Falmouth's Historic Pumping Station

Matthew A. Kierstead

The Falmouth Pumping Station at Long Pond was designed and built in 1898. One hundred years later, this handsome structure still stands and still draws water from Long Pond for public use. It has just been listed on the National Register of Historic Places.

The pumping station is a classic example of late 19th century public architecture and it looks historic even to the untrained eye. However, a building must meet specific architectural and/or historic criteria to be listed on the National Register of Historic Places. Ann Sears of the Falmouth Historical Commission did the basic research and completed the survey form to qualify the pumping station for consideration by the Massachusetts Historical Commission.

Matthew A. Kierstead of the Public Archaeology Laboratory, Inc. in Rhode Island prepared the actual nomination of the Falmouth Pumping Station for the National Register of Historic Places. As a specialist in industrial architecture and history, he was able to give a scholarly assessment of Falmouth's hundred year old pumping station. This article uses the description and statement of significance written by Mr. Kierstead for the nomination.

The Falmouth Pumping Station complex, a late 19th century pumping station with early and late 20th century ancillary structures, possesses integrity of location, design, materials, workmanship, and association. The pumping station is significant as an intact, well-detailed example of the waterworks archi-

Looking northeast across Grews Pond to Pumping Station with new round chlorination tank on left. Photo by Matthew A. Kierstead, March 1997.

tecture of Boston architect Ernest N. Boyden. It is also significant as evidence of the civic and technological response to the growth of the town of Falmouth during its greatest period of expansion. Included within the boundaries of the nomination are two contributing and two non-contributing structures: the 1898 pumping station, the 1932 stock house/garage, and the 1993 low-lift pump and water treatment building and chlorination tank. The period of significance of the Falmouth Pumping Station complex spans from 1898 when the pumping station was built to the present. The Falmouth Pumping Station complex meets criteria A and C of the National Register of Historic Places at the local level.

Exterior detail, pump room arched window. Photo by Matthew A. Kierstead, March 1997.

The Falmouth Pumping Station complex is an 8.4-acre area located approximately one mile north of Falmouth Center on the east side of Palmer Avenue (State Route 28). All buildings and structures are located on Pumping Station Road, a narrow, paved, restricted-access road that leads east into the park from Palmer Avenue. The stock house/garage (1932) is located approximately 100 feet north and east of the entrance gate. The chlorination tank (1993), the low-lift pump and water treatment building (1993), and the pumping station (1898 et. seq.) are located approximately one-quarter mile further east, where Pumping Station Road crosses a narrow isthmus between two glacial kettle ponds, 218-acre Long Pond to the north, and 12.5-acre Grews Pond to the south.

The setting around the two ponds is mostly wooded. Pumping Station Road begins at a small, informal, modern gate on Palmer Street, flanked by two cast iron fountains moved from previous Falmouth locations. A large paved area separates Pumping Station Road from the stock house/garage to the north. Goodwill Park extends to the south edge of the road, with lawns, trees and parking areas. The road turns northeast through a wooded area, and down a small hill to the pumping station complex. The buildings and structure are in a clearing at the west end of the isthmus, surrounded by closely-mown grass and a few small deciduous trees. Some evidence of a historic landscaping scheme is evident, including possible remnant plant species. Contributing structures in the form of fieldstone retaining walls and steps are located along the north and south banks of the isthmus. The road is closed and no longer paved east

Drinking fountains were not installed in schools until a doctor campaigned vehemently for them in the early 20th century. The following story about the Woods Hole School appears in Woods Hole Reflections: "Prince Crowell used to tell that his sisters were forbidden by their mother to take a drink of water in school because it was served by the janitor from a bucket with a common dipper for drinking, and some of the children poured back any water they did not finish. Clearly, Mrs. Crowell was an early believer in the germ theory; this was circa 1894."

