PILLAR POINT HARBOR
VESSEL HAUL-OUT FACILITY DEMAND ASSESSMENT AND FINANCIAL FEASIBILITY ANALYSIS

Prepared for:

San Mateo County Harbor District

by

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I. INTRODUCTION

A. Study Scope and Objectives

Dornbusch Associates was engaged by San Mateo County Harbor District to investigate the potential financial feasibility of a boat haul-out facility at Pillar Point Harbor in El Granada, California. After the closure of the Princeton Boatyard in 2002-2003, there has been some question as to whether a haul-out facility is needed at Pillar Point and whether this existing need or demand would be sufficient to support the development and successful operation of a boat haul-out facility at the Harbor.

The following analysis presents our assessment of the market demand for haul-out facilities and services in the region as well as estimates of operating revenues and costs associated with two types haul-out facility alternatives: a do-it-yourself haul-out facility, where boaters could perform repairs and maintenance on their vessels themselves and a full service type facility offering professional repair and maintenance services. Both alternatives assume that a private contractor would operate the haul-out facility.

B. Summary of Findings

The following summarizes the key findings of this analysis regarding the potential operation and financial feasibility of a boat haul-out facility at Pillar Point Harbor.

- The relative isolation of Pillar Point Harbor from other marinas and harbors presents a serious constraint on haul-out demand. Demand is expected to be confined primarily to use by Pillar Point tenants, while future growth in demand is limited by the size of the Harbor, which is essentially fixed.

- It is estimated that approximately 1/3 of the Harbors tenants would haul-out annually to perform typical repairs and maintenance. This translates into 123 haul-outs per year. The average length of the stay in the yard is estimated to be 9 days per haul-out.

- An appropriate size boat yard for Pillar Point Harbor would consist of an 18,000 square foot space offering approximately 10 average size boat spaces.

- A 75-ton Travel Lift would be the preferred type of lift to service the greatest number of tenants at Pillar Point Harbor.

- Of the approximately 369 Pillar Point tenants surveyed regarding a potential haul-out facility at Pillar Point Harbor, 168 or 45% of all tenants responded. Of those tenants who

did respond, approximately 91% indicated that they believed a haul-out facility was needed at Pillar Point and 9% either declined to respond or believed such a facility was not needed.

- Given the estimated low net operating income under both the Do-it-Yourself and Full Service Alternatives, a private contractor could not be expected to make the relatively large capital investments necessary to construct and develop either a do-it-yourself or full service haul-out facility.

- San Mateo County Harbor District would be required to provide most or all of the funds required to develop a do-it-yourself or full service haul-out facility.

- If San Mateo County Harbor District were successful in financing the development of either a do-it-yourself or full service haul-out facility using a California Department of Boating and Waterways public loan, the haul-out facility would not generate sufficient fees to cover the full amount of the annual debt service payments.

- If San Mateo County Harbor District were to directly finance the development of either a do-it-yourself or full service haul-out facility, the haul-out facility would not generate sufficient fees to cover the District's minimum target internal rate of return on investment of 5%.

- Based on these financial estimates, it does not appear that either a do-it-yourself or full service haul-out facility at Pillar Point Harbor is financially feasible. Indeed, given the relatively low estimated profit margins associated with operation of a haul-out facility at Pillar Point Harbor may discourage private operators from contracting with SMCHD to operate the facility.

II. MARKET ASSESSMENT

A. Location and Supply of Regional Boat Haul-out Facilities

There are approximately 17 boat haul-out facilities in San Francisco Bay and three other facilities located in Monterey Bay which are relevant to this analysis. These 20 haul-out facilities represent the existing competitive supply of boat haul-out services in the San Francisco Bay region. Dornbusch surveyed all 20 haul-out facilities regarding the number of annual haul-outs, typical services demanded, rates charged, length of stay in the yard, and other demand and operational issues. In general, haul-out facility operators were guarded in their response to our questions, with only 12 (60%) of all haul-out facility operators providing limited responses and the remainder declining to respond to our questions.

Table 1 lists the names and locations of all haul-out facilities in the San Francisco Bay region and the approximate distance to each facility from Pillar Point. Haul-out facilities in italics are those which current tenants at Pillar Point Harbor have indicated they have used in the past for maintenance and repair services. The table reveals that the closest haul-out facilities to Pillar Point Harbor are Anderson Boatyard and Bayside Boatworks, both roughly 30 miles from Pillar Point, followed by San Francisco Boatworks at around 34 miles from Pillar Point Harbor.

Table 1. Existing Boat Haul-Out Facilities

Map Reference (see Figure 1)	Name	Location	Approximate Distance from Pillar Point (miles)
A	*San Francisco Boatworks*	San Francisco	*34*
B	*Anderson Boatyard*	*Sausalito*	*30*
C	*Bayside Boatworks*	*Sausalito*	*30*
D	*KKMI*	*Point Richmond*	*37*
E	*Bay Marine Boatworks*	*Point Richmond*	*37*
F	Berkeley Marine Center	Berkeley	36
G	British Marine	Oakland	39
H	Grand Marina Boatyard	Alameda	38
I	*Nelson's Marina*	*Alameda*	*37*
J	*Svendsens Boatworks*	*Alameda*	*40*
K	Vallejo Boatworks	Vallejo	53
L	Eagle Marine	Martinez	59
M	VJ Marine	Pittsburg	74
N	Bridge Head Dry Dock	Antioch	82
O	Marine Emporium	Bethel Island	88
P	Bethel Harbor	Bethel Island	88
Q	Napa Valley Marina	Napa	62
-	*Aquarius Boatworks*	*Santa Cruz*	*54*
-	*Monterey Bay Boatworks*	*Monterey*	*71*
-	Gravelle's Boat Yard	Moss Landing	68

