



**Site Alteration Permit 2012-0161:
Archaeological Testing and Surface Examination at 3707 Dollarton Highway,
North Vancouver Associated with the Installation of a New Dock within the
Boundaries of Site DhRr-0008, Final Permit Report**

Conducted under

Tsleil-Waututh Nation Cultural Heritage Investigation Permit 2012-030

and

Squamish Nation Cultural Heritage Investigation Permit 2012-0111

and

Stó:lō Heritage Investigation Permit 2012-52

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1.0 Introduction

This report presents the results of the archaeological testing and surface inspection conducted at 3707 Dollarton Highway, North Vancouver, B.C. associated with the installation of a new dock within the boundaries of site **DhRr-0008**, the Cates Park/Whey-ah-Wicken site (Figures 1-6, Photos 1-7). The subsurface testing and surface inspection was conducted under Site Alteration Permit 2012-0161 issued by the Archaeology Branch, Ministry of Forests, Lands, and Natural Resource Operations under Section 12 of the *Heritage Conservation Act*. The subsurface testing and surface inspection was also conducted under the provisions of Tsleil-Waututh Nation Cultural Heritage Investigation Permit 2012-030, Squamish Nation Cultural Heritage Investigation Permit 2012-0111, and Stó:lō Heritage Investigation Permit 2012-52.

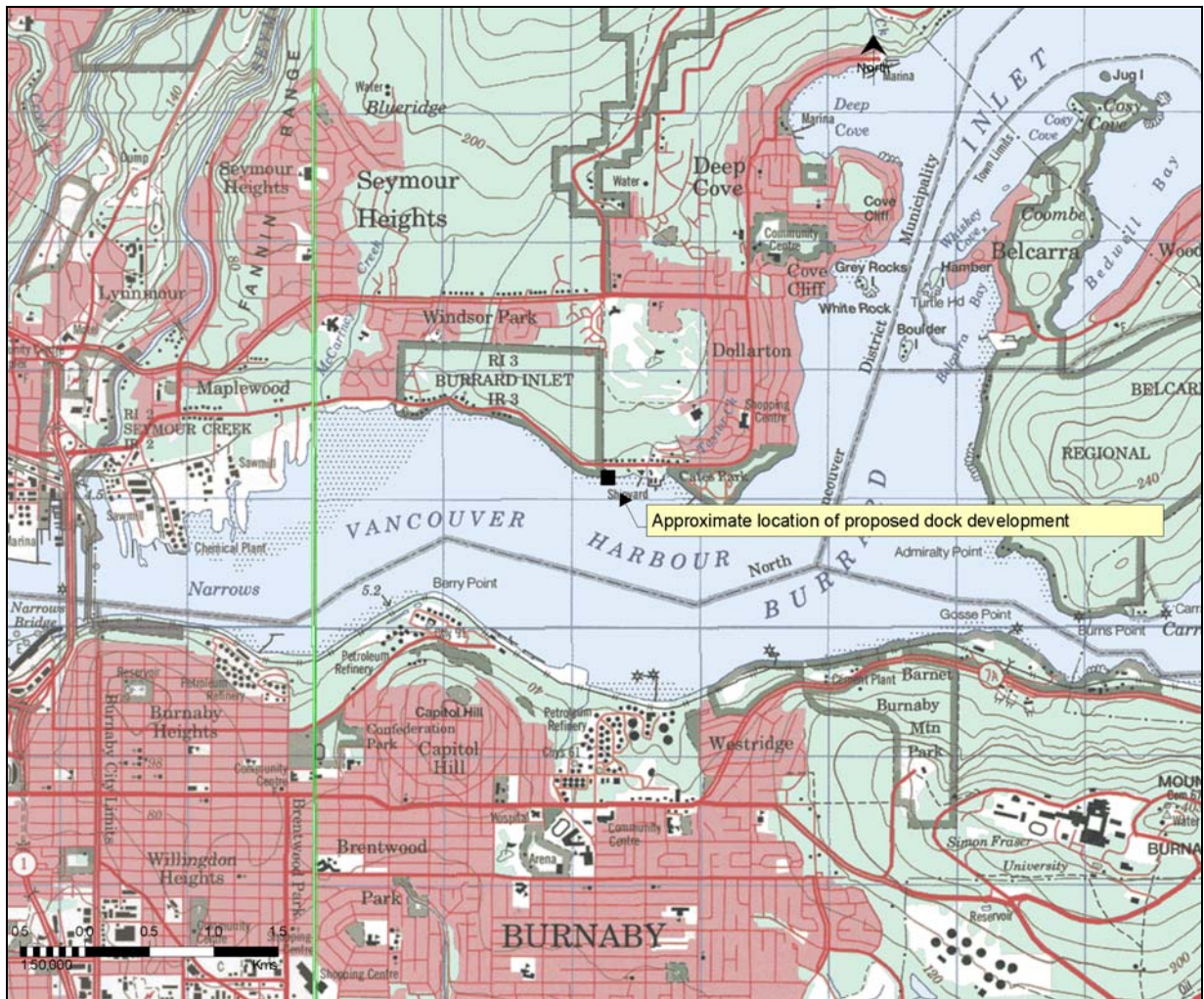


Figure 1: Approximate location of the proposed dock development at 3707 Dollarton Highway (NTS 92G/06 and 92G/07).

