and or making determinations of compliance and
11. recommendations to awarding authorities or
12. agencies. All protections necessary to fulfill
13. due process requirements shall be incorporated in
14. the aforementioned procedures. Such procedures an
15. any revisions to such procedures shall be submitted
16. in writing to the Mayor and OJCS within twenty-one
17. (21) calendar days of their scheduled adoption.

18. (3) Public Meetings. The Commission shall be subject
19. to the requirements of the Massachusetts Open
20. Meetings Law, G.L. c.39, §23A-C.

AN ORDINANCE

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2. Mayor's determination that just cause for removal exists shall
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17. following administrative procedures:

18. (1) Hearings and Notice to Parties. A party subject to
19. the jurisdiction and recommendation power of the
20. Commission shall be entitled to a hearing and shall

AN ORDINANCE

1. (4) Records.

2. The Commission shall keep records of its meetings
3. and shall record no less than the following: the
4. time and place of the meeting; the topic(s)
5. discussed at the meeting; members in attendance at
6. the meeting; any votes taken; and any disclosure by
7. members of conflicts of interest. The Chairperson
8. or his or her designee shall maintain such records
9. in a good and legible condition. The records shall
10. be available for inspection by any member of the
11. public upon reasonable notice.

12. SECTION SIX. Standards for Compliance

13. The Commission shall use the Boston Residents Construction
14. Employment Standards to monitor compliance of Covered Projects
15. with this ordinance. A Covered Project shall be deemed to be
16. in compliance if (1) the statistical monitoring data at the
17. relevant determination date, as set forth in Section Seven
18. hereof shows compliance with the Boston Residents Construction
19. Employment Standards; or (2) if the Commission determines that
20. Best Efforts have been made to comply with the Boston Residents

AN ORDINANCE

1. Construction Employment Standards.

2. SECTION SEVEN: Determination of Compliance

3. The Commission shall make determinations as to compliance
4. by developers and contractors of Covered Projects with the
5. Boston Resident Construction Employment Standards at time
6. intervals as set out in one of the following two schedules,
7. whichever allows for more frequent determinations:

8. (1) When the Covered Project is 25, 50, 75 and 100 percent
9. complete, or,

10. (2) Every three months from the date of commencement of
11. the Covered Project.

12. "Percent complete" shall be measured by the percentage of
13. the total worker hours expected to be worked on the project.

14. The Commission shall monitor that percentage and shall include
15. it in its monitoring reports.

16. SECTION EIGHT: Establishment of Escrow Fund

17. An escrow fund shall be established for each project which
18. is a Covered Project, as defined in Section One (6)(ii)
19. herein. Payment into the escrow fund shall be made by the
20. developer when the developer secures permanent financing for

AN ORDINANCE

the Covered Project. The developer shall pay into the escrow fund an amount equal to one-tenth of one percent (.1%) of the total construction cost of the project as stated in the building permit application for the Covered Project; provided, however, that if either the developer or contractor has been subject to a determination of noncompliance at more than two determination dates in any prior Covered Project in which they have participated in the preceeding twenty-four months, the amount of the escrow fund required for the Covered Project shall be two-tenths of one percent (.2%) of such construction cost. The developer shall deposit these funds with an escrow agent agreed upon by the parties pursuant to an escrow agreement to which the Commission, the awarding or contracting agency and the developer are parties, who shall hold said fund for the purpose of satisfying any accrued fines levied in relation to a project.

The escrow agent, at the time of deposit into the escrow account, shall deduct all fines which have accrued against the fund to that date. There shall be a written escrow agreement detailing the terms under which the escrow funds are held.

AN ORDINANCE

1. Such agreement shall provide, at a minimum, that any demand for
2. payment from the escrow account which is made upon the escrow
3. agent by the awarding or contracting authority shall be made in
4. writing and shall be accompanied by a written statement of the
5. reason for such demand, including any factual findings
6. supporting such reason. The demand shall further instruct the
7. escrow agent that he/she is to take no action on the demand for
8. at least forty-eight (48) hours after receipt. A copy of the
9. demand shall be simultaneously served upon all other parties to
10. the escrow agreement.

11. Interest, if any, accrued by the fund, shall remain in and
12. become a part of the escrow fund until such time as the fund
13. shall be released. When all necessary permits for the use of
14. the building have been issued to the developer, including but
15. not limited to an occupancy permit and a finding of compliance
16. has been made by the Commission, all monies in the escrow fund,
17. including any accrued interest, shall be released and returned
18. to the developer.

19. SECTION NINE: Sanctions

20. The Commission shall have the authority to recommend to the

AN ORDINANCE

1. awarding or contracting agency that sanctions against the
2. developers and contractors of Covered Projects be imposed for
3. noncompliance with the Boston Residents Construction Employment
4. Standards and/or for non-compliance with section Three (A)(2)
5. of this ordinance. The Commission shall recommend the
6. imposition of any or all three of the following sanctions:

7. (1) Fines to a maximum of three hundred dollars
8. (\$300.00) for each violation as determined by the
9. Commission when such developer or contractor was
10. not in compliance, as defined in Section Six, each
11. day of non-compliance to be considered as a
12. separate violation, to be levied
13. against the escrow fund as established by Section
14. Eight herein, provided that fines may still be
15. levied and will still be due if the escrow account
16. is exhausted;

17. (2) Preclusions from the award of municipal contracts
18. and competitions for public development rights for
19. a period of up to three (3) years, provided that
20. this sanction may only be recommended at the

AN ORDINANCE

1. completion of the Covered Project; or

2. (3) Sanctions as authorized by the Jobs Ordinance or
3. incorporated in contracts.

4. The recommendation of sanctions under this section shall
5. not preclude and shall be in addition to any action or sanction
6. authorized by contract or agreement or otherwise authorized by
7. law.

8. SECTION TEN: Staffing

9. The Commission shall have staff consistent with the
10. Commission's purpose. The Director of OJCS shall be the
11. Executive Director of the Commission, provided, however, that
12. said Director shall be wholly compensated for his/her duties as
13. Director from the budget of OJCS.

14. SECTION ELEVEN: Conflicts of Interest

15. No member shall appear before the Commission or represent
16. any person, firm, corporation or other entity in any matter
17. pending before the Commission. Members shall not participate
18. in a discussion or a decision of the Commission on any matter
19. in which they are directly or indirectly interested in a
20. personal or a financial sense. Any disclosure of conflict of

AN ORDINANCE

1. interest shall be entered into the records of the Commission.

2. SECTION TWELVE: Severability

3. The provisions of this ordinance are severable, and if any
4. provision shall be held invalid or unconstitutional by a
5. decision of any court of competent jurisdiction such invalidity
6. shall not impair, or otherwise affect, any other provisions of
7. this ordinance.

8. SECTION THIRTEEN: Effective Date

9. This ordinance shall take effect 30 days after enactment.
10.
11.

In City Council July 30, 1986. Passed.

Approved by the Mayor August 12, 1986.

Attest:



City Clerk



CITY OF BOSTON

IN THE YEAR NINETEEN HUNDRED AND

AN ORDINANCE

AMENDING THE BOSTON EMPLOYMENT COMMISSION

As it ordained by the City Council of Boston, in accordance with the provisions of Massachusetts General Laws Chapter 43B, Section 13, and any other applicable law, as follows:..

1. SECTION ONE: The Ordinance establishing the Boston Employment
2. Commission is hereby amended in section one (v) by striking the last
3. sentence as it appears and inserting the following in place thereof
4. "If the construction of a the Covered Project is subject to any union
5. collective bargaining agreements, it shall be required that the employee
6. complies with any lawful union security clauses contained in such agreement."
7. SECTION TWO: This Ordinance shall take effect upon passage.

12. In City Council September 10, 1986. Passed.
13. Approved by the Mayor September 26, 1986.

14. Attest:

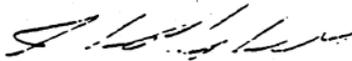
15. 
16. City Clerk

EXHIBIT "B"

PROJECTED WORKFORCE FORM

EXHIBIT "C"

RESIDENCY VERIFICATION FORM

RESIDENCY VERIFICATION FORM

Project: _____

Contractor or
Subcontractor: _____

To be completed by Employee:

Name of Employee: _____

Employee's Residential
Address: _____

I hereby state under the pains and penalties of perjury that the foregoing information is true.

Signature
of Employee: _____

Date: _____

To be completed by Contractor or Subcontractor:

The foregoing information was verified by the following:

Driver's License _____
Utility Bill _____
Rent Receipt _____
Return Mail _____
Receipt _____
Other _____
(Please specify) _____

The foregoing information was not verified: _____

Signature of Contractor
or Subcontractor: _____

Date: _____

PLEASE INCLUDE A COPY OF ONE OF THE ABOVE DOCUMENTS AS PROOF OF RESIDENCY

EXHIBIT "D"

WEEKLY UTILIZATION REPORT

EXHIBIT "E"

WORKFORCE REQUEST DOCUMENTATION FORM

WORK FORCE REQUEST DOCUMENTATION FORM
FOR UNION HIRES AND TRANSFERRED WORKERS

PROJECT _____

REQUESTOR: _____ DATE REQUESTED: _____

SUBCONTRACTOR: _____ DATE REQUIRED: _____

REQUEST MADE TO: _____

NAME TITLE

LOCAL #: _____

I. REQUESTS TRADE: _____

TOTAL	RESIDENTS	MINORITY	FEMALE

II. REFERRAL(S) FROM UNION HALL

TOTAL	RESIDENTS	MINORITY	FEMALE

DATE REFERRALS RECEIVED: _____

IF ANY WORKERS ARE TRANSFERRED PLEASE DOCUMENT THEIR NAME, ADDRESS, SEX, ETHNICITY AND SOCIAL SECURITY NUMBER BELOW (ALL WORKERS HIRED FROM THEIR RESPECTIVE UNION HALL REQUIRE THE SAME INFORMATION ATTACHED TO THIS SHEET OR WRITTEN ON THE BACK):

Name Address Sex Ethnicity Soc. Sec.#

APPENDIX "F"

Double Interpretive Loop Plan for Charlestown Naval Shipyard

**DOUBLE INTERPRETIVE LOOP PLAN
CHARLESTOWN NAVAL SHIPYARD
BOSTON, MASSACHUSETTS**

**CITY OF BOSTON
RAYMOND L. FLYNN, MAYOR**

**BOSTON REDEVELOPMENT AUTHORITY
STEPHEN COYLE, DIRECTOR**

**CLARENCE J. JONES, CHAIRMAN
MICHAEL F. DONLAN, CO - VICE CHAIRMAN
FRANCIS X. O'BRIEN, CO-VICE CHAIRMAN
JAMES K. FLAHERTY, TREASURER
CONSUELO GONZALES - THORNELL, MEMBER
KANE SIMONIAN, SECRETARY**

1991

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DOUBLE INTERPRETIVE LOOP PLAN
FOR THE
CHARLESTOWN NAVY YARD

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3. DOUBLE INTERPRETIVE LOOP PLAN - GOALS AND OBJECTIVES
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1

INTRODUCTION AND OVERVIEW

INTRODUCTION AND OVERVIEW

The proposed Double Interpretive Loop for the Charlestown Navy Yard is a concept which emerged from review of the Charlestown Navy Yard Master Plan with the Massachusetts Historical Commission ("MHC"), the President's Advisory Council on Historic Preservation ("Advisory Council"), the Department of the Interior ("DOI"), the Boston Landmarks Commission ("BLC"), and the National Park Service ("NPS"). Such review was undertaken because the Charlestown Navy Yard Master Plan adopted by the Boston Redevelopment Authority ("BRA") in October, 1990 included elements requiring the amendment of various documents which effectuated the transfer of the Navy Yard, after its decommission in 1974, to the BRA.

The founding of the Charlestown Navy Yard was contemporaneous with the establishment of the U.S. Navy at the turn of the 18th century. In 1799, the U.S. Congress authorized construction of six frigates. Of these, only one -- the U.S.S. Constitution, which is still docked at the Navy Yard -- survives today. It is the oldest commissioned vessel in the U.S. Navy.

On June 17, 1800, the General Court of the Commonwealth of Massachusetts approved "an Act Authorizing the United States to Purchase a Certain Tract of Land in Charlestown for a Navy Yard." Thus, on the 25th anniversary of the Battle of Bunker Hill was established the young nation's first naval facility.

The first ship to use the Yard was the U.S.S. Constitution, when it was laid up for repairs in March 1801. In 1992, the U.S.S. Constitution will once again undergo repairs in Drydock #1 at the Navy Yard in preparation for the ship's bicentennial.

During the almost 200 intervening years between these occasions, the Charlestown Navy Yard was the site of numerous technological innovations which forged the U.S. Navy into the world's pre-eminent fleet. Early 19th century shiphouses and drydocks revolutionized shipbuilding. Drydock #1, which was completed in 1833, is the second oldest in the country.

The Ropewalk complex, built in 1837, utilized innovative rope making equipment to produce essentially all the rope used by the U.S. Navy for more than a century. The first ironclad vessels, which altered naval warfare after the Civil War, were produced at the Charlestown Navy Yard.

In 1926, two workers invented the "die-lock" manufacture of anchor chain in the Chain Forge Building #105. This manufacturing process resulted in chains of much greater strength, thereby allowing vessels to anchor in deeper and rougher waters than before, thus greatly expanding the fleet's



Anchor Storage Yard, c. 1895.

Courtesy: NPS Archives



Gun and Shot Park.

Courtesy: NPS Archives

potential for deployment.

During the 20th century, naval sonar and radar were developed at the Charlestown Navy Yard. From 1941 to 1945, 141 ships -- more than at any other facility -- were built here. When the Navy Yard was decommissioned in 1974, its physical appearance represented the cumulative product of one and three-quarter centuries of building construction related to the military and industrial history of the United States.

The BRA acquired approximately one hundred acres of the Charlestown Navy Yard in 1978 and has since managed its revitalization pursuant to plans developed at the time of the transfer. The remaining thirty acres at the western end of the Yard were established as a National Historical Park under the NPS.

The BRA acquisition involved conveyance of three distinct parcels: a Public Park Parcel; the Historic Monument Transfer Area ("HMTA"); and the New Development Area ("NDA"). The Public Park Parcel consists of 16 acres and includes Drydock #2, Pier 4, and Shipyard Park, which at the time of conveyance was occupied by Building 195 -- a mammoth electrical shed. The HMTA encompasses 31 acres to the north of First Avenue, and includes those existing structures with the greatest historical significance in the Yard. The NDA includes 58 acres between the Historic Monument Transfer Area and Boston Harbor.

The entire Navy Yard is listed in the National Register as a National Historic Landmark. Its transfer out of federal ownership in 1978 involved review pursuant to Section 106 of the National Historic Preservation Act of 1966, which requires that any federal action be reviewed to insure that the adverse effect of such action on properties listed in the National Register be minimized or mitigated. The Section 106 process culminated in various agreements and transfer documents that incorporated measures judged appropriate to mitigate and minimize potential adverse effects of the Navy Yard transfer including:

- o Design Guidelines that established height, use, and other controls for sites in the New Development Area;
- o A Program of Preservation and Utilization that governed redevelopment in the Historic Monument Area.

To date, much has been accomplished to achieve the overall preservation goals articulated for the Charlestown Navy Yard in 1978: Nineteen historic buildings have been rehabilitated and adaptively re-used, and approximately \$470 million of private investment has occurred, making the Navy Yard one of the largest preservation and re-use projects in the United States.

Since 1978, new opportunities to further enhance the Navy Yard's revitalization have also arisen. Accordingly, in 1987, the BRA

undertook an extensive community planning process to create a plan that will guide completion of the Navy Yard redevelopment through the next decade.

The planning principles which evolved over the course of nearly 125 meetings with Charlestown residents, local merchants, harbor advocacy groups, historic preservation officials, organized labor, and other interested parties form the basis of the current Charlestown Navy Yard Master Plan. In addition, numerous meetings held with MHC and other preservation interests have focused on developing specific measures that would minimize and mitigate potential impacts on historic resources.

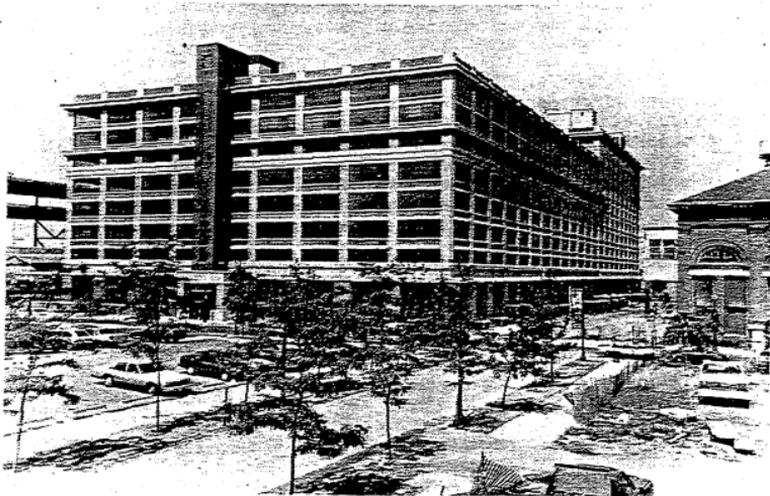
The 1978 plans envisioned a significant component of light industrial space, in part to ameliorate the elimination of jobs resulting from the Navy Yard's closure. Since that time, regional economic forces have severely affected the viability of these uses in urban core locations such as the Navy Yard. However, biomedical research has emerged as a new growth economy, providing a broad range of employment opportunities that can take up the slack in light industrial jobs.

The City's efforts to establish this new growth economy were successful in 1987 with the conversion of Building #149 into the Massachusetts General Hospital Biomedical Research Center. Other biomedical research uses have since been attracted to the Yard in order to benefit from proximity to this Research Center.

In 1984, the City established the Harborpark planning program for the entire Boston waterfront including the Charlestown Navy Yard. Among its various goals, Harborpark included the provision of continuous public access along the entire water's edge of the Boston Inner Harbor. Prior to this, projects would routinely be designed with private yards, terraces, and balconies along the water. This enhanced private value and marketability at the expense of the public. Harborpark regulations insure that the primacy of access to the water's edge is preserved for the public. Development that welcomes the public rather than privatizing the waterfront has inevitably resulted, and will continue in the future until the entire edge of Boston Harbor enjoys continuous, uninterrupted public access.

In 1988, the New England Aquarium unveiled plans to relocate to the Charlestown Navy Yard. The site initially selected was Drydock #2. The Aquarium proposed to build the world's largest, most technologically advanced facility which included a whale tank within the drydock as its centerpiece. Few other uses can be imagined that would better create the type of magnet and attraction that was envisioned as desirable for the Navy Yard in the 1978 plans. The new Aquarium's proposed location, however, caused considerable concern due to potentially adverse impact on Drydock #2 and the adjacent Shipyard Park.

In response, an alternative location at Drydock #5 in Yard's End



Building 149, which houses biomedical research facilities of Massachusetts General Hospital.

was identified, and was subsequently determined to yield even greater benefits than the initial siting. A more efficient aquarium facility could be developed since, in addition to the drydock, adjacent land could be made available at Drydock #5, unlike at Drydock #2 which was hemmed in by the National Historical Park and Shipyard Park. This made possible a circumferential exhibit layout which is preferable to a linear one.

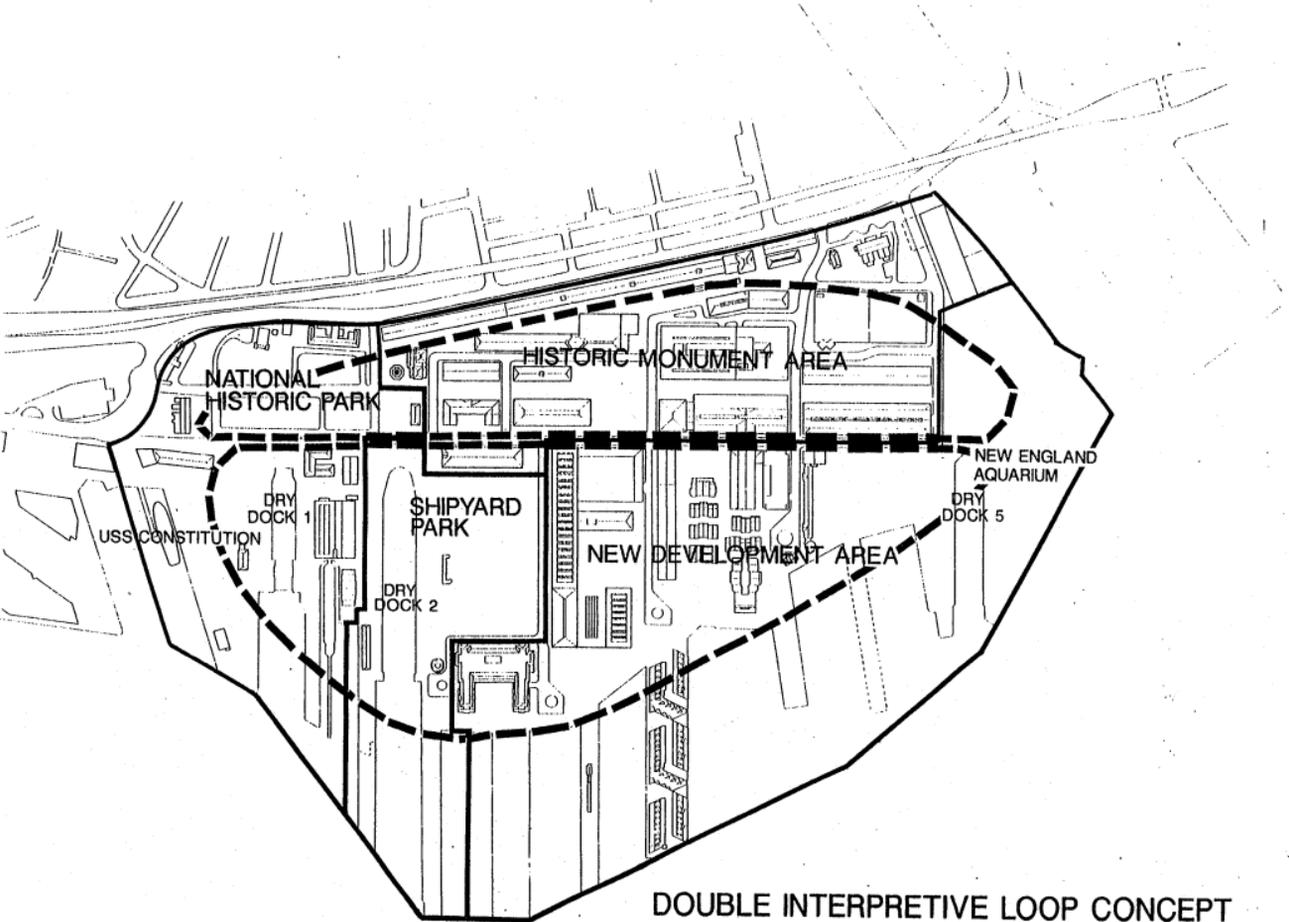
Relocation of the New England Aquarium to Drydock #5 also mitigated the adverse impact on Drydock #2 which was built of granite block in 1899. Drydock #5, however, was built of sheet steel and concrete during World War II, and is presently in derelict condition. Accordingly, the plans that evolved capitalize on the strengths of the proposed New England Aquarium to become the public attraction envisioned as desirable at the time of initial transfer, without adverse impact on existing historic resources in the remainder of the Navy Yard.

