

Date: January 6, 2011

File No.: TH/04-1.3

To: Thetis Island Local Trust Committee

For meeting of January 12, 2011

From: Courtney Campbell, Island Planner

CC: Chris Jackson, Regional Planning Manager

Brodie Porter, Island Planner

Re: Marine Shorelands Development Permit Area

1. PROPOSAL:

The Thetis Island Local Trust Committee (LTC) is considering adopting a development permit area for shoreline protection. The Thetis Island Pilot Study completed by UBC Landscape Architecture students in August 2009, and two reports by Archipelago Marine Research Ltd to analyze ShoreZone data from 1979 and 2004, provide shoreline classification data and background information on management considerations. A staff report dated November 18, 2010 reviews these three reports / studies.

At their November 29, 2010 meeting the LTC passed the following resolution regarding this project, which is part of the larger Official Community Plan (OCP) and Land Use Bylaw (LUB) review:

*It was **MOVED** and **SECONDED** by the Thetis Island Local Trust Committee to:*

a) direct Staff to present the information in the Staff Report regarding shoreline types, shoreline development types, their associated considerations, and the concept of a development permit area, to the next Community Information Meeting; and

b) to draft development permit area guidelines based on the feedback at the next Community Information Meeting, and to develop mapping shoreline types based on both the 2004 ShoreZone data and the UBC Pilot Study.

Information in the November 18, 2010 staff report was presented at the December 13 Community Information Meeting (CIM), and the purpose of this staff report is to draft development permit area justification, objectives, and guidelines for discussion.

2. BACKGROUND

2.1 Local Government Act:

Section 919.1 of the *Local Government Act* gives a local government the authority to designate a development permit area (DPA) in an OCP for a number of reasons. The authority most applicable to shoreline protection is Section 919.1 (1)(a) for “protection of the natural environment, its ecosystems, and biological diversity”. Section 919.1 (1)(b) “protection of development from hazardous conditions” may also be a suitable justification if an aim of the DPA is to adapt to sea level rise projections. More than one justification can be used for a DPA.

Section 919.1(2) further states that the OCP must (a) “describe the special conditions or objectives that justify the designation” and (b) “specify guidelines respecting the manner by which the special conditions or objectives will be addressed”.

Sections 919.1(3) and 919.1(4) further state that the guidelines may be in a zoning bylaw instead of in an OCP and, that the guidelines can specify conditions under which a development permit is not required.

Section 920(1) further describes prohibitions within a development permit area unless an exemption applies or the the owner first obtains a development permit which will be discussed later in this staff report.

2.2 The Green Shores Project: Review of Shore Management Policy & Bylaw Language:

In 2006 Green Shores, a project of the Stewardship Centre of BC, undertook a review of local government shore management bylaw and policy language.¹ The report provides example OCP policy language and DPA development language from a review of existing local government regulations, including language related to shore protection, docks and piers, fill and dredging. The technical team involved in developing the document included biologists, coastal engineers, and planners.

2.3 Development Permit Areas for Shoreline Protection in other Jurisdictions:

1. *The District of Central Saanich* adopted a revised OCP in January, 2010 to include Section 11.2 that designates a Marine Shoreline DPA.² This is the most comprehensive example found to date that provides shoreline protection guidance for new development or subdivisions as well as changes to existing development. It also provides guidance by specific shore type (rocky, beach, and marsh shores).

Area of application: The DPA extends 15 metres landward and seaward of the natural boundary of the sea.

Types of development: The DPA applies to all development within the DPA including alteration of vegetation and soils. There is also a comprehensive list of exemptions.

2. *The Sunshine Coast Regional District* adopted a DPA in May, 2010 for shoreline and foreshore protection for Roberts Creek.³

Area of application: The DPA extends 15 metres landward of the natural boundary of the sea, and to any works seaward of the natural boundary.

Type of development: the DPA applies to shoreline protection works, beach access steps, dwellings, and any other buildings or impervious surfaces with more than 10 square metres of floor area or parcel coverage. Although early drafts of the DPA included different guidelines for three different shoreline types, the adopted version had the same guidelines for the entire coast.

3. *The District of North Saanich* has a DPA for “Marine Upland and Foreshore”.⁴

Area of application: The DPA extends 15 metres landward of the natural boundary of the sea, marinas, and two other water areas identified on the map.

Type of development: appears to only regulate foreshore development including drainage, landscaping, and buildings.

¹ www.greenshores.ca

² www.centrialsaanich.ca

³ www.scrd.ca

⁴ www.northsaanich.ca

4. *The District of Metchosin OCP includes shoreline classification mapping and identifies different setbacks for shoreline types.*⁵

3. CURRENT PLANNING STATUS OF SUBJECT LANDS:

3.1 Islands Trust Policy Statement: The establishment of a DPA for shoreline protection is in accordance with the commitments of Trust Council and Directive Policies in the Policy Statement. Relevant excerpts from the Policy Statement are copied below:

Section 3.1 Ecosystems:

3.1.1 Trust Council holds that...

- *protection must be given to the natural processes, habitats and species of the Trust Area, including those of...open coastal grasslands, the vegetation of dry rocky areas... estuaries, tidal flats, salt water marshes, drift sectors, lagoons, kelp and eel grass beds*

Section 3.4 Coastal and Marine Ecosystems:

3.4.2 It is Trust Council's policy that marine areas be protected and coastal zone management principles be defined in consultation with agents of the Government of British Columbia, the Government of Canada, Crown corporations, municipalities, regional districts, non-governmental organizations, property owners and occupiers.

3.4.4 Local trust committees... shall, in their official community plans and regulatory bylaws, address the protection of sensitive coastal areas.

3.4.5 Local trust committees... shall, in their official community plans and regulatory bylaws, address the planning for and regulation of development in coastal regional to protect natural coastal processes.

Section 4.5 Coastal Areas and Marine Shorelands:

4.5.3 It is the position of Trust Council that development, activity, buildings or structures should not result in a loss of significant marine or coastal habitat, or interfere with natural coastal processes.

4.5.4 It is the position of Trust Council that development, activity, buildings or structures should not restrict public access to, from or along the marine shoreline.

It is Trust Council's policy that development should be directed to sites away from:

- *areas of environmental sensitivity, and*
- *areas of naturally occurring stocks of clams or oysters.*

4.5.10 Local trust committees... shall, in their official community plans and regulatory bylaws, address the location of buildings and structures so as to protect public access to, from and along the marine shoreline and minimize impacts on sensitive coastal environments

4.5.11 Local trust committees... shall, in their official community plans and regulatory bylaws, address opportunities for the sharing of facilities such as docks, wharves, floats, jetties, boat houses, board walks and causeways.

⁵ www.district.metchosin.bc.ca

3.2 Official Community Plan: The Thetis Island Official Community Plan, Bylaw No. 50, 1995 is currently being reviewed. The current draft 2.1 contains the following policies relevant to shoreline and foreshore management that have been endorsed by the LTC:

Section 4.1 Natural Resources

Objective 5: To protect marine life and foreshore habitat

Policy 11: Foreshore and adjacent coastal water area land use regulations shall place emphasis on retaining natural characteristics.

Policy 12: Public access and the right to recreational use of the foreshore shall be supported and protected, and such access and use should respect the interests of adjacent residents and tenure holders.

