DATE: 15 January 1992
JOB No. RIC 3447
Ref: Contract Number: HD - IC - 532

QUEEN MARY

ALTERNATE USE STUDIES

FOR
PORT OF LONG BEACH

Prepared By

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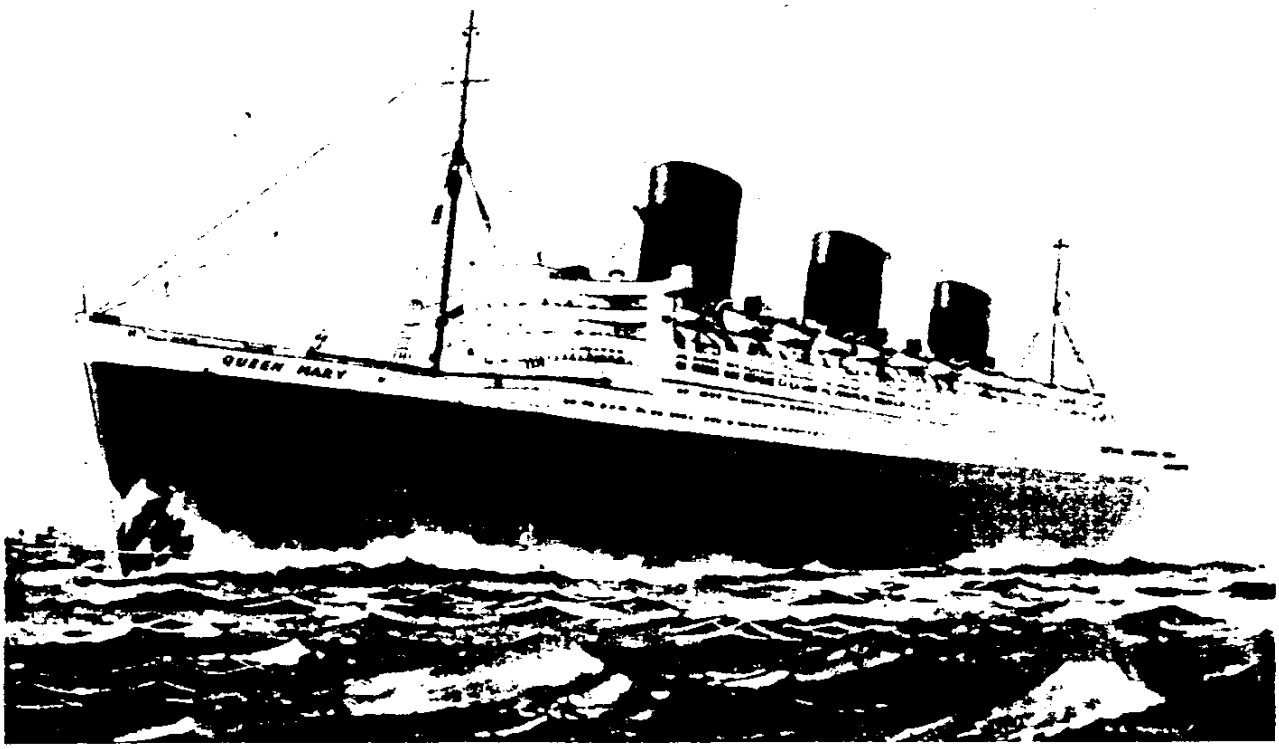
Ref: Rados International Corp. LTR 46A-91 Dated: Dec. 2, 1991
Ref: Port of Long Beach Ltr Dated Dec. 2, 1991

QUEEN MARY



SHIP'S CHARACTERISTICS

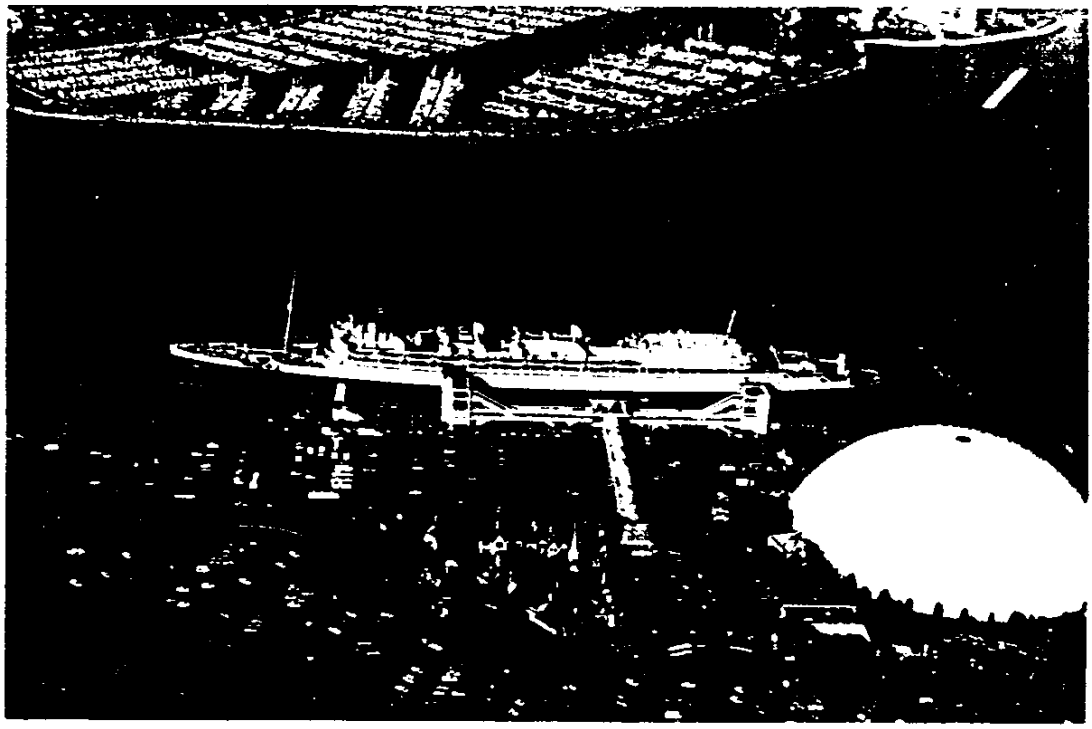
LENGTH OVERALL:	1,019.50 FT.
LENGTH BETWEEN PERPENDICULARS:	965.00 FT.
BEAM:	118.00 FT.
DEPTH FROM W.L. TO PROMINADE DECK:	58.50 FT.
DRAFT:	34.39 FT.
CENTER OF GRAVITY ABOVE BASE LINE:	43.50 FT.
METACENTRIC HEIGHT, GM:	6.38 FT.
DISPLACEMENT:	66,485.00 LT.
HOTEL STATEROOMS:	369

QUEEN MARY

INTRODUCTION

The RMS Queen Mary's keel was laid in December 1930, she was launched in 1934 and had her maiden voyage in May 1936. She cost $30 million to build and outfit. After her 1,000th Atlantic crossing in 1967, the Cunard Lines Ltd. decided to put her out of service after steaming 3,750,000 miles and carrying over 2,115,000 passengers. The owners received a bid from a British scrapyard for $1.8 million. The Cunard Lines requested any bids for sale of the vessel from 17 governments and private firms with the City of Long Beach being the successful bidder at a sum of $3.45 million. The second highest bidder was the City of New York, which was $40,000 below the City of Long Beach's figure.

In 1967, Rados and Sons Engineering, now Rados International Corporation, was selected over twelve Engineering Firms to provide a team of Engineers to board the Queen Mary in Southampton, England and travel with the vessel to New York and back to determine the condition of the vessel, its machinery and equipment. Soon after, Rados was selected as the Naval Architectural/Marine Engineering Firm to design and develop detail construction drawings and specifications to convert the Queen Mary into a hotel, convention center, museum and shopping area.



During the past years, Rados International Corporation has been awarded contracts by the Wrather Corporation and, later, the Walt Disney Company to perform studies and develop drawings, and provide supervision for repairs, maintenance and modifications to structure and for existing and new attractions aboard the Queen Mary.

The Port of Long Beach has authorized Rados International Corporation to investigate a specific scope of work and provide preliminary cost estimates for the following alternate uses for the Queen Mary:

1. **Upgrade Present Condition - Painting of Hull and Superstructure**
2. **Relocation of Vessel in Long Beach Harbor**
3. **Mothball Vessel at Existing or Relocated Area in Long Beach**
4. **Scrapping Vessel for Domestic or Foreign Interests**
5. **Submerge Hull Structure for Artificial Barrier Reef**
6. **Sale of Vessel for Domestic or Foreign Interests**

Due to the confidentiality of this study, the various cost projections for the alternate uses of the Queen Mary are budgetary and, in some cases, educated guesses are provided based upon past experiences in the marine industry. All information and costs provided are predicated on standard working hours and days. The following information is believed to be reasonably correct, but not guaranteed, and Rados International Corporation shall not be responsible for any errors, omissions or misrepresentations.

