

## APPENDIX C

# 2006-2011 Shoreline Enhancement Area Comparisons

**LEGEND**

- Survey Boundary
- Natural Shoreline Transition
- Boulder Softened Shoreline
- Vertical Seawall
- Areas with Gain in Elevation
- ID for Areas of Net Gain
- Riparian Vegetation
- Intertidal - Lower Productivity
- Intertidal - Moderate Productivity
- Intertidal - Higher Productivity



Photo 1. Typical natural shoreline with riparian vegetation transitioning to bare sand and LWD.



Photo 2. Typical upper intertidal bare cobble, pebble, sand mix, vertical seawall, and boulder softened shoreline.

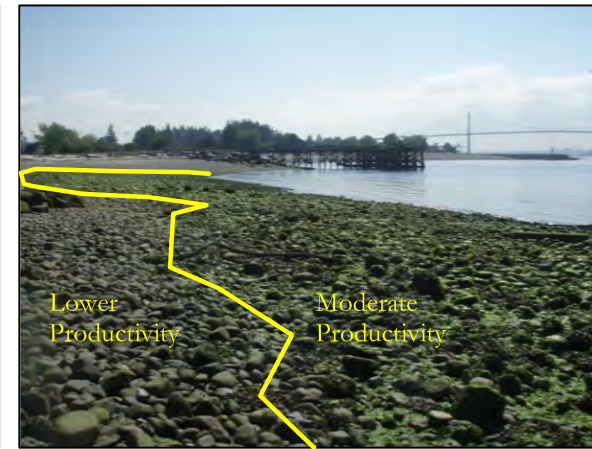
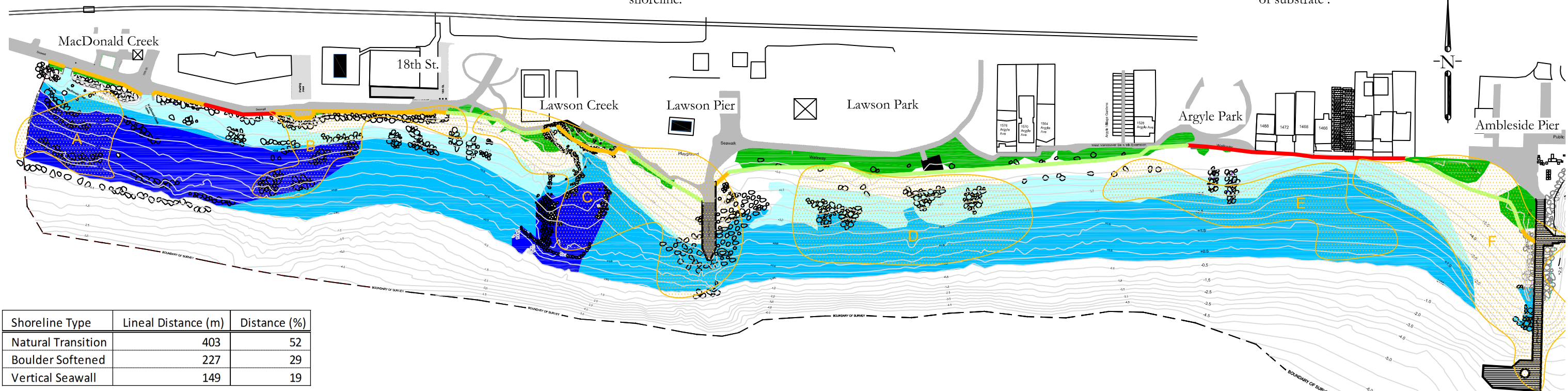


Photo 3. Transition between typical zones of moderate and lower productivity.



Photo 4. Example of higher productivity zone featuring highest diversity of biota and 100% coverage of substrate.



Shoreline Type	Lineal Distance (m)	Distance (%)
Natural Transition	403	52
Boulder Softened	227	29
Vertical Seawall	149	19

Habitat Description	Elevation Range	Typical Species	Area (m <sup>2</sup> )	Area (%)
Riparian	4.8m to >5.0m CD	Dunegrass, Shrubs, Trees	2,733	6
Bare Substrate	0.0m to >5.0m CD	None	9,470	21
Intertidal-Lower Productivity	2.0m to 4.5m CD	Barnacles and/or Green Algae	7,335	16
Intertidal-Moderate Productivity	0.0m to 4.0m CD	Barnacles, Green Algae, Rockweed, Mussels, Kelp	19,059	43
Intertidal-Higher Productivity	0.0m to 3.0m CD	Barnacles, Green Algae, Rockweed, Mussels, Kelp. 100%	6,258	14

Net Increase in Elevation of Foreshore		
Area ID	Area of Net Increase (m <sup>2</sup> )	Volume of Net Increase
A	730	190
B	1220	270
C	3220	740
D	3670	740
E	2840	590
F	3920	2030

**DRAWING NOTES**

- Intertidal habitat area survey performed on August 12, 2011. Areas below the waterline were not surveyed.
- Intertidal areas that are not otherwise identified can be considered bare substrate.
- Habitat areas may change over time to due seasonal variation and changes in elevation or substrate type.
- Elevations above LWL collected using TopCon Total Station.
- Habitat areas and shoreline types were mapped using a Pathfinder dGPS.
- All areas and distances are approximate.



