

**CITADEL HIGH SCHOOL STEAM LINE INSTALLATION,
HALIFAX:**

**ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT
FINAL REPORT**

Heritage Research Permits A2006NS79, A2007NS04



July 2007

Submitted by:
Davis Archaeological Consultants Limited
6519 Oak Street
Halifax, Nova Scotia
B3L 1H6

Submitted to:
CBCL Limited Consulting Engineers
1489 Hollis Street, PO Box 606
Halifax, Nova Scotia
B3J 2R7

**CITADEL HIGH SCHOOL STEAM LINE INSTALLATION,
HALIFAX:**

**ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT
FINAL REPORT**

**Heritage Research Permits A2006NS79, A2007NS04
Category C**

Davis Archaeological Consultants Limited

**Principal Investigator: April D. MacIntyre
Report Compiled by: April D. MacIntyre & Stephen A. Davis**

Cover: Profile section of a mortared stone culvert on the north side of the Nova Scotia Museum of Natural History building, looking south.

TABLE OF CONTENTS

	Page
LIST OF FIGURES	ii
LIST OF PLATES	ii
EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	2
2.0 DEVELOPMENT AREA	2
3.0 METHODOLOGY	2
3.1 Historical Background	4
4.0 RESULTS AND DISCUSSION	8
5.0 CONCLUSIONS AND RECOMMENDATIONS	9
6.0 REFERENCES	9
PLATES	11
APPENDIX A: HERITAGE RESEARCH PERMITS	18
APPENDIX B: ARTIFACT CATALOGUE	21
APPENDIX C: FIELD NOTES	27

LIST OF FIGURES

	Page
Figure 2.0-1: Citadel High School site servicing plan showing the course of the steam line trench at the north end of the Nova Scotia Museum of Natural History property.	3
Figure 2.0-2: Location of the mortared stone culvert discovered during excavation.	4
Figure 3.1-1: Ambrose F. Church's map of Halifax in 1865	5
Figure 3.1-2: Hopkins's 1878 City Atlas of Halifax showing Freshwater Brook running though the study area.	6
Figure 3.1-3: 1879 Panoramic view of Halifax showing the Commons.....	6
Figure 3.1-4: Department of Militia and Defence map of Halifax..	7
Figure 3.1-5: 1957 Topographical Map of Halifax.....	7

LIST OF PLATES

	Page
Plate 1: Disturbance on the west side of Bell Road in the area of the catch basin installation.....	12
Plate 2: Disturbed soil and cultural debris in the east end of the main trench.	12
Plate 3: Top of the mortared stone culvert upon initial discovery.	13
Plate 4: Mortared stone culvert in profile after removal of the top portion, looking south.	14
Plate 5: Disturbance adjacent to the museum building as a result of previous catch basin installation.....	15
Plate 6: Possible remnant of a brick building to the east of the museum building	15
Plate 7: Late nineteenth century stoneware bottles collected during excavation.....	16
Plate 8: Late nineteenth century bottles collected during excavation.....	16
Plate 9: Early to mid twentieth century bottles collected during excavation.....	17
Plate 10: Clockwise from top left: Clay tobacco pipe, purple transfer printed pearlware ladle, salt-glazed stoneware crock, stamped pearlware tea cup.	17

1.0 INTRODUCTION

In November 2006, Davis Archaeological Consultants Limited was contracted by CBCL Limited Consulting Engineers, on behalf of the Nova Scotia Department of Transportation and Public Works, to conduct an archaeological resource impact assessment of the Citadel High School Steam Line Installation project in metropolitan Halifax. The purpose of the assessment was to determine the potential for archaeological resources within the development zone and to provide recommendations for further mitigation if necessary. The assessment included archaeological monitoring of mechanical excavation of a trench and associated catch basins between the High School property on Bell Road and the QEII Hospital on Summer Street. The assessment was conducted between 04 December 2006 and 18 June 2007.

The assessment was conducted under Category C Heritage Research Permits A2006NS79 and A2007NS04 (Appendix A) issued by the Nova Scotia Heritage Division. This report conforms to the standards required by the Heritage Division under the Special Places program.

2.0 DEVELOPMENT AREA

The development area includes a trench approximately 2 metres wide which extends from the southwest corner of the new Citadel High School on Bell Road, northward approximately 31 metres, then south westward across the north side of the Nova Scotia Museum of Natural History Property to the east side of the Summer Road sidewalk, then running southward parallel to the sidewalk where it then turns 90° to run westward across Summer Street to hook up to the steam line at the QEII Hospital. A new catch basin was installed to the south of the entrance into the employee parking lot of the museum (MH1). An accessory steam line also runs from a newly installed catch basin (MH2) approximately 0.67 metres west of Bell Road to the foundation of the museum building (Figure 2.0-1). The approximate length of the excavated trench is 300 metres. The trench was excavated to an average depth of 2 metres below surface.

3.0 METHODOLOGY

Mechanical excavation of the trenching and catch basin placements was monitored by an archaeologist. The soil was stripped horizontally from the trench at an approximate depth of 6 inches at a time so that any soil changes or cultural anomalies could be observed. In various areas throughout the trench, stratigraphic profiles were recorded. A representative sample of artifacts was collected from all areas of the trench and catch basin locations (Appendix B). On one occasion, the on site archaeologist requested that the excavation halt briefly in order to properly evaluate and record an archaeological feature. The excavation was recorded through standard field notes (Appendix C), drawings, and photographs. The horizontal and vertical location of the single *in situ*

feature that was encountered was recorded by the construction manager using a total station (Figure 2.0-2).

