

# Archaeological Mitigation at the Diamond Jubilee Fountain, Halifax Public Gardens

HERITAGE RESEARCH PERMIT A2014NS048



The Diamond Jubilee Fountain, looking northwest. SOURCE: Jonathan Fowler

Prepared for: Halifax Regional Municipality  
&  
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## Executive Summary

In June 2014 the Halifax Regional Municipality retained Northeast Archaeological Research to monitor mechanical excavations in the Halifax Public Gardens associated with the installation of four rose arbours at the Diamond Jubilee Fountain. The work took place on 23 and 24 June, and resulted in the unearthing of a small collection of historical artifacts, mostly dating to the Victorian period and probably associated with rubbish disposal activities prior to the development of the gardens.

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## 1.0 Introduction

The construction of four new rose arbours at the Diamond Jubilee Fountain in Halifax's Public Gardens in June, 2014, necessitated the mechanical excavation of 16 holes for concrete foundations. Because the Public Gardens is a known archaeological site, The Halifax Regional Municipality contracted Northeast Archaeological Research to monitor the work. Excavations took place on Monday, 23 June and Tuesday, 24 June.<sup>1</sup> Not surprisingly, each of the auger holes yielded quantities of historic artifacts: just under 400 in total. The majority date to the 19th century, and were likely deposited in the period before this area was redeveloped as a formal garden. The finds are therefore the products of the discard activities of the inhabitants of early Victorian Halifax, and, despite coming to us via unstratified contexts, constitute an interesting material cultural sample.

This report summarizes the nature of the collection and suggests how some of its contents may be mobilized for research and education.

## 2.0 Development Area

The area of concern is the zone around the Diamond Jubilee Fountain, constructed in 1897 in the Halifax Public Gardens, a 17-acre Victorian garden located on land that was formerly part of the Halifax Common (Figures 1 and 2). In 1841, the Nova Scotia Horticultural Society established the first Horticultural Gardens on the site, the footprint of which occupied roughly the southern half of the current Halifax Public Gardens (Figure 3). The land immediately north of the Horticultural Gardens was divided by the square-shaped Griffin's Pond, at the centre, into two parcels of waste land, east and west. Aside from a small lodge used by the Horticultural Society, which was built in 1848 and located on or near the site of the present canteen, the only other major architectural features on the site were a skating rink and a greenhouse, both of which appear to have been located in the northeast quadrant of the Horticultural Gardens, and therefore well away from the area affected by this project.<sup>2</sup> Mr. Henry A. Holder's sketch map, drawn in 1933, depict these features of the Horticultural Gardens as they appeared in the 1860s, and provide some insight into the nature of the built environment in and around the gardens. The area in which the Jubilee would later be built is labelled "City Dump" (Figures 4).

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<sup>1</sup> Jonathan Fowler and Aaron Taylor monitored excavations on June 23rd and Aaron Taylor monitored excavations on June 24th. Jonathan Fowler took aerial photos on June 23rd and Aaron Taylor took photographs of the auger holes on June 23rd and 24th.

<sup>2</sup> The Acadian Recorder on Saturday January 17<sup>th</sup> 1863 heralded the arrival of the skating rink (perhaps the covered rink), in the following manner: "THE SKATING RINK – This new institution, now in successful operation, is the greatest favourite of those citizens who can afford to enjoy it. We hail with pleasure the movement made in this matter, and we hope now that Halifax will not stop until every man, woman, boy, or girl, who has the muscle and the inclination, may find a frozen surface in rink or pond on which to spend many a pleasant hour of our long winters." The Oval on the Halifax Common represents continuity here, with the improvement of free public access.