The Aquarium at Drydock #5 will establish a dynamic relationship with the U.S.S. Constitution at the other end of the Navy Yard. People will circulate between these two "magnets," thus making the entire Charlestown Navy Yard more familiar, accessible, and significant as a public resource.

To further build upon this dynamic relationship, the Navy Yard Master Plan proposes the creation of a Double Interpretive Loop that ties the two major attractions into an overall system which enhances people's appreciation of the entire Yard as an historic resource. Through a series of informational and wayside exhibits, the Double Interpretive Loop will inform those visitors whose primary trip purpose is the New England Aquarium, for example, about additional attractions available at the Navy Yard, prominently featuring, and directing them along First Avenue toward, the U.S.S. Constitution. Likewise, visitors whose primary trip purpose is the U.S.S. Constitution will be encouraged to also visit the New England Aquarium.

Midway along First Avenue between the U.S.S. Constitution and the New England Aquarium is the Chain Forge Building #105 -- the site of one of the most important 20th century technological achievements of the Charlestown Navy Yard. An exhibit built around the invention of "die - lock" chain manufacture at this location would not, by itself, be expected to attract broad interest. However, as part of an overall system which draws on the tremendous attraction of the U.S.S. Constitution and the New England Aquarium, an interpretive exhibit at the Chain Forge Building could be more successful.

This is the essence of the Double Interpretive Loop -- a system which ties the Yard's more esoteric historic resources to the two major attractions that generate visitation. Thus, people's exposure to the entire Navy Yard as an important historic resource will be increased.



DOUBLE INTERPRETIVE LOOP CONCEPT

For their return journey from either the U.S.S. Constitution or the Aquarium, the Double Interpretive Loop will direct people back along either of two paths. One is along Harborwalk at the water's edge. Wayside exhibits about shipways, shiphouses, drydocks, piers, and marine railways would be located along Harborwalk. Moulton's Point, where the British landed in the Revolutionary War action that culminated at the Battle of Bunker Hill, and the U.S.S. Cassin Young, anchored at Pier 2 in the National Historical Park, are also envisioned as significant interpretive elements along the waterside loop.

The second of the two loops will be a landside path, routed through the center of the Historic Monument Area. Interpretive elements are envisioned at the Commandant's House, the unique octagonal Muster House, Flirtation Walk, and Captain's Quarters. The Ropewalk complex is proposed to house an interpretive exhibit that features one of the most significant 19th century technological achievements of the Charlestown Navy Yard.

The Double Interpretive Loop has tremendous potential to realize the goal implicit in the designation of the entire Charlestown Navy Yard as a National Historical Landmark. The Loop will increase the exposure and potential for viable re-use of historic resources which presently lie underutilized. It creates a framework for interpreting the Navy Yard as a whole to millions of future visitors who will come away with both a broader and deeper understanding of the historic significance of the Charlestown Navy Yard than is possible today.

A number of opportunities to enhance the Navy Yard have arisen in the decade since its transfer to the BRA. The Charlestown Navy Yard Master Plan capitalizes on these opportunities by providing for relocation of the New England Aquarium to Drydock #5, establishing a Double Interpretive Loop to tie the entire National Historic Landmark into a coherent interpretive experience, creating a significant center for biomedical research at Yard's End, and infusing Harborpark's public access goals throughout the Navy Yard.

Because these opportunities were not foreseeable in 1978, the various agreements and documents which effectuated the Navy Yard transfer must be amended to fully secure the benefits of the Master Plan. Accordingly, the BRA has met on numerous occasions since the spring of 1990 with MHC, the Advisory Council, BLC, DOI, and NPS to review the proposals contained in the Master Plan and to develop measures to minimize and mitigate any adverse impacts on historic resources. During the course of these discussions, the Double Interpretive Loop has been identified as a significant element of mitigation.

Turning the Double Interpretive Loop concept into reality will involve concerted effort among all parties who have participated in its evolution to date. In this regard, the BRA will continue to staff and help coordinate further input from local, state, and



"Two sisters from Cambridge," employed at Building #105 (Chain Forge), 1944.

Courtesy: NPS Archives

federal preservation interests. Detailed studies of signage, barrier-free access, programming, and funding will be undertaken toward implementation of the Double Interpretive Loop on a contemporaneous schedule with the Charlestown Navy Yard Master Plan buildout.

This Double Interpretive Loop Plan for the Charlestown Navy Yard lays out general goals and objectives. Identification of possible exhibit sites is included for discussion. The scope and schedule for completing the plan is proposed, and an annotated bibliography to serve as a reference framework during detailed plan development and refinement is provided.

2

HISTORY OF THE
CHARLESTOWN NAVY YARD

HISTORY OF THE CHARLESTOWN NAVY YARD

Following the Revolutionary War, the new nation, tired of conflict and eager to get on with building a free society, sold its fighting ships and sent its sailors home. On March 22, 1794, Congress authorized the building of six 44-gun frigates as the first stage in the establishment of a new navy, with one to be built at Hartt's Yard (Constitution Wharf today) in the North End of Boston. The Constitution was launched in October of 1797, seven months after the inauguration of President John Adams, an advocate of a first class Navy.

In response to legislation passed in 1799 designed to strengthen the Navy, Benjamin Stoddert, the first Secretary of the Navy, dispatched naval constructor, Joshua Humphreys, to New England in search of sites for "building yards". As a possibility, Humphreys identified a point of land overlooked by Dr. Aaron Putnam's mansion house in Charlestown. Called Moulton's Point, the site was located at the confluence of the Charles and Mystic Rivers. It was also the place where British General William Howe led his troops ashore on June 17, 1775 en route to Breed's (Bunker) Hill. At the time of Humphreys' visit, Ebenezer Breed, a tinman, owned a substantial pasture on the point.

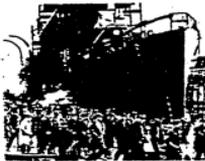
The Charlestown selectmen and others, desirous of luring the Navy to their shores, sent Aaron Putnam to Philadelphia to lobby President Adams, who eventually concurred and appointed Putnam U.S. agent in charge with acquiring twenty-four and one half acres of land.

In honor of the 25th Anniversary of the Battle of Bunker Hill, on June 17, 1800, the General Court of the Commonwealth approved "An Act Authorizing the United States to Purchase a Certain Tract of Land in Charlestown for a Navy Yard," not to exceed 65 acres, exclusive of flats.

By April 3, 1801, the transfer of ten lots was completed. Additional purchases were made in 1817, 1863, and 1920; and considerable land was added over the years by filling in the marshes and mud flats and reordering the shoreline to arrive at the 84 acres of land and 46 acres of water which currently constitute the Yard.

Planning for the Navy Yard began even before completion of the land acquisition. In November of 1800, Secretary Stoddert wrote to Putnam and to Higginson and Company, Navy Agent in Boston, regarding estimates for "building a proper wharf" for construction of a 74-gun ship, as well as for a 75-by-150 foot brick and stone storehouse.

CHARLESTOWN NAVY YARD HISTORICAL TIMELINE



A SHIPYARD FOR THE YOUNG NAVY

1799 Congressional appropriation for new naval facilities

1800 On June 17 (Bunker Hill Day), Massachusetts Legislature approves Act authorizing U.S. to purchase a tract of land in Charlestown for use as a navy yard

1801 Captain Samuel Nicholson - first Commander of the U.S.S. CONSTITUTION - appointed Superintendent of the new Navy Yard by President Thomas Jefferson

1805 Commandant's House one of the first new buildings

EARLY MILESTONES

1812 War of 1812 spurs shipbuilding program

U.S.S. CONSTITUTION continues to distinguish herself in naval battles, earning the nickname, "Old Ironsides"

1813 Commodore William Bainbridge (1774-1833) develops revolutionary concept of complete cover for shipbuilding: first shiphouse prototype

First ship launched at Charlestown Navy Yard: U.S.S. FROLIC

1815 Bainbridge establishes School for Naval Officers; precursor to Naval Academy

1823 Bainbridge prepares report on condition of Yard; plants hundreds of elm trees

1827 Congress enacts legislation directing President John Quincy Adams to upgrade all of the Navy Yards

Loammi Baldwin Jr. (1780-1838), "Father of American civil engineering," designs and superintends construction of the Navy's first drydocks at Norfolk and Charlestown

1828 Master Plan for the Navy Yard prepared by Baldwin and assistant Alexander Parris (1780-1852)

1832 First granite building (Bldg. #22 Engine House) at Navy Yard completed by architect Parris, utilizing his prior experience designing forts and lighthouses along the coast of Maine; later designs Building #34 and Timber Sheds

1833 Drydock #1 completed; U.S.S. CONSTITUTION admitted June 24 for repairs

1838 Alexander Parris' Ropewalk complex is completed, using state-of-the-art machinery designed by inventor Daniel Treadwell (1791-1872); commences operation and is designated to supply all of the rope for the entire United States Navy

1852 Joseph E. Billings succeeds Parris as Chief Civil Engineer; later transforms the appearance of the Yard with several new facilities (Buildings #31, #33, #36, #38, #39, #40, #42 and #79)

1855 Screw frigate MERRIMAC launched

1858 Building #42 (Steam Engineering Building) represents culmination of Billings' career; ushers in age of steam in Navy shipbuilding and dramatically transforms the scale of the Navy Yard

1863 First iron plate for armoring wooden ships is fabricated in Building #40 (Heavy Hammer Shop)

NEXT MAJOR PERIODS OF GROWTH

1863 U.S. Government begins to mobilize the "New Navy," after years of neglect; iron and steel ships belatedly introduced

1903-05 Large-scale Renaissance Revival brick structures designed to accommodate cranes and rail cars are constructed: Buildings #103, #104, #105, #106, #107, #108, #114, #120 and #123

1905 Drydock #2 completed; U.S.S. MARYLAND launched at opening celebration

1908 Slate color adopted as Navy ship color; more economical and less conspicuous at sea than white

1914 World War I begins: Shipyard is used mostly for outfitting and repair

1918 Large marine railway constructed

1920 Shipway #1 built on site of third Shiphouse (erected 1824), from which MERRIMAC had been launched; four large hammerhead cranes (now demolished) ushered in a new scale of steel ship construction

1926 Shipyard workers A.M. Leahy and Dr. Charles G. Lutts invent "die-lock" chain in Chain Forge Building #105, which propels the Boston facility back into the forefront of naval research activities and later helps the allies win World War II by enabling aircraft carriers and other large vessels to anchor in deep seas

1941-45 World War II: the Yard springs into action with a flurry of ship-building; a total of 159 ships constructed, including 36 Destroyers, 59 Destroyer Escorts and 44 Landing Ship Tanks

1942 Drydock #5 completed

1943 Boston Yard builds more Destroyer Escorts (46) in shorter time than any other public or private yard

19 WWII "four-stackers" reoutfitted and sent to Britain under the Lend Lease program

1944 Women constitute 40% of the work force, having filled the gap left by thousands of shipyard workers who entered military service

1956 Last ship launched at the Yard (from Shipway #1) is U.S.S. SUFFOLK COUNTY

1961 U.S.S. GYATT becomes first guided-missile destroyer; Yard begins to fit ships with bow-mounted sonar rooms

1971 Rope ceases to be made at the Ropewalk; the end of an era

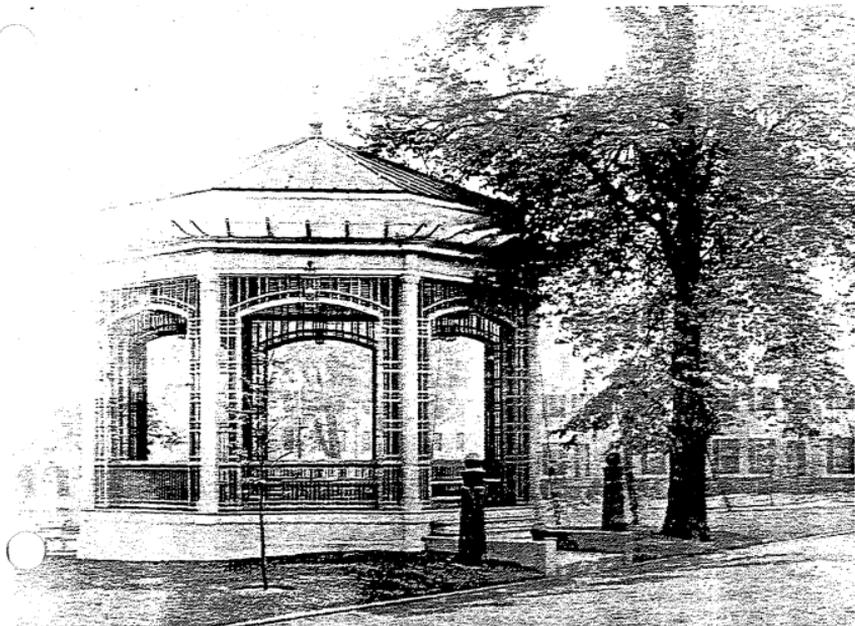
Navy's first high-power Controllable Pitch Propeller designed at the Yard

THE NAVY YARD CLOSES

1973 173 Years of partnership between the City of Boston and the Navy ends with the closing of the Yard

1974 Boston National Historical Park, a unit of the National Park Service, is created

1978 Portions of the Navy Yard are transferred to the Boston Redevelopment Authority for preservation, rehabilitation and redevelopment



Bandstand, near Commandant's House, c. 1870.

Courtesy: NPS Archives

On June 12, 1801, President Jefferson appointed Samuel Brown as Navy Agent on April 1, 1801. On June 12th, he appointed Captain Samuel Nicholson - who had supervised construction of the Constitution and was its first commander - as first Superintendent of the Navy Yard. Nicholson was the first of three naval heroes to command the Constitution and be similarly rewarded. His successor in 1812 was Captain William Bainbridge, victor over the H.M.S. Java on December 29, 1812. During Bainbridge's intermittent tour at the Yard, Captain Isaac Hull, conqueror of the Guerrierre on August 19, 1812, served as Commandant from 1812 to 1813 and from 1815 to 1823.

Osgood Carleton was commissioned to prepare a map of the Yard in 1802. Included was a plate of the grounds in three divisions showing both in-place buildings and proposed improvements. Existing buildings, scattered in the western quadrant, included a storehouse for live oak, a covered saw pit, a barracks, and a carpenters shop, plus a blacksmith shop and laborers quarters, both pre-existing and purchased by the U.S. Most of the land was described as pasture for public oxen. Also in 1802, five acres were appropriated for a Marine Hospital, completed by 1805.

In 1805, the brick Superintendent's Residence was completed near the northwest boundary, and by late 1809, a two-story brick magazine and a two-story brick Gun House were in place. A barracks, also of brick, was built in early 1811, at which time the Parade Ground was ordered to be laid out.

Superintendent Bainbridge's inventory of the Yard in 1812 included the following: (a) Commandant's House, (b) Marine Barracks, (c) three-story frame storehouse 60' X 40', (d) Magazine (e) old one-story wood building, (f) very old small structure in ruins, (g) two one-story frame sheds for timber, (h) Blacksmith Shop, (i) stone lip or landing place, (j) dam or cobb wharf, and (k) temporary fences. The general condition was described as rundown.

By autumn, 1813, a new wharf and large three-story brick Navy Store with a slate hipped roof, plus a Blacksmith Shop, were built. The store survives as Building 5. 1813 was a notable year for the Yard, nautically and architecturally, with construction of its first ship begun and its first Shiphouse completed. The Shiphouse was a remarkable structure. The huge, gambrel-roofed, timber-framed, many-windowed building, 210' X 70' X 50' high, enabled a ship to be constructed indoors. It was the second of its type to be built, one in Portsmouth having preceded it by a few months. The Shiphouse survived long enough to see the 74-gun Independence launched on June 22, 1814, but succumbed to a wind storm two months later. It was rebuilt, somewhat larger, in 1819.

Additions to the Yard during the next decade included a Spar and Boat Shed plus a two-story brick Porter's Quarters in 1817, three Timber Sheds in 1818, 1821, and Shiphouse No. 2, 260' X 162' X

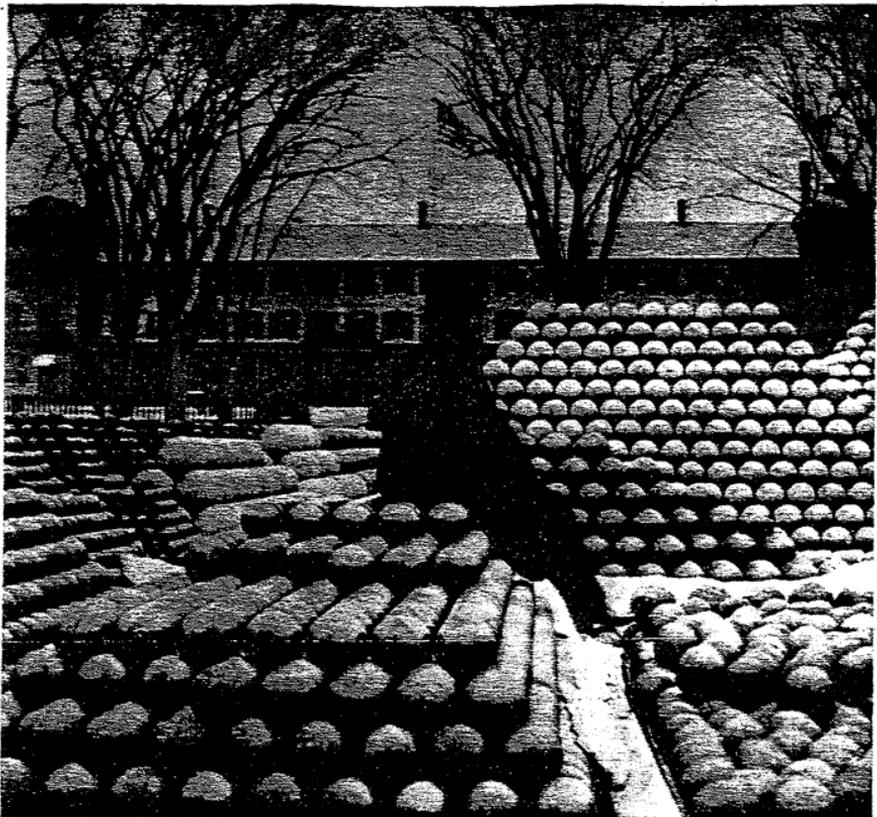
80' in 1822. (In later years, two more Shiphouses were located on either side of No. 2: Shiphouse No. 3 in 1826, and Shiphouse No. 39 in 1841.) Subtractions included two frame buildings and a major part of the Marine Hospital which burned in 1818. The hospital was relocated to Chelsea in 1825, and what remained of the building was taken down and the bricks reused to build a row of four new quarters. A new hospital and magazine in Chelsea were designed by Alexander Parris in 1831 and completed in 1836. Peter Tufts' "Plan of the Charlestown Peninsula" of 1818 shows the Navy Yard as a vast open space with groups of five buildings plus "Navy Yard Wharf" at the southeastern end, and seven buildings (including the hospital) at the southwestern end. An 1823 plan of the "Navy Yard, Charlestown, Mass." locates 20 buildings, including those labeled as Commandant's House, Barracks, Powderhouse, Shiphouse No. 1, Shiphouse No. 2, Saw Shed, Hospital, Pier (with Columbus, Independence, and Java at anchor), four docks including a "Dock for Timber," Old Road, New Road, and Road No. 2.