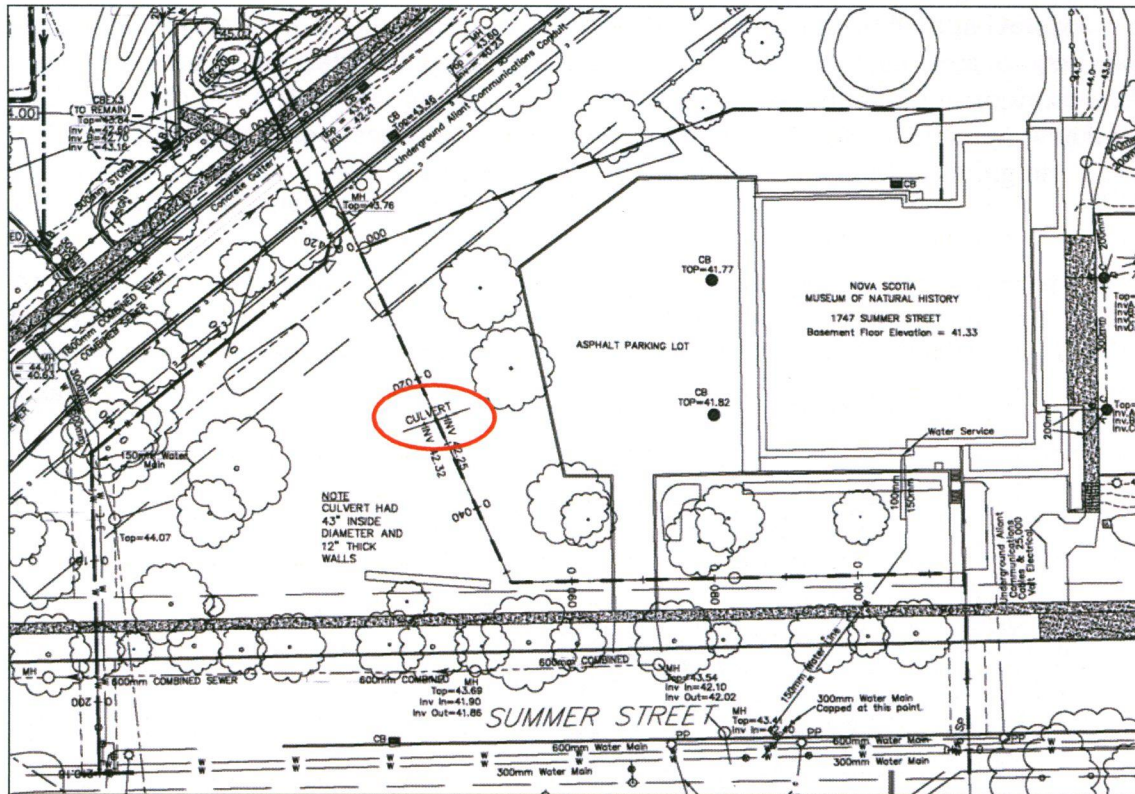


Figure 2.0-2: Location of the mortared stone culvert discovered during excavation.

3.1 Historical Background

A previous report by Powell (2003) for monitoring of excavation for extension of the Nova Scotia Museum visitor's parking lot contains a detailed reconstruction of the past land use of the area. To briefly summarize, in the early to mid nineteenth century, the land contained within the study area was part of the north Commons which extended from Cunard Street to South Street and lying between Robie Street to the west and South Park Street to the east. The Commons were open space, much of which was used as a dumping ground. Mid nineteenth century accounts describe the area on the north end of the Public Gardens as a swampy wasteland littered with refuse of every sort. Ambrose F. Church's map of Halifax in 1865 shows this area as open space (Figure 3.1-1).

In the nineteenth century, Freshwater Brook ran through this city block between Griffin's Pond in the Public Gardens and Egg Pond at the north commons (now the skateboard park). The land was undeveloped throughout the nineteenth century and much of the twentieth century. Hopkins's 1878 City Atlas of Halifax shows Freshwater Brook with two eastward branches off the main water course. The area was likely very wet

particularly in the spring at times of high water. The Atlas indicates the land as property of the City of Halifax (Figure 3.1-2). In 1879, the land still appears undeveloped and the course of Freshwater Brook is not visible, although it may have ran through two parallel lines of trees (Figure 3.1-3). A map surveyed by the Department of Militia Defence sometime prior to the Halifax Explosion again shows the development area as open space (Figure 3.1-4). The 1957 topographic map of Halifax shows a building in approximately the same location as the present-day Nova Scotia Museum of Natural History, which was constructed in the late 1960s as well as a second building to the north fronting on Summer Street (Figure 3.1-5).

At some point in the nineteenth century, parts of Freshwater Brook were diverted and later channelled through culverts. Eventually, the brook was channelled through underground pipes, becoming a sewer. Little evidence of Freshwater Brook remains today.¹



Figure 3.1-1: Ambrose F. Church's map of Halifax in 1865.² Freshwater Brook runs through the study area between the Egg Pond to the north and Griffin's Pond to the south.

¹ Douglas, 2003.

² Church, 1865.

