



CITY RAIL LINK PROJECT: ARCHAEOLOGICAL ASSESSMENT

Report prepared for Auckland Transport

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1 Glossary of Terms

Term / Acronym	Meaning
AEE	Assessment of Environmental Effects
Archaeological site	<i>Any place in New Zealand that – (a) Either – (i) Was associated with human activity that occurred before 1900; or (ii) Is the site of the wreck of any vessel where that wreck occurred before 1900; and (b) Is or may be able though investigation by archaeological methods to provide evidence relating to the history of New Zealand. (Historic Places Act 1993, section 2)</i>
BHR	Built Heritage Report: Assessment of Environmental Effects: Volume 3 Part 1 Technical Reports: Appendix 4, by Salmond Reed Architects
CEMP	Construction Environmental Management Plan
Character Overlay	Character Overlay areas are defined in the Auckland District Plan: Isthmus Section in order to protect, maintain and enhance the identified character of traditional town centres
Character-Defining Buildings	Specific buildings identified within Character Overlay areas that define the character of the area and which are subject to specific rules
CHI	Cultural Heritage Inventory compiled by Auckland Council
CMJ	Central Motorway Junction
Cotele	An early villa formerly located at 257 Symonds Street
CPO	Central Post Office
CRL	City Rail Link
GIS	Geographical Information System
HPA	Historic Places Act 1993
LINZ	Land Information New Zealand
NAL	North Auckland Line
NoR	Notice of Requirement
NZAA	New Zealand Archaeological Association
NZHPT	New Zealand Historic Places Trust
Reclamation areas/deposits	Areas of land reclaimed from the sea using deposits of fill from various sources. Pre-1900 reclamation deposits are archaeological sites as defined in the HPA, and may contain artefacts, structural evidence of early wharves and other remains
Registered	Registered as a Historic Place by NZHPT under section 22 of the Historic Places Act 1993
Registered Historic Area	A Historic Area defined and registered by NZHPT under section 22 of the Historic Places Act 1993
RMA	Resource Management Act 1991

Term / Acronym	Meaning
Strata (designation)	Designation of land layer between the ground surface and the sub-strata designation. This starts at a nominated distance below the surface and extends down to meet the sub-strata designation (the tunnel envelope)
Sub-strata (designation)	Designation of land starting below the strata designation to the centre of the earth (provides for the rail tunnels)
Subsurface archaeological remains	Archaeological remains concealed beneath the ground surface that might be exposed during construction works.
Surface (designation)	Designation of the ground surface (including air space above the land below to the centre of the earth).
TBM	Tunnel Boring Machine

2 Executive Summary

The overall purpose of the City Rail Link (CRL) Archaeological Assessment is to identify any archaeological constraints along the preferred route. The CRL will provide a rail link between Britomart and the North Auckland Line (NAL) in the vicinity of Mount Eden, with three new stations located near to Aotea Square, Karangahape Road and southern Symonds Street.

This report presents the results of a desk top study and route inspection relating to archaeological heritage within the designation footprint and in the vicinity. It does not address effects on Maori cultural values. A separate report assessing the effects on built heritage for the CRL NoR has been prepared by Salmond Reed Architects.

The CRL will be constructed for the most part (c.1.9km of the 3.4km route) through tunnelling deep below the ground surface. This would generally be below the level of any archaeology and therefore will have no effects. Archaeological remains would generally be found within c.2-3m of the ground surface (exceptions being wells, reclamation deposits and any deep infilled gullies).

Only in an area of historic reclamation in and around Queen Elizabeth Square and beneath the Central Post Office (CPO), and in other areas where surface works are proposed, is there potential for direct impact on archaeology. Surface construction works areas include the footprint of the Aotea Station, vents, station entrances, and sections of cut and cover tunnel up Albert Street, and at the east and west connections to the NAL near Mt Eden Station.

There is reasonable potential to impact on subsurface archaeological remains in the cut and cover section from Lower Queen Street (adjacent to the CPO) and up Albert Street; within the designation footprint for the station near to Aotea square (Aotea Station); and at 257 Symonds Street within Newton Station. In other areas affected by surface works within the designation at Newton Station and at the station near to Karangahape Road (Karangahape Station), the potential for archaeological remains is low. There is little if any potential for archaeological remains at the cover tunnel sections within the surface designation footprint area starting at the NAL designation and extending north.

Any archaeological remains that might be affected are currently concealed under roads, buildings and sealed surfaces. The presence and extent of surviving subsurface archaeological remains in construction areas cannot be confirmed prior to subsurface deposits being exposed during earthworks. Although there are known to be archaeological remains within areas of historic reclamation, their extent is uncertain.

As the extent of impacts on any surviving subsurface archaeological remains will not be known until remains are exposed through earthworks, it is considered that the archaeological issues do not present any major constraints to the proposal. Effects on any subsurface archaeological remains can be appropriately mitigated under the provisions of the Historic Place Act 1993 (HPA). The investigation and recording of any remains exposed would contribute to our knowledge of early Auckland.

Observations and Recommendations:

- Archaeology should not be considered a major constraint on the CRL, as effects on subsurface archaeology can only be confirmed once works are under way, and can be appropriately mitigated under the Historic Places Act 1993.
- An Authority to modify archaeological sites should be obtained from the New Zealand Historic Places Trust (NZHPT) prior to the start of construction works so that processes can be put in place for any archaeology that may be exposed during construction.
- Further historic research and assessment relating to the archaeological potential of the surface construction work areas associated with Aotea Station, Karangahape Station, and Newton Station should be carried out as part of this application.
- An Archaeological Management Plan should be prepared, setting out requirements and procedures for archaeological monitoring of preliminary earthworks in areas of archaeological potential; accidental discovery of archaeological remains; and the recording of any archaeological evidence before it is modified or destroyed. The Archaeological Management Plan should be provided as part of the application to the NZHPT and included in the Construction Environmental Management Plan (CEMP).
- During the construction of the CRL, any archaeological remains exposed should be investigated and recorded (under authority from the NZHPT) to add to our understanding of 19th century Auckland.
- The tangata whenua should be consulted regarding the effects of the CRL on Maori cultural values, in particular relating to two scheduled Maori heritage sites along the route.

3 CRL Description

3.1 CRL Description

The City Rail Link (CRL) is a 3.4km underground passenger railway (including two tracks and up to three underground stations) running between Britomart Station and the North Auckland Line (NAL) in the vicinity of the existing Mount Eden Station. The CRL also requires an additional 850m of modifications within the NAL. For ease of reference in this report, the stations included in the CRL NoR have been temporarily named Aotea Station, Karangahape Station, and Newton Station. The stations will be formally named in the future.

This technical report has been developed by Clough & Associates Ltd to provide an independent expert assessment of the actual and potential effects associated with the proposed CRL from an archaeological perspective.

This City Rail Link: Archaeological Assessment is an appendix of the AEE which supports NoR to be served by Auckland Transport on Auckland Council to designate the CRL for future construction, operation and maintenance. The NoR covers surface land, strata land (protection area), and sub-strata land designations within the Auckland City District Plan (both Isthmus and Central Area Sections).

Clough & Associates Ltd confirms that the content of this report has been written with reference to the Key Project Parameters set out in the 2012 Concept Design Report.

3.2 Areas of CRL Description of Particular Relevance to this Technical Report

The CRL will run under Albert Street, under Mayoral Drive and Vincent Street, then travel under Pitt Street, crossing under Karangahape Road to travel under Mercury Lane, cross under the Central Motorway Junction (CMJ) and continue under St Benedicts Street and Symonds Street, then dividing to east and west to connect with the NAL (Figure 1).

The CRL includes the construction of three stations on:

- Albert Street between the junctions of Victoria and Wellesley Streets (Aotea Station);
- Karangahape Road at the junction with Pitt Street (Karangahape Station); and
- Symonds Street at the junction with Mt Eden Road/New North Road Road (Newton Station).

The indicative construction methodology for the CRL is set out in the 2012 Concept Design Report.¹ The proposed tunnelling and stations will be located at various depths underground. Tunnelling will largely be undertaken by a tunnel boring machine (TBM), but cut and cover sections will be required crossing Queen Elizabeth Square from the CPO building and turning up Albert Street to Aotea Station. Aotea Station will also be constructed by cut and cover methods. Construction at Karangahape and Newton Stations will require the sinking of shafts to excavate the mined side caverns and surface works to construct station entrances and vents.

The areas where construction works are to be carried out close to the ground surface – in the cut and cover sections and surface excavations in the vicinity of the stations – are of most relevance from an archaeological perspective. Deeper excavations and tunnelling would be below the level of any expected archaeological remains. These would generally not be found below c.2-3m, except in the case of wells (which can reach a depth of 10m below ground surface) and reclamation areas. Generally, where basements have been constructed beneath buildings this will have removed any earlier archaeological remains.

The areas of particular relevance to this technical report are the cut and cover sections in and around Queen Elizabeth Square and in Albert St, and in the surface construction areas for the proposed Aotea Station, Karangahape Station and Newton Station.

¹ 2012 City Rail Link Concept Design Report.