Policy 13: The integrity of foreshore features, shoreline features, and intertidal processes may be maintained by:

- a. *Discouraging uses that disrupt natural features and processes and encouraging owners of shoreline properties to retain, wherever possible, natural vegetation and natural features on areas sloping towards the foreshore.*
- b. *Supporting the prohibition of filling, deposit, excavation, or removal of foreshore and seabed materials, excepting maintenance of navigational channels and existing wharfage areas.*
- c. *Land use regulations should provide for upland waterfront developments to be setback sufficiently to allow for natural erosion and accretion processes, without endangering structures.*
- d. *Where land use regulations provide for private docks, the use of communal docks is to be encouraged where feasible and breakwaters are to be prohibited.*

Policy 14 A marine conservation zone may be established, with adjacent upland owner consent, over foreshore and adjacent water areas in order to afford protection to specific foreshore and marine features.

Policy 15 Telegraph Harbour, a natural protected harbour is acknowledged as one of Thetis Island's prominent marine and coastal resources. A balance is to be retained in Telegraph Harbour between public boat moorage, commercial marina facilities, air transportation services, navigational channels, and recreation, such that the Harbour's overall value to the Community is maintained.

3.3 Land Use Bylaw The Thetis Island Land Use Bylaw No. 56, 1997 is currently being reviewed. Draft 1.1 contains the following relevant regulations that have been endorsed by the LTC:

2.2.6 No building other than a boathouse or pumphouse may be constructed:

- a) *within 7.6 metres of the natural boundary of the sea; or...*

There are five water zones:

W-1: includes the two marinas in Telegraph Harbour and permitted buildings and structures include docks and floating breakwaters.

W-2: includes the portion of Telegraph Harbour towards the head of the harbour from the first marina. Permitted buildings and structures include docks, boat ramps, and floating breakwaters.

W-3: includes the rest of Telegraph Harbour from to the mouth of it. Permitted buildings and structures include swimming floats, and stairways and walkways accessory to the residential use of an abutting upland lot.

W-4: includes the majority of the Thetis Island coastline and the head of Cufra Inlet. Permitted buildings and structures are docks, boat ramps, and swimming floats.

W-5 includes the existing shellfish tenures in Cufra Inlet and Preedy Harbour. There are no permitted buildings and structures in the zone.

There is also a Marine Conservation zone that includes the Ragged Islet and two small islets off the south eastern coast of Thetis Island. There are no permitted buildings and structure except for marine navigational aids.

3.4 Sensitive Ecosystems: The recently completed Sensitive Ecosystem Mapping (SEM) for Thetis Island identifies numerous areas of terrestrial sensitive ecosystems along the Thetis shoreline. A DPA that extended landward of the natural boundary of the sea could offer protection to these sensitive ecosystems.

The Islands Trust does not have any mapping that identifies sensitive marine environments, but information from the Thetis Pilot Study refers to plant and animal communities that are commonly associated with different shore types.

3.4 Archaeological Sites: Many archaeological sites are found along the coastline of the Gulf Islands, some of which are identified and mapped by the BC Archaeology Branch and some which have not been officially identified. Given the high likelihood that a proposed shoreline development would be within or near an archaeological site, it is important to consider implications of a DPA for archaeological site protection. Draft 2.0 of the OCP, endorsed by the LTC contains the following objectives and policies for archaeological site protection:

Objective 2: To protect archaeological sites from damage due to development, land alteration or human use.

Policy 1: Applicants for development proposals will be notified if the subject property overlaps with a recorded protected archaeological site.

Policy 3: The maintenance, repair, or restoration of sites with heritage values may be encouraged through land use regulation providing for special considerations for lands with restored sites or features.

4. SITE CONTEXT

The area under consideration for a DPA for shoreline protection is the entire coast of Thetis Island. The October 8, 2010 report by Archipelago Marine analyzed 2004 aerial imagery of the Thetis coastline and identified the following:

- The Thetis Island coastline is approximately 27 km in length;
- The majority of the shoreline along Thetis Island is classified as a mixture of rock and sediment (51% or 13.9 km);
- 19.1% of the shoreline (5.3 km) is classified as rock;
- 28.2% of the shoreline (7.7 km) is classified as sediment;
- 1.7% of the shoreline (1.7 km) is classified as man-made;

- 47.6% of the shoreline (13.0 km) is considered protected based on wave exposure;
- 52.4% of the shoreline (14.3 km) is considered semi-protected based on wave exposure;
- 8% of the shoreline (2.2 km) is currently covered by shore modifications including boat ramps, wooden bulkheads, concrete bulkheads, landfill, or riprap; and
- There are currently 13 boat ramps, 31 piers, wharf of docks, 185 recreational boat slips, and 1 ferry terminal.

In addition, a significant number of waterfront properties on Thetis Island have subdivision potential, as shown on the August, 2009 Development Potential map⁶. Development permit areas often apply to applications to subdivide, although subdivision can be exempted from a permit requirement. The presence of significant subdivision potential on the shoreline provides rationale for requiring a development permit for subdivision.

5. RESULTS OF CIRCULATION / COMMUNITY INFORMATION MEETING(S):

The series of 6 poster boards from the Thetis Island Pilot Study were displayed at the August 30, 2009 CIM, and the two UBC students who completed the contract were present to discuss it with members of the public attending. There was a general interest in the project, but no significant comments that would direct the LTC on implementation of a DPA. At that time the potential of a DPA was not highlighted, but the information on shoreline classification was presented for general feedback.

At the December 13, 2010 CIM the same 6 poster boards from the Thetis Island Pilot Study were displayed along with another map that showed the shoreline classifications from the 2004 ShoreZone data. Planning staff gave two presentations during the evening saying that the LTC was considering adopting a DPA for shoreline protection in order to protect shoreline processes and the natural environment. There were no comments received on this topic at the CIM, and at the date of writing this report no follow-up comments from the public had been received.

Given that draft DPA wording was not available at the December 13, 2010 CIM, staff recommends that it is presented to the community in some form, either a mail out of another CIM, prior to the public hearing.

6. ISSUES SUMMARY:

- a) Compliance with Islands Trust Policy Statement
- b) Compliance with Thetis Island OCP
- c) Current shoreline modifications and recent applications
- d) Justification and objectives for DPA
- e) Application of DPA
- f) Exemptions from requiring a Development Permit
- g) Guidelines for DPA
- h) Amendments to zoning
- i) Development Approval Information Bylaw
- j) Shoreline mapping
- k) Legal Review

⁶ www.islandstrust.bc.ca

7. STAFF COMMENTS:

a) **Compliance with Islands Trust Policy Statement:**

The Policy Statement supports protection of natural processes, habitats and species in the marine environment, maintenance of public access to the shore, and the sharing of foreshore access structures such as docks. The policy statement supports the proposed DPA.

b) **Compliance with Thetis Island OCP:**

The endorsed Draft 2.0 of the OCP supports the protection of natural coastal processes, public access to the foreshore, and sharing of foreshore access structures such as docks. The Draft OCP supports the proposed DPA.

c) **Current shoreline modifications and recent applications:**

Adoption of a DPA for marine shorelands may be timely given the number of existing shoreline structures, and current rate of shoreline development.

