Marina Basin Planning Study
Port of Hood River
December 2007

Flowing solutions

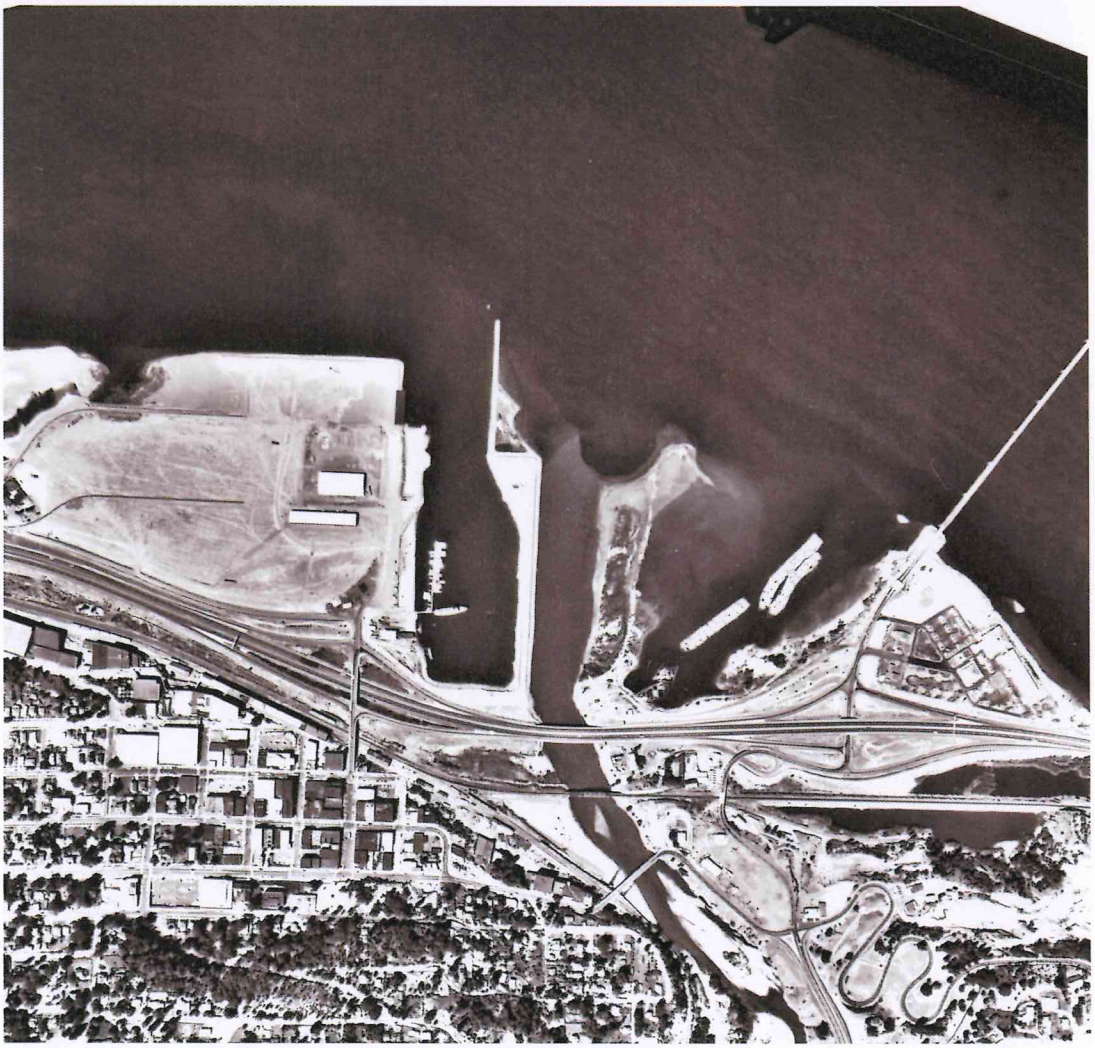
Contents

1. Context

This study was conducted to develop a framework for future development of the basin and to guide system upgrades and infrastructure improvements. The plan reviewed existing uses, future uses and evaluated potential market opportunities.

