

Tugboat Luna

Boston Landmarks Commission Study Report



Petition #71.83

Report of the Boston Landmarks Commission
on the potential designation of
THE TUGBOAT LUNA
as a Landmark under Chapter 772 of the Acts of 1975

Approved by Marcia Myers 3-5-85
Executive Director Date

Accepted by Pauline Chase Arnold 3/5/85
Chairman Date

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Revised

March 8, 1985

Addenda to TUGBOAT LUNA Study Report:

1.1 Address: The Luna is docked in the Charles River, next to the Metropolitan District Commission Lee Swimming Pool and near the Museum of Science. Ward 03.

1.2 Area in Which the Property is Located:

As of July, 1984 the Metropolitan District Commission offered the Luna free dockage in the Charles River next to an MDC facility, the Lee Swimming Pool. Also in this area is the Museum of Science and other MDC recreational facilities. Due to the large recreational use of the area, it is an active location.

1.3 Map Showing Location

Attached.



Current berthing site of
The Luna: Charles River
near the Museum of Science

2.0 DESCRIPTION OF THE PROPERTY

2.1 Type and Use:

The Luna is a harbor and docking tugboat. From 1930 to 1971, she was owned by the Boston Tow Boat Company. During those 41 years that Luna worked the harbor, she berthed and towed all forms of ocean-going ships including freighters, tankers, passenger liners and warships. In addition to supplying docking assistance, the Luna performed search and rescue operations and salvage work. Escorting wartime convoys, newly-launched ships and harbor cruises were also part of Luna's duties.

From 1971 to 1981, the year when restoration of the Luna began, the tugboat served as an office and home for present owners. Still capable of tow work, the Luna is being carefully restored to her 1930's appearance. The captain and crew live aboard.

2.2 Physical Description:

The 97 foot long, 26.5 foot wide tugboat Luna was built in 1930. Designed by John C. Alden Company, Naval Architects of Boston, the Luna embodies the classic lines of the traditional steam-driven tug. Her hull is of sturdy oak beams held in place by tunnel fastenings (wooden pegs). A graceful curved deck, wooden side fenders, and varnished wood deck and pilot houses are all significant features. The smokestack, less tall and narrow than that of the steam tug, is evidence of the diesel plant which powers two six-cylinder diesel electric engines. The Luna also has a 13 foot draft and 24 foot beam. She weighs 165 tons and has a displacement of 325 tons.