QUEEN MARY

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QUEEN MARY

1.0 QUEEN MARY - UPGRADE QUEEN MARY TO REGULATORY STANDARDS:

In reference to RIC Letter 46A-91 dated December 2, 1991, and discussions with the Port of Long Beach, Rados International Corporation (RIC) has been instructed to perform studies and cost estimates only for Item 1.13 - Painting of Hull and Superstructure (number 1.1 herein) for purposes of upgrading the Queen Mary to standards as outlined in the reference letter.

1.1 Paint Hull and Superstructure:

1.1.1 Repainting the Hull & Superstructure:

In developing a comprehensive paint schedule, areas in addition to the hull and superstructure should be considered as part of the complete scope of work. These areas include the ship's funnels, lifeboats, the fore and aft mast and booms, and the gangways leading to and from the ship.

Listed below is the Paint Schedule for the exterior hull, from the waterline to the top of the superstructure.

1. BOTTOM - OXIDE RED: (2-Feet Below Waterline)

   1.1 Remove marine growth.
   1.2 Sweep blast to remove contamination.
   1.3 Apply one (1) 5-mil coat Amercoat 385 - Gray.
   1.4 Apply one (1) 5-mil coat Amercoat 385 - Red.

2. WHITE STRIPE BETWEEN RED AND BLACK AREAS OF HULL:

   2.1 Water blast area 3,000 PSI minimum.
   2.2 Power tool clean rusted areas per SSPC-SP3.
   2.3 Apply two (2) 4-mil coats Amercoat 385 epoxy as a spot primer.
   2.4 Apply a full coat of Amershield at 4-mils.

3. BLACK PORTION OF HULL:

   3.1 Water blast area 3,000 PSI minimum.
   3.2 Power tool clean rusted areas per SSPC-SP3.
   3.3 Apply two (2) 4-mil coats of Amercoat 385 epoxy as a spot primer.
   3.4 Apply a full coat of Amershield at 4-mils.

4. WHITE HULL AREA:

   4.1 Water blast area 3,000 PSI minimum.
   4.2 Power tool clean rusted areas per SSPC-SP3.
   4.3 Apply two (2) 4-mil coats of Amercoat 385 epoxy as a spot primer.
   4.4 Apply a full coat of Amershield at 4-mils.

5. GANGWAYS (TOPCOAT TO MATCH EXISTING GRAY):

   5.1 Water blast area 3,000 PSI minimum.
   5.2 Power tool clean rusted areas per SSPC-SP3.
   5.3 Apply two (2) 4-mil coats of Amercoat 385 epoxy as a spot primer.
   5.4 Apply a full coat of Amershield at 4-mils.

6. LIFEBOATS:

   6.1 Water blast area 3,000 PSI minimum.
   6.2 Power clean rusted areas per SSPC-SP3.
   6.3 Apply two (2) 4-mil coats of Amercoat 385 epoxy as a spot primer.
   6.4 Apply a full coat of Amershield at 4-mils.

7. FORE AND AFT MASTS (TOPCOAT TO MATCH EXISTING COLOR):

   7.1 Water blast area 3,000 PSI minimum.
   7.2 Power clean rusted areas per SSPC-SP3.

7.3 Apply two (2) 4-mil coats of Amercoat 385 epoxy as a spot primer.
7.4 Apply a full coat of Amershield at 4-mils.

8. VENTING FUNNELS:

8.1 Water blast area 3,000 PSI minimum.
8.2 Power tool clean rusted areas per SSPC-SP3.
8.3 Apply two (2) 4-mil coats of Amercoat 385 epoxy as a spot primer.
8.4 Apply a full coat of Amershield at 4-mils.

ALKYD ENAMEL SYSTEM:

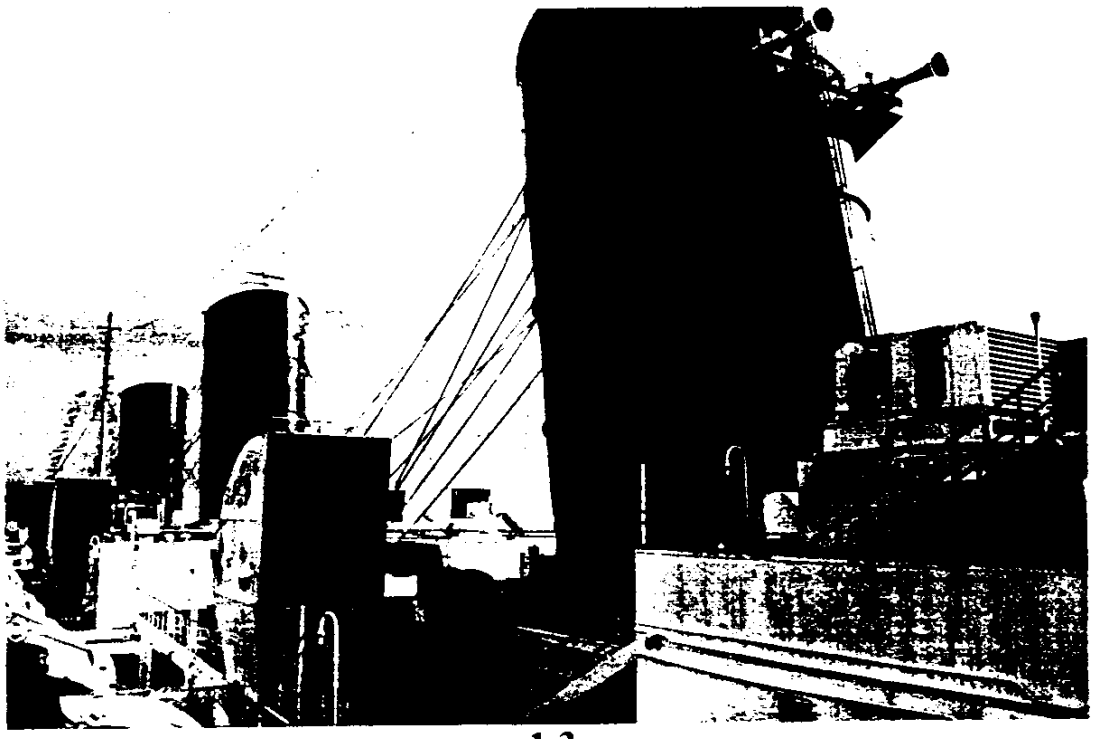
Follow surface preparation priming procedures as with polyurethane system. Apply two (2) 2-mil coats of Amercoat 2498 alkyd enamel.

Provide services of Inspector to oversee performance of Contractor.

The painting of the exterior of the vessel requires approximately 2,200 gallons of paint and will cover the entire exterior of the vessel from approximately 2-feet below the waterline to the top of the superstructure.

Approximately one-hundred-twenty (120) working days are scheduled to repaint the Queen Mary.

Estimated Subtotal: $515,310.00



1.1.2 Schedule for Future Repainting of Vessel:

In utilizing Ameron Marine Coatings for this Proposal, the life of the paint is approximately five (5) years. Areas that have been abused or scratched would require touch-up as needed.

In conclusion, repainting the exterior of the vessel could be necessary every five (5) years from the date of application.

YEAR	SCOPE OF WORK	TYPE OF PAINT
1992	PAINT ENTIRE VESSEL PER SCHEDULE 1.1.1	AMERON
1993 TO 1997	TOUCH-UP AND PAINT DISTURBED AREAS (SCHEDULE 1.1.1)	AMERON
1997	PAINT ENTIRE VESSEL PER SCHEDULE 1.1.1	AMERON
1998 TO 2003	TOUCH-UP AND PAINT DISTURBED AREAS (SCHEDULE 1.1.1)	AMERON
2003	PAINT ENTIRE VESSEL PER SCHEDULE 1.1.1	AMERON
2004 TO 2009	TOUCH-UP AND PAINT DISTURBED AREAS (SCHEDULE 1.1.1)	AMERON
2014	PAINT ENTIRE VESSEL PER SCHEDULE 1.1.1	AMERON