2. Background

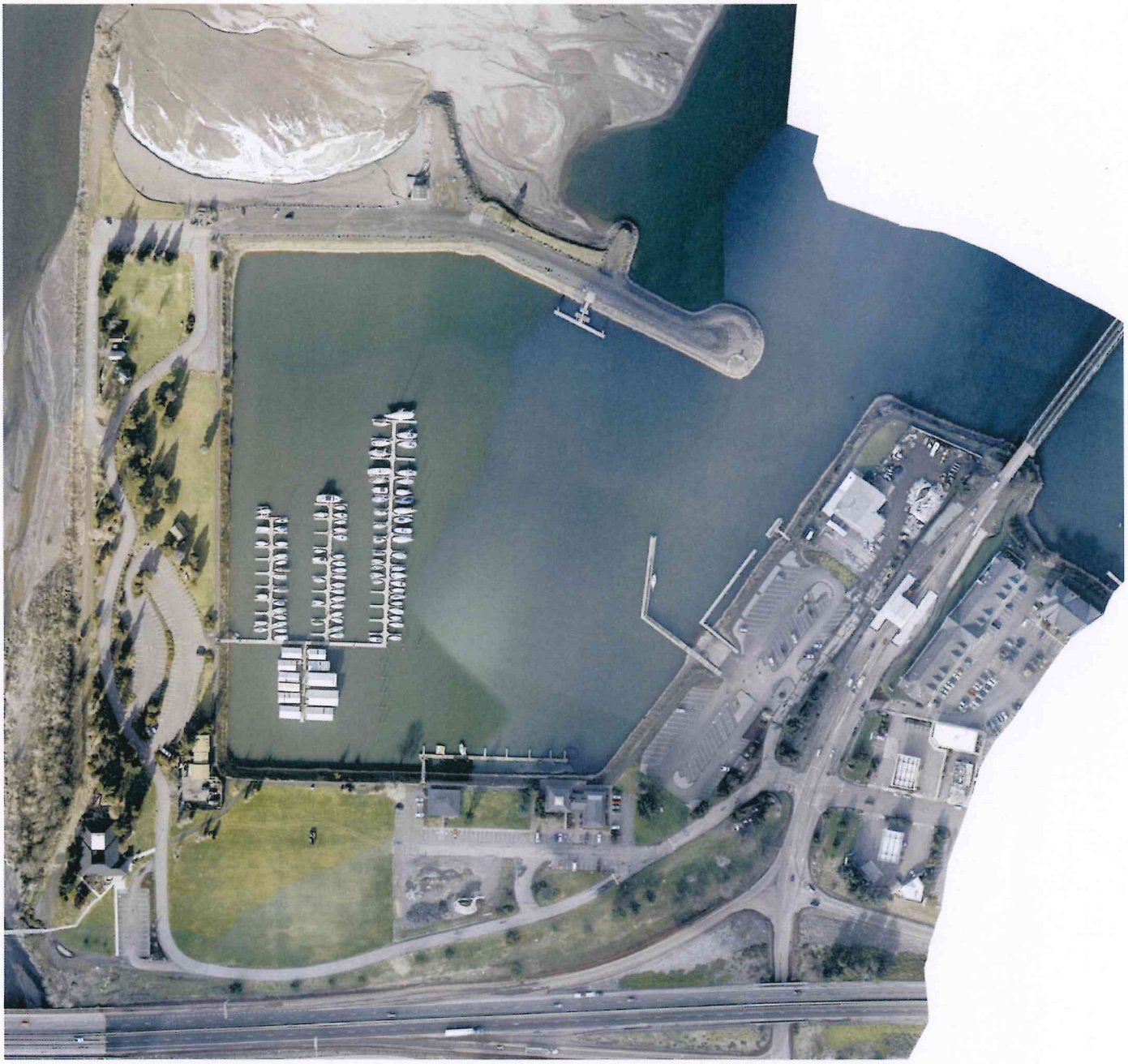
A permit to construct the Hood River Marina basin was issued by the Corp of Engineers in 1968; construction work followed shortly after. The work consisted of installing groins, rip-rap breakwater and hydraulic fill to create a 24-acre enclosed basin and 19 acres of uplands.



Hood River 1968

Installation of docks, piling and upland improvements have progressed over the years based on demand and available funding. This included marina slips, a transient dock, fuel dock, sea-plane dock, boat ramp, tour boat dock, restrooms, parking and office buildings. The marina has been expanded several times over the years based on previous plans in place. Each expansion has attached to the existing dock systems and connected to available utilities.

Several additional piling have been installed to facilitate future expansion, however no docks have been installed.



Hood River Marina Park

Air Photo: January 22, 2007

3. Existing Infrastructure

The marina moorage has basic water and electrical service. It appears that the original docks had no services and they were added some time later. Power conduits and water lines were suspended from the whaler system, a practice that is avoided now due to maintenance and safety concerns. The most recent addition has integrated deck pull boxes for utilities.

The existing electrical service within the marina is inadequate; however, upland service capacity is likely available or easily upgraded by the provider. The location of the existing utilities, lack of integrated conduits in the dock and substandard services require an alternate solution for upgrading to meet future demands. Any proposed marina expansion would require some marina-wide upgrades.

A large vault, likely containing a back flow device, is located at the top of the gangway. This provides wash water to the marina and some limited fire suppression flow to the hydrant.

4. Market/Demand

Wet Moorage: There are 120 boats on the moorage waiting list, and an additional 22 on the boathouse list. The listed boats are principally smaller, in the 25-foot range. This data suggests that the moorage could expand by nearly 2/3, just based on the waiting list. This does not consider the likelihood that boaters with larger craft do not ask to be on the list because the moorage has little inventory to accommodate them. 48% of combined tenant and wait-list boats are 25' or under. It appears that about 80% of this 48% are power boats. This suggests an effective option of efficient dry, trailer storage, or an open dry-stack storage may be considered.

Dry Storage: Dry stack has also been effectively marketed to 20-25 ft performance ski boat owners. Upland real estate is valuable and storing boats on it should be considered a secondary use until in-water area is maximized.