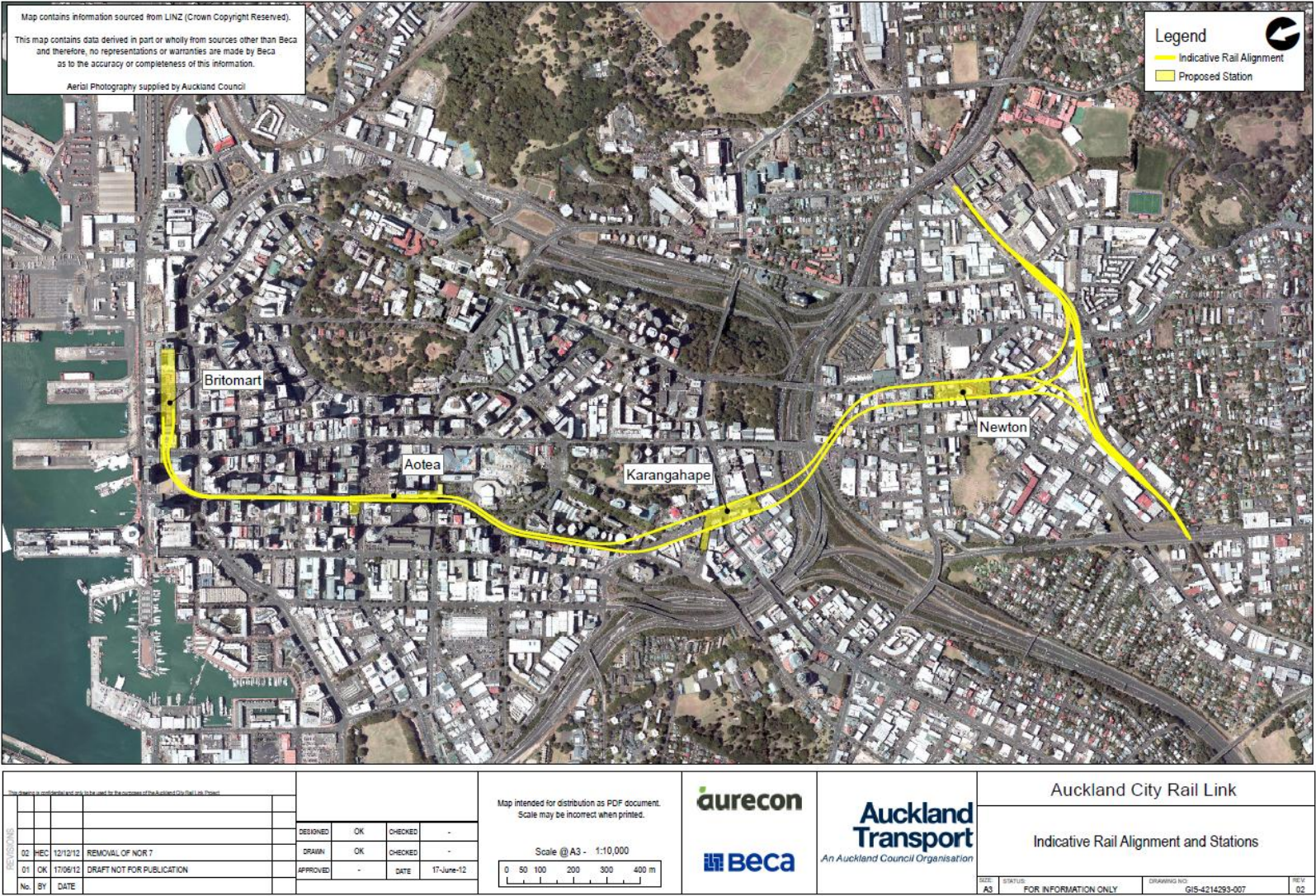


Figure 1. CRL alignment and station locations

Footnote

Refer to BHR for further information

4 Existing Environment

The CRL runs from Britomart through to the NAL in the vicinity of the existing Mount Eden station, a highly developed urban environment. It passes through areas of significant heritage value including the CPO and Britomart area, Albert Street, Pitt Street, Karangahape Road and southern Symonds Street. These areas retain historic buildings relating to the 19th and early 20th century. The surrounds of 19th century buildings have the potential to contain associated subsurface archaeological remains, as do the footprints of the buildings themselves.

In other areas of pre-1900 settlement that have not been completely modified by modern development there is also the potential for subsurface archaeological features and deposits. These would include features such as 19th century building foundations, rubbish pits, and wells. They can also include early drainage elements and surfaces beneath roads.

Beneath Queen Elizabeth Square there are deposits relating to historic reclamation which are of archaeological value. Previous excavations in this area in connection with the Britomart Transport Centre have exposed remains of the old wharf piling, road surfaces, 19th century utilities and reclamation deposits containing 19th century artefacts. While these works destroyed the archaeological deposits encountered, other areas within and around the Square will still contain intact deposits.

Beneath Albert Street, where cut and cover methods for the tunnel and for the construction of Aotea Station are proposed, there is some potential for evidence of earlier drainage and roading infrastructure, but modern infrastructure and road upgrades would have destroyed most of the archaeological evidence.

Within the designation footprint of Aotea Station, where early 20th century buildings without full basements could be removed, there would be some, but limited, potential for subsurface archaeological remains.

Two vacant properties close to Aotea Station have been recorded as archaeological sites, one at the corner of Victoria St West, Elliot St and Albert Street, the other immediately adjacent at 13 Elliot St and 114 Albert St. These properties were formerly the sites of 19th century buildings and remain undeveloped. They have high potential for intact archaeological deposits and features dating to the 19th century, but are not within the designation footprint.

In the vicinity of the Newton Station there is good potential for 19th century remains within the designation footprint in an undeveloped property opposite Mt Eden Road where an early villa was once located, and some potential in other affected areas.

In areas of the Karangahape Station that may be affected by surface construction works, 20th century development and infrastructure are likely to have removed most evidence of pre-1900 occupation, though small pockets of earlier remains may still be present.

5 Technical Assessment Methodology

Clough & Associates previously undertook a 'Heritage Assessment of Route Options' as part of the 2009/2010 Option Evaluation work² undertaken for KiwiRail and the then Auckland Regional Transport Authority (Clough et al. 2009). The purpose of that report was to identify potential heritage constraints, both built and archaeological, in relation to each of the options being evaluated to contribute to the determination of the preferred option.

Desk top research and visual survey were carried out as part of the 2009/2010 work. This involved photography of all identified heritage buildings along the various options. Buildings and heritage overlays were identified from the Operative Auckland District Plan: (Isthmus and Central Area Sections) (District Plan), and information was extracted from the NZHPT Register of Historic Places. The information (including cross referencing for photographic data) was added to an 'Existing Buildings and Structures' excel database for the CRL.

Salmond Reed Architects have been commissioned in 2012 by Auckland Transport to undertake a more detailed assessment of actual and potential effects on heritage buildings, and have prepared a separate report (Built Heritage Technical Report - BHR).

Clough & Associates have been commissioned in 2012 by Auckland Transport to undertake an assessment of actual and potential effects on archaeology. This report presents the results of the desk top study of recorded archaeological heritage, general background historical research, and visual survey in the vicinity of the CRL, and assesses the actual and potential effects of the CRL on archaeology.

Several heritage databases were searched for information on archaeological sites in the vicinity of the various route options. These comprised the New Zealand Archaeological Association (NZAA) Site Record File (ArchSite), the Auckland Council's Cultural Heritage Inventory (CHI), the District Plan provisions and Heritage Schedules, and the NZHPT Register of Historic Places and Areas. Relevant background literature and archaeological investigation reports were also consulted.

In general detailed historical research on the history of individual properties was not undertaken, partly because the detailed design has not yet been carried out to determine the extent of surface works within the designation footprint, and also because this research would not confirm that archaeological sites are present. In urban areas the presence of archaeological remains can generally only be confirmed when they are exposed through development. However, detailed research was carried out relating to a building at 42 Wellesley Street (BHR 40) that would be affected by Aotea Station (see Appendix C). This research included a review of historic survey plans held by Land Information New Zealand (LINZ), and established that there is some (limited) potential for 19th century subsurface remains beneath and around the building. More detailed research on other affected properties to assess archaeological potential is not considered

² This option evaluation work is summarised in the KiwiRail and ARTA Option Evaluation Report (2010) prepared by APB&B which forms part of the suite of documents supporting the CRL NoR.

necessary for the purpose of this report, but may be required prior to making any application to the NZHPT for a general authority to modify any subsurface archaeological sites that may be present.

For the purpose of this assessment, it is assumed that buildings dating prior to 1900 and areas of 19th century occupation or use that have not been extensively modified by later development would have archaeological potential.

5.1 Desktop Spatial Analysis

Overlays of heritage items on an aerial view of the preferred route have been used to analyse the potential heritage effects. Each building or structure has been given a BHR number within a Project database and these numbers are referred to in this report. A table of the heritage buildings in the vicinity of the proposed works is presented in the BHR. Recorded archaeological sites within the designation footprint and in the vicinity of it have been given a number prefixed AS and their locations have been overlaid on the aerial plans (further detail is provided in the text of this report and in Appendices A and B).

Archaeological constraints were identified on the basis of existing knowledge and from the proximity of the cut and cover sections and station locations to known areas of pre-1900 activity. For the purposes of the analysis it was assumed that all surface excavations have the potential to impact on archaeological remains relating to pre-1900 activities in the city, unless areas have been extensively modified post 1900. However, it is recognised that the extent of impacts on any surviving subsurface archaeological remains will not be known until remains are exposed through earthworks.

6 Historical Background

6.1 Pre-European Occupation

The Auckland area was previously known as Tamaki-Makau-Rau, or Tamaki of a hundred lovers (Stone 2001: 81). As the name suggests, Maori had prized the isthmus for centuries. It offered fertile land, abundant fishing grounds and a temperate climate (Stone 2001: 3). It also boasted a valuable portage at Otahuhu where canoes were dragged across a short distance of land separating the Tasman Sea and Pacific Ocean. The area also offered access to the hinterland through the Awaroa Creek leading into the Waikato River (Stone 2001: 2).

Maori settlement encompassed the City Centre where, in the immediate Britomart area, a major pa site known as Te Rerengaoraiti was constructed on the point between what was to become Commercial Bay and Mechanics Bay. Another pa (Ngahu Wera) was recorded on the former headland at the end of Albert Street. A small stream (Waihorotiu) that was at least partly navigable by canoe ran down the valley in what was to become Queen St and led to the shallow mudflats that typify much of the Waitemata coast. Maori gardening was recorded in the Queen St valley as late as c.1838-40, the large village of Horotiu once covered what is now Albert Park, and a settlement known as Nga Wharau a Tako was located on the Swanson St ridge with a track (Te Tarapounamu) leading down to the Queen St valley. At various times, other settlements and pa were located throughout

the Tamaki Isthmus, notably on Auckland's volcanic cones. (Simmons 1987; Kelly & Surridge 1990; Stone 2001).