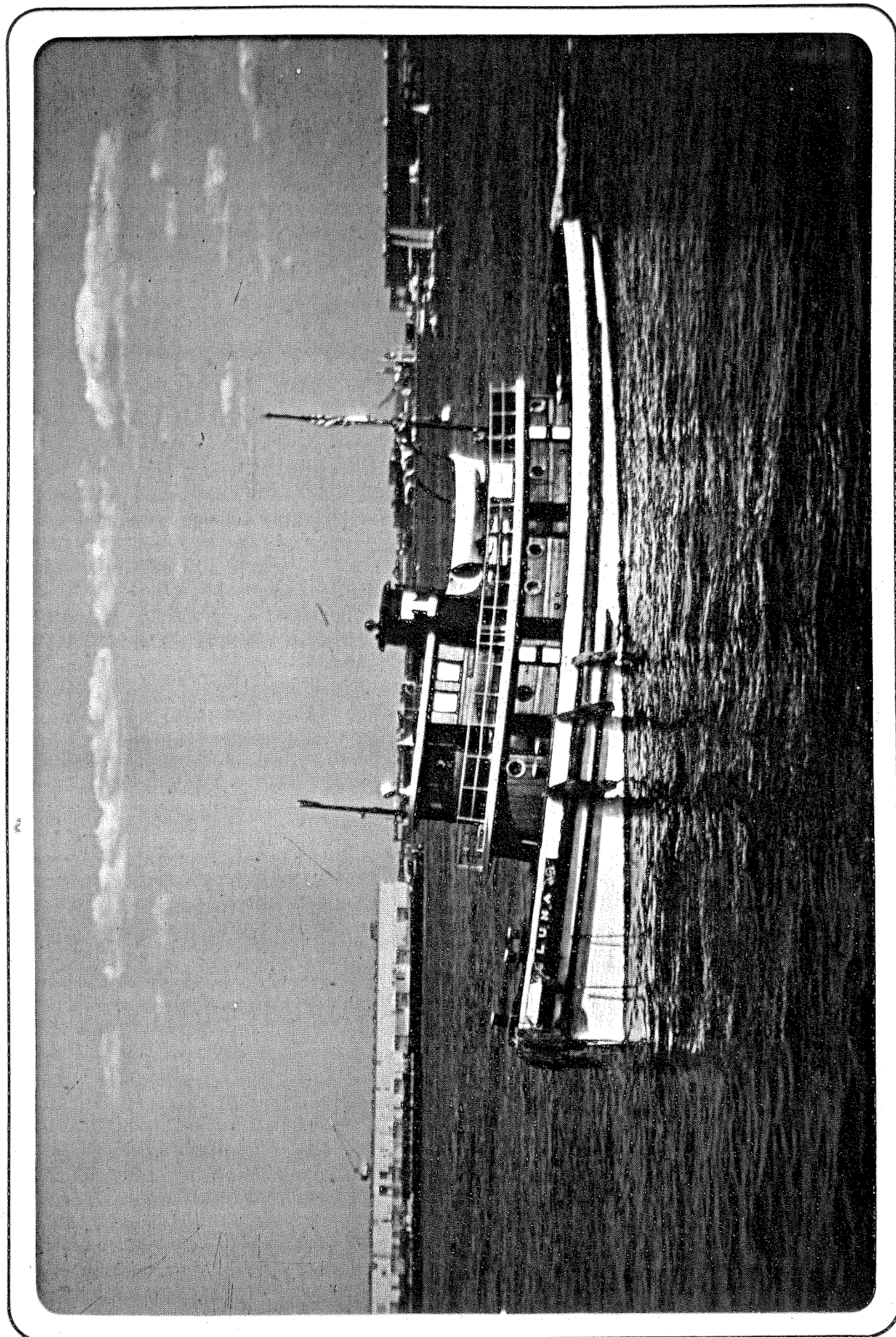
Unlike the interior of other tugs, the Luna's galley and cabin have wainscotted walls. Her portholes, frames and water faucets are of brass.

Presently the Luna is in good condition. Her hull is sound, except for expected leakage and one of the 2 diesels is in working order. The many layers of black, red and gray paint have been scraped from the hull and deck and the Luna, restored to her original color scheme, sports a sparkling white deckhouse and varnished wood deckhouse and pilot house. A large white "T" is painted on her black stack.