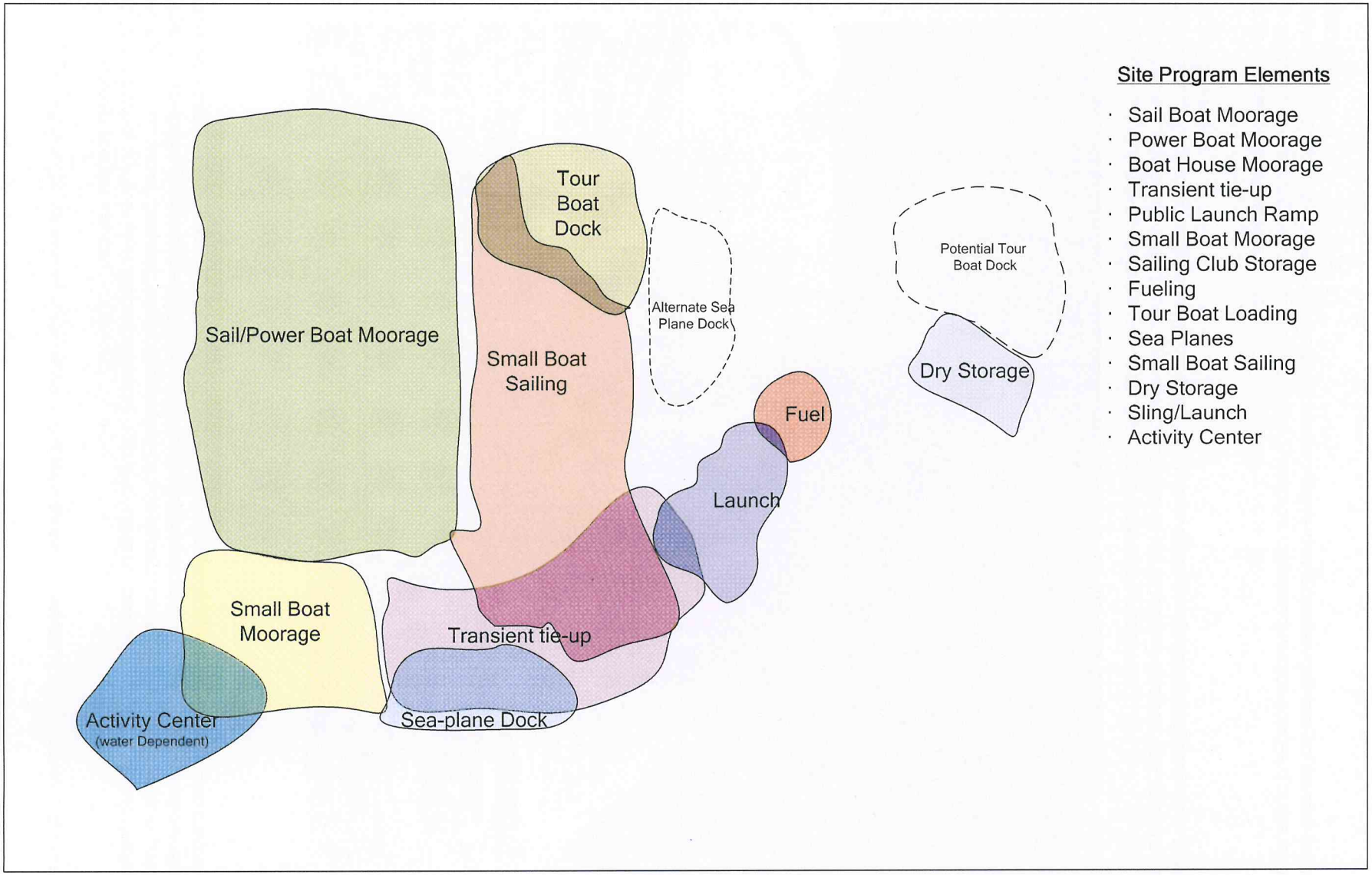
Houseboats: These structures provide a very limited revenue base and they present a relatively high risk to the Port for fire and general pollution problems. In general, boathouses tend to be a depreciating eyesore over the long haul. The largest single boat in these structures is 31'. All of the current boathouse tenants and all of those on the wait-list could be efficiently accommodated in a 30 slip, 30' covered moorage pier. Some additional boat length data from owners on the waiting list should confirm this. Trading boathouses for covered slips would also be seen as a positive by the fisheries agencies. The water area covered by a covered roof would be about the same as is covered today, but modern covered moorage will integrate transparent roof structures and other light-transmitting techniques welcomed by fisheries agencies.

Seaplanes: This element is a logical use for the basin; however, it conflicts with other recreational uses. Because activities will increase in the basin, public safety may require relocation in the future. Relocating the moorage closer to the marina entrance would reduce potential for conflicts. At this time, seaplane moorage does not appear to be resulting in reasonable revenue for the space occupied and its impact on the basin. Adjustment of the rates would assist with future relocation/amenity upgrades.

