2

Encl. 2-3 · 10th Engr.

RECEIVED SEP 10 1885 LIGHT HOUSE BOARD

DESCRIPTION

OF

LIGHT-HOUSE TOWER, BUILDINGS, AND PREMISES

AT

Detroit River Light Station. Mich.

September 1st, 1885.

Encl. Sept. 15.

Encl. 2-3 10th Engrs.

NAME AND POSITION OF THE LIGHT-HOUSE AND LIGHT-STATION. Detroit River Light. mich, near the mouth of the Detroit River, Lake Erie, mich

By whom described. Chas. E. L. B. Davis, Captain of Engrs. Engr. 10th L.H. District

Date of description, September 1st, 1885.

Distinguishing character of light or lights. 4th. order - Illuminates entire horizon, showing fixed white for one minute, followed during the next minute by six consecutive white flashes at intervals of 10 seconds.

Latitude of tower. 42° 00' (00") } Authority. U.S. Lake Survey.

Longitude of tower. 83° 08' (22") }

PREMISES—A DETAILED DESCRIPTION OF, EMBRACING—

Area of the entire submarine site. 10 Acres - Area displaced by foundation 90'×45'.

Character of surface soil.

Distance of tower from nearest high-water mark. 11 ft - from base of tower.

Inclosures to premises. Pier railing - Composed of 2 inch wrought iron pipe, with detachable chain-railing in the vicinity of the boat cranes.

Wharf or landing on premises. Foundation of Tower - Stone Pier.

Road to landing or wharf, character of, and distance from tower.

Means by which the light-station may be reached. By boat -

Distance to the nearest public road, railroad station, or steamboat landing, and to which 7 miles to Amherstsburg. Ont.

Tower or other means used for supporting the lantern and apparatus. Cast-iron tower.

Number of separate lights. One

When first built or established. 1885.

When last thoroughly rebuilt, repaired, or renovated.

Condition at this date. New

Shape of tower in plan. Cylindrical

Height of tower from base to ~~cowl of lantern.~~ focal plane 45 feet

Height of focal plane of lantern above the mean sea or lake level. 56 feet.

Back ground of the light-house, upon which it is projected as seen from the sea or lake. distant land-

Color of tower. Brown

Color of tower, how produced. Iron ore Paint.

Tower—connected with keepers' dwelling, and how, or detached. Keepers (3) occupy tower as dwelling

Object; sea coast, lake coast, bay, harbor, channel, or range; for general or local navigating purposes. Range for Entering and leaving the mouth of the River.

Materials of which the tower it built. Iron, first three stories lined with brick and plastered with Cement finish, fourth story, watch-room and base lantern ceiled with 7/8" ceiling-

General description, embracing—Tower of Cast-iron, shell 3/4 inch in thickness.

Thickness of walls at base. 12 inch Brick-lining

Thickness of walls at parapet. Ceiled with wood 7/8" ceiling-

Diameter of tower at base. 22 feet

Diameter of tower at parapet. 18 feet.

Kind of stairway and steps. Cast iron - Circular, Continuous against brick lining.

Number of landings of stairway. three landings

Size of glass for glazing tower windows. 20"x20" - Circular windows 15" diameter.

Number of windows in tower, and size of sash. 8 - 20"x20", and 15 Circular sash 12"

Number of doors. 13.

Kind of foundation and depth below the surface. water tight timber crib filled with Concrete 23' 6" below lake level (water)

Character of soil at and surrounding the light-house. None -

Soil susceptible of being protected by grass, shrubbery, or trees. None

Miscellaneous remarks upon tower and site. See page 14 -

LANTERN AND LANTERN FIXTURES.

Order or class of lantern. 4th. order

Diameter. 4 feet

Number of sides in plan. ten

Height glazed. 36"

Number of plates in height. One

Number of plates in each side. One

Thickness of plates. 1/4 inch

Size of the different plates. 26 1/2" × 36"

Number of storm panes of glass.

Unglazed side of lantern in plates or degrees of arc.

Materials of which the lantern is constructed. Cast-iron

Dome. Cast-iron

Cowl. Cast iron, lined with 1/32" sheet zinc.

Lightning-conductor spindle. Brass, fine gilded and fitted with platinum point, 2" long.

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.

Pinnacle secured to the cowl by a nut

Balustrade and outside gallery. Cast iron - posts and top and bottom rail of wrought iron.

Lantern doors and how fitted. with two gun metal hinges and gun metal lock.

Floor of lantern—of what materials. Cast iron

Watch-room door leading into the lantern, and how fitted. Wrought iron trap door.

VENTILATORS.

In parapet, wall, or lower part of lantern. Lower part of lantern.

Lantern ladders for cleaning plate glass outside. None - None necessary

Curtain hooks inside of lantern—how fitted. 10 Brass Curtain hooks screwed into Astragals.

WATCH ROOM.