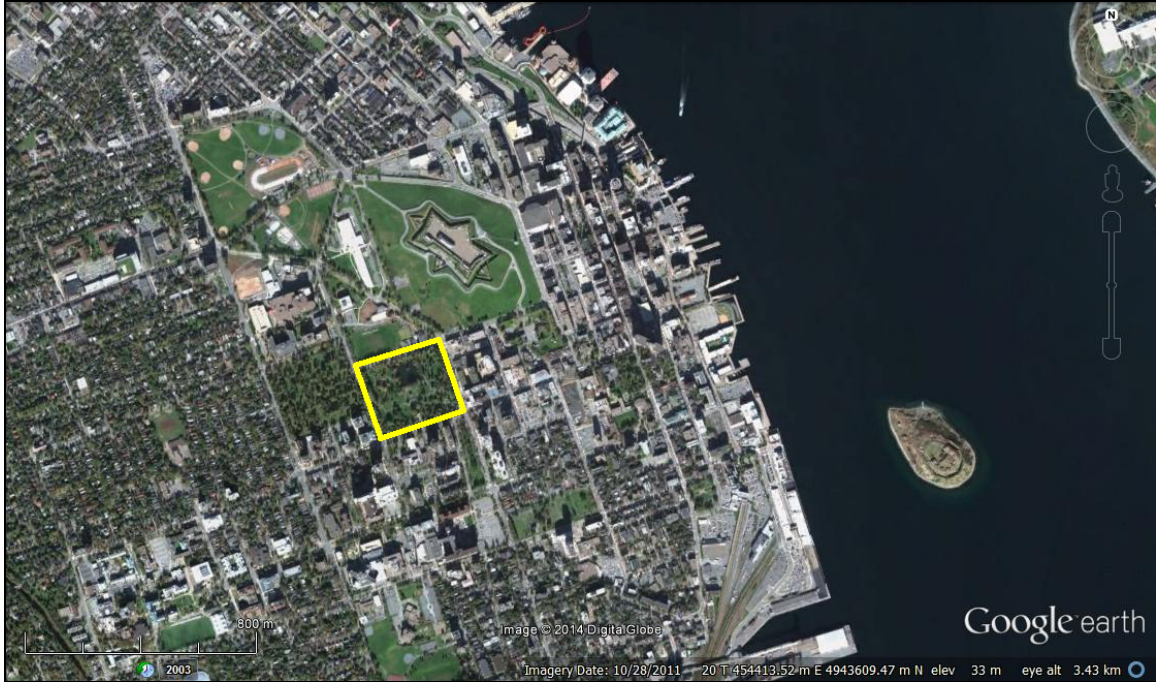


Figure 1: Public Gardens site location map. SOURCE: Google Earth, 2011. 800m scale. North at top.

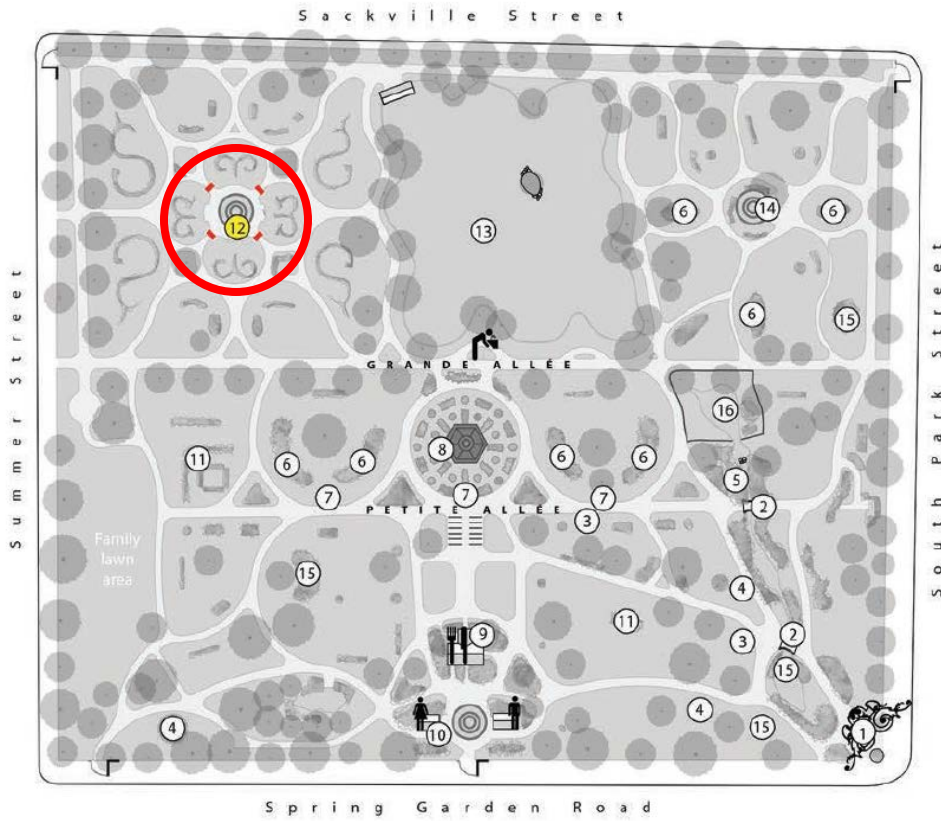


Figure 2: Location of Diamond Jubilee Fountain and rose arbours (circle). SOURCE: Adapted from Halifax Regional Municipality. North at top.