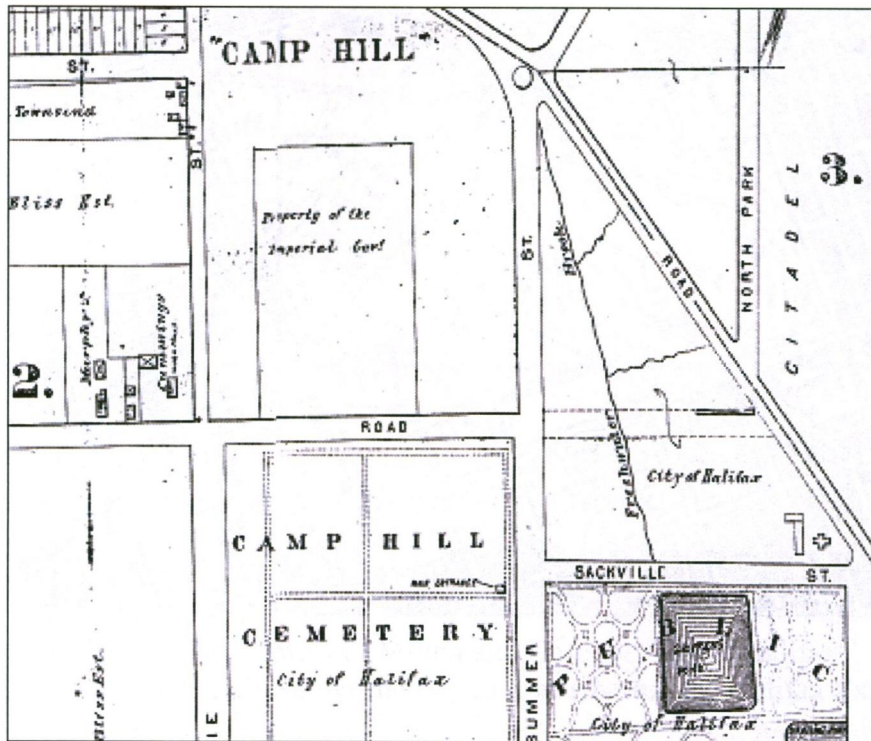


Figure 3.1-2: Hopkins's 1878 City Atlas of Halifax showing Freshwater Brook running through the study area.³

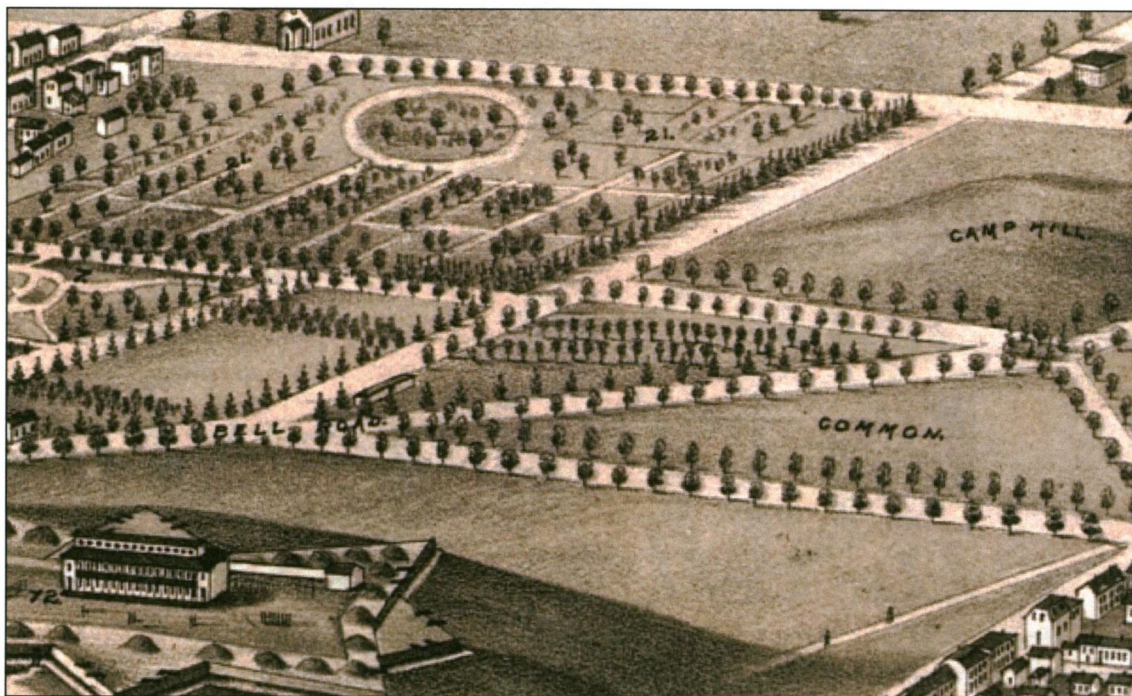


Figure 3.1-3: 1879 Panoramic view of Halifax showing the Commons.⁴

³ Hopkins, 1878.

⁴ Ruger, 1879.

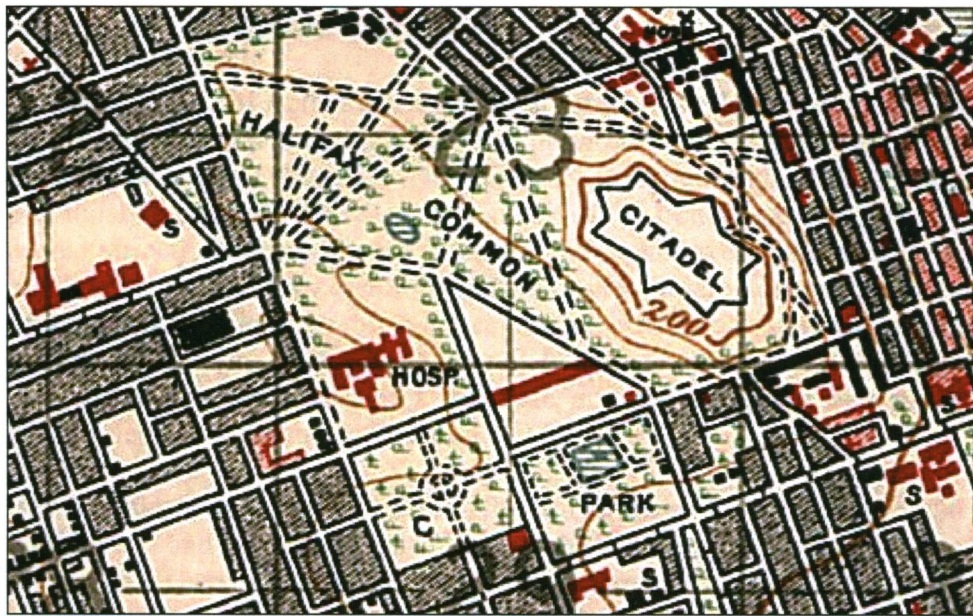


Figure 3.1-4: Department of Militia and Defence map of Halifax.⁵ Although the map was published in 1918, it shows the city as it was before the Halifax Explosion.