2.0 QUEEN MARY - RELOCATION OF VESSEL IN LONG BEACH HARBOR:

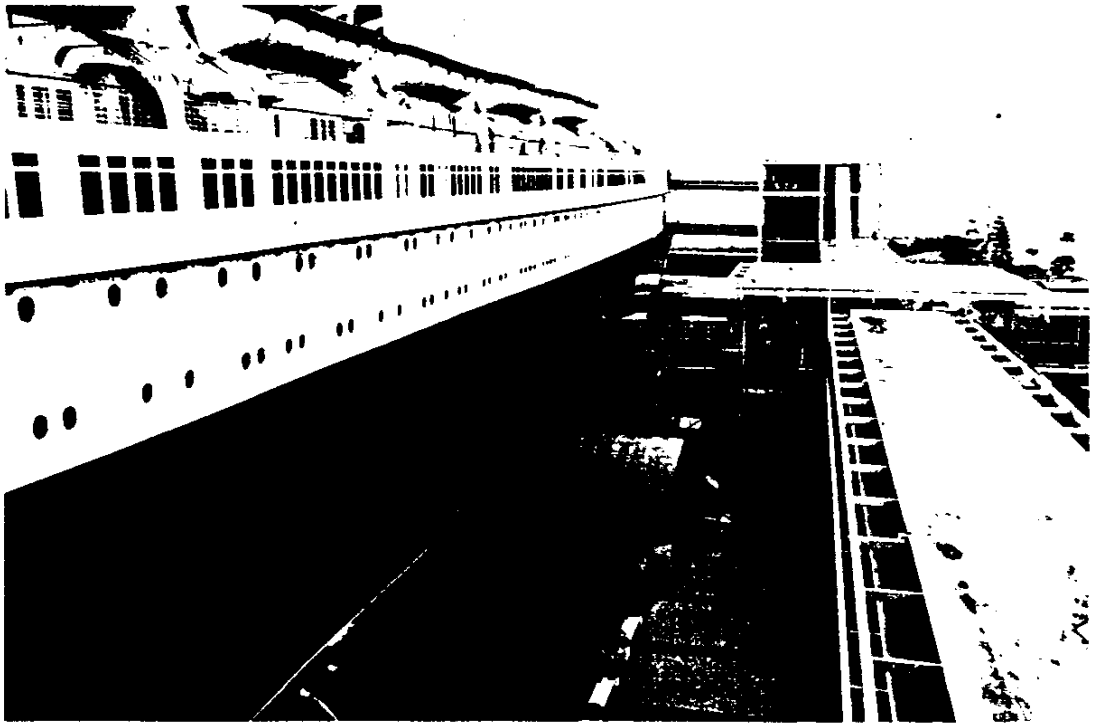
This Section outlines the steps required to disconnect the vessel from its existing berth in Long Beach and relocate the vessel to an alternate berth inside the Port of Long Beach.

The first consideration of the Port of Long Beach should be the study and planning of the alternate site, which should include an electrical sub-station and parking facilities, fendering system, camels or dolphins for the future berthing and services such as water, sewage and gas.

It is assumed that all services and facilities required for the operation of the vessel are available at the new location, namely:

- o Firemain Water
- o Sprinkler Water
- o Potable Fresh Water
- o Sewage
- o Steam Supply and Return
- o Natural Gas Line
- o Electrical Power
- o Gangways
- o Mooring Facilities

The following outline will completely disconnect the Queen Mary from its present berth, relocate it to selected berth in the Long Beach Harbor and re-establish all services.



The steps will appear in nearly chronological order, each step depending on the completion of the previous step or steps.

2.1 Depth Soundings:

Soundings should be taken at the present berth around the vessel and outside the aft section of the breakwater into the harbor. A chart is to be developed determining the depth at a normal tide.

Soundings should also be taken in and around the alternate berth to ensure that the vessel will not drag or rest on the channel bottom at low tide.

Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $5,841.00

2.2 Queen Mary - Breakwater Removal:

The Queen Mary breakwater is approximately 2,000-feet long and contains approximately 314,000 tons of four (4) types of rock.

2.2.1 Remove Total Breakwater and Dispose of Rock from Queen Mary:

It would require the services of barge cranes, barges and tugs to dredge, remove and dispose of the following amount of rock:

- 41,000 tons of Armor Rock (Large)
  @ $32.00 per Ton $1,312,000.00
- 273,000 tons of Core Rock (Small)
  @ $9.00 per Ton $2,457,000.00
- Completion Date: 252 Days

2.2.2 Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $3,794,000.00

Note: Substantial savings can be achieved if surplus rock can be used for a specific project in the Long Beach or other areas.

If the armor stone is salvaged and re-used in a mitigated structure a credit of $650,000.00 could be considered to the above subtotal.

2.3 Disconnect Services at the Present Pier:

The following tasks are to be performed to disconnect services at the present pier:

1. Shut down steam system and vent steam supply line (2).
2. After steam supply and return lines have cooled, disconnect steam lines from ship and shore.
3. Lay out the two (2) steam lines on the pier for later determination.
4. Flush vessel's sewage system (4).
5. Shut down sewage valves in the vessel.
6. Disconnect sewage line from the ship and shore.
7. Close sewage valves on pier.
8. Lay out sewage line on the pier for later determination.
9. Shut down electrical power at the pier sub-station.
10. Disconnect electrical feeder at the pier sub-station.

11. Disconnect electrical feeders at the vessel sub-station.

12. Remove electrical feeders and lay out on pier for later determination.

13. In the vessel, make available shore power connection to switchboard.

14. Install portable diesel generator on deck and connect to new shore power connection.

15. Check switchboard and trip all except circuit breakers for the specific operation.

16. Put generator on line.

17. At the gas meter located on the south side of the after tower, shut down gas.

18. In the Galley, light the range burners and burn of residual gas in lines.

19. Turn off ranges.

20. Disconnect gas hose, ship and shore.

21. Move hose to pier for later determination.

22. Shut down water at pier.

23. Drain system.

24. Disconnect water lines from ship and shore (5).

25. Close water supply valves in vessel.

26. Blind flange all openings that are not closed off by valves.

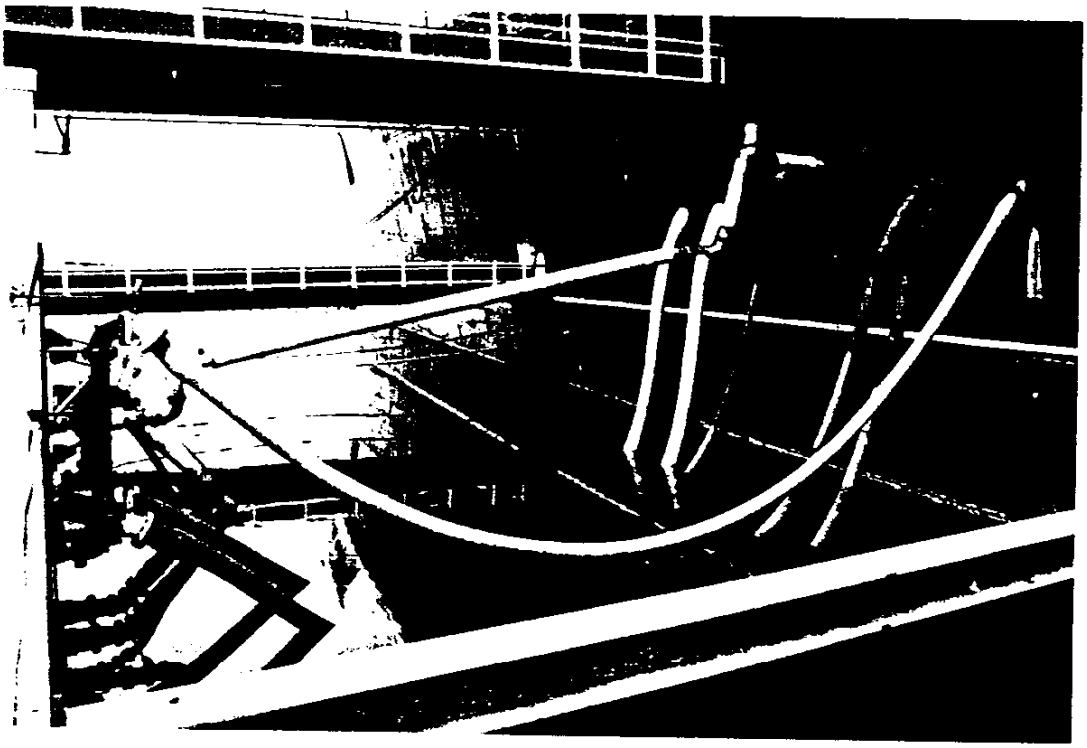
27. Lay out water lines on pier for later determination.

28. Using a crane and line handlers, disconnect and remove thirteen (13) gangways. Move the gangways to the pier for later determination.

29. New mooring lines to be calculated and purchased, and delivered to alternate berth.

30. Provide services of Inspector to oversee performance of Contractor.

With the exception of the mooring lines and arresting cables the vessel should be clear of the dock.



All lines, wire and gangways on the pier should be carefully inspected for possible use at the alternate pier.

Estimated Subtotal: $131,943.00

2.4 Tow to Alternate Berth and Secure:

The following tasks are to be performed for towing and securing of the vessel:

1. Purchase and install polypropylene towing lines in approximately ten (10) locations on the vessel for tugs to tie on.

2. Provide electrical generator for navigation and anchor lights and bilge pump.

3. Tie two (2) tractor tugs to outboard side of the vessel.

4. Using crane and line handlers, release all mooring and arresting cables at ship and shore.

5. Lay out all mooring lines on pier for disposal.

6. Provide Port Pilot and crew to transport vessel to new location in Long Beach Harbor.

7. Provide four (4) tractor tugs to remove vessel clear of Queen Mary breakwater.

8. Using crane and line handlers, put all approved lines and gangways on a barge and tow to new location.

9. Upon arrival of the vessel at the new location, install the new mooring and arresting lines using line handlers and cranes.

10. Provide services of Inspector to oversee performance of Contractor.

On completion of the above steps the tugs and Port Pilot are let loose and will no longer be needed.