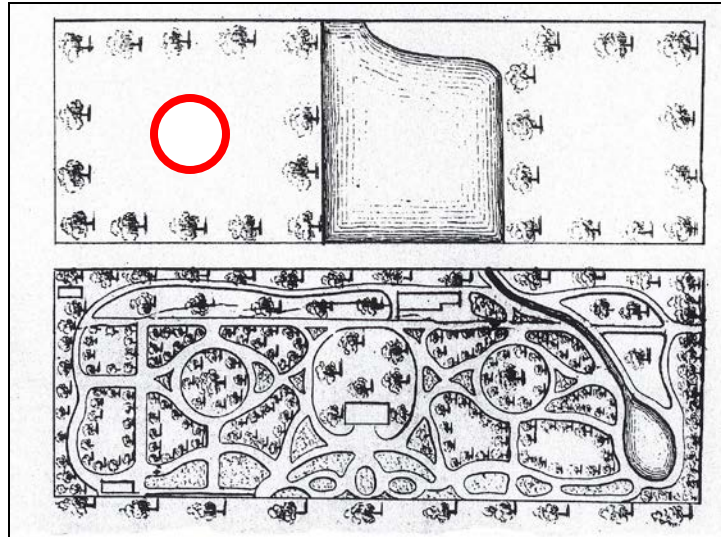


Figure 3: The Horticultural Gardens as they appeared in 1851. SOURCE: The Halifax Public Gardens, (Halifax: The Friends of the Public Gardens), 1989. Fountain area circled; north at top.



Figure 4: Mr. Henry A. Holder's sketch map of the Horticultural Gardens as they appeared in the 1860s. Fountain area circled. North at top. Note the waste land adjoining Griffin's Pond: "City Dump" to the west and "Swamy Land" to the east. SOURCE: NSA F240/1860s, "Street Scenes and Horticultural Gardens 1860s".

A flurry of activity around the time of Confederation rapidly expanded the Gardens and brought the site much closer to its present appearance. The City of Halifax renovated the wasteland east of Griffin's Pond in 1866-67 and began to operate a separate garden, and in 1873-74, the wasteland to the west of the pond, identified on Holder's plan as "City Dump" was similarly transformed. Shortly thereafter, in 1874, the Horticultural Society sold its original gardens to the City of Halifax for \$15,000, and the whole block was subsequently joined as one Public Gardens. Hopkins' *Atlas of Halifax*, published in 1878, reflects this new reality (Figure 5), while A. Ruger's *Panoramic View of the City of Halifax, Nova Scotia*, published the following year, offers an interesting isometric perspective of the same scene (Figure 6).

The last quarter of the 19th century saw additional changes to the Public Gardens. A unified landscape plan, drawing together the formerly separate gardens, was instituted in 1875, the same year in which the old Horticultural Society greenhouse was torn down and a new replacement was built. Between 1878-79, Griffin's Pond was remodelled to provide a more 'natural' and sinuous shoreline. The rink was dismantled in 1889, having given way in 1887 to the iconic bandstand, which had been constructed in commemoration of Queen Victoria's golden jubilee. The ornate fountain arrived ten years later as a monument to the diamond jubilee.<sup>3</sup>