How fitted. Table + Cupboard

Bell wires, or speaking tubes, for calling relief keepers. None

ILLUMINATING APPARATUS, &c.

Order and characteristic distinction of apparatus. 4th. order - F.W. by W. Flashes.

If movable; time of revolution, and intervals between and duration of flashes. fixed white for one minute, followed during the next minute by six consecutive white flashes at intervals of 10 seconds.

If fixed, or fixed varied by flashes; arc of fixed part in degrees, and between what points of the compass seen.

Entire Horizon.

Number of panels in the lens apparatus. 7

Number of prisms of each panel *above* the dioptric drum or central belt of the lens. 9

Number of prisms of each panel *below* the dioptric drum or central belt of the lens. 6

Pedestal. Iron

Service table. None

Tube leading through the center of the upper metal ring of the lens into the cowl, to carry off the gases of combustion and to assist in producing a proper draught in the lantern—of what material, diameter, and how fitted and connected with damper tube when in place.

If revolving, revolving machinery. Revolving-

Revolving (wire) cord or chain—how led. Passes through floor of lantern on East side then follows ceiling of watch room to the west side of tower, then passes through floor of watch-room into fourth story

Length of drop tube. 80 ft-

Length of time revolving machinery will run after being wound up. 2 1/2 hours

How machinery is protected. In case

How regulated; describe. by Governor

How the flashes are produced: By the whole apparatus revolving; by the central belts only revolving; by vertical elements-panels revolving outside of fixed lens, and, if so, the number of such panels, or how.

Whole apparatus revolving.

IF COLORED LIGHT.

How is the color produced? Describe.

LAMPS AND BURNERS,

Description of lamp in use and number of wicks to burner.

Number of spare lamps at the station.

Number of spare-lamp burners at the station.

TOOLS, IMPLEMENTS, AND ACCESSORIES.

Lantern curtains.

Lens covers.

Damper tube and key.

Spare damper and key.

Carillon, or alarm bell, for overflow lamp.

Time marker for revolving light.

Gauge (250-gram measure) for regulating the overflow of oil through burner.

Spare lamp ready for use.

Rod lamp ready for use.

Curtain-hanger for putting up and taking down lantern curtains.

Heater, (if required.)

Spare-lamp cover.

Lamp stand.

Mechanical lamp cords or chains.

Revolving machinery cords or chains. 1 in use, of wire rope

Revolving machinery weights. Cast iron - 1 1/2" in diam, by 2" in thickness

Clutch for resting weight on.

Spare fly or governor.

Gauge for oil cistern of lamp.

Feather brushes.

Linen towels.

Sponges.

Chamois skins.

Scissors.

Chimney-lifters.

Coupling-plyers.

Service basket and implements.

Cleaning materials.

Keeper's aprons, &c., (see list.)

CLOSETS IN TOWER.

How fitted and used. Seven - fitted with shelves and hooks.
Three Closets in first Story, in brick lining of tower, fitted with three shelves, 13 1/2 inches deep and 3 ft. in width.
Two Closets in 2d Story, fitted with three shelves (each) and hooks.
Two Closets in 3d Story, fitted with three shelves (each) and hooks

OIL ROOM OR CELLAR.

Describe where placed and how fitted. Oil room spaced partitioned off in Cellar under fog signals and fitted with shelves.

Regulation 100-gallon oil butts—number.

Regulation 50-gallon oil butts—number.

gallon oil cans—number.

Oil butts—how placed.

CLOSETS AND STORE-ROOMS.

Where placed, how fitted and used. Closets in tower used for this purpose- Closets in first story of tower used for Kitchen purposes, 2d & 3d story Closets for use of Principal and two Assistant Keeper's.

Cupboard 4 ft. in width, 8 ft. in height and 1 foot in depth placed in 4th, story for Keeping Brushes, wicks, Chimneys, &c.

Damp or dry, suited or unsuited to the purposes for which they were designed. Suitable.

FOG SIGNAL.

Describe in detail, embracing—

Kind and character of instrument. 10 inch whistle and machinery in duplicate, Locomotive Boiler and vertical Engines-

Characteristic distinction. Blasts of 5 seconds duration, followed by an interval of 25 seconds.

Location, with reference to the light-house, to a particular danger or channel, or to the special object for establishing it. Situated North of Light-house with special object of warning vessels of Bar Point Shoals entering and leaving Detroit River, Mich

Distance from the light-house. 2½ feet

Water supply for it. Lake, and water tank (of boiler iron) resting upon boilers.

How it is reached from the light-house.

Kind and size of fog-signal building or buildings. Fog signal house of Corrugated iron, painted brown, 22'×30', built of 6"×6" studding, 2" planking placed diagonally outside and ceiled with 1" flooring inside, roof and sides covered with Corrugated iron, inside lined with sheet iron and painted light color, walls filled with lime and saw dust - windows provided with shutters, floor of Concrete and cellar underneath, arched with brick.