5. Basin Uses

Multiple uses occur in the Hood River Marina Basin. These uses are generally complementary water-dependant uses which enhance the vibrant waterfront character of Hood River. One key to enhancing this character is to identify current and future uses and organize them to enhance each use and reduce conflicts. Existing uses include wet moorage, transient tie-up, boat launch/retrieval, fueling/pump-out, sea-plane moorage, tour boat facilities and small vessel sailing. New uses include a programmed space for the Hood River Yacht Club, dry boat storage, small boat/shell storage on the water, sling/hoist launching, and enhanced waterfront trails/retail. The existing uses have be reconfigured to avoid conflicts and provided future expansion room. The diagram on Page 6 shows the basin and general use areas. These zones are diagrammatic and can be adjusted based on market demands.

Parking is a key consideration in expansion. Parking is typically only an issue during peak summer days and holidays, however expansion may require future overflow parking expansion in areas such as the ODOT Right of Way and other flexible 'green' parking areas.



PROGRAM ELEMENTS

6. Expansion Options

Using this diagram on Page 6 as a guide several expansions were investigated. One option included maximizing moorage area, similar to past master plans. While numerous slips could be installed, demand is not present or anticipated in the general future to support this. Other options included a balanced development direction simply adding slips based on lowest cost. While these are more financially attractive, usability and future expansion suffers. For example simply adding all slips to the existing docks will work however access to new docks over old docks would suffer when replacement is required, also utilities are not satisfactory to add additional slips to existing.
Expansion of the moorage capacity can be accomplished in several ways, however moving and changing configurations is costly, thus developing an expansion plan which meets current and future needs is critical. The existing demand for moorage exceeds supply, thus a wait list exists. This results in most users paying on a yearly basis, maintaining revenue. Adding too many slips at one time will result in more seasonal users, likely reducing revenue. The ability to easily add slips tracking demand is central to the recommended option.

The current trend in boating is for longer and wider boats. However, local boating conditions and uses may not support this trend. In most markets larger boats also tend to be more likely to be in the moorage on a year-long contract, rather than seasonal usage.

Development of options included review of the existing market, review of general trends for the Gorge and review of wait list data. Options considered included reconfiguration of the basin, relocating/reconfiguring existing docks, and basic addition to existing docks. Detailed suggestions provided by Hood River Yacht Club (HRYC) have also been integrated into the proposed option.

7. Preferred Option (See figure on page 9)

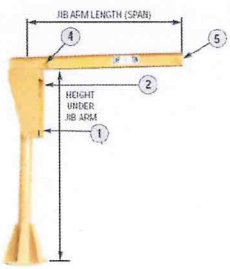
Given the existing investment in the docks and piling, monthly rent charged and condition of the docks, adding to the existing configuration appears to be the best solution. This expansion would meet existing demand and would consist of building out to specific lines envisioned by the original plan. Future additions could add a new access to minimize walking distance or add to the existing marina configuration as needed.

Specifics of the option include addition of sixteen 30-ft long slips initially, then twenty-eight 30-ft slips and ten 40-ft slips at a later date based on demand. These slip include double berths 25-ft and 31-ft wide respectively, to accommodate larger beamed boats.

Flat low level docks could be provided along C row South for rowing shells and crew shells. These users typically pay seasonally if the boats are stored on racks with a cover. Significant income can be obtained from these facilities. This design would not require removal of boat houses.

A dinghy storage dock would be added along the South West edge of the basin. This would include a walkway with low wood floats. Space on this would be rented to dinghy sail boats allowing them to keep the masts up, but the boat out of the water. Sufficient space for 30 boats would be available. This could also provide area for sailing schools and community education program use. Additional transient moorage would be provided along a dock connecting the sea-plane dock to the marina. This would complete a loop around the South West corner of the marina, and accomplish the goal of providing two exit paths from the marina, a common requirement of new marinas. Gates would be provided to control access and provide security.

TRAVEL LIFT



JIB LAUNCH CRANE

As suggested by HRYC, the existing Port maintenance area could be reprogrammed for additional community education storage and small sailing club use. Due to the location, parking, and close water access a reasonable lease revenue is possible for this facility.

Other improvements could include the addition of large boat launch pier/lift and extending the boat ramp for improved launching capacity. Extending the ramp is possible, but would require special methods, as ramps are built from the bottom up. OSMB funding may or may not be available for extending the ramp as the existing ramp functions and allows launching of a majority of the boats using the facility.

Initial Addition Area

We recommend this section of the marina be expanded first to utilize existing piling and minimize permitting. This initial work will not require in-water pile driving permits. Expansion in this area will also minimize required utility upgrades and allow assessment of impacts on demand when combined with providing upland storage. This work should include providing new concrete docks which provide areas for utilities within the decks and external hoops. This will allow reuse and relocation if required in the future.

Details:

1. Finalize utility upgrades and changes to service addition
2. Install 16 slips utilizing existing piling
3. Relocate boat houses based on size to provide additional slip spaces
4. Install Kayak/Shell storage docks as demand requires
5. Additional slips could be installed where shell storage is shown; however, house boats would need to be relocated

This following work would require in-water permits for pile driving.

Secondary Addition

This work will provide additional slips on the main moorage access walkway system. This addition will require full upgrades of utilities along the existing docks. It will provide additional moorage at the lowest cost, and will minimize impact to future expansion. The configuration shown provides larger slips with 'up-wind' docking as requested. Alternatively the existing sizes and configuration could be expanded North.

