



A NOTICE OF A BUSINESS MEETING OF **THE THETIS ISLAND LOCAL TRUST COMMITTEE**
to be held at 9:15 am on Wednesday, June 5, 2013 at Thetis Island Community Centre
(Main Hall) North Cove Road, Thetis Island, BC

AGENDA

		Page No.	*Approx. Time*
1.	CALL TO ORDER		9:15 am
2.	APPROVAL OF AGENDA		
3.	TOWN HALL SESSION (10 MINUTES)		
4.	MINUTES		9:25 am
4.1	Local Trust Committee Meeting Minutes of April 17, 2013 - <i>for adoption</i>	1-6	
4.2	Section 26 Resolutions Without Meeting Log dated May 28, 2013 – <i>attached for information</i>	7-8	
4.3	Advisory Planning Commission Meeting Minutes - <i>none</i>		
4.4	Ruxton Island Advisory Planning Commission Meeting Minutes - <i>none</i>		
5.	BUSINESS ARISING FROM MINUTES		9:30 am
5.1	Follow-up Action List dated May 28, 2013 - <i>attached</i>	9-10	
5.2	Shoreline Protection Education Event – <i>verbal update</i>		
6.	DELEGATIONS – <i>none declared</i>		
7.	CORRESPONDENCE <i>Correspondence specific to an active development application and/or project will be received by the Thetis Island Local Trust Committee when that application and/or project is on the agenda for consideration.</i>		
8.	APPLICATIONS AND PERMITS - <i>none</i>		
9.	LOCAL TRUST COMMITTEE PROEJCTS		9:40 am
9.1	Associated Islands Community Plan Update Staff Report dated May 24, 2013 - <i>attached</i>	11-34	
9.2	Ruxton Island Community Dock Technical Study Memorandum dated May 27, 2013 – <i>attached</i>	35-69	
9.3	Shoreline Protection Consultation Report		
	9.3.1 Consultant Report dated May 24, 2013 – <i>attached</i>	70-79	
	9.3.2 Shoreline Report Appendix A - Potential draft survey	80-92	

	BREAK	12:00 pm
10.	REPORTS	12:30 pm
10.1	Work Program Reports	
	10.1.1 Top Priorities and Projects Report dated May 28 , 2013- <i>attached</i>	93-94
10.2	Applications Log	
	10.2.1 Report dated May 28, 2013 - <i>attached</i>	95-96
10.3	Trustee and Local Expenses	
	10.3.1 Expenses posted to March 31, 2013 (Final for Fiscal Yearend) – <i>attached</i>	97
10.4	Chair's Report	
10.5	Trustees' Report	
10.6	Advisory Planning Commission Report	
11.	NEW BUSINESS	
12.	BYLAWS	
13.	CLOSED MEETING: The Thetis Island Local Trust Committee closes the next part of the June 5, 2013 business meeting to discuss matters pursuant to Section 90(1)(a) of the <i>Community Charter</i> to consider appointments to the Advisory Planning Commission and that staff be invited to attend this meeting.	1:00 pm
14.	RECALL TO ORDER Rise and Report from Closed Meeting	
15.	ISLANDS TRUST WEBSITE	
15.1	Thetis Page - <i>attached</i>	98-100
16.	TOWN HALL DISCUSSION (10 MINUTES – TIME PERMITTING)	
17.	NEXT MEETING DATE Wednesday, July 24, 2013 at 9:15 am at Thetis Island Community Centre (Forbes Hall) North Cove Road, Thetis Island, BC	
18.	ADJOURNMENT	1:20 pm

*Approximate time is provided for the convenience of the public only and is subject to change without notice.

**MINUTES OF THE THETIS ISLAND
LOCAL TRUST COMMITTEE REGULAR BUSINESS MEETING
WEDNESDAY, APRIL 17, 2013 - 9:15 AM
THETIS ISLAND COMMUNITY CENTRE, FORBES HALL, LIBRARY
292 NORTH COVE ROAD, THETIS ISLAND, BC**

MEMBERS PRESENT:

Ken Hancock	Chair
Peter Luckham	Local Trustee
Sue French	Local Trustee

STAFF PRESENT:

Aleksandra Brzozowski	Island Planner
Janice Young	Recorder

MEDIA AND OTHERS PRESENT:

Approximately 3 members of the public a.m.
Approximately 1 member of the public p.m.

1. CALL TO ORDER

Chair Hancock called the meeting to order at 9:20 am. He acknowledged Thetis Island as traditional territories of the Coast Salish people and expressed his appreciation; welcomed the members of the public; and introduced himself, trustees and staff.

2. APPROVAL OF AGENDA

By general consent, the agenda was approved with the following amendments:

- Move Item 9.3 to Item 9.1 and Item 9.1 to Item 9.3.

3. TOWN HALL

Members of the public spoke and the following points were raised:

- Thanks for the two events held at Forbes Hall in March, *Greening our Shores Shoreline Mapping Workshop* and *Shoreline Protection Project Workshop*
 - i. Recommendation to revise the survey.
 - ii. Recommendation to not rush the process.
 - iii. Create a set of guidelines exclusively for Thetis Island.

Trustees spoke to these points:

- In the process of revising the survey.
- Not in a rush on this topic.

4. MINUTES

4.1 *Local Trust Committee Meeting Minutes of February 6, 2013.*

The following changes to the minutes of February 6, 2013 were presented for consideration at this time:

- **Item 3**, reword to read “Ernie Hunter asked for clarification regarding Draft Bylaw No. 92 (Streams Subject to Riparian Area Regulation) and the difference between Board of Variance and Variance Permit.”
- **Item 3**, add the following response, “ Chair Hancock gave a brief explanation summarizing that a Board of Variance is a separate body charged with permitting a Variance as a result of a hardship, and a Variance Permit is a change to a Land Use Bylaw limitation that does not change a density or use.”
- **Item 5.3**, second line, replace “It was noted” with “Staff advice”.

By general consent, the minutes were adopted as amended.

4.2 *Section 26 Resolutions Without Meeting Log dated April 10, 2013.*

Received for information.

4.3 *Advisory Planning Commission Minutes*

None at this time.

4.4 *Ruxton Island Advisory Planning Commission Adopted Meeting Minutes of October 19, 2013.*

Received for information.

4.5 *Ruxton Island Advisory Planning Commission Draft Meeting Minutes of March 1, 2013.*

Received for information.

5. BUSINESS ARISING FROM MINUTES

5.1 *Follow-up Action List dated April 10,, 2013*

Presented by Planner Brzozowski. Discussion followed:

- Trustee French requested the addition of a new item – an E-Spokes announcement to introduce the new Planner and new appointment times – and that she would be responsible.
- Trustee Luckham requested the removal of Item No. 1, due to the lack of support from government agencies and unclear jurisdiction.

TH-009-2013 It was **MOVED** and **SECONDED** that Item No. 1 on the Follow-up Action List be removed.

CARRIED

Planner Brzozowski noted that November 21's follow up action on RAR compliance in Ralston Creek continues to see work from Regional Planning Manager Simpson and a report will come to the LTC at a subsequent meeting.

5.2 *Proposed National Marine Conservation Area Boundary Memorandum with Map dated April 10, 2013*

National Marine Conservation Area Boundaries were presented by Planner Brzozowski. Discussion ensued.

TH-010-2013 It was **MOVED** and **SECONDED** that the Thetis Island Local Trust Committee recommends to Parks Canada that the National Marine Conservation Area Boundary area include waters surrounding unprotected Crown islets up to the high water mark.

CARRIED

TH-011-2013 It was **MOVED** and **SECONDED** that the Thetis Island Local Trust Committee recommends to Parks Canada that the National Marine Conservation Area Boundary in the Thetis Island Local Trust Committee not exclude areas covered by W-1, W-2 and W-3 in Telegraph Harbour.

CARRIED

6. **DELEGATIONS**

None.

7. **CORRESPONDENCE**

None.

8. **APPLICATIONS AND PERMITS**

None.

9. **LOCAL TRUST COMMITTEE PROJECTS**

9.1 *Watershed and Shoreline Mapping Workshop Follow Up*

9.2 *Marine Shoreline Protection Project Survey Follow-up.*

Discussion regarding follow up on the Watershed and Shoreline Mapping Workshop and Marine Shoreline Protection Survey; several points/ideas were raised, including:

- Work on a new survey.
- Explore alternatives.
- Relax the timeframe – raise awareness and get the public involved.
- Create Greenshores principles for the homeowner and make it user friendly for the public.
- Clarify objectives and best practices.

- The Islands Trust Policy Statement requires Local Trust Committees to oversee the protection of water zones.
- Balance a few different approaches and explore incentives that may be other than financial.
- Education and raising awareness first; a follow-up survey in a year or more.
- Begin development of a workshop that provides more information on shoreline protection to be presented in the summer when more residents are on-island.
- Consider creating a Shoreline Advisory Planning Commission.

TH-012-2013

It was **MOVED** and **SECONDED** that the Thetis Island Local Trust Committee direct Staff to do preliminary planning for a community information meeting on shoreline protection to be scheduled on a weekend during July or August 2013, and that it will be funded from Special Projects.

CARRIED

TH-013-2013

It was **MOVED** and **SECONDED** that the Thetis Island Local Trust Committee direct Staff to seek other sources of funding for further work on the Green Shores program and to report back to the June 5, 2013 Local Trust Committee meeting.

CARRIED

9.3 *Associated Island Community Plan Update*

Planner Brzozowski updated the trustees on the Associated Island Community Plan. Discussion followed with review and comments by the Local Trust Committee.

TH-014-2013

It was **MOVED** and **SECONDED** that the Thetis Island Local Trust Committee endorses the Table of Revised Project Goals dated April 4, 2013.

CARRIED

10. **REPORTS**

10.1 *Work Program Reports- Top Priorities and Projects Report dated April 10, 2013*

Received.

10.2 *Applications Log - Report dated April 10, 2013*

Received.

10.3 *Trustee and Local Expenses*

10.3.1 *Expenses posted to February 28, 2013*

10.3.2 *Expenses posted to March 31, 2013*

Received.

10.4 *Chair's Report*

Chair Hancock reported on highlights of the Association of Vancouver Island and Coastal Communities convention, April 12-14, 2013 in Sooke, which included:

- Islands Trust requesting further work on the removal of derelict vessels.
- Request to the Federal and Provincial governments that Vancouver Island become a Genetically Engineered (GE) Free Zone.

10.5 Trustees' Report

Trustee French spoke to the Trust Council meeting that was held at Overbury Farm Resort on Thetis Island, expressing thanks to Overbury for a fabulous job of hosting this event and reported of great feedback, both from visiting trustees and from locals.

Trustee Luckham reported that he is keeping busy with Trust Council, and had also attended the Association of Vancouver Island and Coastal Communities Convention.

10.6 Advisory Planning Commission Report

None.

11. NEW BUSINESS

11.1 Renewable Energy Technologies in the Trust Area – Ocean Based Geo-Exchange Systems - Memorandum dated February 25, 2013.

Presentation and reviewed by Trustees.

TH-015-2013 It was **MOVED** and **SECONDED** that the Thetis Island Local Trust Committee add to the Projects List that the Thetis Island Official Community Plan and Land Use Bylaw be amended to permit Ocean Based Geo-Exchange Systems.

CARRIED

11.2 Thetis Island Advisory Planning Commission (APC) Membership Status - Memorandum dated April 4, 2013

The memorandum was reviewed and discussion followed regarding the membership status of the Thetis Island Advisory Planning Commission.

TH-016-2013 It was **MOVED** and **SECONDED** that the Thetis Island Local Trust Committee ask Staff to contact Advisory Planning Commission members, as listed in the April 8, 2013 memorandum, regarding reappointment, and if additional Advisory Planning Commission members are needed, to then advertise for expressions of interest.

CARRIED

12. BYLAWS

None.

13. ISLANDS TRUST WEBSITE

Discussion followed regarding the Thetis Page on the Islands Trust website, and it was decided to add videos from the March 13 and March 20, 2013 Green Shores workshops on Thetis, along with supporting documents and links to other important and relevant sites.

Trustee Luckham will produce and distribute a DVD version of the videos.

There will be advertising on E-Spokes regarding where these resources are available.

14 TOWN HALL DISCUSSION

Town Hall participants spoke to the following points/ideas:

- In favour of DVD production and distribution.
- Questioning the benefit of a special group for Shoreline issues, and the focus of work.
- Thanks for the opportunity to interject briefly throughout the meeting.

Trustees thanked the community members for attending.

15. NEXT MEETING DATE

The next Local Trust Committee meeting will be held on Wednesday, June 5, 2013 at 9:15 a.m. at the Thetis Island Community Centre (Main Hall), North Cove Road, Thetis Island, BC.

16. ADJOURNMENT

TH-017-2013

It was **MOVED** and **SECONDED** that the Thetis Island Local Trust Committee Business Meeting of April 17, 2013 be adjourned at 2:16 pm.

CARRIED

Chair

Recorder



Islands Trust

RWM From: April 11, 2013 To: May 28, 2013

Thetis Island

Resolution #	Action	Resolution Description	Resolution Date
2013-04	In Favour	"That the Thetis Island Local Trust Committee approve the wording of the 2012-2013 Annual Report LTC submission as presented, below: In the 2012-2013 fiscal year, the Thetis Island Local Trust Committee held seven regular meetings and one Community Information Meeting. It also hosted the Islands Trust Council on Thetis Island for the first time in 25 years. This fiscal year saw the completion and distribution of the Thetis Island Sustainability Guide, and the commencement of the Thetis Island Associated Islands OCP/LUB project, which aims to bring several of the Thetis Island Associated Islands under one Official Community Plan and Land Use Bylaw. In 2012-2013, the Thetis Island Associated Islands Community Plan project comprised a number of community engagement activities including a Community Profile, two community surveys, the establishment of the Ruxton Island Advisory Planning Commission, and a community information meeting on Ruxton Island. Work continued on complying with Riparian Areas Regulation in the Ralston Creek watershed. Work also proceeded on issues of shoreline protection, including an education workshop event on recent shoreline and eelgrass mapping and the Greenshores for Homes program, and one community consultation event on possible shoreline protection methods."	May 09, 2013

2013-03

In Favour

"That the Thetis Island Local Trust Committee amend the October 3, 2012 minutes as follows: to renumber the first resolution to start at TH-051-2012 and renumber all subsequent resolutions in sequence; and to adopt the minutes as amended, and That the Thetis Island Local Trust Committee amend the November 21, 2012 minutes as follows: to re-number the first resolution to start at TH-065-2012 and renumber all subsequent resolutions in sequence; and to adopt the minutes as amended."

May 01, 2013



Islands Trust

Follow Up Action Report w/ Target Date

Thetis Island Feb-09-2011

No.	Activity	Responsibility	Target Date	Status
1	Draft sign for Ragged Islet and possibly Esmeralda Islet, get approval from TAS for use of logo, and install signs. Trustee Luckham to arrange with staff. Update: Peter researched this and unable to move forward with this task.	Peter Luckham	Jun-23-2013	Done

Feb-08-2012

No.	Activity	Responsibility	Target Date	Status
1	Develop recommendations for a joint proactive enforcement strategy with the CVRD.	Miles Drew	Jun-30-2013	On Going

May-23-2012

No.	Activity	Responsibility	Target Date	Status
1	Report to LTC on use of neighbourhood mediation on Thetis.	Miles Drew	Jun-30-2013	On Going

Nov-21-2012

No.	Activity	Responsibility	Target Date	Status
1	Provide report on existing level of protection on Ralston Creek including future plans and options for enhanced level of protection. Update: Working with Ian Ralston to explore options and possible further stream assessment. Report expected June 5, 2013.	Courtney Simpson	Feb-06-2013	Done

Feb-06-2013

No.	Activity	Responsibility	Target Date	Status
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- 1 Respond to Ministry of Transportation and Infrastructure with detailed rationale for Neighbourhood Zero Emission Vehicles.

Aleksandra Brzozowski

Apr-17-2013

Done

Apr-17-2013

No.	Activity	Responsibility	Target Date	Status
1	Announce change in On-Island Planner Hours procedure (by appointment) and introduce new planning staff.	Sue French	Jun-05-2013	Done
1	Contact existing and recently serving members of the Thetis APC regarding wishes to be re-appointed. If there are vacancies, advertise for expressions of interest.	Aleksandra Brzozowski	Jun-05-2013	On Going
1	Follow up on March 13 and March 20 workshops: March 13 Greenshores: Staff to post video on Thetis webpage; report back on possible funding opportunities to continue Greenshores work. March 20 Shoreline Protection: Staff to preliminarily plan an education session in July/August 2013; Staff to notify participants that shoreline protection survey to occur later in summer with education session; Staff to bring forward draft survey to June 5 agenda for revision.	Aleksandra Brzozowski	Jun-05-2013	On Going
1	LTC recommends to Parks Canada that NMCAR boundary not exclude areas covered by W-1, W-2, and W-3 zoning in TILTA, which includes Telegraph Harbour.	Aleksandra Brzozowski	Jun-05-2013	On Going



STAFF REPORT

Date: May 24, 2013 **File No.:** TH-6500-20

To: Thetis Island Local Trust Committee
For meeting of June 5, 2013

From: Aleksandra Brzozowski, Island Planner

CC: Courtney Simpson, Regional Planning Manager

Re: **Thetis Associated Islands Community Plan –
Draft Plan and Project Update**

THE PROPOSAL:

This project was initiated by the Thetis Island Local Trust Committee (LTC) to create an official community plan and land use bylaw for Ruxton, Whaleboat, Pylades, Tree, Reid, Hudson, Scott, Dayman, Dunsmuir and Bute Islands.

BACKGROUND:

A preliminary report at the April 18, 2012 LTC meeting provided background information. A second report at the May 23, 2012 meeting presented a Terms of Reference for the project, a draft survey on communication and engagement methods, and draft communication materials. At the October 3, 2012 meeting the LTC referred development of a list of project goals to the Ruxton Island Advisory Planning Commission (Ruxton APC). A staff report at the November 21, 2012 LTC meeting presented draft project goals, and a staff report at the April 17, 2013 LTC meeting presented revised project goals based on community feedback.

This report presents the first draft of the Thetis Associated Islands Official Community Plan.

SITE CONTEXT:

Please refer to the Community Profile, September 2012 for site context information.

CURRENT PLANNING STATUS OF SUBJECT LANDS:

Please refer to the staff report presented at the November 21, 2012 LTC meeting for this information.

SUMMARY OF DRAFT POLICIES AND REGULATIONS:

Draft OCP Policies

This draft Official Community Plan (OCP) contains the basic content of an OCP that synthesizes policies for the various islands within the Thetis Associated Islands Plan Area. The attached draft is intended to be the starting point for further consultation and review. As a result of the on-going consultation process, additional policies may be added and draft policies may be altered.

The draft OCP policies attached (Attachment 1) have been prepared by staff based on:

- the Object of the Islands Trust;
- the Islands Trust Policy Statement directive and recommended policies;
- statutorily required content;
- stakeholder consultation undertaken to date; and,
- current planning practice within the Trust Area and the profession.

The draft does not at present contain background (Section A) or administrative provisions (Section E); these will be incorporated into subsequent versions of the document. The draft plan also excludes mapping; anticipated Schedules are presently noted as “Schedule ___” in the text.

This draft introduces the potential for Development Permit Areas (DPAs) for environmental protection. These DPAs will be dependent upon mapping and the LTC will be provided with recommendations with respect to DPAs further into the process.

The draft OCP highlights are as follows:

- a. Residential Use Policies:
 - i. Maintain traditional residential uses as the appropriate land use pattern.
 - ii. Limit density to existing development patterns, with exceptions for existing non-conforming situations, lot clustering, and amenity zoning.
- b. Commercial and Industrial Policies: future commercial and industrial zoning would be highly restricted, with home occupations and temporary use permits contemplated as the only provision for such activities.
- c. Marine Uses: protection of the marine environment is of paramount consideration; commercial marinas would not be permitted; community docks are encouraged in place of private docks.
- d. Park and Conservation Uses: the draft places a focus on identifying and prioritizing rare ecosystems and features; introduces the possibility of amenity zoning for areas of environmental significance.
- e. Sensitive Ecosystems: the plan supports voluntary, regulatory and incentive-based approaches to protecting sensitive areas; identifies Riparian Areas Regulation as a future initiative.

- f. Climate Change: directs the LTC to consider cumulative impacts and global climate change in its decision-making.
- g. Community Services are currently minimal and land use designations would be used to recognize existing locations. Halls and emergency facilities could also be permitted by this land use provision.

REMAINING TOPICS IN PROCESS:

A number of topics are currently being researched and will be added to subsequent versions of the OCP. These include:

- 1) Nuanced policy stemming from technical community dock study and subsequent community discussion regarding communal docks
- 2) Protection tools and policies for areas of environmental importance (sensitive ecosystems, rare occurrences)
- 3) Possible development permit area designations for protection of the natural environment
- 4) Septic fields and on-site sewage disposal
- 5) Further work on Climate Change policies

MAPPING:

The following table shows maps that are under development, expected completion date, and how they can inform the Thetis Associated Islands OCP.

Map	Completion Date	Potential Use
Sensitive ecosystems and priority areas	Summer 2013	Possible DPAs for protection of the natural environment
Conservation Areas	Fall 2013	Generally assist in policy decisions
Watersheds and Streams	Fall 2013	Generally assist in policy decisions

NEXT STEPS:

Based on the Project Work Plan, found in the Terms of Reference, staff will be proceeding with the following steps over the next six months:

1. Refer draft plan to Ruxton Advisory Planning Commission for input.
2. Continue with informal consultation with property owners and residents.
3. Report to LTC with further drafts.
4. Make draft documents available for public review.
5. Schedule community information meetings for late summer / early fall.
6. Refer drafts to agencies for comment.