2.0 Location and Proposed Development Description

The subject property consists of 3707 Dollarton Hwy. (West 1/2 Lot 1 Block K, DL 230, Plan 7990; PID 010-290-826) in North Vancouver, along the northern shoreline of Burrard Inlet, between Cates Park

and Burrard Inlet IR 3. The subject property is located south of Dollarton Highway on a steep slope that rises sharply from the beach. 3707 Dollarton Highway is located within the identified boundaries of site **DhRr-0008**, the Cates Park/Whey-ah-Wicken site. The owner of the subject property, Nick Ebrahim, is planning to construct a dock (including pilings in the intertidal area) and a shoreline abutment within the recorded boundaries of site **DhRr-0008** (Figures 1-6). Pilings will be installed by floating barge from the seaward side within the intertidal zone. The shoreline abutment will be constructed by hand along the shoreline and will include a concrete footing.

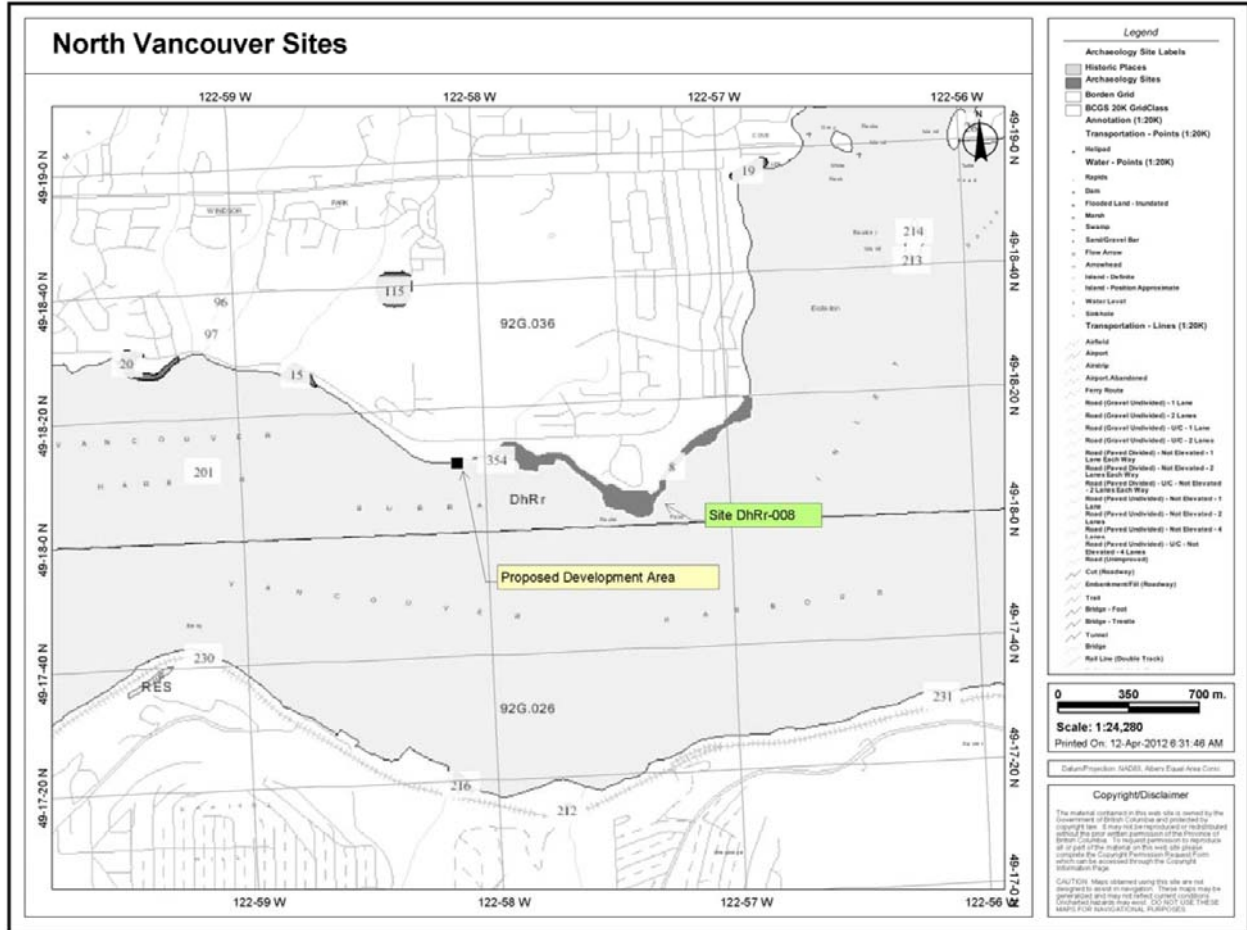


Figure 2: RAAD map showing the location of 3707 Dollarton Highway in relation to **DhRr-0008** and surrounding archaeological sites. Site **DhRr-0354** consists of a historic shipwreck site (reported submerged barges) located to the east of the proposed development area within the McKenzie Barge Facility.

