

“Under the Street:”

Archaeology and the Harbour Interceptor Sewer Project.

An illustrated talk delivered at The Rooms, 24 February 2010



Gerald Penney
Gerald Penney Associates Limited
P.O. Box 428
St. John's, NL
A1C 5K4
(709) 739-722
gpald@nl.rogers.com

“Made ground” and natural features.



Introduction

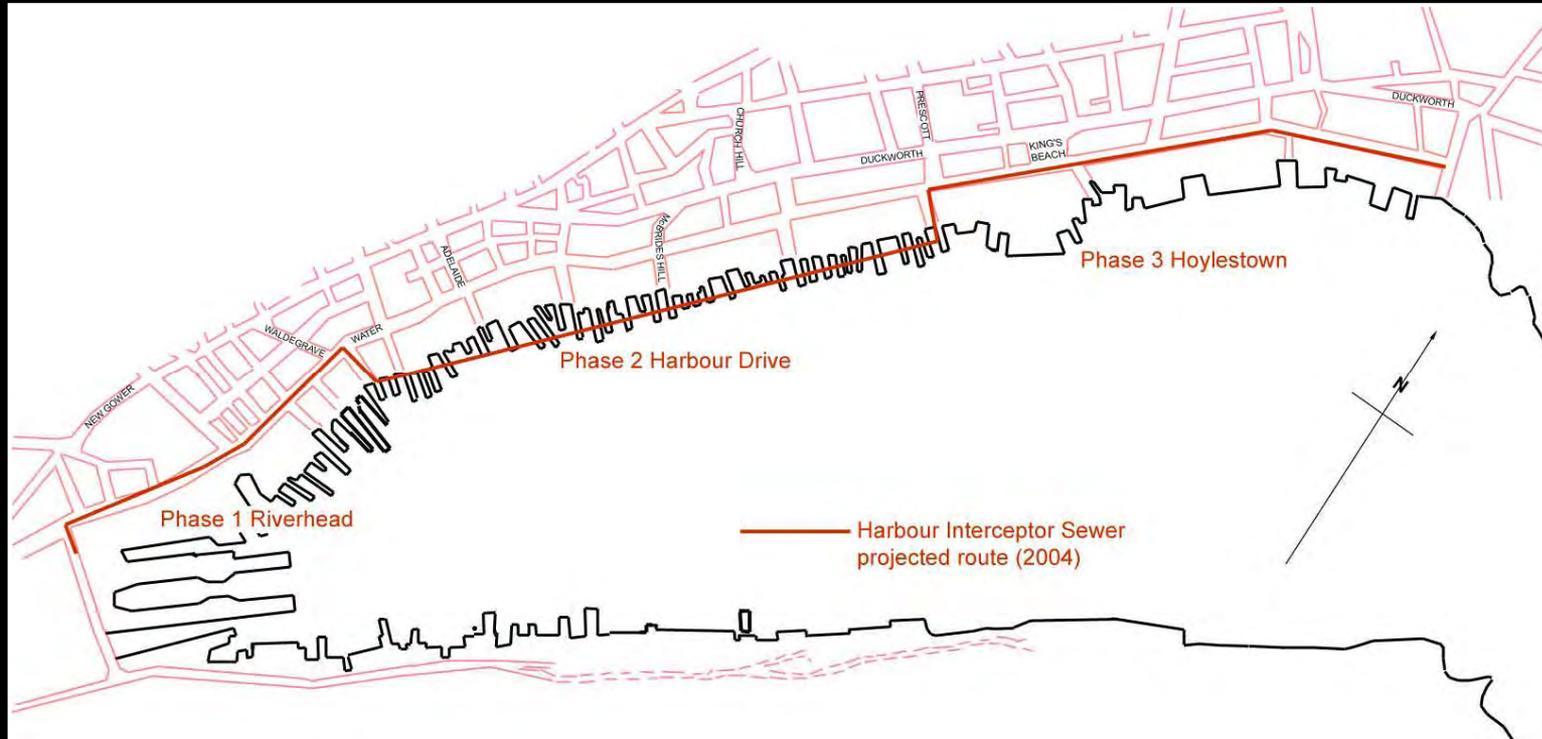
Since 2004 Gerald Penney Associates Limited has been engaged by the City of St. John's to oversee the historic resources component of the Harbor Interceptor Sewer project, otherwise known as the HIS.

Southside Hill Excavation.



Residents of St. John's will all be familiar with the project, from the hole in the Southside Hill, to the disruption of traffic caused by excavating along Harbour Drive.

HIS route projected on an 1885 insurance plan of the harbour.



Gerald Penney Associates Limited acknowledges their partnership with the Grand Concourse Authority who produced the three history boards that provide public interpretation of the three phases of the HIS. The Phase 1 storyboard is on display at Harbourside Park.

Acknowledgements are also due to the project staff:
Historian Bob Cuff.

Field Monitors: Blair Temple and Toby Simpson. Blair is our material culture (ceramic) expert while Toby is a trained surveyor and AutoCad operator.

Susan Kelleher is our researcher/book keeper and librarian.

Cataloguing was professionally performed by Lori Temple; while Miki Lee is our artifact conservator.

Finally, eternal thanks to Ellen Penney for constant support and direction.

Harbour Interceptor Sewer construction phases.



In all, there are 665 km of sewers and storm drains in the City, 8300 manholes and 1200 catch basins. So, a lot of what is under any street in St. John's is sewerage related.

Looking east towards the Kings Beach.



Many of you have seen this photograph before, looking east along Water Street from Prescott Street, prior to the Great Fire of 1892. Not only were all the buildings you see here destroyed by the fire, but the course of Water Street in this area was changed after the fire, to straighten out this curve – which, incidentally followed the historic shoreline. Directly as a result, the area from Prescott Street to the War Memorial is where we found the greatest number of features and artifacts in all the HIS excavations.

Before moving on to the next image; look to the right side, right just by the word “Shoes” – there is a public outhouse.

Paul Emile Miot's St. John's, 1859.



In Newfoundland and Labrador an archaeological object has been defined as “an object showing evidence of manufacture, alteration or use by humans.” It is practically impossible to turn over a shovel of dirt in your garden without finding some cultural object. If the past is all around (and beneath) us, what, if anything, is a “significant” historic resource? What should be preserved or recorded?

This image of Maggoty Cove, taken in 1859, is the earliest photograph of the City.

Maggotty Cove 1900.



This second image shows the same the area at the bottom of Temperance Street, in about 1900. Notice that the boats in the foreground rest on a beach. Anything that provides clues as to the natural shoreline landscape of St. John's is of great interest to archaeologists. Just below the head of the wharf in the foreground you can see a sewer outfall, grandfather of "The Bubble."

Archaeologists would not propose that the bubble should be preserved as a historic site, but we do live in a city that defines, and sells, itself based on heritage resources: the "City of Legends."



Phase 1 sewer pipe installation adjacent to the Newman building at the junction of Springdale Street and Water Street. Note the wooden “sluice” drain bottom right.

Wooden 'sluice' drain (centre) at Springdale Street.