Estimated Subtotal: $114,480.00

2.5 Make Services Available on Vessel:

2.5.1 Shore to Ship Services:

1. Using crane, riggers, welders and necessary trades, install all approved gangways.

2. Install new or refurbished water lines (5).

3. Open valves for water system and inspect vessel for leaks or running water.

4. Install new or refurbished sewage lines (4).

5. Open valves for sewage system, check for leaks.

6. Shut down and disconnect portable generator and remove generator from vessel.

7. Using new or refurbished power wires, connect the electrical system to shore sub-station.

8. Energize all main circuit breakers and necessary feeder circuit breakers. Check for shorts.

9. Install new or refurbished steam supply and return lines (2).

10. Open steam valves on ship and shore.

11. Install new or refurbished gas line, connect at ship and shore (1).

12. Check vessel to ensure all gas valves are off.

13. Turn on gas at shore station meter.

14. Light all pilot lights and check for leaks.

15. Provide services of Inspector to oversee performance of Contractor.

It should be noted that the water system was the last to be removed and the first to be replaced. Fire protection would then be maintained as long as possible.

It is assumed that the vessel is now in its berth and all necessary services operable.

The impressed current cathodic protection system should be checked and adjusted for the new area.

Estimated Subtotal: $124,212.00

2.5.2 Tower for Elevators and Stairways:

1. Construct steel framework, approximately 30-feet x 40-feet x 60-feet, sheath and stucco structure.

2. Install two (2) 20-passenger elevators.

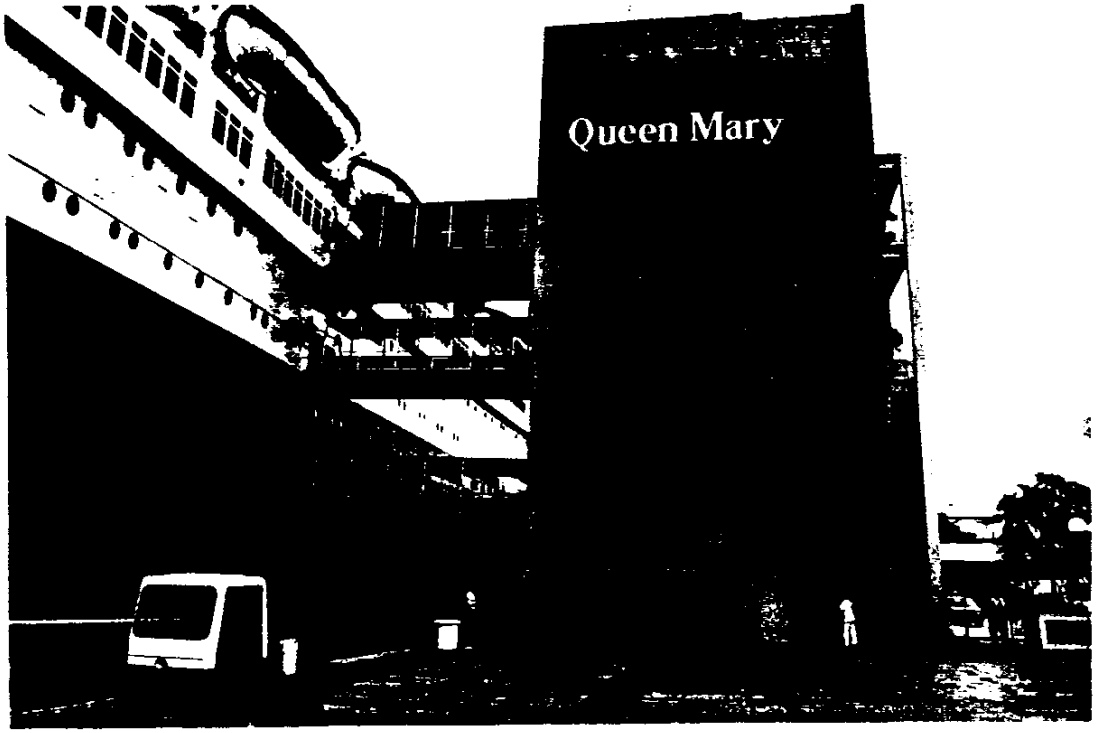
3. Construct stairway for ingress and egress.

4. Install lighting system.

5. Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $691,240.00

Note: Fire Department may require a second tower for egress of personnel from vessel in case of fire.


Queen Mary

3.0 QUEEN MARY - MOTHBALL SHIP AT EXISTING OR RELOCATED AREA IN LONG BEACH HARBOR:

This Section of the Report deals with the storage and preservation of the inactive vessel.

Preservation of the vessel's interior could be undertaken in one of three (3) forms: passive, active, or a combination of both.

The passive method seals selected areas of the interior of the vessel from all exterior atmospheric changes and therefore slows corrosion of metal and premature aging of the wood. The passive method does not protect the vessel from environmental conditions, i.e., cold and heat. Moisture could be controlled by using silica gel canisters. This method should only be considered on a short-term basis, i.e., one to three years.

The active method seals selected areas of the interior of the vessel and circulate warm, dry air through the spaces, maintaining stable atmospheric and environmental conditions. (This method is a requirement for long-term basis.) Since some of the spaces may be difficult and or unreasonably expensive to include in the circulation pattern, a combination of active and passive methods can be used to preserve the vessel. The use of canisters can then be reduced to a reasonable level. It is the opinion that this would be the preferred method in light of the unreplaceable wood panelling and overall construction of the vessel. The use of either method would require the same preparation, i.e., cleaning and dewatering of the interior of the vessel and preservation and sealing of the exterior of the vessel.

The preservation of the exterior of the vessel for long-term storage would require the cleaning and painting of the superstructure and hull and the cleaning and painting of the hull bottom, to this end we have included the option of drydocking, sandblasting and painting the bottom. During the drydocking, rivets would be checked and replaced or welded, if necessary, and hull plating checked for thickness, deterioration or electrolysis. This drydock period could extend the service life of the vessel another 25 years before the vessel's next drydocking.

It is important to remember that the well preserved areas of the vessel could become unusable if the hull of the vessel does not retain its integrity. This Section will present the following scenarios:

1. Mothballing the vessel using silica gel canisters (passive method).

2. Mothballing the vessel using dry air (active method).

3. Relocate the vessel to another berth in the Long Beach Harbor.

4. Option of drydocking the vessel.

3.1 Vessel Cleaning:

1. Thoroughly clean vessel of all food stores, beverages, consumables and trash and other combustibles.

2. Wash down all areas involved with food, food service, bars, food store rooms and refrigerators.

3. Dewater and clean bilge, tanks and tank tops of sludge, trash and waste.

4. Close all valves for the potable water system.

5. Drain ship's potable water system.

6. Dewater all heads, sinks, showers and hot water heaters.

7. Dismantle and clean ranges and ovens, and reassemble or remove.

8. Thoroughly clean all galley equipment, counters, sinks, shelves and floors.

9. Check all valves connected to the sea for tightness, including the stuffing box.

10. Check all shaft packing glands.

11. Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $81,324.00

3.2 Mothballing and Retaining Its Present Berth:

3.2.1 Disconnect Services at Present Pier:

1. Shut-down steam system and vent steam supply line.

2. After steam supply and return lines have cooled, disconnect the two (2) lines from ship and shore.

3. Lay out the two (2) steam lines on the pier for disposal.

4. Using blind flanges, seal steam line entrances to the vessel.

5. Flush the vessel's sewage system.

6. Disconnect the sewage line from ship and shore.

7. Lay out sewage line on the pier for disposal.

8. Pump out any water that may remain in the sewage system.

9. Close all valves in the sewage system.

10. Using a blind flange, seal sewage line entrance to the vessel.

11. At the gas meter located on the south side of the after tower, shut down gas.

12. In the Galley, light the range burners and burn of residual gas in lines.

13. Turn off ranges.

14. Disconnect gas hose, ship and shore.

15. Move hose to pier for later determination.

16. Blind flange, seal gas line entrance to the vessel.

17. Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $21,948.00

3.2.2 Mothballing the Vessel Using Silica Gel Canisters: (Option 1)

1. Engineering services to calculate and design air control system.

2. Services of carpenters and welders to seal-off hull and superstructure openings from open weather.

3. Seal-off all ventilation vents open to atmosphere.

4. Tape all doors, openings, etc.

5. Install silica gel canisters throughout vessel to remove moist air from specific areas.

6. Provide schedule for replacing of silica gel.

7. Provide services of Inspector to oversee performance of Contractor.

Note: Continual maintenance is required for replacement of canisters.

Estimated Subtotal: $1,505,544.00

3.2.3 Mothball the Vessel Using Dry Air Dehumidifiers:

1. Engineering services to calculate and design dry air system.

2. Services of carpenters and welders to seal-off hull and superstructure openings from open weather.

3. Seal-off all ventilation vents open to atmosphere.

4. Seal-off areas in interior compartments for zone areas for dehumidifiers.

5. Tape all doors, openings, etc.

6. Install twenty (20) Muntersi "Cargocaire" dehumidifier units, Model HC-1125 and 5,000-feet of flexible 10-inch ducting host throughout interior of vessel to remove moisture from 7,770,738 cubic feet of air.

Note: Existing ducts, pipes will be augmented with ducting hose.

7. Provide schedule for monitoring of dehumidifier units.

8. Provide services of Inspector to oversee performance of Contractor.

Note: Minimum maintenance is required to monitor the system.