A vanished age is evoked by early Town Reports which itemize the labor and material costs for replacing leathers, leathering boxes and stuffing boxes, for clearing out troughs, for replacing galvanized dippers and chains and for buying new agate cups. In 1884, a new well was driven in Quissett at a cost of $217.46. In 1891, the town bought a No. 2 Douglass pump and brass fittings for the Quissett pump. In 1894, Nickerson Bros. installed a 22 foot log pump in West Falmouth for $22.00 and a 20 and one half foot log pump in North Falmouth for $20.50.

Clarence J. Anderson vividly describes the residential well of his childhood in *The Book of Falmouth.* "Winter months imposed particularly severe hardships. Picture, for example, the difficulties encountered in obtaining fresh water for drinking, cooking, washing, even as late as 1920-1922, when I was a lad of eight or ten. My father, a carpenter by trade, would be out working, if and when he could find work that could be done at that time of year. My mother would take a tea kettle of hot water from the black iron coal and wood stove, wood being our usual fuel. Bundled in heavy clothing, we would stumble out into the snow and down the hill to our driven pipe well with its pitcher pump. Hot water from our tea kettle would thaw out the pitcher pump, and by pumping rapidly without interruption, we would fill our three or four buckets with water. Immediately we had to release the pump before it froze up. Should one fail to do this, there would be no way to get water the next day. Worse still, if the pump froze up and cracked, it would be useless and there would be little money to buy a new one. Although my mother was a slim, delicate person, I can remember that when I was very small she would then carry two buckets of water and I would carry one back up the hill to the house about 300 feet from the well. By the time we got into the house the water at the top of the buckets often was frozen over.

"This laborious process for obtaining household water had been used by the Bartlet Holmes family who occupied the house before us, and indeed dated back to Civil War days when the driven well was invented. It was but small improvement over the dug well in the 1600-1700 days of Jonathan Hatch and his contemporaries. In these earlier times, the well was dug all the way down to water and walled up with stone. From a small covered well house a bucket would be dropped down the well on a rope and pulled up by hand."

Whether dug or driven, all the wells in town were designed to draw up the groundwater that permeates Falmouth's glacial soils at relatively shallow depths. The groundwater is continually being recharged by rain and snow. If it is not drawn up by wells or by plants, it pushes slowly through the aquifer, seeps in and out of kettle hole ponds, flows down small rivers and eventually emerges into the surrounding ocean.

Towards the end of the 19th century, owners of the new summer mansions and private summer resorts began to install water towers and water pipes to provide limited indoor plumbing and slightly more effective fire protection than a bucket brigade from the nearest pond.

of the pumping station. A public beach located outside the complex on the south shore of Grews Pond is visible from the isthmus.

Prior to the establishment of Falmouth's water supply system, residential and public water came from open, and later, hand-pumped wells. In 1896, Falmouth operated seven drilled, hand-pumped public wells located at village intersections, town hall and the schoolhouses.

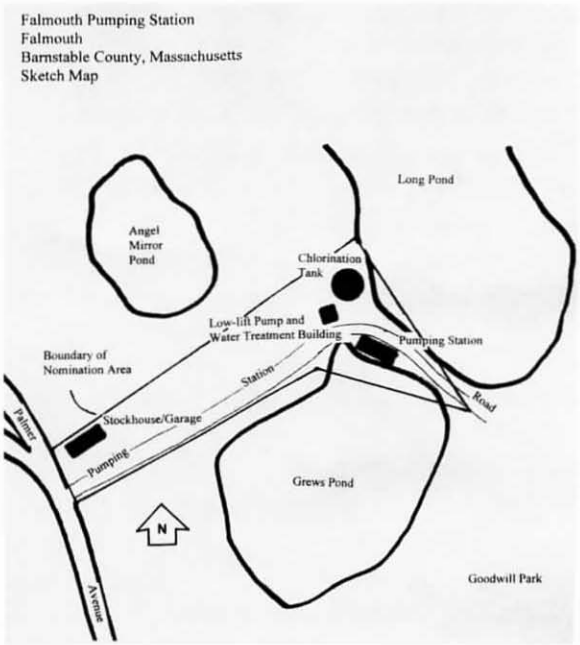
In 1897, fires suffered by the wealthy owners of new summer homes prompted the town to purchase a fire engine with tank and ladder. But the voters were still unwilling to bond the town to create a water department, believing their well-drawn system adequate.[1]