As per the Communications Plan, consultation with community stakeholders, including First Nations, regarding the preliminary draft is scheduled to take place over Summer 2013.

RECOMMENDATIONS:

1. THAT the LTC provide staff with any general or specific revisions to the draft Thetis Associated Islands OCP dated May 2013.
2. THAT the LTC refer the draft Official Community Plan to the Ruxton APC for recommendations on refining policies relevant to Ruxton Island.

Prepared and Submitted by:

Aleksandra Brzozowski

Aleksandra Brzozowski
Island Planner

May 27, 2013

Date

Concurred in by:

Courtney Simpson

Courtney Simpson
Regional Planning Manager

May 28, 2013

Date

Attachments:

1. Thetis Associated Island Official Community Plan Draft 1.1

THETIS ASSOCIATED ISLANDS
OFFICIAL COMMUNITY PLAN BYLAW No. _____, 2013

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SECTION A: BACKGROUND AND GOALS

SCHEDULE A

Local Government Act requires that Official Community Plans be adopted as schedules to a bylaw. Schedule 'A' is the policy document; subsequent schedules are maps.

1.0 BACKGROUND

2.0 PLAN GOALS

- 2.1 To preserve and protect the ecosystems, habitat, and natural resources of the Thetis Associated Islands Plan Area.
- 2.2 To ensure that human activities and the scale, rate and type of development contribute to the preservation of the community character of the Plan Area.
- 2.3 To work cooperatively with other local governments, First Nations, and the Federal and Provincial governments and their agencies to advance the mandate of the Islands Trust and the Goals and Objectives of this plan.

SECTION B: LAND USE DESIGNATIONS

3.0 RESIDENTIAL LAND USES

3.1 Residential Land Use Objectives

- 3.1.1 To guide and regulate growth and change in a manner that protects sensitive ecosystems, encourages sustainability, and .
- 3.1.2 To maintain the traditional development patterns of the Thetis Associated Islands.
- 3.1.3 To manage development in a manner that minimizes hazards.

3.2 Residential Land Use Policies

- 3.2.1 Local Trust Committee bylaw provisions should preserve the relatively low density residential character of the area, so as to remain compatible with the environmental carrying capacity and traditional land use in the plan area.
- 3.2.2 The Local Trust Committee should continue to permit single family residential uses as the principal use.
- 3.2.3 Local Trust Committee bylaw provisions should ensure that uses customarily considered accessory to residential uses are permitted and regulated.
- 3.2.4 Residential density should be limited to one single family dwelling unit and structures accessory to a dwelling unit for each lot.
- 3.2.5 Despite Policy 3.2.4, zoning should permit existing densities in established communities.
- 3.2.6 Despite Policy 3.2.4, Local Trust Committee bylaw provisions may permit an increased density on the Reid Island lot identified in Schedule ____.
- 3.2.7 Subdivision regulations should establish an average lot size of 4 hectares (10 acres), consistent with the historic 4 hectare (10 acre) minimum lot size, while allowing for the clustering of lots in future subdivisions to protect rare, threatened, or sensitive ecosystems.
- 3.2.8 The Local Trust Committee should encourage the consolidation of small lots (less than 0.5 hectares).
- 3.2.9 Applications for additional higher density for new development may only be considered subject to the following:
 - the application would result in the preservation and protection of a sensitive ecosystem, significant natural feature, or a heritage resource;

Policies 3.2.1, 3.2.2, and 3.2.4 support the maintenance of existing development patterns and residential land uses and addresses Islands Trust Policy Statement policies 5.2.3 and 5.2.4. Also consistent with AIOCP project goals.

3.2.3 authorizes LUB provisions to permit and regulate accessory uses.

3.2.4 supports existing residential densities on Ruxton and Hudson Islands. Unzoned islands currently also allow for one recreational cottage <400sq ft.

3.2.5 supports existing residential densities.

3.2.6 addresses the historic Local Trust Committee resolutions granting permission for 26 cottages on 32 hectare lot on Reid.

3.2.7 would retain the existing subdivision density in unzoned areas, but would replace the minimum with average lot sizes in order to allow clustering of lots in future subdivisions and addresses Islands Trust Policy Statement policy 5.2.5. Addresses subdivision potential on Pylades and Reid Islands.

3.2.8 addresses the issue of islands that were over subdivided before the Islands Trust came into

- the additional density takes the form of residential lots or dwellings;
- the additional development would be sited away from sensitive ecosystems, would minimize visual impacts, would mitigate potential natural hazards, and would address the sustainability of new development;
- would not adversely impact groundwater resources; and,
- would not adversely impact adjacent properties.

3.2.10 The Local Trust Committee may consider zoning for the provision of affordable, rental and special needs housing if a community need can be demonstrated.

3.2.11 The Local Trust Committee should undertake initiatives to identify areas that are hazardous to development, including areas subject to flooding, erosion or slope instability.

3.2.12 The Local Trust Committee should use appropriate tools, including setbacks and development permit area designations, to restrict and manage development in areas known to be subject to hazardous conditions.

3.3 Advocacy Policies

3.3.1 The Cowichan Valley Regional District is encouraged to implement sustainable building standards initiatives.

existence. Also consistent with AIOCP goals concerned with water resources.

3.2.9 establishes that the Local Trust Committee may consider amenity zoning applications provided such applications are residential, support ecosystem protection, and the increase is equivalent to the density permitted on the area being protected. This policy addresses Islands Trust Policy Statement policy 5.2.5.

3.2.10 addresses Local Government Act s. 877(2) required content and addresses Islands Trust Policy Statement policies 5.8.6.

3.2.11 addresses Islands Trust Policy Statement policy 5.2.6 and Local Government Act required content 877(1)(d).

3.2.12 addresses Islands Trust Policy Statement policy 5.2.6 and Local Government Act required content 877(1)(d).

3.3.1 addresses Islands Trust Policy Statement policy 5.2.6 and Local Government Act required content 877(1)(d).

4.0 COMMERCIAL AND INDUSTRIAL LAND USES

4.1 COMMERCIAL AND INDUSTRIAL OBJECTIVES

4.1.1 To ensure that commercial uses are compatible with the goals of this plan.

4.1.2 To ensure that industrial activity is compatible with the goals of this plan.

4.2 COMMERCIAL AND INDUSTRIAL POLICIES

4.2.1 There are currently no locations in which commercial uses are a permitted principal use. Zoning for any future commercial uses should be limited to those necessary to provide for the daily needs of residents.

4.2.1 addresses Local Government Act s. 877(1)(b) required content. It also re-affirms the existing zoning (there are no commercial zones in the plan area) and addresses Islands Trust Policy Statement policies 5.7.2 and 5.5.3. Addresses goals set for Ruxton Island.

4.2.2 Home occupations should be permitted as a use accessory to residential use and should be regulated to minimize impacts.

4.2.2 would direct the Local Trust Committee to establish home occupation regulations and addresses Islands Trust Policy Statement policy 5.7.2.

4.2.3 Commercial visitor accommodation should be limited to temporary overnight accommodation that is accessory to residential use.

4.2.3 would preclude vacation rentals and others forms of commercial guest accommodation in the area, other than temporary overnight accommodation as a home occupation.

4.2.4 Industrial uses should be limited to accessory home occupations.

4.2.4 addresses Local Government Act s. 877(1)(b) required content. It also re-affirms the existing zoning, where there are no industrial zones in the plan area and addresses Islands Trust Policy Statement policy 5.7.2.

4.2.5 The Local Trust Committee may consider temporary use permits for short-term commercial or industrial uses where appropriate. Applications may be considered for temporary industrial use where such uses are of a short-term and fixed duration, and would not negatively impact the environment and natural resources in the Plan Area.

4.2.5 would permit applications for temporary commercial or industrial uses in order to provide for specific needs on a case by case basis.

5.0 MARINE USES

5.1 MARINE OBJECTIVES

- 5.1.1 To maintain the integrity of the marine ecosystem and the coastal areas in the Plan Area.
- 5.1.2 To allow for traditional marine uses by residents and other users without unduly compromising the marine or foreshore ecosystems or the visual appearance of the islands in the Plan Area.

5.2 MARINE POLICIES

- 5.2.1 The Local Trust Committee should identify and protect ecologically sensitive marine areas. *5.2.1 addresses Islands Trust Policy Statement policy 3.4.4. Also consistent with AIOCP project goals.*
- 5.2.2 The Local Trust Committee should recognize and support the marine dependent nature of land uses in the Plan Area. *5.2.2 addresses Islands Trust Policy Statement policy 4.5.8 and the nature of development in the planning area.*
- 5.2.3 The Local Trust Committee should use bylaw provisions to protect public access to, from, and along the marine shoreline. *5.2.3 addresses Islands Trust Policy Statement Policies 4.5.10 and 5.5.5.*
- 5.2.4 Excepting properties on Ruxton Island, the Local Trust Committee may permit individual private docks accessory to residential uses. These docks should be regulated by zoning. Community or communal docks, where feasible, should be encouraged in order to limit the need for private dock development along the shoreline. *5.2.4 recognizes the need to provide safe and secure access to the islands in the planning area, but directs the Local Trust Committee to consider regulating the impacts of private dock development. The Ruxton Island exception reflects existing zoning and community comment. It also addresses Islands Trust Policy Statement policies 4.5.11 and 5.5.5. Also addresses issue of discussion for Ruxton and Hudson Island residents.*
- 5.2.5 The Local Trust Committee should use bylaw provisions to locate docks in locations with minimum environmental impact, and should encourage dock design that is sensitive to marine ecosystems and habitat. *5.2.5 addresses Islands Trust Policy Statement 5.5.4. Also consistent with AIOCP project goals and encouraging of best practice.*
- 5.2.6 The Local Trust Committee should not permit commercial marinas intended for use by non-residents. *5.2.6 confirms the existing zoning and addresses Islands Trust Policy Statement Policy 4.5.9.*
- 5.2.7 The Local Trust Committee may consider rezoning applications for leases for aquaculture, other than finfish farms. *5.2.7 addresses Islands Trust Policy Statement policy 4.5.1 and creates a policy that any aquaculture proposals should be reviewed through the rezoning process, while recognizing the*
- 5.2.8 The Local Trust Committee should, through zoning, the use of setbacks, and the use of development permit areas:
 - (a) protect the integrity of the foreshore, shoreline, and natural coastal and intertidal processes;
 - (b) discourage uses that disrupt natural features and processes;
 - (c) allow for natural erosion and accretion processes, without endangering structures;
 - (d) encourage owners of shoreline properties to retain, wherever possible, natural vegetation and natural features on areas adjacent to the foreshore;

and

(e) discourage filling, deposit, excavation, or removal of foreshore and seabed materials, except for maintenance of navigational channels and existing facilities.

provincial interest..

5.2.8 addresses Islands Trust Policy Statement policies 3.4.4, 3.4.5, 4.5.3, 4.5.5, 4.5.10. This policy directs the Local Trust Committee to maintain setbacks from the natural boundary and consider the impacts of development on the foreshore.

5.2.9 The Local Trust Committee should encourage and facilitate education around shoreline stewardship.

5.2.9 addresses AIOCP goals and emerging best practice around shoreline protection tools.

5.2.10 The Local Trust Committee should only give consideration to permitting structural modification of the shoreline, such as seawalls, where it can be demonstrated to be necessary to support or protect a permitted or existing use or structure. Preference should be given to shoreline structures that have a lesser impact or enhance ecological functions, including vegetation enhancement, drainage control, beach enhancement, anchor trees, and gravel placement. Shoreline stabilization should not interrupt natural processes solely to reduce erosion of undeveloped land. Vegetation which helps stabilise banks, reduce erosion and provide habitat should be retained or enhanced.

5.2.10 is based on best practices.

5.3 Advocacy Policies

5.3.1 Transport Canada is encouraged to monitor the regulation of mooring buoys in the Plan Area.

5.3.2 Property owner associations are encouraged to assist with coordination efforts to share docks and mooring buoys.

6.0 PARK AND CONSERVATION USES

6.1 CONSERVATION USE OBJECTIVE

- 6.1.1 To preserve and protect special or significant areas in the Plan Area considered important for environmental, low impact recreational, or aesthetic reasons.

6.2 CONSERVATION USE POLICIES

- 6.2.1 The Local Trust Committee should support the preservation of ecologically sensitive areas through land use regulation, conservation covenants, park land dedication, or conveyance to conservation agencies. *6.2.1 addresses Islands Trust Policy Statement policies 3.1.1, 3.1.3, and 5.2.4 and Local Government Act required content.*
- 6.2.2 The Local Trust Committee may undertake or support initiatives to identify locations that are a priority for the creation of safe public access to beaches, parks, areas of recreational significance, linear parks and trails, and public anchorages, in cooperation with other agencies and community groups. *6.2.2 addresses Islands Trust Policy Statement policies 5.5.5 and 5.5.7.*
- 6.2.3 The Local Trust Committee should identify potential networks of protected areas in the Plan Area. *6.2.3 addresses Islands Trust Policy Statement policy 3.1.4. Consistent with AIOCP goals for Ruxton Island.*
- 6.2.4 Local Trust Committee bylaw provisions may include in this designation lands that are protected by conservation covenant, park dedication, by donation to a conservancy organization or have been protected by other means. *6.2.4 addresses AIOCP goals to increase area of protected land on islands that are fully subdivided and at maximum density.*
- 6.2.5 The Local Trust Committee is encouraged to require dedication of land, rather than cash-in-lieu, where parkland dedication is required at the time of subdivision, as authorized by the Local Government Act. *6.2.5 is required in order to ensure that the Local Trust Committee rather than the owner can determine whether land or cash is provided for parkland dedication at the time of subdivision (Local Government Act s. 941(2)).*
- 6.2.6 Land provided as a conservation amenity in exchange for an increase in density as part of an amenity rezoning application may be included in this designation. *6.2.6 enables the Local Trust Committee to secure conservation and park land as part of amenity zoning.*

6.3 Advocacy Policies

- 6.3.1 The Local Trust Committee should encourage the Cowichan Valley Regional District and provincial agencies to ensure that the location and type of recreational, park, and conservation areas would not result in the degradation of environmentally sensitive areas, including sensitive marine or wetland areas. *6.3.1 addresses Islands Trust Policy Statement policies 3.4.4 and 5.5.4.*
- 6.3.2 The Local Trust Committee should encourage the Cowichan Valley Regional District to identify and designate areas for low impact recreational activities and discourage facilities and opportunities for high impact recreational activities in the planning area. *6.3.2 addresses Islands Trust Policy Statement policy 5.5.6.*

- 6.3.3 The Local Trust Committee should encourage the Cowichan Valley Regional District to establish a management strategy for the wetland on Ruxton Island. *6.3.3 addresses AIOCP goals set for Ruxton Island.*

7.0 NATURAL RESOURCES USES (AGRICULTURAL, FOREST LAND USE, AND SOILS AND AGGREGATES)

7.1 NATURAL RESOURCES USE OBJECTIVE

- 7.1.1 To maintain traditional land use as it concerns natural resources in the Plan Area.

7.2 NATURAL RESOURCES USE POLICIES

- 7.2.1 There is currently very little land suitable for agricultural use in the Plan Area. A need to designate land for agriculture is not anticipated.
- 7.2.2 The Local Trust Committee should ensure that its bylaw provisions:
- (a) minimize any adverse affects on identified or potential agricultural land;
 - (b) encourage the design of any road systems and servicing corridors to avoid identified agricultural lands;
 - (c) support the economic viability of farming; and
 - (d) permit the use of Crown lands for agricultural leases where there is agricultural potential.
- 7.2.3 The Local Trust Committee should consider favourably any applications to include land with farming potential into the Agricultural Land Reserve.
- 7.2.4 The Local Trust Committee should identify significant unfragmented forest ecosystems within the planning area and consider establishing zoning to limit inappropriate development in these areas and to cluster development elsewhere.
- 7.2.5 The Local Trust Committee should identify any of productive soil in the Plan Area. A need to designate land for productive soils is not anticipated.

7.2.1 addresses Local Government Act s. 877(1)(b) required content. It also re-affirms the existing zoning, where there are no agricultural zones in the plan area and addresses Islands Trust Policy Statement policies 4.1.4, 4.1.5, 4.1.8.

7.2.2 addresses the provincial interest with respect to farming and addresses Islands Trust Policy Statement policies 4.1.5, 4.1.6, 4.1.7, 4.1.8 and 4.1.9. Amended Nov. 09.

7.2.3 addresses how the Local Trust Committee would consider any possible future ALR inclusion applications.

7.2.4 addresses Islands Trust Policy Statement policies 3.2.2 and 4.2.6.

7.2.5 addresses Islands Trust Policy Statement policy 4.6.3 and Local Government Act required content 877(1)(c).

7.3 Advocacy Policies

- 7.3.1 The Local Trust Committee encourages landowners to protect sensitive forest ecosystems through donation, conservation covenants or careful management.
- 7.3.2 The Local Trust Committee encourages voluntary stewardship to ensure protection and maintenance of adequate forested areas for the sustenance of groundwater supplies, as well as retention of characteristic forested landscapes, habitat for wildlife, and significant trees or stands.

8.0 COMMUNITY SERVICE AND INSTITUTIONAL USE POLICIES

8.1 Community Service Use Objective

- 8.1.1 To maintain traditional land use as it concerns community service and institutional use in the Plan Area.

8.2 Community Service Use Policies

- 8.2.1 The Local Trust Committee may establish zoning within this designation, or within the residential designation, to permit and regulate local community services such as meeting halls, infrastructure, and emergency service facilities.

8.2.1 allows the Local Trust Committee to establish separate zones for community services and infrastructure facilities and addresses Islands Trust Policy Statement policy 5.8.6

- 8.2.2 Local Trust Committee bylaw provisions should maintain the traditional designation of the Hudson Island airstrip as a community service use.

8.2.2 affirms existing use and is consistent with AIOCP goals for Hudson Island.

- 8.2.3 Given the seasonal residential nature of the islands in the plan area, there is currently minimal demand for school facilities. A need to designate land for school is not anticipated.

8.2.3 addresses Local Government Act required content and addresses Islands Trust Policy Statement policy 5.8.6.

8.3 Advocacy Policies

- 8.3.1 Regional districts are encouraged to provide facilities for disposal of waste in appropriate locations.

8.3.1 addresses Local Government Act required content and Islands Trust Policy Statement policy 5.4.4

- 8.3.2 The Local Trust Committee should work with communities and the Coast Guard to establish suitable helicopter landing areas for use in cases of medical emergency.

8.3.2 addresses AIOCP goals to improve emergency response.

SECTION C: NATURAL ENVIRONMENT

9.0 SENSITIVE ECOSYSTEM POLICIES

9.1 Sensitive Ecosystem Objectives

9.1.1 To encourage the preservation and protection of rare and sensitive ecosystems in the Plan Area.

9.1.2 To maintain the natural beauty and biodiversity in the Plan Area.

9.2 Sensitive Ecosystem Policies

9.2.1 The Local Trust Committee should support and undertake initiatives to protect environmentally sensitive areas and significant natural sites, features and landforms in the Plan Area.

9.2.1 addresses Local Government Act Required content 877(1)(d) and Islands Trust Policy Statement policies 3.1.3, 3.1.4, 5.2.1, 5.2.4

9.2.2 The Local Trust Committee should support and undertake initiatives to plan, establish, and maintain a network of protected areas that preserves the representative ecosystems of the area and maintains its ecological integrity.

9.2.2 addresses Islands Trust Policy Statement policy 3.1.4

9.2.3 The Local Trust Committee should protect environmentally sensitive areas, significant natural sites, features, views, scenic areas and landforms in the planning area through:

9.2.3 addresses Islands Trust Policy Statement policy 3.1.3, 5.2.1, 5.2.4, 5.13. Consistent with AIOCP goals.

- (a) zoning regulations that encourage the siting of new development away from sensitive areas;
- (b) the implementation of development permit areas where accurate mapping identifying sensitive ecosystems at an appropriate scale is available and where the administration of development permit areas is feasible;
- (c) acquisition of land by the Trust Fund Board, other conservancies, the Cowichan Valley Regional District, and government agencies;
- (d) encouragement of voluntary stewardship including the use of tools such as conservation covenants;
- (e) park dedication at the time of subdivision; and
- (f) the use of incentives such as lot clustering and amenity zoning.

9.2.4 addresses Islands Trust Policy Statement policies 5.2.3, 5.2.4

9.2.4 The Local Trust Committee should, in its bylaw provisions and in considering applications, consider the cumulative effects of existing and proposed development on sensitive ecosystems and groundwater supplies.

9.2.5 The Local Trust Committee should, in its bylaw provision, implement provincial riparian area regulations to protect potentially fish-bearing watercourses in the plan area.

9.2.5 Addresses provincially mandated requirements to comply with Riparian Area Regulation.

10.0 GROUNDWATER POLICIES

10.1 Groundwater Objective:

- 10.1.1 To protect the quality and quantity of groundwater resources in the Plan Area.

