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Form 60

LIGHT HOUSE BOARD
MAR 12 1909
NO. 10683

~~Second~~ First DISTRICT.

Department of Commerce and Labor
LIGHT-HOUSE ESTABLISHMENT

DESCRIPTION OF LIGHT-HOUSE TOWER,

BUILDINGS, AND PREMISES

AT

Broad Sound Channel Light Station, Mass.

March 11, 1909

Filed 12 Mar. 1909

NOTE.

This Form is designed mainly to guide in preparing accurate descriptions of new light-stations, but will be used also in describing those that have been long established, when required. Screw-pile structures and lights on keepers' dwellings should be fully described without reference to this Form.

DEPARTMENT OF COMMERCE AND LABOR,
LIGHT-HOUSE BOARD, *February, 1906.*

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NAME AND POSITION OF THE LIGHT-HOUSE AND LIGHT-STATION.

Broad Sound Channel, Inner Front: On the edge of the E'ly bank of the N'ly part of Spectacle Isla
Broad Sound Channel, Inner Rear: Boston Harbor, Mass. On the E'ly end of the N'ly part of Spectacle Island, 337 ft.
263° (W 5/8 S) in rear of Front Range.

1. By whom described, Lieut. Col. Edw. Burr, U. S. A., Engineer Second Light-House District.
2. Date of description, March 11, 1909.
3. Distinguishing character of light or lights, Front: Flashing white. Rear: Fixed red.

4. Latitude of tower, Front: 42° 19' 40" N. Rear: 42° 19' 39" N. } Authority, U.S. Coast & Geodetic Survey Chart
5. Longitude of tower, Front: 70° 59' 03" W. Rear: 70° 59' 07" W. } No. 246.

PREMISES—A DETAILED DESCRIPTION OF, EMBRACING—

6. Site of station—Public land, purchase, Military or Naval reservation, lease: Purchase.
7. Date of reservation,
8. Date of deed, 20 Nov. 1902.
9. Date of permission to occupy,
10. Date of lease,
11. Area of the entire site, .21 Acre.
12. Area inclosed, None.
13. Character of surface soil, Grass ground.
14. Distance of tower from nearest high-water mark, Front: 35 ft. Rear: 100 ft.
15. Inclosures to premises, None.
16. Wharf or landing on premises, Boathouse and Slip. (Spectacle Island reservation)
17. Road to landing or wharf, character of, and distance from tower, Path.
18. Means by which the light-station may be reached, Boat.

PREMISES—A DETAILED DESCRIPTION OF—CONTINUED.

19. Distance to the nearest public road, railroad station, or steamboat landing, and to which: Steamboat landing of N. Ward Co., South Boston, Mass. 1 5/8 miles.
20. Distance to the nearest post-office, 3 miles. South Boston, Mass.
21. Distance to the nearest village or town, 1/4 mile, Spectacle Island.
22. Facilities for reaching the light-station by public conveyance, None.

23. Facilities for reaching the light-station by private conveyance from the nearest village, town, railroad station or steamboat landing, and the distance: Boat or private steamboat N. Ward Co, from South Boston, Mass. 1 5/8 miles.
24. Tower or other means used for supporting the lantern and apparatus, Tower.
25. Number of separate lights, 2.
26. When first built or established, 1903.
27. When last thoroughly rebuilt, repaired, or renovated,
28. Condition at this date, Good.
29. Shape of tower in plan, Circular.
30. Form of tower, cylindrical, conical, or pyramidal, Conical.
31. Height of tower from base to ventilator ball of lantern, Front: 30 ft. Rear: 41 ft.
32. Height of focal plane of lantern above mean high water (on sea and gulf coasts) or mean lake level on northern lakes and rivers: Front: 53 ft. Rear: 70 ft.
33. Background of the light-house, upon which it is projected, as seen from the sea or lake: Sky.

34. Color of tower, White - black lantern.
35. Color of tower, how produced: Paint.
36. Tower—connected with keeper's dwelling, and how, or detached: Detached.

37. Object—seacoast, lake coast, bay, harbor, channel, or range; for general or local navigating purposes: Range. Guide from an intersection with the Lovells Island Range line to President Roads.
38. Materials of which the tower is built: Wood.

