

**HERITAGE DESIGNATION REPORT
GANANOQUE WATERWORKS PUMP HOUSE, 110 KATE STREET, GANANOQUE,
ONTARIO**

Author: Edgar Tumak, 2009; revised 2020



Figure 1: Gananoque Pump House, viewed from the east, with the northeast/Kate St. elevation on the right, and the southeast elevation (towards Water St.) on the left (photo E. Tumak, Oct. 2009).

**STATEMENT OF REASON FOR
DESIGNATION**

The Gananoque Waterworks Pump House (110 Kate Street), constructed 1903-05, and an adjoining 1925-26 addition providing accommodation for a resident engineer on the northwest, is proposed for designation under the Ontario Heritage Act for historical, architectural and contextual criteria.

Constructed as Gananoque's first initiative with municipal waterworks, the building illustrates a major development in the provision of core utility services by the municipality.

The original section, designed by engineer Willis Chipman—an engineer of national significance, and constructed by the Gananoque firm controlled by R.J. Wilson, stands as a leading example of industrial architecture in Gananoque—both for its original function and excellent aesthetic qualities featuring a loose interpretation of the Renaissance revival style with Flemish influences.

The sandstone building is in an excellent state of preservation and there have been very few alterations to the original design. Of note are a number of windows which remain with their original wood frames and glazing bars.

The building retains its waterfront presence, amongst marina, wharf and boating facilities—many still accommodated in older structures, which are in keeping with the original scale, function and environs of the Pump House.

The designation does not cover the 1955 addition.

HISTORY

Trends

The construction of the Pump House in 1903-05 marks the creation of the first municipal waterworks system by the town of Gananoque. This project included a large water tower on the old Market Square (near the extant Clock Tower off Stone Street), along with water mains and hydrants in the central areas of town.¹

¹ Tony Lever, Gananoque LACAC, "The Pump House: Criteria for its Designation, n.d., Town of Gananoque heritage research file.

The provision of clean, safe and reliable water supply in Canadian urban centres became increasingly important by the mid-19th century, to address a number of critical issues, notably: fire protection; prevention of serious health issues from water borne diseases (such as typhoid and cholera) in ground water and wells polluted by industrial, household and human waste; a fundamental change in the way governments viewed their responsibilities in matters of public health and safety; and the need to facilitate development. Without a water system in a municipality, growth was hampered not only by the services available to people or industries wishing relocate or expand, but also from financial incentives from insurance companies. As early as 1888 the American Waterworks Association reported that towns with waterworks could expect a 20-50% rate reduction for fire insurance, and by 1900, members of the waterworks industry claimed that cumulative savings on fire losses would pay for a water-supply system within five years. Almost every Canadian urban centre had one or more fires in the 19th and early-20th centuries that destroyed much of the built area. While, it was usually a catastrophe such as a major conflagration or epidemic that spurred municipalities to act, once a system was in place, it was greeted with enthusiasm—particularly when one considers that prior to plumbing, water was conveyed by buckets, and a 2-gallon (9 l) bucket weighs 16 lbs (7.3 kg).²

Prior to having a water-supply system, urban dwellers would supply their water needs by means of a well in a private backyard or on a public street, or by hauling water from a nearby pond, river or creek. The rich could buy spring water for drinking from private sellers who sold buckets or jugs from water carts. However as a community grew, many households were no longer near a supply of clean water.

While several large urban centres had provision for water service prior to the mid-19th century, many were controlled by private, not municipal interests. Typically, systems were eventually purchased by municipalities when public pressure necessitated expansions that private companies were unwilling or unable to undertake. Most North American systems built before 1920 were constructed by private companies, then expanded by municipalities after public take-over.³

The earliest extant example of a purpose-built, municipal pumping station for water-supply is in Hamilton, constructed 1857-59 (recognised as a National Historic Site in 1977). The Hamilton waterworks followed a cholera outbreak in 1854 which claimed over 500 lives—or 1 of every 40 residents.⁴ Closer to Gananoque, the City of Kingston waterworks facility, was established as a private company in 1849, by 1887 the water works was owned and operated by the city because the private company was not meeting the needs of the municipality. An 1890 reworking of the original 1850 facility, featuring elaborate exterior brick work illustrates the expansion and significance of this facility. This Kingston pump house was closed in 1952 and in 1973 became a museum organization to house steam engines—including those of the original plant. The historic waterworks facility is now operated by the City of Kingston and is now known as the Pump House Museum, featuring a range of scientific, technological and historical installations and exhibitions.