6.2 Settlement of Commercial Bay

European settlement in Auckland began in 1840 after the first Governor of New Zealand, Captain William Hobson, chose the isthmus as the site of the capital of the new colony. A group of Ngati Whatua chiefs had encouraged Hobson to choose the area they knew as Tamaki-Makau-Rau.

With the decision to move the capital from Russell (Kororareka) to Auckland in 1840, the initial defence for the town of Auckland was provided by Fort Britomart, replacing the earlier abandoned pa there. This site became the headquarters of the imperial military forces in New Zealand and barracks to house the small contingent of troops were built by the troops. The name Britomart derives from the brig HMS *Britomart*, that was used by Shortland, the colonial secretary, when he landed at Auckland in September 1840, and which carried out a hydrographic survey of the harbour (Stone 2001: 266).

To the west of Point Britomart was the small harbour (Figure 2), initially named Store Bay, later Commercial Bay, and it was to become the main harbour for the city (Stone 2001:267ff). The shallow mudflats that typify the coastline of the Waitemata, however, provided poor anchorage for a growing capital and development of the area was quickly deemed essential.

Settlement proceeded relatively quickly, with tents set up for government officials on the eastern side of Point Britomart in what was called Official Bay and further along the coast in Mechanics Bay. As infrastructure developed, Foreshore (Fore) St, later Fort St became the waterfront area with various hotels and businesses.

The dual factors of improved harbour facilities and the high value of land in the centre of town drove the reclamation of the foreshore area and in 1859 the process was under way. In less than 50 years, more than 50 hectares had been added to downtown Auckland, with smaller reclamations continuing in the 20th century (Figure 3). The first major reclamation between Fore (Fort) St and what was to become Customs St started in 1859 and was finished by the mid-1860s. Additional reclamation around Smale's Point (at the end of Albert Street) was carried out in the 1870s. This led to pressure to infill the area between Point Britomart and the now significant Queen St Wharf, and to integrate rail transport with these harbour facilities.



Figure 2. Commercial Bay (the heart of early Auckland) c.1842, showing the original shoreline in the vicinity of today's Fort Street, looking towards Point Britomart, which was later cut down (P. Gauci lithograph after J.J. Merrett in Terry 1842)

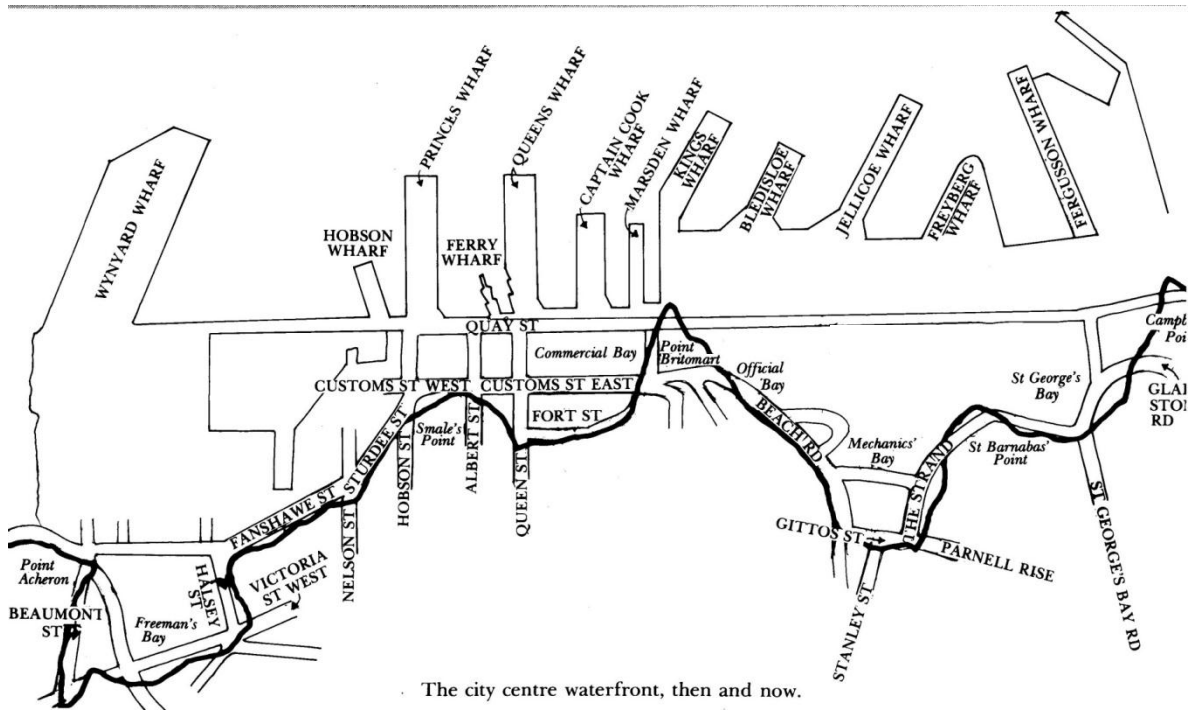


Figure 3. Showing the 1840 shoreline in relation to today's waterfront (from Barnett 1981: 10)

The management of the Auckland port was relatively casual during the early years, being managed by the legislature. However, by the end of the 1860s overseas trade was growing, mainly with England and Australia, and this, as well as a very active coastal shipping trade, was placing increasing demands on the facilities. The Queen St Wharf had become central to the functioning of the city.

An Act of Parliament established the Auckland Harbour Board in 1870. The Board was governed by an elected Board with 3-year terms of office and administered by permanent staff. It remained in existence until the Port Companies Act in 1988.³

The evolution of the harbour consisted of the building of the wharves, seawalls to provide breakwaters for inner facilities, reclamation of land within the seawalls, and modification of the wharves as required. Additional facilities were also constructed. The process was continuous throughout the 19th century and into the 20th century.

6.3 Reclamation

Land speculation and development has always been one of the major commercial activities in Auckland. The very act of reclamation was partly speculative, with blocks of land being sold well in advance of the reclamation. As the city grew, the increasing pressure on land and the need for improved harbour facilities resulted in the series of reclamations (Table 1) which gradually infilled several of Auckland's bays – Mechanics Bay, Commercial Bay and Freemans Bay among others.

The original foreshore of Auckland can be seen in Figure 3. The process began in 1859 with the area between Fort St and Customs St East (Table 1, No. 1) and was still ongoing well into the 20th century with the Bledisloe Stage 2 reclamation as late as 1983-5.

The proposed rail link runs through two of the main reclamations:

- Queen St to Albert St (Table 1, No. 4) reclaimed between 1875 and 1877 (Figure 4).
- Customs St East to Quay St, known as the Railway Station reclamation (Table 1, No. 8), reclaimed between 1879 and 1886 (Figure 4).

³ <http://www.poal.co.nz/about/historyauckland.htm>.

Table 1. Early land reclamations in Auckland

No ⁴	DATE	LOCATION	AREA
1	1859-6?	Fort St to Customs St East	3.64ha
2	1872-77	Mechanics Bay from Railway Bridge to Pt Britomart	7.39ha
3	1873-74	Hardinge St to Patteson St	1.52ha
4	1875-77	Queen St to Albert St	3.24ha
5	1876-77	Albert St to Nelson St	4.55ha
6	1875-77	Nelson St to Hardinge St	2.13ha
7	1878-79	Auckland Graving Dock	0.41ha
8	1879-86	Railway Station	7.59ha
9	1886	NZ Frozen Meat Company	2.73ha
10	1886	Freemans Bay: Drake St to Patteson St	2.53ha
11	1885-88	Freemans Bay: Auckland Gas Company, Beaumont St	1.21ha
12	1886-1901	Freemans Bay: Victoria Park, etc	9.41ha
13	1901-10	Mechanics Bay: Railway Embankment to Old Kings Wharf	6.79ha
14	1902-08	Hobson St including solid part of Hobson St Wharf	1.52ha

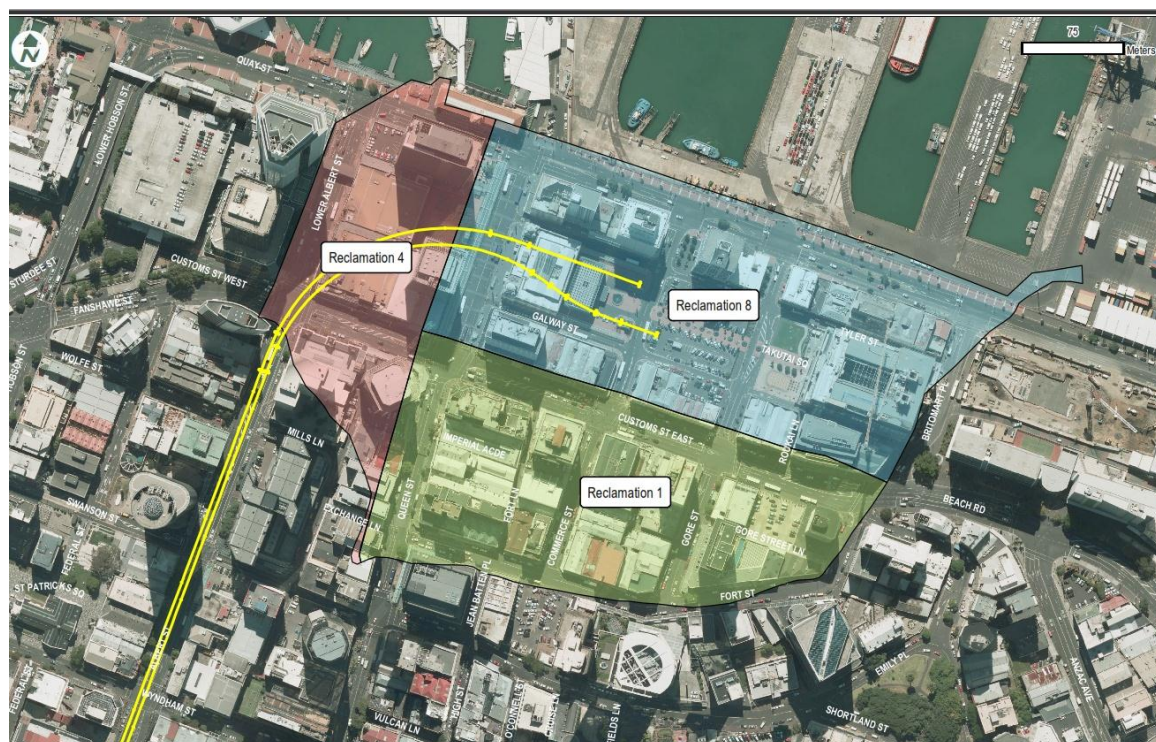


Figure 4. Location of reclamations in the Britomart area (over aerial taken in 2000; see Table 1)

⁴ Numbers refer to Auckland Harbour Board Plan of reclamations on which **Figure 4** is based.

