



DRAFT July 26, 2017

Heritage Value Statement
Black Rapids Lockstation Landscape, Lock, Lockmaster's House,
Dam, and Weirs
Rideau Canal National Historic Site

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Context

What is a Statement of Heritage Value?

A Statement of Heritage Value is a record that confirms that a Parks Canada asset, or collection of assets, meets the Agency's requirements to be a cultural resource. It provides a summary history of the cultural resource, its heritage value (why it is important), and its character-defining elements (aspects of the resource that express its heritage value).

Approvals

The statement of heritage value requires approval by the Field Unit Superintendent and the Director of Cultural Heritage Policies and is designed to support decision-making about management of a cultural resource.

Interpretation

Assistance to interpret the Statement of Heritage Value can be sought from a Cultural Resource Management (CRM) Advisor or a CRM specialist.

Assessments of Impacts

When changes or interventions are proposed to cultural resources, the proposed changes and interventions are subject to an assessment of impacts using the *Standards and Guidelines for the Conservation of Historic Places in Canada*. This is not to preclude changes or interventions, but rather to reduce possible negative impacts to the heritage value of the cultural resources.

Flexibility of Implementation of Changes and Interventions

Sustainable conservation calls for a flexible and integrated approach that balances CRM with other Agency objectives. If negative impacts are expected to the heritage value of a cultural resource, these can often be reduced or eliminated through mitigations developed in consultation with the CRM Advisor. If mitigation is not possible, alternate approaches to certain aspects of a project, or alternative means of preserving heritage value, can be recommended (for example, preservation through heritage recording and subsequent interpretation).

Responsibility for Decision-Making

Decision-making about an intervention on the cultural resource remains with the Field Unit Superintendent.



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Description

Landscape

Black Rapids Lockstation is located within the City of Ottawa off Princess of Wales Drive at a bend in the Rideau River, with the lock creating an island from which a spillway dam stretches across the river. This dam establishes a constant water level for navigation of an 8-km slackwater section, reaching to Long Island Lockstation. Two stoplog weirs facilitate adjustment of the water level of the upstream slackwater section. The lockstation was built to bypass the Black Rapids, a half-mile stretch of rapids. Due to repeated damage caused by spring flooding, little of the 19th century engineering works at the lockstation remains. The original masonry dam was replaced in 1908 first by a timber crib dam, and later in 1949-54 by a concrete spillway dam. The masonry lock, built between 1828 and 1831 by Phillips and White, was demolished during the late 1960s or early 1970's and rebuilt with hydraulic mechanisms.

Unlike many other Rideau Canal sites, Black Rapids did not develop as a milling site or a shipping point. Although road access across the dam was constructed in 1908, it did not have an immediate impact upon the development of the area. During the 1920's, approximately a dozen cottages were built near the lockstation. The area has been utilized for recreational purposes over the past 70 years, and has avoided large scale cottage developments. Due to its relative isolation as well as its geography, the lockstation remained physically removed from suburban development in Ottawa until the 1960's.

Like the Long Island lockstation, Black Rapids Lockstation underwent three important developmental phases, namely the establishment of the site during the late 1820's, the upgrading of the station during the late 19th and early 20th centuries, and major redevelopment – including the construction of a stone lock office-during the late 1960s and early 1970s.

The lockmaster's house was the single most important building erected during the second stage of development and it remains the oldest extant structure at Black Rapids. It is located on a rise of land northwest of the lock chamber. The east elevation fronts onto the edge of a steep bank which is well covered by trees. To the west there is a parking lot for staff and visitors, which adjoins the road leading to the locks from Highway 16 on the south. A short distance to the north of the house is the small paint shed, beyond which is the Rideau. Within this area associated with the house is a wooden fence which makes a tight perimeter line around the house and shed on the north, west, and south sides.