By the late-19th and early-20th centuries, waterworks had generally become a core service in urban areas, and with a population exceeding 3500 at this time, Gananoque needed to ensure safe and reliable water to its inhabitants.⁵ The creation of the Gananoque waterworks which included the Pump House occurred during a period of great municipal growth spurred by notable improvements in

² Letty Anderson, “Water Supply,” in *Building Canada: A History of Public Works*, ed., Norman Ball (Toronto: University of Toronto Press, 1988), p 196.

³ *Ibid.*, p 195.

⁴ Hamilton Museum of Steam and Technology, general brochure, 2009.

⁵ Gananoque Historical Society Newsletter, Special Ed., 1990, p. 8; Sophie Drakich, Architectural History Branch, Historic Sites and Monuments Board of Canada, Agenda Paper 1990-57, “Hamilton Water Works, 900 Woodward Drive, Hamilton, Ontario,” p. 513.

the mechanisation and capitalisation of industrial activity.⁶ This industrial growth had been gaining momentum since 1868, when members of the founding family of Gananoque, the Stone-McDonald clan,⁷ sold their water rights on the Gananoque River that had powered the town's mills of many enterprises. The rights were acquired by a group of manufacturers who formed the Gananoque Water Power Company to provide better regulation and allocation of water flow for industrial purposes.⁸ The completion of the Thousand Islands Railway in 1889 (constructed by the Rathbuns of Deseronto as a timber line to remove the cut lumber from the watershed of the Gananoque River), further promoted Gananoque as an industrial centre, as demonstrated by the incorporation of Gananoque as a town in 1890. Sizeable structures were also appearing in the downtown core, such as a tall three-storey structure at the northeast corner of King and Stone streets, called Turner's Opera House because, above the street shops and second-level offices, was a third-level entertainment hall (the building was destroyed by fire in 1909).⁹

Although not directly associated with contaminated water, a diphtheria outbreak that affected Gananoque in 1902 may have been a catalyst for the creation of the waterworks and Pump House—along with the desire to promote development. The increasing authority of provincial boards of health led to improved water supply, and by 1895 the boards of health in Ontario and Québec required that plans for water supplies and sewer systems be submitted for approval. By 1900, 235 municipalities had water supply systems, and increasingly smaller towns could afford a waterworks system because improvements in technology and engineering greatly lowered planning, construction and operating costs. Clearly, if Gananoque wanted to be competitive with other jurisdictions it had to provide this service, which was evidently recognized elsewhere because by 1910 there were 419 operational waterworks plants in Canada.¹⁰

Originally, the Gananoque Pump House, pumped water from the St. Lawrence uphill with steam engines into mains. The excellence of the design of the Pump House is demonstrated by upgrades that were later possible and the longevity of its use. The 1925-26 addition was designed to provide living quarters of the resident engineer, and corresponded to other developments in the building, such as the installation of the electric-powered pumps in 1927. The 1955 addition allowed for the installation of centrifugal pumps, and the historic component of the facility had on-going use until the late-20th century.¹¹

While the Gananoque Pump House no longer contains any equipment associated with its history, unlike the Hamilton and Kingston facilities, the structure is a relatively rare surviving example of a municipal waterworks in Canada, and is of very notable significance to Gananoque's history. With a dependable source of clean water Gananoque met the needs of its citizens and encouraged industrialization. At the same time, the Pump House steadily improved the quality of the lives of Gananoque's residents. Not only did they drink clean water but its steady flow allowed for the development of household appliances and conveniences and protected them against fire. New standards of hygiene emerged and, consequently, contributed to the health of the general population.