Figure 3.1-5: 1957 Topographical Map of Halifax showing a building at the north end of the study area on Summer Street and another in approximately the location of the present-day Nova Scotia Museum of Natural History building.⁶

⁵ Survey Division, Department of Militia and Defense, 1918.

⁶ National Topographic Series, 1957.

4.0 RESULTS AND DISCUSSION

On the west side of Bell Road, excavation for the installation of a catch basin (MH3, Figure 2.0-1) revealed that this area had previously been extensively disturbed to the full depth of excavation (Plate 1). The soil stratigraphy throughout the main trench had been previously disturbed. The easternmost half of the trench was comprised of broken up asphalt directly beneath the sod. Beneath the asphalt were patches of gravel fill and/or medium brown and grey disturbed soil and ash with late nineteenth to late twentieth century debris including whiteware ceramics, vitrified earthenware ceramics, bottle glass, and metal strapping among other debris. Disturbed architectural debris including granite curb, cut rectangular stone, brick, concrete, and cast iron pipes were present below this to the full depth of excavation (Plate 2).

Beyond this, toward Summer Street, the soil stratigraphy was comprised mainly of mottled soil and ash, as well as cultural materials similar to those found in the east half of the trench. There was a significant amount more of architectural debris in this area although it was apparent that the debris was a result of demolition or, more likely, dumping and was not structural in nature. The debris appeared to be related to a late nineteenth or early twentieth century building, possibly the building shown on Summer Street or the rectangular building in the vicinity of the present-day Nova Scotia Museum of Natural History building.

Approximately 22 metres southwest of MH2 a well-mortared stone culvert was encountered at approximately 1.55 metres below surface. The culvert measured 1.09 metres in diameter with a 0.30-metre-thick wall and was full of water (Plates 3 and 4). The bedrock had been excavated into for installation of the culvert. This culvert may be related to the diversion of Freshwater Brook in the nineteenth century. The culvert was recorded *in situ*. However, the portion of the culvert contained within the trench had to be removed for installation of the steam pipe.

Beneath Bell Road, the west side of the trench was extensively disturbed from previous sewer and electrical conduit installations. The area beneath the center of the road was relatively undisturbed with two layers of asphalt approximately 20 cm thick on top of beach cobbles. There was no evidence of cultural activities or disturbance in this area.

Beneath Summer Street were remnants of midden materials including ash, bone, and household refuse likely associated with the nineteenth century city dump. Beyond this, adjacent to the QEII Hospital building, the ground had been disturbed by previous installation of a catch basin.

The accessory steam line trench from MH2 to the Nova Scotia Museum of Natural History building was comprised of deposits of midden material above natural till. Adjacent to the retaining wall for the Museum's employee parking lot, the till had been extensively disturbed by excavation for the parking lot. Modern refuse including a tennis ball, plastic bags, and soda cans were observed in the trench here. Adjacent to the building itself, disturbance as a result of excavation for the building construction and

installation of a catch basin was evident as well (Plate 5). Approximately 4 metres east of the museum building was a definitive layer of brick and building debris with artifacts dating to the mid to late nineteenth century. The strata was relatively undisturbed and it appeared that a building had been demolished here, possibly the same building shown on the 1957 map in the general of the museum (Plate 6).

A representative sample of artifacts was collected from all areas of the excavation. The artifacts present dated to the late nineteenth through late twentieth centuries.

5.0 CONCLUSIONS AND RECOMMENDATIONS

With the exception of the mortared stone culvert, no additional significant archaeological resources were encountered during the excavation. Previous archaeological assessments for the extension of the Nova Scotia Museum of Natural History visitor's parking lot (Powell 2003), the Bengal Lancers new riding paddock (DAC 2006), and the Public Gardens (Black Spruce Heritage Services 2004, Fowler 2005, and DAC 2006) have identified large deposits associated with the nineteenth century city dump.

No additional archaeological mitigation is recommended for the development area. However, it should be noted that *in situ* remnants of the stone culvert likely exist to the north and south of this trench. Therefore, it is recommended that an archaeological assessment be conducted should there be any further impact to the north end of the Nova Scotia Museum of Natural History property.

6.0 REFERENCES

Black Spruce Heritage Services. 2004. *Halifax Public Gardens: Archaeology During the 2004 Restoration*. Heritage Research Permit A2004NS51. Manuscript on file, Nova Scotia Museum.

Church, Ambrose F. 1865. *Topographical Township Map of Halifax County*. A. F. Church & Co., Halifax.

Davis Archaeological Consultants Limited. 2006. *Bengal Lancers New Riding Paddock: Archaeological Resource Impact Assessment*. Heritage Research Permit A2006NS37. Manuscript on file, Nova Scotia Museum.

Davis Archaeological Consultants Limited. 2006. *Halifax Public Gardens: Archaeological Resource Impact Assessment*. Heritage Research Permit A2005NS10. Manuscript on file, Nova Scotia Museum.

Douglas, Linda. 2003. "Awakening Our Sense of Water: Recovering Halifax's heritage stream". *Between the Issues: An Ecology Action Centre Publication*. Volume 21, No. 1. Page 13.

Hopkins, H. W. 1878. *City Atlas of Halifax, Nova Scotia*. Provincial Survey and Pub. Co.

Powell, Stephen. 2003. *Heritage Research Permit Report: A2002NS39. Nova Scotia Museum of Natural History Parking Lot Expansion*. Manuscript on file, Nova Scotia Museum.