Several noticeable changes have been made to the site over the years. The wooden paint shed is a later addition to the site but its design complements the house. A white picket fence, extant as early as 1930, was replaced sometime between 1973 and 1979. Formerly the house had a commanding view over the lock chamber, but the thick tree growth on the east now obscures the front, while another contrast to the historic state is the well-manicured appearance of the remaining land. The third building on the lockstation property is a one-storey lock office that was constructed in 1968 and immediately to the west of the lock chamber. The lock office was built with limestone which not only enhances the physical beauty of the lockstation, but also recalls the use of stone in early canal



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construction. The lock office complements the residential appearance of the lockstation, despite its different building materials and design, and distance from the lockmaster's house.

The wharves at Black Rapids were not original to the original plan in 1831, but were shown in plans dating to 1860. The original wharves in the 1860 plans were described as small, one being located upstream from the lock station on the east bank of the river at the stone quarry, and the other on the west bank a short distance below the lock.

Today there are now three wharves at this site location. Two main wharves, one located downstream (lower main wharf) and the other located upstream of the lock (upper main wharf) which adjoins to the lock. The third wharf is the upstream bay wharf (upper secondary wharf). The two main wharves are constructed of rock filled with timber crib structures with a concrete deck. The secondary upstream wharf is constructed in a less rigid fashion than the main wharves with gabions and round concrete footings supporting the timber structure. To some degree the wharf resembles a boardwalk.

A more recent lockmaster's garden is also present on the site and contributes to the residential character of the site.

Locks

Lock 13 is a single lock with a lift of 2,8 m, built originally in 1830. In 1928, the lock chamber walls were rebuilt with concrete blocks. The lock was originally manually operated, but was electrified in 1969.

Black Rapids lock was constructed in 1831 and measured at 33 feet wide and 134 feet long with seven feet of water on the lower sill and six feet on the upper. The original lock walls were constructed of limestone and each wall is 5 feet thick at the top and 8 feet at the bottom with a batter on each side. This lock was mechanized in 1969. The work during this time included a new concrete hollow quoins, some concrete and stone re-facing; on the east and west walls they were rebuilt with a concrete block to imitate stonework, new stacked timber gates, a new Lock Control Building, and lastly a new hydraulic operating system. The lock has had many repairs made to it over the years which has left it without any original remains. During 1928 sections of the lock wall where the stone had deteriorated were removed along with the upper mitre sill. They were rebuilt with concrete blocks which were of approximately the same size and appearance as the original limestone blocks. Both lock chamber walls were completely renewed in this manner.

The lock and surrounding area has had numerous repairs done to it throughout the years including;

- 1827 – Size of lock increased from 20' x 108 to 33' x 134'
- 1856 – Repairs to the floor of the lock
- 1859 - Upper sill being rebuilt
- 1863 – New sill being constructed of stone (does not indicate which sill)
- 1873 – Lower sill rebuilt
- 1913 – Upper wing wall on east side of the lock was rebuilt in stone
- 1918 - Considerable portion of the lock was removed and rebuilt in stone
- 1925 - Waste weir being rebuilt in concrete



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- 1949-1954 - Rebuilding of the timber dam in concrete
- 1969 - Lock being converted to a hydraulic mechanized operation
- 2015 - Steel gates replacing old timber gates due to deterioration and repairs done to the stone masonry at the lower monoliths and wing walls also due to deterioration.

Lockmaster's House

In 1832, a two storey non-defensible (no rifle slits) stone house was built for the lockmaster. Replaced in 1914, the lockmaster's house at Black Rapids is linked to the theme of development and the maintenance of regional canal systems by the federal government in the post-Confederation era.

Measuring 43 x 22 feet, the lockmaster's house is a two-storey frame structure, with a back "L" and gable roofs on each section. The exterior walls have been clad with bevelled board painted white with dark-painted trim. An asymmetrical window pattern has been used. The front (east) and south porches are complementary to the building and were likely part of the original design. A single-storey wood shed was attached to the rear (west) elevation in 1929-30. This addition, with its gable roof and bevelled board siding, is well-integrated with the architecture of the lockmaster's house. The addition of a new chimney along the front (east) elevation has compromised the architectural design of the façade. Originally, two brick chimneys were installed, with one centred on the rear wall of the house (still extant), and the other rising from the centre of the house just to the north of the roof peak (demolished). After 1930, a new concrete-block chimney was built against the exterior of the front wall in line with the centre of the gable. In order to accommodate the new chimney, a rectangular vertical window was removed from the centre of the front gable and a louvred vent was introduced on one side of the chimney.