Events

No events of note are yet known to be associated with the Gananoque Pump House.

⁶ Edgar Tumak, Heritage Designation Report, 95 King Street West, Gananoque.

⁷ Later in the 19th century some of the family spelled their name Macdonald.

⁸ Donald H. Akenson, *The Irish in Ontario: a study in rural history*, chapter 6, "Gananoque 1849-71," (McGill – Queen's University Press, 1984 and 1999), p. 289 and 291.

⁹ Gananoque Historical Society Newsletter, Special Ed., 1990, p. 4.

¹⁰ Anderson, "Water Supply," in *Building Canada: A History of Public Works*, , p 200.

¹¹ Lever, "The Pump House: Criteria for its Designation."

Persons/Institutions

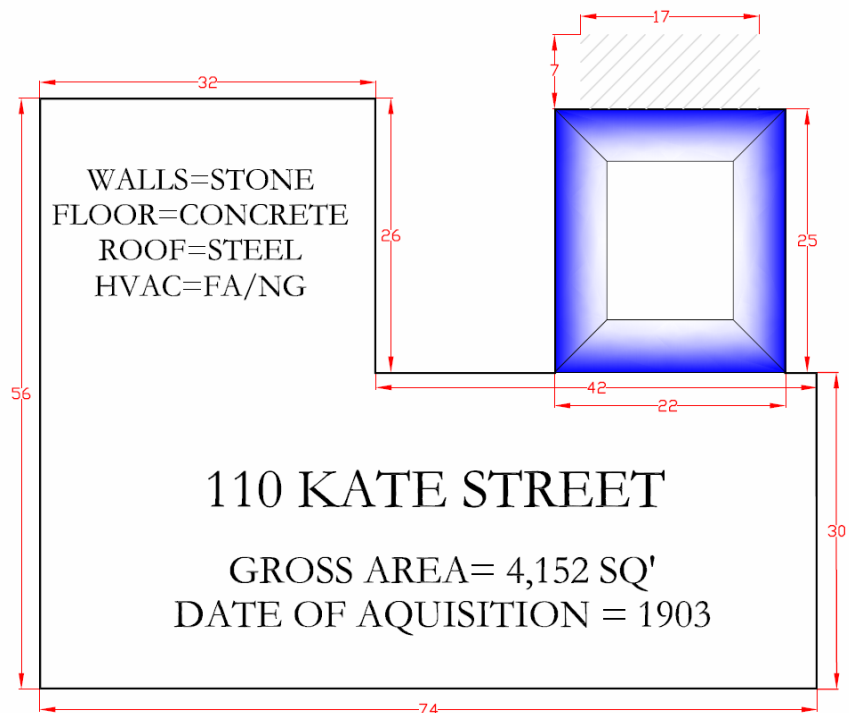
No individuals or institutions (other than regular functions associated with the municipal government and provision of utility services noted in historical trends) are known to be associated with the Gananoque Pump House.

ARCHITECTURE

Design

The Pump House is currently a U-shaped composition consisting of the original component closest to Kate Street, and the 1925-26 addition that extends from the original section along St. Lawrence Street to the northwest (marked in blue). The 1955 addition extends southwest from the southern component of the original building (Figure 2).

Figure 2: Gananoque Pump House, plan (Town of Gananoque, n.d.). The original 1903-05 northeast/Kate Street elevation is at the bottom and left, and the northwest/St. Lawrence Street elevation is at the right.



The one-storey, original building is constructed of coursed, rough-cast sandstone, with rusticated quoining at the corners, and voussoirs for the round-headed window and door openings. Two ventilation cupolas sit on the sloped roof, clad with metal with raised or standing seams. Although the current roof cladding and form is in keeping with the original covering, it is not an historic metal (Figures 1, 3-4).