2.3 Photographs:

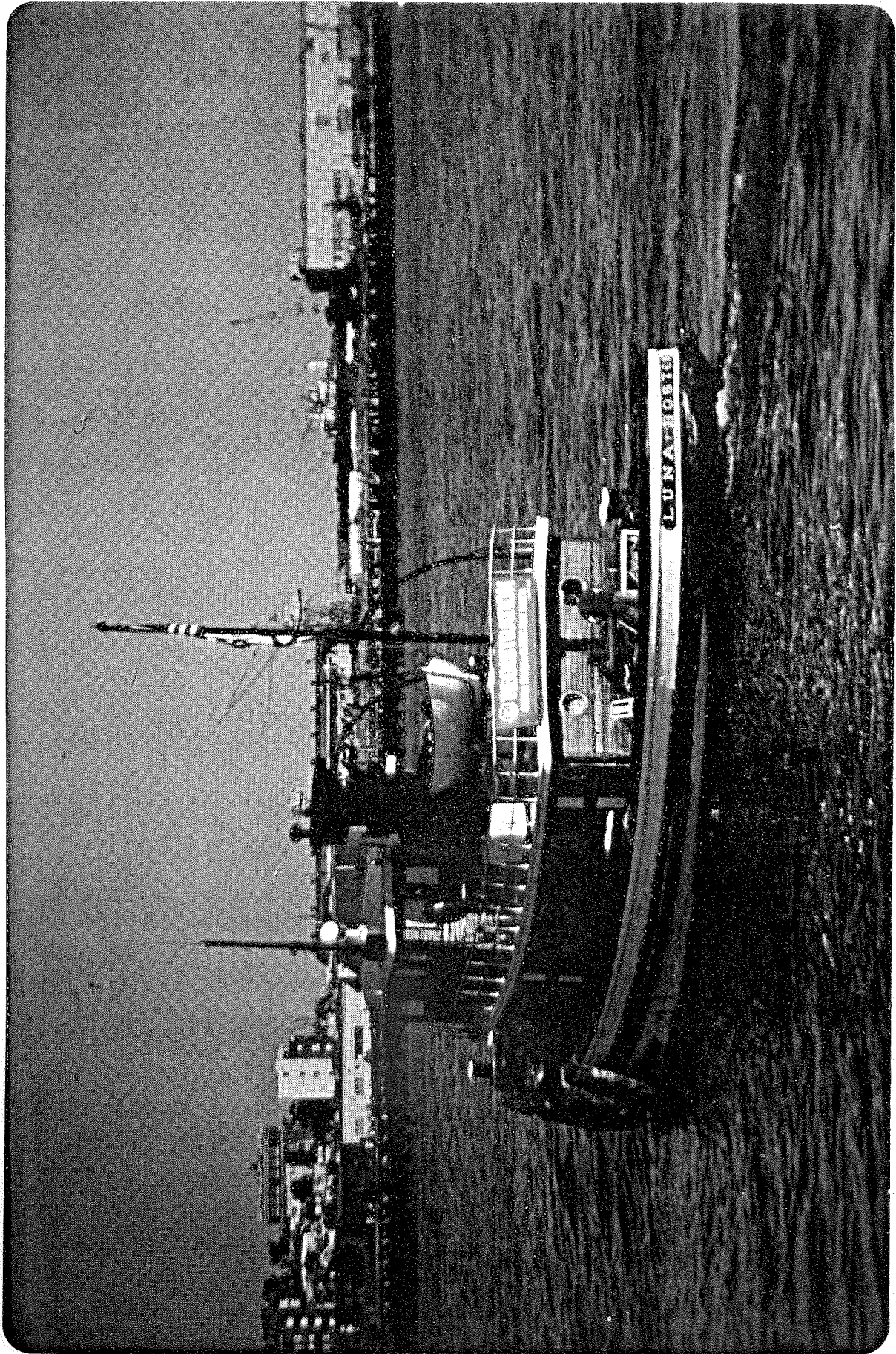
Attached.

2.3 Photographs.



Photograph by Carolyn Royal

August 1983



Photograph by Carolyn Royal

August 1983

3.0 SIGNIFICANCE OF THE PROPERTY

3.1 Summary of Historical Significance:

Although the present-day Port of Boston differs greatly from the harbor of Colonial times, the major theme of movement and distribution of goods has been constant throughout its history. During Colonial times, manufactured goods arrived at Boston Harbor for distribution throughout the area. Simultaneously, raw materials left Boston destined for manufacturing nations. As the United States grew into a world power, American ports became the centers for immigration and trade. The efficient use of available space and the ability to move tonnage quickly and safely contributed to a port's success. In this matter, the Boston tugboat fleet enabled the harbor to become one of the most important in America.

Shipbuilding and cargo trade were integral to Boston's development and growth. In his Maritime History of Massachusetts, Admiral Samuel Eliot Morison stated that "shipping is the main explanation of Boston's successful rivalry with her other American competitors."¹ Even though ships were available, a great surplus of raw materials and manufactured goods was not. "Bostonians seemed early to understand that wealth was not made through the production of a commodity, nor even through its simple carriage, but rather through its clever distribution."²

When the cities of New England turned to manufacturing in the 1840's, Boston became the financial headquarters and distribution center for the goods. Boston's harbor was bustling, "fifteen vessels entered and left the harbor for every day of the year."³ The sailing ship era reached its height in Boston in 1857. Clipper ships arrived from China and left for California, packet ships departed for Europe and coastal schooners arrived from the deep South. Steam tugboats towed the great clippers and schooners directly to dock, preventing fickle winds and strong currents from delaying berthings, and Boston became a marketing center second only to New York City.

By 1923, the port of Boston had 141 miles of waterfront, with more than 40 miles of berthing space for ships at a depth of 30 feet at low water.⁴ This deep-draft berthing space was needed for the cargo ships delivering wood and paper products, metal ores and textiles. As larger, heavier steam and diesel ships arrived in Boston, tugboats became even more essential to the business of Boston harbor.

The Luna received worldwide publicity when she was built because she and her sister ship, Venus, were equipped with diesel-electric drive, the latest state-of-the-art method of varying the transmission ratio to the propeller. Called "Super Tug" by the press, the Luna was launched at the M.M. Davis and Sons shipyard in Maryland on July 29, 1930.