In the early 1880s, several Massachusetts towns had begun to construct large, steam-engine-driven, pumped water supply systems with underground street mains and hydrants which greatly improved their fire-fighting abilities. At this time fire insurance companies raised their rates 25 to 100 percent for businesses and industries in some communities that were not connected to a source of water adequate to fight a fire.[2] The pressure was growing on Falmouth to secure a safe, reliable pumped water supply. On February 18, 1898, the Massachusetts Legislature approved an act to create a privately held water supply system and the Falmouth Water Company was incorporated "for the purpose of supplying the inhabitants of Falmouth with water for the extinguishment of fire and for domestic, manufacturing, and other purposes."[3]

The new company was organized by summer residents Robert Bleakie, president, and John S. Bleakie, treasurer. It had capital stock fixed at $75,000. Directors of the company included William H. Hewins, who was also the Town Clerk of Falmouth, George Dean, who was also the Treasurer of Falmouth, and Horace S. Crowell. George Dean later became a Falmouth Water Commissioner. Phineas W. Sprague served as the clerk.

The company chose Long Pond for its water supply. Long Pond is spring-fed, without inlet or outlet, and is one of the deepest bodies of water on Cape Cod. Its watershed has been protected for more than a century.[4] Water was drawn from a 12-inch diameter suction pipe in Long Pond. At first, the State Board of Health had advised using a series of seventeen 18- to 60-foot deep wells driven on the isthmus between Long Pond and Grews Pond. This arrangement was only used for a short time because the analyses of the water showed the presence of much iron.[5]

The proposed pumping station would be the most visible element of the new water supply system and



Historic view of Falmouth's 100 year old Pumping Station with its original large brick chimney on the north side. Reproduced from an old photograph by Matthew A. Kierstead, March 1997.

would also be a major scenic element of Goodwill Park. The organizers of the Falmouth Water Company wanted it to demonstrate the town's good taste and civic pride, just as other municipal buildings of the era did.

They chose architect Ernest N. Boyden (1852-1918) to design the architectural plans and specifications of the pumping station. He was the son of Elbridge Boyden, the Worcester architect who had designed the Falmouth Heights Summer residential development, including its water supply system, in the early 1870s.[6] Except for several Boston residences, Ernest Boyden is little-known. However, he did design several other Massachusetts municipal water pumping stations, including those in Dedham (1881), Wellesley (1884), Middleborough (1885, National Register 1988), Ware (1886), Methuen (1893), and Billerica (1898).[7] Boyden's waterworks style can be described as Queen Anne, with elements of both the shingle and Richardsonian Romanesque. Like his other Massachusetts pumping stations, the one at Falmouth is characterized by massive, pyramidal hipped roofs, brick walls, multiple arch windows, prominent roof ventilators, and use of simple decorative details.

Construction of the water works and pumping station was overseen by John T. Langford, an engineer from Newton. The original system cost $137,939 to install. It had 16 miles of cast iron water main pipes and 97 hydrants. The Falmouth water system eventually included several cylindrical, raised standpipes. These were large-capacity reservoirs made of steel or concrete and built on high ground in population centers far from the pumping station. Water was first pumped to the tanks and then distributed to customers, ensuring constant high water pressure even at times of high demand. The pumps at Long Pond did not have to cycle on and off to meet demand but could work steadily overnight to fill the standpipes for the next day.

Standpipes have been constructed at five locations since 1898; four now stand at three of these locations. The first standpipe was built in Quissett as part of the original 1898 Falmouth Water Company infrastructure. The Quissett standpipe was overhauled in 1905 and replaced in 1966. In 1904, a steel tank standpipe was installed in West Falmouth as part of the extension of water service to that area. This standpipe was subsequently demolished and replaced by the 1914 concrete standpipe and the 1954 steel standpipe now standing. The Woods Hole standpipe was constructed in 1927[8] but was apparently deemed aesthetically unpleasing by neighboring citizens and retrofitted with an ornamental brick

veneer shortly after construction.[9] This structure, long a landmark for local boaters, was decommissioned in 1996 but left in place. A standpipe was built in Waquoit in 1946, but has since been torn down.[10] The Industrial Park standpipe was built in 1991. No standpipes are included in the nomination for the National Register of Historic Places.