Prior to the engineering and architectural influence of Colonel Loammi Baldwin and Alexander Parris, beginning in the late 1820's, the Yard exhibited a decidedly rural aspect. One of the chief concerns during the early decades was the proper storage of timber, particularly live oak and yellow pine, the essential ingredients in ship construction. Storage was in sheds or storehouses or under water in a dock specially designed to age the wood slowly, as shown in the 1823 plan.

Commandant Hull had proposed a brick wall enclosing the Yard in 1816, but it was not until 1824 that the first 600-foot portion, by then stone, from Water Street to the Salem Turnpike (now Chelsea Street) was completed. That same year, Alexander Parris was retained to prepare a plan for the extended segment along the Salem Turnpike, probably because of his recent experience in building walls for the Charlestown Prison. The 2,400' X 9' X 20" granite wall was completed on October 12, 1826, within months of the opening of his Faneuil Hall Market buildings in Boston. The wall and its granite announced a new and glorious era in Navy Yard construction.

On March 3, 1827, Congress enacted legislation directing President John Quincy Adams "to cause the Navy Yards of the United States to be thoroughly examined and plans to be prepared and sanctioned by the President for the improvement of the same...". That same spring, President Adams appointed Commodores Bainbridge, Chauncey, and Morris to carry out the law. Colonel Loammi Baldwin, Jr. (1780-1838) was named engineer charged with assisting the board in surveys and preparation of plans.

Baldwin, considered the father of civil engineering in America, had a profound effect on the Navy Yard as well as on the entire Boston area. His father, Loammi Baldwin, Sr., planned the Middlesex Canal, completed in 1804, and is said to have developed the vulcanizing process. The younger Baldwin took over, and



Shot Park.

Courtesy: NPS Archive

completed the Mill Dam project in the Back Bay, following Uriah Cotting's death in 1819. He was the first of a quartet of major Boston architect/engineers to work at the Navy Yard, the others being Alexander Parris, Gridley J.F. Bryant, and Joseph E. Billings.

On August 11, 1828, a "Plan of the Navy Yard at Charlestown, Mass., showing the positions and dimensions of the Ground Plans of the different Buildings, Docks, and other Improvements as recommended by the Board of Commissioners" was issued. The plan completely transformed an agrarian peninsula, with a few scattered buildings, docks, and wandering roads, into an urban industrial complex laid out as a classical grid dominated by five broad avenues running southwest to northeast intersected by seven cross streets. Proposed buildings, rectangular in shape, were regimented to conform to the street pattern, the exception being the Ropewalk shown at a diagonal parallel to the Salem Turnpike. The existing Shiphouses seemed a bit tipsy in their non-axial positioning. While the plan was not followed in every detail, the spirit of the grid dominated all future development. Although Alexander Parris has been credited with this plan, Loammi Baldwin was clearly in charge of the preparation, and it is unlikely that the design does not bear the imprint of his experience.

Preliminary construction for the Drydock began on August 24, 1827, with the first stone being laid for the Coffier Dam. The project was completed in mid-1833, and the Constitution, which had been waiting three years for repairs, was admitted on June 24th. The Drydock was extended 65 feet seaward in 1856-57, and again reconstructed in 1948.

Alexander Parris (1780-1852) came to the Navy Yard in 1827, after a distinguished architectural career, primarily in Maine and in the Boston area. He had experience in military architecture, having designed about a dozen buildings between 1816 and 1820 for the newly established Arsenal in Watertown, relocated from the Charlestown Navy Yard.

Although these structures were in brick, they exhibited the type of strength and restrained elegance which would be translated into granite in Charlestown. Other major buildings designed by Parris between Watertown and Charlestown included Parker-Appleton Houses (1817-19), St. Paul's Cathedral (1819-20), David Sears Mansion (1819-21), Suffolk County Jail and Courthouse (1820-22), Faneuil Hall Market (1824-26), all in Boston, and the Stone Temple (1827-28) in Quincy. Parris, perhaps more than any other Boston architect, established the Greek Revival as the prevailing style from the 1820s to the 1840s, and granite as the preferred material to the 1860s.

In addition to his work on the Drydock, Parris designed an Engine House (Bldg. 22) built in 1830-31, a Storehouse (Bldg. 34) of 1835-37, and several slips and quay walls. His most significant



Muster House, Building #31.

Courtesy: NPS Archives

project was the Ropewalk, designed in 1834 and built from 1835 to 1837 at a cost of more than \$340,000. Constructed of Quincy granite backed with brick, with a slate roof, the Ropewalk measured 1,360 by 45 feet. Originally one-story for most of its length, with a three-story Head House, it acquired matching granite additions in 1856 and 1908, extending the second floor by 848 feet. Its unique spinning and twisting machinery, as well as its steam boilers and engines, were designed by Daniel Treadwell of Boston between 1828 and 1834. From its completion until 1955, the Ropewalk supplied all the rope used by the U.S. Navy. Included in the complex were two subsidiary buildings, the two-story, 200' X 19' granite Tarring House and the two-story, 140' X 160' granite Hemp House.

Parris may have had a hand in, and certainly influenced, the designs of other buildings as well. His last project was to execute record drawings of recent improvements in the Yard, which he completed in 1840.

Gridley J.F. Bryant (1816-1899) had become Parris' assistant in 1832, but no Navy Yard buildings have been attributed to him. By mid-century, Bryant had become Boston's leading architect and a master manipulator of granite. Among his major works in Boston are the Charles Street Jail (1848-51) and, with Arthur Gilman, the Old City Hall (1862-65), both executed in granite.

The career of Joseph E. Billings (1821-1880) as an architect began with the Boston Museum project (1845-1846) designed in collaboration with his brother Hammatt (1818-1874). The Museum, an elegantly detailed, Italian Renaissance Revival Structure of Quincy granite, located on Tremont Street, was one of Boston's finest buildings at the time of its construction. Among Billings' other notable buildings were the National Theater, Odd Fellows Hall, and the Second Cathedral Building. Unfortunately, none of them has survived.

Several Navy Yard buildings dating from the 1840s and early 1850s have been attributed to Billings. Included are the two-story granite Carpenters and Joiners Shop (Building 24) of 1847, the two-story brick Tinners and Plumbers Shop (Bldg. 28) of 1849-50, the unique octagonal brick Muster House (Bldg. 31) of 1852-54, and a three-story granite Storehouse (Bldg. 33) of 1850-52. A problem of attribution arises, unless the recorded dates are incorrect, since Billings was not appointed Chief Civil Engineer at the Yard until July of 1853, a post he held until 1866.

Those buildings designed by Billings within his 13-year tenure include the three-story, granite-faced, Cooperage and Packing House (Bldg. 38) of 1854, which burned in 1978; the one - and two-story brick Steam Engineering Building (later the Machine Shop and Foundry, Bldg. 42) of 1856-58, heavily altered during 1901-1910 and during World War II; the two-story brick Boiler House (Bldg. 79) of 1857; the two-story brick Heavy Hammer Shop (Bldg. 40) of 1863 (west elevation demolished in 1939-41 for



Main (Second) Avenue, looking east.

Courtesy: NPS Archives

Bldg. 42A); the three-story, slate-roofed Sail Loft and Joiners Shop (Bldg. 35) of 1866; and the three-story brick Ordnance Storehouse (Bldg. 39) also of 1866.

A beautifully detailed, 239' tall brick chimney attached to the Steam Engineering Building was Billings' most spectacular contribution to the Yard. It survived only until 1903. His earliest work continued Parris' robust use of rugged, quarry-faced granite but with subtle additions of Renaissance-inspired detail. Later, he shifted to brick as the principal material with more pronounced Renaissance trim executed in granite, thus gradually ending the Navy Yard's granite era.

In 1851, the following somewhat romanticized description of the Charlestown Navy Yard was printed in the popular magazine, Gleason's Pictorial Drawing Room Companion:

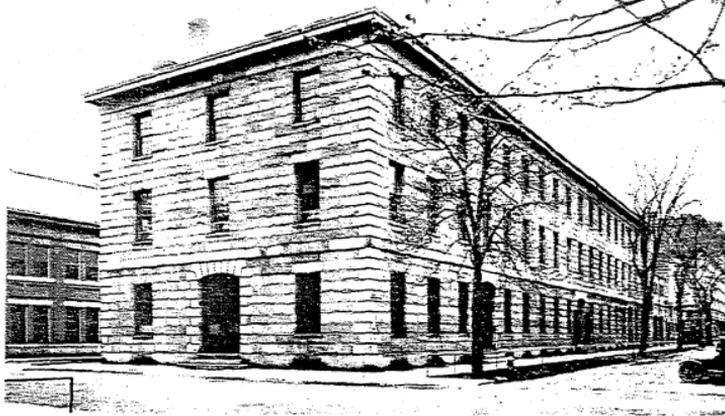
"The Yard within the walls covers an area of about seventy acres... There are three ship-houses and slips for building vessels under cove. Two large store-houses 200 feet by 66, built of Quincy granite, and other buildings exclusively for stores and munitions of war. There are four timber sheds of 450 feet in length, in which there are stowed, at this time, frames of live oak for sixteen ships of the various rates in our navy, ships of the line, steamers and frigates.

"The most remarkable building...is the Ropewalk, 1350 feet in length, and having double laying grounds. The spinning is done by machinery in a room containing eighty machines, and with the laying grounds and tarring machinery, is capable of turning out rigging of all sizes, from the largest cable to the smallest lines used in the navy, to the amount of five tons daily."

"The blockmakers' shop with its improved and beautiful machinery, is pronounced. To be the most complete establishment of its kind found anywhere. The gun-carriage shop, saw-mill, and planing-machines; the smithey, foundry, etc., are also well adapted to this great naval depot and workshop. The whole Yard is laid out into streets and avenues, which are either paved or gravelled, and bordered with elms, maples or other ornamental trees, affording one of the most beautiful promenades in this part of the country. There is a magnificent park for heavy cannon... There is also a shot park, with many thousand balls piled in the neatest manner, and an anchor park, in which are the largest anchors for men-of-war."

Construction came to a standstill at the end of the Civil War, and did not revive until the turn of the century.

Rear Admiral George Henry Preble's description of the Yard in 1881 reads in part:



Building 38, 1921
(Boston Society)

"There are now... twenty brick, eleven stone, thirty-six wooden, and two iron buildings, besides numerous temporary sheds and buildings. Only eight buildings are standing which are on the Yard plan of 1823... There are two avenues running lengthwise of the Yard, ornamented with shade trees; and "Flirtation Alley", along the inner side of the Ropewalk, with its shady trees and plank-walk, is a well-known resort of lovers on moonlight nights..."

Although it would be 20 years before the effect reached Charlestown, the beginnings of the "New Navy" can be traced to 1883, when the Congress embarked on a program of building modern, steel-hulled warships. In 1886, the Yard was all but shut down except for equipment production. Deterioration was rampant.

By 1903, an extensive building program was under way, yielding ten new structures over the next two years (Bldgs. 103, 104, 105, 106, 107, 108, 114, 120, 123, 125). All were brick with steel or concrete frames, a pattern which continued through World War I. The Colonial and Renaissance revival details of the first 20th century buildings soon gave way to a stripped-down factory style. As a prelude to the early 1900s "improvement" program, the first of the cluster of three great timber Shiphouses had been taken down in 1901, and by 1903 the remaining two had suffered a similar fate.

To supplement the drydocks, a Marine Railway was installed in 1918, lacing through the Yard's avenues and streets.

The period between the two world wars represented another lull, enlivened only by the development of the "Die-Lock Chain." Invented by A. M. Leahy and Dr. Charles G. Lutts, it revitalized the research aspect of the Yard.

In 1938, Congress approved President Roosevelt's request for \$1 billion for naval defense. That same year, the Navy Yard launched two 1500-ton destroyers, the USS Mayrant and the USS Trippe, and also began a construction program of large (and largely undistinguished) buildings.

Originally known as the United States Navy Yard at Charlestown, or, simply, the Charlestown Navy Yard, the name was changed to the Boston Naval Shipyard in 1945. Ship launchings and repairs reached an all-time high during World War II, with a labor force of 47,000, up from 2,860 in 1938. Between 1941 and 1945, 141 new ships were built, many of which were destroyers, destroyer escorts, and LST's.

Also, 3,260 ships were overhauled, and 1,820 were docked. The Yard's last great contribution was the development of bow-mounted sonar rooms for guided missile destroyers in 1966. The last ship to be commissioned was the Kalamazoo, a replenishment oiler, in 1973.



Drydock #1 enlargement and repairs. 1948.

Courtesy: NPS Archives

Building construction ceased after World War II. Production ended at the Ropewalk in 1971, and the Department of Defense announced the closing of the Navy Yard in April of 1973, ending employment for 5,200 workers. Ceremonies for decommissioning the Yard were held on July 1, 1974.

From the Independence, a ship of the line launched in 1814, to the Kalamazoo, the Charlestown Navy Yard commissioned about 500 ships. Notable among these, in addition to the first, were the schooner Alligator (1820); the Merrimac (1855), a screw frigate later converted by the Confederacy to an iron clad and defeated by the Monitor in 1862; the screw sloop Hartford (1858), Admiral Farragut's flagship; the Monadnock (1866), a double-turreted iron clad, the first monitor iron clad to sail from the Atlantic to the Pacific; and the iron clad Intrepid (1874), the first torpedo boat. The Constitution was the first and last ship to be repaired in the Yard.

3

DOUBLE INTERPRETIVE LOOP GOALS AND OBJECTIVES

DOUBLE INTERPRETIVE LOOP -- GOALS AND OBJECTIVES

The underlying goal of the Double Interpretive Loop is an enhanced interpretation of historic resources throughout the entire Charlestown Navy Yard. It is intended that this trail foster improved visitor experience, orientation, and more profound understanding of the Yard's role in the military and industrial history of the United States.

The Double Interpretive Loop builds on themes established at the time of the Navy Yard's transfer to the BRA. Historic preservation principles contained in the documents which effectuated such transfer have and will continue to guide realization of the Double Interpretive Loop. In this regard, Guidelines for the Treatment of the Groundplane (from the "Program of Preservation and Utilization" for the Historic Monument Transfer Area) and the General Guidelines (from the "Design Guidelines" for the New Development Area) provide key elements of an overall framework.

Plans for the National Historical Park will also be integrated with the Double Interpretive Loop. Accordingly, the goals and objectives established in the "Revised General Management Plan/Volume II" and the "Interpretive Prospectus/Volume II" for the National Historical Park are complemented by the proposed Loop. From this perspective, a key aspect involves final resolution of NPS plans for a new Visitor Center near the USS Constitution. Programming the proposed Yard's End visitor center to insure primacy of the NPS facility and avoid duplication of visitor services is intended.

Another important component of the Double Interpretive Loop concept involves marketing the multitude of historical/cultural resources envisioned for the Navy Yard in a coherent fashion. The goal is to enhance the destination value of the Yard as a whole through tourist-oriented guides and promotion. In this way, people would be encouraged at the start of their visit to include more than one Navy Yard attraction during their stay.

Transportation access is another critical aspect of enhanced visitor experience and orientation. The Charlestown Navy Yard Master Plan provides overall strategies to insure that visitors to all Navy Yard attractions have convenient access to parking facilities. In addition, specific provisions are aimed at enhancing other modes of arrival such as by water shuttle, bus, or on foot.

An intra-Yard bus or tram shuttle service is suggested to complement walking the Double Interpretive Loop. Scheduling will be developed to accommodate variation in visitor volume and profile during the course of the year. Specific route layout will be developed within the framework of previously established historic preservation principles.



Muster House and Second Avenue Prdestrian Mall.

The creation of an interpretive program for the pedestrian system of the Charlestown Navy Yard is an exciting opportunity to reveal the many layers of history which the Yard contains. There are currently two other pedestrian systems, the Freedom Trail and the Harborwalk, which will intersect with the Double Interpretive Loop. Combined, these three systems and the programs which are being designed around them will provide the pedestrian with a richness and diversity of experience which will add to their understanding of the city as a unique and special environment.

Intersecting with the Double Interpretive Loop in the Navy Yard will be:

- o The Freedom Trail, which is a three mile walking trail connecting 16 historic sites located in three city districts. Designed during the 1950's, the Trail's primary focus is the presentation of sites with relevance to the colonial era. Heavily traveled, the Freedom Trail is the primary system through which tourists experience the City of Boston.
- o Harborwalk, which is designed to strengthen public access to the waterfront, provides for a diversity of uses along the water's edge. These include parks, promenades, water shuttle terminals, and public landings. Intended to traverse the city's entire shoreline, Harborwalk will serve as an important pedestrian connection to the downtown.

The Double Interpretive Loop, the Freedom Trail, and Harborwalk all join at the Charlestown Navy Yard. This highly visible intersection is also the entry to the National Historical Park. It is crucial that the potential of this significant location be appropriately realized.

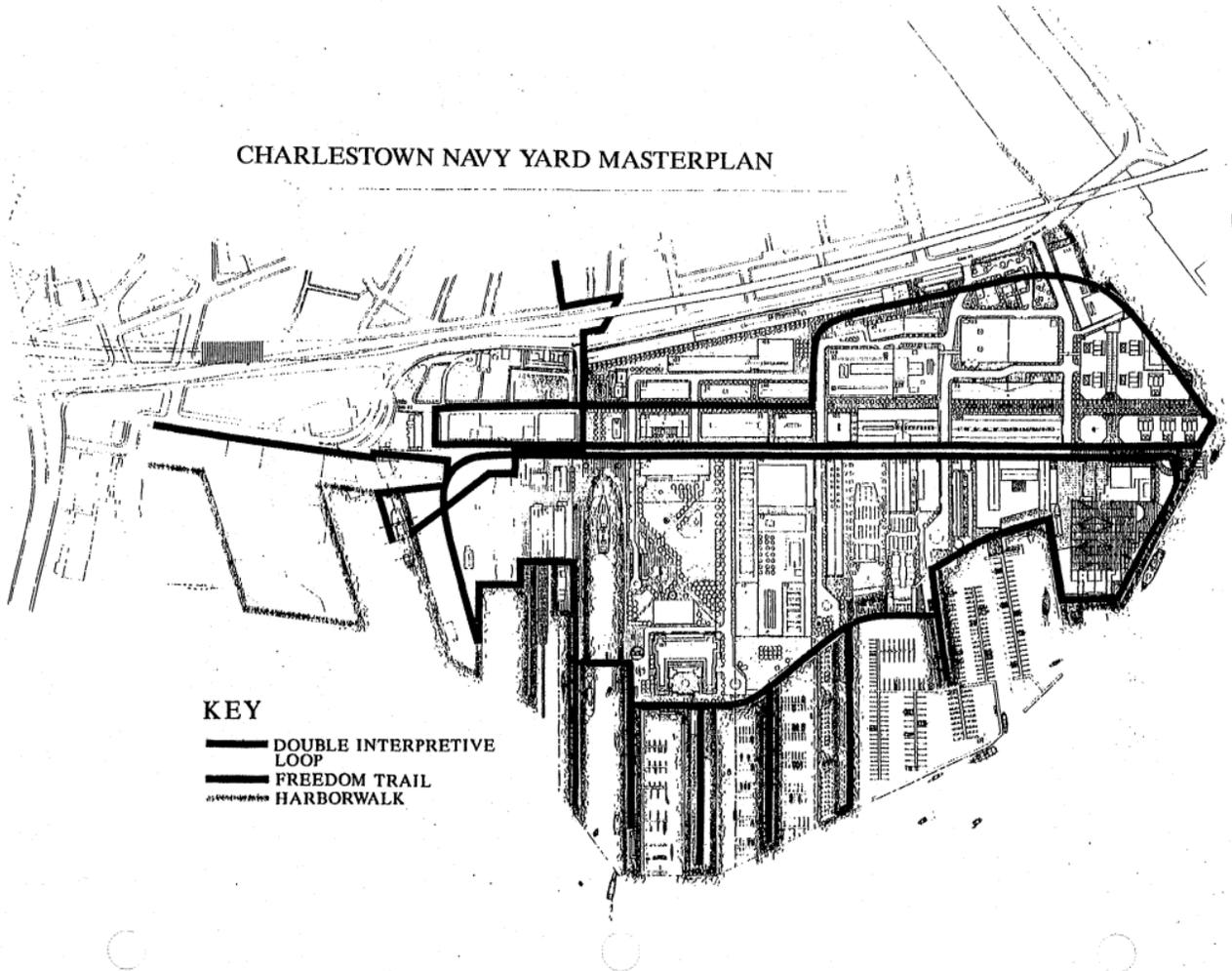
The Double Interpretive Loop builds upon the dynamic relationship which will be created between the proposed New England Aquarium at Drydock #5 and the U.S.S. Constitution at the other end of the Charlestown Navy Yard. A series of informational and wayside exhibits will inform people whose primary trip purpose is the New England Aquarium about additional attractions available at the Navy Yard, and direct them along First Avenue toward the U.S.S. Constitution. Visitors whose primary destination is the U.S.S. Constitution will likewise be informed about and directed along First Avenue to the New England Aquarium. The Chain Forge Building #105, midway between the two major attractions, is envisioned as a significant historic/interpretive focus along the Double Interpretive Loop, featuring the enormous chain forge presses that were used to manufacture anchor chain for the Navy.