During her early years the Luna helped launch the Matson liner Lurline, destined for the Hawaii run, and berthed the great Cunard liners that put into East Boston. She docked the Constitution, "Old Ironsides", after her final voyage in 1934. The Luna's sensitive controls and quick command enabled her to safely control the nationally significant frigate.⁵

The Luna was sent to New York to greet the Normandie on its maiden voyage to the United States. In 1936 she greeted the Queen Mary as Boston's envoy. The Ile de France, newly reconverted to the French Line's flagship after World War II troop ship service, was brought into Boston harbor by the Luna in a ceremony that included red, white and blue water sprayed by fireboats.

The activity of the deepwater Port of Boston increased greatly during World War II because of a naval shipyard, an army base, and Boston's position as the closest U.S. port to Europe. Luna was requisitioned by the War Shipping Administration and saw distinguished service as a harbor tug. Camouflaged in battleship gray, LUNA assisted in the launching of new destroyers and battleships built in Boston area yards. Luna and her sister ships also assembled convoys ready to sail for Europe and patrolled harbor waters.⁶

Following World War II the Luna, with a repainted hull and red deckhouse, returned to work with the Boston Tow Boat Company fleet. However, by the 1960's there were steel-hulled tugboats with much more horsepower (but requiring less crew) in the harbor. On March 10, 1971 the Army Corps of Engineers authorized disposal of the Luna by sinking her at sea off Marblehead, Massachusetts.

Narrowly escaping that fate, the Luna remained on the Downtown Boston Waterfront and was used as an office and home by several owners. In 1979, a group of volunteers working under the direction of Captain Frances R. Gage began restoring her engines, hull and deckhouse. The nucleus of this group incorporated as Terr/Mare Research and Education Society in order to buy the Luna.

Today, the Luna remains an integral part of a harbor which is more of an aquatic park than a working port, ringed with sailing clubs, yacht basins, parks, restaurants and hotels. Increases in truck and railroad activity has greatly reduced the coastal movements of goods in and out of Boston. Jutting into the harbor, Logan airport has become distribution center for much overseas cargo. The Boston waterfront, Charlestown Navy Yard and the Fort Point Channel area have been converted to prime residential, office and recreational space. Also, a major program has been designed to restore economic vitality to the South Boston docks.

As one of the last remaining classic tugboats in Boston, the Luna participated in Boston Harborfest '82. During this time hundreds of people toured the Luna, berthed at Museum Wharf, and were fascinated by the tugboat and her related harbor history.

3.2 Summary of Architectural Significance:

Although decorative elements and fine materials can be used in the construction of a tugboat, a classically designed tug must be utilitarian in nature - able to move ships many times its size. With minimum freeboard above, the deck is low to the water with most of its heavy machinery as depressed as possible. The tug has a deep draft and broad beam. Its low center of gravity makes the tug stable in water, necessary to prevent it from rocking against a ship as the tug pushes with full horsepower. The pilot house is set high above the deckhouse to afford an unrestricted view. The smokestack is the only visual obstruction for the captain.

Originally, tugboats were steam powered. Belching smoke and steam, they towed and docked the great wooden ships of the nineteenth century. Efficiency improved when condensers were added to early steam tugboat designs. Condensers recirculated the steam into water and the tug could work a longer period of time without frequent water fill-ups.⁷

The 1920's marked the beginning of a transitional period for tugboats that would last until World War II. Steam power was being supplanted by diesel because of more economic operating costs. Diesel tugs were more fuel efficient and required fewer crew members to operate them. More horsepower could be obtained per engine space, and power was quickly available. Shipowners, however, remained unconvinced of the value of the diesel-powered tug, believing instead that the steam-powered tug was more powerful. Tugboat owners wishing to modernize their fleet developed a simple solution to the problem. They built the more economical diesel tugs that emulated the steam tugs in design.⁸

The Luna represents the traditional style between steam and diesel power. One of the last of the wooden-hulled classical tugs, she received worldwide publicity when she was built because she was the first diesel-electric tug ever designed and built for a commercial towboat company. The Luna was the pattern for the first diesel-electric tugs built in England by Robinson and Crosthwaite, oldest towboat company in the world.

