

Protective barriers
Retaining significant trees when properties are redeveloped is important in maintaining the established natural character associated with many of Vancouver's neighbourhoods. Their continued healthy growth is greatly enhanced by the By-law requirement of providing special protective barriers. Barriers are required to protect the roots, trunks and branches of trees on private property as well as on City property prior to and during on-site construction (Figure 3).

(To calculate the dimensions for tree barriers on private property, refer to Schedule D 'Tree Protection Distance Table' below. For trees on City property, refer to Section 4.2 of the Tree Retention, Relocation and Replacement Guidelines.)

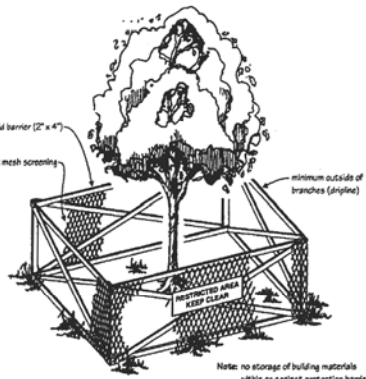


Figure 3 - Tree Protection Barrier

Schedule D - Tree Protection Distance Table

Trunk Diameter (cm)	Minimum Protection Req'd Around Tree (distance from trunk in metres)
20	1.2
25	1.5
30	1.8
35	2.1
40	2.4
45	2.7
50	3
55	3.3
60	3.6
75	4.5
90	5
100	6.0

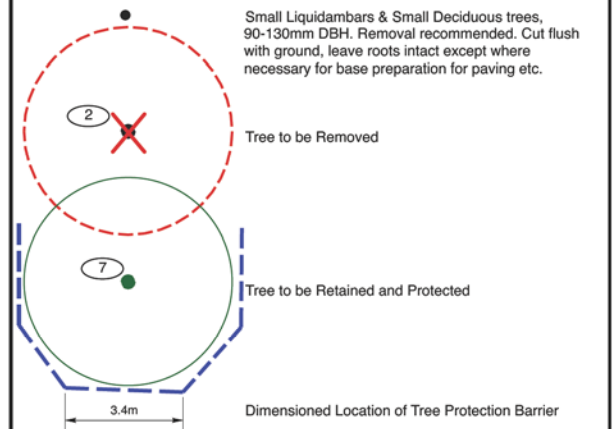
* Table reproduced from the By-law



TREE DESCRIPTIONS

- 1 Thuja plicata (Western Red Cedar), 580mm DBH, old fill at base.
- 2 Thuja plicata (Western Red Cedar), 140mm DBH, sparse.
- 3 Thuja plicata (Western Red Cedar), 450mm DBH, huge sweep to south, adapted as part of forest.
- 4 Thuja plicata (Western Red Cedar), 450mm DBH, swept at base, asymmetric crown, adapted, good condition, stay 4m clear.
- 5 Thuja plicata (Western Red Cedar), 530mm DBH, good condition.
- 6 Thuja plicata (Western Red Cedar), 270mm DBH, sparse, open character, but satisfactory condition.
- 7 Tsuga heterophylla (Western Hemlock), 600mm DBH, gummosis near base.
- 8 Thuja plicata (Western Red Cedar), 450mm DBH, good condition.
- 9 Thuja plicata (Western Red Cedar), 450mm DBH, good condition.
- 10 Thuja plicata (Western Red Cedar), 600mm DBH, good condition.
- 11 Thuja plicata (Western Red Cedar), 350mm DBH, good condition.
- 12 Thuja plicata (Western Red Cedar), 110mm DBH, 60' height, good condition.
- 13 Thuja plicata (Western Red Cedar), 260mm DBH, small cedar, intermingled with 14.
- 14 Acer macrophyllum (Bigleaf Maple), 210mm DBH, advanced decay at base, intermingled with 13.
- 15 Acer macrophyllum (Bigleaf Maple), 300mm DBH, leans 3 degrees north, sweep at base, older asphalt pavement and disruption north side, unknown root damage.
- 16 Acer macrophyllum (Bigleaf Maple), 220mm DBH, asymmetric, shaded out south side by nearby dominant cedar.
- 17 Thuja plicata (Western Red Cedar), 750mm DBH, on mound of decaying organics.
- 18 Thuja plicata (Western Red Cedar), 530mm DBH, in tight cluster, good condition.
- 19 Thuja plicata (Western Red Cedar), 560mm DBH, in tight cluster, good condition.
- 20 Thuja plicata (Western Red Cedar), 800mm DBH, in tight cluster, good condition.
- 21 Thuja plicata (Western Red Cedar), 160mm DBH, sub-dominant Cedar.
- 22 Acer macrophyllum (Bigleaf Maple), 270mm DBH, asymmetric.
- 23 Acer macrophyllum (Bigleaf Maple), 180mm DBH, asymmetric.