Estimated Subtotal: $1,292,640.00

3.3 Mothballing and Moving to Alternate Berth in Long Beach Harbor:

3.3.1 Depth Soundings:

1. Soundings should be taken at the present berth around the vessel and outside the aft section of the breakwater into the harbor. A chart will be developed determining the depth at a normal tide.

2. Provide services of Inspector to oversee performance of Contractor.

Soundings should also be taken in and around the alternate berth to ensure that the vessel will not drag or rest on the channel bottom at low tide.

Estimated Subtotal: $5,841.00

3.3.2 Queen Mary - Breakwater Removal:

The Queen Mary breakwater is approximately 2,800-feet long and contains approximately 314,000 tons of four (4) types of rock.

It would require the services of barge cranes, barges and tugs to dredge, remove and dispose of the following amount of rock:

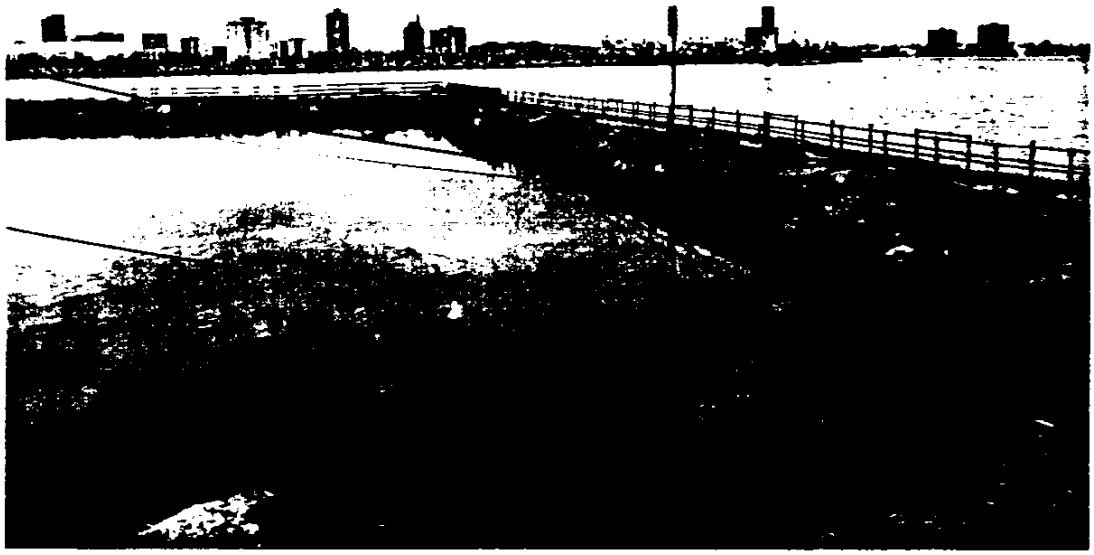
3.3.2.1 Breakwater - After Section:

1. **Remove Aft Section of Breakwater:**

   - 7,000 tons of Armor Rock (Large)
     @ $32.00 per Ton $224,000.00
   - 63,000 tons of Core Rock (Small)
     @ $9.00 per Ton $567,000.00
   - Completion Date: 63 Days

2. Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $800,400.00



3. Reinstall Aft Section of Breakwater: (Option 1)

- 63,000 tons of Core Rock (Small)
  @ $17.00 per Ton $1,071,000.00
- 7,000 tons of Armor Rock (Large)
  @ $28.00 per Ton $196,000.00
- Completion Date: 91 Days

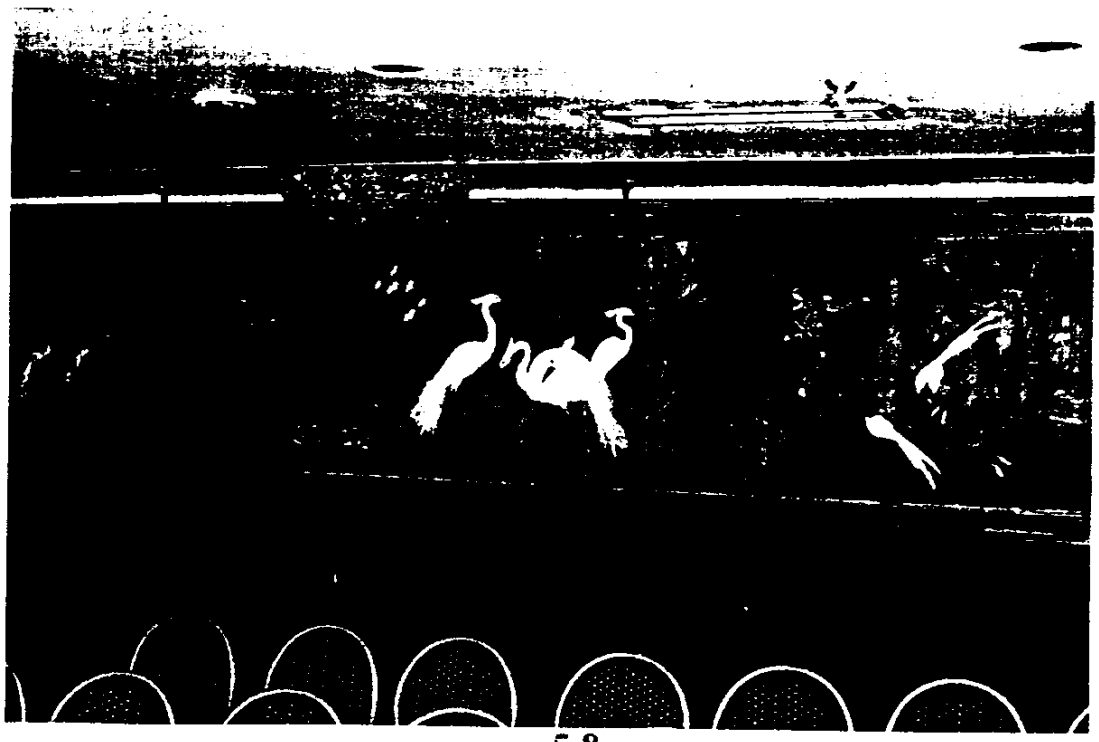
4. Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $1,292,000.00

3.3.2.2 Breakwater - Complete Removal:

1. **Remove Total Breakwater and Dispose of Rock from Queen Mary: (Option 2)**

- 41,000 tons of Armor Rock (Large)
  @ $32.00 per Ton $1,312,000.00
- 273,000 tons of Core Rock (Small)
  @ $9.00 per Ton $2,457,000.00
- Completion Date: 252 Days



5.2 Depth Soundings:

Soundings should be taken Phe present berth around the vessel and outside the aft section of the breakwater into the harbor. A chart will be developed determining the depth at a normal tide.

Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $5,841.00

5.3 Queen Mary - Breakwater Removal:

The Queen Mary breakwater is approximately 2,800-feet long and contains approximately 314,000 tons of four (4) types of rock.

5.3.1 Remove Total Breakwater and Dispose of Rock from Queen Mary:

It would require the services of barge cranes, barges and tugs to dredge to a depth of 36-feet, remove and dispose of the following amount of rock:

- 41,000 tons of Armor Rock (Large)
  @ $32.00 per Ton. $1,312,000.00
- 273,000 tons of Core Rock (Small)
  @ $9.00 per Ton. $2,457,000.00

- Completion Date: 252 Days

5.3.2 Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $3,794,000.00

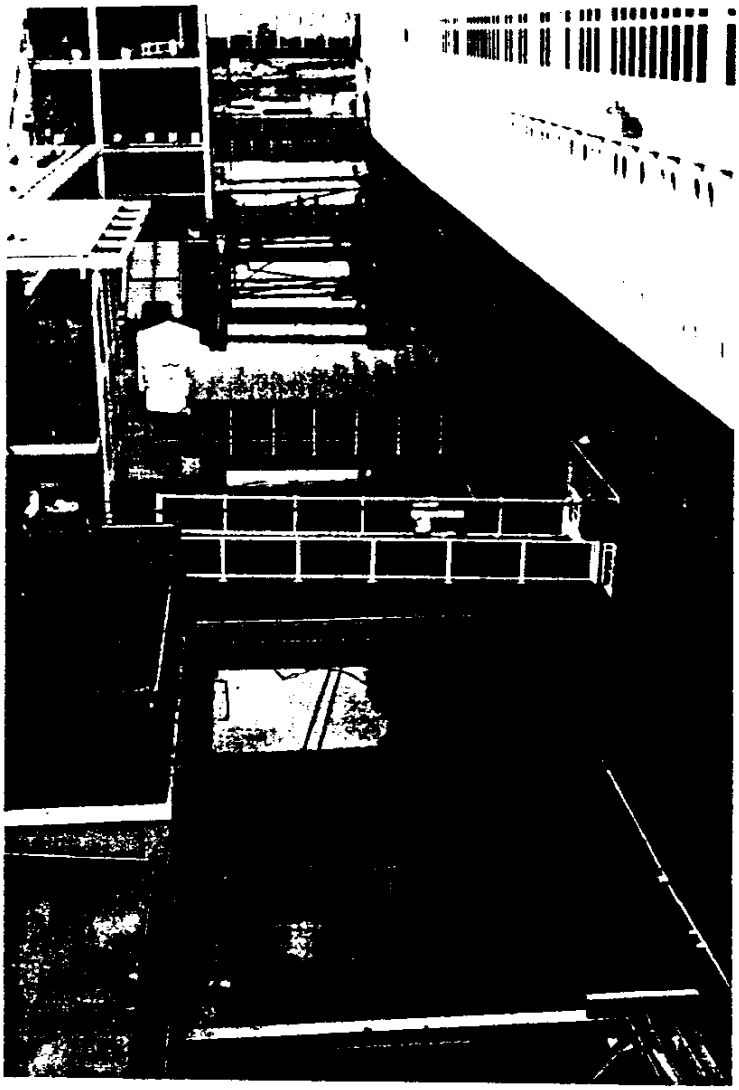
Note: Substantial savings can be achieved if surplus rock can be used for a specific project in the Long Beach or other areas.