10.2 Groundwater Policies:

- 10.2.1 Land use designations, zoning, subdivision regulations and other planning tools should be used to ensure that neither the density nor intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater. *10.2.1 addresses Islands Trust Policy Statement policy 4.4.2.*
- 10.2.2 The Local Trust Committee, in its bylaw provisions and in considering applications, should ensure that water quality is maintained, that existing, anticipated and seasonal demands for water are considered and addressed, and that new uses do not affect water availability to the detriment of existing uses. *10.2.2 addresses Islands Trust Policy Statement policy 4.4.2 and 4.4.3. The policy would direct the Local Trust Committee place a priority on ensuring that new development address the quality and quantity of potable water.*
- 10.2.3 The precautionary principle should be applied with respect to the planning, utilization and protection of potable water supplies, so that property owners, developers and government agencies act with a conservative approach regarding the impacts of land use on island water supplies.. *10.2.3 and 10.2.4 address AIOCP goals.*
- 10.2.4 The use of alternative technology to the traditional septic field, and the safe recycling of gray water, should be supported subject to compliance with other government regulations.
- 10.2.5 As it is Trust Council policy that islands in the Trust Area should be self-sufficient in regard to their water supply, no water line connections to the mainland should be permitted. *10.2.5 addresses Policy Statement policy 4.4.1.*

10.3 Advocacy Policies:

- 10.3.1 The Local Trust Committee should encourage the BC Ministry of Forests, Lands and Natural Resource Operations and the Vancouver Island Health Authority to protect the quality and quantity of existing wells in the plan area. *10.3.1 and 10.3.2 address AIOCP goals regarding groundwater resources.*
- 10.3.2 The Local Trust Committee should encourage the Vancouver Island Health Authority to ensure sewage disposal protects the quality of groundwater supply on islands in the plan area.
- 10.3.3 The Local Trust Committee should encourage the Vancouver Island Health Authority and Cowichan Valley Regional District to:
- a) permit waste water treatment systems of demonstrated efficacy that are alternative to conventional septic disposal systems;
 - b) implement studies on alternate systems for waste water treatment;
- 10.3.3 addresses AIOCP goals regarding sewage disposal on Ruxton Island.*

- c) develop a regular septic system maintenance program requirement; and
- d) develop a program to detect and correct failing septic systems.

11.0 CLIMATE CHANGE POLICIES

11.1 CLIMATE CHANGE OBJECTIVES

- 11.1.1 To understand the likely impacts of and vulnerabilities to regional climate change in the Plan Area.
- 11.1.2 To support actions to minimize greenhouse gas emissions.
- 11.1.3 To recognize the importance of forested lands and wetlands in removing carbon dioxide from the atmosphere.

11.2 CLIMATE CHANGE POLICIES

- 11.2.1 The Local Trust Committee should, in its bylaw provisions and review of development applications, consider the potential impacts on global climate change and greenhouse gas (GHG) reduction targets.
- 11.2.2 The LTC should investigate new methods of measuring GHG emissions that are relevant to the Plan Area.
- 11.2.3 The Local Trust Committee should work with other government agencies, stakeholders and residents to achieve energy conservation and emissions reduction goals.
- 11.2.4 The Local Trust Committee should identify significant unfragmented forest and wetland ecosystems within the planning area and ensure that these areas are noted on mapping for both their environmental value and as carbon sequestration areas.
- 11.2.5 The Local Trust Committee should encourage and support initiatives to upgrade woodburning appliances.
- 11.2.6 The Local Trust Committee should, through bylaw provisions, support residential renewable energy (e.g. microhydro, solar, wind, waste heat, etc.) potential in the Plan Area.

11.2.1 through 11.2.6 address requirements of Local Government (Green Communities) Statutes Amendment Act, (Bill 27) 2008

11.3 Advocacy Policies

- 11.3.1 When considering transportation options by air, water or land, both residents and agencies with jurisdiction over services and infrastructure are encouraged to:
 - a) reduce fuel requirements

- b) reduce the extent of infrastructure; and
- c) limit the impact on the natural environment.

11.3.2 Residents are encouraged to:

- a) Incorporate high energy efficiency into building design and construction and use carbon-efficient materials in new construction;
- b) Use non-fossil fuel energy sources where possible; and
- c) Limit the burning of refuse.

11.3.3 Government agencies, when considering changes to infrastructure on the Islands, are strongly encouraged to mitigate impacts on the natural environment for any proposals for park, trail, road, ferry, dock, or infrastructure development.

11.3.4 The Local Trust Committee should work with the Trust Fund Board and other conservation organizations to promote the conservation of forested lands and wetlands as a cost effective and important climate change mitigation strategy.

SECTION D: COMMUNITY SERVICES

12.0 CULTURE AND HERITAGE POLICIES

12.1 Culture and Heritage Objectives

12.1.1 To recognize the historical presence of First Nations people in the Plan Area.

12.1.2 To identify, protect, preserve and enhance important cultural and historical resources in the Plan Area.

12.2 Culture and Heritage Policies

12.2.1 The Local Trust Committee should support initiatives to identify lands and structures of natural, historic, archaeological, cultural, aesthetic, educational or scientific heritage value or character.

12.2.1 addresses Islands Trust Policy Statement policy 5.6.2 and 5.6.3

12.2.2 The Local Trust Committee may amend this plan to designate any real property as a heritage conservation area under Part 27 of Local Government Act.

12.2.2 directs that Local Trust Committee may designate heritage buildings or sites.

12.2.3 All development applications will be reviewed by planning staff for the presence of known and recorded archaeological sites. Applicants will be notified if the site includes a known, protected archaeological site. Notification may include direction to engage a professional consulting archaeologist to determine if an archaeological impact assessment is necessary to manage development related impacts.

12.2.3: Archaeology Branch recommended policy wording.

12.2.4 Applicants should modify or revise proposed development plans to avoid archaeological site impacts as the best means of preserving archaeological resources. Alteration of a protected archaeological site requires a Provincial Heritage Alteration Permit prior to land altering activities.

12.2.4: Archaeology Branch recommended policy wording

12.2.5 The Local Trust Committee will cooperate with First Nations to identify significant archaeological or cultural sites in the planning area.

12.2.6 Lands identified as containing heritage resources may be provided as an amenity in exchange for an increase in density as part of an amenity rezoning.

12.2.6 references possible amenity zoning, and directs Local Trust Committee to consider a heritage site as an applicable amenity.

12.3 Advocacy Policies

12.3.1 The Local Trust Committee may advocate for the designation and protection of eligible heritage sites under the Heritage Conservation Act.

12.3.1 Archaeology Branch recommended policy wording.

12.3.2 Landowners are encouraged to contact and work with First Nations to protect archaeological and cultural sites.

13.0 SERVICES AND INFRASTRUCTURE POLICIES

13.1 Services and Infrastructure Objectives

13.1.1 To support responsible servicing and waste management in the Plan Area.

13.1.2 To promote the development of effective community safety plans.

13.2 Services and Infrastructure Policies

13.2.1 As islands in the Plan Area are mostly self sufficient with respect to power, water and septic disposal, the Local Trust Committee shall recognize the challenges associated with providing services in the Plan Area.

13.2.1 acknowledges existing uses and procedures to provide services on the various islands.

13.2.2 Local Trust Committee bylaw provisions should support the provision of power through small-scale, passive means such as solar collector, wind generation, and waste heat.

13.2.2 and 13.2.3 address requirements of Local Government (Green Communities) Statutes Amendment Act, (Bill 27) 2008 and are consistent with AIOCP goals.

13.2.3 Local Trust Committee bylaw provisions should permit small-scale geo-thermal heating for individual dwellings.

13.2.4 The use of alternative technology to the traditional septic field, and the safe recycling of grey water, is supported by the Local Trust Committee if methods can provide effective non polluting and energy efficient means to treat and dispose of effluent and are in compliance with all other government regulations.

13.2.4 is consistent with AIOCP goals to address sewage disposal.

13.2.5 The Local Trust Committee should require any new development or subdivision include provisions for fire fighting equipment, and for emergency water storage on the island in question.

13.2.5 addresses AIOCP goals concerning improved emergency response.

13.3 Advocacy Policies

13.3.1 Landowners undertaking new construction are encouraged to install rainwater catchment systems.

13.3.2 The RCMP, Canadian Coast Guard, fire protection, CVRD, as well as search and rescue organizations are requested to be responsive to planning area needs and to assist residents in establishing adequate safety, protection and communication mechanisms for the public.

14.0 TRANSPORTATION POLICIES

14.1 TRANSPORTATION OBJECTIVES

- 14.1 To allow appropriate transportation conveyances for residents.
- 14.2 To ensure that transportation facilities do not have an unduly negative impact upon the ecosystems of the Plan Area.

14.2 TRANSPORTATION POLICIES

- 14.2.1 In its bylaw provisions and decision-making, the Local Trust Committee should recognize the challenges associated with accessing, living on and constructing on the islands in the Plan Area. *14.2.1 acknowledges existing uses and procedures to provide services on the various islands.*
- 14.2.2 The Local Trust Committee should, through bylaw provisions, provide for facilities for float plane and emergency helicopter access in appropriate locations. *14.2.2 addresses Islands Trust Policy Statement policy 5.3.6 and AIOCP goals concerning improved emergency response.*
- 14.2.3 No island or islet in the plan area should be connected to the mainland or to another island or islet by a bridge, causeway or tunnel.
- 14.2.4 The Local Trust Committee should encourage the maintenance of low level road classification and support pedestrian and/or bicycle paths as inter-community transportation systems. *14.2.4 addresses Islands Trust Policy Statement policies 5.3.4 and 5.3.7 and is consistent with AIOCP goals.*

14.3 Advocacy Policies:

- 14.3.1 The Local Trust Committee should encourage the Ministry of Transportation and Infrastructure to maintain the low level of road classification on islands in the Plan Area.
- 14.3.2 The Ministry of Transportation is requested to retain natural vegetation along road right-of-ways, and to carry out road ditching and maintenance with minimal impact to groundwater and surface water flow patterns.
- 14.3.3 Water taxi services are encouraged to provide access for residents and visitors travelling to and from islands in the Plan Area.

15.0 Temporary Commercial and Industrial Use Permit Guidelines

An Official Community Plan may designate areas where temporary commercial or industrial uses may be allowed. A temporary use permit may, notwithstanding a zoning bylaw, allow a commercial or industrial use, permit the construction or use of buildings or structures to accommodate persons who work at the commercial or industrial enterprise in respect of which the permit is issued and specify conditions under which a temporary commercial or industrial use may be carried on. The issuance of a temporary use permit should be conditional on compliance with the following guidelines:

Temporary Commercial or Industrial Use Permits may be issued for any area covered by this plan, except for areas designated Park and Conservation on Schedule ____.

Temporary Commercial and Industrial Use Permits should only be issued for activities that are of short and fixed duration.

An application for a Temporary Commercial or Industrial Use Permit should only be considered if the proposal can be demonstrated to have minimal negative impact on the environment of the plan area.

In issuing a Temporary Commercial or Industrial Use permit, the Local Trust Committee should specify conditions under which the use may be carried on that would mitigate any impacts of the use, including restoration of land upon completion of the permit.

SECTION E: ADMINISTRATION AND INTERPRETATION

Section E is to contain the administrative and legal provisions of the OCP. In this draft Section E and its various sections are reserved for completion in a subsequent draft.

16.1 PURPOSE

16.2 ISLANDS TRUST AUTHORITY

16.3 AREA OF JURISDICTION

16.4 ADVOCACY POLICIES

16.5 PUBLIC FACILITIES

16.6 IMPLEMENTATION

16.7 INTERPRETATION

16.8 AMENDMENT PROCEDURE

16.9 SEVERABILITY



Memorandum

700 North Road Gabriola Island BC V0R 1X3

Telephone **250. 247-2063** FAX: 250. 247-7514

Toll Free via Enquiry BC in Vancouver 660-2421. Elsewhere in BC **1.800.663.7867**

northinfo@islandstrust.bc.ca www.islandstrust.bc.ca

Date May 27, 2013 File Number TH 6500 – 20

To Thetis Island Local Trust Committee

From Aleksandra Brzozowski
Island Planner
Northern Office

Re Draft of Ruxton Island Dock Technical Study

Please find attached the draft technical study assessing the feasibility of a community dock on Ruxton Island.

The next steps for the technical study work plan is to solicit any further local knowledge; following such input, the consultants will produce an elaborated ranking and discussion on the suitability of potential sites.

Staff requests that the LTC provide the consultants with comment and further direction for a final report, and that the LTC refer the draft study to the Ruxton APC and Ruxton community for input of relevant local knowledge.

RUXTON ISLAND COMMUNITY DOCK

OPTIONS STUDY

MAY 27, 2013

DRAFT

McElhanney Consulting Services Ltd.

Nanaimo, BC

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Figure 2.1 – Potential Dock Sites

Figure 5.1 – Wind Rose for Entrance Island Light Station

Figure 5.2 – Exposure and Fetch Length – Sites 1 to 6

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Figure 5.4 – Exposure and Fetch Length – Sites 13 to 15

Table 6.1 – Detailed Site Comparison Based on Factors for Consideration

Appendix 1 – Site Photographs

Appendix 2 – Wind Data for Entrance Island Light Station

Appendix 3 – Average Site to Lot Distance Calculations

1.0 INTRODUCTION

Ruxton Island is one of the smaller Gulf Islands located east of Stuart Channel between Vancouver Island to the west and Valdez Island to the east. It measures 2.5 kilometres long by 0.7 kilometres wide and was subdivided to create approximately 200 fee simple lots in the 1970's. Roughly 3/4 of these lots have been developed with houses or cabins that are used primarily as vacation properties. Property owners gain access to the island by private boat from various points of departure on Vancouver Island, and individuals moor their boats to buoys that are located in the various bays that circle the island.

Development of the island included construction of a network of public roads that provide access between the ocean and individual properties. These roads were built to a rural standard and fall under the jurisdiction of the provincial Ministry of Transportation and Highways (MOTI). Road maintenance is the MOTI's responsibility and is limited to clearing windblown deadfalls. Road use is limited to walking and ATV's; there are currently no cars or trucks on the island.

Ruxton Island is contained within the Cowichan Valley Regional District (CVRD) and the responsibility for planning is held by the Islands Trust. The Islands Trust initiated an Official Community Planning (OCP) process in the summer of 2012, and that process has identified an interest in exploring the technical feasibility of a community dock on Ruxton Island to improve access to the island. The following objectives and concerns related to a community dock have been identified through the current OCP planning process:

- Enhance public safety by providing an all-season, all tide, moorage for emergency response and emergency evacuation
- Improve access for residents and guests who have limited mobility
- Security concerns related to unrestricted access by non-islanders

The purpose of this study is to identify and compare potential sites for a community dock and to outline the approval process.

2.0 POTENTIAL DOCK SITES

The public road network on Ruxton Island provides legal access to the ocean at 15 separate locations. Each of these points of access is identified, assessed and

compared as a Potential Dock Site. Potential Dock Sites are labelled “A” through “O” and are shown and listed on Figure 2.1. Photographs taken of each site are included as Appendix 1.

3.0 EMERGENCY EVACUATION REQUIREMENTS

Ambulance services may be provided by one of several vessels depending on the circumstances and vessel availability. A 911 call to Emergency Health Services for assistance will be forwarded to the Joint Rescue Co-ordination Center which continually monitors the position of the following response vessels:

- The Canadian Coast Guard can dispatch a general rescue boat from its home port at Ganges Harbour on Salt Spring Island. These vessels are 47 feet long and require 4 ½ feet of draft.
- The Nanaimo Port Authority maintains four vessels and their duties include providing marine ambulance service for vessels and residents located on the islands in and around the harbour limits which extend as far south as Dodds narrows. The NPA will respond to a call from Ruxton Island if dispatched. Their largest vessels are the Osprey and Kestrel with a length of 39 feet and a draft of 44 inches.
- The Coast Guard Auxiliary operates a zodiac out of Ladysmith harbour which requires approximately 40 inches of draft.
- Other potential response vessels include the RCMP West Coast Marine, DFO Conservation and Protection and water taxis.

Additional services that may be called upon depending on the requirements of the situation include medical evacuation services provided by 442 Squadron, Comox Airforce Base and the Coast Guard’s hovercraft based in Richmond.

4.0 ENVIRONMENTAL REQUIREMENTS

The federal Fisheries Act, under Section 35, stipulates that fish are not to be harmed as the result of any activity in waters frequented by fish. While the Act was recently amended to remove habitat from the wording, the intent is still applicable. Accordingly, the construction, maintenance and operation of a dock needs to meet the intent of the Act which implies that mitigation or compensation measures may be required dependent upon the biology of the selected site.

The level of mitigation/compensation measures required will also be dependent upon the dock design. The presence of eelgrass, clam beds and other ecosystem components will dictate the suitability of each location. Some of these features were apparent on the preliminary site visits and are summarized in Table 4.1. All Potential Dock Sites were found to be *Feasible* with respect to environmental considerations, however further investigation of certain sites may be required once detailed designs for structures and approaches are developed.

While all sites have valuable marine ecosystem components (clam beaches, eelgrass beds, *et cetera*), the design and construction of a dock at each of the identified sites can be done to minimize negative environmental impact. Mitigation may include one or more of the following measures:

- using bedrock features to extend a pier as far seawards as possible;
- using an open deck design with grating or gaps between deck boards;
- using pre-cast components to avoid spillage of concrete on site; and,
- siting the structure away from eelgrass beds to limit the impact of shading from a floating structure.

If the selected site has features that mitigation does not fully protect, then the following compensation measures are possible:

- provide compensatory habitat through transplanting; and /or
- provide compensatory habitat through construction of other sub-tidal features.

Mitigation/compensation measures would need to be discussed and approved by Fisheries and Oceans.

5.0 FACTORS FOR CONSIDERATION

A number of Factors for Consideration have been identified as a basis of comparison between the 15 Potential Sites. Each Site is rated on a four point scale where better sites are assigned a higher score. A score of 0 is assigned if the factor renders the site *Unfeasible*. Factors for Consideration are described as follows:

5.1 Exposure to Wind and Waves

The choice of location for a permanent year-round community dock facility must consider exposure, and the wave conditions at the proposed location. Design of all marine facilities is influenced by wave height. Waves are generated by the wind, and wave height is influenced by wind speed; wind duration; fetch length, and fetch width.

Wind speed and wind direction data for weather stations located along the coast are available from Environment Canada. Nanaimo Airport and Entrance Island, are the two closest recording stations to Ruxton Island. Entrance Island is located east of Gabriola Island approximately 18 kilometres north of Ruxton Island. Entrance Island is a maritime location, and is therefore considered to represent conditions for Ruxton Island. A *Calculation of the Joint Frequency of Wind Direction* at Entrance Island is included as Appendix 2 to this report. That Data was used to produce the wind rose that is presented on Figure 5.1.

A review of the wind data and wind rose provides the following information:

- Predominant winds are from two directions: northwest/west-northwest; and, east/east-southeast/south east.
- Mean wind speed is highest from these two same directions

The direction of exposure from the wind and the fetch length for each site was identified by reviewing Canadian Hydrographic Service Chart 3443 (Thetis Island to Nanaimo). Relevant sections of that chart illustrating exposure and fetch length for all 15 Potential Dock sites are presented on Figures 5.2, 5.3 and 5.4.

Sites that are well protected from these prominent winds and associated waves are assigned a rating score of 4. Sites that are exposed to winds from the north-west and south-east are assigned a lower score. Highly exposed sites are considered *Unfeasible* with a score of 0.

5.2 Access from the Sea

Access from the sea is influenced by water depth over a range of tides and by the presence of reefs on the approach. Sites that have no reefs and provide good depth for moorage over the range of tides are assigned a rating score of 4. Sites that have reefs on the approach or provide less depth for moorage are assigned a lower score. Site 14 is considered *Unfeasible* with a score of 0 because it is surrounded by reefs and is inaccessible at low tide.

5.3 Access from the Land

The 'Road Network' on Ruxton Island has been maintained to a standard that is consistent with common use. Roads that provide good access to the relatively flat and protected beaches are well-used and are maintained in a condition that allows for easy use by motorized vehicles (ATVs). Roads that lead to steep water access are maintained as walking trails. Potential Dock Sites with well-maintained and low gradient road access are assigned a rating score of 4. Sites that provide access from undeveloped roads, or roads with steep or rugged access from poorly maintained roads are assigned a lower score. None of the sites are considered *Unfeasible* with respect to access from land.

5.4 Distance to Lots

All of the Potential Dock Sites were analysed by calculating the distance from the site to each lot. The sum of these distances was divided by the number of lots to determine the average distance from lot to site. Average distances ranged from 1.16 kilometres for Site L to 2.14 kilometres for Site E. These calculations are included as Appendix 3 to this report. The average distance to Site K is 11% greater than the average distance to Site L, and both of these sites are assigned a rating score of 4. Seven sites have an average distance that ranges from 20% to 40% greater than the average distance to Site L, and each of these sites is assigned a rating score of 3. Likewise, Sites A, C and F have an average distance that ranges from 40% to 60% greater than the average distance to Site L, and these three sites are assigned a rating score of 2. The remaining three sites are assigned a rating score of 1. These rating scores are summarized in Table 5.1

Table 5.1 Average Distance from Lot to Site															
Site	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Dist.	1.70	1.94	1.83	1.54	2.14	1.76	1.60	1.60	1.89	1.40	1.29	1.16	1.45	1.41	1.53
%	147	167	158	133	185	152	138	138	163	121	111	100	125	122	132
Score	2	1	2	3	1	2	3	3	1	3	4	4	3	3	3

5.5 Ease of Construction

The Ministry of Forests, Lands and Natural Resource Operations have published a Private Moorage Policy document (File 12565-00 dated May 26, 2011). Appendix 3 of that document outlines the requirements and best management practices for design and construction of docks. Key recommendations include the following:

- The off-shore end of structures should be at least 30 metres from navigation channels
- All docks must be on pilings/suspended or floating at all times
- Facilities to be limited to a single dock which consists of an elevated pier leading to a ramp and one moorage float only
- Minimum clearance of 2.0 metres between the elevated pier and High Water
- Minimum clearance of 1.5 metres between the ocean bottom and the underside of the float at Low Water

In many cases the Potential Dock Site has a long exposed beach at low tide. Construction of an elevated pier to provide access to deep water at low tide will present a challenge and may require construction of a very long structure. In other cases it may be possible to construct the pier on an adjacent rock headland or along an exposed rock reef by casting concrete piers on to the rock itself.