The house is a modest example of the frame, clapboarded houses constructed along the canal in the late 19th and early 20th centuries. It is similar to the lockmaster's house at Long Island, although variations can be found in the floor plans, the arrangement of the windows and doors, and the configuration of the rear. The lockmaster's house at Black Rapids, for instance, is a more rambling composition as it features a back kitchen/bedroom ell which is narrower and has a lower roofline than the main section of the house. In contrast, the Long Island house is a more compact block – except for two minor attachments. Moreover, alterations to the front elevation of the Black Rapids house namely the addition of a concrete block chimney and louvred vent on the front, detract from the clean, simple lines of the original design. As a result, Black Rapids lockmaster's house is a less aesthetically pleasing example of a late 19th century and early 20th century clapboard house along the Rideau Canal than its counterpart at Long Island.

The original floor plan and partition walls appear to be intact, and the building continues to serve as a dwelling for the lockmaster. Much of the older wood trim around the doors and windows has survived, as do metal heating grates along the floors and baseboards. The staircase is located along the east wall of the house, and the decorative balusters and post appear to date from the early 20th century. The original kitchen has been updated and the original design is no longer apparent.

Although the lockmaster's house has been attributed to stand on the foundations of the original house, variations in foundation size, and in the type of stone used, do not support this conclusion.



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No specific designer has been attributed to the building but it is considered to be of competent workmanship.

Dam and Weirs

Spillway dam – A concrete structure consisting of three spillway sections and three piers, on the location of an earlier dam, 1950, as well as two waste weirs and an associated east shoreline retaining wall.

Weirs – Two reinforced concrete stoplog weirs of one bay each, 1925 and 1950, rehabilitated in the 1980s.

The building of the original dam caused many problems, and the dam was vulnerable to spring flooding. The present dam was built on the original site in 1950.

The concrete spillway dam was constructed in stages commencing in 1949. It is a reinforced concrete gravity overflow weir, founded directly on bedrock with a concrete cut off trench that serves as a shear key. The overflow dam consists of three 35m long spillway sections with removable flash boards. Three concrete piers separate the overflow sections. The overall length of the spill way is 130m. A concrete retaining wall runs along the east shoreline and forms part of the dam. The top of wall elevation of the east retaining wall is 78.88m.

The concrete spillway dam is the fourth dam at this site location. All four previous dams have been of the spillway type. The first dam at this location was constructed in 1830 and was a stone arched dam. This dam sustained severe flood damage over the years and was replaced by a timber crib spillway or a flat dam that was built across the chord of the arc of the stone dam in 1862. The timber crib dam had a waste weir at its west end to supplement the existing waste weir in the embankment between the dam and lock. During 1908 this timber crib dam had to be replaced due to being severely injured during the spring freshet. The dam was then replaced with a new timber crib dam, however, was constructed slightly longer to compensate for the waste weir of the older dam, which was eliminated from the new structure. This dam had to have continuous repairs every year and by 1948 the timber had rotted, which at this point it was decided that they would build a new dam in concrete.

The present flat spillway dam was constructed in three of the following stages:

- 1949- 1950 - western section of the timber crib spillway dam was removed and replaced in concrete
- 1951-52 – middle section of the dam was rebuilt in concrete
- 1953-54 – eastern section of the dam rebuilt in concrete

The old timber dam was completely removed and replaced with concrete. The waste weirs were built into the landfill area at the western end of the dam in approximately the same location as the waste weir in the 1862 dam. The spillway sections of the dam are measured at 128 feet wide and approximately 12' 6" high with a removable flashboard along the top. There are three raised piers



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that separate the spillway and the waste weir. The reinforced concrete piers measure at 8 feet wide and twenty feet deep through the dam. Each of the spillway sections of this concrete dam are approximately the same length as the 1909 dam.