Details:

1. Finalize utility feeds/upgrades
2. Install piling and docks for 10 40ft slips — A Dock
3. Install piling and docks for 28 30ft slips — D Dock

Storage for dinghy and small sailing craft could be provided on the water. This would allow the mast to remain up and the boat dry. Most small dinghy craft do not have bilge pumps and are stored with the drain plug out on a floating dock.

Details:

1. Install dinghy dock and piling
2. Install 15x24 dinghy storage float modules

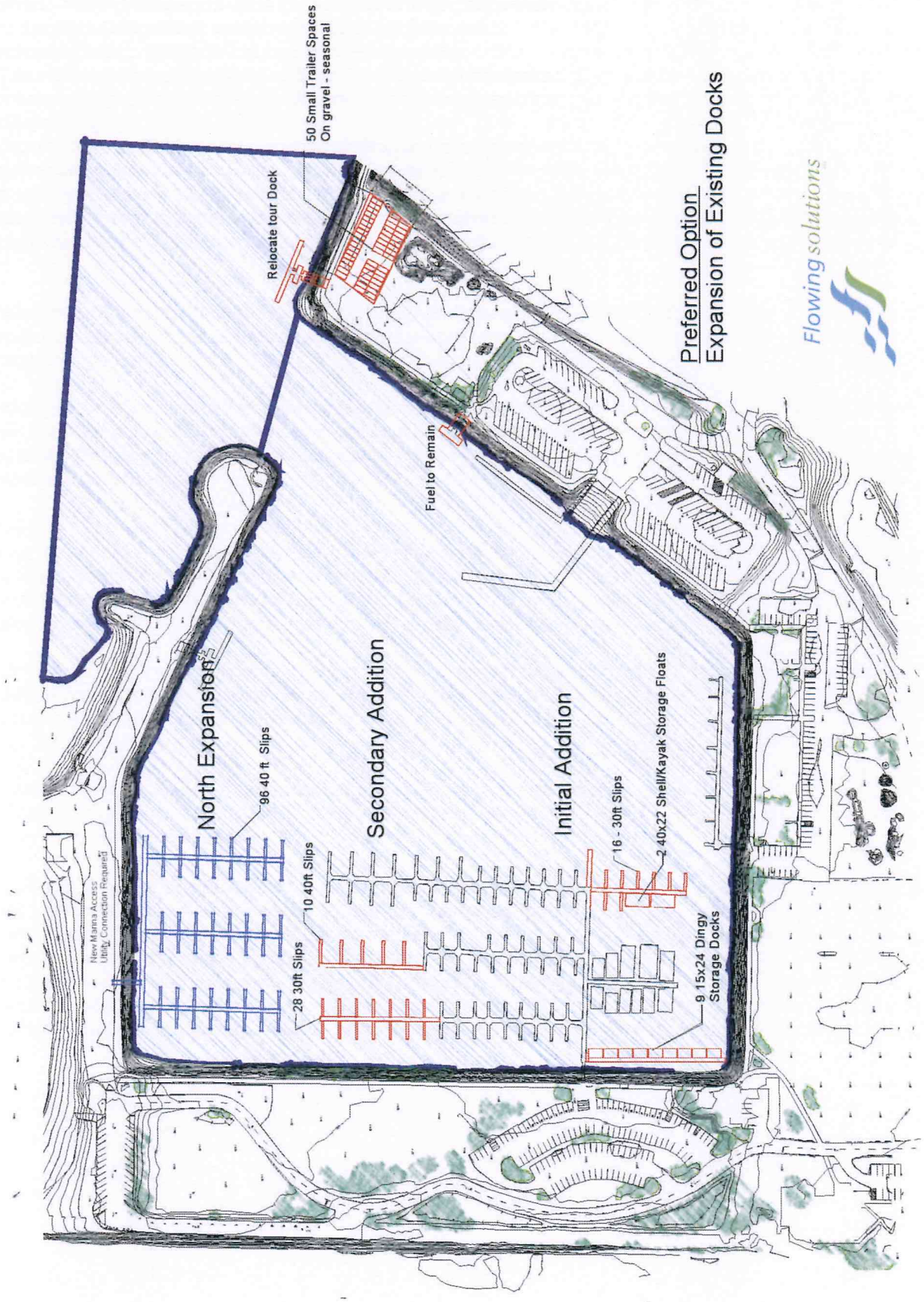
North Expansion

This work includes developing a new access and marina to the North. This will minimize walking distance to new slips, and provide a new base for larger slips and modern configuration. This new moorage will require new utility service and parking upgrades. By developing a new access point all components of the moorage can be sized based on modern needs. It would also allow the older section to be modernized by shifting tenants to the new facility before it is full.

Details:

1. Install new piling
2. Install new concrete slips and walkways
3. Install utilities/upland feeders
4. Develop required ADA parking near head of gangway

Preferred Option



8. Permitting

The basin was originally conceived and permitted as a moorage, which will simplify permitting with some agencies. All pile driving, dredging and launch ramp work will require permits and be restricted to the preferred in-water work window.

Addition of docks to the existing floats will not likely require a permit; however, this should be verified. Also, depending on the DSL lease boundary, an amendment may be required.