On their return journey from either the New England Aquarium or the U.S.S. Constitution, visitors will have two options. A continuous water's edge walkway is proposed to include wayside

CHARLESTOWN NAVY YARD MASTERPLAN

KEY

-  DOUBLE INTERPRETIVE LOOP
-  FREEDOM TRAIL
-  HARBORWALK



exhibits interpreting significant historic resources including shipways, shiphouses, drydocks, pump houses, piers, and the marine railway. Industrial artifacts such as light gantries will also serve as destination points to draw people to the ends of piers.

A landward return loop is proposed to include interpretation of the Commandant's House, the octagonal Muster House, and the Captain's Quarters Area, as well as a significant center within the Ropewalk complex. Flirtation Walk and many other groundplane improvements originally conceived at the time of initial transfer in 1978 will become integral elements of the Double Interpretive Loop.

The accompanying plan identifies potential interpretive sites along the Double Interpretive Loop that have emerged in discussions to date. It is not intended as a final plan, but rather to set the stage for detailed design and refinement as further described in the Plan for the Plan.

4

PLAN FOR THE PLAN

PLAN FOR THE PLAN

The Double Interpretive Loop is a complex undertaking with tremendous potential. It is not something that should be brought to fruition by any one party. Full realization requires continued effort by all parties who have been involved in the evolution of the concept to date. Staffing and managing this effort will be a critical aspect in assuring success. Accordingly, the BRA is committed to provide the resources and staff necessary to coordinate this multi-party effort towards achieving the goal of implementing the Double Interpretive Loop on a contemporaneous schedule with the remainder of the Charlestown Navy Yard buildout.

The accompanying schedule and scope of work lays out a "Plan for the Plan" that details the next steps which will be undertaken. It provides for full participation of local, state, and federal preservation officials in order to achieve the concerted effort that will be required to bring the Double Interpretive Loop concept to reality in a manner which satisfies all involved parties.

In addition, specific descriptions of potential development for five sites along the Double Interpretive Loop are provided. These sites -- Flirtation Walk, a Wayside Exhibit at the Shipways, the Ropewalk Complex, the Chain Forge Building #105 and the Shipyard Workers Monument -- serve to illustrate the range of elements envisioned. The specific site descriptions are also proposed as examples of the type of description that will be developed for each of the other components of the Double Interpretive Loop in continuing discussions with historic preservation officials.

The Double Interpretive Loop concept has struck a responsive chord amongst a wide range of interests. This is clearly evident from its reference in numerous letters commenting on the "Charlestown Navy Yard Redevelopment Draft Supplemental Environmental Impact Report", June 1991.

In order to provide an effective forum for further input and suggestions, formation of an advisory committee may be advantageous. In addition to historic preservation officials, this committee could include historic/cultural organizations within the Yard as well as representatives from the Charlestown community, and waterfront advisory groups.

exhibits, and maps. Provide no less than three alternative designs in full color, and materials for review. Present the designs in a series of formal presentations illustrated by 35 mm slides. The presentation will include a detailed explanation of the rationale for the designs and how each relates to the system as a whole.

C. Implementation Strategies

1. Prepare detailed site descriptions for each component of the Double Interpretive Loop that summarize the various program elements to be provided at each site and the agreed upon implementation strategy.

III. Phase Three: Implementation

The final step in completing the program will be to physically construct and install the signage and interpretive exhibits. This is foreseen as an ongoing process which will occur over the course of the Navy Yard buildout.

An overall implementation schedule will be determined during this phase.

A. System-Wide Elements

1. Provide an overall sign schedule keying each sign to site location. Prepare detailed drawings and specifications for each type of signage element. Supervise fabrication and installation of mock-ups.
2. Prepare overall marketing strategy, design brochure mock-ups, and, upon approval, contract for printing.

B. Exhibits/Interpretive Sites

1. Prepare Requests for Proposal (RFP) for sites to be advertised for redeveloper interest.
2. Prepare guidelines for sites to be accomplished in concert with current developer designations or through participation of other parties.

B. EXAMPLE SITE DESCRIPTIONS

The following detailed descriptions of Flirtation Walk, a Wayside Exhibit at the Shipways, the Ropewalk Complex, Chain Forge Building #105, and the Shipyard Workers Monument are intended to illustrate the range of interpretive elements envisioned along the Double Interpretive Loop. These examples are provided as a point of departure for further input towards detailed design and implementation.

Similar detailed descriptions are also proposed to be developed for each of the other components of the Double Interpretive Loop over the course of further discussions with historic preservation officials. This plan development phase will result in specific implementation strategies for all elements of the system, thereby assuring overall coherence and integrity.

1. Chain Forge Building #105

A significant interpretive focus is envisioned within Building #105 that features the immense chain forge equipment still extant in the shed portion of the structure. Overall building treatment will be in accordance with the Program of Preservation and Utilization.

Redevelopment will be accomplished by solicitation of redeveloper interest through a Request for Proposals ("RFP"), which includes specific design and development guidelines for the project. The BRA will prepare and submit Draft RFPs for MHC, DOI, BLC, and NPS comment and approval.

In order to advance the discussion, a range of development alternatives have been prepared for review with historic preservation officials. These include:

- A) Straightforward, simple restoration of the entire structure to provide an adequate level of public safety and allow visitors to experience the industrial character of the chain forge equipment within the entire spatial envelope of the current shed structure.
- B) Rehabilitation of the headhouse of Building #105 for commercial uses, and straightforward restoration of the shed as described under Alternative A above.
- C) Accommodation of commercial re-use in both the headhouse and shed structure within the parameters established in the prior RFP for Building #105, released in 1986.
- D) Maximum accommodation of commercial re-use within broader parameters for location of industrial artifacts within the structure.

This broad range of alternatives has been developed in response to the inability to achieve the development program described under Alternative C during the past five years. In fact, "less is more" may prove to be most appropriate for Building #105. Given the extraordinary constraints imposed on construction of commercial space by the existing structure and achievement of historic preservation goals, each incremental square foot of space could easily cost more than it can generate in return. The financial gap could thus widen rather than shrink upon the addition of commercial space within this development. In addition, the overall economic demand for re-use of historic structures has obviously diminished since 1986.

On the other hand, less extensive commercial re-use of this structure creates the potential for an interpretive element



Chain Forge Building #105.

that does not seek to "polish" the exhibits, but rather maintains the gritty, industrial appearance of the chain forge presses. An audio-visual component which conveyed a sense of the power and fury of this industrial operation could be a natural complement to such an interpretive approach.

Financial analysis of the development alternatives suggests that the entire range generates a shortfall or gap. In other words, total development costs exceed the value generated by projected income. The BRA is committed to identifying and structuring gap financing strategies to bridge this shortfall, and insure that appropriate re-use of Building #105 is accomplished. The RFP process can most effectively advance this goal through competitive solicitation of proposals based on gap minimization as one of the selection criteria.

The BRA has contracted with a museum consultant to provide additional input on fiscal, operational, and design implications of the various options for Building #105. The next steps involve bringing such expertise to bear, integrating comments of local, state, and federal preservation interests, and finalizing an RFP for review and approval. It is anticipated that this can be accomplished within six months.

In the meantime, MHC, BLC, and DOI have approved the Stabilization Plan for Building #105, and the BRA is now preparing contract documents to execute the work. Advertisement of the stabilization contract is anticipated during the fourth quarter of this calendar year. Such work will ensure that deterioration of this historic structure will be arrested in anticipation of its subsequent preservation and incorporation as a significant element along the proposed Double Interpretive Loop.



Die-lock chain production at Building #105 (Chain Forge).

Courtesy: NPS Archives

2. Flirtation Walk

In 1823, Commodore William Bainbridge planted more than 200 elm trees throughout the Navy Yard, in the first significant effort to landscape the facility, which still bore much of the appearance of its former use as a pasture. Since that time, the Yard's network of open spaces has been worked and reworked, in response to many different functional and aesthetic considerations.

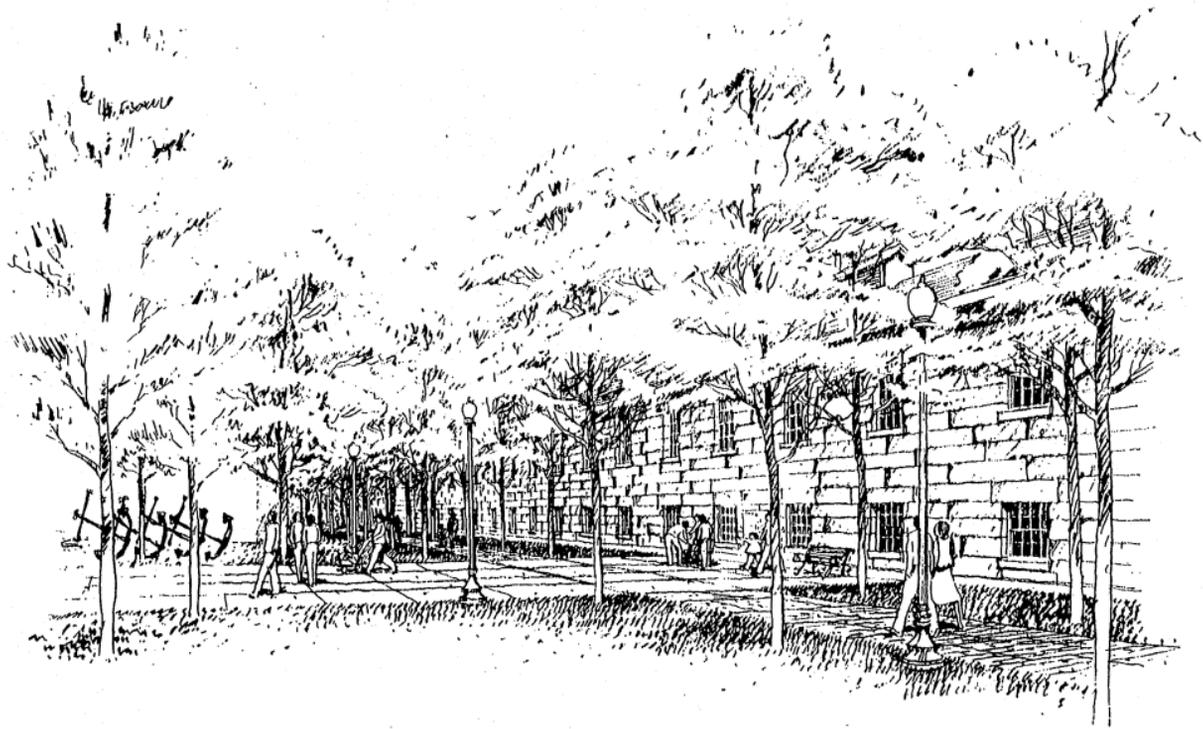
As the nineteenth century wore on, the maturing elms lining the streets, the familiar parade grounds, and the anchor and gun shot parks acquired a picturesque quality duly noted by visitors. The shipyard grounds were open to visitors every day except Sunday, and the residents of Charlestown came to picnic, promenade along the elms, and enjoy the Commandant's famous garden, complete with its ornamental trees and flowering shrubs.

The Ropewalk complex (Building #58), which had been constructed in the 1830s, sponsored one of the shipyard's most important functions -- the manufacture of rope for the entire U.S. Navy fleet. In fact, the Master Ropemaker was at one time the Yard's highest paid worker. More than a quarter mile long, the granite Ropewalk dominated the northwestern boundary of the Yard. Paralleling the Salem Turnpike (now Chelsea Street), it was one of the few buildings not aligned with the regimented grid geometry of the 1828 Master Plan.

Until the 1870s, the space between the Ropewalk and Buildings #33 and #38 was an open, grassy field. It was used as an open-air storage area for ammunition and ship anchors and was called, appropriately, Anchor Park and Gun Shot Park. A boardwalk (later changed to brick paving), passing this area and running alongside the Ropewalk for its entire length, came to be known as "Flirtation Walk" (or "Flirtation Alley"). Flirtation Walk was lined by a double row of elm trees and punctuated by gas lights and occasional benches. By the 1880s, it was known as a romantic spot for evening promenades on moonlit nights.

The role of a restored Flirtation Walk in the Double Interpretive Loop concept is threefold:

1. Provide a safe, attractive and fully accessible pedestrian route between the Gate 4/ Muster House area and Yard's End;
2. Provide visibility and access to the proposed Ropewalk Museum, including a possible exhibit at the Tarring House (Building #60) which is adjacent to the Ropewalk; and



Flirtation Walk and Anchor Park.

3. Develop a sequence of interconnected, pleasant, green spaces incorporating historic artifacts, seating areas, and wayside exhibits which tie into the overall open space network proposed for the Yard.

The Flirtation Walk component of the Double Interpretive Loop is envisioned as a more passive and contemplative activity generator than the waterside attractions. However, imaginatively designed exhibits employing various media and appropriately arranged historic Navy artifacts will surely enrich the experience of visitors of all ages.

EXHIBITS

VESSEL EXHIBITS

- Charles W. Morgan 1841, whaling bark
Joseph Conrad 1881, training ship
- L.A. Denton 1921, Gloucester fishing schooner
- Sabino 1906, coal-burner, steam-powered, passenger ferry, seasonal short cruises, additional charge

PRESERVATION SHIPYARD

- 1. Vinton's Gallery, overlooking main recreation ship
- 2. Thames Kelf Exhibit, wooden ship construction

VILLAGE EXHIBITS

- 3. Thomas Oyster House 1874, oyster serving shop
- 4. Mystic River Scale Model, Mystic between 1850-70
- 5. Life-saving Station 1874, coastal rescue boat and gear
- 6. Leuker Shack, Leuker fishing gear
- 7. Hallway House, meeting place for life-saving patrol
- 8. Australia, ship construction and coasting trade

- 9. Boathouse, sail and row boat rides and rentals
- 10. Salmon Shack ca. 1840, fishing gear storage
- 11. Boat Shop, craftsmen building small boats
- 12. American Seaman's Friends Society Reading Room
- 13. Closed temporarily for installation of new exhibits
- 14. Smoke House, fish preservation exhibit
- 15. Stone's Store 1870s, dry goods and hardware
- 16. School 1880s, one-room schoolhouse
- 17. Chapel 1889, non-denominational chapel
- 18. Tavern, sailor's tavern
- 19. Drug Store 1870s, pharmacy, and doctor's office
- 20. Bank 1893, Shipping Office upstairs
- 21. Coopers, tools and barrel making tools
- 22. Burrows House 1860s, coastal home and garden
- 23. Mystic Press, printing demonstration
- 24. Shipcarver's Shop, woodcarving demonstration

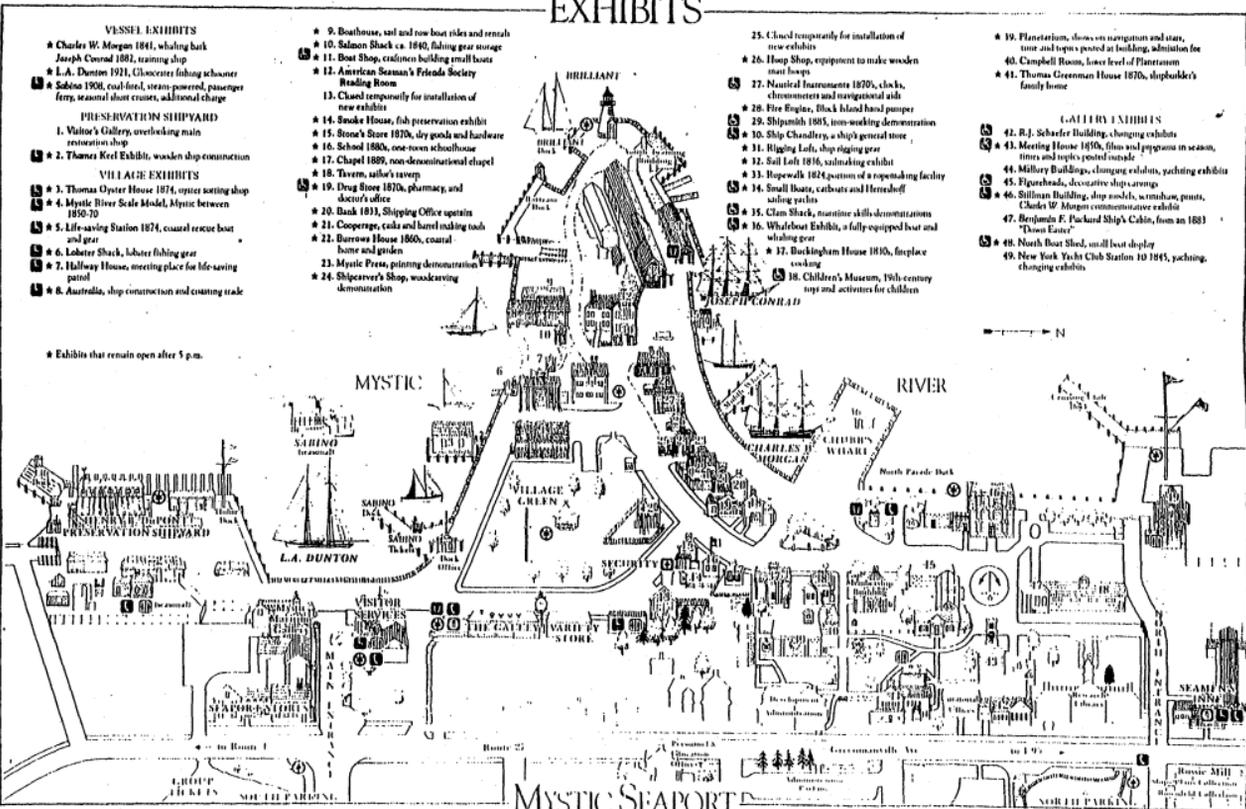
- 25. Closed temporarily for installation of new exhibits
- 26. Hoop Shop, equipment to make wooden mast hoops
- 27. Naval Instruments 1870s, clocks, chronometers and navigational aids
- 28. Fire Engine, Block Island hand pump
- 29. Shipsmith 1885, iron-working demonstration
- 30. Ship Chandler's, a ship's general store
- 31. Rigging Loft, ship rigging gear
- 32. Sail Loft 1876, sailmaking exhibit
- 33. Ropewalk 1824 portion of a ropewalk facility
- 34. Small Boats, carvings and H. Fretschhoff sailing yachts
- 35. Clem Shack, maritime skills demonstrations
- 36. Wharfboat Exhibit, a fully-equipped boat and whaling gear
- 37. Buckingham House 1810s, fireplace cooking
- 38. Children's Museum, 19th-century toys and activities for children

- 39. Planetarium, shows on navigation and stars, time and tides, passed in building, admission fee
- 40. Campbell Room, last level of Planetarium
- 41. Thomas Greenman House 1870s, shipbuilder's family home

GALLERY EXHIBITS

- 42. R.J. Schaefer Building, changing exhibits
- 43. Meeting House 1840s, films and programs in season, films and topics posted outside
- 44. Millory Buildings, changing exhibits, yachting exhibit
- 45. Figueirada, decorative ship carvings
- 46. Stillman Building, ship models, scrimshaw, prints, Charles W. Morgan commemorative exhibit
- 47. Benjamin F. Packard Ship's Cabin, from an 1883 "Down East"
- 48. North Boat Shack, small boat display, yachting, changing exhibits

• Exhibits that remain open after 5 p.m.



Mystic Seaport
 HISTORY • EXPERIENCE • ENJOY

SUMMER EVENTS

No.7 June 24 to September 2, 1991
Open 9 a.m. to 8 p.m.

SAIL HANDLING Charles W. Morgan Joseph Conrad	9:45, 3:30 11:00, 1:45
MEET A ROLEPLAYER FROM 1876 Sailors' Reading Room (12) or on the grounds	10:30 to 4:00
DEAD HORSE CEREMONY Joseph Conrad	10:45
WHALES AND TALES: TOURS FOR KIDS Tickets available at the Visitor Reception Center	11:00, 1:00, 2:00
WHALEBOAT DEMONSTRATION Middle Wharf	11:30
"WHALES, WHALING, AND WHALEMEN" A thirty-minute program on 19th-century whaling Meeting House (43)	11:30, 12:30, 2:30, 3:30
GALLERY TALK "Neptune's Attic..." Sixty Years of Collecting at Mystic Seaport Museum" Schaefer Building (42)	11:30, 2:15
"THE SUMMER STARS, GUIDING LIGHTS OF THE MARINER" Minimum age-admitted 5 years. Admission is charged. Visitors are admitted only during the 15 minutes prior to the start of the thirty-minute program. Planetarium (39)	Hourly 12:00 through 5:00
"A TALE OF A WHALER" A Participatory Play Chubb's Wharf [If rain, Red Barn (13)]	12:15, 1:30, 3:00, 4:30
NINETEENTH-CENTURY GARDENS Buckingham House Garden (37)	12:15, 3:30
CAPSTAN DEMONSTRATION Joseph Conrad	1:15
"MUSIC OF THE SEA AND SHORE" Village Green [If rain, Tavern (18)]	1:45
FISHERIES AND DORY HANDLING L.A. Duntun	2:15
OYSTERING DEMONSTRATION Next to Thomas Oyster House (3)	2:30
TOY BOATS AND GAMES ON THE VILLAGE GREEN	2:30 to 8:00
ROPEMAKING Clam Shack (35)	4:30
POWER FOR A NEW CENTURY Hoop Shop (26)	4:45
BREECHES BUOY RESCUE Village Green	5:00

RIVERLIFE ACTIVITIES Middle Wharf	5:00 to 8:00
AN EVENING OF MUSIC Village Green (If rain, Galley)	5:15 to 8:30
Monday Yankee Notions-Traditional Songs of New England	
Tuesday The Silver Corner Band	
Wednesday Forebitter-Sea Music	
Thursday Centerbrook Brass	
Friday Feature Concert Night	
Saturday Wickford Express-Sea Music	
Sunday The Little City String Band	
LOBSTERS AND LOBSTERMEN Lobster Shack (6)	5:30
FISH SPLIT L.A. Duntun	5:30
FISH SMOKING Smoke House (14)	6:00
SPECIAL ENTERTAINMENT See sign-boards around the grounds for location	6:00 and 7:00
Monday Josiah Gardner, Sea Tales	
Tuesday Punch and Judy 19th-century Puppet Show	
Wednesday The Magic of the Sea Magic Lantern Show	
Thursday Mr. E.A. Davis-Magician	
Friday Stories of Maritime New England	
Saturday Medicine Show	
Sunday Fuu-Fuu Band Sailors' Music with Wickford Express	
CASK RAISING Chubb's Wharf [If rain, Cooperage (21)]	6:15
ROPEMAKING AND MARLINSPIKE SEAMANSHIP Clam Shack (35) [If rain, Ropewalk (33)]	6:45
SCRIMSHAW: THE FOLK ART OF THE WHALEMAN Whaleboat Exhibit (36)	7:15
FAMILY SKY WATCHER'S GUIDE Planetarium (39)	Wednesday evenings 8:30
An informal program of star, planet, and constellation identification in the Planetarium, followed (weather permitting) by outdoor viewing with our telescopes. \$2 per person	

4. Historic Dockyard, Chatham, Great Britain

The Royal Dockyard was established at Chatham some four centuries ago during the reign of Henry VIII, and remained in operation until 1984 when it was closed and earmarked for redevelopment. Eighty acres that make up the oldest portion of the yard were given to a specially created Chatham Historic Dockyard Trust which has managed its re-use as an historical museum/interpretive precinct. A general admission charge provides access to four main galleries housed in historic structures including the Ropery, a late 18th century ropemaking complex still engaged in the active production of rope.