9. General description, embracing—
0. Thickness of walls at base, 6 in.
1. Thickness of walls at parapet, 6 in.
2. Diameter of tower (inscribed, if polygonal) at base, Front: 12 ft. Rear: 14 ft.

PREMISES—A DETAILED DESCRIPTION OF—CONTINUED.

General description, embracing—Continued.

43. Diameter of tower (inscribed, if polygonal) at parapet, 7 ft. 9 in.
44. Kind of stairway and steps, Wood.
45. Number of landings of stairway, Front: 1. Rear: 2.
46. Size of glass for glazing tower windows, 14" X 16".
47. Number of windows in tower, and size of sash, Front: 2. Rear, 3. 17" X 19 1/2".
48. Number of doors, 1.
49. Kind of foundation and depth below the surface, Brick - Stone Part - 3 ft.
50. Character of soil at and surrounding the light-house, Grass ground.

51. Soil susceptible of being protected by grass, shrubbery, or trees: Grass.

52. Miscellaneous remarks upon tower and site: Answers apply to both towers unless otherwise stated.

LANTERN AND LANTERN FIXTURES. (Answers apply to both.

53. Order or class of lantern, 4th.
54. Polygonal or cylindrical, Polygonal.
55. Diameter, inscribed, to glass, 6 ft. 10 in.
56. Number of sides in plan, 8.
57. Vertical or helical bars, Vertical.
58. Height glazed, 36".
59. Number of plates in height, 1.
60. Number of plates in each side, 1.
61. Thickness of plates, 5/16"
62. Size of different plates, 34" X 36".
63. Number of storm panes of glass, 8.
64. Unglazed side of lantern in plates and degrees of arc, 7 - 315° ; between what bearings (magnetic and *from seaward*),
65. Materials of which the lantern is constructed, Iron.

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LANTERN AND LANTERN FIXTURES—CONTINUED.

66. Roof, Iron.

67. Ventilator ball, Iron.

68. Lightning-conductor spindle, Wrought iron - Copper tip.

69. Lightning conductor, of what material; how attached to spindle; how led, and how far below the surface of dry earth, or otherwise, as the case may be: Copper attached to lantern deck, led down outside tower to ground - and 3 ft below surface.

70. Balustrade and outside gallery, Wood.

71. Lantern doors, and how fitted: In parapet.

72. Floor of lantern—of what materials: Wood covered with canvas.

73. Watchroom door leading into the lantern, and how fitted: None.

74. Parapet, inside diameter (inscribed, if polygonal), 6' 6" Polygonal.

VENTILATORS.

75. In parapet, wall, or lower part of lantern: Parapet.

76. Lantern ladders for cleaning plate glass, outside: None.

Curtain hooks inside of lantern—how fitted: On Sash Bars.

WATCHROOM.

How fitted: None.

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WATCHROOM—CONTINUED.

79. Bell wires, or speaking tubes, or telephones for calling relief keepers—kind: None.

80. Where led:

ILLUMINATING APPARATUS, ETC.

81. Name of maker, Chance Brothers. Year made, 1903.

82. Marks and number on apparatus, Birmingham, England.

83. Order of apparatus, 4th Inside diameter (inscribed circle) of central drum, 1 22". 1 20"

84. Characteristic of light shown by apparatus, Front: Flashing white. Rear: Fixed red.

85. If movable; time of revolution, Front: 20 seconds.

86. Intervals between flashes, " 5 "

87. Duration of flash, " 1 second (about)

88. If fixed, or fixed varied by flashes; state arc of each fixed part in degrees:

89. Number of panels in the lens apparatus, 4 - Rear.

90. Number of flash panels, 4 ; arc of each, in degrees, 90° Front.

91. Number of elements in each panel of central drum of the lens, Rear: 5. Front: No drum. Lens with bullseye 1 above and bel

92. Number of prisms in each panel *above* the central drum of the lens, " 5. " 3 above Bulls

93. Number of prisms in each panel *below* the central drum of the lens, " 3. " 3 below "

94. How are the flashes produced—By the whole apparatus revolving Yes ; by revolving belt only

if by panels of vertical elements revolving outside of fixed lens, state the number of such panels:

Describe how:

95. If by vertical elements, (*a*) state the number in each panel, ; (*b*) and the nu

of elements of fixed lens covered by the panel:

ILLUMINATING APPARATUS, ETC.—CONTINUED.

