



Strategic Plan

CFSA-X Capital Project Annex B

Initial Land and Water Lot Considerations

*"Believe me, my young friend, there is nothing -
absolutely nothing - half so much worth doing as
simply messing about in boats."*

— Kenneth Grahame, *The Wind in the Willows*

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Strategic Plan 2017-2022

Initial Land and Water Lot Considerations

Introduction

1. As part of the Strategic Planning for the Canadian Forces Sailing Association Esquimalt Squadron, this document represents an aspirational statement of the requirements of the club.
2. This document was written in the fall of 2017 as part of the strategic planning of the club as it struggled to understand what was needed in a future club after the signing of the MOU that divested the Munroe Head property and forced planning for the relocation of the club.
3. This represents the beginning and end of our long term planning and aims to focus that plan on the aspirational requirements of a club, given no limits to resources or real property constraints. Further planning will look at the constraints of capital and equipment acquisitions, how that equipment fits within the vision and mission, and cost its operation and maintenance.
4. Further refinement will apply these requirements into the constraints of reality and budgeting.

Land and Waterlot Requirements

Goals

CFSA Future property goals are to transform CFSA into a new club that builds upon the hard work of previous generations of sailors and athletes that have come through our club.

Property Standards

CFSA building plans and assumptions will use building codes and standards that are as local to Victoria British Columbia as possible. These include, but are not limited to Government of BC standards and municipal codes.

When considering accessibility, it is CFSA's goal to meet and exceed accessibility standards. We are proud of our partnership with Disabled Sailing and we want to ensure that DSA sailors always feel at home and part of CFSA. The BC Office of Housing and Construction Standards, *Building Access Handbook 2014*, has been used as a guide.

CFSA has always strived to meet high Environmental Standards and has used the PCA Consultants Best Management Practices for Marinas and Small Boatyards in British Columbia (1995) written for Environment Canada. In addition CFSA works with Formation Safety Environment to ensure current Formation environmental standards are maintained.

Conventions

- The year 2030 is used as a placeholder date for when operations have re-normalised
- The year 2025 is used as a placeholder date for when 75% of operations have been re-established
- The year 2022 is used as a first date when operations have commenced at a transformed club
- The year 2046 is used as a placeholder date for when a transformed club will have paid off any financing and begin a new recapitalisation programme.
- When current capacity is discussed it is assumed to be 400 members.

Membership at a transformed club should reflect the club at its best. A future club should also reflect the gains that we expect to make when we change the club infrastructure to attract the members of the defence community that currently either do not join or do not keep their boats at CFSA.

Assumptions:

1. The future club will be more expensive than it currently is in terms of both moorage and membership, but it will still be significantly less expensive than either other clubs or commercial marinas.
2. Future costs and incremental increases to CFSA's operations are mirrored in commercial and private clubs who are also facing increasing cost pressures.
3. Changing the marina footprint will only marginally increase membership. There are many members that do not keep their boats at CFSA because they either do not fit, or they prefer to be closer to cruising grounds. Because of the low cost of membership it is unlikely that there are many CFSA eligible members that have boats but are not in fact members.
4. It is the vibrancy of our programming that is the biggest influencer on membership.

Future Membership:

The membership will be affected by the move. There will be dips in the numbers of people that are willing to keep their membership in a club that may be under the severe pressure of the move. There should be no more than 25% drop in membership numbers throughout the move process.

The post-move reality will see the club rebound to its current membership and beyond, but the increase to the membership is not particularly significant from a revenue perspective (6-12% from current peaks). There is expected to be small increase to the membership from currently missed opportunities, as well as the moorage can be changed to reflect the changing geometry (physical dimensions) of the sailboats that make up the market where wider and wider beams and lengths are becoming more common.

The goal of the future club is to maintain the essential capabilities of our current club and permit increasingly vibrant programming for the majority of the membership (who do not keep boats at the club). Moorage, however, remains a priority as the programming (learn to sail, and racing require moorage, boats and the revenues from moorage).

31 March	2013	2014	2015	2016	2017 (Goal)	2022	2025	2030
Regular	256	261	265	245	294 (305)	215	250	320
Serving	114	105	90	74	98	110	75	90
Retired	142	156	175	171	196	205	140	160
Ordinary	15	21	16	17	18 (20)	15	15	25
Associate	41	53	57	57	59 (60)	20	40	65
Jr	8	5	8	3	5 (10)	5	5	10
Spouse		19	13	21	24 (25)	15	18	24
Life	6	7	5	6	6 (6)	6	6	6
TOTAL	326	366	364	349	406 (426)	276	334	450

2. Land Lot Requirements

This section outlines the basic requirements for a future club of 450 members operating at full capacity in a traditional sailing club configuration. It does not account, except where noted, for engineering efficiencies or synergies that could result from inventive design.