According to the 2004 ShoreZone data:

- There are currently 13 boat ramps, 31 piers, wharf of docks, 185 recreational boat slips, and 1 ferry terminal; and
- 8% of the shoreline (2.2 km) is currently covered by shore modifications including boat ramps, wooden bulkheads, concrete bulkheads, landfill, or riprap

Our records show approximately 1-2 Crown Lease applications per year for private moorage (i.e. docks). Also in 2009 there was one development variance application for a sea wall (sited on the property line and in the setback area) and in 2010 there was another application for the same. As there are a number of other seawalls and other erosion protection measures in existence on Thetis Island, many of them were likely built without variance permits and were not subject to any bylaw enforcement at the time.

d) **Justification and objectives for DPA**

Section 919.1(2) of the Local Government Act requires that the OCP “describe the special conditions or objectives that justify the designation”. Based on the District of Central Saanich’s Marine Shoreline DPA, staff proposes the following draft wording:

Development Permit Area No. 1: Marine Shorelines, is designated a development permit area according to Section 919.1(1)(a) of the Local Government Act for the protection of the natural environment, its ecosystems and biological diversity. The area is also designated an area for which development approval information may be required according to Section 920.01(1)(c) of the Local Government Act.

Thetis Island’s shorelines have high ecological values. Due to their physical and biological characteristics and situation they need to be carefully managed to avoid potential negative impacts of development. Development and associated shoreline improvements or protection measures can threaten the ecological and physical integrity of the foreshore and upland.

Objectives:

- *To plan and regulate new development in a manner that preserves and protects the long-term physical integrity and ecological values of Thetis Island’s shorelines and associated foreshore and upland areas.*

- *To manage development to minimize disruption of natural features and processes and to retain, wherever possible, natural vegetation and natural features.*
- *To balance development opportunities with the ecological conservation of the shoreline environment.*
- *To maintain the public's use and access to these important recreation areas in a way that does not compromise the ecological integrity of the shoreline or put users at undue risk.*

e) Application of DPA:

An OCP must identify the area of application of the DPA, as the activities / development for which a development permit is required.

A review of existing shoreline DPAs in other jurisdictions shows that extending the DPA area to 15 m upland of the natural boundary of the sea is common. There is a range of seaward extents, from all the way to the boundary of the application of the Plan (1 km or mid-channel for Thetis Island), to 15 m, to no application below the natural boundary of the sea.

Staff recommends a 15 m upland extent, and that the seaward extent is to the boundary of the area of application of the Plan. Staff proposes the following draft wording based on the District of Central Saanich DPA:

In an effort to balance development opportunities on private land with conservation of the ecological values of the natural shoreline a development permit is required for all development 15 m upland of the natural boundary of the sea, and seaward to the boundary of area of bylaw application.

For activities that require a development permit within the DPA, staff proposes the following draft wording based on the District of Central Saanich DPA:

This Development Permit Area applies to all development proposed within the Shoreline DPA. A development permit is required for the following development activities where such activities involve the subdivision of land, construction of, addition to, or alteration of a building or structure, or the alteration of land, except where such activities are specifically exempt:

- Removal, alteration, disruption, or destruction of vegetation;*
- Disturbance of soils;*
- Construction or erection of buildings and structures;*
- Creation of non-structural impervious or semi-impervious surfaces;*
- Flood protection works;*
- Construction of roads, trails, docks, wharves and bridges;*
- Provision and maintenance of water services;*
- Development of drainage systems;*
- Development of utility corridors; and*
- Subdivision as defined in the Local Government Act.*

f) Exemptions from Requiring a Development Permit

Pursuant to Section 919.1(4) of the *Local Government Act*, an OCP (or zoning bylaw, wherever the guidelines are located) may specify conditions under which a development permit would not be required.

The following draft exemptions are provided for consideration:

1. *Development or alteration of land occurring outside of the Development Permit Area as determined by a BC Land Surveyor or another qualified person.*
2. *The placement of impermanent structures such as benches, tables and garden ornaments.*
3. *Development on land where a conservation covenant under section 219 of the Land Title Act is registered against title, is granted to the Local Trust Committee or a recognized conservancy and includes provisions which protect shoreline ecosystems in a manner consistent with the applicable DPA guidelines.*
4. *Repair, maintenance, alteration or reconstruction of existing legal or legal non-conforming buildings, structures or utilities provided there is no alteration of undisturbed land or vegetation (a building permit may still be required).*
5. *Repair and maintenance of existing roads, driveways, paths and trails, provided there is no expansion of the width or length of the road, driveway, path or trail, and no creation of additional impervious surfacing, including paving asphaltting or similar surfacing.*
6. *Removal of trees deemed hazardous by a qualified arborist that threaten the immediate safety of life and buildings.*
7. *Removal of invasive plants or noxious weeds on a small scale within the Development Permit Area.*
8. *Normal farm practices protected by the Farm Practices Protection (Right to Farm) Act or other applicable provincial legislation or guidelines on properties assessed as a farm under the BC Assessment Act.*
9. *The removal of invasive plants or noxious weeds within the Development Permit Area provided such works are conducted in accordance with a vegetation management plan prepared by a certified Arborist or Qualified Environmental Professional, and measures are taken to avoid sediment or debris being discharged into a watercourse or onto the foreshore and the area is replanted immediately in accordance with established best management practices.*
10. *Construction of a fence so long as no native trees are removed and the disturbance of native vegetation is restricted to 0.5 metres on either side of the fence.*
11. *Gardening and yard maintenance activities within an existing landscaped area, such as lawn mowing, tree and shrub pruning, vegetation planting and minor soil disturbance that do no alter the general contours of the land.*
12. *The construction of a small accessory building such as a pump house, gazebo, garden shed or play house if all the following apply;*
 - *The building is located within an existing landscaped area;*
 - *No native trees are removed;*
 - *The building is located a minimum of 10 metres from the natural boundary of sea or, where the bank has a slope greater than 3:1, 10 m from the top of the bank; and*
 - *The total area of the small accessory building is less than 10 m².*
13. *Emergency actions required to prevent, control or reduce an immediate threat to human life, the natural environment or public or private property including:*
 - *Forest fire, flood and erosion protection works;*
 - *Protection, repair or replacement of public facilities;*

- *Clearing of an obstruction from a bridge, culvert, dock wharf or stream; or*
 - *Bridge repairs.*
14. *The installation of mooring buoys.*
15. *Seaweed harvesting.*

g) Guidelines for DPA

Section 919.2(b) of the *Local Government Act* states that an OCP must “specify guidelines respecting the manner by which the special conditions or objectives will be addressed”.

There are several purposes to DPA guidelines including:

- To assist an applicant in creating a development plan that meets the objectives of the DPA;
- To assist the local government in considering and approving the management of proposed land uses; and
- To provide the basis for setting conditions in development permits, though not all guidelines will necessarily apply to every permit.⁷

Staff proposes the following guidelines with explanatory notes on the right-hand side, many of which are taken from the Green Shores 2006 publication *Review of Shore Management Policy & Bylaw Language*. The draft text below is taken from the Central Saanich Marine Shoreline DPA which is heavily influenced by the Green Shores publication.