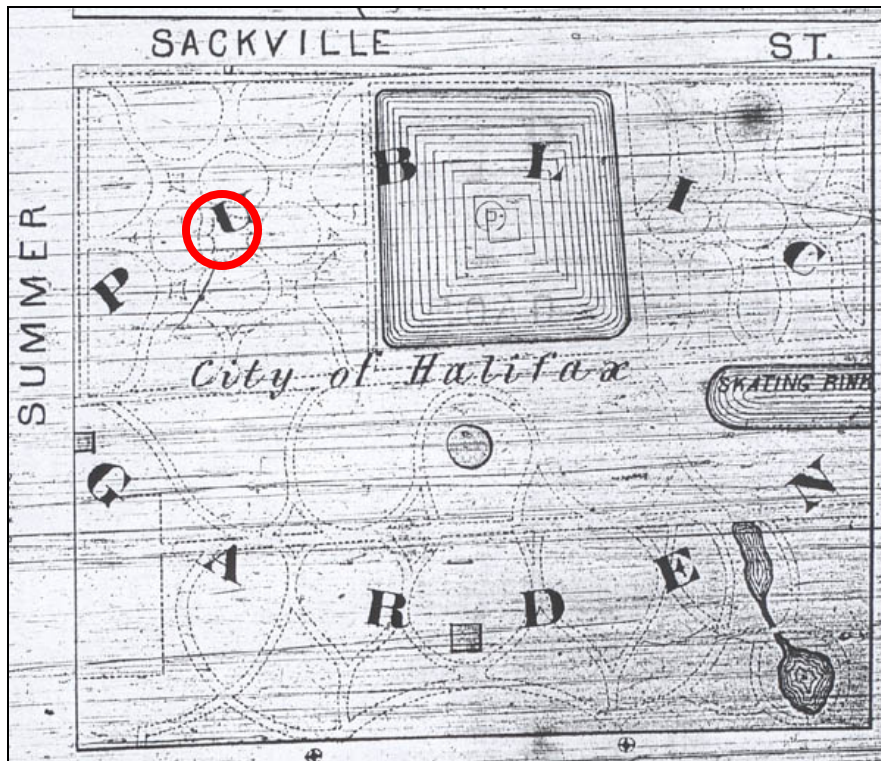


Figure 5: Detail of Hopkins' *City of Halifax Atlas*, 1879. Fountain area circled; North at top. SOURCE: NSA.

<sup>3</sup> The historical summary presented here is derived largely from *A Synoptic History of the Public Gardens and its Environments* (Halifax: The Maritime Pictorial and Historical Review), 1931, and *The Halifax Public Gardens*, (Halifax: The Friends of the Public Gardens), 1989.