In 1900, after less than two years of operation, a major event took place in the history of Falmouth's water supply system. The legislative act that created the company included a provision that the Town of Falmouth could purchase the water works at cost from the Falmouth Water Company at any time. In 1900, Falmouth town meeting voted to exercise this option, forming a committee to negotiate the price. The Falmouth Water Company placed an inflated valuation on its works and the two parties were unable to come to an agreement for two years. The issue was brought to court, and Falmouth eventually paid $158,291.10 for the entire system.[11]

The first Falmouth Water Commission was formed on June 16, 1902, with James T. Walker, John H. Crocker, and George E. Dean as commissioners. However, according to the Massachusetts Acts of 1902, Chapter 331, which allowed for the transfer of the water system, the Falmouth Water Company was allowed to retain all bills and books. This left the new Falmouth Water Commission without important planning and technical data needed for optimum service and successful maintenance.[12, 13]

The first few years under the new Falmouth Water Commission saw repairs and improvement to the physical plant and extension of water mains to serve growing areas of the community. The first *Annual Report of the Falmouth Water Commission* for 1902 stated that the Pumping Station boilers were "of doubtful age" and in need of replacement, that the pumps were unreliable and, "We deem it necessary to provide some means of filtering the supply."[14] The water commissioners also warned that, "With the addition of the West Falmouth extension to this system it appears to us necessary that the town adopt the meter system."[15] In 1903, the Town purchased the Falmouth Heights Water Company for $5,059.40.[16] In 1904, money was appropriated to extend mains and water service to Falmouth Heights. In 1905, the steam engines and pumps at the pumping station were refitted.

The first major exterior change to the pumping station building occurred in 1903. The steam engines and pumping equipment required the constant attention and presence of an engineer to oil and check the machinery and fire the boilers. When first constructed, the only space for the Falmouth engineer and his wife was a seven-foot high plank partition which provided a 9-by-27-foot space for sleeping, sitting, cooking, and eating. This space included neither sink nor chimney, and cooking was done on a kerosene stove. In 1903, the Town water commissioners saw that this situation was unreasonable, and obtained plans for the engineer's dwelling from

Pumping Station with its modern brick wing added on the north where a large brick chimney once stood. On the south side a brick, stone, and wood shingle extension was built in 1904 to house the engineer and his family. Photo by Matthew A. Kierstead, March 1997.

Ernest N. Boyden. The commissioners said that "These plans, while providing all the necessary conveniences for comfortable living, do not detract from the architectural beauty of the pumping station building."[17]

The subsequent evolution of the pumping station was in response to increasing demand for piped water in Falmouth. In 1912, the original 1898 steam pump was replaced by a new Davidson steam pump with the capacity to pump two million gallons per day. This pump lasted until 1931, when it was removed in favor of a 2.5 million gallon-per-day 1928 Worthington steam pump supplemented by two auxiliary Sterling gasoline-powered pumps. In 1921, higher-capacity boilers were installed, requiring the construction of a large brick coal bunker with cast concrete exterior buttresses on the west elevation of the pumping station. This structure and the adjacent square, corbeled, brick chimney were demolished in about 1956. The Worthington and Sterling pumps were then removed in favor of an all-electric water pump system. The current pump building was constructed in its place in 1956; it currently houses operating electric and standby diesel pumps.[18,19] In 1932, the garage/stock house building was constructed to house Water Department service vehicles, pipes, valves, and equipment.

Exterior detail, keeper's house, looking southwest. Photo by Matthew A. Kierstead, March 1997.