The Historic Dockyard is very much a working museum with opportunities to see traditional skills and crafts in action. The historic buildings and drydocks date from the 18th and 19th century and include the Commissioner's House built in 1704 which is the oldest naval building to survive intact in Great Britain.

Guided tours lasting approximately 1/2 hour are provided. In addition, a self-guided "visitor route" is delineated in a brochure. Special guidebooks are available for purchase. These guidebooks provide more detailed information and perspective about the Dockyard. For example, the Ropery Visitor Handbook includes description of the Ropery buildings, the raw materials of ropemaking, the processes of ropemaking, and the ropemakers.

Visitors to the Ropery can see demonstrations of ropemaking and also exhibitions about the history of the Chatham ropery which, at the height of its production employed over 300 people, around the turn of the 19th century. Today, the Ropery employs 12 people working for a company which is owned by the Chatham Historic District Trust.

Welcome to The Historic Dockyard

There was a Royal Dockyard at Chatham for four centuries, from the reign of Henry VIII to the reign of Elizabeth II. In the care of the Chatham Historic Dockyard Trust since 1984, this 80-acre site with its 47 Scheduled Ancient Monuments forms the most complete Georgian and early Victorian dockyard in the world.

Within this unique collection of buildings, the story is told of the building of Britain's fighting ships and the lives of the dockyard craftsmen.

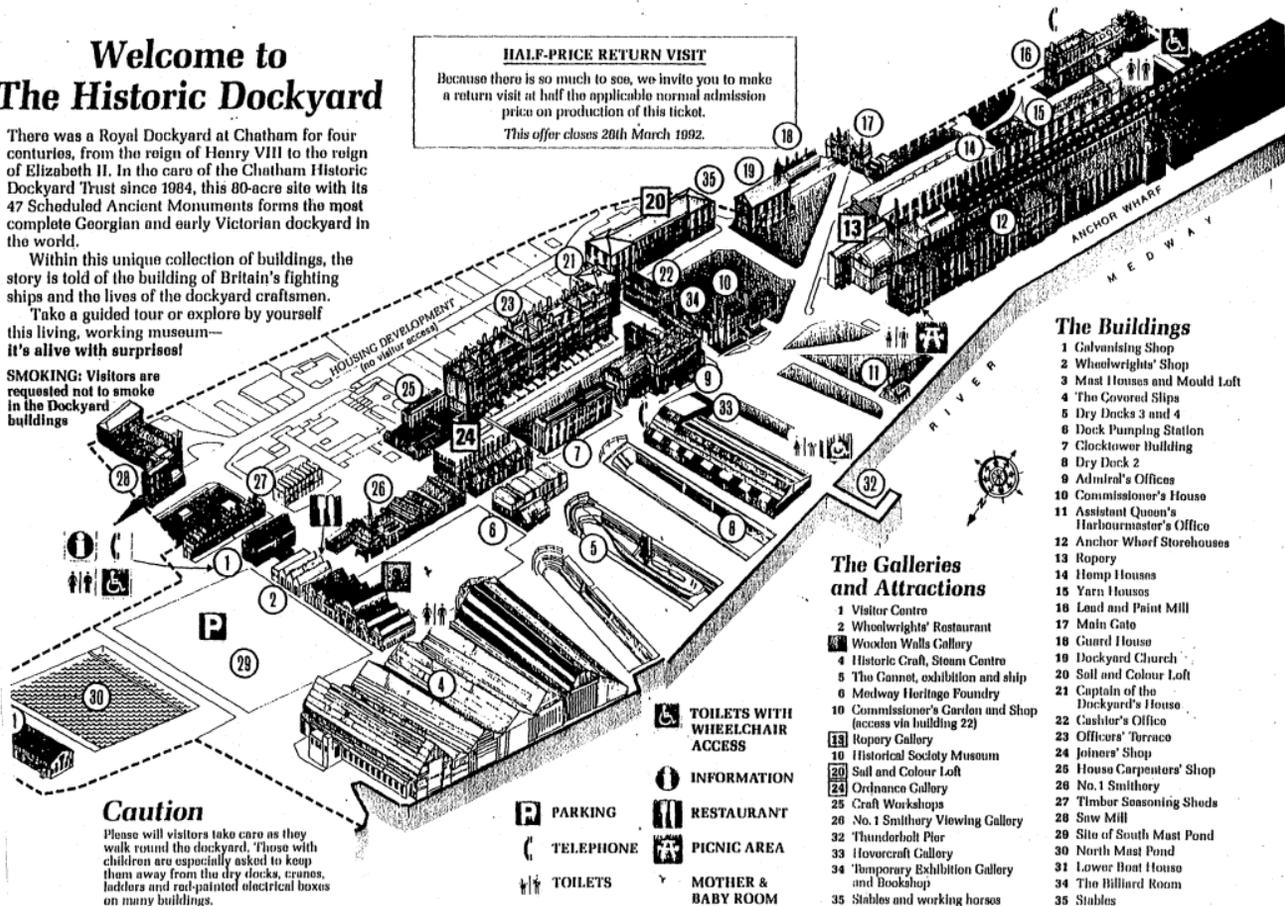
Take a guided tour or explore by yourself this living, working museum—
It's alive with surprises!

SMOKING: Visitors are requested not to smoke in the Dockyard buildings

HALF-PRICE RETURN VISIT

Because there is so much to see, we invite you to make a return visit at half the applicable normal admission price on production of this ticket.

This offer closes 20th March 1992.



The Buildings

- 1 Galvanising Shop
- 2 Wheelwrights' Shop
- 3 Mast Houses and Mould Loft
- 4 The Covered Slips
- 5 Dry Docks 3 and 4
- 6 Dock Pumping Station
- 7 Clocktower Building
- 8 Dry Dock 2
- 9 Admiral's Offices
- 10 Commissioner's House
- 11 Assistant Queen's Harbourmaster's Office
- 12 Anchor Wharf Storehouses
- 13 Ropery
- 14 Hemp Houses
- 15 Yarn Houses
- 16 Lead and Paint Mill
- 17 Main Gate
- 18 Guard House
- 19 Dockyard Church
- 20 Sall and Colour Loft
- 21 Captain of the Dockyard's House
- 22 Cashier's Office
- 23 Officers' Terrace
- 24 Joiners' Shop
- 25 House Carpenters' Shop
- 26 No. 1 Smithery
- 27 Timber Seasoning Sheds
- 28 Saw Mill
- 29 Site of South Mast Pond
- 30 North Mast Pond
- 31 Lower Boat House
- 32 The Hilliard Room
- 33 Stables

The Galleries and Attractions

- 1 Visitor Centre
- 2 Wheelwrights' Restaurant
- 3 Wooden Walls Gallery
- 4 Historic Craft, Steam Centre
- 5 The Cannon, exhibition and ship
- 6 Medway Heritage Foundry
- 10 Commissioner's Garden and Shop (access via building 22)
- 13 Ropery Gallery
- 18 Historical Society Museum
- 20 Sall and Colour Loft
- 24 Ordnance Gallery
- 25 Craft Workshops
- 26 No. 1 Smithery Viewing Gallery
- 32 Thunderbolt Pier
- 33 Howcrafts Gallery
- 34 Temporary Exhibition Gallery and Bookshop
- 35 Stables and working horses

TOILETS WITH WHEELCHAIR ACCESS

INFORMATION

RESTAURANT

PICNIC AREA

MOTHER & BABY ROOM

PARKING

TELEPHONE

TOILETS

Caution

Please visit visitors take care as they walk round the dockyard. Those with children are especially asked to keep them away from the dry docks, cranes, ladders and red-painted electrical boxes on many buildings.

THE PROCESSES

EARLY METHODS

HATCHELLING

In ropemaking the first task is to prepare the raw material for spinning. This process, known as 'hatchelling', involves combing out the fibres to untangle them. Today this is carried out by machines in the Spinning Room, but before 1864 it was done by hand in the Hatchelling House.

The bales of hemp were opened by skilled ropemakers, known as 'parters'. They removed any bad



A hatchel, late eighteenth century

material and sorted the hemp into bundles weighing around 67 lb (30 kg) which were taken to labourers in the Hatchelling House. These men passed the fibres through a hatchel. This was a wooden board with forty iron spikes, each a foot (300 mm) long, arranged in rows. It acted like a giant comb, cleaning and straightening the fibres. A pint of whale oil (known as 'train' oil) was poured onto each bundle to make the fibres supple and easier to pull through the hatchel board. Up to 2 lb (900 g) of fibre was lost in this process.

Hatchellers in Frost Brothers' ropery, c. 1904



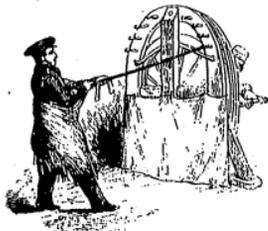
The bundle of straightened fibres was sent to the spinners to be turned into yarn. Since 1864 this process has been carried out by machines located in the Spinning Room above the Hemp Houses.

SPINNING YARN

After hatchelling, the fibres are spun into yarn. Before mechanisation (1864), this was done by hand on the upper floors of the Ropehouse.

The Ropehouse had five pairs of spinning frames, three on the first floor and two on the second. Each pair of frames was operated by a team of sixteen spinners and two labourers, with one frame at either end of the floor. Every frame had eight hooks – one for each spinner. The hooks were spun by a labourer turning a large wheel.

A spinner would wrap a bundle of fibre around his waist and twist some of the fibres onto his hook. As the

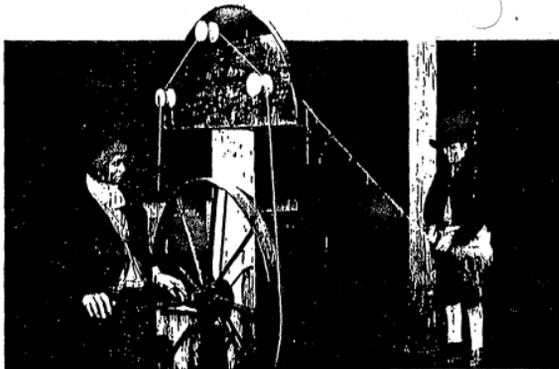


Spinner with a bundle of hemp round his waist, c. 1830

hooks were turned, he walked backwards away from the frame, keeping the fibres taut. The turning of the hook twisted the fibres together to form a yarn. With one hand he fed new fibres into the yarn from the bundle around his waist. His other hand was used to keep the newly spun yarn round and smooth. This was a very skilled job. If the rope was to be strong, the thickness of the yarn had to be kept constant throughout its length.

Each spinner walked the full length of the building producing a yarn 1,020 ft (311 m) long. The yarn was taken off the hook and the spinner was ready to begin again. This time he used his team's other frame, avoiding an up-and-down walk down the floor. A third spinner would be ready to take the yarn from the second spinner's frame. The rope was then stored in the White Yarn House, where they were stored to await tarring.

The rope was stored in the White Yarn House, where they were stored to await tarring.

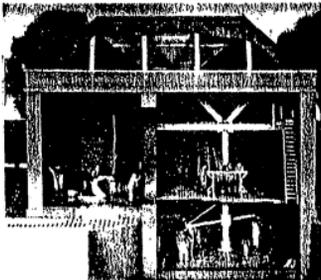


Model of a spinner, with a labourer turning the wheel

TARRING

In the eighteenth century, hemp yarn was dipped in boiling tar to protect it from decay. From the White Yarn House, the yarns were drawn by capstans through a tar kettle in the Tarring House and into the Black Yarn House, where they were allowed to dry. Before the 1780s the capstan was worked by teams of men, naked because of the great heat. They were replaced by horses working in the cellar beneath the Tarring House. Tarring was used until the early twentieth century, when hemp was replaced by manila.

Model of the Tarring House, showing the horses working below ground level



MECHANICAL SPINNING

Mechanical spinning was first introduced to the Ropery in 1864. Machines were installed on the first floor of the Hemp Houses to carry out the tasks of both the hatchellers and the spinners. They were developed from those used in the textile industry in the North of England. A steam engine was fitted in a newly built engine house (now the Test House). Power was



Women workers in the Spinning Room, c. 1912

transmitted to the machines by overhead line shafting and drive belts. Some of the shafting can still be seen in the Spinning Room. The machines are now powered by electricity.

Following the example of the northern cotton and woollen mills, the Ropery brought in women workers to operate the new machines. Employed as machine minders, the women were paid much less than the skilled spinners they replaced. The sexes were kept well apart, with the women having separate entrances, staircases and mess rooms.

For many years women's jobs in the yard were reserved for the widows of dockyardmen, sailors and dockyard police. Single women were only recruited as a last resort. It is said that the female employees of the Spinning Room were always referred to as 'the women of the ropery', whilst those employed making flags were known as the 'ladies of the colour loft'.

THE SPINNING ROOM TODAY

There have been several changes of machinery since 1864. Some early twentieth-century hemp machines survive, although no longer in use. They can be found at the northern end of the Spinning Room, to the right of the visitor entrance. They have been replaced by new machines, better suited to the manila and sisal fibres. These were installed in batches from the 1940s onwards. Most of the machines were made in the late 1970s. All remain in use today.

THE PROCESS TODAY

Bales of manila or sisal are hoisted up to the Spinning Room from the Hemp House below. They are opened and sorted, and the fibre is cut to lengths of about 3 ft (900 mm) by two circular cutters [1]. The hanks of fibre are placed on the tables of the spreader [2]. This is the first of a series of machines which perform the hatching (machine hatching) process. It begins the combing out and cleaning of the fibres by pulling them across rows of pins. At the same time the fibres are treated with a liquid batching compound, the modern equivalent of whale oil. This lubricates them and helps prevent rot. It is held in tanks above the machine and sprayed onto the fibres as they pass beneath.

The fibres are then passed through two scutchers [3] which both perform the same task. These comb the fibres further by passing them through more pins,



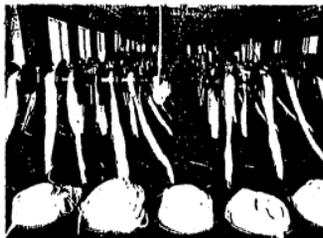
Fibre passing through the scutcher



Weighing the fibre

More batching compound is sprayed on, and the scutchers also bring the fibres together to form a continuous sliver of raw material.

After hatching, the sliver of fibre is taken to the bell frame or drawing frame [4]. This refines the sliver further, so that it becomes more consistent in thickness and weight. After 900 ft (302 m) of sliver has passed through, it is pulled off and weighed on nearby scales [5]. Four lengths (bundles) are selected so that they add up to a total weight of 530 lb (240 kg).



The 'twelve can' machine

This 'balanced' group of bundles is then taken through the second drawing frame, known as the 'four can' machine [6]. Here the four slivers are combined to form a single sliver of fibre which is fed into a container or can. The process is repeated on a third drawing frame, the 'twelve can' machine [7], further combing and combining the sliver. The fibre is now ready for spinning.

There are three spinning machines [8, 9, 10]. Each can spin up to twenty-four yarns at once, but one [10] is used for thinner yarns. The sliver is fed over the top of the machine through guides and rollers to a 'flier',

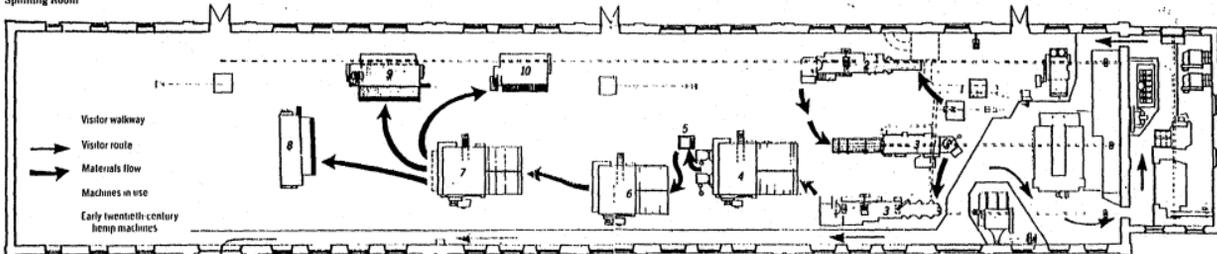
which twists it to form yarn as it is wound onto bobbins. The bobbins are located on pins mounted on tables which move up and down as the bobbins are filled. Each machine is fitted with two sets of tables. When the bobbins of one set are full, the tables are swapped over to enable spinning to continue whilst these bobbins are replaced with empty ones.

The bobbins of completed yarn are taken to the ground floor of the Double Ropehouse for 'forming' into strands.

The spinning machine. The fibre comes over the top, and is twisted onto the bobbins below



Spinning Room



FORM STRANDS

The final stages of ropemaking take place on the Ropewalk, the ground floor of the Double Ropehouse. The two processes which are carried out here are known as 'forming' and 'closing'. Both use methods developed between 1790 and 1815, and machines which date from the same period.

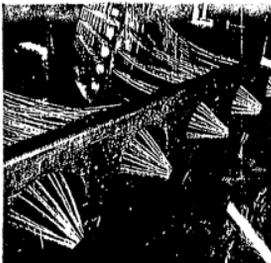
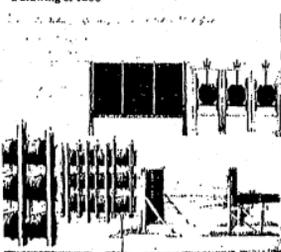
The bobbins of yarn are mounted on racks at the south end of the Ropewalk. A number of yards will be twisted together to make a strand. The number varies with the size of rope; for example a three-inch-circumference (76 mm) rope is made up of three strands, each of twenty-four yarns.

Originally a strand was made by simply laying a number of yarns along the floor and then twisting them together. The yarns on the outside of the strand would bear more stress than the others, and would break first. In the 1790s Joseph Huddart invented the register plate and forming tube. The register plate is a metal disc perforated with holes, like a colander. Each yarn is taken through a separate hole. 'Reeving' the register plate is one of the most skilled jobs in ropemaking, for in threading the plate, the ropemaker controls the cross-section of the strand. Too many yarns on the outside and too few on the inside will produce friction between the threads. Too few on the outside and the strand will be liable to rot.

After the register plate, the yarns are then led through the forming tube or 'die', a metal tube which compresses them into close contact with one another. These devices, still in use today, make sure that all the yarns are equally taut, and bear an equal share of the stress. Their introduction doubled the strength of rope.

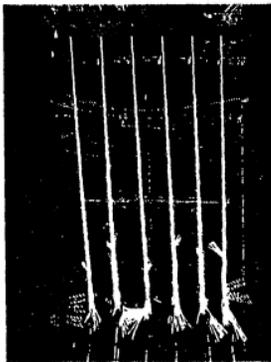
The yarn ends are then attached to a hook on a forming machine. This is mounted on wheels and is pulled down the whole length of the floor, drawing the yarns off the bobbins and through the register plate and tube. At the same time, the hook is turned to twist the yarns into a strand. There are several

The reel banks, register plate and forming tubes, from a drawing of 1800

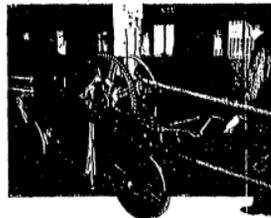


Yarns going through the register plates and forming tubes, with the bobbin banks in the background

The yarns are led from the tubes to the hooks on the forming machine, and are twisted to form strands



Forming strands with the Maudslay machine of 1811



forming machines, used for different sizes of strands. Each machine can make up to six strands at a time, and is driven by ropes taken round a capstan at the north end of the building.