A cursory assessment of constructability was undertaken in conjunction with a site visit carried out in April 2013. Sites that are considered easiest to build on are assigned a rating of 4, and Sites that are considered the most difficult to build on are assigned a rating of 1.

6.0 SITE COMPARISON

Environmental observations and observations related to the Factors for Consideration for each of the Potential Dock Sites are provided in Table 6.1. Scores assigned to these Factors for Consideration are summarized in Table 6.2 along with a corresponding total for each Potential Dock Site.

Table 6.2 Site Ranking based on outlined <i>Factors for</i> <i>Consideration</i>	Exposure to Wind and Waves	Access from the Sea	Access from the Land	Distance to Lots	Ease of Construction	Total Point Score	Ranking
Site A – Herring Bay East	3	4	3	2	1	13	3
Site B – Herring Bay West	0	4	2	1	4		
Site C – North Bay West	0	4	2	2	4		
Site D – North Bay East	1	4	4	3	1	13	3
Site E – Otter Bay West	0	4	2	1	2		
Site F – Otter Bay East	1	4	4	2	1	12	4
Site G – Pylades Channel	0	3	2	3	3		
Site H – Ross Bay	2	2	2	3	1	10	5
Site I – Moss Beach North	3	4	1	1	1	10	5
Site J – Moss Beach South	3	4	1	3	2	13	3
Site K – Whaleboat Passage	2	4	3	4	3	16	2
Site L – Naylor Bay East	4	4	4	4	2	18	1
Site M – Naylor Bay West	3	4	3	3	3	16	2
Site N – Sand Dollar Bay	2	0	1	3	1		
Site O – Stuart Channel	0	4	1	3	4		

7.0 THE APPROVAL PROCESS

7.1 Provincial Crown Lands

Crown Land is land owned by the Province, and Crown Land includes nearly all foreshore from the high water mark out to the limits of provincial jurisdiction. Construction of works within the foreshore requires authorization in the form of a licence of occupation or lease over the foreshore. Permission to use Crown land is obtained by application to the Province. Companies or societies that apply for tenure must be registered in British Columbia. Obtaining tenure is a three-step process.

- **Step 1** - The applicant must first secure a 1-year temporary permit from the Province to allow for time to seek the necessary approvals from other government agencies and to prepare a development plan.
- **Step 2** - Upon receipt of all approvals and a development plan, the Province may issue a lease or license of occupation for Phase I of the development.
- **Step 3** - The final lease is issued for a 30-year term when the facility begins operation.

A Specific Permission must be applied for if the dock or moorage facility is located on marine waters and is for group moorage three berths or less. An application is required for all Specific Permissions. If the applicant of the proposed dock is not the upland owner, written consent of the upland owner and Specific Permission will be required.

7.2 Ministry of Transportation and Infrastructure (MOTI)

Highway right of ways extend to the high tide line as defined by the present natural boundary on registered legal survey plans of the island. The approaches to a community dock will inevitably require the construction of works that are within this highway right of way. Authorization is secured by making an application to the Ministry for a “permit to construct works within public right of way”. The Ministry's primary responsibility is to ensure the following:

- that activities or installations within the highway right-of-way do not compromise public safety;
- that the proposal does not damage or put at risk existing highway facilities;
- that other non-highway facilities are protected; and,
- that there is no undue restriction to future highway development.

Applications must be made by the eventual owner of the works, or an authorized agent for the owner, and the approval process is initiated by way of submitting an H2O application. Typical requirements for approval of an application of this type will include the following:

- **Insurance**

Insurance is a requirement, and Ministry policy states that all permits and agreements must contain an indemnity clause and an insurance requirement clause that protects the Ministry, the applicants, and any other named insured from financial loss due to damage or harm. The financing of these transferred risks is handled by a requirement for Liability Insurance in the permit. To prove that the applicant has adequate insurance, the insurance agent or broker must fill out a Certificate of Insurance (H-0111). The upshot of this requirement is that the community dock must be owned by a body that can finance and carry insurance.

- **Environmental Protection**

Protection of the environment within the Ministry's right of way must include compliance with all applicable federal and provincial legislation and regulations including protecting fish and fish habitat, protecting endangered species, protecting indigenous ecosystems, and compliance with the Heritage Conservation Act (typically related to archaeological concerns).

- **Certification**

Any works within the Ministry right-of-way that fall within the scope of "engineering" under the Engineers and Geoscientists Act must be performed by a Professional Engineer, and must comply with the Ministry's "Engineer of Record and Field Review Guidelines".

7.3 Department of Fisheries and Oceans (DFO)

Construction of a community dock will likely cause impact to fish habitat and project planning is required to avoid the risk of contravening the Fisheries Act. Typical planning steps are described as follows:

- **Step 1 – Identify the impacts**

Prior to undertaking the design of a dock it will be necessary to have a professional biologist complete a habitat assessment of the site to determine potential impacts.

- **Step 2 – Mitigate the impacts**

Design of the proposed works should include measures to mitigate these potential impacts. Options for mitigation may include strategic siting to avoid areas with high fisheries value, design of low-impact structures, and construction timing to avoid sensitive seasonal impacts.

- **Step 3 – Compensate for un-avoidable impacts**

If significant habitat impacts cannot be avoided, then it may be necessary to incorporate habitat compensation as a condition of authorization. Typical forms of compensation may include construction of habitat reefs or construction of eel grass beds.

7.4 Transport Canada

Construction of any works within navigable water requires approval under the Navigable Waters Protection Act (NWPA). The NWPA is administered by Transport Canada and ensures a balance between the public right of navigation and the need to build works, such as bridges, dams or docks. An approval under the NWPA authorizes the work only in terms of its effect on navigation.

Application for approval under the NWPA is initiated by submitting a completed application that includes the following information:

- Name, address and contact information for the applicant or their agent
- Location, description and size of the proposed works
- Plan and cross-section drawings of the work with dimensions including high and low water mark
- An area map of the location
- Details of the anchoring system
- Photographs of the site and surrounding area
- Project description and workplan

In some cases a small dock may be considered a “Minor Work” and therefore exempt from these requirements if they meet the following requirements:

- The works are at least 5 m from the adjacent property boundaries and property line extensions;
- The works are at least 10 m from any dock, boathouse or other structure that is fully or partially in, on or over the navigable waters;
- The extremity of the works that is furthest from the land is at least 30 m away from any navigation channel;
- The works do not extend further in, on or over the navigable waters than any adjacent dock;

- The works are not associated with any other proposed works, such as launch ramps, breakwaters, landfill, dredging and marinas; and,
- The works are not used for float planes or other aircraft equipped with floats.

7.5 The Cowichan Valley Regional District (CVRD)

The CVRD has two functions that may relate to construction, maintenance or ownership of a dock facility on Ruxton Island.

- The CVRD administers three parcels of parkland that include the central marsh, the fore-shore below the cliff on the south side of the island and a single lot at the east end of Moss Hill Trail. If the community dock will be public, then it will improve access to those parks
- The CVRD has the mandate to own, construct and maintain infrastructure to service community need. They also have the authority to levy taxes to cover associated costs.

7.6 Islands Trust

The Islands Trust has a mandate to establish and enforce planning regulations for all of the Gulf Islands including Ruxton Island. The Official Community Plan that is currently being drafted by the Trust may designate one or more Community Dock Sites. The Islands Trust has no mandate to own or maintain infrastructure.

RUXTON ISLAND COMMUNITY DOCK OPTIONS STUDY

FIGURE 2.1 - Potential Dock Sites

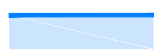


Plotted: May 14, 2013 12:57:54 Dwg File: T:\Projects\12231 Islands Trust Ruxton Island\10.0 Drawings\1-Active\Figure 2.1.dwg

RUXTON ISLAND COMMUNITY DOCK OPTIONS STUDY

WIND ROSE FOR ENTRANCE ISLAND

LEGEND:



DENOTES MEAN SPEED (Km/h)



DENOTES PERCENT BY DIRECTION

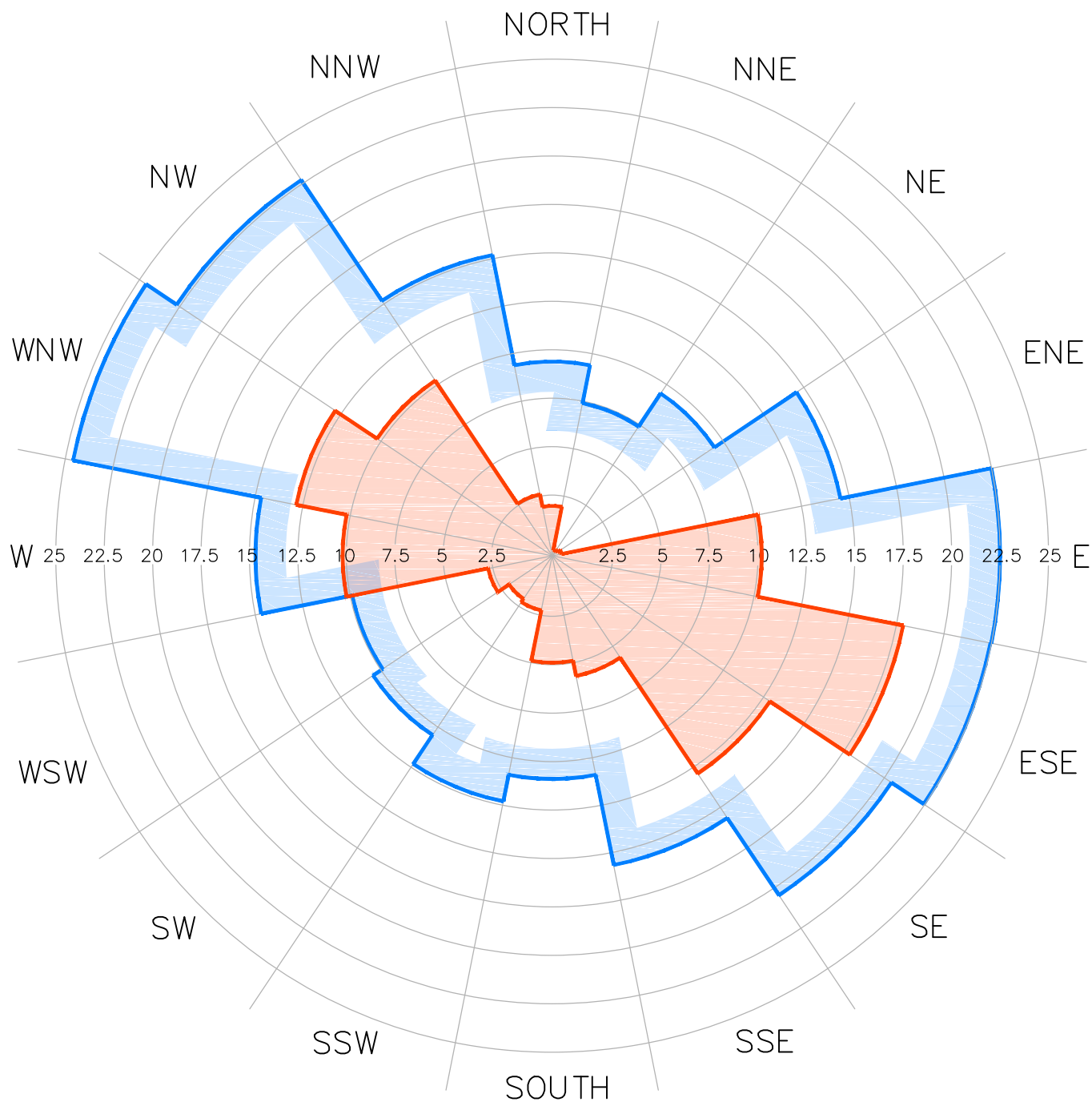
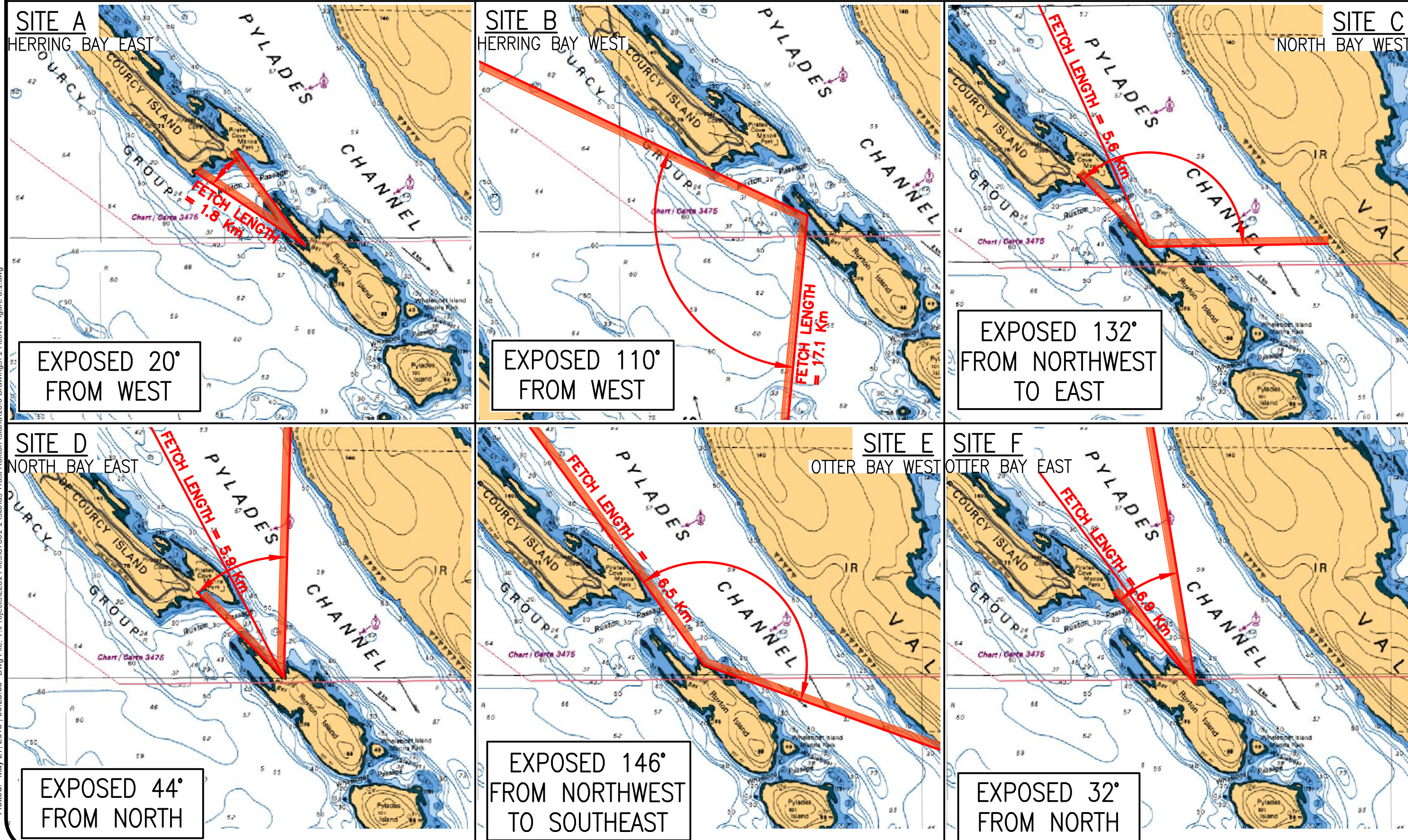


FIGURE 5.1

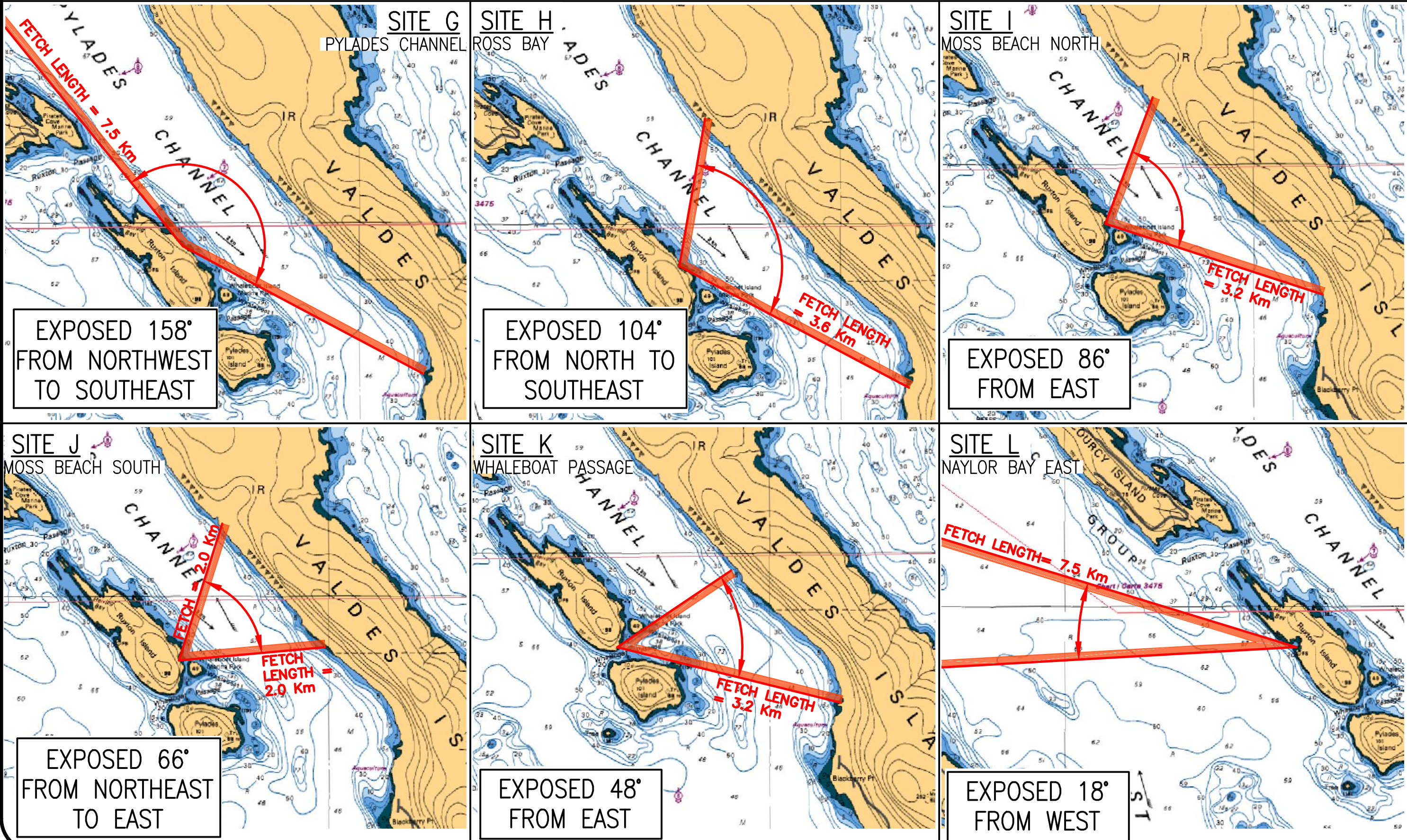
RUXTON ISLAND COMMUNITY DOCK OPTIONS STUDY

FIGURE 5.2



RUXTON ISLAND COMMUNITY DOCK OPTIONS STUDY

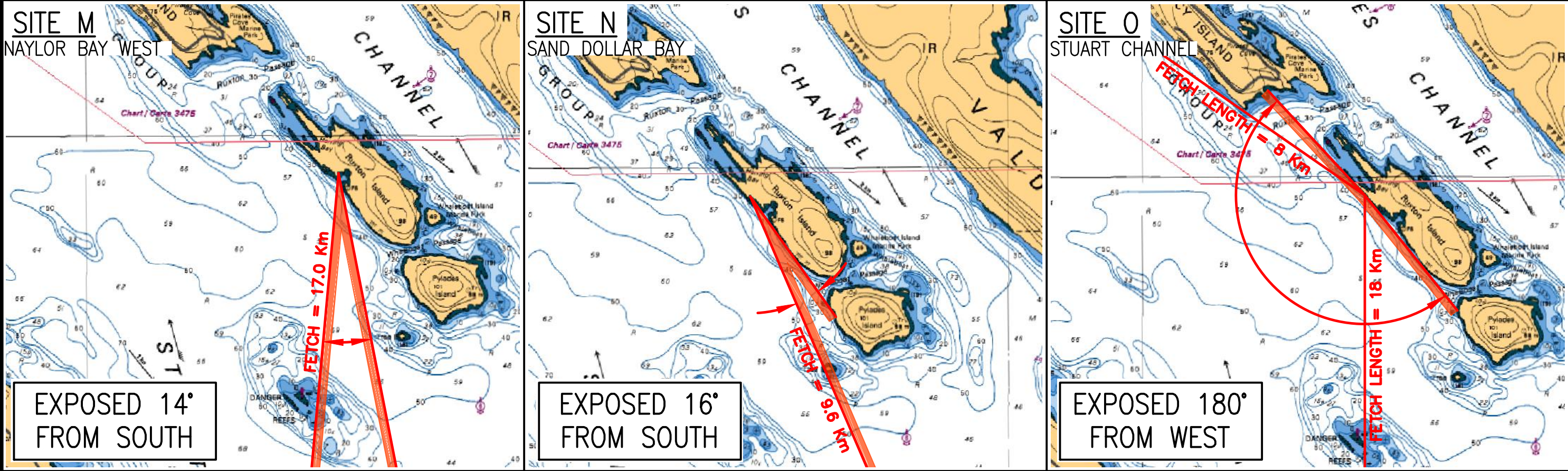
FIGURE 5.3



Plotted: May 27, 2013, 09:23:07 Dwg File: T:\Projects\2231 Islands Trust Ruxton Island\10.0 Drawings\1-Active\Figure 3.1.dwg