General Guidelines

1. *Development of the shoreline area should be limited and not negatively impact the ecological health of the immediate area or impede public access.*
2. *Shoreline protection measures should be limited to that necessary to prevent damage to existing structures or established uses on adjacent upland.*
3. *New upland shoreline structures or additions should be located and designed to avoid the need for shore protection works. Only if all options to locate and design without the need for shore protection measures are exhausted should such works be considered.*
4. *When required shore protection works should:*
 - a. *Apply the ‘softest’ possible shore protection measure that will still provide satisfactory protection; and*
 - b. *Limit the size of shore protection or the minimum necessary.*
5. *All structural shore protection measures should be installed within the property line or upland of the natural boundary of the sea, whichever is further inland. ‘Soft’ shoreline protection measures that provide restoration of previously damaged*

Continuum of ‘soft’ to ‘hard’ shore protection measures is included later in the guidelines.

Land below the natural boundary of the sea (high water mark) is owned by the Crown and any works are subject to permit from

⁷ Green Shores, 2006. *Review of Shore Management Policy & Bylaw Language*. Online at www.greenshores.ca.

ecological functions may be permitted seaward of the natural boundary subject to obtaining necessary approvals from the provincial and federal governments.

the Crown.

Specific Shoreline Protection Guidelines

New Development / Subdivisions

- 1. Using geotechnical analysis of the site and shoreline characteristics, subdivision applications should ensure that the lots created will not require shore protection measures in order for useable, safe building sites to be created.*
- 2. New development on steep slopes or bluffs shall be set back sufficiently from the top of the bluff to ensure that shore protection measures will not be necessary during the life of the structure, as demonstrated by a geotechnical analysis for the said structure.*
- 3. Shore protection measures that will cause erosion or other physical damage to adjacent or down-current properties shall not be supported.*
- 4. Shore protection measures should not be allowed for the purpose of providing a sufficient setback to meet zoning requirements.*
- 5. 'Hard' structural shore protection measures (e.g. concrete walls, lock block, stacked rock, etc) may be considered in support of new development only when a geotechnical and biophysical analysis provides conclusive evidence that:
 - a. the erosion is not being caused by upland conditions, such as the loss of vegetation and drainage associated with the proposed development;*
 - b. All possible on-site drainage solutions away from the shoreline edge have been exhausted;*
 - c. Non-structural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient to address the stabilization issues; and*
 - d. The shore protection measure will not result in a net loss of shoreline ecological functions (i.e. any unavoidable damage to shoreline habitat will be more than off-set by habitat compensation works).**
- 6. New driveways and septic systems should not be located in the development permit area. If such a location cannot be avoided, the encroachment into the development permit area must be minimized, and the design and construction of the road or septic system be supervised by a qualified coastal professional to ensure that the objectives and guidelines of the development permit area are met.*

'Development' typically refers to the range of land use activities that local governments can regulate under Part 26 of the Local Government Act including clearing, grading, subdivision, construction, etc.

i.e. where the setback could not be achieved without such measures.

Definition of 'qualified coastal professional' is provided later in this report.

7. *Where this development permit area includes native plant species or plant communities dependent on a marine shoreline habitat that are identified locally, provincially, or federally as sensitive, rare, threatened or endangered, or have been identified by a qualified environmental professional as worthy of particular protection, their habitat areas should be left undisturbed. If disturbance cannot be entirely avoided, development and mitigation / compensation measures shall be undertaken only under the supervisions of a qualified environmental professional with advice from applicable senior environmental agencies.*

Definition of 'qualified environmental professional' is provided later in this report.

Changes to Existing Development:

1. *Shore protection measures should not be allowed for the purpose of extending lawns or gardens, or to provide space for additions to existing structures or new outbuildings.*
2. *New structural shore protection measures along the shoreline may be considered for the protection of existing structures or to protect habitat restoration projects or hazardous substance remediation projects, if the following criteria are met:*
 - a. *A report provided by a qualified coastal professional provides conclusive evidence that the structure is at risk from shoreline erosion caused by tidal action, currents, or waves. Evidence of normal sloughing, erosion or steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not sufficient demonstration of need;*
 - b. *The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization;*
 - c. *Non-structural measures, such as locating new buildings and structures further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or sufficient; and*
 - d. *The shore protection works will not result in a net loss of shoreline ecological functions.*
3. *An existing shore protection measure may be replaced if the existing works can no longer adequately serve its purpose provided that:*
 - a. *The replacement shore protection measure should be of the same size and footprint as the existing works, unless required to prevent shoreline erosion as determined by a qualified coastal professional;*
 - b. *The replacement shore protection measure should be*

designed, located, sized, and constructed to assure no net loss of ecological functions;

- c. Replacement walls or bulkheads should not encroach seaward of the natural boundary or an existing shore protection measure unless there are significant safety or environmental concerns that could only be addressed via such an encroachment. In such cases, the replacement of shore protection measures should utilize the 'softest' approach possible and about the existing shore protection works; and*
- d. Where impacts to critical marine habitats would occur by leaving the existing works, it can be removed as part of the replacement measure.*

Commercial and Industrial Development:

- 1. New boating facilities that provide transient moorage shall not be constructed unless access is available to adequate and convenient facilities for pump-out, holding and treating sewage from boats.*
- 2. New boating facilities shall be designed, located and operated in a way that ensures there will be no discharge of toxic materials from boats (fuels, oils, maintenance by-products, etc.)*
- 3. Lighting of commercial and industrial developments built over the water surface should be kept to the minimum necessary for safety and visibility. Light fixtures on such sites should focus light on the area to be illuminated and avoid spillage of light into other areas. Fixtures should not result in glare when viewed from areas that overlook the sea. Low-glare fixtures with a high-cutoff angle should be used. Full-spectrum fixtures are preferred, Neon lighting should not be used outside buildings.*
- 4. Signs on commercial and industrial developments built over the water surface should not move or be audible and should not incorporate lighting that moves or flashes or gives the impression of doing so.*

Guidelines for Specific Shoreline Types

Estuaries can be found where a river or drainage network enters the ocean. Typically located in highly sheltered areas, they receive sediment from both watershed and coastal systems. Estuaries are very dynamic and rapidly changing, often over periods of less than a year. Rich nutrients and fine sediments carried by rivers, and the mixing of fresh and salt water create a variety of habitats making estuaries highly productive ecosystems. They are also significant carbon sinks. Estuaries are extremely sensitive to disturbance, and

Taken from 2009 Thetis Pilot Study (UBC).

once disturbed, recovery is slow.

On Thetis Island, estuaries are found at the head of Clam Bay in the area known as “the cut”, and at the head of Cufra Inlet.

- 1. Provide a property-specific assessment with respect to building setbacks and shore protection designs, as stream sediment processes are important and will vary from site to site.*
- 2. Dredging or filling should not be permitted.*
- 3. Where shore protection measures are necessary, make use of “beach nourishment” designs which add appropriately sized material to the upper beach, creating a natural beach slope and beach armour.*
- 4. Sea walls and rip rap embankments should not be used to protect these shoreline areas*

Sand/Cobble shorelines occur where there is a supply of sediment and a shoreline form that allows it to collect. Sediment comes from both coastal and watershed systems (i.e. sand spits, eroding shorelines, etc) and is transported by both watercourses and/or longshore currents. These shores are very dynamic and their features can change quickly with large storms. More sheltered sediment shores will have more stable sediment balance, and more exposed shores will be subject to more dynamic fluctuations.