If the armor stone is salvaged and re-used in a mitigated structure a credit of $650,000.00 could be considered to the above number.

5.4 Disconnect Services at Present Pier:

The following tasks are to be performed to disconnect services from the vessel:

1. Shut down steam system and vent steam supply line.
2. After steam supply and return lines have cooled, disconnect steam lines from ship and shore.
3. Lay out the two (2) steam lines on the pier for later determination.
4. Flush vessel's sewage system.
5. Shut down sewage valves in the vessel.
6. Disconnect sewage line from the ship and shore.
7. Close sewage valves on pier.
8. Lay out sewage line on the pier for later determination.
9. Shut down electrical power at the pier sub-station.
10. Disconnect electrical feeder at the pier sub-station.
11. Disconnect electrical feeders at the vessel sub-station.
12. Remove electrical feeders and lay out on pier for later determination.
13. In the vessel, make available shore power connection to switchboard.
14. Install portable diesel generator on deck and connect to new shore power connection.



15. Check switchboard and trip all except circuit breakers for the specific operation.

16. Put generator on line.

17. At the gas meter located on the south side of the after tower, shut down gas.

18. In the Galley, light the range burners and burn of residual gas in lines.

19. Turn off ranges.

20. Disconnect gas hose, ship and shore.

21. Move hose to pier for later determination.

22. Shut down water at pier.

23. Drain system.

24. Disconnect water lines from ship and shore.

25. Close water supply valves in vessel.

26. Blind flange all openings that are not closed off by valves.

27. Lay out water lines on pier for later determination.

28. Using a crane and line handlers, disconnect and remove all gangways. Move the gangways to the pier for later determination.

29. Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $75,708.00

5.5 Secure Rudder and Propeller:

The rudder and propeller should have stops welded in place to eliminate the possibility of either turning during a tow.

Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $1,060.00

5.6 Towing:

1. Purchase and install polypropylene towing lines in approximately ten (10) locations on the vessel for tugs to tie on.

2. Make available electrical power for navigation and anchor lights. (This may require some portable lighting.)

3. Tie two (2) tractor tugs to outboard side of the vessel.

4. Provide pilot and crew to transport vessel to submerging area.

5. Using a crane and line handlers, release all mooring and arresting lines at ship and shore.

6. Lay out all lines on pier for disposal.

7. Outboard tugs to pull vessel clear of breakwater and tie the remaining tugs.

8. Purchase and install towing bridle. An area of investigation might be the possible use of the ship's anchor chain as the bridle.

9. Tie the ocean-going tug to the bridle and use guide tugs to navigate the harbor.

10. The vessel will be towed to an area outside the port's breakwater and the guide tugs and Port Pilot are released.

11. Provide services of Inspector to oversee performance of Contractor.

The ship would be towed to an area for sinking. At this time the preselected authority would assume responsibility and the ship would be sunk/scuttled.

Estimated Subtotal: $101,616.00

6.0 QUEEN MARY - SALE FOR DOMESTIC AND FOREIGN INTERESTS:

A directive from the Port prohibited the contacting of international ship brokers for possible sale value of the vessel.

Several factors should be considered in estimating the potential sale value of the vessel especially without input from current market sales of similar vessels, of which there are few.

The vessel value on the open market would be significantly reduced, due to the limited capability of the ship as converted to a hotel/convention center.

As a result of the conversion of the Queen Mary, the lack of self-propulsion aboard the vessel demands that considerable expense be incurred by a new owner due to the necessity of ocean towing the vessel to a new owner's selected port, foreign or domestic.

With the understanding that the vessel, because of its considerable breadth, is incapable of transit through the Panama Canal, considerable costs would be generated by a buyer for ocean towing of the vessel to a location in the Gulf or Eastern Seaboard of the United States, or further to a destination across the Atlantic Ocean. Potential buyers are therefore limited, in a financial sense, to those on the West Coast of the United States, Canada or South America. Far East and South Pacific potential buyers would additionally incur the considerable ocean towing cost across the Pacific Ocean.

Preparing the vessel for long distance ocean towing could conceivably require the drydocking of the vessel by insurance underwriters with considerable expense to the buyer to:

1. Inspect and examine hull plating and underwater rivets.

2. Examine and secure the rudder.

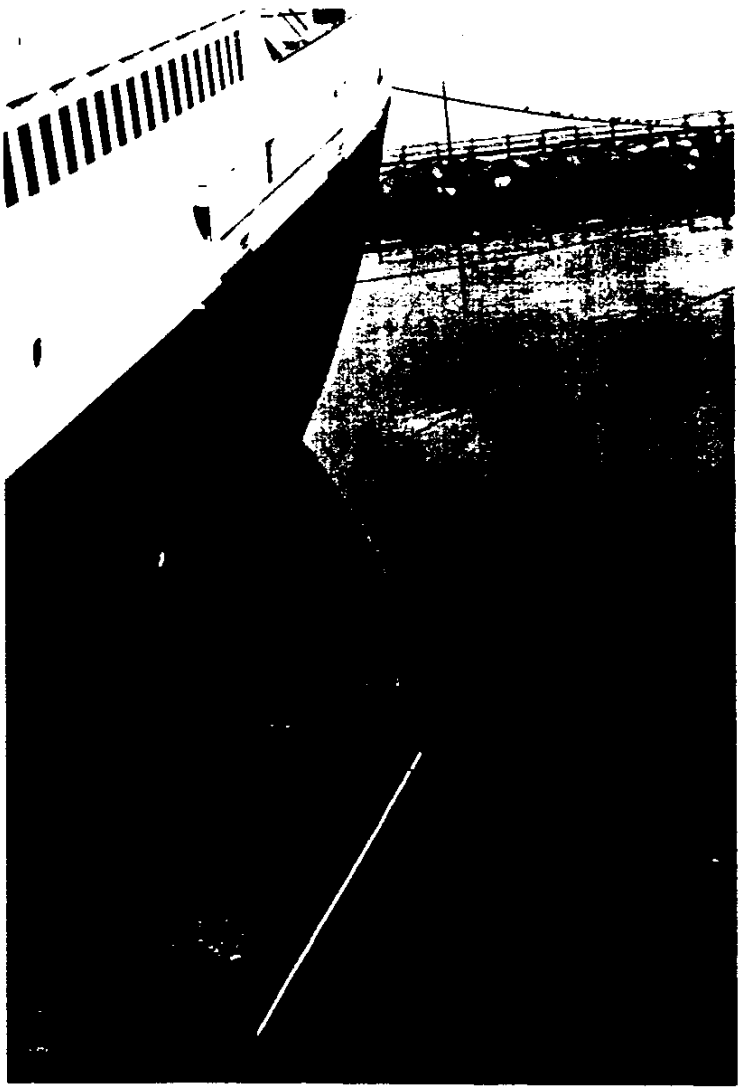
3. Reinforce or remove the propeller enclosure, due to the anticipated loads to be encountered.

All of these considerations affect the potential resale value of the vessel.

The possibility certainly exists of selling the vessel to a new owner with the intent of having the new owner operate it at the present site or an alternate pier site, and lease pier space from the Port.

Recently, inquiries were received from potential investors seeking information regarding the Queen Mary conversion, for possible application to similar ventures on the East Coast. It is unknown if this group or others would have an interest in buying the vessel.

The drydocking will not be considered at this time, however, drydocking costs appear in Section 3.0 as an option.



6.1 Survey and Inventory:

Provide a team to survey and inventory all material, equipment and consumables.

Estimated Subtotal: $48,500.00

6.2 Remove City Owned Items Designated by the Port:

1. Provide a team to collect and/or dismantle and remove all designated items from the vessel.

2. Transport all designated items to a warehouse specified by the Port of Long Beach.

3. Inventory and catalog all stored items.

4. Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $25,300.00

6.3 Depth Soundings:

Soundings should be taken at the present berth around the vessel and outside the aft section of the breakwater into the harbor. A chart will be developed determining the depth at a normal tide.

Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $5,841.00

6.4 Queen Mary - Breakwater Removal:

The Queen Mary breakwater is approximately 2,800-feet long and contains approximately 314,000 tons of four (4) types of rock.