The addition of new pilings and floats will require permits; however, the location, in a protected basin may be seen as having limited impact on endangered species. Further review of permit issues is required and interpretations can vary with agencies.

9. Rates/Management/Leases

Pricing: In the current structure, the smallest craft have the highest rates/ft/mo – approximating average Portland rates. The largest boats have the lowest. There is a 44' boat in the moorage taking up 2 slips, paying an effective $1.12/ft/mo for each of them. For comparison, rates in the metro area are in the $6+ range to accommodate boats of this size.

Rates should be increased to provide adequate revenue to cover operation and maintenance costs as required. Future upgrades and expansions will also require the rates to be increased.

The extremely low rates may be contributing to the waiting list by encouraging people to store their boat at the marina just to preserve their space. If the rates were on par with other similar marinas, these boats may be replaced with more active boaters.

Similar marinas would include Cascade Locks, Scappoose Bay , St. Helens, and several moorages on the Multnomah Channel. These moorages do not charge Metro rates, however they are much higher than current Port rates.

It may also be worth considering separate rates for port district residents and out of area residents. It is also advised to consider developing a strategy of favorable pricing or dry storage to encourage smaller boats (<25) to stay during the off-season.

10. Maintenance

Several maintenance issues exist at the marina. Immediate safety issues are being addressed and many have been resolved. Specific maintenance issues are listed below:

- No transition plate on ramp
- Cleats are inadequately attached to docks and/or attachments are failing
- Whaler thru-bolts need to be tightened
- Many boathouse to dock attachments are inadequate and too weak to sustain maximum wind loads
- Roof vents on some boathouses suggest interior plumbing w/o connection to sewer
- The stringers and log floats under several boathouse floats show signs of extensive deterioration
- Live-aboard boats should be inspected to see that the Y-valve in the waste tank plumbing is wired or otherwise secured in position to direct all sewage to the holding tank. Live-aboards are not allowed now.

11. Other Opportunities

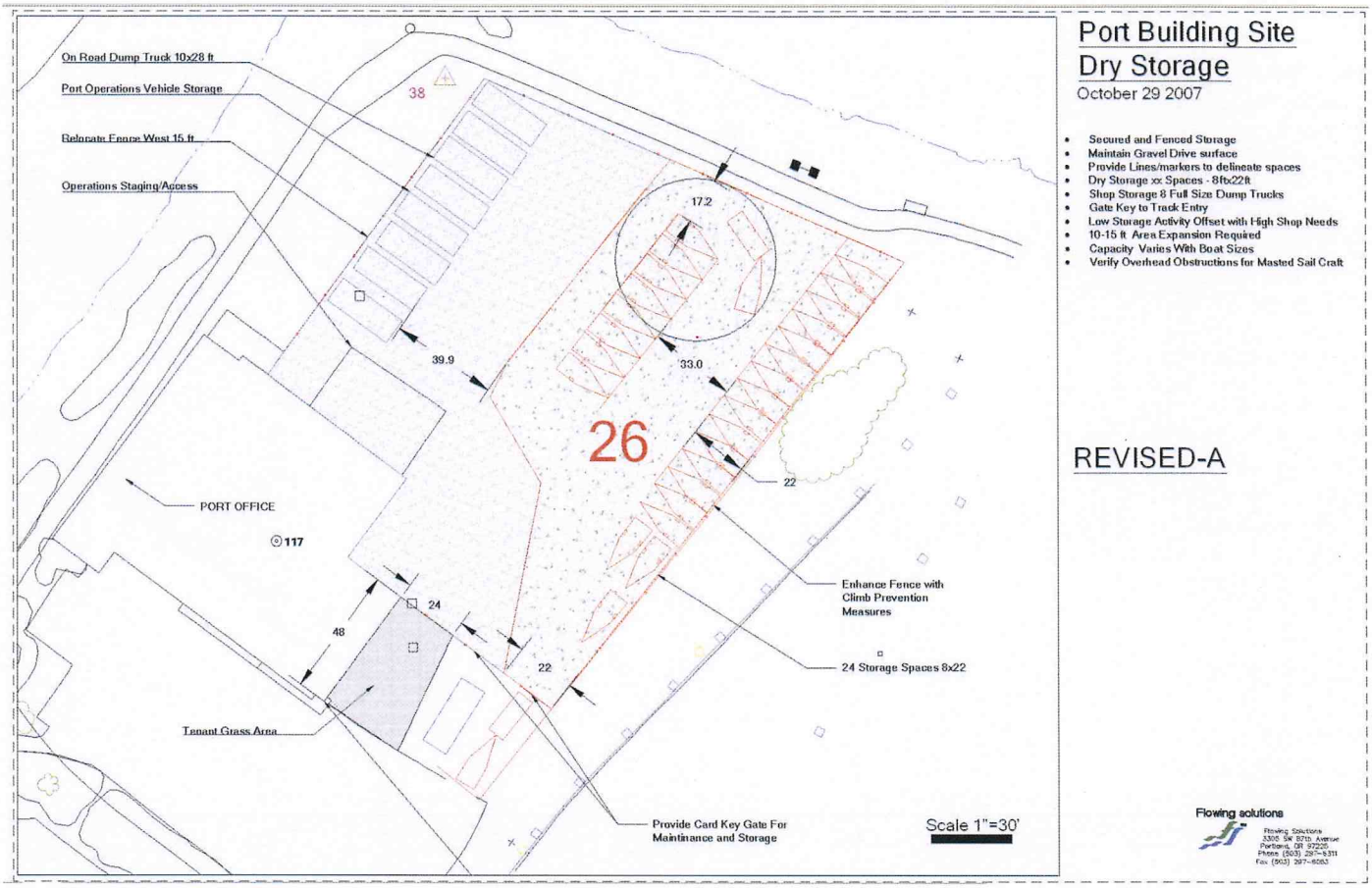
Dinghy Docks/Dry Storage: The long reach from Bonneville to Hood River has become a dinghy sailing/racing venue recognized world wide as one of the best. Cascade Locks and the Columbia Gorge Racing Association will host over 2,000 participants this year in a dozen events. Well-designed, properly marketed low storage docks and dry trailer storage for sailing dinghies could become a significant draw for the basin.