Taken from 2009 Thetis Pilot Study (UBC).

Sand/cobble shorelines tend to accrete (accumulate) sediment during spring and summer, and lose sediment (shrink) during stronger winter winds. Low-lying sandy shores may be prone to backshore flooding during high tides, surges, and storm waves. Backshore and aquatic vegetation are extremely important in stabilizing sediment and preventing erosion.

On Thetis Island, sand/cobble beaches are relatively short in length, are found along the entire coastline, and typically between low rock/boulder beaches or coastal banks and bluffs.

- 1. Ensure that a minimum 15 m setback for new buildings and structures, additions to existing buildings and structures, or the placement and removal of fill is maintained.*
- 2. Where shore protection measures are necessary, make use of “beach nourishment” designs, which add appropriately sized material to the upper beach, creating a natural beach slope and beach armour.*
- 3. Use of seawalls and rip rap embankments are generally not acceptable except when no alternative shore protection design is possible (e.g. on existing narrow lots at the base of the marine scarp).*

Low rock/Boulder shorelines are composed of exposed bedrock,

Taken from 2009 Thetis

often with thin gravel and boulder veneer deposits that usually cover less than 10% of the intertidal area. Sand, gravel and cobble sediment deposits often form small pocket beaches near the high tide line. Interstitial spaces within cracks and between and under boulders provide important microhabitats. These shores are typically very stable over human time scales, however their low angle and elevations make them susceptible to the barrage of larger debris moved by extreme storm events.

Pilot Study (UBC).

Lack of significant vertical vegetation can result in a lack of privacy for upland uses, and insufficient protection from wind and/or wave exposure. Thin soil coverage, and predominance of bedrock, requires sensitive water management to avoid well contamination and ocean pollution.

On Thetis Island, low rock/boulder shorelines are found along the entire coastline, dominating the western shore.

- 1. Ensure that a minimum 15 m setback for new buildings and structures, additions to existing buildings and structures, or the placement and removal of fill is maintained.*
- 2. A setback of less than 15 m may be considered if it is supported by a report by a qualified coastal professional (for geotechnical and coastal process considerations) and a Qualified Environmental Professional (for biological/environmental considerations) and satisfies all of the guidelines associated with this development permit area.*
- 3. Due to the inherently stable nature of this type of shoreline, applications for shore protection measures will generally not be accepted unless evidence is provided by a qualified coastal professional that there is substantial risk of damage or loss of structures.*

Coastal Banks and Bluffs *are steep coastal slopes formed of unconsolidated material (sand and gravels) which may conceal underlying rock formations, in contrast to a cliff where rock formations are exposed. Coastal banks are generally less than 5m in height and coastal bluffs greater than 5m in height.*

Taken from March 31, 2010 Archipelago Marine report and 2009 Thetis Pilot Study (UBC).

Exposed soil is highly subject to erosion, and retention of natural vegetation can be critical in mitigating slope failures. Vegetation helps to stabilize a slope, retaining soils and absorbing water.

On Thetis Island, coastal banks and bluffs are mostly found on east-facing shores, but also include some of the west-facing shore of Cufra Inlet.

- 1. New development on steep slopes or bluffs shall be set back sufficiently from the top of the bluff to ensure that shore protection measures will not be necessary during the life of the structure, as demonstrated by a geotechnical analysis for the said structure.*

This is a repeat of guideline 2 under "New Development / Subdivisions".

2. *Removal of trees or other vegetation should only be allowed where necessary and where alternate vegetation / erosion control measures are established. If possible, stumps should be left in place to provide some soil stabilizing influence until alternative vegetation is established. Plans delineating extent of vegetation / tree removal (location, species and diameter of trees) and location of proposed construction, excavation and / or blasting, may be required.*

Cliffs are shore formations with steep slopes (>60%) and predominantly bedrock faces. Cliffs of dense bedrock are more stable than cliffs of soft or less dense materials such as sandstone which are subject to erosion from wind and waves.

Taken from March 31,
2010 Archipelago
Marine report and 2009
Thetis Pilot Study
(UBC).

1. *Guidelines for low rock / boulder apply to the cliff shore type.*

Construction Practices

Erosion Control

All development within this development permit area should be undertaken and completed in such a manner as to prevent the release of sediment to the shore or to any watercourse or storm sewer that flows to the marine shore. An erosion and sediment control plan, including actions to be taken prior to land clearing and site preparation and the proposed timing of development activities to reduce the risk of erosion, may be required as part of the development permit application.

Monitoring

The implementation of required environmental mitigation, restoration or enhancement planting or measures approved under a development permit should be monitored by a qualified environmental professional until all such measures have been completed and the Professional has provided a report confirming completion to a standard acceptable to the Local Trust Committee.

Vegetation Management, Restoration and Enhancement Guidelines

1. *Existing, native vegetation should be retained wherever possible to minimize disruption to habitat and to protect against erosion and slope failure.*
2. *Existing trees and shrubs to be retained should be clearly marked prior to development, and temporary fencing installed at the drip line to protect them during clearing, grading and other development activities.*
3. *If the area has been previously cleared of native vegetation, or is cleared during the process of development, replanting should be required in accordance with these guidelines or requirements specified in the development permit. Areas of*

undisturbed bedrock exposed to the surface of natural sparsely vegetated areas should not require planting.

4. *Vegetation species used in replanting, restoration or enhancement should be selected to suit the soil, light and groundwater conditions of the site, should preferably be native to the area, and be selected for erosion control and/or fish and wildlife habitat values as needed. Suitably adapted, non-invasive, non-native vegetation may also be considered acceptable.*
5. *All replanting should be maintained by the property owner for a minimum of 2 years from the date of completion of the planting. This may require removal of invasive, non-native weeds (e.g., Himalayan blackberry, Scotch broom, English ivy) and irrigation. Unhealthy, dying or dead stock should be replaced at the owner's expense within that time in the next regular planting season.*

The Islands Trust has limited ability to enforce this guideline.

Shore Protection Measures Design Guidelines

Shore Protection Measures are the range of modification measures to the shoreline, or adjacent seaward or landward areas, for the purpose of protection against erosion. Structural protection methods are often referred to as 'hard' and 'soft'. 'Hard' measures refer to those with solid, hard surfaces, such as concrete bulkheads, while 'soft' structural measures rely on less rigid materials such as biotechnical vegetation measures or beach enhancement. There is a range of measures varying from soft to hard that include:

- *Vegetation enhancement*
 - *Upland drainage control*
 - *Biotechnical measures*
 - *Beach enhancement*
 - *Anchor trees*
 - *Gravel placement*
 - *Rock (rip rap) revetments*
 - *Gabions*
 - *Concrete groins*
 - *Retaining walls or bulkheads*
 - *Seawalls*
- SOFT
↓
HARD

In general, the harder the construction measure, the greater the impact on shoreline processes, including sediment transport, geomorphology, and biological functions.

1. *Materials used for shoreline stabilization should consist of inter materials. Stabilization materials should not consist of debris or contaminated material that could result in pollution of tidal water.*
2. *Revetments (rip rap slopes) and bulkheads (retaining walls)*

should only be constructed if no other alternative exists.