96. Pedestal, Iron.

97. Service table, In base of tower.

98. Tube leading through the center of the upper metal ring of the lens into the ventilator ball, to carry off the gases of combustion and to assist in producing a proper draft in the lantern—of what material, diameter, and how fitted and connected with damper tube when in place: None.

99. If revolving, revolving machinery: Revolving clock - Iron.

100. Revolving on chariot, mercury float, or balls: Balls.

101. If a chariot, describe it and state the number and size of each pattern of wheels in it:

102. If on balls, describe the construction of the ball-raceways, whether flat surface, or semi-circular or V grooves: Flat surface.

103. State number of balls: 20. ; diameter of balls, 3/8"

104. Revolving cord or chain—how led: Cord. Center of tower.

105. Length of drop tube, 15 ft.

106. Length of time revolving machinery will run after one winding: 4½ hours.

How is the machinery protected: Iron case - glass door.

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ILLUMINATING APPARATUS, ETC.—CONTINUED.

108. How regulated; describe: Governor.

IF COLORED LIGHT—

109. How is the color produced? Describe: Red chimney (Rear)

110. Red sectors—between what bearings (from seaward); magnetic, if on sea or gulf coasts; true on northern lak and rivers:

111. State where colored glass is attached, if to illuminating apparatus or to the lantern:

112. If colored glass is inside of illuminating apparatus, describe its form:

LAMPS AND BURNERS.

113. Description of lamp in use and number of wicks to burner: Improved 4th Order - 1 wick.

114. Number of spare lamps at the station, 2

115. Number of spare lamp burners at the station,

CLOSETS IN TOWER.

116. How fitted and used: None.

OILHOUSE OR ROOM.

117. Describe where placed and how fitted: (Spectacle Island reservation)

CLOSETS AND STOREROOMS.

118. Where placed, how fitted and used: White fuel house (Spectacle Island reservation) Fuel, paint stock &c.

119. Damp or dry, suited or unsuited to the purposes for which they were designed: Dry and suited to purpose.

FOG SIGNAL.

120. Kind and character of apparatus:

121. How much time is required to start the signal?

122. Where, or by whom made:

Year made,

123. Characteristic distinction of:

Blast	Silent interval	Blast	Silent interval
sec.	sec.	sec.	sec.

124. What parts of the fog-signal machinery are in duplicate?

125. If a bell, state (*a*) weight, lbs.; (*b*) metal, ; (*c*) diameter, ; (*d*) height, ;

(*e*) if struck by clockwork, state time it will run with one winding,

126. If a steam signal, (*a*) describe boiler:

(*b*) Kind:

(*c*) Flue-tube or water-tube,

(*d*) Dimensions: length, diameter,

(*e*) Number and length of tubes,

(*f*) Diameter of tubes,

(*g*) Furnace: Kind, ; length, ; width, ; height,

(*h*) Total heating surface in square feet,

(*i*) Grate surface in square feet,

(*j*) Number of grate bars,

FOG SIGNAL—Continued.

(*k*) Kind of grate bars,

(*l*) Kind of coal or other fuel generally used,

(*m*) Kind of safety valve,

(*n*) Maximum pressure the boiler is capable of,

(*o*) Usual working pressure,

(*p*) Diameter of smokestack,

(*q*) Height of smokestack from grate,

(*r*) Height or length of steam drum, ; diameter,

(*s*) Kind of covering or jacket,

(*t*) Present condition of boiler,

(*u*) When built,

(*v*) Where built,

(*w*) By whom built,

(*x*) Is there a heater? ; what kind, ; what size,

How much does its use reduce the time of starting the fog signal?

127. If a steam engine is used, kind: Number of revolutions per minute,

(*a*) Diameter of cylinder,

(*b*) Stroke of piston,

(*c*) Size of steam pipe,

(*d*) When built,

(*e*) Where built,

(*f*) By whom built,

128. Whistle, trumpet, or siren, pressure at which blown,

129. Diameter of whistle, ; height, ; distance between orifice and edge of whistle,

single tone, ; chime,

130. Disk or cylindrical siren, ; diameter of revolving part,

when made, ; by whom made,

number, width and length of ports, ; revolutions per minute,

type of governor, ; condition of revolving part,

131. Daboll trumpet, . Reed, ; length, ; breadth, ; thickness at base,

thickness at tip,

132. Trumpet: Length, ; diameters, ; material,

133. Timing device:

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FOG SIGNAL—CONTINUED.