Clubhouse

The current clubhouse is insufficient to our current needs. A future clubhouse needs to be able to house a greater proportion of the membership. For the purposes of awards nights, general meetings, regatta banquets, open houses, and large scale club

socials/dinners the current setup does not permit the membership to meet in adequate numbers.

A future clubhouse should be able to house at least 40% of the future club membership. At full capacity of 450 members that would give a combined clubhouse capacity of 180 persons. Below, the corollary of a room or building with the capacity specified at 180 persons are extracted from the BC Building code as summarised by the City of Nanaimo.¹

Entertaining Capacity

The clubhouse entertaining area is broken down into a bar and a banquet facility. These areas should meet the following requirements:

Capability	Requirement	Size	Notes
Bar / Games	Occupant Load 60	80m ²	1m ² per person + pool table. Bar, Booth and Flex seating. PA & Multimedia capable.
	Bar with draft beer	2.5m x 10m	2 Serving areas or 1 per room. Self-serve Coffee bar.
	Beer & Keg Cooler	5.5m ²	Highly Secure
	Spirit/Pop Locker	7m ²	Highly Secure
Banquet	Occupant Load 120	144m ²	Meetings or Dining/Dancing. Separation from bar area.
	Banquet storage	15m ²	Tables, Chairs & Shelving
	Stage	15m ²	PA & Multimedia capable
Galley	Central location	55m ²	Serve both bar and banquet. Exterior access door.
Heads & Washplace	3 Male	18m ²	Code + 1 Accessible

¹<https://www.nanaimo.ca/assets/Departments/Building~Inspection/Publications~and~Forms/OccupantLoadCalculation.pdf> , Accessed 4 June 17

	5 Female	18m ²	Code + 1 Accessible
	2 Disabled/Family	2m x 2.5m	Code + 1
Storage	Seasonal items	7m ²	Secure
Exterior deck	Occupancy Load 40	40m ²	Occupancy shared with above.
		400m ²	Total

Reciprocal and Changing Facilities

Though this capacity is currently housed in the clubhouse, it may also reside in a separate building closer to the docks. The ability to house changing, shower and other hotel services is a key enabler to ensure that the club can operate within the sailing club circles for offering and receiving reciprocal club privileges. These facilities will be gender neutral, which works well in our current setup, with private shower-rooms and private toilet facilities in a common wash-area. With six fully accessible shower/bathrooms we will no longer have to rent accessible porta-potties for DSA events. All reciprocal facilities require 24/7 access.

Capability	Requirement	Size	Notes
Toilet, Sink, Shower Compartment	6 Fully accessible	2.2m x 3.6m each	2 w/power operated doors
Shower / Changing	3	1m x 2.5m ea	
Toilet Compartment	2	1.5m x 1.5m ea	
Laundry	2 washers 2 dryers	10m ²	w/Folding table & set tub WiFi & Exchange Library
		70m ²	Total

Classroom, Training and Juniors

In order to support the training programme some sort of training facility is needed. A classroom facility and training storage room is required to teach the various courses the club offers. Classes and instruction offered include sail training, safety briefings, regatta management, and outside training rentals. Its most frequent use is under contract with école Victor-Brodeur for intramural sail training. The requirements below are based on a maximum class size of 24 students, which corresponds with two combined dinghy classes, a typical cruiser lecture series, and accommodates Victor Brodeur. The sizing is based on BC standard classroom sizing.²

In addition to training, the club junior programme needs space for for lockers and a junior clubhouse. As well office and administrative space is needed. With good planning, synergies and space sharing could produce multi-use facilities that would reduce the overall footprint and meet requirements.

Capability	Requirement	Size	Notes
Classroom		75m ²	BC Code minimum
Trg Material Storage		20m ²	Should be co-located
Junior Clubhouse	May be shared	35m ²	
		130m ²	Total

Office Space

Clerical and administrative space is needed, though with increased IT resources and creative design the space needed to support these requirements is decreasing, and could be converted into communications, and technology closets. DSA and foreshore need

² Para 2.2.4 of <http://www2.gov.bc.ca/assets/gov/education/administration/resource-management/capital-planning/areastandards.pdf>, accessed 4 June 17

proximity to the main brow, whereas the training office and club management functions do not. The size of the DSA office requirement is larger to reflect the need to accommodate people with mobility issues and to give caregivers a place to wait and watch for sailors to return.