Heritage Value

Landscape

The Black Rapids Lockstation landscape is a *cultural resource of national historic significance* that is a fundamental resource of the Canal system and integral to the Rideau's unique historical environment.

The heritage value of the lockstation landscapes of national historic significance of the Rideau Canal derive from:

- associative and physical connection with the construction and early operation of the canal system;
- contribution to the unique historical environment of the canal system;
- visual and historic associations with heritage continuity along the canal system such as Chaffeys Locks, Newboro, Merrickville, Burritts Rapids and Ottawa;
- role as landmark and providing a sense of continuity along the canal system;
- surviving historic layout and configuration including their open spaces and circulation patterns;
- surviving historic views both within and beyond the station boundaries;
- contextual and heritage settings for the station's buildings and engineering works.

There is no comprehensive inventory of terrestrial or underwater archaeological sites along the Rideau Canal.

Lock

Lock 13 is a *cultural resource of national historic significance* that directly symbolizes and represent the Rideau Canal in terms of its construction, high degree of original materials, and unique historical environment.

While part of the lock has been replaced to accommodate hydraulic operation rather than manual, it has still retained some materials and other character-defining elements, and thus has retained its cultural resource status.

The nationally significant engineering works are valued for their:

- direct relationship to the original construction achievement;
- contribution to the unique historical environment of the canal system;
- integral role in the continuing operation of the navigation system (Locks 29, 30 & 31 at Smiths Falls Combined excepted4);
- surviving physical attributes of form, material and function;
- manual mode of operation (Newboro, Black Rapids and Smiths Falls Combined



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- Locks excepted); and
- contribution to knowledge relating to early 19th century engineering and construction techniques.

Lockmaster's House

The Lockmaster's House at Black Rapids is considered a *cultural resource of other heritage value*.

The Canal buildings of other heritage value are valued for their:

- association with the post-military operation and maintenance of the canal;
- association with working and social life on the canal;
- association with industrial activities in corridor communities;
- designation as Federal Heritage Buildings;
- functional design qualities;
- surviving physical attributes of form and material;
- contribution to the historic character of their associated lockstations.

Dam and Weirs

The concrete spillway dam and weirs at Black Rapids are considered *cultural resources of other heritage value* associated with the engineering achievement of the Rideau Canal.

These engineering works of other heritage value are valued for their:

- association with the commercial and recreational use of the canal;
- association with corridor communities and expansion of the canal system;
- role in the continuing operation of the canal;
- evidence of changing construction technologies;
- manual mode of operation; and
- surviving physical attributes of form and material.

Character-Defining Elements:

Landscape

Key elements contributing to the heritage value of the Black Rapids Lockstation landscape include its:

- Current historic layout and circulation patterns, including open spaces and circulation routes and pathways;
- The large, open landscape with mature trees south of the lockmaster's house;
- Landforms in the landscape, such as
 - The islands connecting the lock, weirs, and dam;
 - The shorelines, inlet, and creek;
- Engineering assemblage, including the locations, design, dimensions, materials, architectural features, and finishes of the lockstation buildings and engineering works, and their footprints and profiles in the landscape, for example, the:
 - 1950's dam and adjacent weirs;



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- wood-framed lockmaster's house, constructed in 1915, overlooking lock 13;
- Lock office/watch house and paint shed, and other associated structures;
- Lock 13, which contributes to maintaining the original appearance and function of the canal; and
- Wharves
- Historic views within lockstation grounds, such as
 - from the lockmaster's house to the lock,
 - from the lockmaster's house to the garden,
 - the dam and lock approaching the lock
- Known and potential terrestrial and submerged archaeological resources pertaining to both Indigenous and historical occupations, and evidence of construction and early operation of the canal.