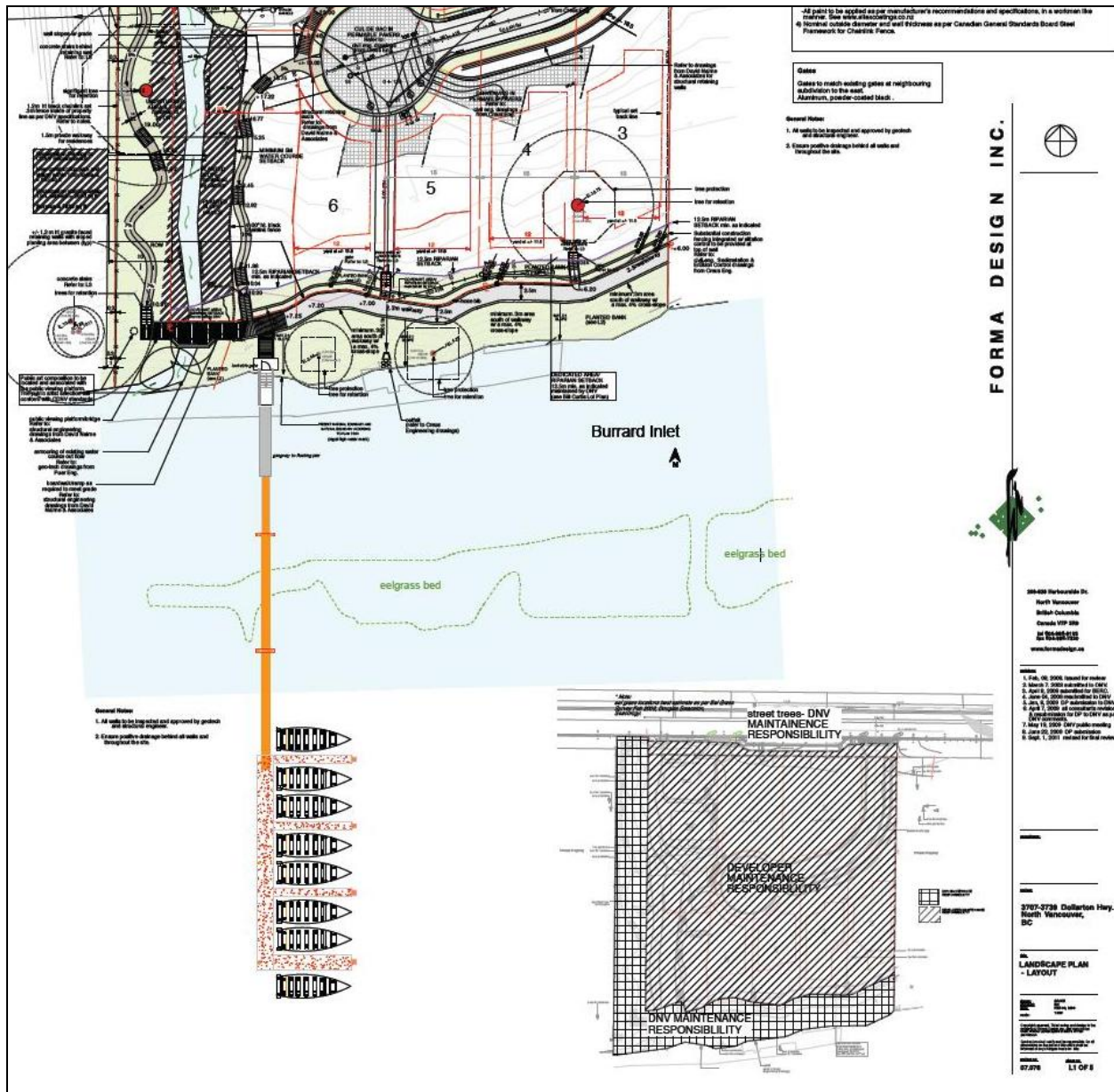


Figure 3: Map showing the configuration and location of the proposed dock at 3707 Dollarton Highway on the larger proposed development plan map.