In 1930 diesel-electric was the latest state-of-the-art method of varying the transmission ratio to the propeller. In the Luna, two diesel engines are connected to two generators; these feed the electric motor that turns the propeller shaft. Full speed ahead to full speed astern is accomplished electrically and instantaneously by moving the motor order telegraph lever in the pilot house, eliminating signals to the engineer below and loss of valuable time. This use of diesel-electric drive had already been in use on railroad tugs for six years, but when the Luna was built the press hailed her as "Super Tug".

John C. Alden Company, naval architects of Boston, designed the Luna to be built of sturdy oak beams held in place by trunnel fastenings (wooden pegs), because wooden ships were known for their resiliency to violent impacts and harbor ice, even though steel-hulled tugboats were beginning to supersede wooden ones. Alden also designed the Luna with the classic lines of the traditional steam-driven tug, knowing the radical diesel-electric drive on the Luna might arouse the suspicions of ship owners. So the Luna and her sister ship, the Venus, were among the last wooden-hulled, classic-design tugboats to be built.

Mystic Steamship company, owner of Boston Tow Boat, wanted the Luna to be beautiful as well as sturdy. Unlike other tugboats before or after, the interior walls of the galley and cabin on the Luna are wainscotted, and brass is used for porthole frames and water faucets.

Tugs were usually retired after fifteen years of service, yet Luna worked for more than forty years as a harbor tug and, after more than a decade of retirement, is still floating.

Luna was designed and built during an era of great technological advancement. Nautical engineering and aeronautical design progressed greatly before World War II. An appreciation for skilled workmanship and fine materials was apparent in the 1930's. Luna, as a product of this time, represents the merger of science with function and craftsmanship.

3.3 RELATIONSHIP TO CRITERIA FOR LANDMARK DESIGNATION

The Luna meets the criteria for Landmark designation as established by Section 4 of Chapter 772 of the Acts of 1975, as amended, in that it is an object which:

is a distinctive example of a type inherently valuable for the study of a period, style and method of construction;

is included on the National Register of Historic Places;

is a notable work by a nationally recognized firm;

and is an object prominently identified with the history of the City, specifically the harbor.

4.0 ECONOMIC STATUS

4.1 Current Assessed Value and Property Tax:

The tugboat is not taxable and therefor no assessment has been made. The Luna was purchased for \$10,000 in May of 1981. As of June 1, 1983 a mortgage of \$6000. existed.

4.2 Current Ownership:

The Luna is owned by Terra/Mare Research and Education Society, Inc., a Massachusetts non-profit corporation (1981) with Internal Revenue Service Foundation Status 509(a) (2) for a publicly-sponsored organization. Living aboard are a full-time captain and five other people; two serve as crew and three are volunteer workers. Income for mortgage payments, maintenance, dockage and restoration is from private contributions.

5.0 PLANNING CONTEXT

5.1 Background:

The charter of Terra/Mare Research and Education Society, Inc., owner of the Luna, specifies that the boat be preserved and restored for the maritime education of the public.

When restored, the Luna will be the only historic vessel in Boston harbor that was built especially for Boston and has spent her entire life here. She is not a replica (as are the Spray, Spirit of Massachusetts and Beaver) or a warship (as are the Constitution and Cassin Young). She is a true Boston harbor work boat and a symbol of the economic and visual importance of this great deepwater port.

5.2 Current Planning Issues: *Revised March 8, 1985*

In July of 1984 the Metropolitan District Commission offered the Luna free dockage in the Charles River next to the MDC Lee Swimming Pool and near the Museum of Science. A gangway has been built and the Luna is open to the public, free of charge, on Saturdays and Sundays. Even during the cold months great numbers of visitors tour the boat.

The Luna has also been invited to participate, for the second year, in the July 4th Harborfest, by being open to the public at Georges Island.

6.0 ALTERNATIVE APPROACHES

6.1 Alternatives:

The Luna was listed on the National Register of Historic Places on October 6, 1983. National Register status provides a limited degree of protection as well as tax incentives for rehabilitation.

The Boston Landmarks Commission may choose to designate the Luna and its interior spaces as a Landmark.

In spite of eligibility for designation, the Boston Landmarks Commission retains the option of not designating the tugboat as a Landmark.

6.2 Impact of Alternatives:

Landmarks designation under Chapter 772 would require the review of physical changes to the tugboat's exterior and interior in accordance with standards and criteria adopted as part of the designation.