6.4.1 Remove Total Breakwater and Dispose of Rock from Queen Mary:

It would require the services of barge cranes, barges and tugs to dredge, remove and dispose of the following amount of rock:

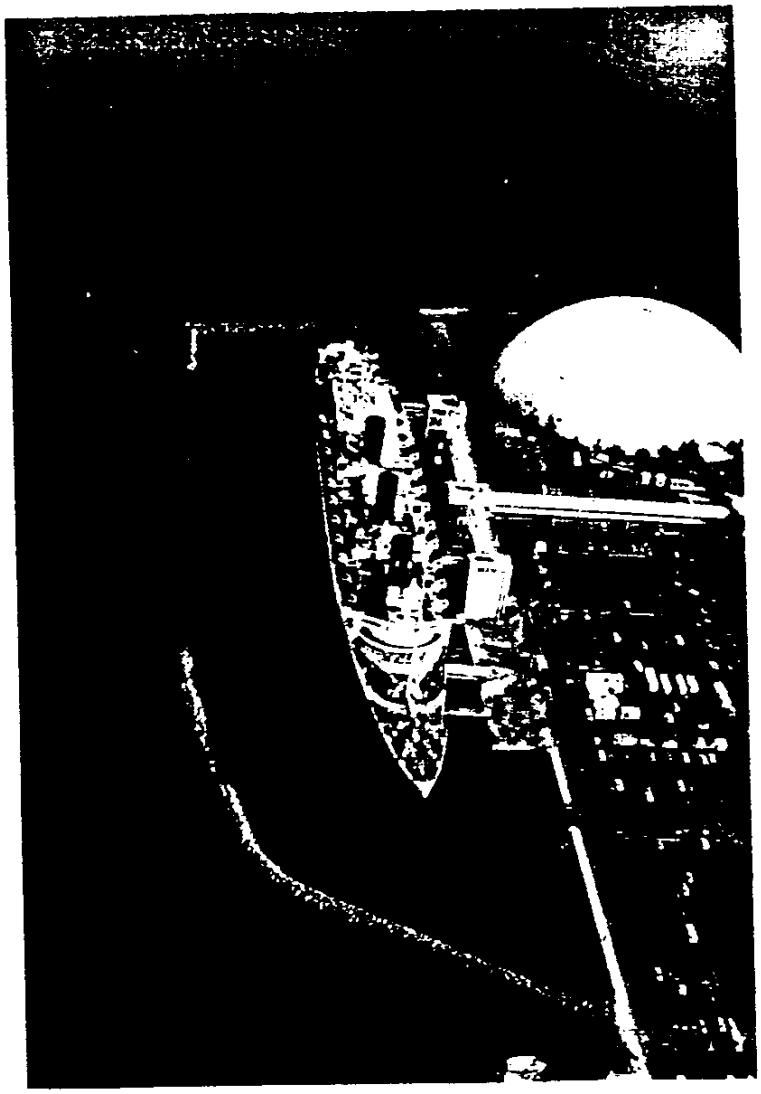
- 41,000 tons of Armor Rock (Large)
  @ $32.00 per Ton. $1,312,000.00
- 273,000 tons of Core Rock (Small)
  @ $9.00 per Ton. $2,457,000.00
- Completion Date: 252 Days

6.4.2 Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $3,794,000.00

Note: Substantial savings can be achieved if surplus rock can be used for a specific project in the Long Beach or other areas.

If the armor stone is salvaged and reused in a mitigated structure a credit of $650,000.00 could be considered to the above number.



6.5 Disconnect Services at Present Pier:

The following tasks are to be performed to disconnect services from the vessel:

1. Shut down steam system and vent steam supply line.

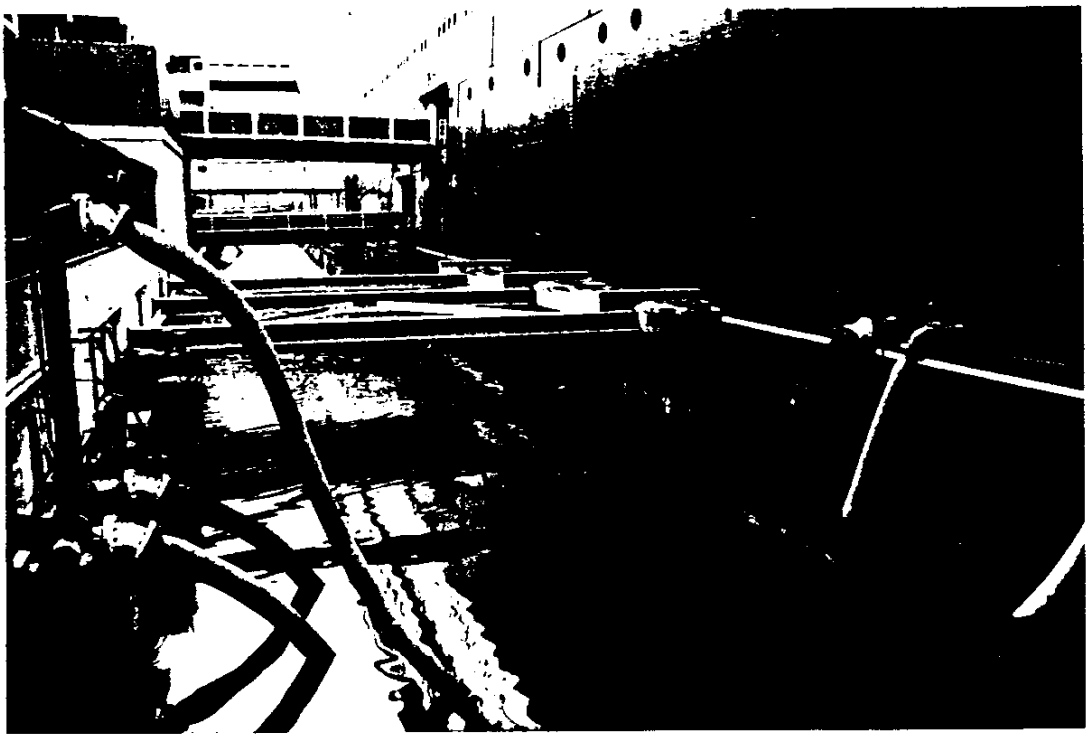
2. After steam supply and return lines have cooled, disconnect steam lines from ship and shore.

3. Lay out the two (2) steam lines on the pier for later determination.

4. Flush vessel's sewage system.

5. Shut down sewage valves in the vessel.

6. Disconnect sewage line from the ship and shore.



7. Close sewage valves on pier.

8. Lay out sewage line on the pier for later determination.

9. Shut down electrical power at the pier sub-station.

10. Disconnect electrical feeder at the pier sub-station.

11. Disconnect electrical feeders at the vessel sub-station.

12. Remove electrical feeders and lay out on pier for later determination.

13. In the vessel, make available shore power connection to switchboard.

14. Install portable diesel generator on deck and connect to new shore power connection.

15. Check switchboard and trip all except circuit breakers for the specific operation.

16. Put generator on line.

17. At the gas meter located on the south side of the after tower, shut down gas.

18. In the Galley, light the range burners and burn of residual gas in lines.

19. Turn off ranges.

20. Disconnect gas hose, ship and shore.

21. Move hose to pier for later determination.

22. Shut down water at pier.

23. Drain system.

24. Disconnect water lines from ship and shore.

25. Close water supply valves in vessel.

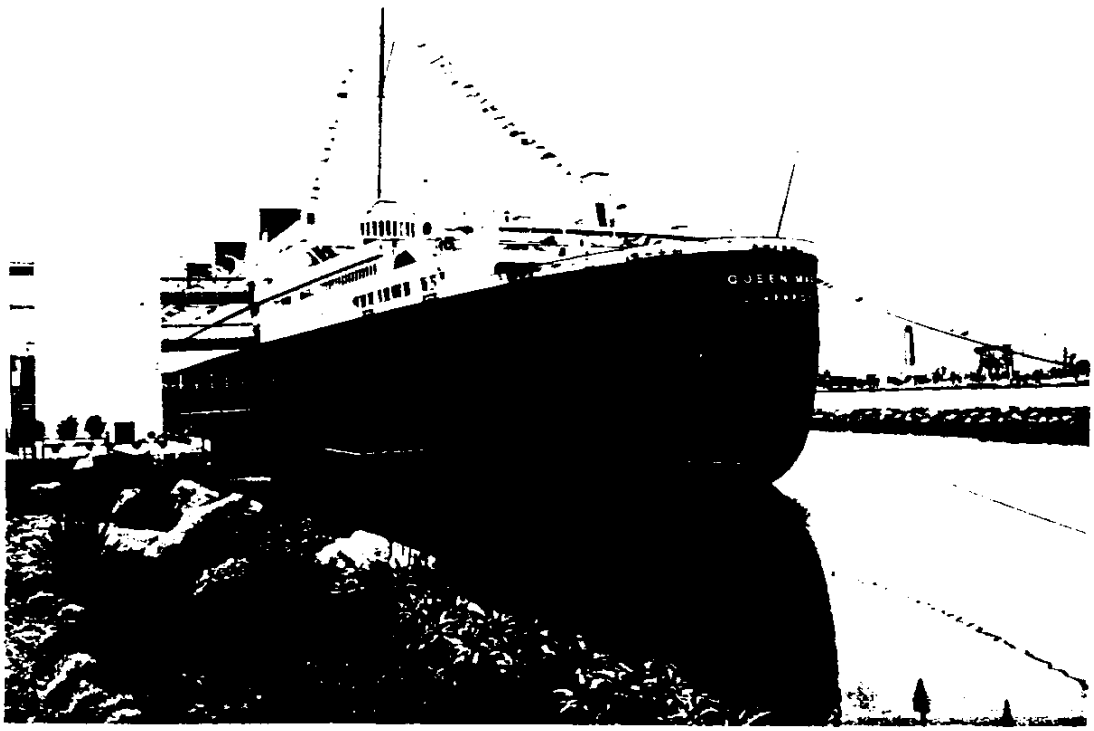
26. Blind flange all openings that are not closed off by valves.