RUXTON ISLAND COMMUNITY DOCK OPTIONS STUDY

FIGURE 5.4



RUXTON ISLAND COMMUNITY DOCK OPTIONS STUDY

TABLE 6.1
DETAILED SITE COMPARISON BASED ON OUTLINED *FACTORS FOR CONSIDERATION*

DRAFT May 27, 2013

	EXPOSURE TO WIND AND WAVES	ACCESS FROM THE SEA	ACCESS FROM THE LAND	DISTANCE TO LOTS	ENVIRONMENTAL FACTORS	EASE OF CONSTRUCTION
SITE A HERRING BAY EAST	Site A is located at the head of Herring Bay and is protected by long narrow headlands on both sides. The site is exposed through an arc of approximately 15 degrees to the north west and is located in the lee of DeCourcy Island with a fetch of 1.8 kilometres. Depending on where the dock is positioned within the bay, this site can provide good natural protection.	Site A has a long beach at low tide, but has adequate depth and offers excellent access from the sea.	The road access via Herring Bay Path is considered good.	Average distance from lots is 1.7 km.and therefore Site 1 is rated as fair .	bedrock with sand adjacent. Sea lettuce,Fucus, sea stars on rock. Sparse eelgrass noted in subtidal.	The beach at Site A is 100 metres long at low tide and access to the floating dock will require construction of a long elevated pier along the reef on either side of the bay. Constructability is considered poor and rated as 1.
SITE B HERRING BAY WEST	Site B is located on the west side of the point that separates Herring Bay and North Bay and is exposed through an arc of 110 degrees to the west with a fetch of 17 km. to the south west towards Chemainus. Natural protection is considered unacceptable.	Site B is very deep and offers excellent access from the sea.	The road access via North Herring Trail is considered as fair.	Average distance from lots is 1.9 km.and therefore Site 2 is rated as poor .	bedrock, steep foreshore, fucus banding	Access to a floating dock can be provided by constructing a gangway that is hinged off the adjacent rock bluff. Constructability is considered excellent and is rated as 4
SITE C NORTH BAY WEST	Site C is located on the east side of the point that separates Herring Bay and North Bay and is highly exposed through an arc of 120 degrees to the north and east with a fetch of 5.5 km. towards Gabriola Island. Wind frequency and average speed from this direction is not extreme, however the lack of natural protection is considered unacceptable.	Site C has good depth and offers excellent access from the sea.	Road access via North Herring Trail is considered fair, but there is currently no trail developed to the waterfront. Access to Site C is considered fair	Average distance from lots is 1.8 km.and therefore Site 3 is rated as poor .	bedrock, steep foreshore, fucus banding	Access to a floating dock can be provided by constructing a gangway that is hinged off the adjacent rock bluff. Constructability is considered excellent and is rated as 4
SITE D NORTH BAY EAST	Site D is located at the head of North Bay and is exposed through an arc of 44 degrees to the northwest with a fetch of 5.5 km. towards Gabriola Island. Natural protection is considered poor.	Site D has a long beach at low tide, but has adequate depth and offers excellent access from the sea.	The road access via North Bay Trail is considered excellent.	Average distance from lots is 1.5 km.and therefore Site 4 is rated as good .	eelgrass at tide line and deeper, macro algae along most of shore, moon snail egg cases and sea stars	The beach at Site D is 60 metres long at low tide and access to the floating dock will require construction of a long elevated pier along the reef on either side of the bay. Constructability is considered poor and rated as 1.
SITE E OTTER BAY WEST	Site E is located on the point of land that separates North Bay and Otter Bay and is exposed to pylades Channel through an arc of 146 degrees to the north and south with a fetch of 6.5 km. towards Gabriola Island. Natural protection is considered as unacceptable.	Site E has good depth and offers excellent access from the sea.	The road access via Valdez Vista is rated as good, but the trail from the road to the waterfront is considered fair.	Average distance from lots is 2.1 km.and therefore Site 5 is rated as poor .	eelgrass present at tideline and below, small kelp bed	The beach at Site E is 30 metres long at low tide and access to the floating dock will require construction of a long elevated pier along the reef on the south side of the beach. Constructability is considered fair and rated as 2.
SITE F OTTER BAY EAST	Site F is located at the head of Otter Bay and is exposed through an arc of 46 degrees to the northwest with a fetch of 6 km. towards Gabriola Island. Natural protection is considered poor.	Site F has a long beach at low tide, but has adequate depth and offers excellent access from the sea.	The road access via Otter Bay Trail is considered excellent.	Average distance from lots is 1.8 km.and therefore Site 6 is rated as fair .	kelp, Ulva, seaweeds, sand/shell beach; rocks with Fucus banding	The beach at Site F is 60 metres long at low tide and access to the floating dock will require construction of a long elevated pier along the reef on either side of the bay. Constructability is considered poor and rated as 1.
SITE G PYLADES CHANNEL	Site G is located on the east side of the island and is fully exposed to Pylades Channel through an arc of 180 degrees from northwest to southeast with a fetch of 7.5 km towards Gabriola Island. Natural protection is considered as unacceptable.	Site G has good depth, but access from the south is compromised by reefs that are exposed at low tide, but hidden by high water. This site offers good access from the sea.	The road access via Otter Bay Trail is rated as excellent. There is currently no trail developed to the waterfront. Access to Site G is considered fair.	Average distance from lots is 1.6 km.and therefore Site 7 is rated as fair .	extensive kelp bed, Fucus, Ulva, no beach	Access to a floating dock can be provided by constructing a short elevated pier and gangway that is hinged off the adjacent rock bluff. Constructability is considered good and is rated as 3
SITE H ROSS BAY	Site H is located at the head of Ross Bay and is protected by a reef to the east. It is exposed through an arc of 104 degrees to the east with a fetch of 3.2 km. towards Valdez Island. The site is protected by a reef to the east at low tide. Natural protection is considered fair.	Site H has a long beach at low tide but offers good depth. Access is compromised by a number of reefs that are hidden at all tides. This site offers fair access from the sea.	The road access to Ross Bay has a gentle grade with steep rock shoreline. Access to Site H is considered fair.	Average distance from lots is 1.6 km.and therefore Site 8 is rated as fair .	extensive kelp bed, sand pocket beach with shell debris	The beach at Site H is 80 metres long at low tide and access to the floating dock will require construction of a long elevated pier across the intertidal. Constructability is considered poor and rated as 1.
SITE I MOSS BEACH NORTH	Site I is located at the head of Moss Beach and is protected by a point of land to the east and Whaleboat Island to the south, however deep water is exposed to the east. Natural protection is considered good.	Site I has a long beach at low tide, but has good depth and offers excellent access from the sea.	The trail to Moss Beach North off Moss Hill Trail is narrow and steep in places. Access to Site I is considered poor.	Average distance from lots is 1.9 km.and therefore Site 9 is rated as poor .	extensive sand beach with Ulva, clams, kelp, moon snail egg cases, oysters, creabs, clams sea stars, kelp at tode line	The beach at Site I is 80 metres long at low tide and access to the floating dock will require construction of a long elevated pier across the intertidal. Constructability is considered poor and rated as 1.
SITE J MOSS BEACH SOUTH	Site J is located at the head of Moss Beach and is protected by a reef to the northeast and Whaleboat Island to the east, Natural protection is considered good.	Site J has a long beach at low tide, but has good depth and offers excellent access from the sea.	Whaleboat Trail is narrow and steep with several switchbacks. Access to Site J is considered poor.	Average distance from lots is 1.4 km.and therefore Site 10 is rated as excellent .	this beach is contiguous with Site 9	The beach at Site J is 40 metres long at low tide and access to the floating dock will require construction of a long elevated pier along the rock foreshore. Constructability is considered fair and rated as 2.
SITE K WHALEBOAT PASSAGE	Site K is located adjacent to the southernmost point of land on the island and is exposed through an arc of 48 degrees to the east with a fetch of 3.2 km towards Valdez Island. Natural protection is considered fair.	Site K has good depth and offers excellent access from the sea.	The road access via Cliffside Trail is fairly steep, but otherwise considered good.	Average distance from lots is 1.3 km.and therefore Site 11 is rated as excellent .	Fucus banding on rocks, sandy pocket beach with clams, Ulva and kelp	The beach at Site K is 45 metres long at low tide and access to the floating dock will require construction of an elevated pier along the reef on the east side of the beach. Constructability is considered good and rated as 3.
SITE L NAYLOR BAY EAST	Site L is located at the south side of Naylor Bay. Depending on where the dock is positioned within the bay, this site can provide excellent protection.	Site L has a long beach at low tide, but a carefully positioned dock will provide adequate depth. This site offers excellent access from the sea.	The road access via Cliffside Trail and Len's Lane is considered excellent.	Average distance from lots is 1.2 km.and therefore Site 12 is rated as excellent .	exposed bedrock with sea stars, oysters. Pockets of sand/shell beach with clams shells. Patchy eelgrass below tide.	The beach at Site L is 40 metres long at low tide and access to the floating dock will require construction of a long elevated pier along the reef on either side of the bay. Constructability is considered fair and rated as 2.
SITE M NAYLOR BAY WEST	Site M is located at the north side of Naylor Bay. The site is exposed to the south east with a 17 km fetch towards Chemainus. Depending on where the dock is positioned within the bay, this site can provide good protection.	Site M has a long beach at low tide, but has adequate depth and offers excellent access from the sea.	The road access via Herring Bay Path is considered good.	Average distance from lots is 1.4 km.and therefore Site 13 is rated as good .	exposed bedrock with sea stars, oysters. Pockets of sand/shell beach with clams shells. Patchy eelgrass below tide (less than at Site 12).	The beach at Site M is 30 metres long at low tide and access to the floating dock will require construction of an elevated pier along the rocky headland and reef on the east side of the beach. Constructability is considered good and rated as 3.
SITE N SAND DOLLAR BAY	Site N is located at the head of Sand Dollar Bay and is exposed through a narrow arc to the southeast with protection from reefs at the mouth of the bay. Natural protection is considered fair.	Access to Site N is highly compromised by reefs at all tides. Access is considered unacceptable.	Access via Herring Bay Path and Sand Dollar Way is considered poor.	Average distance from lots is 1.4 km.and therefore Site 14 is rated as good .	Not visited due to difficult access (too shallow)	Construction of a facility at this location would require removal of the existng reefs. Constructability is considered poor and is rated as 1.
SITE O STUART CHANNEL	Site O is located on the west side of the island and is fully exposed to Stuart Channel through an arc of 160 degrees from south to north with a fetch of 17 km. towards Chemainus. Natural protection is considered unacceptable.	Site O is very deep and offers excellent access from the sea.	Access via Sand Dollar Way is considereed poor.	Average distance from lots is 1.5 km.and therefore Site 15 is rated as good .	Steep beach (wall)	Access to a floating dock can be provided by constructing a gangway that is hinged off the adjacent rock bluff. Constructability is considered excellent and is rated as 4

Appendix 2
Wind Data for Entrance Island Light Station

**** CONTROL OPTIONS SELECTED ****

Analysis Report Type is COLLECTIVE MONTH
 Analysis only includes Quality Control Data
 Selection Used for Analysis Period is Between 1860 and 2013 and Month in (1,2,3,4,5,6,7,8,9,10,11,12)

Number of Wind Direction Bins is 16
 Number of Wind Speed Bins 11

Wind Speed 1 to 10 kmh
 Wind Speed 11 to 20 kmh
 Wind Speed 21 to 30 kmh
 Wind Speed 31 to 40 kmh
 Wind Speed 41 to 50 kmh
 Wind Speed 51 to 60 kmh
 Wind Speed 61 to 70 kmh
 Wind Speed 71 to 80 kmh
 Wind Speed 81 to 90 kmh
 Wind Speed 91 to 100 kmh
 Wind Speed 101 to 500 kmh

Seperate Wind Speed Limit: 64 Select Above

ENTRANCE ISLAND CS, BC Climate ID: 1022689 Lat: 49.22 Long: -123.8
 Elevation: 5.0 m TC ID: WEL Station Type: AU8 WMO ID: 71772

Complete History for Analysis Period
 Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
 Frequency expressed as: Percent

Wind Directions	Wind Speed Classes (kmh)										Mean Speed	Percent by Direction	Percent Above Limit	Number of Obs	
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500				
NNE	0.5	0.1										7.3	0.6	0.0	1068
NE	0.5	0.1										8.9	0.7	0.0	1173
ENE	0.5	0.2	0.1	0.1								14.1	1.0	0.0	1651
E	1.8	3.0	1.9	1.1	0.8	0.2						22.5	8.9	0.0	14727
ESE	2.2	7.0	5.2	2.4	1.0	0.3						22.4	18.2	0.0	30209
SE	2.4	5.2	3.1	1.7	0.7	0.1						20.9	13.3	0.0	22142
SSE	2.3	2.3	1.0	0.5	0.2							16.3	6.4	0.0	10592
S	2.6	1.6	0.5	0.1								11.8	4.8	0.0	7981
SSW	0.9	0.8	0.2									12.1	2.0	0.0	3301
SW	0.9	0.6	0.1									11.0	1.6	0.0	2719
WSW	1.9	1.0	0.1									9.8	3.0	0.0	4956
W	4.6	3.5	1.3	0.7	0.2							14.4	10.4	0.0	17245
WNW	1.9	3.5	3.7	3.0	1.1	0.1						24.2	13.2	0.0	21869
NW	1.3	3.3	3.6	1.8	0.4	0.1						22.9	10.5	0.0	17415
NNW	0.9	1.1	0.5	0.1								15.4	2.7	0.0	4411
N	1.0	0.4	0.1									8.8	1.4	0.0	2359

Calm												0.0	1.3	0.0	2146
All															
Directions	26.3	33.8	21.5	11.7	4.4	0.9	0.2					19.0	100.0	0.1	165964

Collective Summary for Month = 1
Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
Frequency expressed as: Percent

Wind	Wind Speed Classes (kmh)										Mean	Percent	Percent	Number	
Directions	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500	Speed	by Direction	Above Limit	of Obs
NNE	0.3	0.1										8.6	0.4	0.0	50
NE	0.3	0.2										11.5	0.5	0.0	71
ENE	0.3	0.4	0.3	0.1								18.8	1.2	0.0	173
E	1.2	2.8	3.1	2.5	1.9	0.6	0.1					28.0	12.2	0.0	1715
ESE	1.5	6.6	5.4	3.6	2.1	0.5	0.1					25.7	19.8	0.0	2781
SE	1.9	5.9	4.7	2.8	1.2	0.2	0.1					23.6	16.9	0.0	2371
SSE	2.0	3.2	1.6	0.7	0.3							18.1	7.8	0.0	1097
S	2.9	2.7	0.8	0.2								12.8	6.5	0.0	918
SSW	1.2	1.0	0.3									12.2	2.5	0.0	346
SW	1.1	0.7	0.2									10.9	1.9	0.0	273
WSW	2.0	1.3	0.2	0.1	0.1							12.2	3.7	0.0	520
W	3.7	3.2	1.3	0.4	0.2							14.6	8.8	0.0	1241
WNW	1.1	3.7	2.6	1.3	0.5	0.1						21.9	9.3	0.0	1313
NW	1.0	2.5	1.3	0.6	0.2	0.1						20.6	5.7	0.0	800
NNW	0.4	0.4	0.1									13.5	1.0	0.0	147
N	0.5	0.2										9.0	0.8	0.0	109
Calm												0.0	0.9	0.0	127

All															
Directions	21.4	34.9	22.0	12.4	6.6	1.5	0.3					20.7	100.0	0.1	14052

Collective Summary for Month = 2
Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
Frequency expressed as: Percent

Wind	Wind Speed Classes (kmh)										Mean	Percent	Percent	Number	
Directions	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500	Speed	by Direction	Above Limit	of Obs
NNE	0.3	0.2										8.9	0.5	0.0	65
NE	0.4	0.1	0.1	0.1	0.1							17.2	0.8	0.0	102
ENE	0.4	0.2	0.3	0.3	0.2	0.1	0.1					26.7	1.6	0.0	208
E	1.3	2.5	2.3	1.5	1.2	0.4	0.2					26.5	9.6	0.1	1252
ESE	1.7	5.8	4.2	2.8	1.2	0.3	0.1					23.9	16.2	0.0	2121
SE	2.1	5.5	3.3	2.0	0.9	0.2						22.2	14.1	0.0	1846
SSE	2.2	3.2	1.3	0.8	0.3							17.7	7.8	0.0	1022
S	2.7	1.8	0.6	0.2	0.1							12.7	5.4	0.0	703
SSW	1.0	0.8	0.3									12.4	2.1	0.0	281
SW	0.9	0.6	0.1									11.2	1.7	0.0	224
WSW	2.3	1.1	0.1	0.1								9.6	3.5	0.0	461

W	5.5	4.0	1.0	0.7	0.1							12.9	11.3	0.0	1483
WNW	1.9	4.3	3.4	2.2	0.7							22.1	12.6	0.0	1647
NW	1.4	3.2	2.2	0.8	0.4	0.1						20.8	8.2	0.0	1070
NNW	0.6	0.8	0.2	0.1								14.7	1.8	0.0	233
N	0.9	0.4	0.1	0.1								11.0	1.5	0.0	192
Calm												0.0	1.5	0.0	199
All															
Directions	25.6	34.6	19.7	11.7	5.2	1.2	0.4					19.4	100.0	0.2	13109

Collective Summary for Month = 3
Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
Frequency expressed as: Percent

Wind	Wind Speed Classes (kmh)										Mean	Percent	Percent	Number	
Directions	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500	Speed	by Direction	Above Limit	of Obs
NNE	0.6	0.2										7.4	0.7	0.0	106
NE	0.5	0.1										8.5	0.7	0.0	104
ENE	0.6	0.4	0.1	0.1								13.2	1.2	0.0	173
E	1.5	2.9	1.9	1.6	1.3	0.1						24.2	9.3	0.0	1347
ESE	1.8	6.3	5.4	3.2	1.2	0.2						23.8	18.2	0.0	2636
SE	2.0	5.3	3.9	2.6	1.2	0.2						23.3	15.3	0.0	2215
SSE	2.2	3.0	1.7	1.2	0.3	0.1						19.3	8.4	0.0	1220
S	2.7	2.4	0.8	0.5	0.1							14.5	6.5	0.0	937
SSW	1.1	1.2	0.3	0.1								14.0	2.7	0.0	394
SW	0.9	0.8	0.3	0.1								13.2	2.1	0.0	299
WSW	1.8	1.0	0.2									10.5	3.1	0.0	444
W	4.3	2.9	1.6	0.9	0.1							15.1	9.9	0.0	1439
WNW	1.6	2.8	3.1	2.2	0.8	0.1						24.0	10.6	0.0	1535
NW	1.2	2.3	2.0	0.9	0.3	0.2						22.0	6.8	0.0	986
NNW	0.8	0.8	0.3	0.1								15.6	2.1	0.0	298
N	0.9	0.5										10.0	1.4	0.0	209
Calm												0.0	1.0	0.0	144
All															
Directions	24.4	32.8	21.8	13.5	5.4	1.0	0.1					20.0	100.0	0.1	14486

Collective Summary for Month = 4
Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
Frequency expressed as: Percent

Wind	Wind Speed Classes (kmh)										Mean	Percent	Percent	Number	
Directions	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500	Speed	by Direction	Above Limit	of Obs
NNE	0.6	0.2										8.3	0.8	0.0	113
NE	0.7	0.1										7.8	0.8	0.0	114
ENE	0.6	0.3	0.1									11.2	1.0	0.0	136
E	1.9	3.2	2.0	1.0	0.7	0.2						21.3	9.1	0.0	1256
ESE	2.3	7.2	5.4	2.0	0.6							21.0	17.5	0.0	2407
SE	2.3	4.9	2.3	1.2	0.5	0.1						19.3	11.3	0.0	1557