The tugboat is listed on the National Register of Historic Places. Protection from federal, federally-licensed or federally assisted actions is provided by the inclusion of the tugboat on the National Register and is undertaken by the Section 106 Review process. National Register listing also provides various federal income tax incentives for rehabilitation under the provisions of the Economic Recovery Act of 1981. Properties on the National Register are eligible to take advantage of these provisions once it is determined that the rehabilitation can be certified according to the Tax Act.

Similar protection from state-sponsored activities is achieved by the concurrent listings of all National Register properties in the recently created State Register of Historic Places under Chapter 152, General Laws.

Failure to designate the tugboat as a Landmark would mean the City could offer no protection or guidance to present or future owners.

7.0 RECOMMENDATIONS

The staff of the Boston Landmarks Commission recommends that the Luna be designated as a Landmark under Chapter 772 of the Acts of 1975, as amended.

The Standards and Criteria for administering the regulatory functions of the Commission provided for in Chapter 772 are attached.

8.0 SPECIFIC STANDARDS AND CRITERIA

A. General

The intent of these standards is the restoration of Luna to its 1930 appearance and its preservation as a working tugboat.

B. Exterior

1. Construction

1. The wooden construction of the Luna shall be retained.

2. Finishes

1. Original material (wood, paints, brass, varnish) will be restored wherever possible.
2. When replacement materials are allowed, they will match the original as closely as possible in appearance.
3. All materials and finishes that were intended to be left natural, wood and metals particularly, will be restored or repaired in kind.
4. Painted surfaces, plain or decorative, will be restored or redone to match the original.

3. Exterior Features and Details

1. The signboard bearing the name LUNA shall be retained.
2. The rope-bow fender shall be retained. Replacement shall match the original.
3. The painted T on the smokestack shall be retained.
4. The railing, stack, davits, decks, bollards, cleats, portholes, pilot house windows, ventilators, flagpoles and other exterior features shall be retained or replaced to match the original.

4. Siting/Location

1. Because the Luna is an integral part of Boston Harbor and important to the history of the area, it should not be relocated to an alternative location.

5. Mechanical Works

1. Because much of the Luna's historical and structural significance lies in its diesel-electric drive, every attempt possible shall be made to restore and maintain this equipment. Other mechanical equipment in the engine room, pilothouse and elsewhere shall be restored and maintained or replaced to match the original.

6. Fittings and Furniture

1. All remaining items which are original to interior of the tugboat shall be retained. These include the galley stove, the bunks, and other authentic items essential to an understanding of how the tugboat was used and operated at the time of its commissioning.
2. All items that are removed will be thoroughly documented by photographs filed with the Commission with details of their disposition.
3. Replacement items should be selected to reinforce the nautical 1930's design aesthetic of the tugboat. Whenever possible, the items should match the original in design and location.

7. Safety Equipment

1. The lifeboat shall be retained, but if necessary replaced by one similar in size, design, and materials to the original.
2. Other safety, piloting, signaling and communications equipment required by current Coast Guard regulations for this class of vessel shall be installed in an unobtrusive manner and in a way that requires minimal alteration to the Luna's significant features.

9. BIBLIOGRAPHY

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Gratitude is expressed to Jon A. MacLaren for his help in collecting, researching and preparing material for this Study Report. Thanks also goes to Ms. Carolyn Royal of Terra/Mare Research and Education Society, Inc.

10.0 FOOTNOTES:

1 Morison, Samuel Eliot. The Maritime History of Massachusetts, Houghton Mifflin Company, Boston, MA., 1961, p.228.

2 Bunting, W.H. Portrait of a Port: Boston, Belknap Press of Harvard University, Cambridge, MA., 1971, pp.1-2.

3 Morison, op.cit., pp. 225-226.

4 Shawmut Bank of Boston. The Port of Boston, Shawmut Series 227, Boston, MA., 1923, p.13.

5 Boston Tow Boat Company scrapbook, newspaper clipping dated but no publication name given.

6 Ibid.

7 Bunting, W.H., Steamers, Schooners, Cutters, and Sloops, Houghton Mifflin Company, Boston, MA., 1974, p.28.

8 Lang, Steven and Peter H. Spectre. On the Hawser, Down East Books, Camden, ME., 1980, p.84.