In 1900, the town's population was 3,500; by 1925 it had risen to 4,694. In 1948, the water system included 120 miles of water mains and supplied roughly 2,600 customers, half of which were summer-service only, a testament to the significance of the seasonal population.

In 1933, Falmouth switched from flat-rate water charges to a metered system. During World War II the system was chlorinated for public safety. Low pressure during periods of peak demand led to the construction of the 250,000-gallon East Falmouth elevated tank in 1946. The most obvious recent change to the pumping station site is the 1993 installation of the low-lift pump and water treatment building, and associated chlorination tank. As Falmouth's population has grown, three additional wells, located at Fresh, Coonamessett, and Mares ponds, have been installed to meet the added demand for water.[20] An earlier well installed near Ashumet Pond has been closed indefinitely because a plume of polluted groundwater is moving through that part of the aquifer. The Falmouth pumping station, drawing from

two suction pipes in Long Pond, continues to supply the town of Falmouth with fresh drinking water.

Architectural Description of Buildings In the Pumping Station Complex

The Pumping Station designed by Boston architect Ernest N. Boyden is a roughly 160- by 50-foot, irregularly shaped building oriented on an east-west-axis. The building consists of three major attached sections, the steam engine/water pump room and boiler room (1898) at the center, the engineer's dwelling (1903) on the east, and the pump building (1956) on the west. The steam engine/water pump and boiler room section measures roughly 70- by 45-feet, and is a one-and-one-half-story, brick-walled, four-bay-square Queen Anne building with a hipped, shallow-pitch slate roof with a short east-west ridge, and a lower, hipped, slate-roofed extension to the east. The roofs have copper flashing at the ridge and peak lines. The main roof ridge is capped by an elaborate cupola with a flaring, square, slate-sheathed base and turned wood columns supporting a bell-shaped slate cap, which shelters a louvered attic roof vent. The front (north) elevation is four bays wide, and includes, from east to west: a pair of four-over-four, double hung, wood-sash, segmental arch windows located high on the wall; a pair of larger, six-over-six, double-hung, wood-sash, segmental arch windows with a band of lights above the moving parts of the windows; replacement steel double doors under an entrance-width, multi-pane, wood sash arch window; and another pair of windows similar to those to the east of the door. All sills are narrow, quarry-faced granite. The south elevation includes, from west to east: two square, multiple-light, replacement steel-sash windows with quarry-faced granite sills, located in former arched window openings, with arches bricked in above. Two small modern, metal louvers are located high on the wall. The most elaborate feature of this elevation is the steam engine/water pump room elevation, at the east end of the elevation. This assemblage consists of a wide, arch window opening with a wide band of quarry-faced granite keystones, containing a wood-framed window assembly with paired one-over-one windows at the center, and flanking panes cut to follow the arch. This window is flanked by a pair of wall-high rubble piers that support a windowless dormer with a wide, overhanging gable with a shingled pediment. This entire feature is in turn flanked by a small, segmental arch window with a quarry-faced sill, located high on the brick wall. A deteriorated wooden basement bulkhead is located just west of the east pier. The west elevation consists of a short, narrow, brick, connecting hyphen to the Pump Building and the east elevation blends into the engineer's dwelling.

The interior of the steam engine/water pump room is essentially original, and consists of one large open room. There are large concrete bases and pits for the original steam engines and associated equipment, now removed. The walls are brick with rounded bricks lining the large window arch. The eaves rise, expressing the roof angle, and join the flat ceiling, which is supported by a pair of east-west oriented, massive timber, queen post trusses with chamfered members. The eaves and ceiling are plastered, and the trusses rest on corbeled brick brackets. The boiler room consists of one large open pump room, a small office located in the northwest corner, and a toilet and sink located in a small room in the northeast corner. Two new electric water pumps are mounted on concrete pads. The roof trusses have been covered by a hung ceiling. The only engineering feature of note is the original white marble gauge panel with four gauges, which has been moved from its original position and is now used for display purposes in the new pumping station office. Replacement electronic

monitoring equipment is mounted against the south and east walls of the boiler room.