The forming machines in use today were developed after a visit by Simon Goodrich, the Admiralty's engineer, in 1808. The Ropeary at Chatham contains the earliest-known example of this type of machine. It was made in 1811 by Henry Maudslay, one of the greatest engineers of the age.

When the forming machine has travelled the length of the Ropewalk floor, strands of 275 metres have been made. The strands are cut off at the forming tubes and at the hooks of the forming machine. They are left to settle, stretched between two upright posts. After a suitable period the strands are ready to be closed into rope.

In the eighteenth century, an untarred yarn was placed in the centre of each strand of tarred rope made for the Royal Navy. This was known as 'rugues' yarn' and would identify the rope as government property if it was lost or stolen. Later, coloured yarns were used for this purpose. Rope made at Chatham has a yellow yarn, whilst those made at Portsmouth and Plymouth used blue and red respectively.



The Maudslay machine travelling down the floor

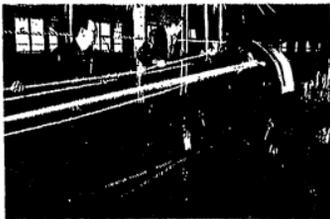
CLOSING THE ROPE

The last stage of the ropemaking process is that of closing or 'laying' the rope. Most visitors find this the most dramatic operation carried out in the Ropeary.

In closing, a number of strands are twisted together to make a rope. Hawser-laid ropes have three strands

and cable-laid ropes have nine (three hawser-laid ropes twisted together). Shroud-laid ropes have four, plus a 'gripe' or heart in the middle. Like forming, closing takes place on the ground floor of the Double Ropehouse. Most ropes made at Chatham are hawser-laid, that is they have three strands. Up to three small hawser-laid ropes can be made at a time.

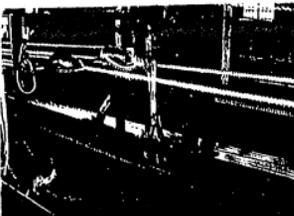
Closing can take place on either side of the Ropewalk. The side nearest to the visitor walkway is for ropes less than 3 in. (76 mm) in circumference. The far side is for ropes of up to 24 in. (610 mm) in circumference. There are two machines on each side. At the south end of the building are the 'standing' machines, and at the north end, mounted on rails, are the 'travelling' machines. Each pair is connected together by a continuous drive rope taken round capstans at the north end of the Ropewalk. Before the introduction of steam power in 1836, they were operated by hand winches. Up to 220 men were needed to close the largest cables. It was said that stonemasons men burst blood vessels during this process.



After the hardening process, the ropemakers transfer the strands to a single hook

The strands to be made into rope are laid out along the length of the Ropewalk, supported and kept apart by trestles. Their ends are connected to separate hooks on both the standing and travelling machines. The first stage of the closing process is to 'tension' or 'harden' the strand. This is done by turning the hooks of both machines in a clockwise direction. As the strands are twisted, they shorten and become tense. When the ropemaker in charge judges that sufficient turns has been applied to the strands, the machines are stopped.

At the travelling machine, the ropemakers move the strands to a single hook. The strands remain on separate hooks at the standing machine. A 'top' is inserted between the strands a short distance from the travelling machine. This is a cone-shaped piece of wood with 'scours' or grooves cut into it, one for each strand. The top acts as a guide which causes the strands to come together evenly. Different tops are used for different sizes of rope. The top is fitted onto a rail-mounted cart, known as the 'top cart'.

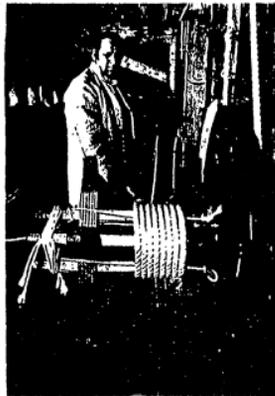


The top cart travelling down the floor

Finally closing can commence. The machines are started, causing the hooks at both ends of the floor to rotate. The travelling machine is put into reverse, so that its hooks now turn in an anti-clockwise direction. The single hook twists the strands together into rope as they pass around the top. This action forces the top cart to move down the floor. The ropemaker in charge travels on the cart, controlling its speed by means of a 'tail' or brake. This is a small piece of rope twisted around the newly formed rope. The ropemaker's skill determines the 'angle of lay' of the rope, as the strands must lay against each other at the correct angle. For hawser-laid rope this angle is 37°.

As the strands combine to form the rope, the distance between the two machines shortens, pulling the travelling machine down the floor. A 'drag' or sledge is towed behind it to maintain tension. Weights are placed on the drag when large ropes are being made.

Coiling the finished rope



During closing, the strands are twisted together in the opposite direction to that of the forming process. To prevent them from becoming unravelled, the hooks of the standing machine continue to turn in a clockwise direction.

Once the top cart has travelled the length of the Ropewalk, the rope has been made. The ropemakers tie off the ends to prevent them unravelling and cut them off the hooks. The newly made rope is then coiled up on a winding machine. All that remains is to test it.

TESTING

Ropes are often used for tasks in which strengths and reliability are critical. Those made in the Ropery at Chatham go through several quality control tests to make sure that they are up to the required standards.



The testing machine

The main test is for the strength of the whole rope, but other machines test the strength of individual yarns and the effects of wear and tear.

The present rope-testing machine was made by Avery and Sons and was installed in the Test House in 1970. A sample of every tenth rope is tested on this machine to make sure that it will not break below the required strength. It is fixed between the machine's jaws, which are then pushed apart by hydraulic rams until the rope breaks. The load exerted by the rams is measured in tons and the point at which the rope snaps is known as its 'breaking strain'. The machine can test ropes with a breaking strain of up to 50 tons.

THE ROPEMAKERS

In the age of sail the ropery was operated as a separate department within the dockyard. It was headed by the Clerk of the Ropery and the Master Ropemaker. The number of people employed in the ropery varied between times of peace and war. A peak was reached during the Napoleonic Wars, when the Royal Navy had more sailing ships than at any other time. In 1808, for example, 304 men worked in the Chatham ropery. Of these, 178 were skilled ropemakers (spinners). There were also apprentices, labourers and 'house boys'.

Just over half of the workforce were employed in hutchelling and spinning. They were divided into teams known as 'wheels', probably named after the spinning-wheels themselves. Each wheel consisted of twenty-seven men and four house boys and looked after a pair of spinning frames. The team included parters, hatchellers, spinners and wheel-turners. It was expected to produce 288 yarns in a day.

A further seventeen men, both spinners and labourers, worked in the Yarn Houses and Tarring House. The remainder, 132 men, formed strands and closed ropes on the Ropewalk.

The patron saint of ropemakers is St Catherine of Alexandria and at Chatham there was always a great celebration on St Catherine's Eve (24 November). The ropemakers would hold a procession through the streets of the town begging for apples and beer for the coming festivities.

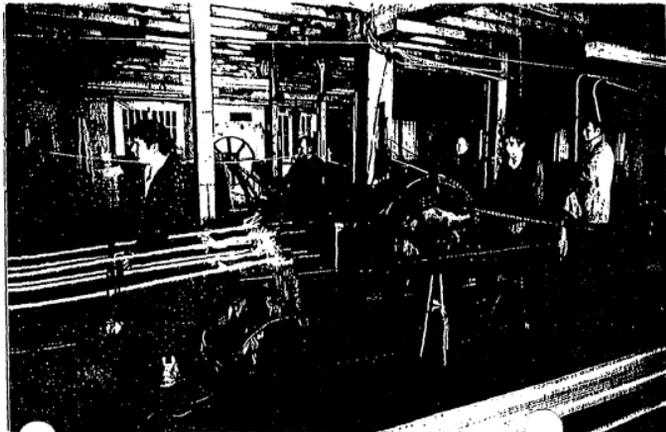
Today the workforce is much smaller. Numbers were greatly reduced during the nineteenth century, when



The sexes were strictly segregated after the introduction of female labour

steam power and machine spinning were introduced. At the same time sailing vessels were replaced by steam ships, which needed much less rope. By 1892 there were only twenty-four skilled ropemakers in the yard, though by 1913 and the eve of the First World War this figure had risen to thirty-six. The Ropery is now run by Master Ropemakers Ltd, a company owned by the Chatham Historic Dockyard Trust. Around twelve people are now employed, working in the Spinning Room and Ropewalk.

Some of today's ropemakers



3. Ropewalk and Tar House

The Ropewalk Building #58 and Tarring House Building #60 are among the most highly significant historic structures within the Charlestown Navy Yard. The Ropewalk, which is over 1/4 mile in length is the last remaining masonry ropewalk building in the United States.

The Boston Landmarks Commission ("BLC") has been petitioned to designate the Ropewalk as a Boston landmark. In its report to the Commission, BLC staff recommends such designation for the building's exterior and certain portions of the interior. The Ropewalk was also added to the National Historical Park by Act of Congress in 1978. However, Congress did not appropriate funds to acquire and rehabilitate this unique structure.

The Ropewalk's extraordinary length and relatively remote location within the Navy Yard constrains redevelopment. Low first floor height and small window area creates additional limitations.

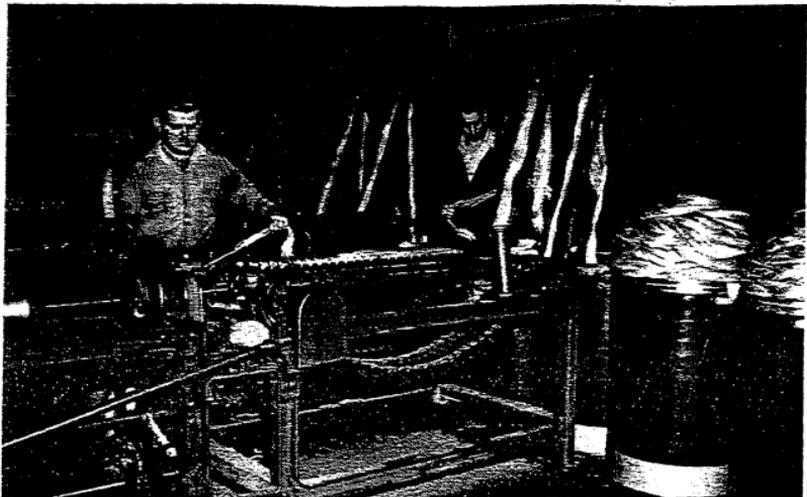
The Boston Redevelopment Authority nevertheless remains committed to achieve re-use of the Ropewalk and Tarring House. A significant museum/interpretive component is envisioned as part of the overall redevelopment program to create an important focus along the Double Interpretive Loop.

A number of proposals have been brought forward in the past to rehabilitate the Ropewalk for museum and cultural uses. Unfortunately, these proposals have foundered, in part because of the magnitude of investment required to undertake such re-use of the entire structure. Accordingly, the following strategy is proposed for consideration.

Redevelopment of the Ropewalk will be accomplished by solicitation of redeveloper interest through a Request for Proposal ("RFP"), which includes specific design and development guidelines for the project. The BRA will prepare and submit Draft RFPs for MHC, DOI, BLC and NPS comment and approval.

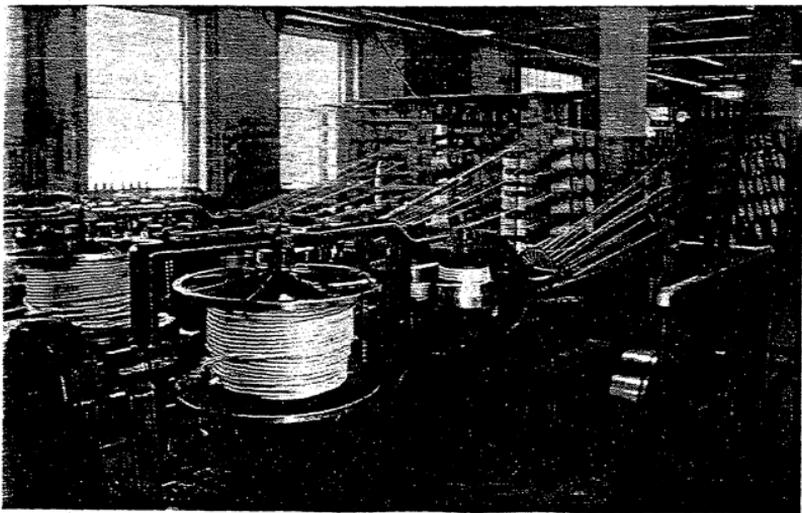
Interestingly, notwithstanding its significant length, the Ropewalk can be differentiated into four relatively distinct elements with quite different attributes. The development potential of these distinct elements could vary significantly as indicated in the accompanying chart. Thus, to secure the broadest possible redeveloper interest, the RFP should be structured to encourage proposals not only for the entire structure but also for selected portions of the Ropewalk.

The benefits of this approach are twofold. First, the



Spinning jenny; sliver into yarn, 1951.

Courtesy: NPS Archives



Rope production at Building #58 (Ropewalk).

Courtesy: NPS Archives

potential for cross-subsidy from for-profit uses to the presumably not-for-profit museum/cultural component can be enhanced as each participant will be responsible for only that area in which they have expertise. Secondly, the entire Ropewalk Complex can be redeveloped in a phased schedule which significantly lowers the investment hurdle that has frustrated prior re-use concepts.

The National Park Service has indicated a preference that 20-25,000 square feet of space devoted to museum/cultural interpretation of ropemaking be provided within the Ropewalk. Accordingly, the BRA has prepared two alternatives that accommodate such program for further discussion with historic preservation officials:

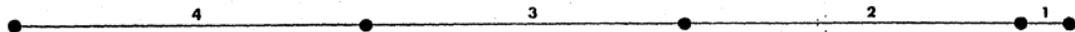
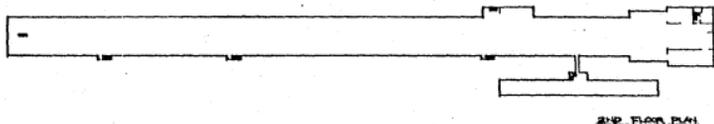
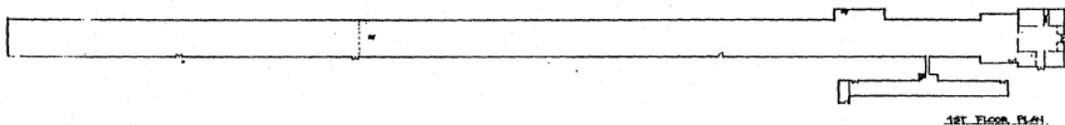
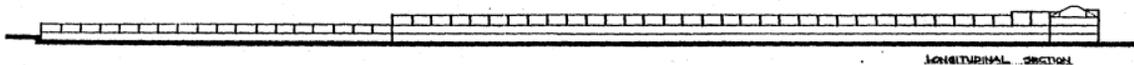
- A. A 20-25,000 square foot museum/cultural program on the first floor of the Ropewalk Complex between the Head House and the proposed Anchor Park at Thirteenth Street;
- B. A 20-25,000 square foot museum/cultural program within the two-story portion of the Ropewalk immediately adjacent to the Head House.

Either of the above scenarios could accommodate both phased development as well as multiple redeveloper interest. To enhance coordination amongst potential multiple redevelopers, the RFP could specifically encourage joint ventures between for-profit and non-profit entities.

The Tarring House is envisioned for museum/cultural re-use under both alternatives. Inasmuch as the Head House of the Ropewalk appears to present the most promise for commercial redevelopment, both scenarios also accommodate such re-use.

The BRA has contracted with a museum consultant to provide additional input on the fiscal, operational, and design implications of the re-use of the Ropewalk and Tarring House. The next steps involve bringing such expertise to bear, integrating comments of local, state, and federal preservation interests, and finalizing an RFP for review and approval. It is anticipated that this can be accomplished within the next six to nine months.

In the meantime, MHC, BLC, and DOI have approved the Stabilization Plan for the Ropewalk Building #58 and the Tarring House Building #60, and the BRA is now preparing contract documents to execute the work. This will insure that any potential further deterioration of these structures will be arrested in anticipation of their subsequent preservation and incorp in as significant elements of the proposed Double Interpretive Loop.



ROPEWALK -- BUILDING SECTIONS

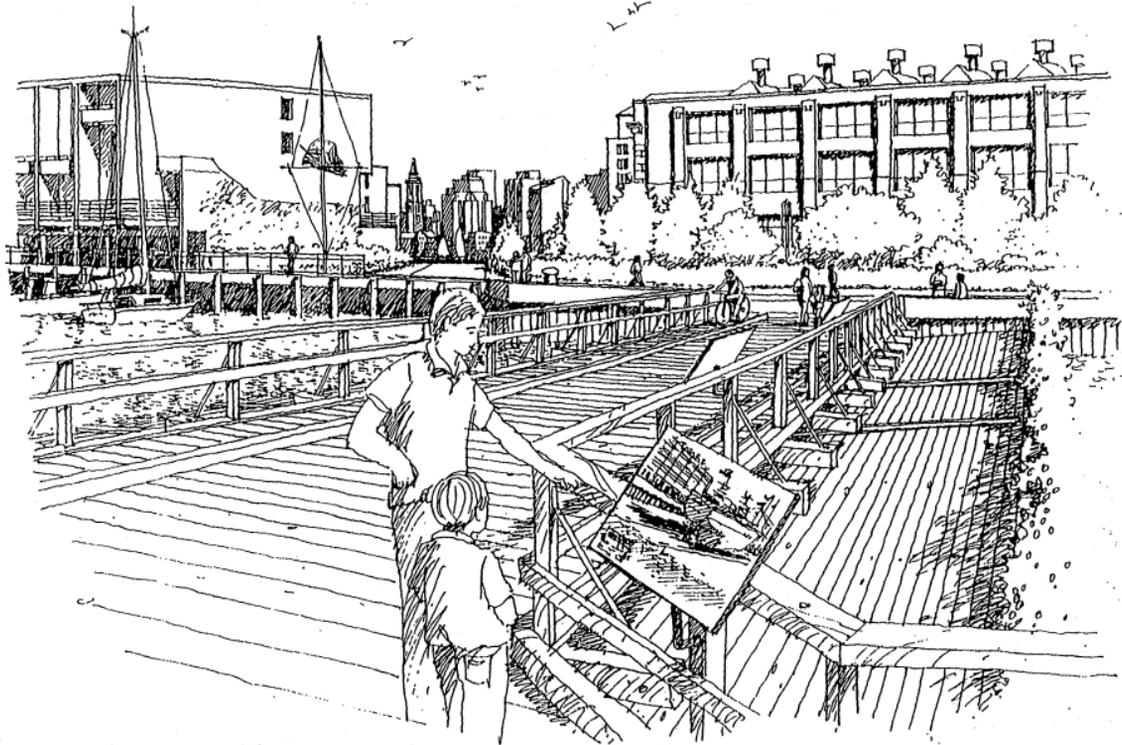
	SECTION 1	SECTION 2	SECTION 3	SECTION 4
PEDESTRIAN	2 ENTRANCES; EASILY ACCESSIBLE FROM GATE 5 POTENTIAL ACCESS FROM CHELSEA ST. AT BLDG 79	ROPEWALK: 1 ACCESS POINT ON SOUTH SIDE TAR HOUSE: 3 ACCESS POINTS ON NORTH SIDE	ADEQUATE ACCESS FROM 9TH ST INCONVENIENT ACCESS BEHIND BLDG 107	3 ENTRANCES; EASILY ACCESSIBLE FROM GATE 4, 3RD STREET & FLIRTATION WALK
ACCESS VEHICULAR	INCONVENIENT ACCESS FROM 4TH AVE DROPOFF AREA UNSUITABLE DROPOFF AREA ON 13TH ST AT GATE 5	ACCESSIBLE FROM 4TH AVE DROPOFF AREA	ACCESSIBLE FROM 4TH AVE DROPOFF AREA	OPPORTUNITY FOR DROPOFF AT 3RD ST & 3RD AVE
PARKING	CONVENIENT TO BLDG 199 GARAGE	CONVENIENT TO BLDG 199 GARAGE	ACCESSIBLE TO BLDG 199 GARAGE POTENTIAL ADDITION OF BELOW-GRADE PARKING AT CONVERTED BLDG 108	REMOVE TO PARKING FACILITIES, YET CONVENIENT TO PUBLIC BUS AND SHUTTLES
VISIBILITY VISUAL CORRIDORS	VIEWS FROM PROPOSED FLIRTATION WALK & 13TH ST	VIEWS FROM PROPOSED FLIRTATION WALK AND WITH APPROPRIATE SIGNAGE FROM 13TH ST & 4TH AVE	FLIRTATION WALK, 9TH ST, 4TH AVE	GATE 4, 3RD ST, DRIFCOCK 2/SUBSTATION PARK
	VIEWS	MUSEUM SPACE VIEWS NOT RELEVANT	OPEN SPACE DEFINED BY BLDGS 62, 107, 108 & TAR HOUSE	FLIRTATION WALK & OPEN SPACE DEFINED BY BLDGS 31, 33, 107 & 120
BUILDING CONDITIONS	REHABILITATED	REHABILITATED	BLDG 108 IS RUNDOWN BLDG 107 IS IN POOR CONDITION	BLDGS 31, 33 & 120 ARE REHABILITATED BUILDING 107 IS IN POOR CONDITION
SURROUNDING ENVIRONMENT USES	OCCUPIED OFFICE	OCCUPIED OFFICE	BLDG 108 IS VACANT BLDG 107 IS USED BY NPS	BLDGS 31, 33, 120 ARE OCCUPIED OFFICE BUILDING 107 IS USED BY NPS
OPEN SPACE LANDSCAPING	PUBLIC PLAZA DEFINED BY BLDGS 62, 79, 96 & HEAD HOUSE	PUBLIC PLAZA DEFINED BY BLDGS 62, 79, 96 & ROPEWALK/TAR HOUSE FLIRTATION WALK & SPACE BETWEEN BLDG 62 & TAR HOUSE	OPEN SPACE DEFINED BY BLDGS 62, 107, 108 & TAR HOUSE	FLIRTATION WALK AND OPEN SPACE DEFINED BY BLDGS 31, 33, 107 & 120
PROPOSED USES OFFICE	SUITABLE	NOT SUITABLE DUE TO MACHINERY	SUITABLE	
	MUSEUM	SUITABLE	SUITABLE	SUITABLE
BUILDING CONDITION FLOOR LAYOUT		1ST FLOOR HAS MACHINERY 2ND FLOOR IS CONTINUOUS, FLEXIBLE SPACE	CONTINUOUS, FLEXIBLE SPACE ON SECOND FLOOR 1ST FLOOR HAS RAIL TRACKS	ONE CONTINUOUS, FLEXIBLE SPACE YET RAIL TRACKS ACROSS FLOOR
	CIRCULATION	STAIRCASE NORTHWEST SIDE ELEVATOR ADJACENT TO NORTHEAST ENTRANCE	POOR VERTICAL CIRCULATION: 1 STAIRCASE ON WEST SIDE & 2 FIRE EXITS ON 2ND FLOOR	POOR VERTICAL CIRCULATION: 1 STAIRCASE ON WEST SIDE & 2 FIRE EXITS ON 2ND FLOOR
CEILING BY SKY LIGHTS	(1) 9'6" / (2) 11'3" / (3) 10'6" (4) STORAGE POTENTIAL SKYLIGHT ON SOUTH SIDE	(1) 9'5" (2) 10'7" POTENTIAL SKYLIGHTS	(1) 9'5" (2) 10'7" POTENTIAL SKYLIGHTS	9'5", IF REMOVE CEILING IS 19'6" TO ROOF PEAK POTENTIAL FOR SKYLIGHTS

4. Wayside Exhibit at Shipways

The Shipways ramps, constructed of reinforced concrete and wood, were built in 1920 (Shipways One) and 1945 (Shipways Two). The sloping ramps now form the foundation of the residential structures in this area, and are the reason for their stepping of the condominium structures down toward the harbor. The restored bridge walkway was built after the cessation of intensive war efforts and ship launchings eliminated the need for the ramps. Remnants of the wooden waterside portion are visible: the ramp of Shipways Two is still visible below the bridge, plunging into the water; the cutoff edge of the Shipways One ramp is visible in the wall just below the lawn area near the westerly portion of the walkway. Support pile remnants are also visible at low tides.