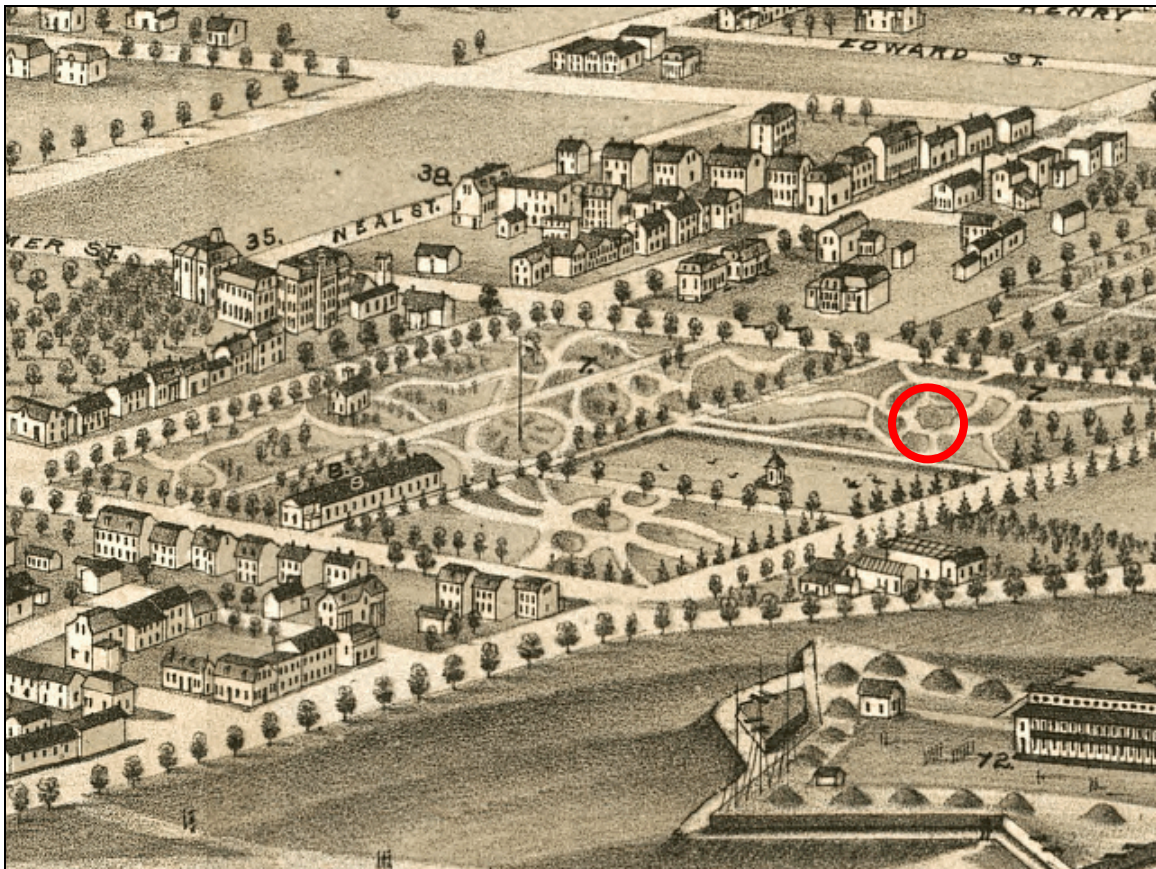


Figure 6: Detail of A. Ruger's *Panoramic View of the City of Halifax, Nova Scotia*, 1879. Fountain area circled; the view is facing the southwest. SOURCE: US Library of Congress, Geography and Map Division.

### 3.0 Study Area

The area of archaeological interest is confined to the Diamond Jubilee Fountain area, specifically to the 16 auger holes excavated on June 23-24. The layout for each arbour, and consequently the locations of the four auger holes associated with each, was determined by HRM staff in the following manner:

- a. identifying the centre line of each path radiating from the fountain
- b. working 29' from the face of the fountain, down the centreline to the 'front' face of the arbour
- c. then measuring outwards from the centreline to mark the corners of the 7'4" wide (44" offset in each direction from the centreline) by 4'3" deep (51") structure.<sup>4</sup>

<sup>4</sup> Personal communication, Nicole May, Nicole May, Landscape Architect, HRM Planning + Infrastructure, Facility Development, 10 June 2014.

A low-level aerial photograph of the study area is presented as Figure 7. Included in this image are notations signifying the provenience system employed during artifact collection.



Figure 7: Low level rectified aerial photograph of the study area showing the location of the auger holes and provenience conventions used. SOURCE: Jonathan Fowler, 23 June 2014.

#### 4.0 Methodology

Mechanical excavation was conducted by Eastern Fence Limited, employing a 14" (ca. 36cm) auger mounted to a CAT 287C excavator. Each of the 16 holes was planned to be excavated to a depth of 4' (ca. 122cm). The actual excavated depths of each hole are listed in Table 1. Each auger hole was treated as a test excavation unit, and artifacts were collected from each.

Low level aerial photography was taken with a GoPro Hero 3 Black Edition mini camera mounted to a Parrot ARDrone2.0. Barrel distortion was corrected with DxO Optics Pro 9 software and the resultant image was rectified with Perspective Rectifier version 3.3.37894.23 software with the aid of measurements taken on the ground. Ground-based photos were taken of each of the excavation units as well (Appendix A).

**Table 1: Depth of Auger Excavation Units**

Unit	Depth (cm)
NW-1	128cm
NW-2	104cm
NW-3	117cm
NW-4	124cm
NE-1	107cm
NE-2	103cm
NE-3	104cm
NE-4	104cm
SE-1	112cm
SE-2	111cm
SE-3	102cm
SE-4	130cm
SW-1	124cm
SW-2	104cm
SW-3	121cm
SW-4	124cm

Soils were uniformly a very dark greyish brown (10YR 3/2) sandy clay with stone inclusions, becoming wetter with depth. All units east of the fountain were waterlogged at depth, as was SW-2.

#### 4.1 Inventory

All artifacts were collected for documentation in the lab, and each excavation unit was treated as a single unit of data capture. No evidence of stratigraphy was noted.

#### 4.2 Site Evaluation

Each of the 16 test excavations was treated identically in terms of sampling strategy, and all artifacts were collected.

#### 4.3 Impact Identification and Assessment

Considering the likely extent of historical archaeological deposits at the Public Gardens, the impact to the resource occasioned by this project must be considered minimal. The areas of disturbance were limited to the 16 auger holes described above. Given that the area of a circle may be resolved with the equation  $A = \pi r^2$ , the surface area disturbed by this project may be calculated as:

$$A = (\pi r^2)16 \\ (615.75)16 \\ 9852\text{in}^2$$

This resolves to approximately .0016 acres of the 17-acre site, and we are by no means certain that the excavations reached the full extent of the archaeological deposit.