6.4 History of the Britomart Transport Centre Site

The Britomart area has played a key role in Auckland's transport history. It was the city's main port area, and continued to be closely connected to port activities following harbour reclamation work. It was the site of Auckland's first railway station in 1885, and although the station was relocated to Beach Road in 1930, the completion of the Britomart Transport Centre has once more made it the hub of Auckland's rail and bus services. Key dates relating to the history and the chronology of the Britomart site are provided in Table 2.

Table 2. Key dates in the development of the Britomart area⁵

Date	Description
- 1840	Maori Settlement of Tamaki-Makau-Rau
1840	Founding of Auckland as new colonial capital
1840s	Fort Britomart established.
1846	Queen St Jetty completed
1859	Reclamation of waterfront starts
1859	Queen St Wharf completed
1860s	Britomart Point demolished, filling used to reclaim the Britomart area
1866	Gore St Jetty completed
1879	Gore St Jetty demolished
1879-1885	Railway station reclamation
1882	Reclaimed land for sale
1883	Reclamation completed
1885	Queen St Station opens on the Britomart site
1909	Chief Post Office construction starts
1912	CPO officially opened
1914	First bus service to CPO
1930	Auckland Railway Station opens on Beach Rd
1937	Britomart bus terminal opens. CPO Annexe completed
1958	Britomart carpark opens
1976	Queen St closed between Quay St and Customs St
1980	Queen Elizabeth II Square opens
1980s	Deregulation of Auckland Harbour Board and Railways Department
1987	Britomart Development proposed then cancelled with stock market crash
1988	CPO closed
1995	Auckland City purchases CPO and proposes the Britomart project
2000	Rail tunnel completed. Design competition. Station resource consent granted
2001	Stormwater project. Demolition of CPO Annexe, Britomart bus terminal and carpark. Britomart underground railway station construction begins
2002	CPO restoration begins; Queen Elizabeth II Square closed
2003	Britomart Transport Centre completed

6.5 The Growth of the City

The population of Auckland grew rapidly after initial settlement. By 1843, there were 3,000 people living in Auckland. By the end of the 1860s this had grown to more than 12,000 and by the turn of the century was almost 70,000 (Bush 1971). From its original centre near the waterfront, the city rapidly expanded up towards the Symonds St ridge

⁵ Adapted from <http://www.aucklandcity.govt.nz/council/projects/britomart/when.asp>

and out into suburban areas, initially into Parnell, Grafton and Ponsonby. The city's first gaol on the corner of Queen St and Victoria St West, initially on the outskirts of town, was removed to Mt Eden as early as 1856 (Best 1992). The cemetery on Symonds St, established in 1841-2, was soon absorbed within the urban boundaries and for public health reasons a new cemetery was opened in 1886 at Glen Eden, once the rail link was established (Clough et al. 2008). From the 1860s onwards the early timber houses and shops in the central city were gradually replaced with more substantial brick structures, the process accelerated by a number of fires which spread rapidly through the streets of timber buildings.

The area between Newton Road, upper Symonds Street and Great North Road was subdivided in the 1860s (Figure 5). This land originally belonged to naval officer and newspaper editor David Burn, who was living there by 1850, and whose house was known as 'Cotele' (Platts 1971: 154, 156). In the 1870s and 1880s settlement spread along Pitt St and Upper Queen St, along Karangahape Road and the Newton Ridge, through Great North Road to Surrey Crescent, and in the mid 1880s to Grey Lynn (Stone 2007: 23-4). Much of the surrounding area was occupied by farmland, which was gradually subdivided to make way for urban expansion.

6.6 City Infrastructure

With the growth of the city came demand for basic infrastructure including sewerage, drainage and water supply systems, but some of these services took many years to establish (Bush 1971⁶).

Until the late 1870s drinking water was largely supplied by privately and publicly owned wells. The acquisition of Western Springs in the 1870s allowed access to a reticulated system in some areas, but poor management and declining water quality resulted in a water famine in 1900. The construction of water reservoirs in the Waitakere Ranges solved the problem, but not until 1907.

Little provision was made for rubbish collection until the construction of the Victoria Park refuse destructor in 1905, and much rubbish was disposed of in backyards and other convenient fill sites throughout the 19th century.

Sewage collection and disposal in the 19th century was based on night-cart collection and the discharge of raw sewage into the Waitemata Harbour at several locations. The sewage treatment works based at Okahu Point was not established until 1914, and even then the sewage discharged into the sea was only roughly screened.

⁶ See also <http://www.aucklandcity.govt.nz/auckland/Introduction/bush/chap2.asp>

One of the earliest drainage and sewerage installations was the Ligar Canal in Queen St, enclosing the Waihorotiu Stream that flowed down the Queen St gully. Initially a plank covered ditch structure, it was partly replaced in 1855 by a brick barrel drain known as the Queen St Main Sewer (Best et al. 1999). Upgrading of the system continued in the following years, and sewerage and drainage systems were gradually extended to other city streets.

Drainage issues in Albert Street (along the proposed alignment) were initially addressed during the 1860s,⁷ with improvements proposed by the City Board in 1871.⁸ The Albert Street drain flowed out to the foreshore at the base of the street, but the outfall was diverted into the main Queen St sewer in 1876 to accommodate reclamation works near its original outfall.⁹ It is likely that the sewer was constructed in the same brick barrel method as that of the Queen Street sewer, although no plans have been located.

7 Archaeological Background

7.1 Urban Archaeology in Central Auckland

Over the past 20 years several archaeological investigations have been carried out in the City Centre which have demonstrated the potential for the survival of archaeological remains beneath buildings and city streets. These have included the Britomart Transport Centre investigations within the Commercial Bay reclamation area (Bickler et al. 2005); investigations of drainage systems beneath Queen St, Swanson St and elsewhere (e.g. Best et al. 1999); Auckland's early gaol site at the corner of Queen St and Victoria St West (Best 1992); an early hotel site on Fort St (Brassey & Macready 1994); the site of His Majesty's Theatre (Felgate 1995); and an area of early settlement around the former Mechanics Institute, Chancery St (Macready & Robinson 1990).

These investigations were carried out following archival research and consideration of the extent of post 19th century modifications, which indicated the potential for archaeological remains to have survived. Archaeological sites beneath modern buildings and streets in the inner city can rarely be identified prior to being exposed in the course of redevelopment work. However, these archaeological investigations have provided good insights into the type of material that could be encountered during excavations for the CRL.

The investigations of most relevance to the CRL in terms of proximity were those at the Britomart (Bickler et al. 2005), as the preferred route runs through this area; and limited investigations at the Customhouse site close to the route (Best 1996). The investigations of drainage infrastructure within various city streets referred to above may also be relevant, as drainage and sewerage systems of various dates will be found along all city streets. These investigations are summarised below.

⁷ *Daily Southern Cross* 20 June 1865:5

⁸ *Daily Southern Cross* 25 January 1871:3

⁹ *Daily Southern Cross* 1 February 1876:3.

Most archaeological sites recorded in the City Centre have been recorded on the basis of archival research (often undertaken in response to specific development proposals) rather than on the basis of confirmed archaeological features or deposits. This applies particularly to several recorded shipwreck sites recorded in the CHI, where precise locations, and whether any remains have survived, are unknown. Other recorded sites are the sites of former 19th century buildings which are likely to have surviving subsurface remains. Some have been recorded once sites have been exposed (and generally destroyed) through redevelopment. Table 3 lists the recorded archaeological heritage sites that are close to the route. More information is provided in Appendix A. Site record forms are provided in Appendix B.

Table 3. Recorded archaeological sites near CRL (from Auckland Council CHI). For further detail see Appendix A and Appendix B

Report ID	Address/Location	CHI	NZAA	Site Type/Name	Current Status
	Exact location unknown	792		Shipwreck (<i>Alabama</i>)	Unknown
	Exact location unknown	793		Shipwreck (<i>Aloe</i>)	Unknown
	Exact location unknown	797		Shipwreck (<i>Otahuhu</i>)	Unknown
	Exact location unknown	741		Shipwreck (<i>Shamrock</i>)	Unknown
	Exact location unknown	796		Shipwreck (<i>Challenger</i>)	Unknown
AS 1	Corner of Customs St, Albert St and Mills Lane	10029	R11/1596	Building -Building Site (Historic) (? Te Ngahuwera -Custom House -Bristol House - Thornton Smith and Firth Flourmill)	Largely or completely destroyed
AS 2	East side of Mayoral Drive beside Bledisloe building	10864	R11/1812	Well	Partly damaged
AS 3	30A-E Benedicts St, Stable Lane, Newton	14035	R11/2450	Building (The Stables -St Benedicts stables)	Mostly intact
AS 4	184-186 Symonds St	10031	R11/1676	Building Site (Historic) (Queens Hotel -Astor Hotel)	Largely or completely destroyed
AS 5	146-182 Symonds St and 16-24 Khyber Pass Rd	11712	R11/1677	Building Site (Historic)	Partly damaged
AS 6	31 Ruru St, Mt Eden	5772	R11/51	Midden (Shell) -Swamp (Former)	Largely or completely destroyed
AS 7	Queen Elizabeth Square and surrounding area north of Customs St	11255	R11/1379	Reclamation	Surviving intact deposits
AS 8	13 Elliot St and 114 Albert St	10158	R11/1681	Building Site (Historic)	Partly damaged
AS 8	Corner of Victoria St West, Elliot St, and 110 Albert St (now on the same property as R11/1681)	11711	R11/1627	Building Site (Historic) (Queens Head Hotel -Royal Mail Hotel -Royal Mail Family Hotel -Royal International Hotel)	Intact

7.2 The Britomart Transport Centre Project

Excavations carried out in front of the CPO in QEII Square during 2003 revealed the remains of former timber piles (Figure 6). These were excavated from the fill at a depth of approximately 4m. They were loose in the reclamation and not embedded in the marine floor, and were thought to relate to the earliest part of the Queen St jetty.