Ruger, A. *Panoramic view of the city of Halifax, Nova Scotia*.

Survey Division, Department of Militia and Defence 1918, No. 133a.

PLATES



Plate 1: Disturbance on the west side of Bell Road in the area of the catch basin installation.



Plate 2: Disturbed soil and cultural debris in the east end of the main trench.



Plate 3: Top of the mortared stone culvert upon initial discovery. Backhoe has broken through the top of the feature.



Plate 4: Mortared stone culvert in profile after removal of the top portion, looking south. On the left side of the culvert is bedrock which has been excavated.



Plate 5: Disturbance adjacent to the museum building as a result of previous catch basin installation (catch basin can be seen in the left foreground).



Plate 6: Possible remnant of a brick building to the east of the museum building. This may be the building shown on the 1957 map where the Nova Scotia Museum of Natural History is now located.



Clockwise from top left:

- BdCv-36:52**
- BdCv-36:65**
- BdCv-36:53**
- BdCv-36:56**
- BdCv-36:63**
- BdCv-36:49**
- BdCv-36:54**

Plate 7: Late nineteenth century stoneware bottles collected during excavation.



Clockwise from top left:

- BdCv-36:48**
- BdCv-36:62**
- BdCv-36:47**
- BdCv-36:45**
- BdCv-36:44**
- BdCv-36:46**

Plate 8: Late nineteenth century bottles collected during excavation.



Clockwise from top left:
BdCv-36:60
BdCv-36:61
BdCv-36:58
BdCv-36:59

Plate 9: Early to mid twentieth century bottles collected during excavation.



Plate 10: Clockwise from top left: Clay tobacco pipe (BdCv-36:51), purple transfer printed pearlware ladle (BdCv-36:64), salt-glazed stoneware crock (BdCv-36:57), stamped pearlware tea cup (BdCv-36:50).

**APPENDIX A:
HERITAGE RESEARCH PERMITS**



Nova Scotia Museum
Special Places Protection Act,
R.S.N.S. 1989

Application for
**Heritage
Research Permit**

(Archaeology)

(Original becomes Permit when approved
by the Executive Director of the Nova
Scotia Museum)

Permit No. **A2007NS04**

The undersigned April MacIntyre
of c/o 6519 Oak Street, Halifax, NS B3L 1H6
representing (institution) Davis Archaeological Consultants Limited
hereby applies for a permit under Section 8 of the Special Places Protection Act to carry out archaeological investigations during the period:
from 02 January 2007 to 31 March 2007
at Halifax Citadel High School Steam Line Routing
general location North end of Nova Scotia Museum property, Summer St and Bell Rd, Halifax
specific location(s) (cite Borden numbers and UTM designations where appropriate)

and as described separately in accordance with the attached Project Description. Please refer to the appropriate Archaeological Heritage Research Permit Guidelines for the appropriate Project Description format.

I certify that I am familiar with the provisions of the Special Places Protection Act of Nova Scotia, and that I will abide by the terms and conditions listed in the Heritage Research Permit Guidelines for the category (check one).

- Category A - Archaeological Reconnaissance
- Category B - Archaeological Research
- Category C - Archaeological Resource Impact Assessment

Signature of applicant April MacIntyre Date 14 December 2007

Approved: See Paul Date 19 December 2007
Executive Director



Nova Scotia Museum
Special Places Protection Act,
R.S.N.S. 1989

Application for
**Heritage
Research Permit**
(Archaeology)

Permit No. **A2006NS79**

(Original becomes Permit when approved
by the Executive Director of the Nova
Scotia Museum)

The undersigned April MacIntyre
of c/o 6519 Oak Street, Halifax, NS B3L 1H6
representing (institution) Davis Archaeological Consultants Limited

hereby applies for a permit under Section 8 of the Special Places Protection Act to carry out archaeological investigations during the period:

from 30 November 2006 to 31 December 2006

at Halifax Citadel High School Steam Line Routing

general location North end of Nova Scotia Museum property, Summer St and Bell Rd, Halifax

specific location(s) (cite Borden numbers and UTM designations where appropriate)

and as described separately in accordance with the attached Project Description. Please refer to the appropriate Archaeological Heritage Research Permit Guidelines for the appropriate Project Description format.

I certify that I am familiar with the provisions of the Special Places Protection Act of Nova Scotia, and that I will abide by the terms and conditions listed in the Heritage Research Permit Guidelines for the category (check one).

- Category A - Archaeological Reconnaissance
- Category B - Archaeological Research
- Category C - Archaeological Resource Impact Assessment