## 5.0 Resource Inventory

A total of 391 artifacts was collected. Interestingly, although the historical documentation refers to this whole quadrant of the gardens as having formerly functioned as a city dump, the artifact distribution was far from uniform, with the units to the east of the fountain yielding far greater volumes of material (Table 2).

**Table 2: Artifact Distribution**

Unit	Artifacts
NW-1	5
NW-2	6
NW-3	2
NW-4	2
NE-1	6
NE-2	74
NE-3	96
NE-4	20
SE-1	57
SE-2	12
SE-3	22
SE-4	65
SW-1	3
SW-2	4
SW-3	7
SW-4	10

Taken as a whole, the collection may be further outlined by material (Figure 8) and by functional group (Table 9). It is readily apparent that the collection is dominated by ceramics and glass, the bulk of which is associated with South's Kitchen group (1977:95).

Temporally, the collection represents activities spanning two centuries. A Canadian penny minted in 1989 may be contemporary with a broken plastic lens from a pair of sunglasses, either of which could be the youngest object. From here we may count the years back through several fragments of terra cotta flower pots (perhaps connected with the post-1874 redevelopment of this quadrant of the gardens), through a cascade of 19th century ceramics and glass, to what may be the oldest fragment: a sherd of white salt-glazed stoneware (NE-3), which dates to the 18th century (Miller 2000:10; Gusset 1980), but which may have been curated for generations. There are a great many white-bodied earthenware sherds representing various points on the continuum of vitrification, and are difficult to date with precision (Noel-Hume 1969:131). I have judgmentally assigned the labels White Refined Earthenware (WRE), Ironstone (in which I would include "White

Granite") and a transitional variety, WRE/Ironstone, in the artifact list. Collectively, these wares might date from approximately 1813 to the point at which dumping activities ceased at the site (Miller 2000:13). In the main, this is a 19th century collection consisting largely of household waste, deposited by the householders themselves or their agents. It therefore represents a secondary archaeological deposit (Schiffer 1987:199).

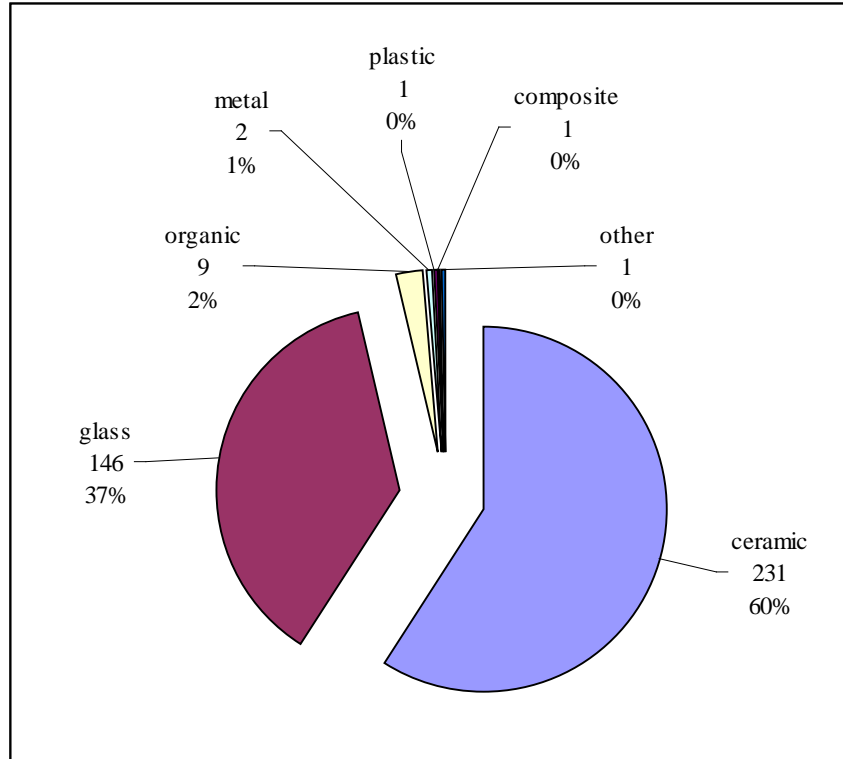


Figure 8: Artifact collection by material (n=391).