To confirm this, the piles were photographed and their locations were surveyed onto the plan of the area. A GIS overlay of the wharf structure based on some of the contemporary maps was added (Figure 7), and the organisation of the piles suggested that they came from the area of a small lateral wharf extension probably built during the 1850s. Some decking material was also found in one part of the excavation (Figure 8).

During the 1870s and 1880s considerable extensions were made to the Queen St wharf by the Auckland Harbour Board. Contemporary maps illustrate the evolving use of the wharf (see Figure 9). The extensions to the wharf allowed significant buildings to be built on the wharf itself. These included various ferry company buildings. The Queen St wharf was finally replaced during the early 20th century with the new Queens Wharf that continues to function today. Archaeological investigations in Queen Elizabeth Square may uncover more of the original wharf in the future.

The excavations at Britomart also exposed the remains of other wharves, a small boat buried under the reclamation fill, and numerous 19th century household and industrial artefacts from the reclamation fill that probably related to activities in the immediately surrounding area.

7.3 Customhouse Investigations

Investigations were undertaken at the historic Customhouse, at the stage when it was being redeveloped into a duty free store (Best 1996). The Customhouse is on the corner of Customs St and Albert St, partly located on what had previously been a headland of the bay. The redevelopment involved the demolition of the original longroom and extension of the existing basement through to the Albert Street frontage. The investigations revealed artefacts relating to early use of the site prior to the construction of the Customhouse, and information on the original shoreline and sequence of levelling and filling in the area (Figure 10).



Queen St jetty piles



Queen St jetty piles – detail of tenon dressing



Queen St jetty pile showing mortise



Queen St jetty pile with bark still attached and end with bracing cut

Figure 6. Queen St jetty piles exposed during the Britomart Transport Centre excavations in 2003



Figure 7. Aerial view of Queen Elizabeth Square, with overlay of piles within the reclamation (yellow) uncovered in 2003 and the recorded location of the Queen St wharf (estimated location in blue)

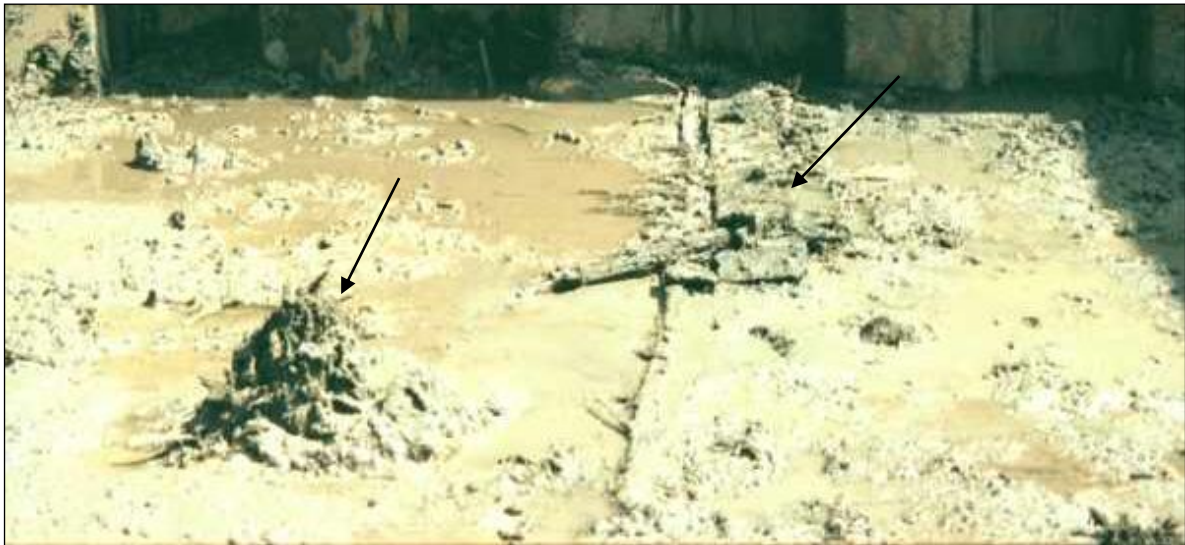


Figure 8. Excavated piles and planking from the Queen St wharf exposed by the Britomart Transport Centre excavations in 2003

1865	1874	1882	1940

Figure 9. Changes to the Queen St wharf 1865-1940

Footnote

Refer to BHR for further information

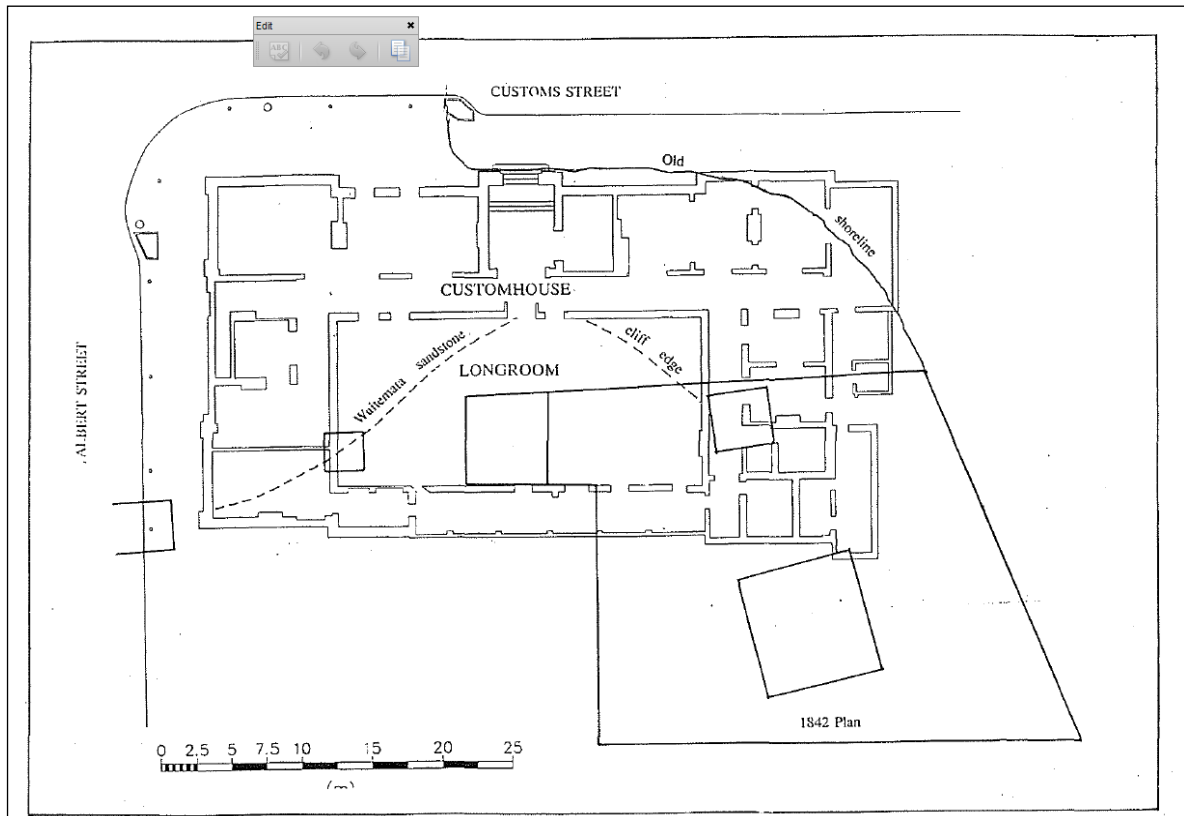


Figure 10. Edge of Waitemata sandstone cliff superimposed on Customhouse plan (Best 1996: fig. 3)

7.4 Excavations Revealing Early Infrastructure

Excavations at the intersections of Queen St with Fort St and Queen St and Swanson St (Best et al. 1999) exposed the city's earliest wooden drainage system down Queen St, and its successor, a substantial brick barrel drain. Other investigations have also exposed sections of the drain (e.g. Bickler et al. 2005), and Auckland City's intention is to protect the remains of the historic structure during current and future infrastructure works. Monitoring of stormwater upgrades in Swanson St, however, has been less productive, with little evidence of 19th century infrastructure (Low & Bickler 2008). Inevitably with basic utilities, repair and upgrading and installation of new services will have destroyed many of the earlier infrastructure elements.

8 Assessment of Effects on the Environment and Options for Avoiding, Remedying or Mitigating Adverse Effects

This is an assessment of potential effects on archaeological values during the construction phase of the CRL. There will be no operational effects on archaeology.

This report does not include an assessment of potential effects on Maori cultural values. Such assessments should only be made by the tangata whenua. Maori cultural concerns may encompass a wider range of values than those associated with archaeological sites and built heritage. Two scheduled Maori heritage sites are located along the route: Nga Wharau a Tako (87-89 Albert Street, and areas to the west, relating to a former pa); and Ngahu Wera (where Albert Street borders Customs Street West, relating to a former settlement).