Lock

Key elements contributing to the heritage value of the Black Rapids Lock include:

- its contribution to the integrity of the landscape and the unique historical environment of the canal system;
- the form, dimensions, design and functional qualities and materials of the lock components, for example:
 - its masonry and concrete construction;
 - its overall arrangement, including angles and connections;
 - the wooden lock gates at one end of the chamber, including the type of timber as evolved over time to address the operational and durability needs of the Canal;
 - the valves and opening mechanisms;
 - the architectural signature and details, including but not limited to:
 - coursing patterns;
 - joints and their profiles;
 - iron works; and
 - bollards.

Lockmaster's House

Key elements contributing to the heritage value of the Black Rapids Lockmaster's House include:

- Its good aesthetic, functional design and quality craftsmanship and materials, for example:
 - its two-storey massing;
 - its frame, L-shaped design;
 - its gable roofs and brick chimney centred on the rear wall of the house;
 - the exterior walls clad with bevelled board painted white with dark-painted trim;
 - the two porches on the east and south sides;
 - the asymmetrical window pattern;
 - the single-storey wood shed attached to the rear (west) elevation;



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- the configuration of the interior and the partition walls and staircase.
- The manner in which the Black Rapids Lockmaster's House maintains an unchanged relationship to its site, and reinforces the historic character of the lockstation by:
 - its ongoing relationship to its position overlooking the lock;
 - its simple design that complements the lockstation.

Dam and Weirs

Key character-defining elements contributing to the heritage value of the concrete spillway dam and weirs at Black Rapids include:

- their locations and the positioning of the dam directly on bedrock;
- the overall scale, design and materials of the dam, such as
 - the three spillway sections and their relationship to the 1909 dam,
 - the three piers,
 - their concrete construction;
 - the concrete retaining wall on the east shoreline and connected to the dam;
- the overall scale, design and materials of the weirs;
- any known or potential submerged evidence of previous dams at this location; and
- their contribution to the integrity of the landscape and the unique historical environment of the canal system.

Approved on _____ by A/Director Cultural Heritage Policies

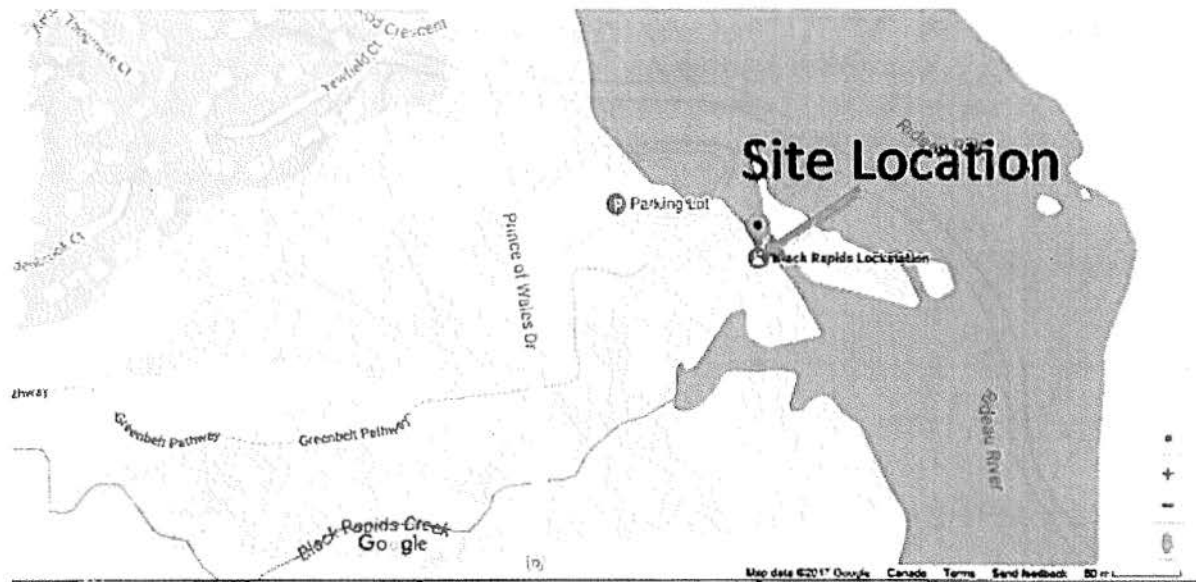
Approved on _____ by Ontario Waterways Field Unit Superintendent