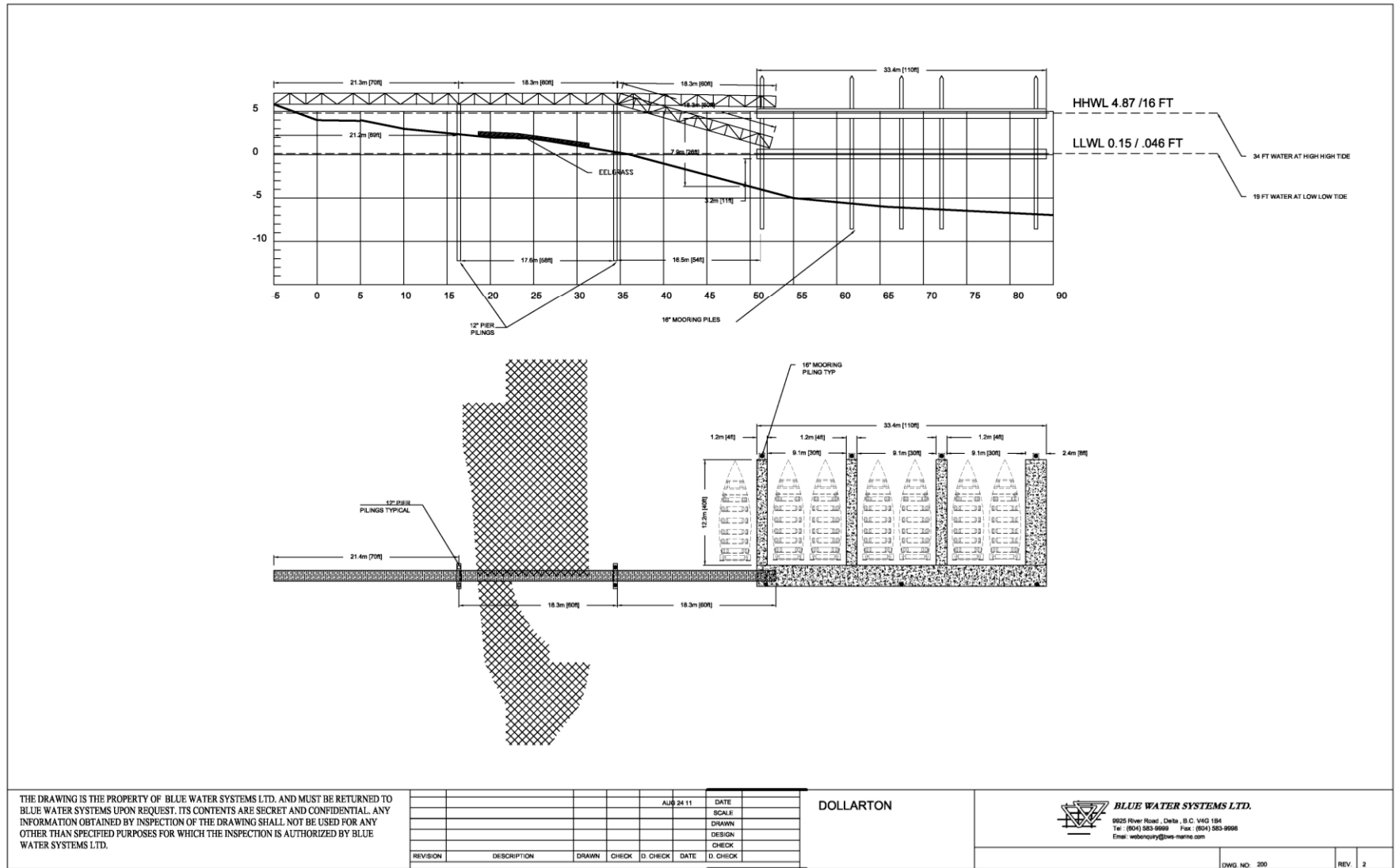


Figure 4: Plan of the proposed dock at 3707 Dollarton Highway, North Vancouver.