FTI-2949 (33-41)	Layout Drawing - Pre-Existing Conditions
Ref. No.	REFERENCE

Client

THE WATERFRONT COMMUNITY

Author

Checked by	WA
Drawn by	DC
Date	Sep. 1, 2011
Scale	1:2000
Inspectors	WA/MT/DC
Paper Size	11 x 17

PROJECT	Summary of 2011 Shoreline Enhancement Areas Ambleside to MacDonal Creek District of West Vancouver
DWG. No.	5321-D-14.2

LEGEND

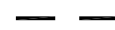






-  Survey Boundary
-  Natural Shoreline Transition
-  Boulder Softened Shoreline
-  Vertical Seawall
-  Riparian Vegetation
-  Intertidal - Lower Productivity
-  Intertidal - Moderate Productivity



Photo 1. Typical photo of transition between lower productivity and bare substrate zones.



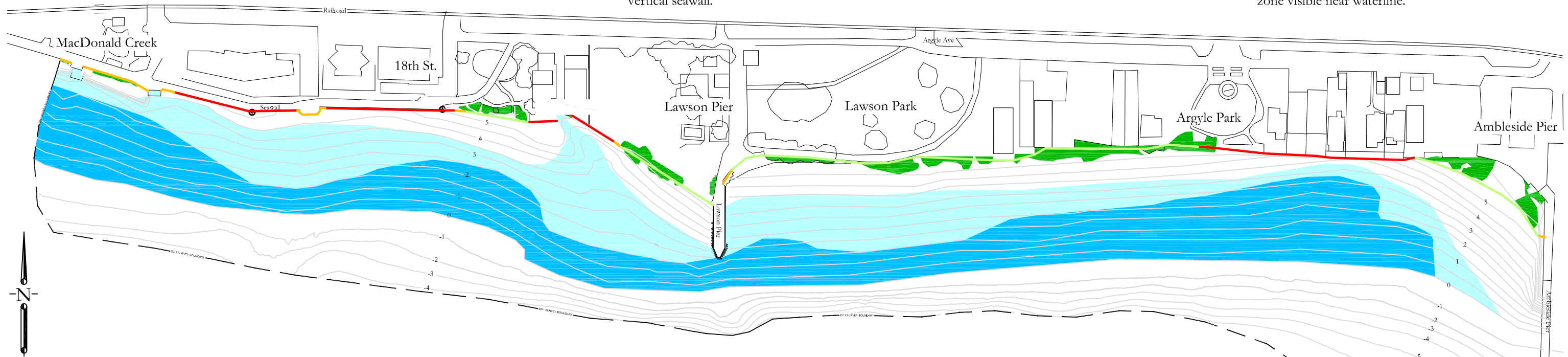
Photo 2. Photo showing examples of bare substrate, riparian vegetation, natural shoreline transition, and vertical seawall.



Photo 3. Example of higher productivity zone.



Photo 4. Example of vertical seawall, boulder softened shoreline, and bare substrate. Moderate productivity zone visible near waterline.





DRAWING NOTES

- Habitat areas are intertidal. Subtidal areas were not considered in this summary.
- All areas and distances are approximate.
- Habitat areas may change over time to due seasonal variation and changes in elevation or substrate type.
- Habitat areas and shoreline types were mapped using a Pathfinder dGPS.
- Intertidal areas that are not otherwise identified can be considered bare substrate.

Habitat Description	Elevation Range	Typical Species	Area (m <sup>2</sup> )	Area (%)
Riparian	4.8m to >5.0m CD	Dunegrass, Shrubs, Trees	1,728	4
Bare Substrate	0.0m to >5.0m CD	None	11,832	26
Intertidal-Lower Productivity	2.0m to 4.5m CD	Barnacles and/or Green Algae	14,072	30
Intertidal-Moderate Productivity	0.0m to 4.0m CD	Barnacles, Green Algae, Rockweed, Mussels, Kelp	18,580	40

Shoreline Type	Lineal Distance (m)	Distance (%)
Natural Transition	410	53
Boulder Softened	86	11
Vertical Seawall	284	36



Client	Author	Checked by	PROJECT
		WA	Summary of 2006 Shoreline Enhancement Areas Ambleside to MacDonald Creek District of West Vancouver
		Drawn by	
Date	Sep. 1, 2011		
Scale	1:2000		
Inspectors	WA/MT/DC		
FTI-2949 (33-41)	Layout Drawing - Pre-Existing Conditions	Paper Size	DWG. No. 5321-D-15.1
Ref. No.	REFERENCE		

2007

Before



2011

After



2008

Before



2011

After



2005



Before

2007



After



2005

Before



2007

After

2005

Before



2011

After





2005



Before

2009



After

2008



Before

2010



After

May 2010



Before

June 2010



After

2007

Before



2011

After



2007

Before



2011

After



2007

Before



2011

After



2006

Before



2010

After



2006

Before



2010

After





Before



After



2006

Before



June 30, 2011

After



2006

Before



June 30, 2011

After



2006



Before

June 20, 2011



After

2006

Before



June 20, 2011

After



2006

Before



June 20, 2011

After



2006



Before

June 20, 2011



After

2006

Before



2008

After





2005

Before



2006

After



June 2007



Before

September 2007



After

# Before

June 2007



# After

September 2007



2007

Before



2011

After



2007



Before

2011



After

2008



Before

2010



After

2010

Before



2011

After



2009

Before



2011

After





2009



Before

2011



After

2009

Before



2011

After



2007



Before

2009



After

2007



Before

2009



After

2007



Before

2009



After

2009



Before

2011



After

Before



After



Before



After





2009



Before

2010



After

2009

Before



June 15, 2011

After



2009

Before



June 15, 2011

After



Before



2009

After



2011

Before



June 15, 2011

After



2009



Before

June 15, 2011



After