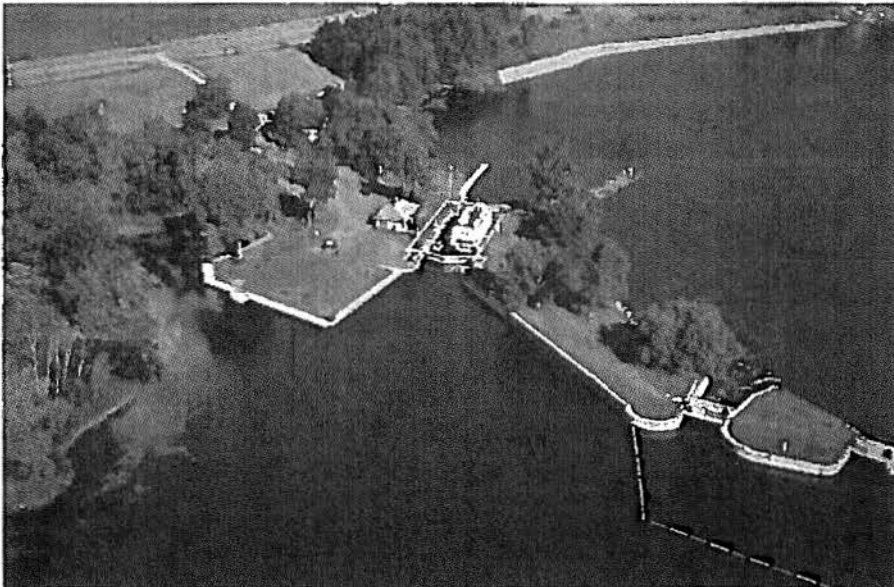
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Annex A – Photos