Signature of applicant April MacIntyre Date 21 November 2006

Approved: Executive Director Beehed Date 29 NOV 2006

**APPENDIX B:
ARTIFACT CATALOGUE**

FULL ENTITY NAME	Object Subtype	Object Portion	Material	Dec Technique	Collection Unit	Feature No	Quantity
BdCv-36:0044-Bottle-Soda	Whelan & Ferguson	Complete	Glass		East side of NSM, North-South trench near northeast corner of NSM.	Dump deposit	1
BdCv-36:0045-Bottle-Soda	W. H. Donovan	Complete	Glass		East side of NSM, North-South trench near northeast corner of NSM.	Dump deposit	1
BdCv-36:0046-Bottle-Soda	Felix J. Quinn	Complete	Glass		East side of NSM, North-South trench near northeast corner of NSM.	Dump deposit	1
BdCv-36:0047-Bottle-Druggist	Florida Water	Complete	Glass		East side of NSM, North-South trench near northeast corner of NSM.	Dump deposit	1
BdCv-36:0048-Bottle-Liniment	Minard's Liniment	Complete	Glass		East side of NSM, North-South trench near northeast corner of NSM.	Dump deposit	1
BdCv-36:0049-Ink Well		Complete	Ceramic, Coarse Stoneware	Salt glazed	Summer Street west to wall of QEII Hospital heat plant	Domestic Midden	1
BdCv-36:0050-Pipe		Bowl	Clay, White Ball (pipe clay)		Summer Street west to wall of QEII Hospital heat plant	Domestic Midden	1
BdCv-36:0051-Cup-Tea cup		Rim	Ceramic, Pearlware	Stamped	Summer Street west to wall of QEII Hospital heat plant	Domestic Midden	1
BdCv-36:0052-Ink Bottle		Complete	Ceramic, Coarse Stoneware	Salt glazed	Summer Street west to wall of QEII Hospital heat plant	Domestic Midden	1
BdCv-36:0053-Bottle-Beer/Ale		Complete	Ceramic, Coarse Stoneware	Salt glazed	Summer Street west to wall of QEII Hospital heat plant	Domestic Midden	1
BdCv-36:0054-Bottle-Blacking		Complete	Ceramic, Coarse Stoneware	Salt glazed	Summer Street west to wall of QEII Hospital heat plant	Domestic Midden	1
BdCv-36:0055-Bottle-Wine?		Complete	Glass		Summer Street west to wall of QEII Hospital heat plant	Domestic Midden	1
BdCv-36:0056-Bottle-Ginger Beer	James Roue	Complete	Ceramic, Coarse Stoneware		East side of NSM, North-South trench		1
BdCv-36:0057-Bottle		Base	Ceramic, Coarse Stoneware	Salt glazed	East side of NSM, North-South trench		1
BdCv-36:0058-Bottle-Soda	Acadia	Complete	Glass		West side of NSM, North-South trench.		1
BdCv-36:0059-Bottle-Soda	Arctic Beverage Company	Complete	Glass	Silk screen	West side of NSM, North-South trench.		1
BdCv-36:0060-Bottle-Milk	1/2 pint	Complete	Glass		West side of NSM, North-South trench.		1
BdCv-36:0061-Bottle-Milk		Complete	Glass		West side of NSM, North-South trench.		1
BdCv-36:0062-Bottle-Medicine		Complete	Glass		West side of NSM, North-South trench.		1
BdCv-36:0063-Ink Well		Complete	Ceramic, Coarse Stoneware	Salt glazed	West side of NSM, North-South trench.		1
BdCv-36:0064-Ladle		Bowl	Ceramic, Pearlware	Purple transfer printed	West side of NSM, North-South trench.		1
BdCv-36:0065-Bottle-Beer		Complete	Ceramic, Coarse Stoneware	Salt glazed	Summer Street, east side beneath sidewalk at 90 degree pipe bend.		1

BdCv – 36:44

Note: Letters missing

FELIX J. QUINN

(image of FELIX J. QUINN trademark)

REGISTERED

ODA WATER MANUER

HALIFAX N

BdCv – 36:45

WHELAN & FERGUSON

TRADE



MARK

REG^D

HALIFAX

NS

BdCv – 36:46

W H DONOVAN

(image of W H Donovan trademark)

HALIFAX

BdCv – 36:47

FLORIDA WATER

MURRAY & LANMAN

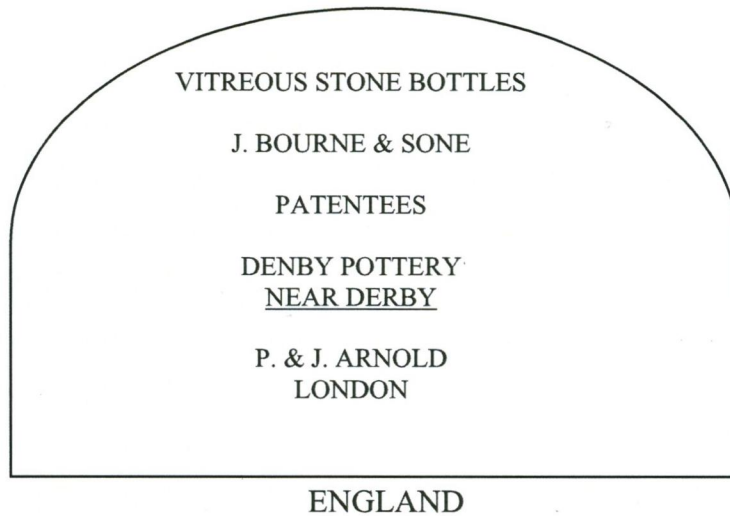
DRUGGISTS
NEW YORK

BdCv – 36:48

MINARD'S

LINIMENT

BdCv – 36:57



BdCv – 36:58

ACADIA (wrapped around neck)

(trade mark image Evangeline)

Acadia (both sides)

DESIGN REGISTERED MIN. CONTENTS 6 ozs.

EVANGELINE BEVERAGE
LTD MONCTON NB

BdCv – 36:59

Front of bottle:

ARCTIC
High Quality
BEVERAGES

Back of bottle:

Quality Beverages
MADE FROM THE
FINEST INGREDIENTS
MANUFACTURED BY

The ARCTIC BEVERAGE CO.
HALIFAX – CANADA

THE CROWN TELLS THE FLAVOUR
CONTENTS 8 FLUID OZS.

BdCv – 36:60

*Johnson's
Maple Leaf Dairy
Ltd.*

BdCv – 36:61

(image of Farmers Limited logo)

FARMERS
LIMITED
HALIFAX N.S.

BdCv – 36:62

SIROP DE GOMME DE PINETTE
COMPOSE
DES SOEURS DE LA PROVIDENCE
ENRIGISTRE

**APPENDIX C:
FIELD NOTES**

Field Notes
April D. MacIntyre

Monday, 4 December 2006:

8:30 Arrived at site and checked in with office. Duct bank still under excavation. Awaiting word on start up time for excavation of MH2.