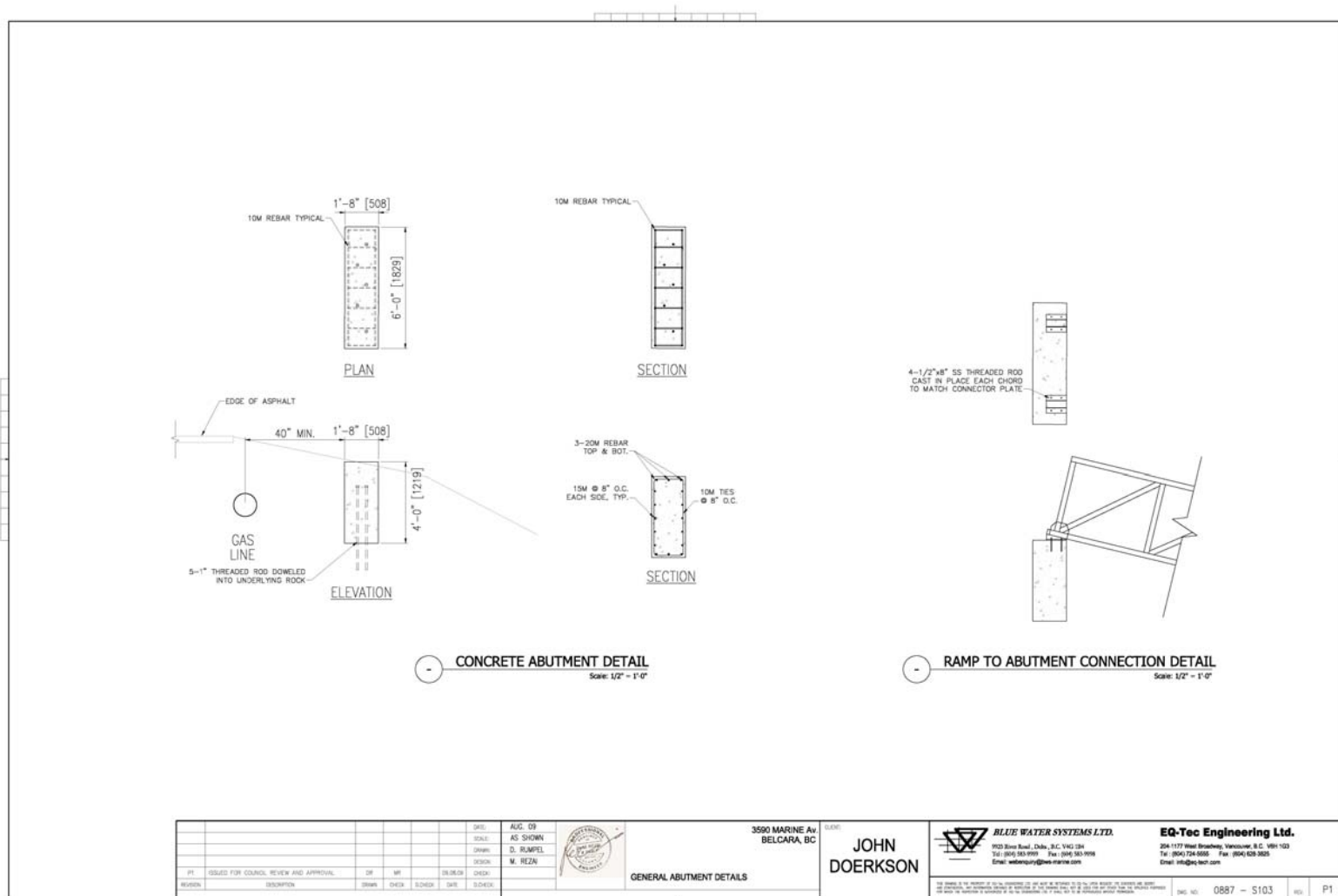


Figure 5: Typical landside abutment plans to be used for the proposed dock at 3707 Dollarton Highway, North Vancouver.



Figure 6: Google Earth image of the subject property at 3707 Dollarton Highway, North Vancouver.



Photo 1: View of the front of 3707 Dollarton Highway and proposed dock development area.



Photo 2: View of the proposed dock location at 3707 Dollarton Highway looking east.



Photo 3: View south across subject property at 3707 Dollarton Highway prior to testing.



Photo 4: View of the beachfront and proposed dock location at 3707 Dollarton Highway prior to testing looking south.



Photo 5: View of the beachfront of 3707 Dollarton Highway prior to testing looking east.



Photo 6: View of the beachfront of 3707 Dollarton Highway and the small creek running adjacent to the property, looking west.



Photo 7: View of the creek just west of 3707 Dollarton Highway, which flows south into Burrard Inlet.

3.0 Study Objectives

The current subsurface testing program and surface examination was initiated to determine if site **DhRr-0008**, the Cates Park/Whey-ah-Wicken site, extends onto the subject property at 3707 Dollarton Highway, and to determine the depth and integrity of any deposits that may be present within the impact zone of the proposed development so that appropriate management recommendations can be made given nature of the development being proposed. The subsurface testing and surface examination was also conducted in order to determine if any prohibitive archaeological mitigation and/or monitoring costs would be associated with continuing with the proposed development given its current design.

4.0 Background

4.1 Biophysical, Historic, and Ethnographic Setting

The Cates Park/Whey-ah-Wicken site, site **DhRr-0008**, is located within the asserted traditional territory of the Musquem, Squamish, and Tsleil-Waututh First Nations. Details concerning the biophysical, historic, and ethnographic setting of the study area can be found in Alexander (2008).

4.2 Archaeological Setting

General syntheses on the prehistory of the Lower Mainland can be found in Ames and Maschner (1999), Borden (1970, 1975), R. Carlson (1983), Fladmark (1982, 1986), Matson and Coupland (1995), and Mitchell (1971, 1990).

Site **DhRr-0008** consists of a large shell midden site that extends along the northern shore of Burrard Inlet, between Cates Park and Burrard Inlet IR 3. The site contains shell midden deposits, faunal remains, burials, lithics, and firebroken rock. Site **DhRr-0008** was originally recorded in the 1960 by Charles Borden and was subject to excavations during Vancouver City College's archaeological field school in 1972 – led by Art Charleton (1974). According to Chief Dan George, this was a major site which was subject to many battles in prehistoric times and was traditionally called "Look Both Ways" (Charleton 1974). The site has been the subject of a great deal of excavations, inventory work, and impact assessment work since its initial recording.