The Wayside Exhibit at the Shipways site is currently envisioned as a series of etched metal panels showing, among other things, photos of ship launchings from the ramps, or the changes in piers and bulkheads over the years as the U. S. Navy constantly upgraded or adapted the Navy Yard facilities for its evolving role as a major research and industrial yard for the evolving U.S. Navy. Also depicted would be the old wooden shipbuilding sheds, or "shiphouses" huge barnlike structures originally suggested by Commandant Bainbridge in 1813, which allowed for the first time year-round work on all aspects of shipbuilding, and which can be found in old prints and photographs. The last "shiphouses" were removed in 1901.

The technical aspects of the Shipways ramps, illustrated by a diagram of their construction and use, and a photograph or print of a ship on one of the ramps, could be composed into appropriate interpretive panels located where the ramps are most visible. The innovative shipbuilding sheds could also be discussed in terms of their importance to production scheduling.



Wayside Exhibit at Shipways.

3. Mystic Seaport, Mystic, Connecticut

Mystic Seaport is a privately operated set piece, an agglomeration of stylistically and thematically related structures imported from various sites and arranged to accentuate the experience of the visitor. The original industry and buildings on the site were, in fact, shipbuilding-related. Secondary commerce related to shipbuilding, provisions and maintenance, and other whaling-related services and period commercial establishments are represented in the added buildings.

Stylistic considerations have governed the evolution of the interpretive and wayfinding signage, and are suggested in the self-guiding map illustrated. Artifacts, interpretive and interactive exhibits, and a small-village quality with small scale signposts pointing to destinations complete the picture.

Mystic Seaport also markets itself aggressively as a destination. Brochures are found at every state and local tourist information center, and the Mystic Marinelife Aquarium and Olde Mistick Village (a theme mall) have been developed as aggregate attractions. 1991 is the 150th anniversary of the launching of Mystic's premiere attraction, the whaling ship Charles W. Morgan. Visit Planner brochures, listing over a dozen annual special events (for every month of the year), as well as areas of interest for further information (camps, cruises, classes, etc.), are distributed. As one example of this programming, a number of steamboat and schooner courses are offered for day, half day, dinner and overnight excursions, with group charters available. Mystic Seaport charges admission and promotes membership programs.

5

REFERENCES AND RESOURCES

REFERENCES AND RESOURCES

The following have been prepared in order to provide references and resources for further development of the Double Interpretive Loop:

- A. Annotated Bibliography --
Charlestown Navy Yard
- B. Photographic Sources --
Charlestown Navy Yard
- C. Signage and Interpretive Programs --
Boston And Charlestown Navy Yard
- D. Example of other Interpretive Plans

A. ANNOTATED BIBLIOGRAPHY -- CHARLESTOWN NAVY YARD

Bearss, Edwin C. Historic Resource Study, Charlestown Navy Yard, 1800-1842, Boston National Historical Parks (Volumes I and II). Denver: U.S. GPO, October 1984.

An exhaustive resource study detailing the history of the Navy Yard from its authorization through August 1842, when the Board of Naval Commissioners (which oversaw day-to-day operations of the Navy) was abolished. The narrative is supplemented by a series of historical base maps.

Black, Frederick R. Charlestown Navy Yard, 1890-1973 (Volumes I and II). Boston: Boston National Historical Park, National Park Service, U.S. Department of the Interior, 1988.

A comprehensive narrative detailing the history of the Navy Yard during what could be called its modern era. The historical information is informed by numerous references to developments in the United States Navy.

Brockway, Lucinda A. and Patrice A. Todisco. Charlestown Navy Yard: Historic Grounds Management Report, prepared for National Park Service, Boston National Historical Park. Boston: 1985.

An illustrated report documenting the changes to the Navy Yard landscape that have occurred since 1976, supplemented with historical background information. Recommendations for restoration are included.

Cochran, Samuel J. "Reminiscences of the Boston Navy Yard - Boston - By an Old Employee," March 14, 1917.

A colorful and informally written narrative describing mid-19th century conditions at the Navy Yard.

Larson, Leslie. History of the Charlestown Navy Yard, prepared for the Boston Redevelopment Authority.

A detailed history of the Navy Yard, discussing significant persons, important buildings, and notable ships built or repaired at Charlestown.

Larson, Leslie. The Ropewalk at the Charlestown Navy Yard: A History and Reuse Plan; prepared for the Boston Redevelopment Authority, December 30, 1987.

A detailed history and description of the Ropewalk complex, the Navy Yard's most historically significant grouping of structures. The report incorporates background information on early Boston ropewalks. Supplementing the history, Mr. Larson proposes a museum, historical research, and archives facility reuse for the complex.

National Park Service. Boston Naval Shipyard, Architectural and Environmental Inventory. Compiled by David Wright. Boston: 1974.

A compilation of historical information about many Navy Yard buildings, from Navy Department archives. Drawings and photos are referenced.

Norton, Bettina A. The Boston Naval Shipyard, 1800-1974; A Bostonian Society Picture Book. Reprinted from the Proceedings of the Bostonian Society Annual Meeting, 1974. Boston: Bostonian Society, 1975.

An informative history describing the technological achievements and important personalities associated with the Navy Yard as well as its significant buildings.

Shettleworth, Earle G. and Roger G. Reed, ed. A Biographical Dictionary of Architects in Maine, Alexander Parris, 1780-1852. Vol. IV, No. 1. Augusta, Maine: Maine Historic Preservation Commission: 1987.

A monograph describing the career of Alexander Parris, particularly his military and residential commissions in Maine and elsewhere.

U.S. Department of the Interior, National Park Service. Boundary Enlargement Report, Charlestown Navy Yard. Denver: 1978.

This report is supplemented by historical background information. A copy of the National Register of Historic Places Nomination Form is appended.

National Historic Landmark Boundary Study (Draft), February 1986.

A draft containing much useful historical information about Navy Yard buildings.

Survey of Historic Sites and Buildings in States
Located East of the Mississippi, Volume III, Commerce and
Industry. The National Survey of Historic Sites and
Buildings. 1966.

An historical summary emphasizing historic ships associated
with the Yard.

Taylor, Margaret McD. Buildings That Last: Parris in Boston.
Booklet funded by a grant from the Massachusetts Foundation
for Humanities and Public Policy. Boston: 1981.

A celebration of Alexander Parris and his work; companion to
an exhibit created by Ms. Taylor, entitled "Parris in
Boston."

C. SIGNAGE AND INTERPRETIVE PROGRAMS -- BOSTON and CHARLESTOWN NAVY YARD

There are currently three signage programs in various phases of development -- the Freedom Trail Signage Master Plan, the Charlestown Navy Yard Signage Program, and the Harborwalk Sign System -- which intersect with the proposed historic trail in the Yard. They are very different in scope and intent from each other, yet share the common goal of providing information while reinforcing the identity of distinct pedestrian experiences.

Both the Harborwalk and the Freedom Trail signage programs extend beyond the boundaries of the Charlestown Navy Yard. Harborwalk ties the Navy Yard to its waterfront, and celebrates the relationship of land to sea. The Freedom Trail unites the Navy Yard to the historic downtown and Charlestown communities. It is associated closely with the city's Colonial past.

Signage for both Harborwalk and the Freedom Trail is in the schematic design phase of development. Both systems are multi-faceted, and envision the use of directional, informational, and possibly interpretive materials.

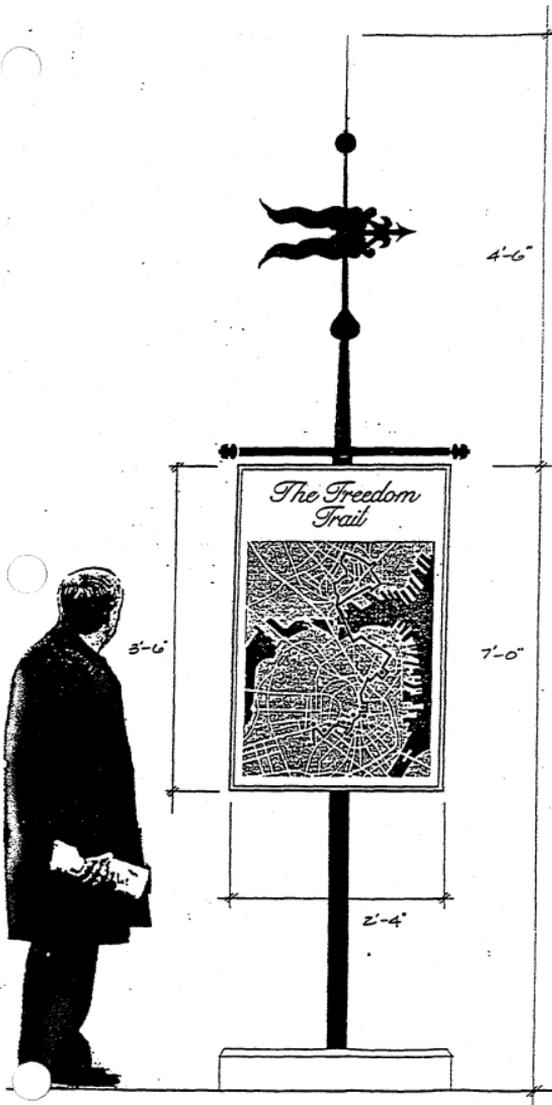
The signage which is currently being studied for the Charlestown Navy Yard will be used within the boundaries of the Yard itself. Designed to fill a functional need for information about how to get around within the Navy Yard, this signage will identify parking garages, street locations, and individual buildings and attractions.

The following describes these three programs in more detail to set the broader context within which the Double Interpretive Loop will be accomplished. The benefit of more detailed thinking about Navy Yard Signage is also provided as a starting point.

*T*his revitalization plan is in process and being reviewed with the appropriate City agencies, Freedom Trail site directors and other members of the Freedom Trail Foundation.



Historical antecedents for signage design illustrating the importance of weatheroanes and ship flags in revolutionary Boston and the use of carved granite letters for street identification.



Finial 4'0" high

Overall Height 11'6"

Base 6' x 6' x 26"

Sign Panels are 18 gauge steel with 1/2" returns all around, with porcelain enamel finish. Maps silkscreened in five colors.

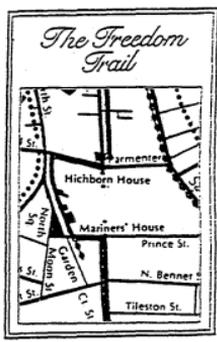
Sign post 2 1/2" dia. steel tube with welded 1" dia. steel mast arm finished with semi-gloss black or black-green catalyzed urethane enamel.

Finial is cast aluminum rod and balls with 1/8" saw cut aluminum plate weather vane finished with gloss gold metallic catalyzed urethane enamel.

Base is precast concrete or grey granite.

Freedom Trail Map - 5 colors

5 Local Area Maps - 5 colors ea.



MAP KIOSK
1'-1'-0"

The map kiosks will be placed at three to five particularly confusing and/or major locations. One side will illustrate the entire Freedom Trail; the other side will illustrate a particular neighborhood.

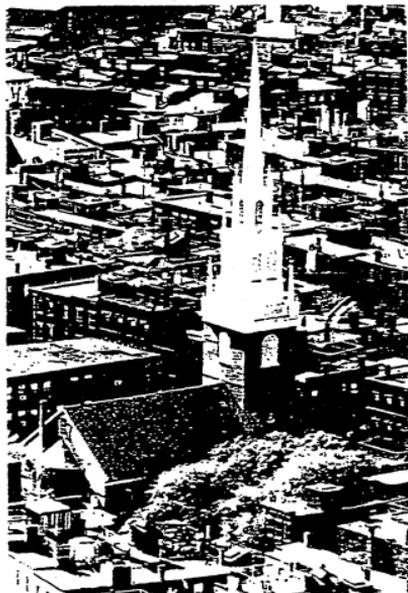
A Guide to

The Freedom Trail



A Guide to

THE FREEDOM TRAIL



Samples of new signage on printed hand-held guides.

2. Harborwalk Sign System

Harborwalk, a continuous public walkway system planned for Boston's waterfront, is an important mechanism for maximizing public access to and along the Harbor. When complete, Harborwalk will serve not only to create access to the formerly inaccessible portions of the waterfront, but also will provide opportunities for cultural, recreational, and educational activities.

Harborwalk will consist of a great variety of integrated elements including: landscaped walkways with seating and lighting; parks and recreational facilities; cultural and historic facilities; fishing piers; outdoor performance areas; kiosks and shops; viewing/observation decks; marinas; sculpture and public artwork; sailing clubs; and water transportation.

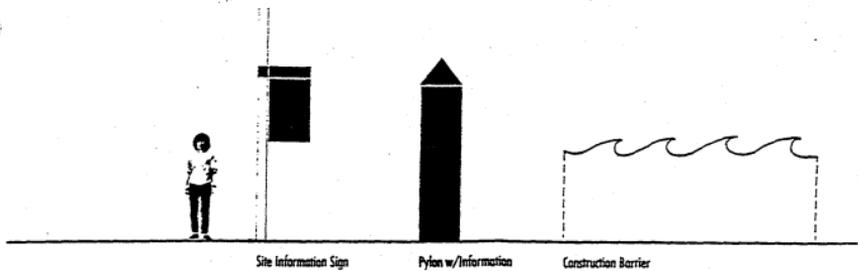
The Harborwalk Sign System, currently in design, is intended to create a distinct Harborwalk character that users can easily identify. Through linking the various publicly and privately created segments of Harborwalk to one another, it will reinforce a continuous and cohesive entity which can be experienced and enjoyed not only in parts but also as a united whole. Consisting of three dimensional graphic and other design elements, the sign system will identify Harborwalk, direct people to and along Harborwalk, inform and educate people about Harborwalk, and orient people to the Harbor, Boston and its neighborhoods.

Identification signs will identify the pathway, the prime destinations, public facilities, views and vistas, boat landings, and water transportation. Direction and circulation signs will orient the public to the various elements, clarify paths, boat landings and public/private access, and link Harborwalk to the island neighborhoods and other open spaces. Historical/cultural signs will educate the public regarding cultural activities and historic features. Social/ economic signs will promote maritime resources and industries, public and private development, and recreational resources. The system will also include regulatory signs; site amenities such as lighting, viewing telescopes, and public art elements; and a logo which will serve as the primary identification and unifying element for Harborwalk.

HARBORWALK SIGN SYSTEM



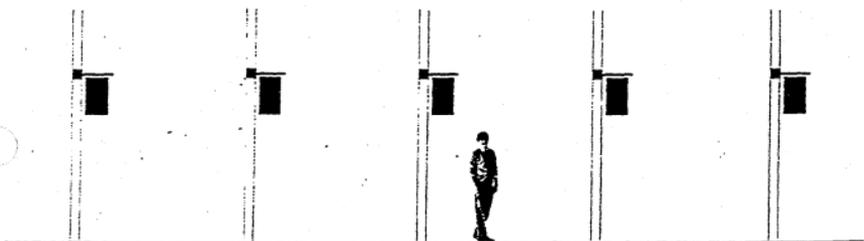
Logo Concept



Site Information Sign

Pylon w/Information

Construction Barrier



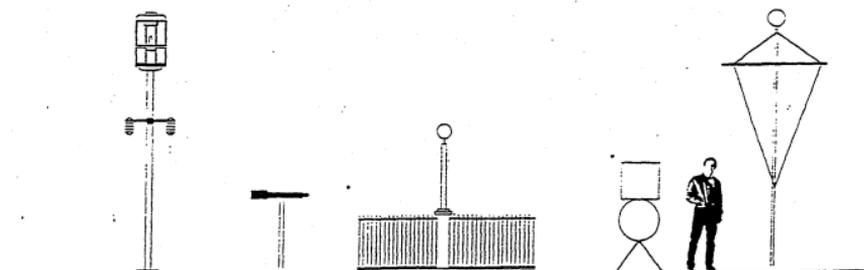
Parking/Vehicular

Pedestrian/Bicycle

Public Access

People with Disabilities Access

Rules for Walkway



Lighting

Viewing Binoculars

Fences/Railing

Public Art Elements

Landmarks

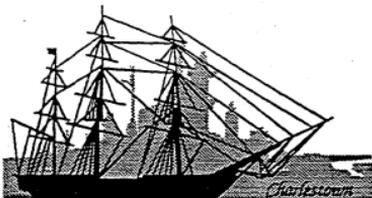
3. Charlestown Navy Yard Signage

In July 1989, the Boston Redevelopment Authority commenced design of the first phase of a comprehensive signage system intended to clarify pedestrian and vehicular destination points within the Charlestown Navy Yard, such as the proposed Ropewalk and Chain Forge Museums, the proposed New England Aquarium, Shipyard Park, the "Courageous" Sailing Center and water shuttle facilities. Paths of special interest, such as Flirtation Walk, Second Avenue, and Harborwalk, would also be identified.

Subsequent phases were envisioned to incorporate an interpretive historic marker program and detailed retail signage guidelines. Reinforcement of existing systems of building identification (including historic street and building signs) and development of an appropriate graphic display system will remedy problems of orientation, optimize traffic circulation, and create a unified sense of place.

A hierarchy of sign types for the Navy Yard was developed, incorporating recommendations for vehicular wayfinding, pedestrian wayfinding (e.g., kiosks), street name and parking signing, and historic markers. Research regarding historic Navy and maritime typefaces and symbology yielded proposals for Navy Yard logotype alternatives. The most recent draft of this logotype pictures a silhouette of the U.S.S. Constitution against a scaled portion of a silhouette of a destroyer, illustrating both the primary activity of the Navy Yard and the timespan of that historic activity.

The initial product of the design study is a prototype vehicular system in preparation for review on site. In deference to the Harborwalk program, work on pedestrian wayfinding and interpretive elements was deferred to future phases. The Charlestown Navy Yard is a major destination point along both the Harborwalk and Freedom Trail systems. As such, the development of the Double Interpretive Loop as a cohesive pedestrian system can provide both the historic and cultural awareness and sense of place appropriate to a major destination, and the reinforcement of the public's opportunity to enjoy continuous access along revitalized waterfront.