Google Maps 2017

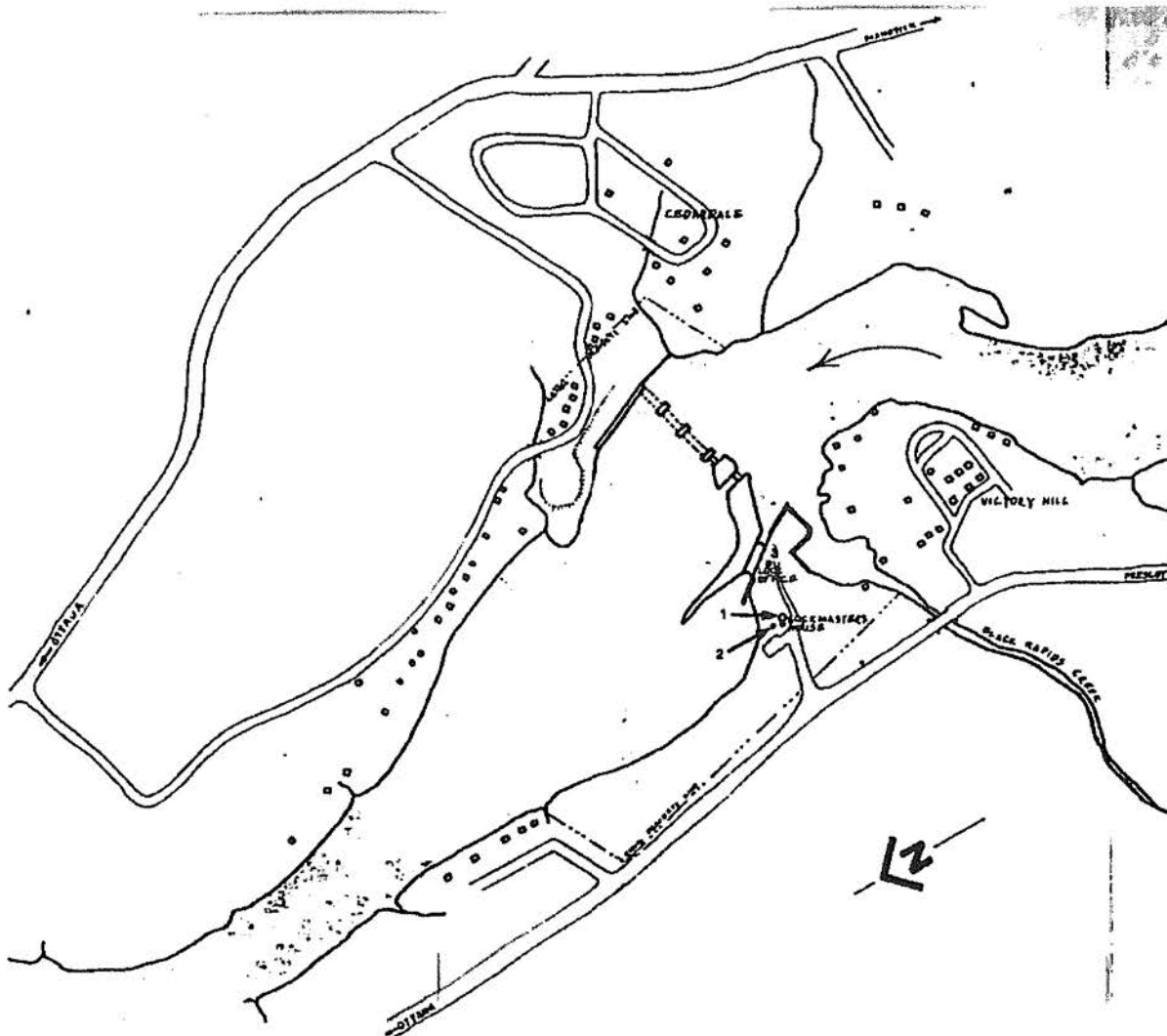


Black Rapids Aerial Photo. Unknown date.



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BLACK RAPIDS LOCKSTATION, RIDEAU CANAL, ONTARIO

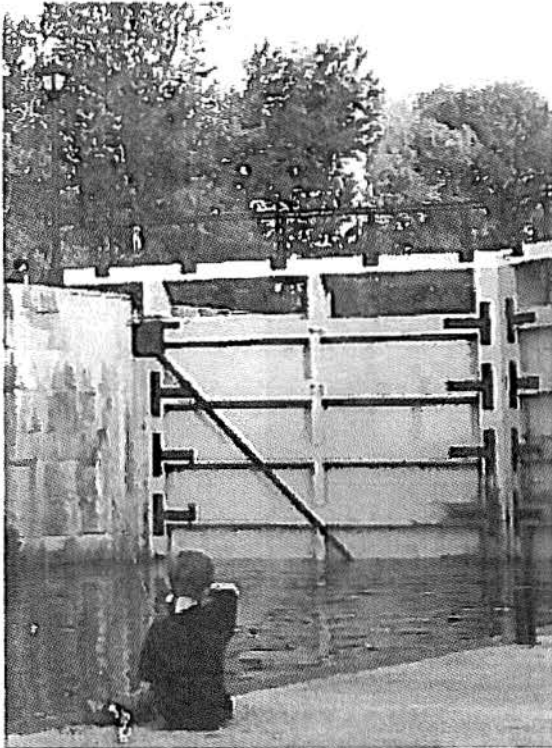


- 1 Map of Black Rapids Lockstation, Rideau Canal, in 1976, showing (1) the lockmaster's house, (2) the paint shed, and 3) the lock office. (E. Clow, et al., "Rideau Canal Preliminary Site Study Series, No. 10, Black Rapids," Department of Indian Affairs and Northern Development, 1976, map 4.)



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Retaining wall



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1950 concrete spillway dam