Several areas could be expanded to meet this need. Both the new Port building storage area, and the old Port maintenance yard could provide storage. A portion of the storage yard could be fenced to provide secure storage with card key access and gravel parking. This would allow people to store their boats on trailers, then use the existing ramp as required. This would keep the boat out of the water, clean and dry, and keep a wet slip open for another tenant.

The management of dry trailer storage could be made to be compatible with day launch fishing, using the same general facility. In the off-season, these can be de-rigged and taken elsewhere for storage. This area could be shared with seasonal port heavy equipment/snow plow operations. Demand for dry dinghy storage service has exploded over the last several years.

Suggested improvements are detailed on the following page.

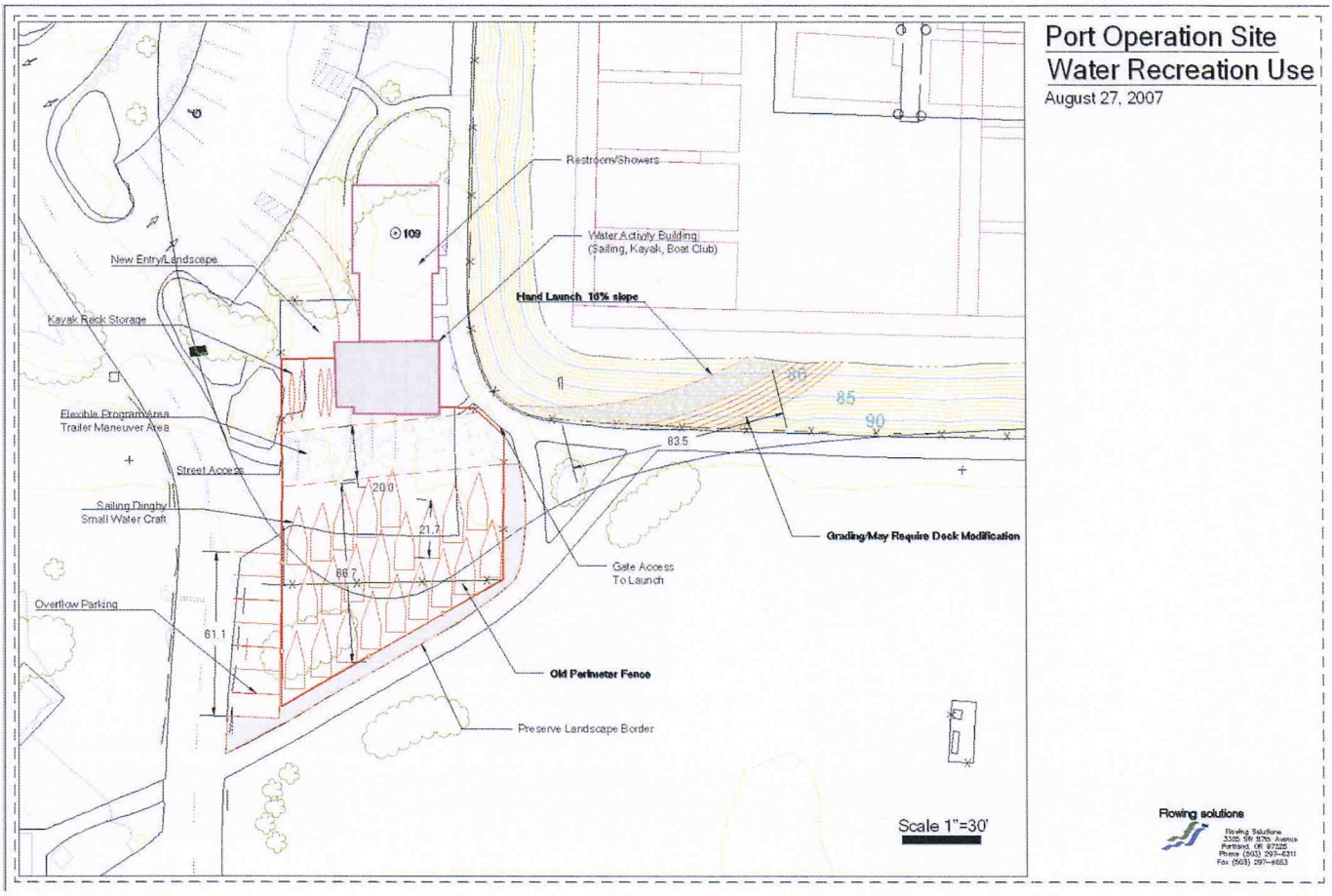
Port Building Site Dry Storage—2007



Other Opportunities (Continued)