3. *Where revetments are proposed:*
 - a. *They should not result in the loss of shoreline vegetation or fish habitat;*
 - b. *The size and quantity of materials used should be limited to that necessary to withstand the estimated energy of the location's hydraulic action and prevent collapse; and*
 - c. *Filter cloth should be used to aid drainage.*
4. *Where bulkheads are proposed:*
 - a. *They should not be located where geo-hydraulic processes are critical to shoreline conservation. Feeder bluffs, marshes, wetlands, spits and hooks should be avoided;*
 - b. *They should be located parallel to and landward of the natural boundary of the sea, as close to any natural bank as possible;*
 - c. *They should allow the passage of surface or groundwater without causing ponding or saturation; and*
 - d. *They should be constructed of stable, non-erodible materials that preserve natural shoreline characteristics. Adequate toe protection including proper footings and retention mesh should be included. Beach materials should not be used for fill behind bulkheads.*

Beach Nourishment and Upland Fill Guidelines

1. *Fill upland of the natural boundary greater than 10 cubic metres in volume should be considered only when necessary to assist in the enhancement of the natural shoreline's stability and ecological function.*
2. *Such fills should be located, designed, and constructed to protect shoreline ecological functions and ecosystem-wide processes, including channel migration.*
3. *Fill below (seaward of) the natural boundary should be considered only when necessary to assist in the enhancement of the natural shoreline's stability and ecological function, typically as part of a beach nourishment design.*
4. *All upland fill and beach nourishment materials should be clean and free of debris and contaminated material. All fill and beach nourishment proposals are subject to review and approval by the appropriate provincial and/or federal*

Channel migration means the lateral movement of sediment at the mouth of a river or stream.

authorities.

Guidelines for Public Shore Access, Roads and Pathways

- 1. Ensure that shore protection measures do not restrict appropriate public access along the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions.*
- 2. Where feasible, incorporate ecological restoration and public access improvements into the project.*
- 3. Public road or pathways should not result in a net loss of shoreline ecological functions.*
- 4. Public access development in extremely sensitive areas should be restricted or prohibited.*
- 5. Fill should not be placed at or below the natural boundary for the purposes of providing a trail or walkway.*
- 6. Parking areas should be placed away from the shore, buffered or landscaped, and constructed so as to minimize erosion and water pollution by controlling storm runoff. Structural measures such as catch basins, oil separators, filtration trenches or swales, unpaved or permeable all weather surfaces should be considered for this purpose.*

Guidelines for the Construction and Replacement of Docks and Boat Launch Facilities

- 1. Docks and wharves should be designed to serve multiple users rather than one dock per property and to ensure that public access along the shore is maintained.*
- 2. Docks and wharves should be sited to avoid impacts on sensitive ecosystems such as eelgrass beds, fish habitat and natural processes such as currents and littoral drift.*
- 3. Docks should be constructed in a manner that permits the free flow of water beneath. Supports should be located on a hard substrate.*
- 4. Floating docks should not rest on the bottom at any time and a minimal, moveable ramp should be utilized to connect the dock with the shore rather than a fixed wharf or pier.*
- 5. Piers and pilings and floating docks are preferred over solid-core piers.*
- 6. Docks should not use unenclosed plastic foam or other non-biodegradable materials that have the potential to degrade over time. Docks should be constructed of stable materials that will not degrade water quality. The use of creosote-treated pilings is discouraged.*

7. *Boat launch ramps are the least desirable of all water access structures and will be considered only if they can be located on stable, non-erosional banks where a minimum amount of substrate disturbance or stabilization is necessary. Ramps should be kept flush with the slope of the foreshore to minimize interruption of natural geo-hydraulic processes.*

Private and/or residential docks and ramps

1. *Preference is to be given to the placement of mooring buoys and floats instead of docks.*
2. *Construction of a private ramp on an individual residential lot or parcel is discouraged. Owners are urged to seek opportunities to use public ramps or to share existing private ramps.*
3. *Residential docks should be located and designed to avoid the need for shore defense works or breakwaters.*
4. *Residential docks should not extend from shore any further than necessary to accommodate a small pleasures craft. Residential docks should not accommodate boats with a draft greater than 2.2 metres or have floats more than 35 square metres total surface area unless more than two parcels have legal access to the dock, in which case permitted total surface area is a multiple of the number of lots the dock serves..*

h) Amendments to zoning

Green Shores recommends a DPA guideline that private docks are not permitted within a specific distance from a publicly accessible dock. They give 500 m as an example. This would be more appropriate in a zoning regulation rather than in DPA guidelines. If the LTC wishes to include this they should direct staff to add it to the zoning regulations for the water zones where docks are permitted.

i) Development Approval Information Bylaw

In order to effectively implement a development permit area, a local government must be able to require the reports and / studies referred to in DPA guidelines. A development approval information (DAI) bylaw must be adopted at the same time as the DPA to give the local government this authority. The Thetis Island Local Trust Committee does not currently have a DAI bylaw.

Local Government Act

A local government is given the authority, in Section 920.01 of the *Local Government Act*, to require development approval information from an applicant of a development permit, at the applicant's expense⁸. Pursuant to Section 920.1 of the *Local Government Act*, development approval information means:

⁸ Applicants of a zoning amendment and temporary use permit can also be required to provide this information.

information on the anticipated impact of the proposed activity or development on the community including, without limiting this, information regarding impact on such matters as

- (a) transportation patterns including traffic flow,*
- (b) local infrastructure,*
- (c) public facilities including schools and parks,*
- (d) community services, and*
- (e) the natural environment of the area affected.***

An OCP must specify circumstance in which and areas for which, development approval information may be required (Section 920.01(1) of the *Local Government Act*)

In addition to OCP content regarding development approval information, a local government must also adopt a separate bylaw that establishes “procedures and policies for the process for requiring development approval information... and the substance of information that may be required” (Section 920.1(2) of the *Local Government Act*)

The following also applies to DAI bylaw (Section 920.1 of the *Local Government Act*):

- (4) A bylaw under subsection (2) may authorize an officer or employee to require development approval information under this section.*
- (5) An applicant subject to a decision of an officer or employee under subsection (4) is entitled to have the local government reconsider the matter without charge.*
- (6) A bylaw under subsection (2) that authorizes an officer or employee to require development approval information under this section must establish procedures regarding applying for and dealing with a reconsideration under subsection (5).*
- (7) Development approval information is not required under this section if the proposed activity or development is a reviewable project as defined in section 1 of the Environmental Assessment Act.*

Process for adopting a DAI Bylaw

For local trust committees, a DAI Bylaw must be adopted by Trust Council.

The LTC should pass a resolution to forward the DAI bylaw to Trust Council for consideration.

A draft DAI bylaw is provided in Attachment 1 of this staff report.

j) Shoreline Mapping:

The mapping of shoreline types from both the Thetis Pilot Study (UBC) and from the 2004 ShoreZone data provide useful information in identifying the types of shorelines on Thetis Island and where they are found. The 5 classifications are used in the draft DPA guidelines, with some specific guidelines proposed for each shore type.