The early sewer system in St. John's is fraught with interest. The first sewers were the brooks that ran down over the hill into the harbour. These were diverted underground about 200 years ago. In this photograph you can see one of the oldest sewers we've identified so far, a wooden sluice.

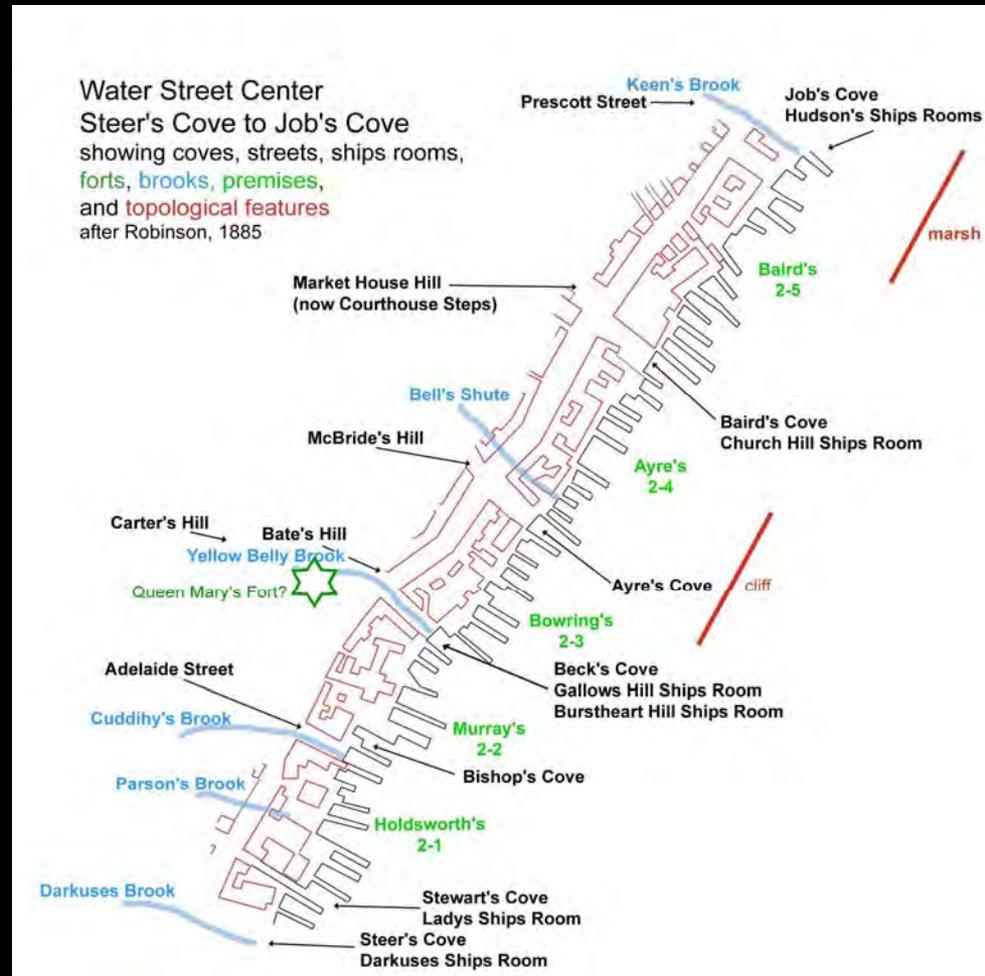
This was built to channel Newmans Brook under what was originally called the "Flowers Hill Fire Break," now Springdale Street, after the Great Fire of 1846. You may be able to discern, above Blair's head, pieces of shattered wooden planks. These are from a "second generation" sewer, made of stone with a V-shaped plank base.

“Uncle Tom” sherd.



Just in case a wooden sewer is not fascinating enough, here's an artifact that we found in one of the overlying silt layers, a sherd from a plate with one of the original illustrations by George Cruikshank, for *Uncle Tom's Cabin*, a style that became popular shortly after publication in 1852.

Brooks



Typical early sewers were natural brooks. These brooks were used for the disposal of household waste for many years prior to being channeled. As archaeologists, we love garbage. Here, we have the indicated locations of six brooks in the central part of Downtown. The brook known as Bells Chute, at the centre of this image, is now Bell Street and McMurdo's Lane.

Ayres Cove



Doulton & Co. ceramic sewer pipe



In the downtown core, the channels for the brooks were more elaborate, such as this stone-built sewer with a ceramic base, which carried Bells Chute into Ayres Cove from about 1860 – datable by the ceramic base, manufactured by Doulton & Co. of Lambeth, South London – who moved on from the manufacture of sewer pipes to become fine china makers Royal Doulton.

Gills Cove Drain in front of Hiscock Rentals.



Here's another beautiful piece of sewage-related infrastructure, a late-18th century drain that once carried Marsh Brook under Livingstone's premises at Gills Cove, near the War Memorial.

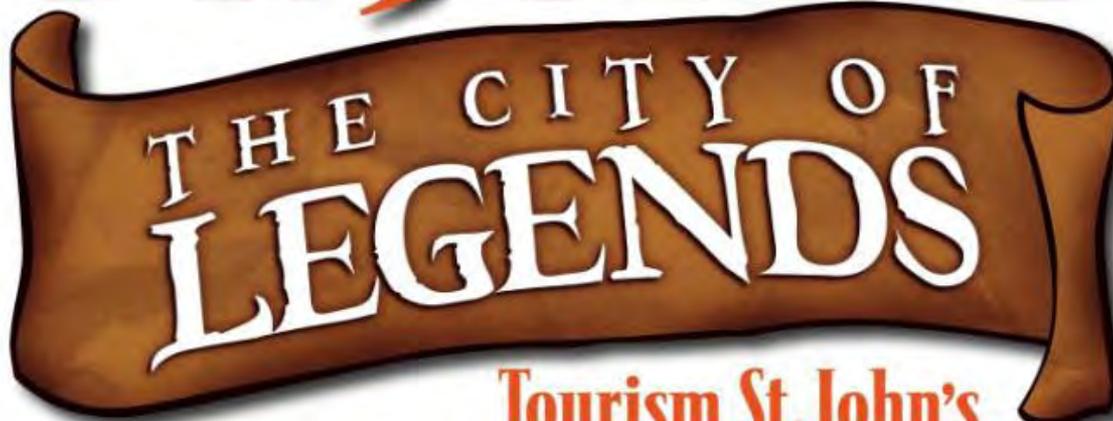
Ovoid brick sewer.



The earliest sewers all emptied directly into the harbour. But, after the City of St. John's was incorporated in 1888, one of the first orders of business was to construct an interceptor (or collector) sewer installed under Water Street. It was built using two methods: either an egg-shaped, double-walled brick pipe, or by tunneling through solid rock.

It is this brick interceptor that was being replaced by the HIS and which was our most frequently-encountered "artifact."