SSE	2.6	2.1	0.9	0.2	0.1							14.1	5.9	0.0	807
S	2.9	1.9	0.5	0.1								11.8	5.4	0.0	744
SSW	0.9	1.3	0.4									13.4	2.5	0.0	349
SW	1.0	1.0	0.3									12.3	2.3	0.0	318
WSW	1.9	1.2	0.1									10.2	3.3	0.0	455
W	5.4	4.3	1.1	0.6	0.1							13.0	11.6	0.0	1593
WNW	2.1	3.0	3.4	2.5	0.6	0.2						23.3	11.8	0.0	1630
NW	1.5	3.2	3.8	1.5	0.3	0.2	0.1					22.6	10.6	0.0	1462
NNW	1.0	1.3	0.6	0.1								15.1	3.1	0.0	422
N	1.2	0.5	0.1									9.4	1.8	0.0	255
Calm												0.0	1.2	0.0	171
All															
Directions	29.0	35.6	20.9	9.4	2.9	0.6	0.1	0.1				17.7	100.0	0.1	13789

Collective Summary for Month = 5
Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
Frequency expressed as: Percent

Wind	Wind Speed Classes (kmh)										Mean	Percent	Percent	Number	
Directions	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500	Speed	by Direction	Above Limit	of Obs
NNE	0.8	0.1										6.5	0.9	0.0	129
NE	0.8	0.1										6.6	0.9	0.0	135
ENE	0.6	0.2										8.5	0.9	0.0	130
E	2.4	4.2	2.1	0.3	0.1							16.4	9.0	0.0	1289
ESE	2.7	9.5	5.3	1.1	0.1							18.6	18.6	0.0	2657
SE	2.9	5.6	2.0	0.5	0.1							16.2	11.1	0.0	1583
SSE	2.6	1.8	0.4	0.2	0.1							12.4	5.1	0.0	722
S	2.7	1.3	0.2									9.8	4.2	0.0	599
SSW	0.9	1.0	0.2									11.7	2.1	0.0	300
SW	1.0	0.7	0.2									11.3	1.9	0.0	275
WSW	2.0	0.9	0.1									9.6	3.0	0.0	433
W	4.5	3.6	1.5	0.7	0.2							14.7	10.6	0.0	1504
WNW	1.9	3.3	3.8	3.3	1.6	0.1						25.3	14.1	0.0	2008
NW	1.3	3.6	4.1	1.9	0.4							22.7	11.4	0.0	1622
NNW	0.9	1.4	0.5	0.2								15.5	3.0	0.0	431
N	1.2	0.5										8.1	1.7	0.0	237
Calm												0.0	1.4	0.0	197
All															
Directions	29.3	37.9	20.3	8.3	2.6	0.2						17.1	100.0	0.0	14251

Collective Summary for Month = 6
Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
Frequency expressed as: Percent

Wind Directions	Wind Speed Classes (kmh)										Mean Speed	Percent	Percent	Number	
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100		101-500	by Direction	Above Limit	of Obs
NNE	0.8	0.2										7.0	1.0	0.0	135

NE	0.8	0.1										6.3	1.0	0.0	131
ENE	0.8	0.1										6.9	0.9	0.0	128
E	2.9	4.2	1.9	0.3	0.1							15.6	9.4	0.0	1277
ESE	3.0	9.9	6.4	1.4	0.1							19.0	20.8	0.0	2816
SE	3.1	6.0	2.3	0.6	0.1							16.0	12.0	0.0	1630
SSE	2.5	1.7	0.3	0.1								11.2	4.7	0.0	632
S	2.5	1.2	0.3									9.9	3.9	0.0	534
SSW	0.8	0.9	0.4									13.3	2.2	0.0	292
SW	0.9	0.8	0.2									11.9	2.0	0.0	266
WSW	1.5	0.8	0.2									10.2	2.6	0.0	349
W	4.0	3.4	1.1	0.4	0.2							13.8	9.1	0.0	1231
WNW	1.8	3.0	3.4	3.3	1.3	0.1						25.4	12.9	0.0	1753
NW	1.4	3.3	3.8	2.4	0.4	0.1						23.6	11.5	0.0	1559
NNW	1.1	1.1	0.5	0.1								13.8	2.8	0.0	385
N	1.3	0.4										8.2	1.7	0.0	236
Calm												0.0	1.5	0.0	207
All															
Directions	29.4	37.2	20.8	8.6	2.2	0.3						17.0	100.0	0.0	13561

Collective Summary for Month = 7
Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
Frequency expressed as: Percent

Wind Directions	Wind Speed Classes (kmh)										Mean Speed	Percent	Percent	Number	
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100		101-500	by Direction	Above Limit	of Obs
NNE	0.8	0.1										6.0	0.9	0.0	123
NE	0.8	0.1										5.9	0.9	0.0	122
ENE	0.6	0.1										7.1	0.8	0.0	105
E	2.5	3.6	1.7	0.2								15.4	8.0	0.0	1123
ESE	3.5	8.9	5.9	1.0	0.1							18.2	19.4	0.0	2714
SE	3.4	4.5	1.5	0.3	0.1							14.6	9.8	0.0	1368
SSE	2.5	1.1	0.1									9.3	3.8	0.0	530
S	2.0	0.5										7.3	2.6	0.0	358
SSW	0.7	0.4										9.1	1.1	0.0	158
SW	0.6	0.2										8.7	0.8	0.0	114
WSW	1.1	0.5										8.1	1.6	0.0	228
W	3.6	3.7	1.5	1.2	0.4							17.0	10.4	0.0	1456
WNW	2.1	3.6	4.7	5.2	2.1	0.1						26.6	17.9	0.0	2500
NW	1.5	3.7	5.7	3.5	0.7							24.5	15.1	0.0	2115
NNW	1.1	1.5	0.8	0.3								16.5	3.7	0.0	518
N	1.3	0.4	0.1									8.0	1.8	0.0	247
Calm												0.0	1.4	0.0	196
All Directions	28.1	32.9	22.2	11.8	3.4	0.1						18.2	100.0	0.0	13975

Collective Summary for Month = 8
Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above
Frequency expressed as: Percent

Wind Directions	Wind Speed Classes (kmh)										Mean Speed	Percent by Direction	Percent Above Limit	Number of Obs	
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500				
NNE	0.5	0.1										5.9	0.6	0.0	83
NE	0.6	0.1										6.5	0.7	0.0	93
ENE	0.7	0.2										7.0	0.9	0.0	120
E	2.2	3.7	1.7	0.2								15.8	8.0	0.0	1111
ESE	3.2	7.8	5.2	1.1								18.2	17.3	0.0	2412
SE	3.4	3.8	1.7	0.5	0.1							15.0	9.4	0.0	1315
SSE	2.7	1.1	0.1	0.1								9.3	3.9	0.0	548
S	2.1	0.5	0.1									7.5	2.7	0.0	372
SSW	0.7	0.3										7.7	1.0	0.0	146
SW	0.7	0.2	0.1									7.7	0.9	0.0	131
WSW	1.6	0.5										7.8	2.1	0.0	286
W	5.1	3.8	1.3	0.8	0.2							14.1	11.1	0.0	1551
WNW	2.7	3.9	5.1	4.2	1.1	0.2						24.2	17.2	0.0	2398
NW	2.0	4.6	6.4	3.1	0.3							23.0	16.4	0.0	2283
NNW	1.4	1.8	0.9	0.2								15.7	4.4	0.0	607
N	1.3	0.3										7.8	1.7	0.0	240
Calm												0.0	1.7	0.0	234
All Directions	31.0	32.6	22.6	10.2	1.8	0.2						17.2	100.0	0.0	13930

Collective Summary for Month = 9

Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above

Frequency expressed as: Percent

Wind Directions	Wind Speed Classes (kmh)										Mean Speed	Percent by Direction	Percent Above Limit	Number of Obs	
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100					101-500
NNE	0.4	0.1										6.6	0.5	0.0	73
NE	0.5	0.1										6.1	0.6	0.0	77
ENE	0.5	0.2										8.6	0.7	0.0	93
E	1.7	2.6	1.1	0.2	0.2							16.7	5.8	0.0	784
ESE	2.4	6.5	4.2	1.1	0.3							19.3	14.6	0.0	1979
SE	2.6	3.7	2.1	0.9	0.2							17.6	9.4	0.0	1276
SSE	2.3	1.5	0.4	0.2								12.6	4.5	0.0	612
S	2.2	0.5	0.1									8.2	2.9	0.0	391
SSW	0.7	0.2	0.1									8.5	0.9	0.0	128
SW	0.7	0.2										6.6	0.9	0.0	115
WSW	1.7	0.6										8.1	2.3	0.0	316
W	6.2	4.5	1.8	0.9	0.2							14.2	13.6	0.0	1843
WNW	3.0	5.3	4.9	4.6	1.3	0.1						23.7	19.4	0.0	2616
NW	1.8	4.7	6.6	3.2	0.5	0.1						23.4	16.8	0.0	2277
NNW	1.1	1.4	1.1	0.3								17.5	4.0	0.0	540
N	1.2	0.3										7.3	1.5	0.0	199
Calm												0.0	1.5	0.0	199
All Directions	29.0	32.3	22.6	11.5	2.8	0.3						18.0	100.0	0.0	13518

Collective Summary for Month = 10

Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above

Frequency expressed as: Percent

Wind Directions	Wind Speed Classes (kmh)										Mean Speed	Percent by Direction	Percent Above Limit	Number of Obs
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500			
NNE	0.4	0.1										7.0	0.5	69
NE	0.4	0.1										9.8	0.6	80
ENE	0.5	0.2		0.1								10.7	0.7	105
E	1.3	1.9	1.2	1.1	0.7	0.2						24.3	6.5	912
ESE	1.9	6.1	4.9	3.1	1.3	0.2	0.1					24.0	17.6	2479
SE	2.3	6.3	4.1	2.0	0.6	0.1						21.0	15.5	2177
SSE	2.3	2.7	1.3	0.6	0.2							16.9	7.1	998
S	2.4	1.4	0.5	0.2								12.1	4.5	626
SSW	1.0	0.6	0.2									11.2	1.7	245
SW	0.7	0.4	0.1									10.5	1.3	180
WSW	1.8	0.8	0.1									9.2	2.8	387
W	4.7	3.4	1.6	0.9	0.2							14.8	10.8	1513
WNW	2.0	3.8	4.4	3.3	1.0							23.9	14.5	2037
NW	1.4	3.7	3.9	1.5	0.4	0.1						22.4	11.0	1541
NNW	0.9	1.1	0.4									13.9	2.5	352
N	0.8	0.2	0.1									8.3	1.1	154
Calm												0.0	1.4	193
All Directions	24.9	32.7	22.8	12.9	4.4	0.6	0.2	0.1				19.5	100.0	14048

Collective Summary for Month = 11

Selection Used for Analysis Period is Year between 1860 and 2013

Seperate Wind Speed Limit: 64 Select Above

Frequency expressed as: Percent

Wind Directions	Wind Speed Classes (kmh)										Mean Speed	Percent by Direction	Percent Above Limit	Number of Obs
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500			
NNE	0.3	0.1										7.3	0.4	55
NE	0.3	0.1										9.5	0.4	56
ENE	0.4	0.3	0.1	0.1								14.5	0.9	122
E	1.0	2.2	1.7	2.0	1.6	0.4						28.5	9.0	1218
ESE	1.3	5.1	5.7	4.2	2.2	0.8	0.1					27.7	19.5	2641
SE	1.6	5.5	4.8	3.2	1.5	0.5	0.1					25.5	17.3	2339
SSE	1.9	3.2	2.3	1.1	0.5	0.1						20.7	9.1	1231
S	2.8	2.7	0.7	0.3								13.3	6.5	885
SSW	1.0	1.0	0.2									11.8	2.2	300
SW	1.0	0.5	0.2									10.8	1.7	232
WSW	2.2	1.4	0.1									9.9	3.8	516
W	4.0	3.2	1.3	0.7	0.2							14.8	9.4	1276
WNW	1.3	2.6	2.7	1.9	0.8	0.1						24.3	9.4	1279
NW	0.8	2.9	1.8	0.7	0.3	0.1						21.9	6.7	911
NNW	0.7	0.8	0.1									13.0	1.7	228
N	0.7	0.2	0.1									9.2	1.0	133
Calm												0.0	1.0	135

Directions	21.3	31.7	21.9	14.4	7.3	2.1	0.3	21.6	100.0	0.1	13557
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Selection Used for Analysis Period is Year between 1860 and 2013

Frequency expressed as: Percent

Wind Directions	Wind Speed Classes (kmh)											Mean Speed	Percent by Direction	Percent Above Limit	Number of Obs
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-500				
NNE	0.4	0.1										9.6	0.5	0.0	67
NE	0.4	0.1	0.1									13.7	0.6	0.0	88
ENE	0.3	0.2	0.3	0.3	0.1							21.2	1.2	0.0	158
E	1.0	1.7	2.1	2.8	2.0	0.7	0.2					31.4	10.5	0.1	1443
ESE	1.4	4.7	4.6	4.3	2.6	0.9	0.1					28.6	18.7	0.0	2566
SE	1.5	5.9	4.6	3.5	1.9	0.5	0.1					25.7	18.0	0.1	2465
SSE	1.7	3.3	2.1	1.1	0.2	0.1						19.8	8.6	0.0	1173
S	2.9	2.7	0.8	0.2								13.0	6.7	0.0	914
SSW	1.0	1.3	0.3									12.8	2.6	0.0	362
SW	1.3	0.6	0.1									10.3	2.1	0.0	292
WSW	2.6	1.3	0.1									9.6	4.1	0.0	561
W	3.9	2.6	1.0	0.4	0.2							13.9	8.1	0.0	1115
WNW	1.3	2.4	2.3	1.4	0.7	0.2	0.1					24.3	8.4	0.1	1153
NW	0.8	2.0	1.5	0.8	0.4	0.2	0.2					24.5	5.8	0.1	789
NNW	0.6	0.7	0.4	0.1	0.1							16.6	1.8	0.0	250
N	0.7	0.4										9.8	1.1	0.0	148
Calm												0.0	1.1	0.0	144

Directions	21.8	30.1	20.3	15.1	8.2	2.6	0.7	0.1	22.2	100.0	0.4	13688
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Date-Time of most recent record processed = 2013/5/9/22
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Appendix 3
Average Site to Lot Distance Calculations

DRAFT

LOT #	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5	SITE 6	SITE 7	SITE 8	SITE 9	SITE 10	SITE 11	SITE 12	SITE 13	SITE 14	SITE 15
1	1270	5	190	660	4005	3535	3325	3270	3600	2745	2395	1315	980	1225	1385
2	1260	25	150	650	3995	3525	3315	3260	3590	2735	2385	1305	970	1215	1375
3	1230	40	100	620	3965	3495	3285	3230	3560	2705	2355	1275	940	1185	1345
4	1185	75	70	575	3920	3450	3240	3185	3515	2660	2310	1230	895	1140	1300
5	1150	115	5	535	3880	3410	3200	3145	3475	2620	2270	1195	860	1105	1265
6	1075	190	5	465	3810	3340	3130	3075	3405	2550	2200	1120	785	1030	1190
7	1040	225	105	435	3780	3310	3100	3045	3375	2520	2170	1085	750	995	1155
8	1010	260	140	400	3745	3275	3065	3010	3340	2485	2135	1055	720	965	1125
9	975	295	175	365	3710	3240	3030	2975	3305	2450	2100	1020	685	930	1090
10	940	325	205	340	3685	3215	3005	2950	3280	2425	2075	1010	650	895	1055
11	900	365	245	295	3640	3170	2960	2905	3235	2380	2030	950	610	855	1015
12	870	400	280	260	3605	3135	2925	2870	3200	2345	1995	915	580	825	985
13	815	430	310	200	3545	3075	2865	2810	3140	2285	1935	860	525	770	930
14	750	490	370	5	3470	3000	2790	2735	3065	2210	1860	815	460	705	865
15	710	580	460	5	3440	2970	2760	2705	3035	2180	1830	780	420	665	825
16	770	695	575	215	3500	3030	2820	2765	3095	2240	1890	840	480	725	885
17	820	740	620	260	3545	3075	2865	2810	3140	2285	1935	885	530	775	935
18	835	755	635	275	55	725	785	1060	1390	1565	1865	900	545	790	950
19	3620	3950	3830	3470	15	750	810	1085	1415	1590	1890	2640	3330	3575	3735
20	3660	3990	3870	3510	0	795	850	1125	1455	1630	1930	2680	3370	3615	3775
21	2960	3290	3170	2810	5	725	785	1060	1390	1565	1865	1980	2670	2915	3075
22	3560	3890	3770	3410	85	695	755	1030	1360	1535	1835	2580	3270	3515	3675
23	3530	3860	3740	3380	115	665	725	1000	1330	1505	1805	2550	3240	3485	3645
24	3500	3830	3710	3350	145	630	690	965	1295	1470	1770	2520	3210	3455	3615
25	3470	3800	3680	3320	175	600	660	935	1265	1440	1740	2490	3180	3425	3585
26	3440	3770	3650	3290	205	570	630	905	1235	1410	1710	2460	3150	3395	3555
27	3405	3735	3615	3255	235	540	600	875	1205	1380	1680	2425	3115	3360	3520
28	3375	3705	3585	3225	270	510	570	845	1175	1350	1650	2395	3085	3330	3490
29	3345	3675	3555	3195	300	480	540	815	1145	1320	1620	2365	3055	3300	3460
30	3315	3645	3525	3165	330	450	510	785	1115	1290	1590	2335	3025	3270	3430
31	3280	3610	3490	3130	360	415	475	750	1080	1255	1555	2300	2990	3235	3395
32	3245	3575	3455	3095	395	375	435	710	1040	1215	1515	2265	2955	3200	3360
33	3205	3535	3415	3055	430	335	395	670	1000	1175	1475	2225	2915	3160	3320

34	3045	3375	3255	2895	475	10	260	535	865	1040	1340	2065	2755	3000	3160
35	3140	3470	3350	2990	745	30	335	610	940	1115	1415	2160	2850	3095	3255
36	3105	3435	3315	2955	760	65	300	575	905	1080	1380	2125	2815	3060	3220
37	3075	3405	3285	2925	685	105	270	545	875	1050	1350	2095	2785	3030	3190
38	3045	3375	3255	2895	645	135	235	510	840	1015	1315	2065	2755	3000	3160
39	3010	3340	3220	2860	635	165	205	480	810	985	1285	2030	2720	2965	3125
40	2985	3315	3195	2835	665	195	175	450	780	955	1255	2005	2695	2940	3100
41	2950	3280	3100	2800	695	225	145	420	750	925	1225	1970	2660	2905	3065
42	2910	3240	3120	2760	725	255	10	380	710	885	1185	1930	2620	2865	3025
43	2855	3185	3065	2705	785	315	5	325	655	830	1130	1875	2565	2810	2970
44	2810	3140	3020	2660	825	355	145	280	610	785	1085	1830	2520	2765	2925
45	2770	3100	2980	2620	870	400	190	240	570	745	1045	1790	2480	2725	2885
46	2730	3060	2940	2580	905	435	225	200	530	715	1015	1750	2440	2685	2845
47	2745	3075	2955	2595	945	475	265	160	490	715	1015	1765	2455	2700	2860
48	2785	3115	2995	2635	985	515	305	125	460	760	1060	1805	2495	2740	2900
49	2820	3150	3030	2670	1025	555	345	65	460	795	1095	1840	2530	2775	2935
50	2880	3210	3090	2730	1080	610	400	10	520	850	1150	1900	2590	2835	2995
51	2890	3220	3100	2740	1090	620	410	10	530	865	1165	1910	2600	2845	3005
52	2830	3160	3040	2680	1030	560	350	55	350	805	1105	1850	2540	2785	2945
53	2925	3255	3135	2775	1125	655	445	230	310	895	1195	1945	2635	2880	3040
54	2965	3295	3175	2815	1165	695	485	275	145	935	1235	1985	2675	2920	3080
55	3015	3345	3225	2865	1215	745	535	325	70	985	1285	2035	2725	2970	3130
56	3125	3455	3335	2975	1325	855	645	430	70	1095	1395	2145	2835	3080	3240
57	3195	3525	3405	3045	1400	930	720	505	65	1165	1465	2215	2905	3150	3310
58	3210	3540	3420	3060	1410	940	730	515	40	1180	1480	2230	2920	3165	3325
59	3230	3560	3440	3080	1430	960	750	540	5	1200	1500	2250	2940	3185	3345
60	3205	3535	3415	3055	1410	940	730	515	10	1175	1475	2225	2915	3160	3320
61															
62	3085	3415	3295	2935	1290	820	610	395	335	1055	1355	2105	2795	3040	3200
63	2360	2690	2570	2210	1330	860	650	420	370	15	625	1380	2070	2315	2475
64	2220	2550	2430	2070	1400	930	720	665	375	190	500	1240	1930	2175	2335
65	2310	2640	2520	2160	1460	990	780	725	1055	70	505	1330	2020	2265	2425
66	3220	2650	2530	2170	1540	1070	860	805	1135	15	590	1340	2930	3175	3335
67	2310	2640	2520	2160	1530	1060	850	795	1125	105	580	1330	2020	2265	2425