134. Height of whistle or trumpet above mean high water,

135. Direction, by compass, in which trumpet points,

136. If signal is blown by compressed air, describe compressing machinery:

Kind of engine, ; by whom made,

when made, ; nominal size, horsepower, ;

kind of compressor, ; name of maker,

State if compressor is on same bed and geared with engine, or separate and belt-driven:

137. Location, with reference to the light-house, to a particular danger or channel, or to the special object for establishing it:

138. Distance and direction from the light-house,

139. Water supply for it,

140. How it is reached from the light-house:

141. Description of fog-signal building or buildings:

DWELLINGS FOR KEEPERS.

142. Location, with reference to the light-house tower: On Spectacle Island reservation, 65 ft N'ly from Spectacle Id. rear tower.

143. Coloring: White.

144. Materials of which built, Wood

145. Number of rooms in ~~each~~ dwelling, 6

146. Number of keepers and assistants to ~~each~~ dwelling, 1.

. Outhouses, 1.

Coloring: White.

Paths or walks on the premises, Paths

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DWELLINGS FOR KEEPERS—CONTINUED.

150. Area of premises inclosed, and how: None.

151. Area of garden, None.

152. Area in timber or shrubbery, None.

153. Area susceptible of profitable cultivation, None.

154. Area cultivated or prepared for cultivation, None.

155. Character of adjacent surrounding country—Soil, sandy, clay, marsh, swamp, wood, fast ground, or shif sands: Clay.

WATER FOR FOG SIGNAL, DRINKING, AND DOMESTIC USES GENERALLY.

156. How procured, Rain water.

157. Quality, Unsatisfactory, owing to smoke from factory on island W.

158. Quantity ample or not for the station at all seasons of the year, Ample.

159. Liable or not to be injured by the inroads of storm tides and seas, Not liable.

160. If rain water in tanks or cisterns, what precautions have been taken to insure its purity? Cisterns cle frequently.

161. Capacity of tanks or cisterns, and where placed: In cellar of dwelling. 2000 gals.

162. Tanks or cisterns—of what material made: Brick.

WATER FOR FOG SIGNAL, DRINKING, AND DOMESTIC USES GENERALLY—CONTINUED.

163. Is there a distilling apparatus at the station?

Name of maker:

Capacity, ; when installed, ; condition, ;

efficiency,

164. If from a well, describe and give depth:

165. Diameter,

166. Lined or not,

167. Water obtained by pump or bucket, Pump.

168. Distance from keeper's dwelling, In dwelling.

HEALTHFULNESS OF THE LIGHT-STATION AND VICINITY.

169. General opinion in regard to the healthfulness or unhealthfulness of the light-station and vicinity: Very healthful.

170. Diseases—what are most prevalent at the station and in the vicinity? None.

171. Do they prevail at particular seasons of the year, or not?

172. Are there any local causes, such as swamps, marshes, etc., in the immediate vicinity of the light-house which are likely to be the cause of these diseases?

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HEALTHFULNESS OF THE LIGHT-STATION AND VICINITY—CONTINUED.

173. Would draining or other artificial means employed on the light-house premises be likely to improve the sanitary condition of the light-station? No.

LANDING, WHARF, BOATHOUSE, AND ROAD TO THE LIGHT-HOUSE.

174. Describe: (Spectacle Island) Boathouse & Slip.

175. Distance and direction from light-house:

176. Hoisting engine, what kind?

Number of revolutions per minute, ; diameter of cylinder, ; stroke,

Kind of boiler:

177. MISCELLANEOUS REMARKS UPON THE GENERAL CHARACTER AND CONDITION OF THE PREMISES, TOWERS, BUILDINGS, AND ILLUMINATING APPARATUS AT THIS DATE.

The premises, towers, buildings, and illuminating apparatus are in good condition.

Respectfully,

Thos Brown

, *U. S. A.,*

Engineer, 2d *Light-House District.*

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