This assessment is based on recorded archaeological sites, the results of previous archaeological investigation, background research, and a general recognition of the kind of subsurface archaeological remains that might be exposed during earthworks carried out for the CRL. In general, it will not be possible to confirm the presence of subsurface archaeological features and deposits prior to earthworks, but previous archaeological investigations in the city provide an indication of potential effects on subsurface archaeological remains.

The greatest potential effects on archaeological heritage relate to the construction of the tunnel beneath the CPO, across Queen Elizabeth Square and up Albert Street to the Aotea Station, probably by cut and cover construction methods; the construction of Aotea Station by cut and cover methods; and the installation of Karangahape Station and Newton Station entrances from street level, service plant structures, and any other surface facilities required along this part of the CRL.

The CRL tunnels and stations are illustrated with an overlay of nearby heritage buildings/items (Figure 11–Figure 13, Figure 14, Figure 16 and Figure 18). Further detail and photographs of the buildings referred to can be found in the BHR Report.

Detailed plans defining all surface construction areas, vents and access points have not been finalised, and assessment is therefore made on the basis of the designation and Concept Design plans.

8.1 CRL Tunnels

8.1.1 Britomart to Albert Street Tunnel (Figure 11, Figure 20):

The proposed route from Britomart to Albert Street passes directly beneath the c.1909-1912 CPO (BHR 91), that is scheduled in the District Plan and has been registered by the NZHPT. This will entail construction of a new basement level. The route also passes beneath Queen Elizabeth Square (BHR 89), and construction in this area is anticipated to be by cut and cover methods, which will continue up Albert Street to Aotea Station. The construction works are also located within close proximity to buildings that form part of the Customs Street East Historic Area – 10-26 Customs Street East (BHR 19-22).

As the CRL continues under Albert Street towards Aotea Station it passes within close proximity to four scheduled heritage buildings: the c.1889 Old Custom House building (BHR 31), West Plaza c.1970s (BHR 1), the c.1898 Shakespeare Hotel Brewery (BHR 3) and the 1885-6 Former Gas Co. Building (BHR 155-56). The route passes directly under the historic toilets at 76-86 Albert Street (BHR 8).

The cut and cover section of the CRL beneath the CPO and through Queen Elizabeth Square will pass through recorded archaeological reclamation site R11/1379 (AS 7 on Figure 11) which, although modified by the Britomart Transport Centre and other modern construction works, still retains reclamation deposits and probably features relating to the early Queen Street wharf (Figure 11).

The cut and cover section under Albert Street also has some potential to expose remains of 19th century infrastructure (drainage systems and earlier road surfaces), although later roading and infrastructure works are likely to have removed most of the earlier remains.

Two scheduled Maori Heritage Sites are also recorded in the vicinity of 87-89 Albert Street (Nga Wharau a Tako) and in the area where Albert Street borders Customs Street (Ngahu Wera). However, these are not archaeological sites, and as noted above, this report does not include an assessment of effects on Maori cultural values.



Figure 11. Section of preferred alignment from Britomart to Aotea Station, showing nearby heritage buildings (identified by BHR numbers) and recorded archaeological sites AS 7 and AS 8 (dashed line)

Footnote

Refer to BHR for further information

8.1.2 Aotea Station (Albert Street) to Karangahape Station (Pitt Street) Tunnel (Figure 12):

The CRL between Aotea Station and Karangahape Station passes under a scheduled heritage building – the Central Fire Station (BHR 77). It also passes within close proximity to two Auckland Council scheduled heritage buildings – the c.1912 Public Trust Building on Mayoral Drive (BHR 56) and the Wesleyan Church (BHR 80) located close to the corner of Vincent and Pitt Streets (the latter building is also scheduled by NZHPT)

As construction of this section will be by tunnelling boring at depth, archaeological remains would not be expected to be encountered.

8.1.3 Karangahape Station to Newton Station Tunnel (Figure 13):

The CRL between Karangahape Station and Newton Station passes directly underneath a scheduled heritage building, the c.1880s St Benedicts Presbytery (BHR 103), and within close proximity to the c.1888 St Benedicts Church (BHR 11).

As the CRL continues along under southern Symonds Street it passes underneath and within close proximity to many of the buildings recorded in the District Plan as forming part of Cultural Heritage Overlay 31. This area has also been registered as the Symonds Street Historic Area (no. 7367) by the NZHPT (see the BHR).

As construction of this section will be by tunnel boring at depth, archaeological remains would not be expected to be encountered.

8.2 Newton Station to the NAL:

There are no scheduled or registered heritage buildings within the CRL designation footprint (both strata and sub-strata) south of Newton Station to the NAL, apart from Mt Eden Prison (BHR 320) at the eastern end. The cut and cover tunnel sections within this part of the designation footprint are in highly modified locations with little potential for any archaeological remains.



Figure 12. Section of preferred from Aotea Station to Karangahape Station, showing nearby heritage buildings (identified by BHR number) and recorded archeological site AS2

Footnote

Refer to BHR for further information



Figure 13. Section of preferred alignment from Karangahape Station to Newton Station, showing nearby heritage buildings (identified by BHR number) and recorded archaeological sites AS3-5

Footnote

Refer to BHR for further information

8.3 CRL Stations

8.3.1 Aotea Station (Figure 14, Figure 20):

This station is located beneath Albert Street extending from just south of the junction with Wellesley Street West, to just north of the junction with Victoria Street West. There are two recorded archaeological sites (R11/1627 and R11/1681) located within immediate proximity to the station (shown as AS 8 on Figure 15), and one scheduled heritage building – the Archibald & Sons Warehouse/T & G Building (BHR 150), located within close proximity to the station. Four unscheduled buildings have been identified within the designation footprint – the 1929 Glengarry (former Griffiths) building at 42 Wellesley Street (BHR 153); the block currently used as the Mai Thai restaurant at 51-53 Victoria Street West (BHR 142), 61-65 Victoria Street West (BHR 163), and the modern City Central Hotel on Albert Street.

Archaeological sites R11/1627 and R11/1681 (AS 8) are located at 110-114 Albert Street (Figure 15). Recorded archaeological site R11/1627 is the former site of the Queens Head (c.1866) and Royal Mail Hotel (c.1870) on the south-eastern corner of Albert Street and Victoria Street West (see Appendix B for further information). Recorded archaeological site R11/1681 is the former site of Brown Barrett and Co. coffee and spice merchants and two additional small buildings dating to c.1880s. Small wooden buildings were also recorded as having been constructed on the site in 1866 (site record form, Appendix B). The area is currently a vacant block utilised for recreation and public car parking. There is significant potential for remains of the mid 19th century structures to be uncovered during any surface excavations undertaken in this area. However, the sites are just outside the designation footprint.

Any excavations within Albert Street, Victoria Street West and Wellesley Street have some potential to expose remains of 19th century infrastructure (drainage systems and earlier road surfaces), although later roading and infrastructure works are likely to have removed most of the earlier remains.

There is also some potential for archaeological remains of earlier structures beneath and around the 1929 Glengarry building at 42 Wellesley Street (BHR 153). The building was constructed in 1929 (Appendix C). It is possible that archaeological features and deposits relating to earlier 19th century use are present around the building or beneath it if the construction of basements has not removed earlier remains.

There is some potential for archaeological evidence of earlier structures beneath the Mai Thai building at 51-53 Victoria Street West (BHR 142) if the construction of basements has not removed earlier remains. Further detailed historic research into the sequence of site use would help in defining subsurface potential but, as with the Glengarry building, it could not be established whether subsurface archaeological remains are present prior to earthworks.

There is no potential for archaeological remains beneath the modern City Central Hotel, which has subground levels and is benched into the hillside.

One of the scheduled Maori heritage sites (Nga Wharau a Tako) is located in the vicinity of the northern station entrance.



Figure 14. Plan showing the extent of the proposed Aotea Station, to be excavated, recorded heritage buildings located within close proximity (identified by BHR number, and recorded archaeological sites (AS 8)

Footnote

Refer to BHR for further information



Figure 15. Location of AS 8 (recorded archaeological sites R11/1627 and R11/1681) (photo looking south-west 2009)

8.3.2 Karangahape Station (Figure 16, Figure 17, Figure 21):

The Karangahape Station is located beneath Pitt Street between Beresford Square to the southern end of Mercury Lane. There are several heritage buildings located over or partially over the station. Six are both scheduled by Auckland Council and registered by NZHPT: the c.1865 Wesleyan Church (BHR 80); the Pitt Street buildings at 211-235 Karangahape Road (BHR 47); the c.1924 George Court Building (BHR 48); the c.1920s Hallenstein Brothers Building (BHR 50); the Kings Theatre (BHD 57); and the c.1895 Naval Hotel (BHR 49). The c.1910 Norman Ng Building – Mercury Theatre entrance (BHR 51) has also been scheduled on the District Plan. Other heritage buildings that are not scheduled or registered include the George Court Warehouse building (BHR 16).

Another building scheduled on the District Plan and registered by the NZHPT, the former Wesleyan Chapel (BHR 74), is located in close proximity to the station.

Construction of the CRL and associated construction work sites, along with the main station entrance (Figure 17) will be confined to Beresford Square and Street and to Mercury Lane, where some modern buildings are to be demolished to construct the secondary station entrance. There is considered to be low potential for surviving archaeological features and deposits to be uncovered during works at both locations. However, the actual extent of impacts on any surviving subsurface archaeological remains would not be known until subsurface deposits are exposed through earthworks.



Figure 16. Built heritage located within close proximity to Karangahape Station (buildings identified by BHR number)



Figure 17. Karangahape Station showing top down construction areas (grey shading). From 2012 Concept Design Report

8.3.3 Newton Station (Figure 18, Figure 19, Figure 22):

Newton Station is located on Symonds Street between Newton Road/Khyber Pass and Mt Eden/New North Roads. Historic buildings in this area are recorded in the District Plan: Isthmus Section under Cultural Heritage Character Overlay 31, and the Symonds Street area in this vicinity is recorded as a Registered Historic Area (no. 7376) by the NZHPT. The station will not affect any of the Character-Defining buildings along Symonds Street, though an entrance would be located immediately adjacent to one of the buildings (BHD 136), at 257 Symonds Street where a vacant lot is located. A 20th century building currently housing the Auckland Chinese Community Centre and Copy Solutions Surface on the corner of Basque Road and New North Road will be demolished. A second shaft for emergency egress will be located between Symonds Street and Dundonald Street. A modern office building with basement carparking is located on the Dundonald Street frontage, and BHR 130 (227 Symonds Street) to the east on the Symonds Street frontage.