TREE PROTECTION LEGEND



Observations, drawing and report by Ken McKillop, ISA Certified Arborist PN-0584.
See Tree Protection specification section.
Supply and install new growing medium and seeded lawn to non-paved areas disrupted by work of this contract. All landscape work to the requirements of the BC Landscape Standard, current edition.

EXISTING WALKWAY TREES

Of the 17 Liquidambar along the path, several have badly deformed, topped, or poorly pruned crowns. In the south half, only two have reasonably good form and structure, and those two are smaller, less vigorous. Recommendations: Replace with new Liquidambar or other suitable species in the new design.

REV.	DATE	REVISION DESCRIPTION	BY	REV.	DATE	REVISION DESCRIPTION	BY
1	MAY 19, 2011	ISSUED FOR DP	DC				

Copyright reserved. This plan and design is and at all times remains the exclusive property of Chernoff Thompson Architects and cannot be used without the architects consent.
All dimensions on the project must be checked by the contractor.
This drawing must not be used for construction purposes until here counter-signed.

CHERNOFF THOMPSON ARCHITECTS
110-1281 West Georgia
Vancouver, British Columbia
Canada V6E 3J5
Tel. 604 689-9460
Fax 604 683-7684

DURANTE KREUK LTD. LANDSCAPE ARCHITECTS
102 - 1637 West 5th Avenue Vancouver B.C. V6J 1N6
P 604.684.4611 | F 604.684.0577 | www.dkl.bc.ca

TRIUMF Canada's National Laboratory for Particle and Nuclear Physics 4004 Wesbrook Mall | Vancouver BC | Canada V6T-2A3

ARIEL BUILDING TREE REPORT, REMOVAL & PROTECTION PLAN LANDSCAPE

DESIGNED	DC	PLLOT SCALE	1:200	DWG NO.	L01
DRAWN	CA	DATE	2011-05-19		
CHECKED	DC				
DK Project No.:	10102				
APPROVED					

LEASE BOUNDARY



- ### LANDSCAPE NOTES
1. Refer to architectural for all landscape walls and stairs.
 2. Refer to structural for attachment and reinforcing details.
 3. Refer to civil and geotechnical for concrete thickness and base prep. in loading area.
 4. For grading, refer to Civil. Grading at site edge beside relocated path to be coordinated in the field with the landscape architect.
 5. All drawings to be read in conjunction with the specifications.

- ### PLANTING NOTES
1. All work shall meet or exceed the requirements as outlined in the Current Edition of the B.C. Landscape Standard.
 2. Plant sizes and related container classes are specified according to the B.C. Landscape Standard Current Edition. For container classes #3 and smaller, plant sizes shall be as shown in the plant list and the Standard; for all other plants, both plant size and container class shall be as shown in the plant list. Specifically, when the plant list call for #5 class containers, these shall be as defined in the BCNTA (ANSI) Standard.
 3. All trees to be staked in accordance with BCNTA Standards.
 4. Removal of invasive species and all items noted on the tree plan to be included as part of this contract. All existing vegetation to be removed and disposed of off site.
 5. Subgrades to be reviewed by consultant prior to the placement of any growing medium.

PRELIMINARY PLANT LIST

TREES		
Acer rubrum 'Frank's Red'	Red Maple	3m Ht. Specimen B&B
DROUGHT TOLERANT SHRUBS		
Calamagrostis x acutiflora	Feather Reed Grass	#2 Pot @ 600mm OC
Helictotrichon sempervirens	Blue Oat Grass	#2 Pot @ 600mm OC
Lavandula angustifolia	English Lavender	#2 Pot @ 600mm OC
NATIVE SHRUBS & GROUNDCOVERS		
Gaultheria Shallon	Satal	#2 Pot @ 600mm OC
Arctostaphylos uva-ursi	Kinnickinnick	#1 Pot @ 300mm OC

DESIGN RATIONALE

The TRIUMF Campus has evolved over several years, with the focus being placed on the buildings and the equipment they house. During this evolution, no real attempt has been made to unify the campus through hard or soft landscaping. The landscape designs of the Stores, ARIEL and Compressor buildings attempt to begin the process of developing a unified design language for the campus.

The introduction of the ARIEL Building will change both the pedestrian and vehicular circulation patterns, offering an opportunity to create an entry sequence that will unify both the hard and soft landscape language. Signage will be incorporated into the entry sequence and will be designed as part of a family of signage, initiated with the signage at the Stores Building. The path from the parking lot to the badge building will be upgraded to higher quality paving materials leading to a pedestrian promenade along side the existing building.

Some clearing will be required to allow for the realignment and associated regrading of the existing path around a new transformer. Due to the condition of the existing trees and shrubs along this path, removal and replacement will be the preferred option. Tiered retaining walls and native planting will be used to blend the edge where the path cuts into the existing wood lot.