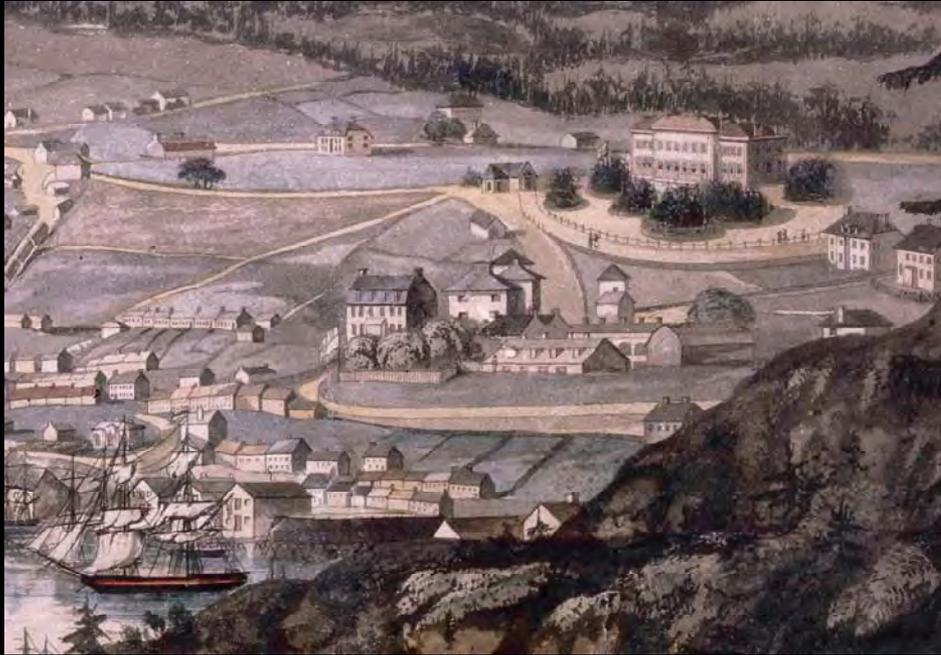
St. John's



Tourism St. John's
Newfoundland & Labrador, Canada

A large part of the archaeological oversight of the HIS has been to systematically collect and analyze city records, photographs, works of art, charts, maps and plans. We feel that we are able to add an understanding of the sometimes murky past of the "City of Legends" and that our assembled materials will assist others.

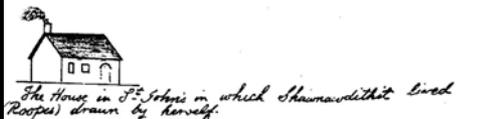
Eager 1831



Shawnawdithit (W. Gosse 1841)



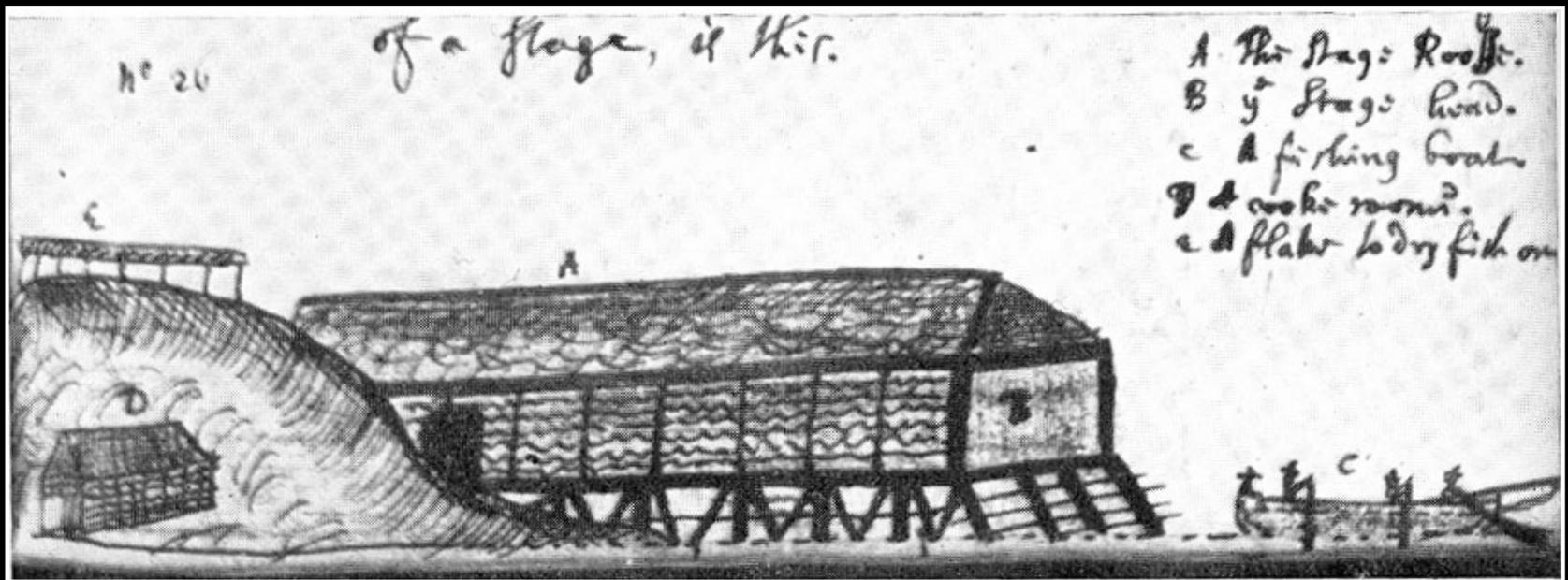
Shawnawdithit House



In our "City of Legends" we are missing the Indian legend: it is remarkable that we have no tradition from pioneer days of a single aboriginal person, village or contact event: no Pocohontas, no Hochelaga, and no Thanksgiving feast.

Shawnawdithit did live in St. John's for the last six months of her life, staying at "Roopes" (near the present-day Newman Building) and at the house of James Simms, at the east end of Gower Street.

James Yonge, 1669.



St. John's harbour was used for a migratory fishery by several European nations, on a regular basis, for a century before we have any hard evidence as to what was going on – and for a century before the colonies at Jamestown, Quebec, Plymouth Rock, Ferryland or Cupids.

“A view of the upper end of the Harbour”
1780 – 1790 D.Serris (?)



In considering the extent to which St. John's is a living landscape, consider this ... the earliest description of land tenure is from 1701, a document we refer to as “Graydon’s list” after Commodore John Graydon. He describes 30 fishing rooms at St. John’s. You can still “find” these today in our City blocks; their boundaries being laneways and gaps between buildings. Early in the HIS project we divided our study area into 17 city blocks for the sake of convenience, not fully understanding at the time that these blocks corresponded to the fishing rooms. (Each block in the central part of the downtown was two fishing rooms. This is how you get from 17 to 27).

17th century layer.



But, other than one projectile point found along the banks of the Waterford River in the 19th century, no archaeological evidence of pre-contact cultures has been found in St. John's or anywhere on the eastern Avalon Peninsula. Not only is there no "first contact" legend, there is a counter-legend that Beothuk "territory" was elsewhere.

So, instead of a projectile point, or a skull, this photograph show what a 17th century cultural layer looks like *in situ*. This is an example from the bottom of Temperance Street. Quite exciting, isn't it?