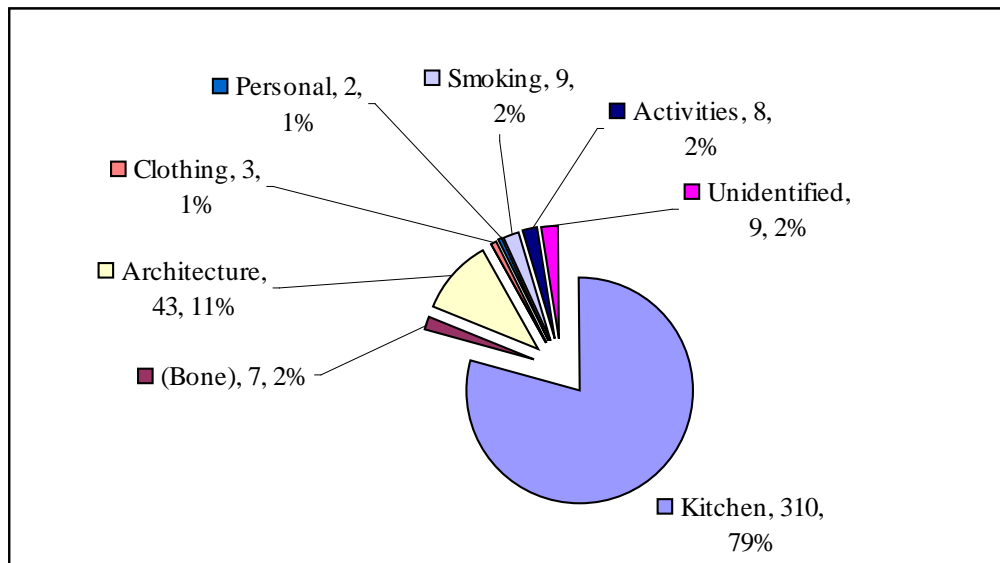


Figure 9: Artifact collection by functional group, after South 1977 (n=391).

## 6.0 Resource Evaluation

Given the limited spatial extent of the archaeological deposit investigated, it is appropriate to treat it as a single unit for the purposes of evaluating its value and significance. It has already been observed that the area impacted by the construction of the rose arbours is miniscule in the context of the Public Gardens as a whole. Consequently, this project represents a minimally intrusive sampling of what much be a vast archaeological deposit.<sup>5</sup> It should also be observed that the artifact frequencies and types encountered during this project, though variable, are generally in keeping with artifact frequencies and types noted at tree-throws in the wake of Hurricane Juan in 2003 (Fowler 2004).

Naturally, the circumstances leading to the acquisition of this sample did not admit the rigours of a scientific sampling strategy. Nevertheless, even as random sample this collection offers a valuable glimpse at Halifax's household waste over the first three quarters of the 19th century. And while the overwhelming majority of the collection may be relatively unremarkable - ubiquitous white wares and shards of glass largely shorn of their identities and even, in many cases, vessel types - there are numerous items that can be mended (as indicated in the artifact table), such as a boastful marmalade jar (Figure 10) (with organic residue attached), and that may be fit subjects for future research and/or display.

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<sup>5</sup> As a very rough estimate, if the artifact density we encountered is representative, the Public Gardens may contain over 4 million artifacts. (391 artifacts over .0016 acres, multiplied to 17 acres).



Figure 10: Portions of a marmalade jar recovered from NE-3. The residue adhering to the inside may be the prized marmalade. The transfer print provides a *terminus post quem* of 1863.

## 7.0 Results and Discussion

As a result of this archaeological mitigation, we are able to confirm that no archaeological features were encountered, and that an interesting collection of household waste dating the first three quarters of the 19th century has been brought to light (Appendix B).

## 8.0 Interpretation

Our results are consistent with an earlier sampling following Hurricane Juan, at which time I noted particularly high concentrations of artifacts dating to the mid-19th century at tree-throws in the northwest quadrant of the gardens (Fowler 2004: 24). The 2014 results are entirely consistent with information gleaned from the archives, which suggests this area functioned as a dump prior to 1873-74, when it was redeveloped as a garden. The preponderance of materials dating to the 19th century and the virtual absence of 18th century material suggests the most intense period of waste disposal likely corresponded with the Victorian town.