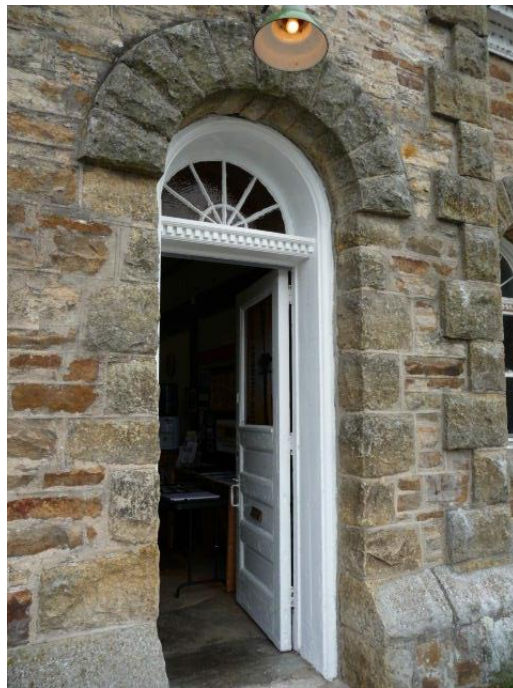
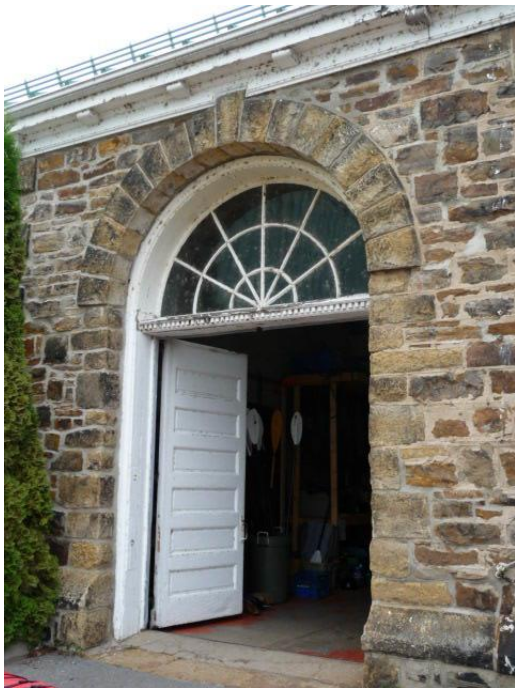
Figures 3-4: left – Gananoque Pump House, viewed from the north, with the northeast/Kate Street elevation on the left, and the northwest/St. Lawrence Street elevation on the right; right – north gable viewed from St. Lawrence Street (photos E. Tumak, July 2009).

Flemish- or Dutch-like gables create pavilions at the southeast and northeast corners, and add notable distinction to the building (with ashlar forming the bottom step of the gables). The northeast pavilion is further distinguished by the large carved inscription of “Pump House” at the gable level. Below the middle window of this gabled façade is a plaque of historical whimsy noting the landing in Gananoque of figures of great significance to the exploration and settlement of Canada by Europeans: LaSalle and Frontenac in 1673, Joel Stone in 1785 and 1792, and Gov. Simcoe and wife in 1792.



Figure 5: left – Gananoque Pump House, window detail of the northeast/Kate Street elevation (photo E. Tumak, July 2009).

Also of note are the round-headed window and door openings with pronounced voussoirs (Figures 5-7). A double service door gives access to the southeast elevation, while two standard access doors are located on the northeast elevation. All doors and windows are surmounted by fanlight transoms, and a number of