Area where MH2 is going has seen some surface disturbance from work that went on here in the late summer/early fall (photo, looking south). Back lawn of the museum where steam line is going has been graded and landscaped in the past. (Two photos, 1 looking east, 1 looking south).

Starting to rain by 9:00

Thursday, 22 March 2007:

8:00 Arrived on site. Cold (-4°C) and overcast. Crew dug out man hole on Tuesday morning but this wall all disturbed twice before (photo, looking towards Bell Road.). Crew also took out a small hedge this morning on the west side of the manhole. Soil matrix is medium brown sandy loam and gravel (fill). Sterile mottled with fill directly beneath.

Photos: Development area before digging, 1) looking west toward Summer Street, 2) looking east toward Bell Road, 3) looking south toward Spring Garden Road.

Debris in fill including modern brick, circular iron brace (pipe?), asphalt. Plastic chip bag, newspaper etc in top 42 cm.

2 photos: Disturbance adjacent to manhole, facing north, *showing old waterline for NSCC running N-S on west side of manhole.

Photo: N profile of trench 3 m west of manhole.

Approximately 2.5 m to bedrock from surface.

Asphalt is visible approximately 10 cm below top of sod (photo, looking west toward Summer Street).

Approximately 10 cm thickness of dark grey ash and rock at approximately 20 cm below top of sod (directly beneath asphalt). Jimmy (backhoe operator) scraped the top. No cultural material found (photo, facing south).

Photo: South wall profile, approximately 3 m west of manhole.

At approximately ½ way between east and west ends of NSM parking lot, there is patchy gravel fill directly beneath the asphalt. On the south edge of trench, cultural soil (dark brown/grey ash and rock, metal strapping). Rectangular concrete blocks (½' x 1'). Two

pieces of WRE with green glaze on exterior collected from this. Appears to be modern fill.

Photo: Old cast iron pipe approximately 1.2 m below surface in south wall of trench. Out of context.

9:30 Crew needs to break up bedrock in trench to get to low enough elevation for drainage, so I left.

Returned at 11:15. Soil matrix is still grey/brown ash and rock. Ceramics (VEW) recent leather boot.

Cut granite stone approximately 2 m long by 25 cm wide by 12 cm (displaced) tar from asphalt on one side. Curb? Or gutter? Immediately north of maple tree a significant amount of cut stone coming out of this area. Also, round cobble stones and brick. Few pieces of whiteware ceramics. Material is not structural (no mortar and stone is loose). Also a few bricks, more dislodged cut granite. This is broken into pieces. Poor grade concrete with bricks adhering to one side.

Approximately 1 m west of the maple tree, hit water (Freshwater Brook?) at approximately 2 m below surface. Cut stone and brick is likely from when Freshwater Brook was filled in.

Appears to be a mortared stone footing c. 0.75 m wide running through width of trench (N-S). On west side of wall is broken up bedrock and fill material. On east side is water. Depth below surface to top of feature (?) is approximately 1.2 m.

Stone sewer drain. Constructed of Halifax slate and mortar. Still very solid. Still water inside. 2.66 m long section exposed (N-S). Diameter approximately 1.54 m.

Pipe was excavated into the bedrock, to a depth of at least 2 m below surface of bedrock. Crew is pumping out water now, should then get a better look at the feature.

Photos: N profile of pipe
S profile of pipe

Jim Blakeney will survey the location and depth of the drain with total station and send us a map and coordinates.

CEW drain pipe (broken) fragments in fill near west end of trench.

Monday, 26 March 2007:

8:00 Manhole excavation on Summer Street. Soil beneath sod is sandy medium brown loam. Beneath that is dark brown sandy cultural layer. Cut granite curb block again, chunks of asphalt, broken up CEW drain pipe.

Pepsi bottle at approximately 50 cm depth below surface. Significant amount of stone rubble at this depth. Brick. Blue and white WRE sheds.

Grey/green natural till at approximately 70 cm below surface

2.05 m to top of orange till (sterile).

Left at 9:00

Tuesday, 27 March 2007:

9:00 Digging trench across the north parking lot (employee parking lot) at NSM. More broken granite curb. Blocks are square with square opening in centre. Other is square with square bulge in centre: as if they fit together (photo). Soil matrix is disturbed.

Photo: two layers of asphalt on parking lot entrance, under which is gravel fill. Broken CEW drain pipe fragments.

Photo: profile of west wall of trench.

Photo: north profile

Saw a complete stoneware inkwell go into the bucket but was unable to retrieve it. Visit from Steve Powell at 9:15.

Photo: steam line trench, looking east toward Bell Road.

Material beneath asphalt and gravel is clean fill. Water pipe at approximately 50 cm below surface on top of natural till.

2 Photos: west profile beneath NSM employee parking lot.

Photo: east profile beneath NSM employee parking lot.

Twisted wire cable (photo) in fill. Also sheet metal.

Approximately 4 m from north ledge of NSM parking lot entrance, started seeing cultural deposits again. Instructed Jimmy to scrape the surface 6 in. at a time, as he was doing the first day. Lots of tree roots from trees along Summer Street.

Pipe was electrical conduit.

Photo: west wall profile of trench along Summer Street (north of NSM employee parking lot)

Beneath the small hedge along Summer Street (behind bus stop shelter) are several yellow bricks but no structure. Again, clean fill. Lime green complete soda bottle (1950s vintage? – collected)

Finished excavating this portion of the trench by 11:30.

April 24, 2007 **Heather MacLeod-Leslie's notes**

Citadel High Steam Line
Sunny, cool – expected high +14 Celsius.

Arrived on site at 8 a.m. – digging had already begun – east/southeast side of NSM

As expected, matrix was a mix of soil & gravel – no distinct features visible.