4.3 Previous Archaeological Research in the Vicinity of 3707 Dollarton Highway

Recent archaeological work conducted in proximity to the subject property includes: (1) Charleton's 1972 Vancouver Community College excavations (Charleton 1974), (2) the post-impact assessments of the Cates Park developments in 1999 (see Alexander 1999; Alexander and Grier 2000), (3) the monitoring of developments within Cates Park (Alexander 2001, 2002, 2003, 2005), (4) an impact assessment of 3785 Dollarton Highway (Golder 2005), and (5) intertidal surveys which included the **DhRr-0008** site (see Howe 2007).

Charleton's (1974) six week field school showed that the site was a multi-component site, likely of a late fall/winter occupation that had been occupied for over the past 2,000 years. The 1999 post impact assessments (Alexander 1999; Alexander and Grier 1999) of the site failed, however, to find evidence of substantial deposits in the Roche Point area of the site, except along the eroding coastline. Their post-impact assessments also redefined the boundaries of the site and revealed that the extent of site disturbances varied throughout the site, but the locations with major park construction seemed to have had the most visible impacts (Alexander 1999; Alexander and Grier 1999).

More recently, and of specific relevance to the current project, an AIA of proposed residential developments at 3707, 3715, and 3749 Dollarton Highway was conducted in 2008 (Alexander 2008). No archaeological sites were identified within the boundaries of the proposed development area and a recommendation was made that no further archaeological work was warranted for the proposed development prior to the start of proposed residential development activities. However, during the AIA, a single basalt flake was identified in the beach/intertidal zone in front of the proposed development area. The flake was added to the inventory of site **DhRr-0008** and the boundary of the site was accordingly extended to include the single flake. As part of the recommendations put forth for in the AIA report for the proposed development, a recommendation was made that “if the foreshore (intertidal zone) of the subject property is developed, the single flake should be collected and additional archaeological studies of the intertidal zone are warranted”. Accordingly, as the current dock development plans (specifically the location of the proposed pilings) include the intertidal area, Arrowstone was retained in order to conduct the studies recommended.

5.0 Assessment Methodology

The assessment of the subject property took place on June 7th, 2012. The field crew for the assessment consisted of Jon Sheppard, B.A. (Hons) (Crew Chief, Arrowstone), Dave Hall, M.A., RPCA (Arrowstone), and Amy Hodgins, B.A. (Tsleil-Waututh Nation). Unfortunately, representatives from the Musqueam and Squamish Nation could not be present for the assessment. The impact zone of the proposed addition development measures approximately 15 m x 5 m. As per the terms of Permit 2012-0161, as an initial assessment, an extensive pedestrian survey of the impact zone of the proposed development was conducted with crew members spaced at 3 m intervals. During the field surface survey, ground surfaces were examined for the presence of artifacts, cultural materials, and other evidence of past human settlement and land use. During the survey an abundance of modern day garbage and refuse, (i.e., broken window glass, pieces of plastic, nails, etc.) was identified – indicating a highly disturbed area.

Following the surficial survey, a 12 m north-south testing line (Row A) was established across the proposed development area along which subsurface testing occurred. Five subsurface test locations were laid out along this line, spaced 3 m (north-south) apart. Combination shovel tests and auger tests (when shoveling was no longer practical, approximately 50 cm below surface) were excavated within the area to be impacted by the proposed residential development (Photos 8-10). Subsurface tests penetrated both “A” and “B” soil horizons depending on the nature of the sediment accumulation and continued until unweathered “C” horizon sediments were encountered or until the excavation had to be abandoned. Backdirt from tests was screened through 6 mm mesh. Landforms, vegetation, and aspect were noted in the field. Measurements were taken of maximum depths achieved and descriptions were made of the contents of each of the subsurface tests (Figure 7).