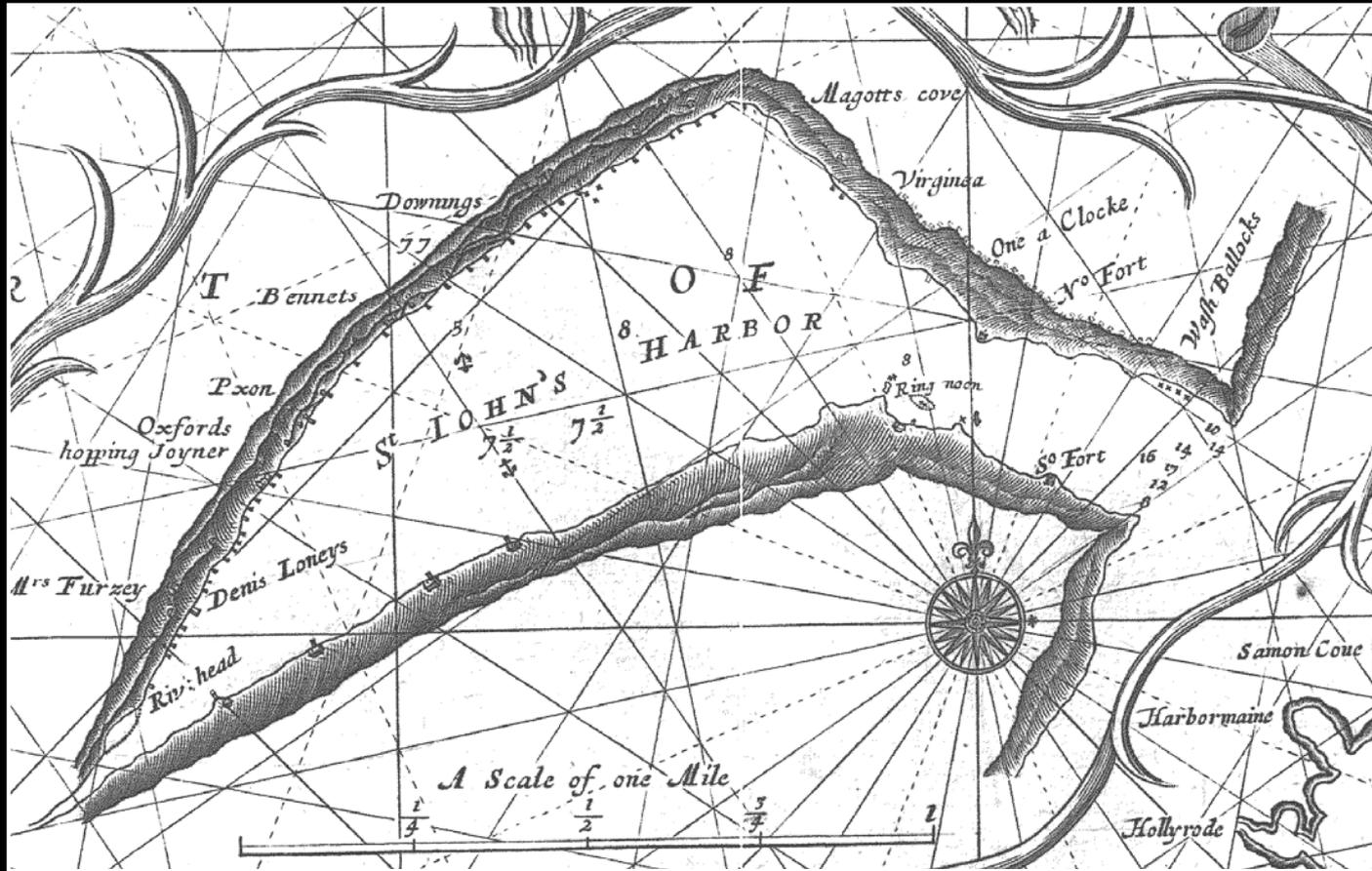
William Gosse, 1837 sketch of Kings Beach.



As suggested previously, the streets in downtown St. John are historical features. The coves were just that, and many of the cross streets (such as Prescott Street, or Barters Hill) were brooks. And Water Street (in broad strokes, the south side of Water Street) was the shoreline. Consequently, most of our most interesting finds have been in areas where the course of Water Street has been changed, either to widen the street or to straighten it.

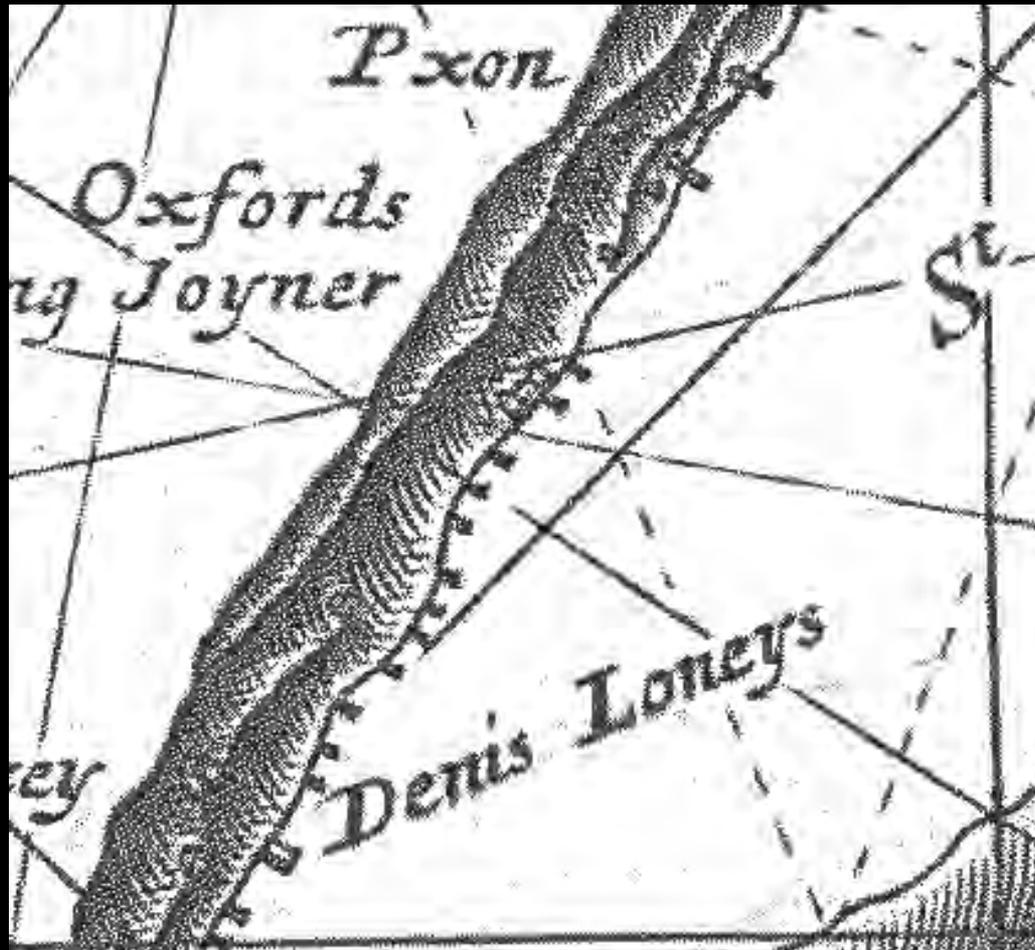
Water Street began as a path along the shoreline between fishing plantations. The name Water Street was first used in 1812, for what had been previously known as the Lower Path.