27. Lay out water lines on pier for later determination.

28. Using a crane and line handlers, disconnect and remove all gangways. Move the gangways to the pier for later determination.

29. Provide services of Inspector to oversee performance of Contractor.

Estimated Subtotal: $75,708.00



6.6 Estimated Sale Price for Queen Mary:

Estimated Subtotal: $3,800,000.00 to $4,500,000.00

7.0 QUEEN MARY - ESTIMATED COST ANALYSIS:

To perform the work outlined in Sections 1.0 through 6.0 the following estimated costs are submitted:

1.0 QUEEN MARY - UPGRADE QUEEN MARY TO REGULATORY STANDARDS

1.1 Paint Hull and Superstructure

1.1.1 Repainting the Hull & Superstructure

Estimated Subtotal: $515,310.00

1.1.2 Schedule for Future Repainting of Vessel

ESTIMATED TOTAL SECTION 1.0: $515,310.00

2.0 QUEEN MARY - RELOCATION OF VESSEL IN LONG BEACH HARBOR

2.1 Depth Soundings

Estimated Subtotal: $5,841.00

2.2 Queen Mary - Breakwater Removal

2.2.1 Remove Total Breakwater and Dispose of Rock from Queen Mary

Estimated Subtotal: $3,794,000.00

2.3 Disconnect Services at the Present Pier

Estimated Subtotal: $131,943.00

2.4 Tow to Alternate Berth and Secure

Estimated Subtotal: $114,480.00

2.5 Make Services Available on Vessel

2.5.1 Shore to Ship Services

Estimated Subtotal: $124,212.00

2.5.2 Tower for Elevators and Stairways

Estimated Subtotal: $691,240.00

ESTIMATED TOTAL SECTION 2.0: $4,861,716.00

3.0 QUEEN MARY - MOTHBALL SHIP AT EXISTING OR RELOCATED AREA IN LONG BEACH HARBOR

3.1 Vessel Cleaning

Estimated Subtotal: $81,324.00

3.2 Mothballing and Retaining Its Present Berth

3.2.1 Disconnect Services at Present Pier

Estimated Subtotal: $ 21,948.00

3.2.2 Mothballing the Vessel Using Silica Gel Canisters (Option 1)

Estimated Subtotal: $1,505,544.00

3.2.3 Mothball the Vessel Using Dry Air Dehumidifiers

Estimated Subtotal: $1,292,640.00

Estimated Subtotal (Excluding 3.2.2): $1,395,912.00

3.3 Mothballing and Moving to Alternate Berth in Long Beach Harbor

3.3.1 Depth Soundings

Estimated Subtotal: $ 5,841.00

3.3.2 Queen Mary - Breakwater Removal

3.3.2.1 Breakwater - After Section

1. Remove Aft Section of Breakwater

Estimated Subtotal: $ 800,400.00

3. Reinstall Aft Section of Breakwater (Option 1)

Estimated Subtotal: $1,292,000.00

3.3.2.2 Breakwater - Complete Removal

1. Remove Total Breakwater and Dispose of Rock from Queen Mary (Option 2)

Estimated Subtotal: $3,794,000.00

3.3.3 Disconnect Services at Present Pier
Estimated Subtotal: $ 131,943.00

3.3.4 Towing Vessel to Alternate Berth
Estimated Subtotal: $ 121,992.00

3.3.5 Mothballing the Vessel Using Silica Gel Canisters (Option 1)
Estimated Subtotal: $1,505,544.00

3.3.6 Mothball the Vessel Using Dry Air Dehumidifiers
Estimated Subtotal: $1,292,640.00

3.3.7 Drydocking - Optional
Estimated Subtotal: $3,155,620.00

ESTIMATED TOTAL SECTION 3.0: $5,346,416.00
(Excluding 3.3.2.1-1 & 3, 3.3.5, 3.3.7)

4.0 QUEEN MARY - SCRAPPING OF VESSEL

4.1 Removal of Valuable Items from the Vessel

4.1.1 Auction Aboard the Queen Mary (Option 1)
Estimated Subtotal: $ 76,800.00
(Auctioneer's Cost Not Included)

4.1.2 Warehousing and Auction
Estimated Subtotal: $ 748,080.00
(Auctioneer's Cost Not Included)

4.2 Additional Information

4.3 Depth Soundings
Estimated Subtotal: $ 5,841.00

4.4 Queen Mary - Breakwater Removal

4.4.1 Remove Total Breakwater and Dispose of Rock from Queen Mary
Estimated Subtotal: $3,794,000.00

4.5 Disconnect Services at Present Pier
Estimated Subtotal: $ 75,708.00

4.6 Install Towing Cables and Bridles
Estimated Subtotal: $ 23,362.00

4.7 Secure Rudder and Propeller
Estimated Subtotal: $ 1,160.00

4.8 Install Additional Bilge Pump
Estimated Subtotal: $ 15,900.00

4.9 Requirements for Towing of Vessel

4.9.1 Propeller Box Structure: (Option 1)
Estimated Subtotal: $ 64,800.00

4.9.2 Remove Propeller Box Structure: (Option 2)
Estimated Subtotal: $ 76,500.00

4.10 Towing to Scrapyard
Estimated Subtotal: $ 101,616.00

ESTIMATED TOTAL SECTION 4.0: $4,842,167.00
(Excluding 4.1.1, 4.9.1)

4.11 Scrap Breakdown

4.11.1 Weight Analysis of Vessel

4.11.2 Scrap Value of Steel, Brass & Copper
Estimated Subtotal: $3,092,250.00

4.11.3 Asbestos Material Aboard Vessel
Estimated Subtotal: $5,122,000.00

4.11.4 Net Value of Scrap vs. Asbestos
Estimated Net Value: <$ 2,029,750.00>

Note: No value is given for auction sale of valuable items and materials.

5.0 QUEEN MARY - ARTIFICIAL BARRIER REEF

5.1 Removal of Valuable Items from the Vessel

5.1.1 Auction Aboard the Queen Mary (Option 1)
Estimated Subtotal: $ 76,800.00
(Auctioneer's Cost Not Included)

5.1.2 Warehousing and Auction
Estimated Subtotal: $ 748,080.00
(Auctioneer's Cost Not Included)

5.2 Depth Soundings
Estimated Subtotal: $ 5,841.00

5.3 Queen Mary - Breakwater Removal

5.3.1 Remove Total Breakwater and Dispose of Rock from Queen Mary
Estimated Subtotal: $3,794,000.00

5.4 Disconnect Services at Present Pier
Estimated Subtotal: $ 75,708.00

5.5 Secure Rudder and Propeller
Estimated Subtotal: $ 1,060.00

5.6 Towing
Estimated Subtotal: $ 101,616.00

ESTIMATED TOTAL SECTION 5.0: $4,726,305.00
(Excluding 5.1.1)

6.0 QUEEN MARY - SALE FOR DOMESTIC AND FOREIGN INTERESTS

6.1 Survey and Inventory
Estimated Subtotal: $ 48,500.00

6.2 Remove City Owned Items Designated by the Port
Estimated Subtotal: $ 25,300.00

6.3 Depth Soundings
Estimated Subtotal: $ 5,841.00

6.4 Queen Mary - Breakwater Removal

6.4.1 Remove Total Breakwater and Dispose of Rock from Queen Mary
Estimated Subtotal: $3,794,000.00

8.0 QUEEN MARY - RECOMMENDED STUDIES:

Studies to be performed to determine the exact requirements and costs in undertaking required tasks:

1. Determine existing quantity of asbestos aboard vessel and cost for removal.

2. Investigate propeller box structure to determine ability to withstand load requirements in open waters.

3. Design fender structures and connections to receive Queen Mary at alternate berth.

4. Perform requirement for cathodic protection of Queen Mary at alternate berth.

5. Services to perform audio gaging of hull structure below waterline area.

6. Investigation of potential use of breakwater rocks from Queen Mary berth.

7. Studies for reballasting of vessel due to propeller box removal.

6.5 Disconnect Services at Present Pier

Estimated Subtotal: $ 75,708.00

ESTIMATED TOTAL SECTION 6.0: $3,949,349.00

6.6 Estimated Sale Price for Queen Mary

Estimated Subtotal: $3,800,000.00 to $4,500,000.00