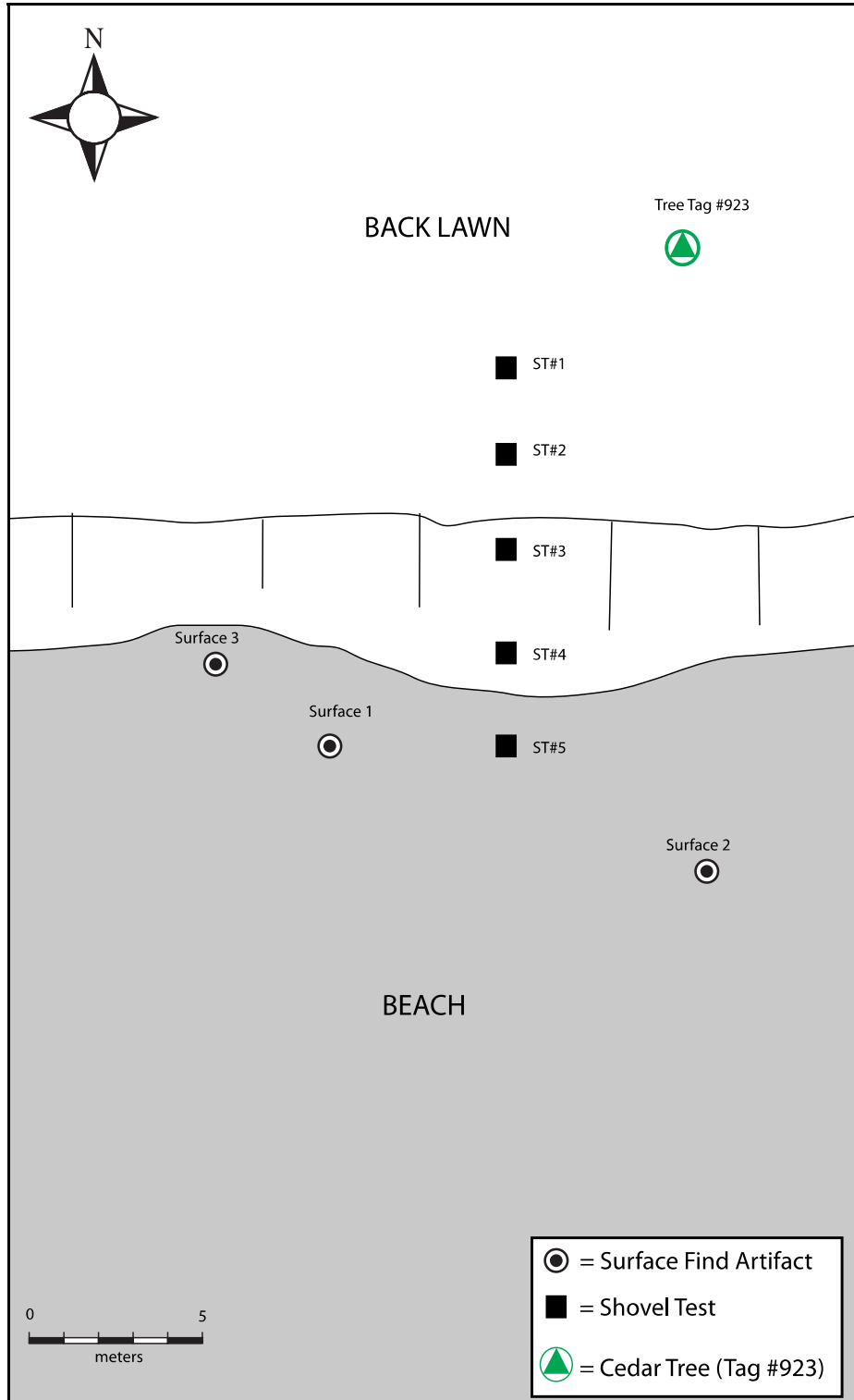


Figure 7: Map showing the location of the subsurface tests at 3707 Dollarton Highway.



Photo 8: Completed Subsurface Test #1



Photo 9: Completed Subsurface Test #2.



Photo 10: Jon Sheppard and Amy Hodgins conducting Subsurface Test #5.

6.0 Results

Five combination shovel/auger tests (aka core tests) extending down approximately 60 cm were excavated within the proposed location of the new dock (Subsurface Test #s 1-5) (Table 1, Figure 7, and Photos 8-14). All of the subsurface tests were negative for cultural deposits or cultural materials, and all were found to contain imported fill and sand deposits as well as modern day refuse (i.e., broken window glass, pieces of plastic, nails, etc.). With the exception of Subsurface Test #5, within all of the subsurface tests, the sandy loam fill was present from the surface down to 30-50 cm below surface. Subsurface Test #5 was conducted on the beach. The deposits within the test consisted of pure sand from the beach, with an extremely compact, clay deposit 10 cm below this. A sterile sandy clay deposit below the sandy loam fill was identified within Subsurface Test #3, 50 cm below surface. No artifacts or features were identified in the subsurface tests.

Following subsurface testing, a pedestrian survey of the beachfront of the property was conducted. As the tide level quite low, an examination of the exposed bank was also conducted. Within the exposed bank, no shell midden deposits or other archaeological materials were identified, only the same sandy loam fill which was present in the subsurface tests. During the pedestrian survey of the beach/intertidal zone, three lithic artifacts, all fashioned from basalt, were identified – the tip of a projectile point (Surface Find #1), a biface fragment (Surface Find #2), and an early stage tool production flake (Surface Find #3) (Photos 11-14, Figure 7, and Table 2). All three of the artifacts observed were identified outside of the impact zone of the proposed dock development. Surface Find #3 was identified very close to the location of the single flake indicated by Arcas (Alexander 2008) and may in fact be the same artifact identified in their initial AIA. Unfortunately, a description of the flake identified and/or a photograph of the flake was not provided in the Arcas report and it is unclear if the artifact identified during the current assessment is indeed the same artifact identified by Arcas years earlier. In addition to the lithics, other modern pieces

of industrial and shipping refuse were identified, littering the beach – including an abundance of ‘pig iron’ a type of ballast that is a result of iron ore smelting (Photo 15) (Camp and Francis 1920).