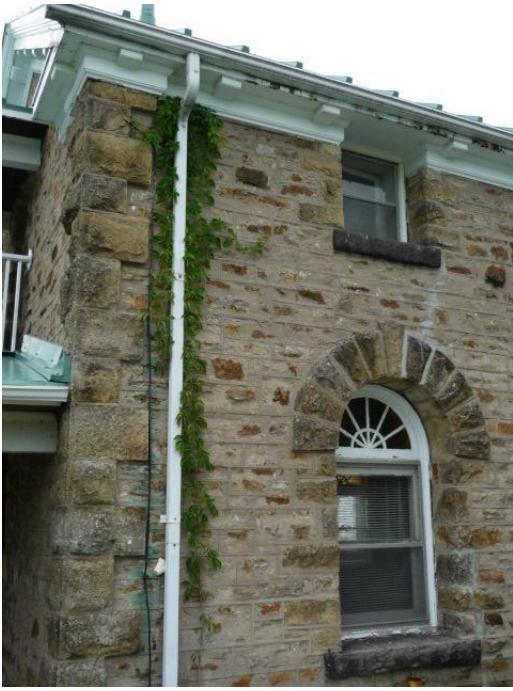
windows retain their original wood frames and glazing bars. The rail and stile construction of the doors is different between the five-panel single door at the north end, and the single and double service doors further south which do not have trim around the panels (respectively, three panels topped by glazing and six panels per door for the double service doors).

Figures 6-7: left – Gananoque Pump House, detail of the double door service entrance on the southeast elevation; right – detail of the south entrance on the northeast/Kate Street elevation (photo E. Tumak, July 2009).



Befitting a time when even industrial buildings needed to assert a significant presence if they provided a core municipal function—particularly one that showed progress, the original section of the Pump House is a very finely proportioned and ornamented composition, and constructed with excellent craftsmanship.

Figure 8: Gananoque Pump House, viewed from the northwest/St. Lawrence Street elevation on the left, the 1925-26 addition in the foreground, and the 1955 yellow-brick addition on the far right (photo E. Tumak, Oct. 2009).



The two-storey, 1925-26 engineer's residential wing along St. Lawrence Street maintains the qualities of the Pump House proper (Figures 8-9). Voussoir-topped, round-headed windows are only used for the ground level with smaller, unornamented rectangular windows vertically aligned above. These second level windows are set very high to the roof, even breaking the cornice below the eave with its small, decorative wood corbels.

Figure 9: Gananoque Pump House, detail of the side/southeast elevation of the 1925-26 addition (photo E. Tumak, July 2009).

The end façade of the 1925-26 addition faces southwest and is topped by a gable end with return eaves. It is fronted by a two-storey wood porch that provides exterior access. The return eaves replicate the less visible southwest elevation of the original section of the Pump House (visible on the right side of Figure 8). The porch is supported by columns: on the ground level these are squat, Tuscan variants sitting on stone

piers; while the second level has more recent square timber replacements. The Tuscan capital was considered one of the simplest orders and, as such, appropriate for an industrial facility.

While a distinguished design, befitting its secondary role as a residential wing, this section is less imposing than the pump house proper, and no higher than the original Pump House building. The provision of on site accommodation to ensure supervision of waterworks has precedent in other historic municipal systems, such as the Hamilton Waterworks—Canada's most distinguished historic example of such a facility. However, with the latter, the housing component no longer remains.¹²

The 1955 addition, also extending to the southwest, is clad with yellow brick (Figure 8 far right). It is a modest structure with a gable roof that makes little impact on the more significant earlier components because of its location, low profile and a roofline that does not interfere with the semi-circular window that sits in the gable of the southeast elevation of the 1903-05 section, or the wood trim of the gable eaves with the return eaves.



Figures 10-12: left – Gananoque Pump House, interior paralleling Kate Street; right – ceiling of chamber paralleling Kate Street; top of next page – detail of ceiling (photos E. Tumak, July 2009).

¹² Drakich, "Hamilton Water Works, 900 Woodward Drive, Hamilton, Ontario," p. 513.