Southwood 1675



In tracing the original course of Water Street we are very lucky in being able to work from detailed maps and charts. Many of these are from naval sources, for St. John's was the summer base for the British Navy convoy charged with protecting the Newfoundland fishery. Here we have the earliest chart, compiled by Captain Henry Southwood in 1675. Being a navy man, Southwood did not bother to depict a path.

Southwood, Murray premises detail.



The shoreline features he was interested in were the things that were visible from onboard ship. This included landforms, indicated by cross hatching, and houses. Here, for instance, are the houses at Oxford's plantation, in the vicinity of the Murray premises. This is one of the largest of the 29 structures Southwood depicts.

Here is another chart, from a naval source, prepared in 1728. We don't know who created this striking image, although it was probably the naval commodore in that year, Lord Vere Beauclerk, or one of his subordinates.

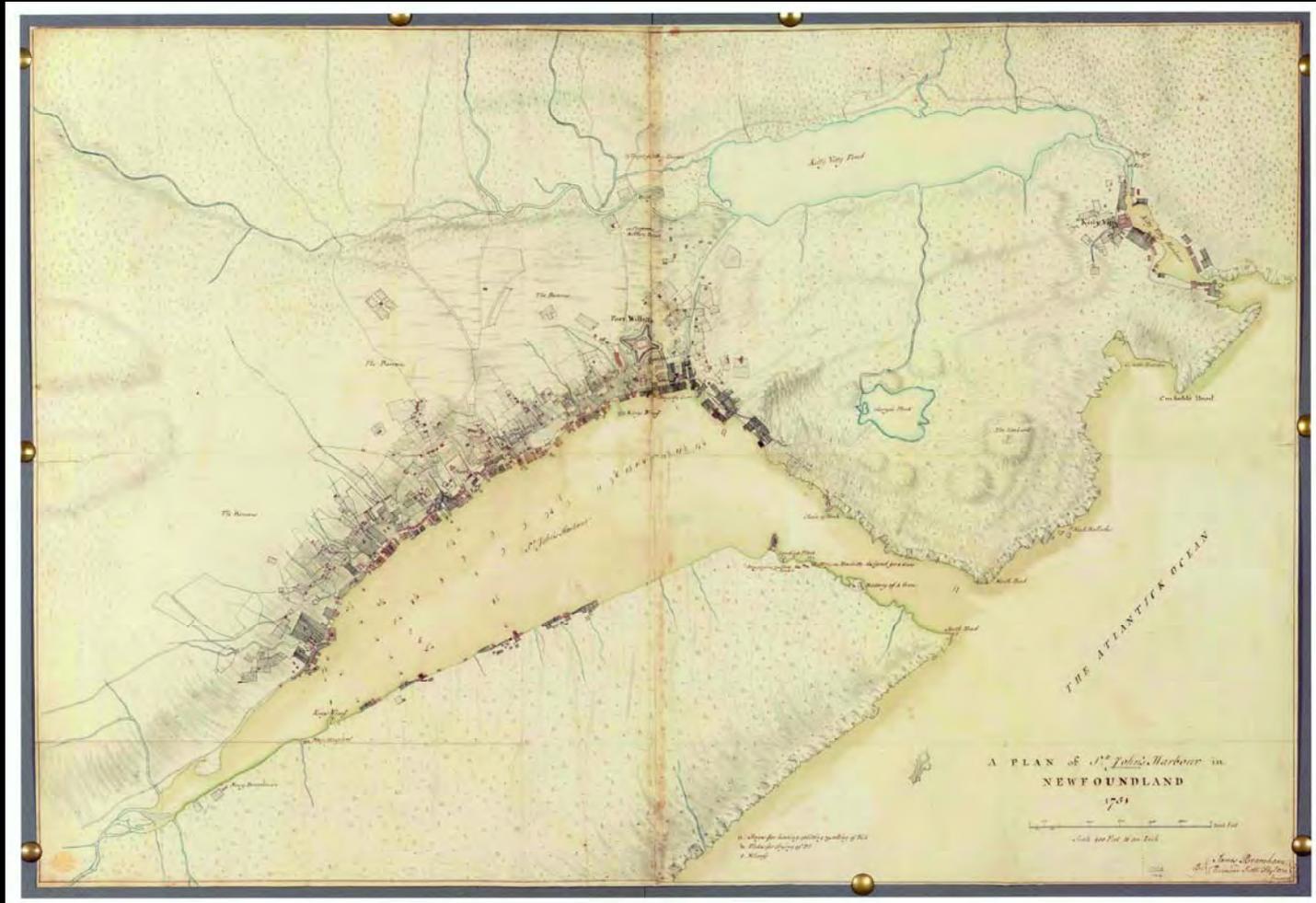


Anon 1728



Again, a detail of the area of the Murray premises, marked "D". "C" is Bates Hill, with flakes on either side. You can see how this chart was also prepared to orient the ship-board visitor with visible man-made landmarks.

Bramham & Hylton, 1751.



Once St. John's became a military garrison, in 1698, military engineers began to produce maps, which give a much better indication of roads than do charts. And so the earliest map of St. John's to show the Lower Path hugging the shoreline was by a Danish-born engineer, Royal Fireworker Sir Martin Beckman, in 1698. It is not a clear image, so it is not reproduced here. This is a map from 1751, produced by engineers James Bramham and Edmond Scott Hylton.

Murray premises overlaid on Bramham & Hylton.



Here again is a close-up of the Murray premises area. You can distinguish merchants' premises, wharves (marked "a") fish flakes covering what is now George Street (marked "b"), brooks.... And of course, you can distinguish the Lower Path, proto-Water Street, only 6-12 feet wide. The shoreline under the stages can be discerned.