Began collecting a representative sample of sherds/ fragments – blue transfer-print, purple transfer-print, ?flow blue?.

Picture (frame): 100_0029, looking west
@ catch basin, sterile soil is at 2.3 metres dbs, possible dump/fill deposit @ 1.6 mds

Frame: 100_0031 = looking nnw – discernible limit of builder's trench for NSM foundation in north profile. Builder's trench appears to extend c. 2.3m east of NSM foundation wall.

Where builder's trench ends, we pick up the reddish, friable stratum from top of old city dump/bottom of old city/field & works' parking lot @ c. 40 cm dbs.

Frame: 100_0032 – blurry pencil tip points to this stratum.

They're going to reposition catch basin.
Offsite 9 a.m.
Onsite 10 a.m.

10:18 – granite with a drill hole in it (c. 75cm e-w x 40cm n-s). Drill hole c. 1.15 m deep.

Frames: 100-0034 – 37 – looking east. Trowel points North.

This piece of granite appears to sit on top of end of old dump red deposit – noted in frame 100_0032, looking east.

Wood is underneath the granite – though not sawn. Glass from c. 15cm below the bottom of the granite is surrounded by crystallized tar.

On the north wall of the catch basin hole – shells & a stoneware seltzer bottle from c. 1.2m dbs – see pics, frames: 100_0038 & 39 – looking NW. Seltzer bottle (dirty) visible on top of gravel (after I removed from hole in profile directly behind where bottle stands.

Hole extended to the east – toward Bell Road & Bengal Lancers' stable – from original trench immediately around catch basin.

Clear stratigraphy visible in the SSE profile of this newly dug extension area.

Frames: 100_0045 & 46 – looking south.

100_0041 – 44 – panorama of the brick fill stratum (between 61 – 74 cm dbs)

Frame: 100_0040 western end of brick stratum.

Stratigraphic scheme: 1 – 20cm dbs: orange landscape fill

20 – 34 cm dbs: grey/black, sand & gravel

34-49 cm dbs: wet & reddish, sandy & black organic with mortar,
burn – dump?

49-55 cm dbs: grey sand – homogenous (?fill?)

55-61 cm dbs: more dump deposit

61-74 cm dbs: brick rubble with complete bricks – little or no
mortar – unaligned brick suggests not *in situ* structural material.

74cm-1m dbs: stone & cement blocks.

Last two strata extends toward NSM from eastern edge of excavator hole, c. 3.3 m west.
Little or no mortar adhered to brick suggests fill.

Brick seems most likely to be demolition material used to stabilize area prior to concrete
paving. Faceted concrete suggests the same.

Frame 100-0045 – looking, NE, faceted concrete emerging in backdirt.

Lunch 12 p.m. – beautiful, warm sunny day. Doing notes and awaiting April's arrival to
pass monitoring off to her.

(Telephone conversation with Steve Powell later that day yields info regarding possible
structure in area near brick stratum – though bricks may be related to structure, I still
doubt if they were *in situ*. Should digging in this area be done in future, expect similar
strata and possible structure remnants in the area under the shrub (south of trench) left in
place during this work – just visible in frame 100-0042(looking south, east wall of NSM
to the west in background) at top.

Tuesday, 24 April 2007: ** April MacIntyre's notes**

12:30 Sunny (15⁰C) Relieved Heather MacLeod-Leslie from morning monitoring. Crew
is just now making the 90⁰ turn to head northward. Crew retrieving several small sherds
of ceramics which I am temporary collecting.

Photo: Excavation on east side of NSM, N-S trench, looking NNW.

Material that is being removed from this trench is being used as fill in the trench
excavated earlier in the month (the E-W trench). Filling portions of the N-S trench with
clean gravel fill to bring it up to necessary grade.

NE corner of NSM: Matrix is comprised of a layer of gravel (recent – about 20 cm below surface) and then clean fill to a depth of approximately 1.10 m below surface. Just skimming the top of the dump deposit.

Photo: Profile of east wall of the N-S trench. Depth below surface = 1.50 m

At NE corner of the NSM, dump deposit is more concentrated. Burned wood, a significant amount; complete soda bottles, hundreds of quahog shells.

Wednesday, 25 April 2007:

7:00 Sunny but cool (3⁰C) Starting excavation on the 22⁰ bend in the N-S trench. Clean fill. Tennis ball. This section is only 2-3 m from the edge of the NSM parking lot (east side) so fill is likely associated with that construction event. Natural till is at about 1 m below surface. Candy wrappers and plastic chip bags in fill.

Left at 8:00. Material being excavated now is natural till and broken bedrock directly beneath sod. No need for me to monitor this. I returned to the lab to retrieve my laptop and return to the site. Remained on site working on other projects from my car. I have a clear view of the excavation from here so I can return to monitoring when needed.

Photo: modern fill near NE corner of the NSM employee parking lot, looking NW.

Tuesday, 22 May 2007: ***Steve Davis' notes***

Arrived 8:30. Excavation from edge of north entrance to Museum parking lot southward towards main entrance. Matrix in section from parking to 15 metres south primarily construction debris – brick, cut granite, broken drainage pipe – very little domestic material.

Left at 2:30.

Wednesday, 30 May 2007:

Arrived 7:00. Excavated trench for Summer Street to Hospital. Domestic midden 30 cm b.s. contained ash, bone, household debris.

From east wall of hospital out 6 metres, area is disturbed. Sewer catch basin at 5 m with buried landscape fabric 1.2 m below surface.

Monday, 18 June 2007:

Arrived 10:15 Citadel High School, Bell Road Crossing.

West side extensively disturbed from previous installations – sewer, electrical conduits. Bell Road to centre relatively undisturbed, two layers of asphalt approximately 20 cm thick on top of beach cobbles – no evidence of cultural activities or disturbances.

Left site at 11:30.