DWELLINGS FOR KEEPERS.

Location, with reference to the light-house tower. in tower

Materials of which built.

Number of rooms in each dwelling.

Number of keepers and assistants to each dwelling.

Out-houses.

Paths or walks on the premises.

Area of premises enclosed, and how.

Area of garden.

Area in timber or shrubbery.

Area susceptible of profitable cultivation.

Area cultivated or prepared for cultivation.

Character of adjacent surrounding country—soil sandy, clay, marsh, swamp, wood, fast ground, or shifting sands.

Distance to the nearest post office. Amherstburg, Ont. seven miles.

Distance to the nearest village or town. Amherstburg, Ont. seven miles.

Facilities for reaching the light-station by public conveyance. None-

Facilities for reaching the light-station by private conveyance from the nearest village, town, railroad station, or steamboat landing, and the distance. by boat from Amherstburg, Ont.

WATER FOR DRINKING AND DOMESTIC USES GENERALLY.

How procured. from Lake

Quality.

Quantity ample or not for the station at all seasons of the year. yes

Liable or not to be injured by the inroads of storm tides and seas. No

If rain water in tanks or cisterns, what precautions have been taken to insure its purity. None.

Capacity of tanks or cisterns and where placed. None

Tanks or cisterns—of what materials made. None

If from a well, describe and give depth.

Diameter.

Lined or not.

Water obtained by pump ~~or~~ and bucket. from Lake

Distance from keeper's dwelling.

HEALTH OF THE LIGHT-STATION AND VICINITY.

General opinion in regard to the healthiness or unhealthiness of the light-station and vicinity.

Diseases—what are most prevalent at the station and in the vicinity.

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

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

Would draining or other artificial means employed on the light-house premises be likely to improve the sanitary condition of the light-station?

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

Describe. Stone Pier 85'+43'6"

Boat cranes- One on the South-west Angle of the pier seemed to tower and one on the north west Angle seemed to Hog signal house.

MISCELLANEOUS REMARKS UPON THE GENERAL CHARACTER AND CONDITION OF THE PREMISES, TOWERS, BUILDINGS, AND ILLUMINATING APPARATUS AT THE DATE NAMED ABOVE. The location is in Lake Erie, at the mouth of the Detroit River in 22 feet of water, 6 1/4 miles below Bois Blanc light, and 2 3/4 Ch. miles East of Point Mouillee which is the nearest point.

The pier is composed of a crib built of 12" by 12" timber filled with Concrete. It is faced with cut-stone masonry from 4 feet below to 11 ft. above the water-line.

The form of pier is an irregular hexagon.

The elongated sides facing East and west and angles of 90° north and South.

The dimensions of substructure are 90' ~~x 40~~' extreme length and 45' in width.

The tower is located on the South end being a frustrum of a cone 32 ft. high forming 4 stories surmounted by a main gallery deck, a cylindrical watch room, 10 ft. in diameter, and 8 ft. high, and a lantern of decagonal form all of Cast iron. There is a cellar 16 ft. diameter and 7 ft. deep, having a 12" brick wall laid in cement and having a 6" air space between it and the concrete, and a Center pier supporting the Cast iron floor plates and the Center Columns forming the Chimney.

The three lower stories are lined with a brick wall 13", 9" and 4" thick respectively laid in cement and plastered with same forming rooms 18 feet diameter. The fourth story is lined vertically with 7/8" ceiling also the watch room and lantern panels.

The fog signal house is located on north end of pier within 2 1/2 feet of tower. It has a coal cellar 14' wide by 19' long which contains the oil room.

The signal house proper has a duplicate set of fog whistle machinery consisting each of a 30 horse power locomotive boiler, a 4 by 9 vertical engine, whistle gear and valves, force pump and inspirator: Also a water tank of 80 cubic feet capacity, sufficient to fill one boiler with water; besides the above a 3" hand force pump with 50 ft. of hose and nozzle, a vice, bench with two drawers, and a coal box 3 ft. wide 6 feet long and 5 feet deep covered with iron, Complete the outfit.

A water closet 3' x 5' is located in north East corner of the house, furnished with a "Brick", hopper, flushed from tank, a 6" wrought iron soil pipe receives the blow-off of the two boilers to cleanse the same.

Facing the South-west angle of the pier, a boat crane is attached to the tower and one to the signal house facing the north west angle.

Two wrought-iron landing ladders located beneath the cranes furnish access to the pier for small boats.

The pier is enclosed with a railing composed of 2" wrought-iron pipe and with detachable chain-railing in the vicinity of the boat cranes, 8 hawse-chocks, and six iron snubbing posts are located in the most suitable position.

The top of pier is furnished with a block-stone (8" x 14") face Belgium pavement; all seams of pier and pavement pointed with Cement mortar.