Kings Beach

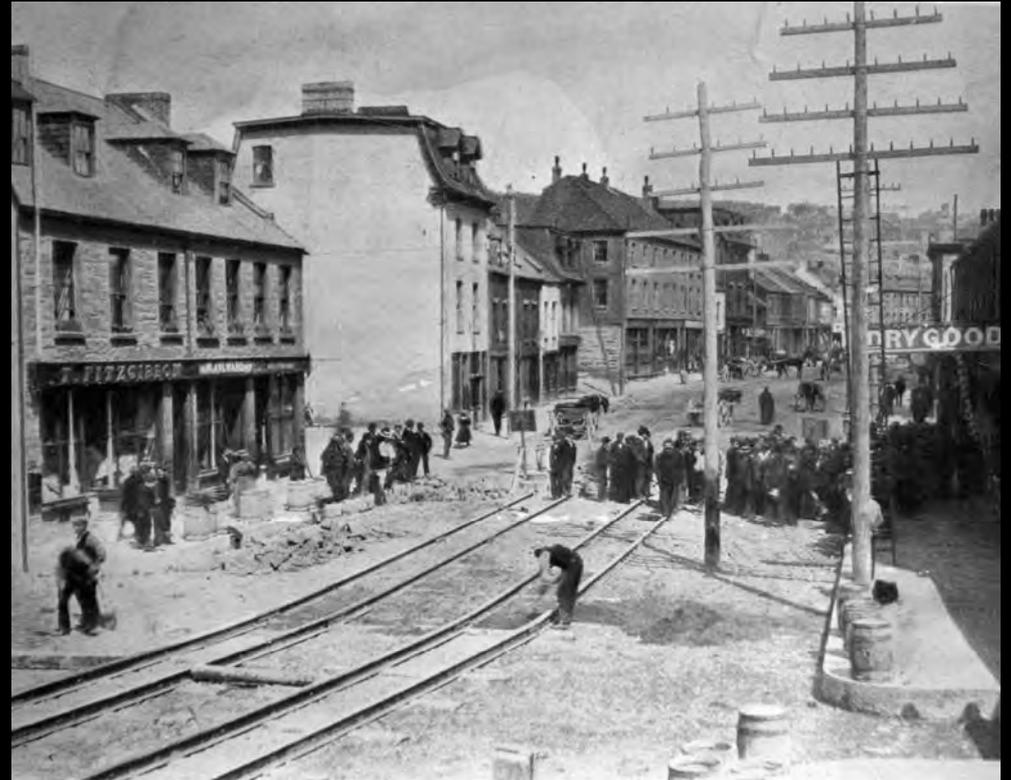


Springdale Street



Laying streetcar tracks, 1899

The John Howard Society Building is on the left at the junction of Water Street and Buchanan Street.



On the bottom left here you can see the area at the bottom of Springdale Street, on the top left the area of the War Memorial (the Kings Beach). In both cases there is a curve in the Lower Path which corresponds to a natural point of beach. These are two places where modern Water Street diverges from the old Lower Path, and also where we have made some of our oldest finds. Looking at the image on the bottom left, you can see a great many flakes, wharves and the course of Newmans Brook. Notice how the broad flake to the north of the path, and just east of the brook, comes to a point at a curve in the street?

The shape of this curve is actually preserved in the shape of the John Howard Society Building, at the corner of Water and Buchanan, which is at an angle to the streetscape.

Beach layer at the bottom of Springdale Street.



In front of the John Howard Society Building is one of the places where we found the old shoreline and beach. Not only that but here we located a feature comprised of layers of boughs and degraded codfish bones. In other words, we have found the remains of fish flakes; “capped” when Water Street was widened and straightened after the Great Fire of 1846.

Flake layer

In front of the John Howard
Society Building.



Shoe leather



In front of the John Howard Society Building is one of the places where we found the old shoreline and beach. Not only that but here we located a feature comprised of layers of boughs and degraded codfish bones. In other words, we have found the remains of fish flakes; “capped” when Water Street was widened and straightened after the Great Fire of 1846.

In this instance we know that a popular tavern, Flood’s was located in this area. Maybe you can picture one of your ancestors tossing his glass out the tavern door and under the flake across the street! Or, maybe, it was his shoe, which fell off when he was chucked out.

Ale bottle
c.1770 - 1790

Late 18th early 19th century wine glass.



Associated with these layers we have found many utilitarian items which help in dating. We have found many, many artifacts that relate to drinking. My favourite quote about “ye olde St. John’s” is from merchant Peter Ougier, who, when asked by a House of Commons parliamentary committee in 1793 “Whether Rum is an Article of Luxury, or a Necessity of Life, at Newfoundland?” replied “It is a material Necessary of Life.”

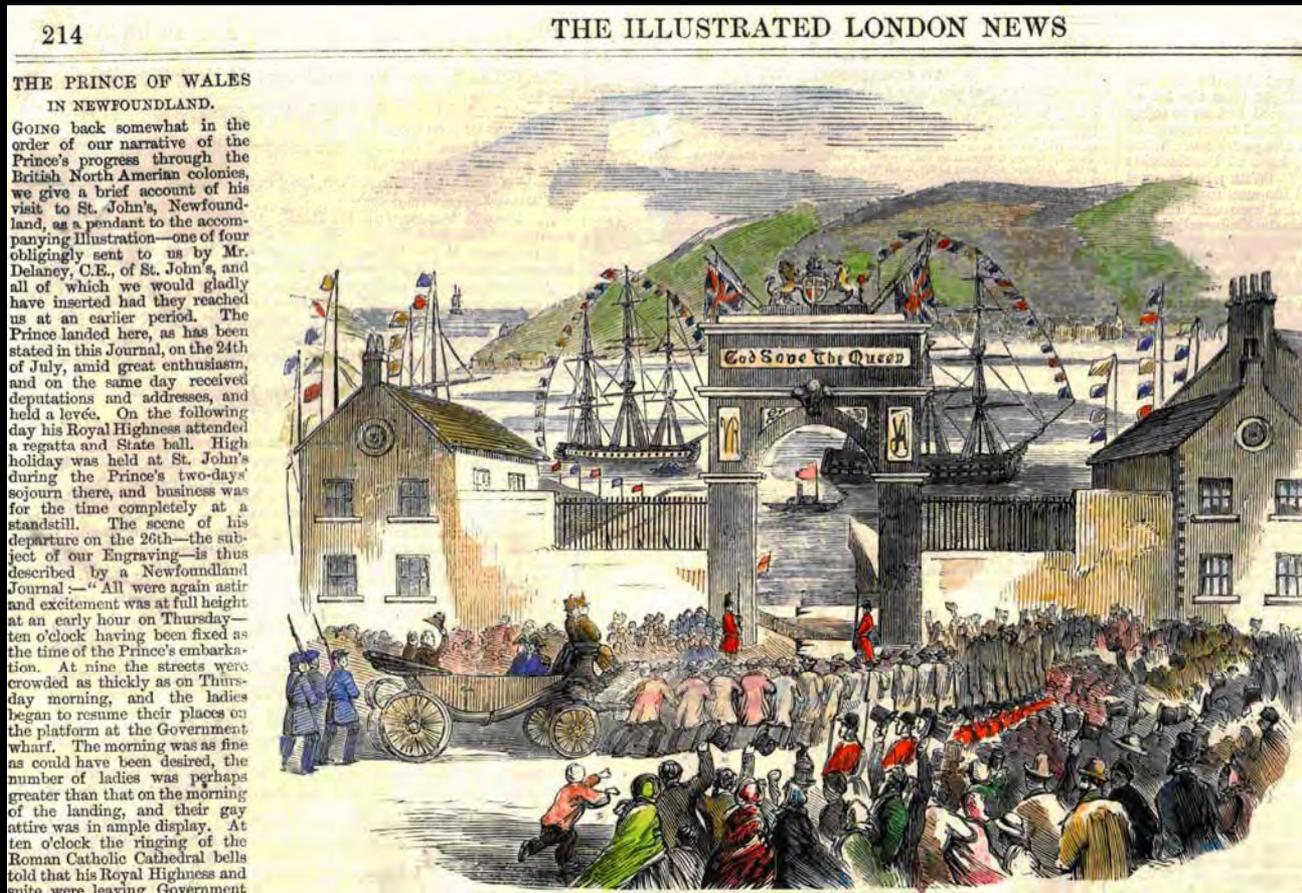
Liquor bottles and drinking vessels are plentiful – and of course very useful for dating deposits – this ale bottle, found near Becks Cove, dates from 1770-80 and is the earliest complete bottle we found.