68	2300	2630	2510	2150	1530	1060	850	795	1125	120	580	1320	2010	2255	2415
69	2115	2445	2325	1965	1475	1005	795	740	1070	125	380	1135	1825	2070	2230
70	2095	2425	2305	1945	1565	1095	885	830	1160	305	360	1115	1805	2050	2210
71	2055	2385	2265	1905	1585	1115	905	850	1180	325	325	1075	1765	2010	2170
72	2090	2420	2300	1940	1685	1215	1005	950	1280	425	365	1110	1800	2045	2205
73	1975	2305	2185	1825	1640	1170	960	905	1235	380	235	995	1685	1930	2090
74	1935	2265	2145	1785	1755	1285	1075	1020	1350	495	190	955	1645	1890	2050
75	1930	2260	2140	1780	1760	1290	1080	1025	1355	500	160	950	1640	1885	2045
76	1970	2300	2180	1820	1840	1370	1160	1105	1435	580	65	990	1680	1925	2085
77	2030	2360	2240	1880	1910	1440	1230	1175	1505	650	30	1050	1740	1985	2145
78	2030	2360	2240	1880	1910	1440	1230	1175	1505	650	10	1050	1740	1985	2145
79	1990	2320	2200	1840	1870	1400	1190	1135	1465	610	50	1010	1700	1945	2105
80	1950	2280	2160	1800	1835	1365	1155	1100	1430	575	80	970	1660	1905	2065
81	1890	2220	2100	1740	1800	1330	1120	1065	1395	540	115	910	1600	1845	2005
82	1855	2185	2065	1705	1795	1325	1115	1060	1390	535	170	875	1565	1810	1970
83	1810	2140	2020	1660	1830	1360	1150	1095	1425	570	220	830	1520	1765	1925
84	1775	2105	1985	1625	1870	1400	1190	1135	1465	610	260	795	1485	1730	1890
85	1735	2065	1945	1585	1905	1435	1225	1170	1500	645	295	755	1445	1690	1850
86	1695	2025	1905	1545	1945	1475	1265	1210	1540	685	335	715	1405	1650	1810
87	1655	1985	1865	1505	1050	1520	1310	1255	1585	730	380	675	1365	1610	1770
88	1615	1945	1825	1465	2030	1560	1350	1295	1625	770	420	635	1325	1570	1730
89	1575	1905	1785	1425	2065	1595	1385	1330	1660	805	455	595	1285	1530	1690
90	1545	1875	1755	1395	2105	1635	1425	1370	1700	845	495	565	1255	1500	1660
91	1510	1840	1720	1360	2135	1665	1455	1400	1730	875	525	530	1220	1465	1625
92	1465	1795	1675	1315	2170	1700	1490	1435	1765	910	560	485	1175	1420	1580
93	1420	1750	1630	1270	2220	1750	1540	1485	1815	960	610	440	1130	1375	1535
94	1385	1715	1595	1235	2260	1790	1580	1525	1855	1000	650	405	1095	1340	1500
95	1345	1675	1555	1195	2295	1825	1615	1560	1890	1035	685	365	1055	1300	1460
96	1310	1640	1520	1160	2335	1865	1655	1600	1930	1075	725	330	1020	1265	1425
97	1270	1600	1480	1120	2370	1900	1690	1635	1965	1110	760	290	980	1225	1385
98	1220	1550	1430	1070	2410	1940	1730	1675	2005	1150	800	240	930	1175	1335
99	1185	1515	1395	1035	2460	1990	1780	1725	2055	1200	850	205	895	1140	1300
100	1140	1470	1350	990	2495	2025	1815	1760	2090	1235	885	160	850	1095	1255
101	1110	1440	1320	960	2540	2070	1860	1805	2135	1280	930	130	820	1065	1225

102	1065	1395	1275	915	2570	2100	1890	1835	2165	1310	960	85	775	1020	1180
103	1025	1355	1235	875	2620	2150	1940	1885	2215	1360	1010	45	735	980	1140
104	1010	1340	1220	860	2655	2185	1975	1920	2250	1395	1045	10	720	965	1125
105	960	1290	1170	810	2665	2195	1985	1930	2260	1405	1055	10	670	915	1075
106	925	1255	1135	775	2750	2280	2070	2015	2345	1490	1140	90	635	880	1040
107	895	1225	1105	745	2785	2315	2105	2050	2380	1525	1175	120	605	850	1010
108	775	1105	985	625	2810	2340	2130	2075	2405	1550	1200	150	485	730	890
109	760	1090	970	610	2930	2460	2250	2195	2525	1670	1320	270	470	715	875
110	705	1035	915	555	2945	2475	2265	2210	2540	1685	1335	290	415	660	820
111	670	1000	880	520	2995	2525	2315	2260	2590	1735	1385	340	380	625	785
112	615	945	825	465	3035	2565	2355	2300	2630	1775	1425	375	325	570	730
113	555	885	765	405	3090	2600	2390	2335	2665	1810	1460	430	265	510	670
114	455	840	720	360	3150	2680	2470	2415	2745	1890	1540	495	165	410	570
115	400	845	725	365	3245	2775	2565	2510	2840	1985	1635	585	110	355	515
116	340	900	780	420	3300	2830	2620	2565	2895	2040	1690	640	20	295	455
117	285	980	860	500	3380	2910	2700	2645	2975	2120	1770	720	10	240	400
118	245	1020	900	540	3420	2950	2740	2685	3015	2160	1810	760	105	200	360
119	205	1065	945	585	3465	2995	2785	2730	3060	2205	1855	805	145	160	320
120	170	1100	980	620	3500	3030	2820	2765	3095	2240	1890	840	185	125	285
121	130	1140	1029	660	3540	3070	2860	2805	3135	2280	1930	875	220	10	200
122	170	1245	1125	765	3645	3175	2965	2910	3240	2385	2035	975	320	10	190
123	170	1235	1115	755	3635	3165	2955	2900	3230	2375	2025	970	315	30	145
124	210	1275	1155	795	3675	3205	2995	2940	3270	2415	2065	1010	355	70	110
125	250	1315	1195	835	3715	3245	3035	2980	3310	2455	2105	1055	400	115	20
126	410	1470	1350	990	3870	3400	3190	3135	3465	2610	2260	1225	560	275	75
127	410	1470	1350	990	3870	3400	3190	3135	3465	2610	2260	1225	560	275	75
128	355	1420	1300	940	3820	3350	3140	3085	3415	2560	2210	1150	495	210	20
129	265	1330	1210	850	3730	3260	3050	2995	3325	2470	2120	1070	415	130	25
130	250	1315	1195	835	3715	3245	3035	2980	3310	2455	2105	1030	400	115	90
131	10	1240	1120	760	3635	3165	2955	2900	3230	2375	2025	980	325	90	100
132	65	1200	1080	720	3595	3125	2915	2860	3190	2335	1985	935	275	40	125
133	70	1200	1080	720	3595	3125	2915	2860	3190	2335	1985	935	280	45	240
134	35	1240	1120	760	3635	3165	2955	2900	3230	2375	2025	975	320	85	285
135	10	1275	1155	795	3670	3200	2990	2935	3265	2410	2060	1010	360	125	325

136	790	460	340	180	3520	3050	2840	2785	3115	2260	1910	860	500	745	905
137	850	430	310	235	3575	3105	2895	2840	3170	2315	1965	915	560	805	965
138	875	385	265	265	3605	3135	2925	2870	3200	2345	1995	945	585	830	990
139	920	330	210	310	3650	3180	2970	2915	3245	2390	2040	990	630	875	1035
140	975	285	165	365	3705	3235	3025	2970	3300	2445	2095	1045	685	930	1090
141	1020	240	120	410	3750	3280	3070	3015	3345	2490	2140	1090	730	975	1135
142	1065	195	75	455	3795	3325	3115	3060	3390	2535	2185	1135	775	1020	1180
143	1110	150	50	500	3840	3370	3160	3105	3435	2580	2230	1180	820	1065	1225
144	1155	100	80	545	3885	3415	3205	3150	3480	2625	2275	1125	865	1110	1270
145	1205	5	125	595	3935	3465	3255	3200	3530	2675	2325	1175	915	1160	1320
146	735	664	544	180	95	655	715	990	1320	1495	1795	800	445	690	850
147	3460	3790	3670	3310	155	595	655	930	1260	1435	1735	2480	3170	3415	3575
148	3400	3730	3610	3250	215	530	590	865	1195	1370	1670	2420	3110	3355	3515
149	3340	3670	3550	3190	280	470	530	805	1135	1310	1610	2360	3050	3295	3455
150	3275	3605	3485	3125	340	405	465	740	1070	1245	1545	2295	2985	3230	3390
151	3210	3540	3420	3060	405	345	405	680	1010	1185	1485	2230	2920	3165	3325
152	3150	3480	3360	3000	465	280	340	615	945	1120	1420	2170	2860	3105	3265
153	3075	3405	3285	2925	530	210	265	540	870	1045	1345	2095	2785	3030	3190
154	2990	3320	3200	2840	600	180	170	445	775	950	1250	2010	2700	2945	3105
155	2930	3260	3140	2780	690	220	115	390	720	895	1195	1950	2640	2885	3045
156	2520	2850	2730	2370	950	480	270	130	310	490	790	1540	2230	2475	2635
157	2290	2620	2500	2140	1160	690	480	270	265	260	560	1310	2000	2245	2405
158															
159	2625	2955	2835	2475	995	525	315	260	590	590	890	1645	2335	2580	2740
160	2555	2885	2765	2405	1055	585	375	320	650	525	825	1575	2265	2510	2670
161	2490	2820	2700	2340	1125	655	445	390	720	460	760	1510	2200	2445	2605
162	2425	2755	2635	2275	1190	720	510	455	785	390	690	1445	2135	2380	2540
163	2360	2690	2570	2210	1260	790	580	525	855	320	620	1380	2070	2315	2475
164	2300	2630	2510	2150	1325	855	645	590	920	270	570	1320	2010	2255	2415
165	2245	2575	2455	2095	1380	910	700	645	975	210	510	1265	1955	2200	2360
166	2175	2505	2385	2025	1445	975	765	710	1040	205	445	1195	1885	2130	2290
167	1985	2315	2195	1835	1505	1035	825	770	1100	245	255	1005	1695	1940	2100
168	1775	2105	1985	1625	1695	1225	1015	960	1290	435	180	795	1485	1730	1890
169	1715	2045	1925	1565	1905	1435	1225	1170	1500	645	295	735	1425	1670	1830

170	1650	1980	1860	1500	1970	1500	1290	1235	1565	710	360	670	1360	1605	1765
171	1565	1895	1775	1415	2035	1565	1355	1300	1630	775	425	585	1275	1520	1680
172	1500	1830	1710	1350	2120	1650	1440	1385	1715	860	510	520	1210	1455	1615
173	1435	1765	1645	1285	2185	1715	1505	1450	1780	925	575	455	1145	1390	1550
174	1375	1705	1585	1225	2245	1775	1565	1510	1840	985	635	395	1085	1330	1490
175	1320	1650	1530	1170	2305	1835	1625	1570	1900	1045	695	340	1030	1275	1435
176	1265	1595	1475	1115	2365	1895	1685	1630	1960	1105	755	285	975	1220	1380
177	1190	1520	1400	1040	2425	1955	1745	1690	2020	1165	815	210	900	1145	1305
178	1130	1460	1340	980	2490	2020	1810	1755	2085	1230	880	150	840	1085	1245
179	870	1200	1080	720	2550	2080	1870	1815	2145	1290	940	100	580	825	985
180	945	1275	1155	795	2595	2125	1915	1860	2190	1335	985	60	655	900	1060
181	770	1100	980	620	2875	2405	2195	2140	2470	1615	1265	215	480	725	885
182	710	1040	920	560	2935	2465	2255	2265	2595	1740	1390	280	420	665	825
183	640	970	850	490	3000	2530	2320	2335	2665	1810	1460	335	350	595	755
184	580	910	790	430	3070	2600	2390	2390	2720	1865	1515	405	290	535	695
185	520	850	730	370	3125	2655	2445	2390	2720	1865	1515	460	230	475	635
186	480	785	665	305	3185	2715	2505	2450	2780	1925	1575	525	190	435	595
187	520	725	605	245	3250	2780	2570	2515	2845	1990	1640	590	230	475	635
188	585	660	540	180	3310	2840	2630	2575	2905	2050	1700	650	295	540	700
189	645	620	500	135	3375	2905	2695	2640	2970	2115	1765	715	355	600	760
190	725	515	395	100	3450	2970	2760	2705	3035	2180	1830	790	435	680	840
191	660	590	470	110	3390	2920	2710	2655	2985	2130	1780	730	370	615	775
192	600	640	520	160	3330	2860	2650	2595	2925	2070	1720	665	310	555	715
193	535	705	585	225	3265	2795	2585	2530	2860	2005	1655	605	245	490	650
194	400	770	650	290	3225	2755	2545	2490	2820	1965	1615	565	110	355	515
195	250	905	785	425	3305	2835	2625	2570	2900	2045	1695	645	50	205	365
196	185	1060	940	580	3455	2985	2775	2720	3050	2195	1845	795	140	140	300
197	110	1130	1010	650	3525	3055	2845	2790	3120	2265	1915	865	210	65	225
198	3220	3550	3430	3070	810	10	400	345	675	850	1150	2240	2930	3175	3335
Total	332485	381044	358623	302290	419250	345570	314325	312920	370870	273470	253220	228250	284180	276505	299625
/196	1696.4	1944.1	1829.7	1542.3	2139.0	1763.1	1603.7	1596.5	1892.2	1395.3	1291.9	1164.5	1449.9	1410.7	1528.7



THETIS ISLAND SHORELINE PROJECT

Public Consultation Summary and Recommendations



Submitted to:
Aleksandra Brzozowski
Island Planner
Northern Office, Islands Trust
700 North Road
Gabriola, BC V0R1X3

Report Number: 121442001-001-R-Rev0

Distribution:
1 Copy - Islands Trust
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REPORT





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THETIS ISLAND SHORELINE PROTECTION PROJECT

1.0 OPEN HOUSE SUMMARY

Date: Wednesday, March 20.

Location: Thetis Island Forbes Hall.

Islands Trust Representatives: Aleksandra Brzozowski, Island Planner.

Local Trust Committee Trustees: Sue French, Peter Luckham, Ken Hancock.

Golder Associates staff: David Reid, James van Hemert and Sarah Cloherty.

The agenda for the open house included:

- a) Introductions;
- b) Information Presentation by the Consultants;
- c) Short Question and Answer Clarification Session;
- d) Small Group Workshop; and
- e) Reporting by Small Groups in Plenary.

1.1 Group Feedback Forms:

The approximately 25 individuals attending the Thetis Shoreline Protection Project Open House were divided into four groups of five to six people. Each group was provided with a feedback form¹ on which groups could record their thoughts on specific coastal issues and reflect on proposed draft guidelines for a draft Marine Shore Lands Development Permit Area. Three of the groups recorded their thoughts on the feedback forms, summarized below.

1.1.1 Coastal Issues

Participants were asked to rank the following coastal issues from 1-4 (1=not at all important, 2=not very important, 3=important 4=very important).

- Preserve ecological functions;
- Minimize disruption of natural features;
- Balance development with ecological conservation;

¹ Survey Questionnaire is available as Appendix A to this report.



- Maintain public use and access;
- Adapt to climate change;
- Protect development from hazards; and
- Develop compatible marinas.

The ranking was almost completely unanimous as the groups ranked each of the issues as “3—important.” One group ranked *protect development from hazards* as “4--very important.” One group commented that “education is important.”

1.1.2 Sea Level Rise

Participants were asked to state whether they *supported, didn't support or supported with refinements* the idea to consider sea level rise in development proposals.

Two groups selected *support with refinements*, and one included the following comment:

- Refinement meaning specific to each site, including monitoring the actual rise in levels to adjust according to changes.

The third group selected *support* and provided the following comments:

- Unavoidable reality, but how to enforce?
- How onerous if not enforceable?

1.1.3 Shoreline Protection

The participants were asked:

- a) If they supported the extension of shoreline protection to include the entire shoreline of Thetis Island (support, don't support or support with refinements); and
- b) How far inland should shoreline protection extend landward of the natural boundary (15m, 30m, other)?

One group chose *do not support* regarding the extension of shoreline protection and commented:

- Not ready to decide, more education required.

This group selected “*other*” in response to how far inland shoreline protection should extend, and commented:

- Depends on type of shoreline. May be instances where we would recommend 15 or 30m.



Another group selected *support with refinements* regarding the extension of shoreline protection and commented:

- I disagree with extension of shoreline protection.

This group selected “*other*” in response to how far inland shoreline protection should extend and included the following comments:

- Education purposes agree to 30 meter boundary.
- 7.5m meter boundary (2 people).
- Burden greater on those who do not have the money to develop within 15m regulation setback.
- Allows 7.5m extra to develop in.
- Agree to 15m boundary (2 people).

The third group chose *support* for the extension of shoreline protection and commented:

- “Why make exceptions along the shoreline?”
- Put it everywhere!

This group selected *30m landward of the natural boundary* in response to how far inland shoreline protection should extend.

1.1.4 Exemptions

The open house attendees were provided with the draft list of exempt activities and asked whether they *support*, *support with refinements* or *don't support the exemptions*.

One group chose to not answer the question.

One group selected *support with refinements* and commented:

- Exempt sewage systems which are meeting current standards and practices.

The third group selected *support* and commented:

- They “understand why, but don't agree” with proposed exemptions for g) farm operations as defined in the Farm Practices Protection... and h) Forest management activities.



1.1.5 Activities

Participants were provided with the following list of activities that could be addressed in the shoreline protection area and asked to select the ones they believed should require development permits.

- Subdivision;
- Building- new and alteration;
- Structures;
- Land Alteration; and/or
- Other (please specify).

One group commented:

- Need more education on stewardship of shoreline before going to a development permit process.

Another group selected *subdivision* and *building- new and alteration* and also provided the following comments:

- Not structures to be included, or expand the definition of structures (1 person).
- Agree with land alteration as being required (2 agreed).
- Why Not Best Practices for each island- used as an alternative to having to do a development permit.

The third group did not select any activities, however; they did include an additional suggested activity requiring development permit “drainage onto the beach” and made the following comments about the activity *land alteration*:

- Herbicides, including landscaping, what level of alteration, to discourage terracing.

The remainder of the feedback form was not completed by any of the groups as discussion on the previous questions used all the allotted time and also because many felt that answering the questions would suggest that they were in agreement with an approach to pursue development permits.

1.1.6 Plenary discussion

After the small groups discussed and filled out the feedback form, the participants further discussed their feedback as a large group.

The following general comments were taken from that discussion:

- This process is moving too quickly from education to regulations. Expand the education component.
- Insufficient representation of the community at this workshop and up to this point.
- The presentation last week (information session about Green Shores Mapping) was very informative.



- Last week was about education. It feels like we missed a step by jumping to the regulations already.
- Would like to repeat the education component a number of times and ensure all the waterfront owners are involved (concern about timing of workshop because those unable to take time off work and seasonal property owners were not in attendance).
- Rather be educated about how to properly care for shoreline (stewardship) than have regulations imposed.
- Not in support, need more information.
- Inequity for waterfront owners because they already have higher taxes, etc.
- Hesitation to “nail down” a decision.
- Concern about the end purpose of the document.
- “We all want to do a good job”.
- Work as a community (Thetis Island) to develop their own regulations.
- Different approaches for different Islands—customize for Thetis Island.
- Concern about regulations being enforced.
- No one likes regulations but they’re in place to protect everyone.
- Promote best practices for construction professions.
- More detail needed on land alteration.
- Regulations don’t go far enough.
- Some believe we can’t get regulations in place soon enough.
- Some support for a 30m setback.
- Shoreline protection is a separate issue from sea level rise.
- Good examples of soft to hard protection measures.

1.1.7 The major themes drawn from this discussion:

- Majority of attendees believe regulations are premature at this time.
- More education is needed.
- More consultation is needed with those affected.
- Address equity issues: home owners may be unduly burdened for relatively small projects compared to developers.
- Focus on stewardship and best practices.
- Place sea level rise in the right context: don’t overplay this as the major rationale to address shoreline protection.
- Recognize personal responsibility in stewardship.



2.0 DISCUSSION

As your consultants, we agree that more time is needed for education and public consultation and that ultimately any program must have wide-spread community support to ensure its success. Tools to promote and ensure stewardship of the shorelines should be equitable and have a reasonable nexus between the relative impact and the cost of compliance.

Although it is tempting to go no further than education and voluntary guidelines, we strongly advise that regulatory “teeth” will ultimately be needed to avoid the cumulative impact of “mistakes,” misjudgements, and poor site planning that inevitably will occur in the absence of the design, care, and review process that is triggered by regulatory oversight.

3.0 RECOMMENDED OPTIONS FOR MOVING FORWARD

Education & Consultation

- 1) More **education on “green shores” approaches** to shoreline stewardship is a top priority regardless of direction on guidelines and regulation.
- 2) Following a more widespread information and education program, undertake a **survey**, similar to the draft provided in Appendix A., in order to further engage the community in exploring the range of options available and to give elected officials and planning staff useful feedback.
- 3) When education has provided a solid foundation, the Local Trust Committee could consider a range of more pro-active options including voluntary guidelines, advisory services, Green Shores program, development permit area guidelines, and zoning standards.

Voluntary guidelines and advisory services

- 1) **Prepare guidelines** within which land alterations and construction may occur without permits.
- 2) Prepare a **citizen’s guide** to living in harmony with the shoreline that identifies guidelines within which land alterations and limited construction may occur without permits.
- 3) Provide **staff advisory services** to residents seeking to modify their shoreline property or build within established guidelines.

Green Shores for Homes Program

- 1) Develop an **incentive based “Green Shores” permitting approach** for new homes, home additions and land alterations, which could include, for example:
 - a. Coastal Development Rating System – inspired by the LEED™ Green Building rating system.
 - b. Pilot Projects - test the rating system and provide examples for users.
 - c. Design Examples – greener alternatives for shoreline protection.
 - d. Outreach Program – to user communities (developers, professionals, local government, NGO’s) through workshops, presentations and issue sheets.