Alongside the promenade, raised planters will be incorporated to scale down the security fence and allow for enough soil depth over the building slab below. In line with the planter, a contemporary bench will be installed under the building overhang. Lighting will be set into the continuous concrete wall to wash the promenade.

High quality materials are being proposed for both the paving and the fencing along the entry sequence. Due to the depth to the structural slab below, sawcut concrete paving is being proposed in the North/South direction, while unit concrete pavers will be used along the North Face of the ARIEL building to tie the ground plane in with the existing landscape. Wire wall is being proposed for the fencing material, but the final fence design will require coordination with the regulatory body to ensure that a conforming fence design is achieved.

Drought tolerant, adaptive plant material will be chosen throughout the project, native planting will be used adjacent to the wood lot and no planting will be installed beneath the building overhangs. The existing irrigation system will be evaluated with the maintenance department to develop an irrigation strategy for the existing landscape and any of the newly installed planting.

REV.	DATE	REVISION DESCRIPTION	BY	REV.	DATE	REVISION DESCRIPTION
1	MAY 19, 2011	ISSUED FOR DP	DC			

Copyright reserved. This plan and design is and all items remain the exclusive property of Chernoff Thompson Architects and cannot be used without the architects consent.

All dimensions on the project must be checked by the contractor.

This drawing must not be used for construction purposes until here counter signed.

DC
date: _____

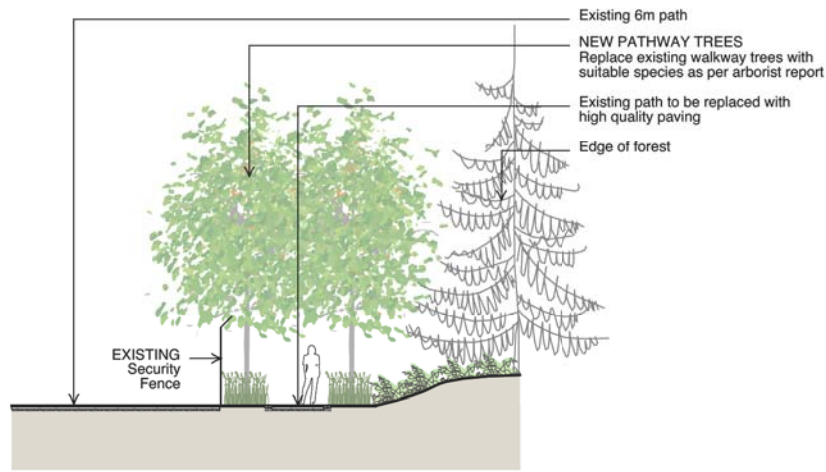
DURANTE KREUK LTD. LANDSCAPE ARCHITECTS
102 - 1637 West 5th Avenue Vancouver B.C. V6U 1N5
P 604.684.4611 | F 604.684.0577 | www.dkl.bc.ca

CHERNOFF THOMPSON ARCHITECTS
110-1281 West Georgia Vancouver, British Columbia Canada V6E 3J5
Tel. 604.669-9450 Fax 604.683-7694

TRIUMF Canada's National Laboratory for Particle and Nuclear Physics 4004 Westbrook Mall | Vancouver BC | Canada V6I-2A3