The vacant property at 257 Symonds Street was formerly the location of Cotele, an early villa dating back to the 1840s (Figure 5). The surrounding estate was subdivided in the 1860s. The house itself was replaced by a larger villa c.1900-1910¹⁰ which remained on

¹⁰ Based on information from Bruce Petry of Salmond Reed Architects, who visited the house prior to its demolition and estimated its date of construction as c.1900-1910.

the site into the 1990s, and the land was not redeveloped after its removal. This property therefore has reasonable potential for archaeological remains relating to occupation of the 19th century house.

In other areas potentially affected by surface works within the designation there is low potential for subsurface archaeological features and deposits relating to 19th century occupation of the area to be encountered during the proposed works, due to 20th century redevelopment. However, the actual extent of impacts on any surviving subsurface archaeological remains would not be known until subsurface deposits are exposed through earthworks.

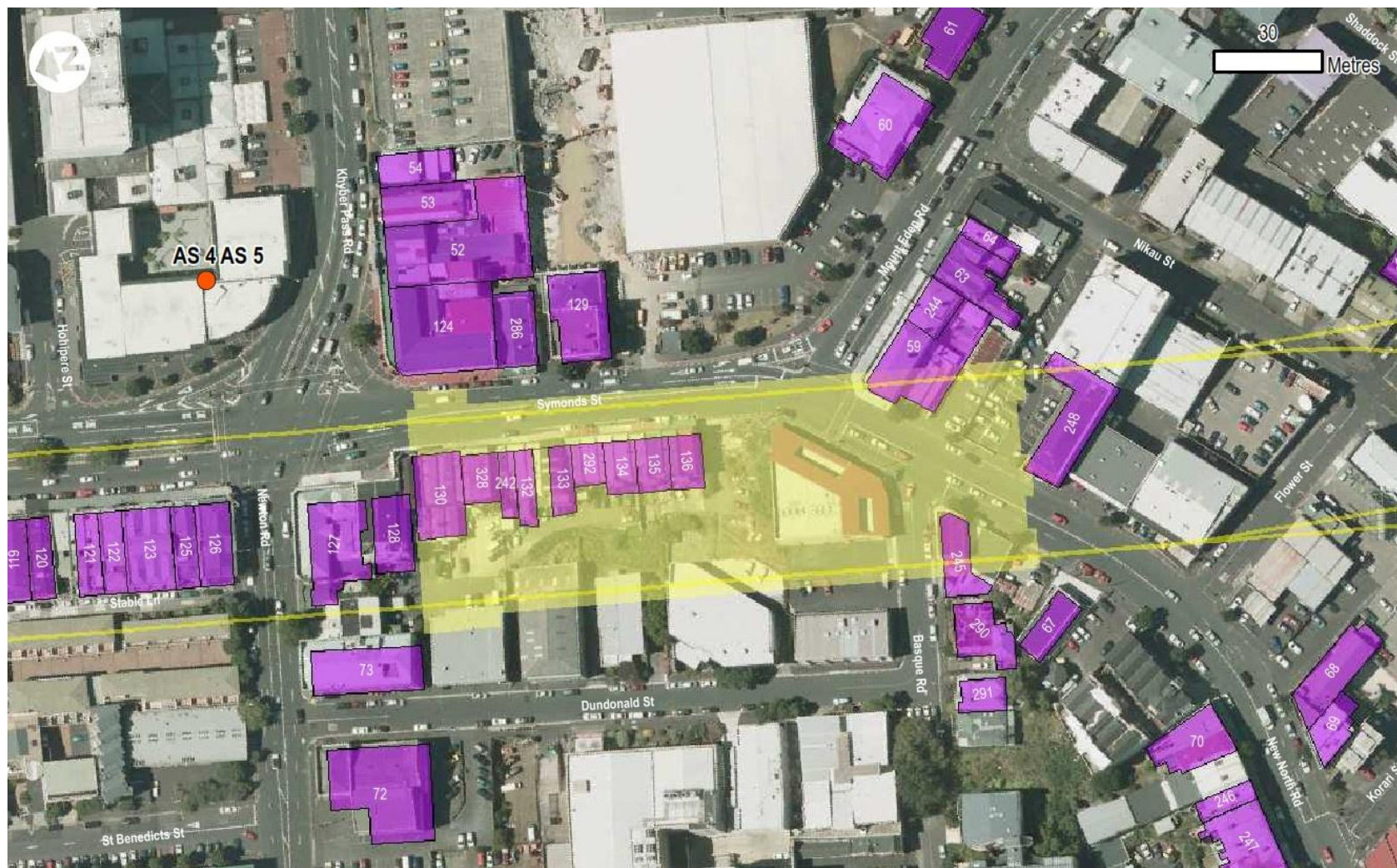


Figure 18. Newton Station and location of heritage buildings in the general vicinity (identified by BHR number), and recorded archaeological sites (AS 4-5). The whole area sits within the Auckland City District Plan – C08-31 Upper Symonds Street Character Overlay and the NZHPT Symonds Street Registered Historic Area no. 7376

Footnote

Refer to BHR for further information

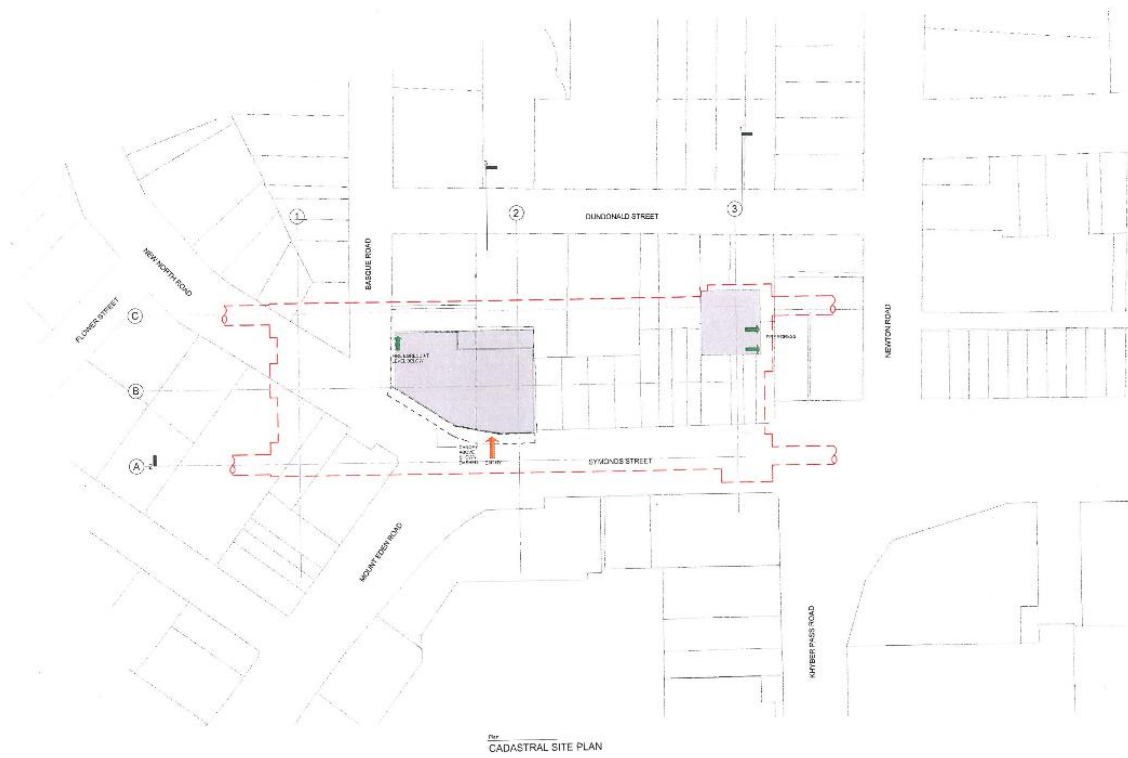


Figure 19. Newton Station showing top down construction areas (grey shading). From 2012 Concept Design Report

8.4 Adverse Effects: Construction

The areas where there is potential for effects on archaeological values as a result of surface works within the designation, based on the surface designation footprint and Concept Design Plan, are identified in Figure 20–Figure 22.

The CRL will be constructed for the most part by deep tunnelling using a TBM. This would be below the level of any archaeological remains, which are unlikely to be found below c.2-3m in most cases (wells and reclamation deposits being exceptions), and would therefore have no effects on archaeology.

Only in and around Queen Elizabeth Square and beneath the CPO, located within recorded archaeological site R11/1379 (AS 7) relating to historic reclamation, and in areas where works approach the surface, is there any potential for archaeological remains to be exposed. Surface works within the designation comprise construction areas including the footprint of Aotea Station, vents, station entrances, and sections of cut and cover tunnel from Lower Queen Street up Albert Street, and at the east and west connections to the NAL near Mt Eden Station.



Figure 20. Recorded archaeological sites (solid outline) and areas with potential archaeological effects (dashed outline)

Footnote

Refer to BHR for further information



Figure 21. Areas with potential archaeological effects (dashed outline)



Figure 22. Recorded archaeological sites (AS 4/5) and areas with potential archaeological effects (dashed outline)

Within the streets themselves archaeological potential relates mainly to early drainage systems and road surfaces, but modern infrastructure and road maintenance are likely to have removed most of the remains.

There is some potential for archaeological features and deposits relating to 19th century buildings to be exposed during works for Aotea Station, beneath buildings proposed for demolition which may not have full basements. At Newton Station there is reasonable potential for remains associated with an early villa known as 'Cotele', dating back to the 1840s, but there appears to be low potential for archaeological remains in other areas likely to be affected by surface works here. At Karangahape Station there is some but limited archaeological potential in areas of surface works within the designation.