A map of the shore types could be included as a schedule to the OCP for reference and the convenience of the public as well as planning staff. However, it is recommended that the map showing the DPA area is not divided into shore types, but simply covers the entire shoreline of Thetis Island. It is the guidelines then that describe different considerations for different shore types.

The map of shore types does not need to be included in the OCP, but could be part of the background information that the Islands Trust keeps and refers to when assessing

development applications. Some reference should be made to the maps in the text of the bylaw, and staff will seek legal advice on the best way of doing this.

k) Legal Review

Staff will submit the proposed OCP and LUB bylaws, including the shoreline DPA if directed by the LTC to include it in the draft OCP, to legal council after first reading.

8. RECOMMENDATIONS:

Based on the above considerations, Staff recommends that the Local Trust Committee:

1. endorse the draft Shoreline development permit area text in this January 6, 2011 staff report and direct staff to add it to the current draft of the Official Community Plan; and
2. direct staff to forward the draft Development Approval Information Bylaw as attached to the January 6, 2011 staff report, to Trust Council for consideration.

Respectfully submitted by:

Courtney Campbell

Island Planner

January 6, 2011

Date of signature

Reviewed by:

Brodie Porter

Island Planner

January 6, 2011

Date of signature

Attachments:

1. DRAFT Thetis Island Local Trust Area Development Approval Information Bylaw No. XXX, 2011

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ISLANDS TRUST COUNCIL

BYLAW NO. XXX

A Bylaw to Establish Procedures and Policies for Requiring Development Approval Information for the Thetis Island Local Trust Area

WHEREAS the Thetis Island Local Trust Committee, pursuant to s.920.01 of the *Local Government Act*, has specified in an official community plan areas and circumstances for which development approval information may be required;

The Islands Trust Council, pursuant to s.920.1 of the *Local Government Act* and s.29(3.1) of the *Islands Trust Act*, enacts as follows:

PART I TITLE

1. This Bylaw may be cited for all purposes as "Thetis Island Local Trust Area Development Approval Information Bylaw No. XXX, 2011".

PART II PURPOSE

2. The purpose of this bylaw is to allow the Local Trust Committee to obtain information on the anticipated impact of proposed activities or development on the community.

PART III APPLICATION OF BYLAW

3. The requirements of this Bylaw apply to
 - (a) applicants for amendments to a bylaw of the Thetis Island Local Trust Committee enacted under s.903 of the *Local Government Act*;
 - (b) applicants for a development permit; and
 - (c) applicants for a temporary industrial or commercial use permit,

if the activity or development that is the subject of the application is a circumstance or in an area specified for the provision of development approval information in Thetis Island Official Community Plan Bylaw No. XXX or is an activity or development for which development approval information is otherwise required by that Bylaw.

4. The requirements of this Bylaw do not apply to any application for an activity or development that is a reviewable project under the Environmental Assessment Act.
5. Where development approval information is to be provided, the information shall be provided by the applicant, at the applicant's cost, in the form of a report prepared by the appropriate professional as set out in this bylaw.

PART IV PROCEDURE

6. The official assigned from time to time to provide planning services to the Thetis Island Local Trust Committee is the official for the purposes of this Bylaw
7. Within 30 days of receipt of an application an official shall determine whether and to what extent development approval information will be required in accordance with this bylaw and shall communicate the requirement to the applicant in writing.

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8. An official may determine that all or part of the required development approval information must be provided for each application, either in a report described in section 15 in the case of development permit applications described in those sections, or pursuant to terms of reference that establish the scope of the required impact information for applications described in section 18.
9. An applicant may request reconsideration by the Local Trust Committee of a decision of an official under this Bylaw within 30 days of the date on which the decision is communicated to them.
10. A request for reconsideration must be delivered in writing to the Planning Clerk and must set out the grounds on which the applicant considers the requirement is inappropriate and what, if any, requirement the applicant considers the Local Trust Committee ought to substitute.
11. The Planning Clerk must place each request for reconsideration on the agenda of the next meeting of the Local Trust Committee following the date on which the request for reconsideration was delivered, provided the request is received at least 10 days prior to that meeting.
12. The Planning Clerk must notify the applicant and any other person who the Planning Clerk reasonably considers may be affected by the reconsideration, of the date of the meeting at which the reconsideration will occur.
13. At the meeting, the Local Trust Committee may either confirm the requirement or decision of the official or substitute its own requirement or decision.

PART V S. 920 (DEVELOPMENT PERMIT) APPLICATION REQUIREMENTS

14. For Development Permit applications specified in section 15 of this bylaw, the applicant shall provide, as part of the development permit application, a report in the specified form.
15. For an application for a permit in respect of a development permit area designated under s. 919.1(1)(a) of the *Local Government Act* for protection of **marine shorelands**, the report shall contain the following information:
 - (a) A site plan professionally prepared at an appropriate scale, based on a legal survey, delineating the proposed development and associated features, the landward development permit area boundary, existing buildings and structures, and significant natural features. Site profiles and cross sections demonstrating terrain conditions prior to disturbance and intended conditions post development, where development would occur on slopes exceeding 20% grade.
 - (b) A site inventory, providing information on existing, pre-development plant communities, marine and terrestrial habitats, current on-site and adjacent land uses, slope stability, erosional processes, hydrology and marine sediment transport.
 - (c) A description of the proposed development detailing construction, cut and fill, blasting, road or driveway construction, vegetation clearing or trimming, alteration to hydrological systems, alterations affecting the marine foreshore, septic field installation, landscaping, or other land alteration during or after the development phase. The report should also identify alternative development options.
 - (d) An assessment of the nature and extent of the impact of the proposed development on the site, in particular anticipated impacts on identified site conditions, including but not limited to marine and terrestrial habitat, site hydrology, marine sediment transport, and public access to and along the foreshore. The assessment should identify impacts stemming from the construction phase, the intended long-term use of the site, and any cumulative impacts of development in the area.

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- (e) Recommended measures to limit, mitigate and manage the impacts of the proposed development on terrestrial and marine habitats and coastal processes. The report should describe mitigation measures and their anticipated effectiveness in maintaining the health, form and function of environmentally valuable features, including any recommended monitoring requirements.
 - (f) Recommended actions to restore or enhance ecosystem functions or habitat that have been degraded prior to development or that would be impacted by the proposed development.
16. Development Approval Information required in sections 14 through 15 must be prepared by a professional, with qualifications specified in the table below, except that the official may approve the involvement of a person having different qualifications if demonstrated, relevant, experience and qualifications are in the official's opinion suitable for the preparation of the information being provided in relation to a particular development permit application:

TYPE OF INFORMATION	CONSULTING PROFESSIONAL
Geotechnical and coastal processes considerations	Qualified Coastal Professional which means an engineer, geoscientist or geotechnical engineer in good standing with his/her professional organization within British Columbia, acting within his/her abilities, and with demonstrated experience and/or training pertaining to shoreline protection measures and coastal processes.
Biological / environmental considerations	Qualified Environmental Professional which means an applied scientist or technologist, acting alone or together with another qualified environmental professional, if: <ul style="list-style-type: none">• The individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association;• The individual's area of expertise is recognized in the assessment methods as one that is acceptable for the purpose of providing all or part of an assessment report in respect of that development proposal, and• The individual is acting within that individual's area of expertise.