Capability	Requirement	Size	Notes
Foreshore Office	Separate Office	7.5m ²	Near brow
DSA Office	May be shared	35m ²	Near brow (waiting room)
Training Office		20m ²	TrainingO & Club Manager
Club Manager		130m ²	Could be combined
		62.5m ²	Total

Building Summary

Capability	Size
Entertaining	400 m ²
Reciprocal and Changing	70m ²
Classrooms	130m ²
Office	62.5m ²
Total	662.5m ²

Parking

The club parking capacity must be flexible enough to deal with the variety of needs that the membership faces. There must be some long term parking that permits members to conduct extended cruising. The foreshore brow should be car accessible for the delivery of goods and supplies to vessels. Racing and events should be handled without using surge capacity. Parking is currently stressed at 80 spots or 20% of current capacity. This proportion should be considered as a minimum. Agreements or plans for contingency parking should be made to come close to doubling that capacity for large events. On non-event days the parking needs to be able to accommodate access to the foreshore for a Handy-Dart style bus.

Capability	Requirement	Size	Notes
Regular Parking	90 - 115	3m wide	20 Long term capable
Event Parking	approx 60	2.7m wide	For a total of 160.
Handicap Accessible	8	4m wide	Exceeds 1+1/100 of code
Car + Boat Trailer	2	2.7m x 18m	Day use only
Bicycle	10	3.5m x 4.5m	Outside racks
Bicycle Storage Room	5	2.5m x 3.5m	Inside, secure, long term

Storage

The requirements below reflect an aggregate storage requirement and is loosely based on the functional divisions of the club. For instance: the volunteers who maintain the clubhouse and the grounds around the clubhouse need places to work and store equipment some of their storage might be located with other divisions.

Some storage cannot be combined. HAZMAT and POL have their own specific storage requirements and access should be controlled to some equipment.

Capability	Requirement	Size	Notes
Small garden shed	1	7.5m ²	Unheated seasonal use

Storage	1	15m ²	House and Grounds
CFSa Dinghy Equipment	1 TEU	15m ²	
DSA Equipment	1 TEU	15m ²	Access controlled
EVB Equipment	1 TEU	15m ²	Access controlled
Race Equipment	Storage Room	20m ²	Access controlled & Heavy Shelving
HAZMAT Cabinets	Outside	5m ²	
Battery Charging	Under cover	2m ²	
Gasoline Storage	HAZMAT Locker	2.5m ²	Away from other buildings
		97 m ²	Total

Workshops

Foreshore

The Foreshore as a functional division is charged with the construction, maintenance and enhancement of the moorage facilities. This division is one of the most critical, as the work done by foreshore volunteers is the key enablers of the club to reduce cost barriers. The workshops and maintenance are going to be high priority items in the transformation of the club.

Members who have completed a CFSa shop safety training may use them to work on their own boat projects. The store room houses all tools and supplies needed to run the workshops, and it's access is tightly controlled.

Small Boats Workshop

Our small boats are repaired in-house when possible. The small boats workshop is a garage-like structure that allows club powerboats to be worked on while on their trailers. It has a workbench and cabinets to store parts and tools. Hazardous materials are secured in four specialized cabinets outside of the main small boats workshop.

Capability	Requirement	Size	Notes
Wood Shop	30 ft beam capable and 45 ft beam with doors open	764 Sq Ft	
Metal Shop	Handle 20 ft of stock	400 Sq ft	
Paint/Varnish Shop	H&G Finishing work and boat projects	360 Sq Ft	
Small Boats	Able to repair coach boats and outboard motors	360 Sq Ft	Gantry Capable
Foreshore Tools		270 Sq Ft	
Covered Layapart	Protect staged projects up to 1 dock section/finger		

Foreshore Capabilities:

Haulout Area

The CFSA Haulout capability includes all of the services necessary to work on a boat that is hauled out of the water. These services include a hard standing area, and the environmental protection equipment needed to keep the area clean. This includes water recycling/filtering and capture. Perimeter berms ensure that there is no escape of contaminated waters. Typical work performed in this area is sanding, painting, and exterior fibreglass and hull work. The surface and load bearing abilities of the area must be sufficient to accomplish haulouts of the majority of the boats.