The interior of the original building has distinguishing features, notably the chamber that parallels Kate Street (Figures 10-12). It is faced with brick and has six large circular vents cut decoratively into the wood ceiling—both features addressed the needs of the steam powered engines that provided the pumping operation. Brick was both durable and offered fire resistance for the hazard associated with steam engines, and the ceiling vents released heat and steam into the attic which was then expelled through the rooftop ventilating cupolas. In the middle of the ceiling is a trap door, surrounded by a well-defined wood frame, which gave access to the attic. None of the pumping machinery remains in this or the room adjoining to the southwest/closer to Water Street.



Figure 13: left – Gananoque Pump House, ground level interior of the engineer's residential accommodation, constructed 1925-26, looking towards the exterior entrance (photo E. Tumak, July 2009).

The interior of the relatively small engineer's quarters is clearly residential in appearance (Figure 13). The ground level is effectively one large space, but suggests two rooms, in keeping with a traditional arrangement known as a double parlour. This is achieved by a partial division that was common in the 1920s

consisting of symmetrical panelled knee walls that support Tuscan columns—the same order used for the exterior porch. An open stair also distinguishes this space. The upper level is also divided into two chambers, but has no detailing of note.

Style

The Gananoque Pump House incorporates, in a rather loose manner, revival associations with Renaissance and Flemish/Dutch elements, notably round-headed windows, columns with a Tuscan-type capital, and stepped parapets for the corner pavilions.

Waterworks in Canada in the 19th and early-20th centuries often utilized round-headed openings for windows and doors. Examples include the precedent setting Hamilton Waterworks of 1857-59 in the Italianate style, and the 1890 form of the former pumping station in Kingston in the



Romanesque Revival style (Figures 14-15).

Figures 14-15: previous page – Hamilton Museum of Steam and Technology, 900 Woodward Ave., Hamilton, constructed 1857-59 (museum brochure, 2009); right – Kingston Pump House Museum, 23 Ontario St., Kingston, constructed 1850 and expanded 1890, viewed from the northwest (photo E. Tumak, Oct. 2009).

During the heyday of the revivalist styles in the Western World, not only did specific styles have associative values, but even certain forms of components transcended a singular style. With waterworks, the round-headed arch was considered appropriate because it evoked Roman aqueducts which, historically for the Western world, evoked the first large-scale advances in waterworks.



The use of mostly rough cast or rusticated stone as the primary construction material provides a sturdy quality to the appearance of the Pump House, suggesting strength and permanence, and such an association was considered very appropriate in the 19th and early-20th centuries for a public/institutional structure. Further, sufficient restraint in decoration, projected a sober and fiscally responsible image, and a proper expression to the function of the building, while also signally civic pride.

Designer, Builder

Designer

The original section of the Gananoque Pump House was designed by Willis Chipman (1855-1929). Chipman ranks with top early engineers in Canadian history and, like many other top engineers of that era, was a pioneer in the surveying profession.¹³ Educated in Weston, Ontario, he graduated from McGill University in Montreal in 1876 with top honours in both civil and mechanical engineering. He then went on to earn surveying commissions across Canada. By 1884 he was supervising engineer of the Brockville water works. His work earned him a Canada-wide reputation for both his water and wastewater treatment plants and led the way in Canada with separate systems for sanitary and storm water sewers—now a standard of waste water treatment. During his career he worked on over 50 waterworks and sewage projects in Ontario. He was a prolific author of articles in technical magazines, a founding member of the Association of Ontario Land Surveyors and later served as its President. He was one of the most active members of the committee, leading to the drafting of the Bill which led to the creation of what is now Professional Engineers of Ontario. He was interred in Brockville with his Iron Ring, denoting the calling of an engineer.¹⁴

While there is no reference to the designer of the engineer's wing, the consistency of the design suggests that Chipman was responsible.

Chipman has been compared with half brothers Thomas Coltrin and Samuel Keefer—also preeminent figures in Canadian engineering history. The Keefers designed some of the most

¹³ Tom Davey, "Ontario's Descent from Acclaim to Disdain in a Single Decade," Sept. 1998, <http://www.esemag.com/0998/editorial.html> .