ARIEL BUILDING SITE PLAN LANDSCAPE

DESIGNED	DC	DATE	2011-05-19
DRAWN	CA/DC		
CHECKED	DC		
DK Project No.:	10102	PLOT SCALE	1:200
APPROVED		DWG NO.	L02



A
 L02
 EXISTING PATH WITH PLANTING
 SCALE: 1:100

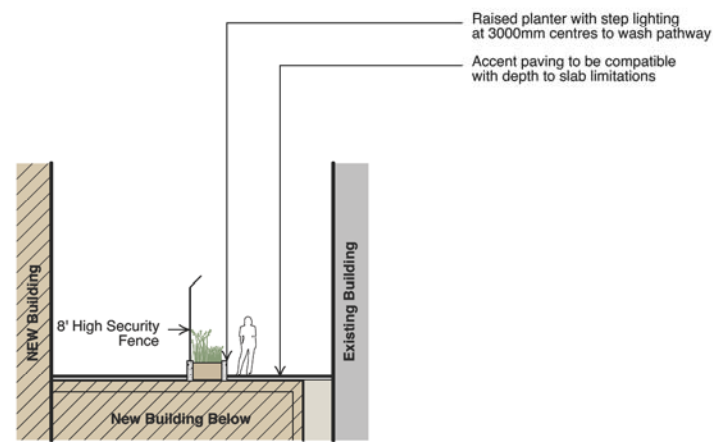


NATIVE PLANTING



DROUGHT TOLERANT PLANTING

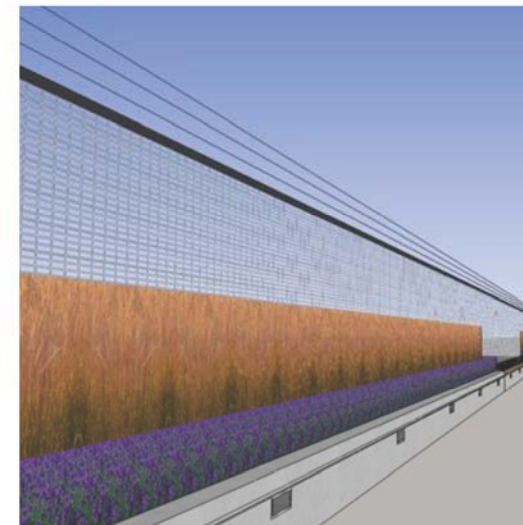
PLANTING



B
 L02
 PLANTER WITH STEP LIGHTING
 SCALE: 1:100



PROMENADE SEATING

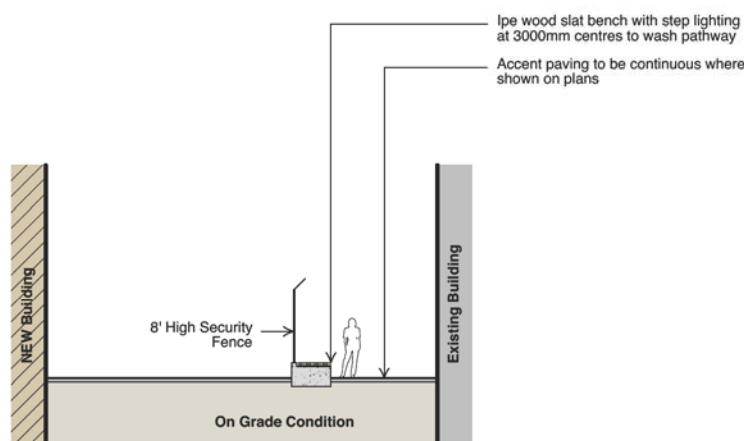


RAISED PLANTER



METAL SCREEN

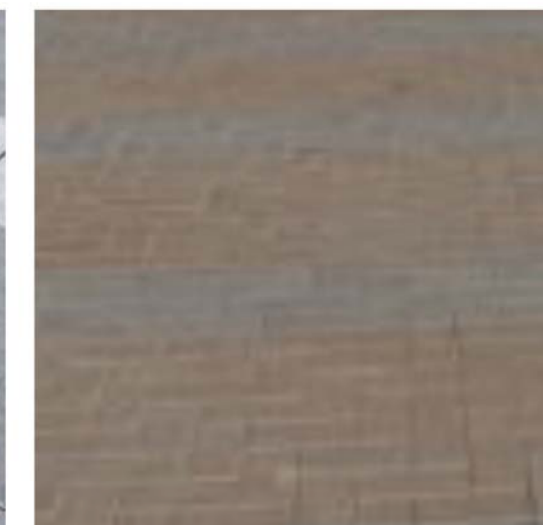
PROMENADE



C
 L02
 WOOD SLAT BENCH WITH STEP LIGHTING
 SCALE: 1:100



SAW-CUT CONCRETE



SPECIAL PAVING TO MATCH

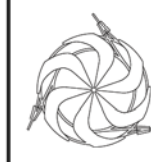
PAVING

REV.	DATE	REVISION DESCRIPTION	BY	REV.	DATE	REVISION DESCRIPTION	BY
				1	MAY 19, 2011	ISSUED FOR DP	DC

© Copyright reserved. This plan and design is and at all times remains the exclusive property of Chernoff Thompson Architects and cannot be used without the architect's consent.
 All dimensions on the project must be checked by the contractor.
 This drawing must not be used for construction purposes until here counter-signed.

DURANTE KREUK LTD. LANDSCAPE ARCHITECTS
 102 - 1637 West 5th Avenue Vancouver B.C. V6J 1T6
 P 604.684.4611 | F 604.684.0577 | www.dk.bc.ca

CHERNOFF THOMPSON ARCHITECTS
 110-1281 West Georgia Vancouver, British Columbia Canada V6E 3J5
 Tel. 604 689-9460 Fax 604 683-7684



TRIUMF Canada's National Laboratory for Particle and Nuclear Physics 4004 Westbrook Mall Vancouver BC Canada V6T-2A3	
DESIGNED DC	ARIEL BUILDING SECTIONS & IMAGE BOARD, LANDSCAPE
DRAWN CA/DC	
CHECKED DC	
DK Project No.: 10102	
APPROVED	PLOT SCALE 1:100 DWG NO. L03
DATE 2011-05-19	REV.