The engineer's dwelling is a roughly 40-foot-square, complex-plan structure that was added onto the east end and northeast corner of the steam engine/water pump room in 1903. The building is roughly rectangular, is sheathed in wood shingles, and has flat, conical, and hip-roofed sections. The building can be divided into three components, each with a distinctive roof form. The front (north) and entrance section of the building consists of a prominent entrance porch with glacial granite boulder piers and foundation walls consistent with the exaggerated Richardsonian rustication incorporated in Queen Anne and Shingle-Style architecture of the time. The wide steps are flanked by rubble piers with bush-hammered granite capstones, as are the sills between the porch posts. Three wood plank steps lead to a deep, wood-planked porch, with a shingled back wall. Directly opposite the steps is the doorway to the steam engine/water pump room, which consists of large paneled wood double doors with multiple-light windows, with heavy wood screen doors, and a five-light transom. To the east of this entrance is located a large, six-over-one, double-hung, wood-sash window. At the east end of the porch is the west-facing entrance to the parlor, a painted, paneled wooden door with a modern screen door. The porch roof is sheathed in black slate, and its shallow angle intersects the steeper pitch of the adjacent boiler room roof. The north-facing porch wall swings to the east in a broad 90 degree curve, and the rubble foundation, granite capstone, shingle wall, and bracketed soffit all follow this curve, as does the slate roof, which adopts a shallow conical form over the east end of the parlor. The curved shingle wall contains two six-over-one, double-hung, wood-sash windows. The rubble foundation contains a single basement window opening with a granite lintel.

Interior detail of pump room showing queen-post roof truss and arch window. Photo by Matthew A. Kierstead, March 1997.

The porch/parlor section wraps around to connect with a section with a shallow-pitch slate roof and wood shingled walls. From east to west, this elevation contains a small, two-over-two, double-hung, wood-sash window high on the wall, and a four-over-four, double hung, wood-sash window to the west. A tall, corbeled, square, brick chimney rises from the roof over this elevation. The east elevation contains a single pedestrian entrance with a paneled

Pump room as it looks today. Photo by Matthew A. Kierstead, March 1997.

wood door with a top pane, and a modern screen door. This door leads out to a large poured concrete porch slab. South and east of this last section, and the porch, is a long, four-by-one bay, flat-roofed section with a high rubble foundation, wood shingled walls, and an overhanging slate roof with painted wood soffits, eaves, and brackets. The south and east elevations contain, respectively, four and one, six-over-two, double-hung, wood-sash windows, and the foundation is broken once on each of these elevations for a basement window, now blocked off. The interior of the engineer's dwelling is accessed by the front door at the east end of the front porch, which leads to a small parlor/office with a fireplace and wood trim around the windows and doors. The interior floor plan is unmodified, and includes a kitchen, bathroom, three bedrooms, a pantry, and a linking hallway, most of which have been remodeled for office space.

The pump building is a one-story, four-by-three-bay, brick, flat-roofed building with a concrete foundation. The east bay of the building is several feet taller than the remainder of the building, and a short, square, brick chimney rises from the roof near the south edge. The front (north) elevation includes, bay-by-bay, from east to west; an aluminum-framed plate glass pedestrian door set in a recessed brick panel, two sets of painted metal louvers, and a 15-light, steel-sash window. The west elevation includes, from north to south: a 15-light, steel-sash window; a painted metal louver, and a large double-width equipment access door. The south elevation, from west to east, contains two 15-light, steel sash windows, a painted metal louver, and three more 15-light, steel-sash windows. Trim includes brick sills, the shallow north entrance recess, and subtle corbeling at the roofline. This building is connected to the steam engine/water pump and boiler house building to the east by a modern, narrow, recessed, short brick corridor hyphen with a slightly corbeled roofline. The interior is utilitarian, and houses electric and backup diesel water pumps.

The low-lift pump and water treatment building (1993) is a single story brick structure with a shallow-pitch, asphalt-shingled gable roof. The elevations typically contain a single steel pedestrian door, a larger steel loading door, and ventilation louver.