¹⁴ Consulting Engineers of Ontario, press release 3 June 2009, <http://www.ceo.on.ca/lib/db2file.asp?fileid=1682> .

significant urban water systems in Canada in the second half of the 19th century, such as the Hamilton Waterworks by Thomas. In 1887, Thomas was elected the first President of the Canadian Society of Civil Engineers which had been formed in Montreal two years earlier. In 1888, his brother Samuel was elected to the same high position. Thomas, was also highly regarded in the United States, was elected President of the American Society of Civil Engineers in 1888, the first Canadian to be so honoured. Samuel worked on the first Welland Canal which the Duke of Wellington wanted for both defence and transportation.

Chipman is still honoured by the Consulting Engineers of Ontario with an award that is their highest distinction in Ontario’s consulting engineering community. It is presented by the CEO to recognize the project that best demonstrates the valuable contribution that consulting engineers make to the social, economic and environmental quality of life in Ontario.

Builder

R.J. Wilson is listed as the builder of the Gananoque Pump House, but he does not appear to have been involved in Gananoque’s most notable construction firm of the era, Mitchell and Wilson.¹⁵

ENVIRONMENT

Compatibility with Heritage Environs

The Pump House was originally constructed in an area of large boat houses, and at the same time a large public wharf was created.¹⁶ Large and small boat facilities are still present with marina and wharf infrastructure (Figures 16 and 17-21). The most significant

absence relating to the original function of the Pump House is that the traditional, tall smoke

stack for the steam-powered engines no longer remains. As a tall structure, the brick chimney, somewhat imitated a traditional Italian campanile (bell or watch tower), could be seen from quite a distance, and served as a navigational landmark.¹⁷ The smoke stacks with the former Hamilton and Kingston pump houses are still extant.



Figure 16 : Gananoque Pump House and environs, viewed from the northwest from Church Street (photo E. Tumak, Oct. 2009). The northwest gable of the Pump House facing St. Lawrence Street is by the front of the large tour boat.

Figures 17-18: below left – Gananoque Pump House viewed from the southeast from the corner of Kate and Water streets, showing the most recent component of the Gananoque waterworks in the foreground; below right – viewed from

¹⁵ Town of Gananoque heritage research file; history of the Mitchell and Wilson construction firm, in Sleepy Hollow Bed & Breakfast heritage research file, n.p., n.d.; and conversation with Ewart Richardson (613-382-4101), 30 October 2009, regarding the history of the Mitchell and Wilson company.
¹⁶ Lever, “The Pump House: Criteria for its Designation, p. 3.
¹⁷ Dated photocopies of archival photographs in the Town of Gananoque heritage research file.

the southwest, showing the 1925-26 section of the Pump House on the left, the 1955 addition in the middle, and the most recent component of the Gananoque waterworks is on the right (photo E. Tumak, July 2009).



While the construction of later, large and contrasting structures on a site is often deemed to diminish heritage value, since the 19th century, waterworks have almost always expanded to ensure service to an increasing population and accommodate new technologies and quality expectations. Accordingly the 1955, and later, larger and architecturally contrasting waterworks structures (adjacent to the Pump House on the southwest) fit this precedent.

Community Context / Landmark Status

Constructed of stone, and with an aesthetically distinguished design, the Gananoque Pump House stands as an eye-catching structure among the traditional industrial and boating infrastructure along Gananoque's waterfront.

The building is also prominent by virtue of its past role with municipal waterworks. It was part of the first phase of municipal water supply and was involved with this key municipal service for many decades.

Since its decommissioning as a pump house, the building has held a less prominent municipal function, but the current kayaking business that utilizes the space provides a greater public access to both the exterior and interior than when it operated as a waterworks pump house.



Figures 19-20: Gananoque Pump House environs – left, looking north from the upper level of the porch of the 1925-26 section; and right, looking east (photos E. Tumak, July 2009).



Figure 21: Gananoque Pump House environs looking north (photo E. Tumak, July 2009).