## 9. Evaluation of Research

### 9.1 Accuracy of predictions

The results obtained match very closely the predictions made in advance of fieldwork, which were based on previous field experience and on archival research. There were no surprises, although the high volume of finds east of the fountain exceeded expectations.

### 9.2 Suitability of inventory strategy and survey techniques

Our initial plan was to note and rebury archaeological materials, but the volume of finds east of the fountain exceeded what could reasonably be processed in the field. Therefore, we collected everything, which seemed a reasonable step given the magnitude of the assemblage (n=391).

### 9.3 Suitability and reliability of the site evaluation and impact assessment methods

Archaeological monitoring of the kind employed here is a useful step in the development process and a relatively low-cost means of protecting the integrity of the archaeological resource. Opportunistic artifact sampling resulted in a small collection of archaeological materials, most of which are associated with 19th century Halifax, and the overall integrity of the archaeological resource has been minimally altered.

The project also offered another opportunity to deploy a system for capturing low-level aerial photography, which is a methodology we continue to refine with each flight.

### 9.4 Relationship between the results and the stated project objectives

Each new scientific investigation occasions opportunities for discovery beyond the intentions of planners. In this case, our results by and large fell within the expected parameters. Two kinds of novelty were encountered here: the discovery that artifact frequencies increased significantly in the area east of the fountain; and the correspondence of a rise in the water table with this area of higher than normal artifact concentration. This causes one to speculate whether a watercourse, such as a brook or stream - perhaps a tributary to Griffin's Pond - formerly occupied this area. If so, it might have become a refuse magnet.

### 9.5 Future research opportunities

In addition to the possibility of informing research on the colonial-era hydrology of the Peninsula of Halifax, this project has yielded an artifact collection that holds exciting potential as a teaching tool. This cross-section of Victorian rubbish offers many avenues for research, from hunting down information about Glaswegian clay pipe workshops, to considering 19th century ointments and medicines (one of the moulded bottles contained a tonic for the "HAIR"), to possibly discovering the secret behind James Keiller and Sons' extraordinarily successful marmalade (a subject I plan to broach with the science



faculty at Saint Mary's University). Several of the objects are of sufficient quality to be of service in an exhibit.

## 10.0 Conclusions and Recommendations

As earth-moving activities at the site have concluded, there is nothing more to recommend by way of mitigation associated with the rose arbour project. However, archaeological mitigation is recommended for future construction projects within the Halifax Public Gardens. As this project has amply demonstrated, archival resources have much to offer in support of archaeological interpretation, and therefore it is recommended that future archaeological work continues to be supported by documentary research. Archaeogeophysics may also shed some light on the question of the gardens' original topography and hydrology, and the collection unearth by this project may provide an opportunity to engage the broader public in the archaeological process, perhaps being used by student researchers at Saint Mary's University. Opportunities may also exist to engage stakeholders, such as The Friends of the Public Gardens, to pursue and mobilize research.

## 11.0 References Cited

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## 12.0 Appendices

Appendix A – Site Photographs

Appendix B – Artifact Table

**Appendix A – Site Photographs**



Northwest 1. SOURCE: Aaron Taylor, 23 June 2014.



Northwest 2. SOURCE: Aaron Taylor, 23 June 2014.



Northwest 3. SOURCE: Aaron Taylor, 23 June 2014.



Northwest 4. SOURCE: Aaron Taylor, 23 June 2014.



Northeast 1. SOURCE: Aaron Taylor, 24 June 2014.



Northeast 2. SOURCE: Aaron Taylor, 24 June 2014.



Northeast 3. SOURCE: Aaron Taylor, 24 June 2014.



Northeast 4. SOURCE: Aaron Taylor, 24 June 2014.



Southwest 1. SOURCE: Aaron Taylor, 24 June 2014.



Southwest 2. SOURCE: Aaron Taylor, 24 June 2014.





Southwest 3. SOURCE: Aaron Taylor, 24 June 2014.



Southwest 4. SOURCE: Aaron Taylor, 24 June 2014.



Southeast 1. SOURCE: Aaron Taylor, 24 June 2014.



Southeast 2. SOURCE: Aaron Taylor, 24 June 2014.



Southeast 3. SOURCE: Aaron Taylor, 24 June 2014.



Southeast 4. SOURCE: Aaron Taylor, 24 June 2014.