The 1 million gallon chlorination tank (1993) is a massive, squat, cylindrical reinforced concrete tank with a shallow domed top. It is decorated with simple concrete pilasters and a concrete band around the top of the tank, which is finished in a two-tone, light stucco coating.

The stock house/garage consists of two attached sections, the 1932 stock house to the west, and the garage to the east. This structure faces Pumping Station Road, from which it is set back approximately 100 feet adjacent to a paved parking lot. The stock house is a 60- by 30-foot, six-by-two-bay, one-and-one-half-story structure with rusticated cast concrete block walls and an asphalt-shingled, side-gable, timber-framed roof. The south elevation is dominated by three large, gable-roofed dormers that extend south from the main roof ridge, with each containing paired, double-hung, six-over-six light, wood-sash windows. A small brick chimney rises from the north roof plane near the ridge toward the west end. The front, south elevation includes, from west to east: two sets of paired, double-hung, six-over-six light, wood-sash windows with cast concrete lintels and sills; a pedestrian entrance with a paneled wood door; a single window, similar to those previously described; two paneled, roll-type wood garage doors, each with a band of six lights across the top; and another single window. The west elevation of the building includes an exposed concrete foundation, with three six-light, wood sash windows illuminating the basement. The tall, square window openings are blank on the bottom half, and contain a fixed, eight-light strip window above an intermediate sill. The gable is shingled, and contains a paired set of double-hung, six-over-six light, wood-sash windows, and painted wood rake trim. The rear (north) elevation contains six tall, square window openings, blank on the bottom half, containing a fixed, eight-light strip window above an intermediate sill. The east elevation is connected to the lower garage structure, the only detail being a small, square, louvered vent in the peak of the gable end. The first floor interior is divided into two open vehicle bays to the east, and an employee locker room to the west. The second floor is used for water meter testing and parts storage.

The garage section is a 70- by 27-foot, five-by-three-bay, single story, wood-framed, wood-shingled structure with a shallow-pitch, asphalt-shingled, end-gable, timber-framed roof. The front (south) elevation is dominated by five paneled, roll-type wood garage doors, each with two bands of six lights across the top. The north and east elevations contain five and three six-light, fixed, wood-sash windows respectively. Trim includes painted rake and corner boards, and exposed rafters on the north elevation.

Notes

1. Wells 1968:3.
2. Stott and Friedberg 1988:8-1.
3. Anon. 1948.
4. Smith, Mary Lou, editor, *The Book of Falmouth*, A Tricentennial Celebration: 1686-1986, Falmouth Historical Commission, Falmouth, MA 1986. "A glaring omission in the [1904 report on public lands] would appear to be Goodwill Park, 70 acres of underbrush and woodland near Long Pond, a gift in 1894 from Joseph Story Fay. But Goodwill Park was a state reservation 'open for horseback riding and walking,' held in trust for the town. It was not until 1948 that town meeting voted to take the park, by then almost 90 acres, from the trustees - for $4000. Mr. Fay's gift was later rounded out to 109 acres with land around Grews Pond presented by his son and daughter, Henry H. and Sarah B. Fay, and by the heirs of Elijah Swift." (Margaret Hough Russell p.134).
5. L.W. VanKleeck, May 1928:1.
6. Smith, op. cit. Kevin Smith, p. 206.
7. Massachusetts Historical Commission: Various.
8. Raymond Jack, Falmouth Utilities Manager, oral communication April 1998.
9. Sears, Ann 1996.
10. Kenneth Ventura, Falmouth Water Department, oral communication 1997.
11. L.W. VanKleeck, op. cit.
12. Bleakie 1902:1-22.
13. Falmouth Town Report 1902:71-73.
14. Ibid. p.72.
15. Ibid. p.72.
16. Falmouth Town Report 1903:93.
17. Falmouth Town Report 1903 p.96.
18. Anon. 1968:1-2.
19. Kenneth Ventura, op. cit.
20. Kenneth Ventura, op. cit.