Table 1: Summary of Subsurface Tests Conducted Under Site Alteration Permit 2012-0161					
Subsurface Test Location	Shovel Test Depth (DBS)	Auger Depth (DBS)	Maximum Depth (DBS)	Stratigraphy	Materials Recovered/Notes
ST #1 (Row A, 0+000)	0-60 cm	60-80 cm	80 cm	Dark brown sandy loam fill	Abandoned at 50 cm due to a large rock.
ST #2 (Row A, 0+003)	0-30 cm	N/A	30 cm	Dark brown sandy loam fill.	Abandoned at 30 cm due to a large rock.
ST #3 (Row A, 0+006)	0-50 cm	50-60 cm	60 cm	Dark brown sandy loam fill with high content of rocks. Below 50cm is a sterile sandy clay deposit.	Window glass and other modern garbage materials were present. Abandoned at 60 cm due to density of rocks.
ST #4 (Row A, 0+009)	0-30 cm	N/A	30 cm	Dark brown sandy loam fill with high content of rocks.	Window glass and other modern garbage materials were present. Abandoned at 60 cm due to density of rocks.
ST #5 (Row A, 0+012)	0-10 cm	N/A	10 cm	Pure sand with high shell content. Below 10 cm is an extremely compact clay deposit.	Beach area. Abandoned as compact clay deposit was impossible to penetrate.



Photo 11: Location of Surface Find #1 as indicated by trowel.



Photo 12: Surface Find #1, basalt projectile point tip.



Photo 13: Surface Find #3, basalt flake.



Photo 14: Surface Find #3, basalt flake.



Photo 15: Ship ballast strewn across the beach.

Table 2: Summary of Surface Lithic Artifacts Recovered Under Site Alteration Permit 2012-0161

Surface Find #	Artifact Type	Sullivan & Rozen (1985) Flake Type	Raw Material	Length (cm)	Width (cm)	Thickness (cm)	Artifact Description
1	Point Fragment	-	Basalt	3.3	1.8	0.8	The tip of a projectile point.
2	Biface Fragment	-	Basalt	2.9	1.7	0.6	Bifacially flaked, broken in half.
3	Flake	Complete	Basalt	1.3	2.4	0.7	Early Stage tool production. Possibly the same flake originally identified by Arcas (Alexander 2008).

7.0 Discussion

The results of the subsurface testing conducted appear to confirm the results of the prior AIA conducted by Arcas (Alexander 2008) that suggested that subsurface cultural deposits associated with site **DhRr-0008** are not present on the subject property at 3707 Dollarton Highway. The results of the surface survey in front of 3707 Dollarton Highway appears to confirm the results of the AIA conducted by Arcas that suggested that isolated surface finds associated with site **DhRr-0008** are present along the beach in front of the subject property. The lithic artifacts recovered from the beach area in front of 3707 Dollarton Highway are located outside of the impact zone of the proposed development area and may have been transported to their present location as a result of the highly fluctuating tides and activities associated with the waters of Burrard Inlet. Due to the highly disturbed nature of the sediments within the proposed development area, the proposed development is assessed as having low potential to impact archaeological deposits and/or materials. Due to the extremely sparse and highly disturbed nature of the cultural deposits identified in the beach area in front of 3707 Dollarton Highway, the artifacts identified during the current assessment are assessed as having low scientific significance. A site form update for the site will be submitted concurrently with the current permit report.

8.0 Recommendations

Due to: (1) the negative results of the subsurface testing, (2) the highly disturbed nature of the sediments within the proposed development area, and (3) the negative results derived during the associated surface inspection of the impact zone of the proposed development area, it is my opinion that the proposed dock development has low potential to impact archaeological resources. Accordingly, it is our recommendation that no further archaeological work (including monitoring) is warranted for the proposed dock development prior to the start of development activities provided that the proposed development is not revised to include unassessed areas.

Users of this report should be aware that even the most thorough investigation may fail to reveal all archaeological remains, including sites protected by the *Heritage Conservation Act*, that may exist within a proposed development area. All users of this report should also be aware that: (1) archaeological remains in B.C. are protected from disturbance, intentional or inadvertent, by the *Heritage Conservation Act*; (2) in the unlikely event that archaeological remains are encountered, all ground disturbance in the immediate vicinity must be suspended at once; (3) it is the individual's responsibility to inform the Archaeology Branch, and the appropriate First Nations as soon as possible, concerning the location of the

archaeological remains and the nature of the disturbance; and (4) the *Heritage Conservation Act* allows for heavy fines and imprisonment for failing to comply with these requirements.

I trust that this letter report has provided you with the information that you require. Please do not hesitate to call me if you have any questions or require additional information.

Sincerely,



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