17. If the official is not satisfied that the impact information provided by the applicant is sufficient to comply with the requirements of the bylaw, either in scope, level of detail, accuracy or in any other respect, or does not address any particular information requirements that are identified in or arise from any applicable guidelines in an official community plan, the official may require the applicant to provide, at the applicant's expense, further information reasonably required to comply with the bylaw, but a requirement for further information may be imposed once only.

PART VI TERMS OF REFERENCE

18. Upon the request of an official an applicant for the following:
- (a) amendments to a bylaw of the Thetis Island Local Trust Committee enacted under s.903 of the *Local Government Act*,
 - (b) a temporary use permit,

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must provide to the official written Terms of Reference for the preparation of information on the impact of the activity or development that is the subject of the application.

19. To the extent that the proposed activity or development can reasonably be expected to have an appreciable impact on any of the following matters, the Terms of Reference must include those matters in the scope of the impact information that is to be prepared:
 - (a) the natural environment of the area affected, including sensitive ecosystems and the habitat of rare or threatened species, including surrounding habitats impacted by the development activity;
 - (b) hazards, including geological, flood, stormwater, and wildfire hazards;
 - (c) greenhouse gas emissions, anticipated energy usage, and carbon emissions;
 - (d) groundwater resources;
 - (e) local infrastructure, including highways, ferry, water supply and sewage systems, fire protection systems, solid waste disposal and recycling facilities, utilities, local parking facilities and any other affected public infrastructure;
 - (f) local and off-island public or community facilities;
 - (g) local and off-island commercial services and employment opportunities;
 - (h) affordable and seniors housing needs;
 - (i) agricultural reserve lands and agricultural and forestry uses in the vicinity of the development;
 - (j) cultural heritage resources including resources of historical, cultural, archaeological, paleontological or architectural significance whether on land or underwater; and
 - (k) aesthetic values including the visual appearance of the development from adjacent properties, public lands, or the sea, and the effect of any artificial lighting proposed.
20. In addition to any matter listed in s.19, the applicant may include in the Terms of Reference any matter on which the applicant considers information ought to be provided to the Local Trust Committee to permit a full understanding of the impact of the proposed activity or development on the community affected.
21. The Terms of Reference must address any particular information requirements that are identified in or arise from any applicable guidelines in an official community plan, and in all cases must address any particular information requirements specified for such an application in any development application procedures bylaw of the Local Trust Committee.
22. In addition to any other requirements the Terms of Reference may require the person preparing the impact information to provide information on the relationship between the proposed activity or development and
 - (a) the object of the Islands Trust set out in the Islands Trust Act;
 - (b) the Islands Trust Policy Statement;
 - (c) the Islands Trust Fund Plan; and

DRAFT

- (d) in the case of a proposed zoning amendment, the official community plan of the Local Trust Committee.
23. The Terms of Reference shall specify that the impact information will be prepared by a person having professional expertise and relevant experience in the matters included in the Terms of Reference, and include information specifying the identity, qualifications and experience of the person who the applicant proposes to engage to prepare the information.
24. The Terms of Reference must specify the date by which and the form and the number of copies in which the impact information will be provided.
25. Within 10 business days of receipt of the Terms of Reference the official must indicate in writing to the applicant that
- (a) the Terms of Reference submitted by the applicant are acceptable;
 - (b) the Terms of Reference submitted by the applicant are acceptable if additional matters specified by the official and within the scope of s.22 of this Bylaw are included;
 - (c) the Terms of Reference submitted by the applicant are acceptable if a person other than one who has been proposed by the applicant in the Terms of Reference, whose selection has been approved in writing by the official, prepares the impact information; or
 - (d) the Terms of Reference are unacceptable and must be replaced by the applicant.
26. For the purposes of s.25(b), when accepting Terms of Reference the official may advise the applicant of other projects proposed or under development in the area that may be affected by the applicant's proposed activity or development.
27. If the official does not provide advice pursuant to s.25 by the end of the tenth business day the official is deemed to have accepted the proposed Terms of Reference.
28. Upon receipt of notice accepting the Terms of Reference or where the Terms of Reference have been deemed to be accepted, the applicant must prepare the impact information in accordance with the accepted Terms of Reference and within the time specified in the Terms of Reference must provide it to the Local Trust Committee, at the applicant's expense.
29. For every matter within the scope of s.19 that is included in the Terms of Reference, the applicant must:
- (a) identify relevant baseline information and document the nature of the resource or other matter on which the proposed activity or development may have an impact;
 - (b) identify and describe the potential and likely impacts of the activity or development including any cumulative effects when combined with other projects proposed or under development;
 - (c) evaluate the impacts in terms of their significance and the extent to which and how they might be mitigated; and
 - (d) make recommendations as to conditions of approval that may be appropriate to ensure that undesirable impacts are minimized or avoided,
 - (e) make recommendations as to measures that may restore or enhance natural functions or features that have been damaged or degraded prior to development or that would be impacted by the proposed development

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all in accordance with generally accepted impact assessment methodology.

- 30. If Terms of Reference approved under s.25 specify professional expertise in the preparation of impact information, prior to authorizing the preparation of the information by any person the applicant must deliver to the official information specifying the identity, qualifications and experience of the person who the applicant proposes to engage to prepare the information, unless that information was included in the approved Terms of Reference.
- 31. Within 10 business days of receipt of the information, the official must advise the applicant whether the proposed person is acceptable, and if the person is not acceptable the official must advise the applicant in writing of the reason and may propose one or more alternative acceptable persons. If such advice is not provided by the end of the tenth business day, the official is deemed to have accepted the proposed person.
- 32. If the official is not satisfied that the impact information provided by the applicant is sufficient to comply with the Terms of Reference, either in scope, level of detail, accuracy or in any other respect, the official may require the applicant to provide, at the applicant's expense, further information reasonably required to comply with the Terms of Reference, but a requirement for further information may be imposed once only.

PART VII INDEPENDENT REVIEW

- 33. If the official considers that the impact information provided by an applicant, pursuant to Parts V or VI, or any portion of it, requires an independent review prior to being considered by the Local Trust Committee, the official may require the applicant to provide such a review of the information including the methodology used in its preparation.
- 34. The official may specify that the independent review be conducted by a member of the relevant professional association and may specify terms of reference for the review.
- 35. The applicant must arrange for the independent review to be conducted and submitted in writing to the local trust committee, at the applicant's expense and within the time specified by the official.

PART VIII PROPRIETARY RIGHTS IN INFORMATION

- 36. The information that is provided to the Local Trust Committee pursuant to this Bylaw is required by the Local Trust Committee in the exercise of its powers under the *Local Government Act* and the *Islands Trust Act*. Every report or other document provided to the Local Trust Committee pursuant to this Bylaw must accordingly contain an express grant of permission to the Local Trust Committee to use and reproduce the information contained in the report or other document for non-commercial purposes.

READ A FIRST TIME THIS ___TH DAY OF _____ , 20__.

READ A SECOND TIME this ___TH DAY OF _____ , 20__.

READ A THIRD TIME THIS ___TH DAY OF _____ , 20__.

ADOPTED THIS ___ST DAY OF _____ , 20__.

SECRETARY

CHAIRPERSON