Port Operation—Water Activity Center: This site could provide significant revenue and contribute to the energy level in the Marina area. A good tenant would provide water dependant activity, service public and private needs and activate this building and gateway to the Marina Park. The plan on the following page includes a layout for small boat storage, a hand launch ramp for kayaks, small sail boats and rowing dinghies. This ramp would not require motorized equipment for launching. The building could serve as a club house, training facility, or other related activities. Improvements could also utilize the Marina green area if it were within the guidelines. Parking would be shared with the marina, and overflow could utilize the Marina Park and other areas.

Port Operation Site—Water Recreation Use—August 2007



12. Hood River Marina Niche

This is a big recreational basin for a city of this size. It could be treated, positioned and used like the City's central park. Consider the diversity of activities you see in a large city park on a warm afternoon. The basin already shows a similar variety of activities, but with relatively low use levels. The diversity and apparent overlap represented by the bubble diagram could mean attractive vibrancy if the components are judged for their impact, and arranged into a form that minimizes interference.

Moving the Port office freed a significant area of prime waterfront space. Careful selection of water dependent or water related business is key to developing success in the Marina Basin, and surrounding properties. The two connected waterfront buildings are centrally located, adjacent to parking, and have excellent visibility from the road to attract both drive by and destination users. These buildings could serve as an anchor to future development.

The Hood River Marina needs to work to attract more activity and establish a buzz. Ideas to accomplish this include: Increase the Yacht Club's presence. Add some restaurant and entertainment components to the South shore. It may help to establish a name to market the open areas around the water to encourage more continuous activity through the year. Build a bandstand - sponsor a variety of concerts. Increase the sail training activity. Encourage watercraft & sail charter/rental. Seek-out & welcome any event that will add to the Basin's energy level. Organize social activities among the 250 boaters that may be in the new moorage - make the place buzz.

Position the place as a gateway to some of the best sailing water in the world. Position it as a waterfront destination for cruisers & landlubbers. Position it as a sparkling, cool oasis on the edge of the desert. Position it as a day trip destination from Portland.

Increasing activity will increase visitor use, which will require additional Port management and staff oversight. As use increase a funded harbor master position may be required.

13. Costs

Regardless of the option selected, upgrading the existing electrical system is recommended. The existing system does not have adequate capacity to meet demand based on modern boat loads. The new system would also include provision for expanding slips in the future. This initial cost will be required even if no slips are added. This system will require design by an electrical engineer to meet NEC 555. Cost for design and installation of this is $250,000-300,000. New upland service upgrades are assumed to be covered by the utility provider. See following page for Cost Estimates.

CONCEPTUAL COST ESTIMATE

PHASE 1	A	ESSENTIAL SERVICES					
		Utility Upgrades A,B,C row	1	LS	$ 300,000	$	300,000
		INITIAL ADDITION					
		C-ROW SOUTH					
		16 30ft Slips	16	EA	$ 15,000	$	240,000
		Soft Costs				$	108,000
		Subtotal				$	648,000
		20% Contingency				$	129,600
				Total		$	777,600
PHASE 2	A	SECONDARY ADDITION					
		A-ROW					
		28 30 ft Slips including pile	28	EA	$ 13,000	$	364,000
		10-40 ft Slips including pile	10	EA	$ 15,000	$	150,000
		Shell/Kayak Dock	1760	SF	$ 45	$	79,200
		Soft Costs				$	118,640
		Subtotal				$	711,840
		20% Contingency				$	142,368
				Total		$	854,208
		PADDLE/SAIL DOCKS					
		Dinghy Storage Dock	3240	SF	$ 45	$	145,800
		Dinghy Walkway Dock	1440	SF	$ 50	$	72,000
		Pile	8	EA	$ 4,000	$	32,000
		Soft Costs				$	49,960
		Subtotal				$	299,760
		20% Contingency				$	59,952
				Total		$	359,712
		GUEST DOCK					
		Dock	2310	SF	$ 50	$	115,500
		Pile	10	EA	$ 4,000	$	40,000
		Soft Costs				$	31,100
		Subtotal				$	186,600
		20% Contingency				$	37,320
				Total		$	223,920
PHASE 3		NORTH EXPANSION					
		96 40 ft Slips - including pile	96	EA	$ 19,000	$	1,824,000
		Marginal Walk	2560	SF	$ 50	$	128,000
		Pile	10	EA	$ 6,000	$	60,000
		Soft Costs				$	402,400
		Subtotal				$	2,414,400
		20% Contingency				$	965,760
				Total		$	3,380,160
Soft Costs include 20% Permitting/Engineering							