Type and leading from the Royal Gazette unearthed at
Scanlan's Lane.



Here's another type of find... in fact, its a "find of type" and printers leading from the *Royal Gazette*, Newfoundland's first newspaper.

Departure of the Prince of Wales (1861) Kings Beach (Harbourside Park).



Moving east along the shore to the War Memorial/ Harbourside Park area, we come to another place where Water Street has been considerably altered and a turn that followed the original shoreline taken out, in this case after the Great Fire of 1892.

Blanket of fire rubble and brick in front of the King George V Building.



The Great Fires of 1816-7, 1846 and 1892 were transforming events in St. John's history and we find evidence of them everywhere. In places, the "fire layer" is a metre or more of brick and ash, such as here in front of the King George V Building.

Pile cap



Pile cap (base) found at the bottom of Prescott Street.



We have also found numerous places where fire rubble was dumped into the harbour. At Jobs Cove the method used to “make ground” was to construct a “pile cap” of brick, broken glass and whatever. The technique was to drive closely-spaced wooden piles into the muck, cut them off to level, and spread fire debris over. We speculate that the technique used cement much like spreading the layers of salt on saltbulk codfish, allowing the rain water to percolate through and form a two metre-thick “pad” of concrete.

Stacks of bowls, in situ between Holloway Street &
St. John's Lane – possibly a restaurant ?



Of course, we also find fire-damaged goods from the many shops that burned in the Great Fire. Probably our richest finds were at Martin's crockery shop, predecessors of S.O. Steele at 100 Water Street, and a deposit of soup plates from what we speculate might have been a restaurant.



One of the brown transfer printed soup plates (after cleaning) from a company that began production in Stoke - on – Trent in 1890, only two years before the Great Fire.

Fire-fused ceramics, from J.H. Martins crockery shop,
predecessors of S. O. Steele.



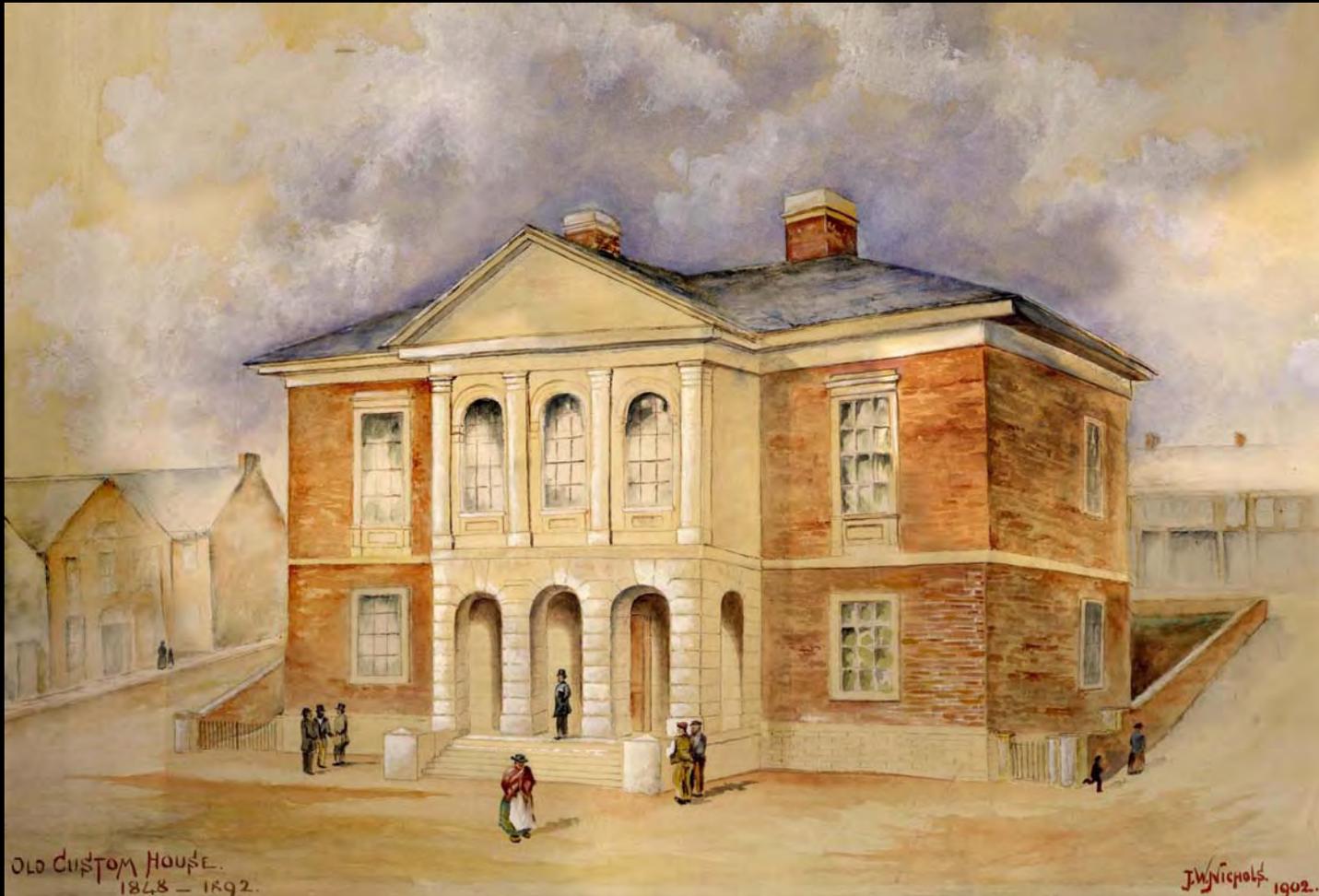


Here's a collection of artifacts that puzzled us for a long time. Any guesses what these are? Does it help if I tell you that they are remains from a tailor's shop. These are tailor's chanks, for marking cloth when making alterations. Part of what took us so long to identify them is the fact that they are no longer chalk, having been "fired" and so transformed into a type of ceramic in the fire of 1892.



Maximum exposure of the Custom House taken from the top of the King George V Building.

Custom House



This is the Custom House, as depicted in a painting by J.W. Nichol, which hangs in the Sir Humphrey Gilbert Building. A large part of the foundation of this structure is under the War Memorial. The part which we excavated, which has been reburied, is in the left of this image. Note the brick surrounding wall, just to the left of the group of men.

Custom House west wall / perimeter wall.



Here it is as excavated.