**NAVY
YARD**

The Navy Yard Signage Plan
Charlestown, Massachusetts

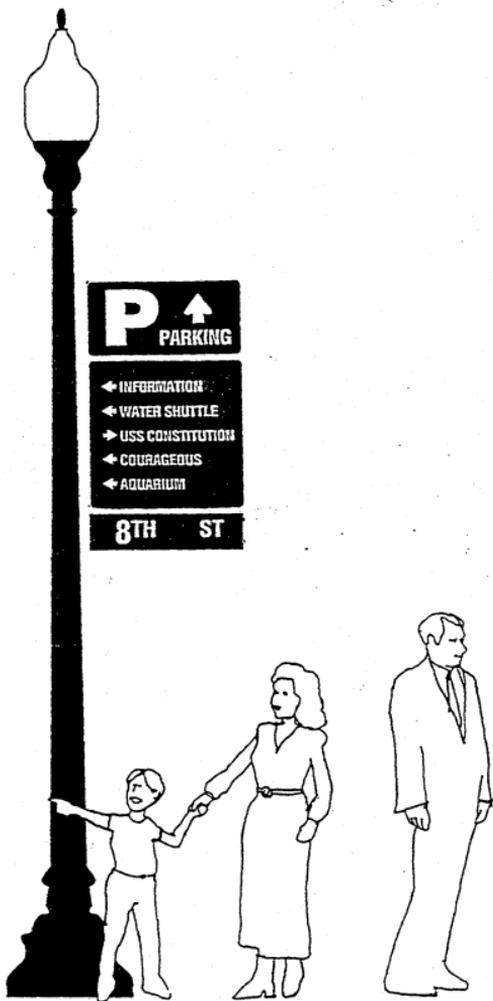
Design Development Presentation

November 9, 1990

Krent/Paffett
Associates, Inc.

711 Atlantic Avenue
Boston, Massachusetts

0 2 1 1 1



The Navy Yard Signage Plan
Charlestown, Massachusetts

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0 2 1 1 1

1. Royal Naval Dockyard, Bermuda

H.M. Dockyard, Bermuda served as the Royal Navy's base of operations in the western Atlantic for nearly 150 years prior to its closure in 1951. Since then, a number of the Dockyard's 19th century structures built of hard Bermuda limestone have been redeveloped with uses geared towards the island's substantial tourist-oriented economy. This includes a retail arcade, restaurants, craft market and cinema. Also located within the Dockyard is a cruise ship terminal, marina, boat rental, submarine tour operation, and water transit facilities.

The Keep, which was the fortress built to protect Dockyard and store munitions for the fleet, is now the home of the Bermuda Maritime Museum. In addition to the exhibits housed within historic magazine buildings, the Museum has developed a Rampart Walk along the bastions of the Keep which interprets its defensive installations.

Rampart Walk is a self-guided tour along a path delineated in a brochure provided at the entry of the Keep. Ten way-stations along Rampart Walk are interpreted in a relatively simple, low-key manner. No kiosks or identifying markers are provided on-site. Rather, the way-stations are identified and described solely in the brochure which also provides historical background and overview of the various artifacts, cannon, bastions, and below-grade magazines and casements encountered along Rampart Walk.

Gun emplacements have not been fully reconstructed to present an accurate recreation. Rather, at one of the way-stations, barrels from different time periods are arrayed on the ground adjacent to the bastion structure which would have held them. This display dramatizes advances in artillery technology. The visitor is thereby engaged in imagining how these barrels would actually fit into the emplacement.

At other way-stations, below-grade magazines and casements are likewise interpreted in a simple, spartan manner. The brochure alerts visitors that "the passage is dark, so please walk carefully!" The simplicity and directness of exploring these dimly lit, below-grade structures evokes an inherent feeling of place -- the closeness and danger -- in a more dramatic way than would a polished exhibit design.

On the whole, Rampart Walk succeeds in conveying a lasting impression of the underlying significance of the historic artifacts encountered. An economy of means that engages all of one's senses and a presentation that is relatively tightly focused on one basic aspect of the Keep -- its defensive works -- results in a clear and substantive interpretive experience.

The Rampart Walk

AT THE BERMUDA MARITIME MUSEUM



The Keep was the last line of defense in the protection of HM Dockyard, Bermuda, should an enemy successfully pass the other massive fortresses protecting its approaches by land and sea. Explore the bastions and underground magazines by following the trail inside. Start at the ramp behind the Boatlift.

BACKGROUND

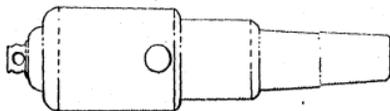
The defenses of HM Dockyard, Bermuda were built and improved during the 19th century when great advances were being made in the size and range of heavy artillery.

The smooth bore cannon, developed in the 14th century, saw little improvement until the introduction of the carronade in 1779. The carronade, a mobile gun which was both short and light in comparison to its calibre, was made in larger and larger sizes, but eventually became obsolete by the 1870s.

Numerous advances were made in the mid 19th century, including the introduction of the exploding shell and the use of rifling inside the barrel, which greatly improved the range of the gun. Rifled muzzle-loaders (RML's) and rifled breech-loaders (RBL's) were easier and quicker to load and fire, and were followed in the 1880s by quick firing breech loaders with steel barrels.



Period 1 (1820-1860s) - 32 pdr cannon firing a 32 pound ball over a distance of 1900 yards.



Period 2 (1870s-1905) - 10-inch rifled muzzle-loader firing a 100 pound exploding shell over a distance of 4,000 yards.



Period 3 (1900s-1920) - 6-inch quick-firing breech-loader (Mark VII) firing a 100-pound exploding shell over a distance of 12,000 yards.

DEFENCES OF THE DOCKYARD

Period 1 (1820-1860s)

Work began in 1809, and by the 1830s, the fortifications of the Dockyard were complete. The Keep, surrounded on three sides by the sea, was armed by 1857 with 68 guns, mostly 24 and 32 pounders.

Period 2 (1870s-1905)

The Keep was re-armed in the 1870s, and concrete emplacements for 10-inch RMLs were built on five of the bastions. Two new magazines were also built, and from these shells were carried to the guns on shell ways.

Period 3 (1900s-1920)

At the turn of the century three 4.7-inch quick-firing BL guns, for work against torpedo boats, and four 6-inch BL's were mounted on the bastions, each one supplied from an underground magazine.

The restoration of most of the bastions of the Keep has been supported by a number of individuals, families and companies interested in the preservation of Bermuda's maritime and military heritage.

If you are interested in supporting the Museum's Capital Campaign in this, or any other, way, please contact the Director (Tel: 234-1333).

More on Forts from the Maritime Museum Press

Bahnsak of Empire

The newly-released second edition of the 1962 classic on Bermuda's defences by Colonel Roger Willcock.

Hardcover, 151 pages.

\$25.00

Great Guns of Bermuda

For those who enjoy exploring, an illustrated guide to Bermuda's fortifications, which span four centuries of military design.

40 pages.

\$7.50

Available at the Museum Ticket Office



Bermuda Maritime Museum
P.O. Box MA 223
Maugham Bay MA BX
Bermuda

Make your next visit a free one
Become a Member!

2. Washington Navy Yard, Washington, D.C.

The Washington Navy Yard (WNY) was authorized by the first Secretary of the Navy, Benjamin Stoddert, in 1799, and is the U.S. Navy's oldest shore establishment. Although it was initially intended as a shipbuilding facility, the WNY was burned during the War of 1812 and when reconstructed, evolved into a primary ordnance projection facility. In 1886 the Navy concentrated its ordnance work at "the Naval Gun Factory," as it came to be known.

The Washington Navy Yard is an active Navy supply and administrative center that is partially open to the public. Although the WNY specialized in munitions and ordnance, designing and testing weapons and producing the Navy's 16" guns, it also developed other technological achievements. These include the first (1822) Marine railway, the first tank for wave action studies and a very large (8 x 8 foot cross section) wind tunnel. It now houses the large Navy Museum and Annex (Submarine Museum), the Marine Corps Historical Center and Museum, a Navy-related Art Gallery, a naval vessel (former U.S.N. Destroyer Barry) open for visits, and Willard park (and amphitheater) with numerous artifacts associated with the Washington Navy Yard. These facilities as well as the Navy Yard Chapel, the Public Affairs office located in the Commandant's House, Leutze Park, and the Dudley Knox History Center are open to the public.

Other areas and buildings (such as the Latrobe Gate and Optical Tower) are restricted to authorized persons and may be visited only on a guided tour. Interpretive elements around the Yard consist of enamelled, post-mounted metal plaques which explain an artifact or describe the historic significance of a particular building or area. A self-guiding visitor's map with numbered exhibit/destinations is provided at the information center in the Navy Museum, located directly adjacent to a public parking area. The Navy Museum is housed in a portion of the old gun factory, a huge gabled brick structure of industrial proportions comparable to CNY Building #105. The exhibits are both interactive (climbing on the guns and tooting the submarine dive horn are encouraged) and passive. The bronze cannons in Leutze Park and the many examples of guns, ordnance and anchors in Willard Park are accompanied by small and informative markers which broaden one's appreciation of the WNY's function and history.

The Washington Navy Yard is a National Landmark. Tourism is promoted and facilities maintained by the U.S. Navy. Educational programs are highlighted.

Follow the numbers on the plan in the centre:

1. Just before going through the iron gate turn right down the tunnel and explore the 1830s casemates of Bastion B. Here, two 24-pdr carronades protected the tunnel entrance to the Keep Pond. Today, a number of 16th century guns, recovered from shipwrecks around Bermuda, are stored in the casemates.

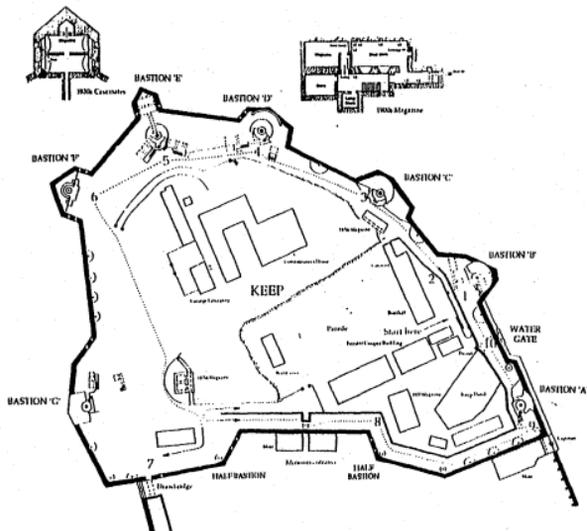
2. Once through the iron gate, look over the wall and you will see, half buried, the 10-inch RML gun which stood on Bastion B in the 1870s. Obsolete guns like this one, too heavy to ship back to Britain, were either pushed into the sea, or buried in the fortifications.

3. The two barrels lying on the ground near Bastion C illustrate the transition from iron to steel guns. The first gun, manufactured in 1882, is still shaped like the RMLs of the 1870s although with steel a fattened breech end was no longer necessary. The second, manufactured a little later, has the new streamlined shape eventually perfected in the guns of the early 1900s. A little further along the rampart wall, between the bastions, is an 1880s emplacement for a 64-pdr RML with its traversing rail still intact.

4. The underground magazines at Bastion D have survived unaltered since their construction in the early 1900s. Safety was a paramount consideration in their design. Light boxes (LB) with glass shields prevented the accidental ignition of shells. Between the lobby and the magazine is a barrier where men exchanged their hob-nailed boots for non-sparking rope-soled shoes before entering the magazine.

5. To explore the 1830s casemates at Bastion E go down the stairs to the left of the bastion, and through the right-hand room at the bottom. The passage is dark so please walk carefully! Here, four 24-pdr carronades could be aligned on any person attempting to scale the ramparts. Vents above removed the smoke after firing, and spare munitions were stored in the room at the end.

RAMPART WALK



6. At Bastion F the concrete of the 1900 emplacement has been removed to expose the earlier gun position of the 1870s which mounted a 10-inch RML. The small recesses stored cartridges and shells brought from the magazines to the gun along concrete shell ways (now destroyed). Slots in the wall to either side date from the first period of armament in the 1830s.

7. Follow the path on the map past the 1870s magazine and Bastion G (now a water catch), and around the building to the upper gate at the corner of the Keep. Here, you can see the niches for the narrow pedestrian drawbridge which connected the upper grounds of the Keep with the rest of the Dockyard. The drawbridge was one of a series designed by Captain T. Blandford, Royal Engineers, who planned the fortifications of the Dockyard. It is unusual in that it retracted horizontally.

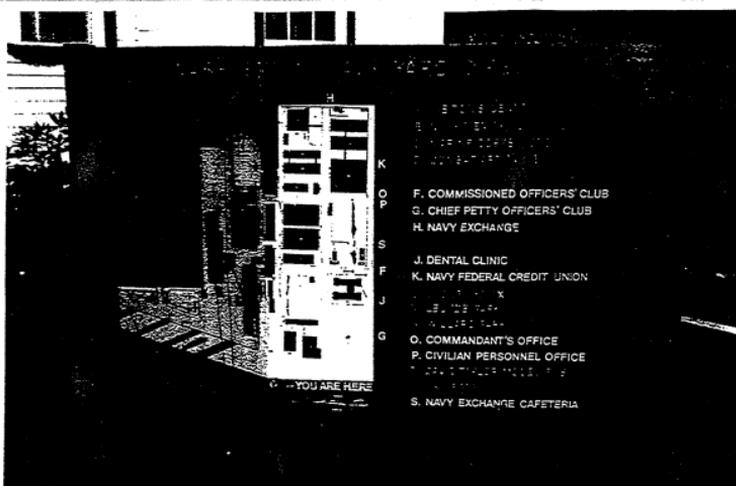
Retrace your footsteps to the top of the ramp and then either make your way down to the exit or continue your walk and complete the circuit of the rampart.

8. The main entrance to the Keep was protected by a drawbridge spanning the moat, and four 24-pdr carronades mounted in the two flanking half-bastions.

9. At the corner of the Keep is a caponier - a covered way, protected by a ditch, which allowed the defenders to fire along the outside of the curtain wall. It was entered from the Keep by a tunnel cut through the bed-rock.

10. Turning north again, pause at Bastion A, for an unparalleled view of the interior of the Dockyard, before continuing around above the Keep Pond. The entrance to the Keep Pond was protected by a portcullis on the inside, and three 8-inch shell guns on the rampart, in addition to the two 24-pdr carronades in the casemates of Bastion B where you began your walk.

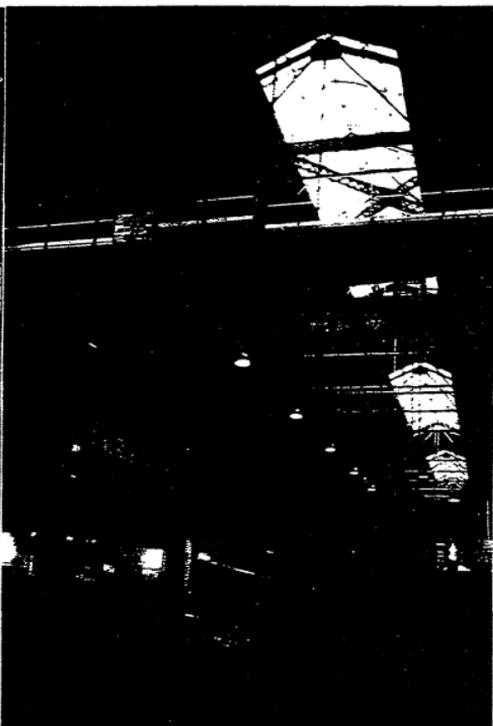
Retrace your steps down the ramp and back to the Parade - we hope you have enjoyed your walk.



1
Site Directory



2
Willard Park

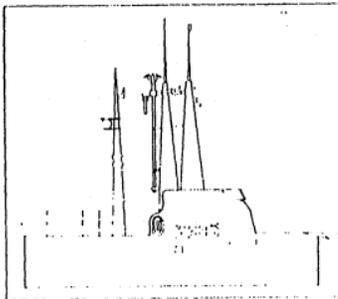


3
Navy Museum

Fairweather from *Balao* (SS-285)

Balao, first of a class of 195 submarines, was built in 1942 at Portsmouth Navy Yard, New Hampshire. During World War II *Balao* served in the Pacific. *Balao* went into the naval reserve in 1946. Six years later she was recommissioned. In 1959 she co-starred with Cary Grant as the "pink submarine" in the film *Operation Petticoat*. *Balao* was decommissioned on 1 August 1963.

The fairweather has its original periscopes and radar antennae which are still visible. After World War II the Navy altered the fairweathers of the *Balao* class by adding a snorkel, removing deck guns, and streamlining the front for higher underwater speeds.



The Navy Museum Annex

Is part of

The Navy Museum
Washington Navy Yard
9th and M Streets SE
Washington, D.C.
20374-0571

Telephone: (202) 433-4882

MUSEUM HOURS

Monday through Friday:
9:00 a.m. to 4:00 p.m.

Weekends and Holidays:
10:00 a.m. to 5:00 p.m.

PUBLIC TRANSPORTATION

SUBWAY: The closest Metrorail stop is at Eastern Market at 8th Street and Pennsylvania Avenue SE on the Blue-Orange Lines. Walk (15 minutes) down 8th Street to M Street. Turn left. Walk one block to 9th Street and turn right into the Navy Yard.

BUS: Metrobus numbers 54, 52, V4, V6, 92 and 94 stop in front of the Navy Yard.

FOOD

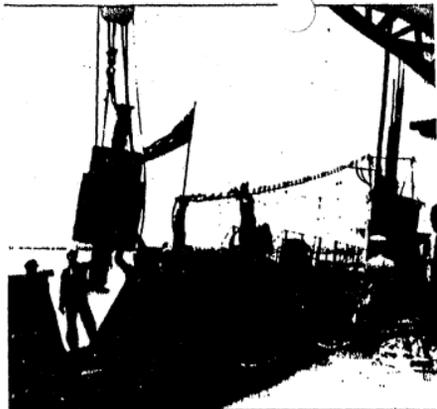
A variety of food service is available in the Navy Yard. Reservations are necessary at the following places:

Officers' Club: 433-3041

Chief Petty Officers' Club: 433-2523

Picnic tables are located in the park outside the Museum.

• U.S. GOVERNMENT PRINTING OFFICE: 1989 0 620 528



*Please pardon
our appearance
while we are
undergoing
renovation.*

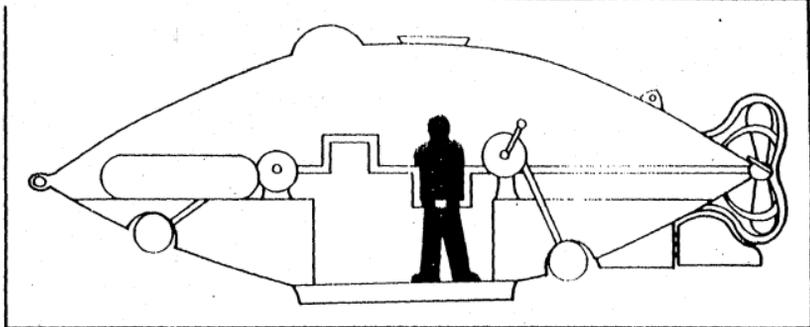
The Navy Museum Annex

The building housing our collection of rare and unusual submarines and related artifacts is slated for major renovation within the next few years. Due to the interest in the collection, we are keeping the building open to the public.

Pressure Hull with Conning Tower of *Roncador* (SS-301)

The pressure hull has been removed from *Roncador*, a *Balao* class submarine. The Museum is carrying out a program of restoration and renovation of the conning tower within before opening it to the public.

The conning tower served as the main navigation and fire control station in a submarine. A number of important systems aided the crew with performing these functions. The equipment in the conning tower included the main steering stand, Torpedo Data Computer, Torpedo Firing Control, sonar, radar, and periscopes.



Intelligent Whale

Intelligent Whale was one of a number of submarines built during the Civil War. She was hand propelled by a crew of six to thirteen. *Whale* was steered by horizontal and vertical rudders. The boat could stay submerged for up to ten hours. Wooden gates on the bottom allowed a diver to exit with a mine. He would attach it to the target, then return to *Whale* from where the mine could be detonated.

In the late 1860s General Thomas W. Sweeny made a successful test of the submarine. Sweeny

recommended the vessel to the Secretary of the Navy. Consequently, in October 1869 the Navy Department agreed to purchase the boat. The owner, Oliver S. Halstead, brought it to the Brooklyn Navy Yard where it was named *Intelligent Whale*. In summer 1872 the Navy Department appointed a commission to observe and report on *Whale's* test. In September in its only official Navy test, *Intelligent Whale* flooded and, even though the crew escaped, the Navy's interest ceased. The boat remained in Brooklyn Navy Yard until the mid-1960s.



3. Mystic Seaport, Mystic, Connecticut

Mystic Seaport is a privately operated set piece, an agglomeration of stylistically and thematically related structures imported from various sites and arranged to accentuate the experience of the visitor. The original industry and buildings on the site were, in fact, shipbuilding-related. Secondary commerce related to shipbuilding, provisions and maintenance, and other whaling-related services and period commercial establishments are represented in the added buildings.

Stylistic considerations have governed the evolution of the interpretive and wayfinding signage, and are suggested in the self-guiding map illustrated. Artifacts, interpretive and interactive exhibits, and a small-village quality with small scale signposts pointing to destinations complete the picture.

Mystic Seaport also markets itself aggressively as a destination. Brochures are found at every state and local tourist information center, and the Mystic Marinelife Aquarium and Olde Mistick Village (a theme mall) have been developed as aggregate attractions. 1991 is the 150th anniversary of the launching of Mystic's premiere attraction, the whaling ship Charles W. Morgan. Visit Planner brochures, listing over a dozen annual special events (for every month of the year), as well as areas of interest for further information (camps, cruises, classes, etc.), are distributed. As one example of this programming, a number of steamboat and schooner courses are offered for day, half day, dinner and overnight excursions, with group charters available. Mystic Seaport charges admission and promotes membership programs.