The potential for subsurface archaeological remains around Newton, Karangahape and Aotea stations should be further assessed through more detailed historical research when the detailed plans for surface construction works are available. However, whether any archaeological remains are present cannot be determined until earthworks are carried out.

8.4.1 Effect – Chief Post Office to Albert Street

The tunnelling around and under the CPO relating to lines 1 and 5 has the potential to impact on archaeological reclamation deposits of site R11/1379 (AS 7) similar to those recorded during the Britomart Transport Centre development.

The northern cut and cover section also crosses the Commercial Bay reclamation area (site R11/1379, AS 7) in the vicinity of Queen Elizabeth Square and would affect the site. Outside the reclamation area, the most likely remains along roads would be remnants of earlier infrastructure, roading or occasionally building foundations if roads have been widened in the past.

Two scheduled Maori heritage sites are located along the route: Nga Wharau a Tako (87-89 Albert Street, and areas to the west); and Ngahu Wera (where Albert Street borders Customs Street West). These are not archaeological sites, and effects on Maori cultural values will be determined by the tangata whenua.

8.4.2 Options for Avoiding, Remedying or Mitigating Effect

The discovery of any archaeological remains during construction can be dealt with under the provisions of the Historic Place Act 1993 (HPA) (see below). The investigation and recording of any remains exposed would contribute to our knowledge of early Auckland.

Mitigation of any effects on Maori cultural values should be determined through consultation with tangata whenua.

8.4.3 Effect – Aotea Station

The works for the Aotea Station may uncover subsurface remains of early infrastructure beneath the roads. It is also possible that remains relating to 19th century structures may be present beneath the Glengarry building (BHR 153) and the Mai Thai building (BHR 142), and if so would be affected.

8.4.4 Options for Avoiding, Remedying or Mitigating Effect

The discovery of any archaeological remains during construction can be dealt with under the provisions of the HPA (see below). The investigation and recording of any remains exposed would contribute to our knowledge of early Auckland.

8.4.5 Effect – Karangahape Station

There is some, but low potential for effects on subsurface archaeological remains within Beresford Street and during construction of the station entrance in Mercury Lane.

8.4.6 Options for Avoiding, Remedying or Mitigating Effect

The discovery of any archaeological remains during construction can be dealt with under the provisions of the HPA (see below). The investigation and recording of any remains exposed would contribute to our knowledge of early Auckland.

8.4.7 Effect – Newton Station

There is reasonable potential for effects on archaeological remains relating to an early villa known as 'Cotele' at 257 Symonds Street, which was replaced by a larger villa in the early 20th century, but where the property has otherwise remained undeveloped. Other areas potentially affected by station construction west of Symonds Street appear to have low potential for archaeological effects as 20th century development is likely to have damaged or destroyed any subsurface remains.

8.4.8 Options for Avoiding, Remedying or Mitigating Effect

The discovery of any archaeological remains during construction can be dealt with under the provisions of the HPA (see below). The investigation and recording of any remains exposed would contribute to our knowledge of early Auckland, and in particular any remains relating to the early villa Cotele.

8.4.9 Effect – Newton Station to NAL

The works are unlikely to affect any archaeological remains. They are not in close proximity to any scheduled or registered heritage buildings with the exception of Mt Eden Prison at the eastern end, and the cut and cover sections near Mt Eden Station are in highly modified areas with little archaeological potential.

8.4.10 Options for Avoiding, Remedying or Mitigating Effect

The discovery of any archaeological remains during construction can be dealt with under the provisions of the HPA (see below). The investigation and recording of any remains exposed would contribute to our knowledge of early Auckland.

8.5 Adverse Effects: Operational

8.5.1 Effect

There will be no archaeological effects from the operation of the CRL.

8.6 Effects and Mitigation Conclusion

Only in the historic reclamation area (site R11/1379) in Queen Elizabeth Square and beneath the CPO, and in other areas where surface works are proposed, is there potential for direct impact on archaeology. Surface construction works areas include the footprint of the Aotea Station, vents, station entrances, and sections of cut and cover tunnel up Albert Street, and at the east and west connections to the NAL near Mt Eden Station.

Elsewhere tunnel boring at depth would not affect archaeological features and deposits. These would generally be found within c.2-3m of the ground surface (exceptions being wells, reclamation deposits and any deep infilled gullies).

As the extent of impacts on any surviving subsurface archaeological remains will not be known until remains are exposed through earthworks, it is considered that the archaeological issues do not present any major constraints to the proposal. Effects on any subsurface archaeological remains can be appropriately mitigated under the provisions of the HPA (see below). The investigation and recording of any remains exposed would contribute to our knowledge of early Auckland.

9 Legislative Framework

9.1 Resource Management Act 1991 (RMA)

The RMA recognises as matters of national importance: *'the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga'* (s 6(e)); and *'the protection of historic heritage from inappropriate subdivision, use, and development'* (s 6(f)).

Territorial authorities are required under Section 6 of the RMA to recognise and provide for these matters of national importance when *'managing the use, development and protection of natural and physical resources'*.

Historic heritage is defined as *'those natural and physical resources that contribute to an understanding and appreciation of New Zealand's history and cultures, deriving from any of the following qualities: (i) archaeological; (ii) architectural; (iii) cultural; (iv) historic; (v) scientific; (vi) technological'*. Historic heritage includes: *'(i) historic sites, structures, places, and areas; (ii) archaeological sites; (iii) sites of significance to Maori, including wahi tapu; (iv) surroundings associated with the natural and physical resources'*. (s 2).

There are no archaeological sites scheduled in the District Plan that would be affected by the CRL, and it is not possible to confirm the presence and extent of archaeological remains beneath streets and buildings prior to construction works. It is considered that any effects on subsurface archaeology would be appropriately mitigated by investigating

and recording them to add to our knowledge of Auckland's history, under the provisions of the Historic Places Act.

There are two scheduled Maori heritage sites within the CRL Area - Nga Wharau a Tako (87-89 Albert Street, and areas to the west); and Ngahu Wera (where Albert Street borders Customs Street West). Effects on Maori cultural values must be determined by the tangata whenua.

9.2 Historic Places Act 1993

In addition to any requirements under the RMA, the HPA protects all archaeological sites whether recorded or not, and they may not be damaged or destroyed unless an Authority to modify an archaeological site has been issued by the New Zealand Historic Places Trust.

An archaeological site is defined by the HPA s 2 as: *'any place in New Zealand that – (a) Either – (i) Was associated with human activity that occurred before 1900; or (ii) Is the site of the wreck of any vessel where that wreck occurred before 1900; and (b) Is or may be able though investigation by archaeological methods to provide evidence relating to the history of New Zealand.'*

Authorities to modify archaeological sites can be applied for either under s 11, in respect to a particular site or sites, or under s 12, for all sites that may be present within a specified area. Applications made under s 12 require approval by the Maori Heritage Council of the Historic Places Trust. An application to undertake an archaeological investigation can also be made under s 18 of the Act. The tangata whenua must be consulted regarding applications to modify, destroy or investigate archaeological sites which have Maori cultural associations.

The CRL will affect recorded archaeological site R11/1379 (AS 7, historic reclamations) in and around Queen Elizabeth Square and beneath the CPO and has the potential to affect unrecorded subsurface remains that might be exposed in Albert Street and around the Aotea, Karangahape and Newton stations during construction. Subsurface archaeological remains could provide significant information relating to the history of Auckland.

Based on the findings of this report, a general authority will be required from NZHPT. It would be applied for when construction plans for the stations have been finalised, closer to the start of construction. More detailed research into land use history at specific locations where there is considered to be some potential for sites to be affected would be carried out in support of the application. An Archaeological Management Plan would be prepared as part of the application, setting out requirements and procedures for archaeological monitoring of preliminary earthworks in areas of archaeological potential, the accidental discovery of archaeological remains, and the recording of any archaeological evidence before it is modified or destroyed. The Archaeological Management Plan would be included in the CEMP. Authorities are generally issued for a 5 year period.

10 Conclusion

The CRL will be constructed for the most part through tunnelling deep below the ground surface. This would generally be below the level of any archaeology and therefore will have no effects. Only the historic reclamation area (site R11/1379, AS 7) in and around Queen Elizabeth Square and beneath the CPO, and elsewhere where works approach the surface, is there any potential for archaeological remains to be exposed. There is reasonable potential to impact on subsurface archaeological remains in the cut and cover section up Albert Street, within the footprint of Aotea Station, and at 257 Symonds Street at Newton Station. In other areas affected by surface works at Newton Station and at Karangahape Station, the potential for archaeological remains is low. There is little if any potential for archaeological remains at the cover tunnel sections between Newton Station and the connections to the NAL near Mt Eden Station.

Archaeology should not be considered a major constraint on the CRL, as effects on subsurface archaeology can only be confirmed once works are under way, and can be appropriately mitigated under the Historic Places Act 1993.

The following recommendations are made to mitigate the effects of the CRL:

- An Authority to modify archaeological sites should be obtained from NZHPT prior to the start of construction works so that processes can be put in place for any archaeology that may be exposed during construction.
- Further historic research and assessment relating to the archaeological potential of the areas affected by surface construction works at Aotea, Karangahape and Newton stations should be carried out as part of this application.
- An Archaeological Management Plan should be prepared, setting out requirements and procedures for archaeological monitoring of preliminary earthworks in areas of archaeological potential; accidental discovery of archaeological remains; and the recording of any archaeological evidence before it is modified or destroyed. The Archaeological Management Plan should be provided as part of the application to the NZHPT and included in the CEMP.
- During the construction of the CRL, any archaeological remains exposed should be investigated and recorded (under authority from the NZHPT) to add to our understanding of 19th century Auckland.
- The tangata whenua should be consulted regarding the effects of the CRL on Maori cultural values, in particular relating to the two scheduled Maori heritage sites.

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