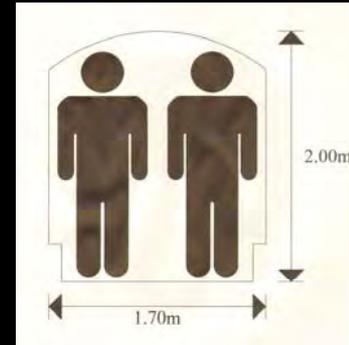
In its day, the harbour leading light was actually on the top of the Custom House.

copper canisters



Among the artifacts that surfaced were a number of copper calcium- carbide canisters, which were used to produce acetylene for the leading light.

Vaulted drain under Water Street, near Victoria Park.



Conclusion

The working title for this presentation was “Tunnels, Tombs and Treasure.” Not that this is what we found under Water Street, but these are three topics which sometimes seemed to be guiding the public’s perception of what archaeology is targeting.

A persistent St. John’s urban legend concerns the multitude of tunnels that are said to have been built under the City – between various forts, connecting merchants premises with their homes, and even under the harbour. We did find many underground chambers, but they were all related to carrying waste water or natural watercourses..... such as this vaulted drain under Water Street, which once carried Bennetts Brook, channeled to provide power to an industrial complex in the vicinity of what is now

Bennett complex at Riverhead.



This is the Bennett complex at Riverhead (at left) in about 1857. The tunnel under Water Street may have connected the brewery (just below the mill pond) with a saw mill across the street. The building at top, right is the old Riverhead Hospital, in what is now Victoria Park.



It may be that the most enduring result of the HIS archaeology project will be our collection, and analysis, of documents, cartography, works of art and photographs concerning the history of St. John's. Copies of those obtained from archives and libraries in Canada and the United Kingdom are deposited at the City Archive. We've produced 12 reports which are also on deposit there and at the Centre for Newfoundland Studies, Memorial University and registered 51 new archaeological sites with the Provincial Archaeology Office.

Sherds from a Portuguese tin-glazed plate.

Late 17th – early 18th century, from the bottom of Temperance Street.



17th century artifacts: south Somerset and Merida.

Found adjacent to the Sir Humphrey Gilbert Building, Water Street.



Here are some of the earliest artifacts from the HIS.

As to treasure, the only gold we found was a few gold pins – in the silt of a sewer near Queens Cove. We found lots and lots of cultural material in redeposited fills, often associated with the Great Fires.

Hammered copper engraving.

“Leaning on his summer home - sizing up his winter quarters.”



Tommy Toe 1950⁺ H.Drover

Tommy Toe lived in a puncheon, it was located around the area of the old St. John's waterfront. I saw Tommy, one fresh fall morning. He was standing bolt up straight on a corner across from the court house. He had just been spruced up by the constabulary. They fitted him out with a reconditioned constabulary overcoat and boots (He could not fall down).

Tommy Toe they called him, which he didn't like, as I was told. If you called him Tommy Toe, he would issue back loudly: 'My name is Thomas Patel'!

Somebody gave Tommy a puncheon large enough so that he could go in there out of the weather and to sleep. In the summer time he would roll the puncheon around the waterfront. Meanwhile sizing boats that were left tied up, possibly for the winter. So he could move on board.

I don't know where Tommy came from, and I don't know if anyone else knows where he went.

Howard Drover
2008
Date

By far the most questions were fielded, and by far the greatest media attention was generated by speculation in 2007 that we were about to encounter the body of Tommy Toe. Thomas Peddle was a well-known St. John's character rumoured to have been buried when Harbour Drive was constructed in the 1960s. As Paul O'Neill put it, "legend persists that he fell into one of the frames for the concrete pilings and went to sleep and is sealed within." We found the remains of many, many codfish.... and the tobacco pipes and liquor bottles of the many generations that caught and traded them... but no sign of poor Tommy Toe, other than folk memory.

Jim Brophy (1953-2008)



But the HIS was the tomb of one good man... our friend Jim Brophy, who died on the job in July 2008. Jim was a foreman with Modern Paving, always interested in the history buried underneath the street, and always on the lookout for "treasure." Even if it was just an old gin bottle, another man's trash.



Finally, thanks to those who dropped by the “Big Dig” over the past five years, to ask questions, offer suggestions, and pass on their own memories and legends of Water Street and you, the residents of St. John’s, for without your intellectual curiosity, support and encouragement none of this would have happened.

Corporate Profile - Gerald Penney Associates Limited

- Gerald Penney Associates Limited (GPA) is a Newfoundland-based private archaeological and heritage resource consulting company with more than 25 years experience in historic resource assessment and mitigation. The firm is the largest of its kind in eastern Canada, with a reputation for technical expertise, interpersonal skills and imaginative approaches.
- GPA has three archaeologists and a historian on staff and is associated with a number of professionally qualified consultants and researchers. We bring multi-disciplinary ethnographic, documentary, and cartographic expertise as well as valued historical perspective to heritage investigations. We not only “cover off” regulatory compliance – the fundamentals of cultural resource management are our specialty as team members. While our professional focus is by definition reflective, our approach is forward-looking, respecting the lessons and the current value of the past.
- We have worked with the Provincial Archaeology Office and the *Historic Resources Act* since their inception in 1982. Archaeological and heritage consulting is not GPA’s sideline, or a seasonal pursuit – it is the core of our business. Accordingly, we pride ourselves on being able to design and implement research projects which not only satisfy the client’s requirement for structured costs and regulatory compliance, but also allow for professional development through our commitment to the team approach.
- A particular strength of the firm is desk-based assessment for historic resources management. Our experience is that thorough investigation of background materials such as historical documents, cartography, aerial photography, relative sea-level history and previous archaeology assists the design of, and meaningful results from, practical field work. We constantly seek input from those in other disciplines, such as biology, geology, geography and the environmental sciences. Our team approach to research focuses field work and greatly assists the interpretation of field results in a cost-effective manner.
- GPA has worked extensively on behalf of the provincial government, Newfoundland and Labrador Hydro, mineral exploration clients and a broad range of community development organizations, including the Miawpukek Mi’kmaq, the Labrador Inuit Development Corporation and the Innu Nation. Virtually everywhere in the Province, one or more of our employees has previous work experience and/or local contacts.
- We have participated in numerous large-scale engineering projects in remote environments and have particular expertise in designing desk-based assessment and fieldwork for linear projects such as sewer lines, highways, and electrical transmission lines. Respecting the later, some notable past projects include corridors for transmission lines through Gros Morne National Park (Berry Hill to Daniels Harbour) and a previous (1998) investigation of the Island portions of the proposed route for the Lower Churchill transmission line (Yankee Point to Soldiers Pond).

ACKNOWLEDGEMENTS

- City Engineering – senior engineer John Barry
- Newfoundland Design Associates Limited – Brandon Miller / Fred Taylor
- PHB Group – Kerry Gosse
- Provincial Archaeology Office – Steve Hull / Ken Reynolds
- City Archives – Helen Miller / Neachel Keeping
- Johnson Family Foundation and Grand Concourse Authority – Addison Bown / Dale Russell Fitzpatrick
- Modern Paving Limited
- RJG Construction
- Coady Construction