Hard Standing

The haulout hard standing surface should be 685 Sq Metres. This will typically hold between 8-10 boats at any given time and is a light increase to the current capacity. The crane or haulout method will depend upon a variety of factors driven mostly by geograpy

and hydrography. The strength of the hard, however should be sufficient to accommodate a crane lifting 25 000 pounds of boat.

Mast Crane

A mast crane is an essential piece of equipment that permits the stepping and unstepping of masts. It can also serve for the dry sailing of some racing boats. A crane with a 350 Kg Dynamic Lift capability would permit an incremental increase to the club current capacity and permit the launching of DSA Martins and Mini-12s or 2.4 mR boats. These later two are an increasingly popular class of mini keelboats that members are moving elsewhere to sail.

Boat Launch

Proximity to and access to a boat launch is an important part of any marina operation. It permits the easy removal and launching of small boats as well as the launching and repair of dock sections. Depending on the haulout configuration, the boat launch might be the method by which self-propelled trailers, travel-lifts or rail-cradles haul boats to the hardstanding.

Tender Racks

The storage of dinghies or tenders for at least half of the boats. By storing tenders on the land-lot the club can save dock space and keep the water-lot requirements to a minimum. There are creative ways to store tenders that reduce their footprints, but a total of between 60 and 70 tenders will need to be stored.

3. Water Lot

The water lot is the place where moorage and boats are kept. There are three aspects to determine the the water lot requirements. The first is the amount of moorage that needs to be accommodated. Next is the characteristics of the fingers and main docks and third are the environmental considerations that will affect the placement of the docks

Moorage

The moorage requirement was determined using the following method:

Premises:

1. A moorage plan should reflect future demand and needs to accommodate future boats.
2. The nature of the boats moored will not change substantially and can be broken down into four categories.
3. The nature of CFSA's moored boats is that they are on average 30 years old.

4. An increase in membership will proportionally affect demand for moorage.
5. An increase in moorage demand will be proportionally distributed.

Deductions:

1. Given 1, 2 and 3 and if 3 holds true when we want to be at capacity and re-capitalising (2046), then the new boats of today (2016/2017) will be the boats that make up the moorage of 2046 and their dimensions should determine the capacity of the water lot.
2. Given 2, 4 and 5 the four size categories of today's moderate boat market will make up future dimensions and the categories can be determined and the distribution extrapolated.

The boats can be broken down into four size categories that correspond to the kinds of slips offered. The distribution of current moorage is reflected in the table below and the future needs calculated based on the methods above.

	CURRENT			FUTURE		
Size	Dimens. In Feet (Length / Beam)	Numbers	Dist	Dimens.	Numbers	Dist
Small	Under 28 / 8	20	18%	30 and under / 10	23	18%
Med - Small	28-36 / 10	54	49%	30-36 / 12	63	50%
Med - Large	36-38 / 11	24	21%	36-40 / 14	25	20%
Large	38-40 / 12	7	6%	40-45 / 14	8	7%
Coach		7	6%		6	5%

Total Reg Moorage		112			125	
Sail Dinghies		26			29	
Guest Moorage		80 Linear Feet			90 Linear feet	

Dock Considerations

Brow

The brow or access to the floats should be sufficiently wide to accommodate two electric wheelchairs in order to permit them to pass safely. Side guards/handholds need to be sufficient to keep the two chairs safely on the brow, and the length of the brow should be long enough to ensure the vertical angle of the brow is not too steep making it inaccessible at low tide the accessibility handbook recommends ramps not be steeper than 1 in 10.

Main Docks

The main docks should follow similar width from obstruction to obstruction (cleat to cleat). The finger docks should be a minimum of 30 inches from cleat to cleat.

Dock Services

Basic water and marine 30 amp electrical services services should be available at the slips. The power towers and freshwater faucets need to be planned so that shore cables and hoses do not become obstructions. A fire protection plan will have to be developed and will require the placement of first-aid fire extinguishers at regular intervals. A black water pumpout system will have to be incorporated into the guest moorage location in order to comply with modern blackwater laws and Esquimalt Harbour Instructions.

Environmental Factors

Depth of Water

Access to the two meter contour is key to ensuring that the boat drafts are accommodated. Boats may have become wider of beam, but they are not significantly deeper. Once the 2 meter contour is achieved most boats can be accommodated. Shallower areas of a waterlot can be used for coach boats and sailing dinghies.

Wind and Current

The presence of strong winds and currents make close-in manoeuvring difficult and will force a widening of the distance between sets of fingers. Those factors will also increase needed strength of the docks, which will necessitate increased securing mechanisms (piles or moorings).