Development Permit Area Guidelines

Enact development permit area guidelines for subdivision, new construction that requires building permits, and for proposed shoreline armouring (seawalls, rock riprap or similar shoreline hardening) only. Draft language has been developed and can be amended to suit the particular needs and aspirations of Thetis Island residents.

Establishing minimum horizontal 15 m wide area within which the Development Permit Area is applicable (not a setback) upland from the Natural Boundary of the sea is recommended generally. Depending on the shoreline type and topography, this extent can be adjusted upward or downward and in the case of bluffs or steep terrain, a vertical dimension may be more appropriate.

Zoning Bylaw Standards

Zoning standards such as setbacks and building footprints can be amended to provide greater protection to sensitive areas such as shorelines. In some respects this is a reasonably inexpensive and straightforward way to manage development. However, zoning setbacks typically apply only to buildings and not to landscape alterations such as terracing, retaining walls, tree removal or regrading. Changes such as a greater setback for buildings and structures is most useful for new construction, but also will create new nonconformities in existing buildings. Zoning is a blunt instrument and should only be used in conjunction with the other tools available.

Closure

We trust that the information contained in this report meets your present requirements. Please contact us if you have any questions or concerns regarding the above.

GOLDER ASSOCIATES LTD.

ORIGINAL SIGNED

David Reid, B.L.A., BCSLA, FCSLA
Principal, Landscape Architect,
Environmental Planning and Design Practice Leader

JVH/DR/eb

ORIGINAL SIGNED

James van Hemert, M.A. (Planning), MCIP
Senior Planner

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Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates Ltd.
#320-256 Wallace Street
Nanaimo, British Columbia, V9R 5B3
Canada
T: +1 (250) 754 5651

Shoreline Protection Project

Preamble (to be supplied by Islands Trust staff)



Please complete your response no later than
DATE...

**Would you rather complete
this survey online?**

Please go to:
[www.islandstrust.bc.ca/ltc/th/
default.cfm](http://www.islandstrust.bc.ca/ltc/th/default.cfm)

Coastal Issues

1. The following coastal issues are taken from the shoreline protection project objectives.
Rate your support for each issue from 1 to 5. (1= highly support, 5= do not support)

Coastal Issue:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Preserve ecological functions	1	2	3	4	5
2. Minimize disruption of natural features	1	2	3	4	5
3. Balance development with ecological conservation	1	2	3	4	5
4. Maintain public use and access	1	2	3	4	5
5. Adapt to climate change (eg. protect endangered marine habitat, prevent clear cutting, etc)	1	2	3	4	5
6. Protect development from hazards	1	2	3	4	5
7. Develop compatible marinas	1	2	3	4	5
8. Sea level rise	1	2	3	4	5

Do you have any other comments about the coastal issues? Please write them below.

Exclusions

2. The following activities should be excluded from any shoreline protection measures:

- Impermanent structures (such as benches)
- Normal repair and maintenance
- Removal of hazardous trees
- Removal of invasive plants/noxious weeds
- Normal farm operations
- Private forest lands
- Fencing
- Gardening
- Small accessory structures
- Mooring buoys

Rate your support for the exclusions from 1 to 5. (1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
	1	2	3	4	5

Do you have any other comments about the exclusions? Please write them below.

Shore Alterations

3. For shore protection, the goal is to use the softest possible measure and, over time, remove harder measures.

SOFT

- Vegetation enhancement
- Upland drainage control
- Biotechnical measures
- Beach enhancement
- Anchor trees
- Gravel placement

HARD

- Rock (rip rap) revetments
- Gabions
- Concrete or rock groins
- Retaining walls or bulkheads (e.g. concrete, lock blocks, etc.)
- Seawalls

- a. Rate how important shore protection is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

- b. Rate your level of support for these approaches to addressing shore protection from 1 to 5. (1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

4. Revetments (rip rap) or bulkheads (retaining walls) should be used only when:

- There is an immediate risk to structures;
- Erosion is not due to upland conditions;
- There is no effect on shoreline habitats and sensitive ecological areas;
- Non-structural measures are not feasible (e.g. buildings further from shoreline); and
- When unavoidable damage can be mitigated.

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

**b. Rate your level of support for these approaches to addressing the issue from 1 to 5.
(1= highly support, 5= do not support)**

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

5. Protection measures should be installed within the property line or upland of the natural boundary¹.

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

**b. Rate your level of support for these approaches to addressing the issue from 1 to 5.
(1= highly support, 5= do not support)**

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

¹ The natural boundary is the visible high water mark of any lake, stream, or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil of the bed of the lake, river stream, or other body of water a character distinct from that of the banks, both in vegetation and in the nature of the soil itself (BC Land Act).

6. For estuaries, no dredging, sea walls, or rip rap should be undertaken or used.

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

b. Rate your level of support for these approaches to addressing the issue from 1 to 5.
(1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

7. Beach nourishment & fill should be undertaken in the following manner:

- Both upland (above Natural Boundary) and seaward (below the natural boundary) fill only to support natural shoreline stability and ecological function; and
- Seaward (below natural boundary) fill must meet habitat requirements.

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

b. Rate your level of support for these approaches to addressing the issue from 1 to 5.
(1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

Vegetation Management, Restoration and Enhancement

For new landscaping, landscape alteration, and land alteration involving over 10 cubic metres of cumulative soil disturbance:

8. Retain existing native vegetation as much as possible with only limited limbing for view management, and limited removal for buildings, driveways, septic fields and limited landscape use areas.

- a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

- b. Rate your level of support for these approaches to addressing the issue from 1 to 5. (1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

9. Avoid disturbance to sensitive, rare, threatened, or endangered species or plants.

- a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

- b. Rate your level of support for these approaches to addressing the issue from 1 to 5. (1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

10. If native plant removal is required, replanting requirements should be specified, including replanting with native species .

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

b. Rate your level of support for these approaches to addressing the issue from 1 to 5. (1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

Landslide and Erosion Construction practices

11. For areas of steep slopes subject to erosion on coastal banks/ bluffs shorelines, provide sufficient setbacks and do not undertake tree removal – selective limbing only for view management.

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

b. Rate your level of support for these approaches to addressing the issue from 1 to 5. (1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

12. Erosion control should be managed so as to not exceed naturally occurring levels of rainwater runoff.

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

b. Rate your level of support for these approaches to addressing the issue from 1 to 5.
(1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

13. Construction practices and related environmental restoration should be monitored by a qualified professional.

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

b. Rate your level of support for these approaches to addressing the issue from 1 to 5.
(1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

Boating Facilities (docks and ramps)

14. The following should be preferred for dock designs:

- Mooring buoys and floats preferred over docks
- Floating docks preferred over solid-core piers
- Floating docks should not rest on sea bed at any time
- Design residential docks to avoid shore defense works
- Limit residential docks to boats with 2.2 metres draft and floats of more than 35 square metres total
- Use stable materials

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

b. Rate your level of support for these approaches to addressing the issue from 1 to 5. (1= highly support, 5= do not support)

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

15. The following should be considered for dock locations:

- Design to protect public access
- Avoid sensitive ecosystems
- Permit free flow of water

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

**b. Rate your level of support for these approaches to addressing the issue from 1 to 5.
(1= highly support, 5= do not support)**

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

16. The following should be considered for boat launch ramps:

- Boat launch ramps least desirable
- Private ramps that require shoreline grading/ construction is discouraged

a. Rate how important this issue is to you from 1 to 5. (1= very important, 5= not at all important)

Rating:	1 Very Important	2 Fairly Important	3 Important	4 Slightly Important	5 Not At All Important
	1	2	3	4	5

**b. Rate your level of support for these approaches to addressing the issue from 1 to 5.
(1= highly support, 5= do not support)**

Rating:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
1. Incentives (e.g. Green Shores Rating System, staff assistance)	1	2	3	4	5
2. Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
3. Development permit area guidelines	1	2	3	4	5
4. None of the above or other approaches noted below	circle here				

Refinements or other approaches? Please write them below.

Climate Change

17. In consideration of climate change and likely Sea Level Rise, which protection area option do you support:
Rate your support for the protection area options from 1 to 5. (1= highly support, 5= do not support)

Protection Area Options:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
a. Expanding the area of protection to 15m horizontally extending inland from the Natural Boundary of the Sea.	1	2	3	4	5
b. Expanding the area of protection to 30m horizontally extending inland from the Natural Boundary of the Sea.	1	2	3	4	5
c. Expanding the area of protection to 5-6m vertically extending upland from the Natural Boundary of the Sea.	1	2	3	4	5

Do you have any other comments about the coastal issues? Please write them below.

Incentives

18. Which incentives do you support?
Rate your support for each incentive from 1 to 5. (1= highly support, 5= do not support)

Incentive:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
a. No application fee (Fees and application costs covered by general taxation rather than applicant)	1	2	3	4	5
b. If a checklist or ratings sheet achieves a certain number of points: a. Faster application; b. Reduced fees; and/or c. No development permit required	1	2	3	4	5
c. Staff assessments/ on site screening	1	2	3	4	5

Do you have any refinements or additional comments about the incentives?
Please write them below.

Overall

19. Rate your overall level of support for the shoreline protection approaches presented in this survey questionnaire. (Rate your support for each incentive from 1 to 5. (1= highly support, 5= do not support)

Approaches:	1 Highly Support	2 Strongly Support	3 Support	4 Slightly Support	5 Do Not Support
Incentives (e.g. application processing)	1	2	3	4	5
Amending existing regulations (e.g. zoning bylaw)	1	2	3	4	5
Development permit area guidelines	1	2	3	4	5

Do you have any refinements or additional comments? Please write them below.

DRAFT

Thetis Island

Shoreline Protection Project

Thank You!

Thank you for taking the time to complete this survey. Your responses, along with those of fellow community members, will help inform the shoreline protection project.

To return your paper survey:

- **Drop it off** or **mail** it to the Northern Islands trust office:

Attn: Courtney Simpson
Regional Planning Manager
700 North Road, Gabriola Island BC V0R 1X3

- **Fax it** to the Islands Trust at: **250 247-7514**
- **Scan and e-mail** to: **csimpson@islandstrust.bc.ca**

**Do you know anyone else
who would be interested in
filling out this survey?**

Please direct them to:
[www.islandstrust.bc.ca/ltc/
th/default.cfm](http://www.islandstrust.bc.ca/ltc/th/default.cfm)

How to Stay Informed

The shoreline protection project will be completed over the next few months.
To remain involved:

- Check the website at www.islandstrust.bc.ca/ltc/th/default.cfm where we will post the open house material and survey results.
- Provide us with your **e-mail** or **phone number** if you would like a reminder about any future related events

E-mail _____

Phone Number _____

- If you have questions or comments about this process, please email:

northinfo@islandstrust.bc.ca





Islands Trust

Top Priorities

Thetis Island

No.	Description	Activity	Received/Initiated	Responsibility	Target Date	Status
1	Associated Islands OCP and LUB Creation	Develop new OCP and LUB to replace Ruxton Island Zoning Bylaw, 1982, CVRD Bylaw 110, and to include other islands with no zoning. Scope does not include Valdes Island.	Sep-07-2011	Aleksandra Brzozowski	Nov-15-2014	On Going
2	Riparian Areas Regulation Implementation	Amend OCP to comply with RAR for the one watershed identified as applicable to RAR, using the stream mapping by Mimulus Biological Consultants.	Sep-07-2011	Courtney Simpson	Nov-15-2014	On Going
3	Shoreline Protection	Community outreach, education and engagement on methods of shoreline protection, including development permit areas.	Sep-07-2011	Courtney Simpson	Sep-01-2014	On Going



Projects

Thetis Island

No.	Description	Activity	Received/Initiated	Status
1	Protocol Agreement or Memorandum of Understanding with Penelakut First Nation	Sent letter to newly elected Chief and Council to see if they are interested in continuing the work on a protocol that was started with former Cheif Lisa Shaver.	Feb-06-2009	On Going
1	Joint proactive enforcement with CVRD		Jul-28-2010	On Going
1	Revise Protocol Agreement with Lyackson First Nation	As of August, 2010 draft with Lyackson for review by their community.	Feb-06-2009	On Going
1	Development Approval Information Bylaw		May-25-2011	On Going
1	Potential LUB amendments:	- short-term vacation rentals of principle dwellings in the R-2 zone - rainwater storage requirements	Sep-07-2011	On Going
1	Sustainability Guidelines for Thetis Island	Discuss collaboration with Cowichan Valley Regional District Building Department, finalize draft, and make a plan for distribution. Update April 2013: brochures have been distributed; requires ongoing check-ins with CVRD that they have a sufficient supply of brochures.	Sep-07-2011	On Going
1	Housekeeping Amendmends to LUB	4.3(d) amend to say: In addition to s. 4.3(a), (b), and (c)...	May-24-2012	On Going
1	Housekeeping amendments to the OCP	- objectives and policies re sea level rise (was resolution to include in draft but did not make it in to adopted OCP)	Oct-03-2012	On Going
1	Island-wide watershed protection	TBD	Nov-21-2012	On Going
1	OCP/LUB amendments to potentially permit ocean loop geothermal exchange systems.		Apr-17-2013	On Going



Applications w/ Status - Thetis Island Status: Open

Applications

Development Variance Permit

File Number	Applicant Name	Date Received	Purpose
TH-DVP-2010.1	Trincomali Holdings Ltd Planner: Courtney Simpson	Aug-17-2010	Seawall Construction

Planning Status

Status Date: Nov-21-2012

LTC moved not to issue a Development Variance Permit for application TH-DVP-2010.1. Trustee Luckham noted that lack of information and science regarding the site has made this a difficult decision for the LTC and hoped that the applicant returns with more information.

Status Date: Aug-01-2012

LTC direction to defer decision until response from Lyackson and Penelakut First Nations

Status Date: Jun-19-2012

Staff report prepared

Subdivision

File Number	Applicant Name	Date Received	Purpose
TH-SUB-1998.1	TRAX DEVELOPMENT LTD C/O WRIGHT FOCUS ENGINEERING LTD Planner: Courtney Simpson	Sep-25-1998	Phased Strata Subdivision "Meadow Valley Propreties" phased strata to create 21 strata lots from 4 parent parcels

Planning Status

Status Date: Jul-08-2011

PLA extended to June 8 2012

Status Date: Jun-23-2011

Indicated RAR requirement in response to request for PLA extension

Status Date: Jun-17-2010

12-month extension to PLA

From: Nicole Ranger

Sent: May-06-13 9:31 AM

To: Aleksandra Brzozowski; Ken Hancock; Peter Luckham; Sue French; Becky McErlean

Cc: Nancy Roggers

Subject: Thetis Final Expenses to March 31/13

Islands Trust LTC EXP SUMMARY REPORT F2012 Invoices posted to March 31, 2013 (Final for Fiscal Year End)				
670 Thetis	Invoices posted to March 31, 2013	Budget	Spent	Balance
65000 670	LTC "Trustee Expenses"	1,100.00	566.28	533.72
65200 670	LTC Local Exp LTC Meeting Expenses	1,200.00	1,377.40	(177.40)
65210 670	LTC Local Exp APC Meeting Expenses	600.00	217.69	382.31
65220 670	LTC Local Exp Communications	500.00	403.95	96.05
65230 670	LTC Local Exp Special Projects	500.00	508.75	(8.75)
65240 670	LTC Local Exp Miscellaneous	200.00	-	200.00
TOTAL LTC Local Expense		3,000.00	2,507.79	492.21
73001 670 2009	Thetis OCP/LUB	5,000.00	5,061.01	(61.01)
73001 670 2010	Thetis Ruxton Island Associated OCP/LUB	5,000.00	5,729.01	(729.01)
73001 670 3008	Thetis RAR	2,000.00	135.26	1,864.74
TOTAL Project Expense		12,000.00	10,925.28	1,074.72

Nicole Ranger

Finance Clerk

Islands Trust

200-1627 Fort Street

Victoria, BC V8R 1H8

Phone: (250) 405-5152

Fax: (250) 405-5155

Preserving *Island* communities, culture and environment



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Islands Trust

Preserving **island** communities, culture and environment.

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Population (2011):

Approximately 340

Size:

1,129 hectares (2,789 acres)

Location:

7 kilometres north of Chemainus on Vancouver Island.

[Land Use Planning](#)
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[Related Resources](#)
[Trust Area Mapping](#)
[Related Links](#)

Thetis Island Local Trust Committee

Latest News

In this section you will find current news items that are relevant to your Local Trust Area and your community. [Subscribe](#) to the Thetis Island Latest News updates and receive the latest information on official community plan reviews, staff reports, notifications and other documents published in the latest news section.

March 2013

- [Greening our Shores - follow up information](#)
- [Greening our Shores Workshop Program](#)
- [Greening our Shores Workshop – Integrated Shoreline & Watershed Maps](#)

February 2013

- [Associated Islands Community Plan Newsletter #2](#)
- [Please complete the Community Plan Goals Survey - DEADLINE FEBRUARY 28, 2013](#)

November 2012

- [Adopted minutes of the September 1, 2012 special meeting on Ruxton Island are available](#)

August 2012

- [A Ruxton Island Advisory Planning Commission has been appointed to advise the Local Trust Committee on a new Community Plan.](#)

July 2012

- [Community Information Meeting scheduled for Ruxton Island on September 1st, 2012 regarding the Community Plan project](#)

June 2012

- [The Local Trust Committee launches a Community Plan Review for the Associated Islands with a newsletter and survey mailed to property owners.](#)

February 2012

- [Thetis Island owners have options to provide lasting protection for properties](#)

Committee Links

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[Meeting Minutes](#)
[Resolutions-Without-Meeting](#)
[Associated Islands](#)
[Land Use Application Forms](#)

Local Trust Committee Projects and Resources

Thetis Island General

- [Thetis Island Sustainability Guide](#)
- [Thetis Island Community Profile](#)
- [Thetis Island Draft Development Potential Map -August 2009](#)

Note: Subdivision requirements or restrictions not taken into exhaustive account for the purposes of this map include restrictive covenants, park dedication, road dedication, steep slope, and lot width to length ratios, and may occur.

Thetis Island Work Program Top Priorities

The following Work Program Top Priorities are projects that have been prioritized by the Local Trust Committee and for which resources are available or anticipated to be available shortly.

1. Associated Islands Official Community Plan and Land Use Bylaw Creation

- 2. Riparian Areas Regulation Implementation
- 3. Shoreline Development Permit Area

Community Plan Project for Associated Islands

Including Ruxton, Reid, Pylades, Hudson, Scott, Dayman, Bute and Dunsmuir Islands

Communication and consultation:

- [Newsletter - June, 2012](#)
- [Report on Summer 2012 Survey](#)
- [Addendum to report on Summer 2012 Survey](#)
- [Community Plan Goals Survey - DEADLINE FEBRUARY 28, 2013](#)
- [Newsletter #2 - January 2013](#)

Staff reports and project documents:

- [Project Terms of Reference](#)
- [Preliminary Staff Report for April 18, 2012 Meeting](#)
- [Staff Report for May 23, 2012 Meeting](#)
- [UPDATED Community Profile -September, 2012](#)

Ruxton Island - specific:

- [Ruxton Advisory Planning Commission Terms of Reference](#)
- [Ruxton Island Advisory Planning Commission membersip](#)

Ruxton Island Advisory Planning Commission Minutes

- [October 19, 2012](#)

Riparian Areas Regulation Implementation

- [Staff Report dated May 24, 2011](#)
- [Staff Report dated July 21, 2010](#)
- [RAR Stream Identification of the Ralston Creek Watershed, March 2011](#)
- [Map showing RAR streams with property lines](#)
- [Map showing RAR streams with buffers for Streamside Protection and Enhancement Area](#)
- [Provincial Riparian Areas Regulation website](#)

Thetis Island Standing Resolutions

Marine Shorelands

- [DRAFT Marine Shorelands Development Permit Area, April 30, 2011](#)
- [Staff Report re: Marine Shorelands Development Permit Area and Sea Level Rise - January 26, 2011](#)
- [Staff Report re: Marine Shorelands Development Permit area - January 6, 2011](#)
- [Staff Report re: Shoreline Management - November 18, 2010](#)
- [Review of Thetis Island Shoreline Classification and Recommendations for Shoreline Development - March 31, 2010, Archipelago Marine Research Ltd.](#)
- UBC Pilot Study on Thetis Shoreline Classification - maps and presentation boards:
 - [Distribution of Coastline Types](#)
 - [Coastal and Watershed Systems: Sediment Sources, Movement, Sinks and Ecosystems](#)
 - [Relative Energy Zones & Shoreline Dynamics](#)
 - [Coastal Types & Shoreline Characteristics](#)
 - [Coastal Types & Siting in Response to Systems](#)
 - [Coastal Design Strategies](#)

Advisory Planning Commission

- [Advisory Planning Commission Minutes](#)

Bylaw Enforcement Notice System

The Bylaw Enforcement Notice and Dispute Adjudication system provides a simple, fair and cost-effective method for dealing with straightforward bylaw violations. It is much less costly, complex and time-consuming than a system in which tickets can be disputed only by going to court.

- [Brochure on the Bylaw Enforcement Notice \(BEN\) system](#)

Community Housing

- [Community Housing in the Islands Trust Area](#)

Food Security

- [Food Security in the Islands Trust Area](#)

Climate Change Action

- [Staff Report dated October 6, 2009](#)
- [Memorandum dated August 17, 2009](#)
- [Climate Wise Islands](#)
- [Newsletter - November 2009](#)
- [Fact Sheets](#)

Valdes Island

- [Brochure for Building Permit information on Valdes Island](#)

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