Figure 1 displays the locations of the haul-out facilities located in San Francisco Bay. The figure reveals that most haul-out facilities are concentrated in the central section of San Francisco Bay, with the greatest number of haul-out facilities located in the East Bay cities of Point Richmond, Berkeley, Oakland, and Alameda. The figure shows that there are virtually no haul-out facilities located in either San Pablo Bay to the north or in the southern portion of San Francisco Bay. Figure 1 indicates that there are six haul-out facilities located in the Sacramento Delta region. In addition, the figure indicates that no haul-out facilities exist along the northern Pacific Coast within range of the San Francisco Bay, from the Golden Gate northward (50 miles north), while the closest haul-out facility along the south coast is Aquarius Boatworks located approximately 54-miles south of Pillar Point Harbor in Santa Cruz.

Figure 1. Existing Boat Haul-out Facilities in San Francisco Bay

Source: Google Earth, 2007.

B. Haul-Outs at Competitive Facilities

The annual number of vessel haul-outs at facilities located in the San Francisco and Monterey Bay varied significantly from operation to operation. Nine of the twelve haul-out facility operators that responded to Dornbusch provided estimates for the annual number of haul-outs which ranged from 100 to 1,200 haul-outs per year. The mean number of annual haul-outs estimated by operators surveyed by Dornbusch was 450 lifts per year, while the median was around 350 annual lifts. The length capacity of haul out lifts varied from a low maximum length of 35 feet to a high maximum length of 85 feet. Nearly all haul-out facility operators surveyed

indicated that the most common size vessel hauled was between 30 and 35 feet in length, with an overall average length of approximately 33 feet, generally reflecting the popularity of mid-size recreational vessels in San Francisco Bay.

In general one would expect the number of annual of haul-outs at a given facility to be dependent on the number of vessels located in the surrounding region which would reasonably be expected to use local haul-out facilities for typical repairs and maintenance. Table 2 presents the estimated annual number of haul-outs and the approximate number of slips at marinas in the immediate vicinity (within a 3-miles radius) for selected haul-out facilities in San Francisco and Monterey Bay. Haul-out facilities located in San Francisco Bay, including Bay Marine Boatworks, British Marine, Bayside Marine, and Grand Marina are able to draw on a very large number of boaters from multiple surrounding marinas to sustain their business, yet also face greater competition from other haul-out facility operators located nearby. For example, one of the largest boating communities in San Francisco Bay is found in Alameda, which also has the largest concentration of boatyards in the Bay, with four haul-out facilities including Grand Marina Boatyard, British Marine, Nelson's Marine, and Svendson's Marine serving a market of approximately 2,790 slip renters. Similarly, haul-out facilities in Point Richmond such as KKMI and Bay Marine are able to service both the local Richmond marinas as well as the numerous boaters who dock at Sausalito Marinas.

The relative proximity of marinas to haul-out facilities in most of San Francisco Bay allows boat owners to shop around for the best price and level/quality of haul-out service without having to travel inconvenient or prohibitively long distances. This is distinctly different from the scenario where a sole haul-out operator provides service to a marina or harbor that is more isolated and where travel distance would be expected to limit demand arising from other locations. Examples of this type of operation include: Monterey Bay Boatworks, primarily serving Monterey Harbor tenants, Gravelles Boatyard serving Moss Landing Harbor, Aquarius Boatworks serving Santa Cruz Harbor, Vallejo Boatworks serving Vallejo Marina, Eagle Marine serving Martinez Marina, and VJ Marine serving Pittsburg Marina. These operations are more similar to the haul-out operation which would exist at Pillar Point Harbor, where a single operator would be expected to primarily serve Pillar Point Harbor tenants. It is important to recognize that all of these haul-out facilities primarily serving one marina or harbor exist in harbor/marina locations which have a greater number of slips/boaters compared to Pillar Point Harbor. This suggests that the required number of slips/boaters in a harbor/marina to sustain a haul-out facility may be greater than what is found at Pillar Point, suggesting that demand may be insufficient for a profitable operation.

Table 2. Annual Haul-Outs and Harbors/Marinas Served by Facility

	Annual Number of Haul-Outs	Nearby Marinas	Total Number of Slips
Bay Marine Boatworks	1,200	Brickyard Cove Marina: 250 slips Marina Bay Yacht Harbor: 850 slips Channel Marina: 66 Slips	1,166
Grand Marina	700	Grand Marina: 400 slips Fortman Marina: 497 slips Alameda Marina: 530 slips Marina Village Yacht Harbor: 750 Slips Embarcadero Cove Marina: 109 slips Ballena Isle Marina: 500 slips	2,786
British Marine	180	Grand Marina: 400 slips Fortman Marina: 497 slips Alameda Marina: 530 slips Marina Village Yacht Harbor: 750 Slips Embarcadero Cove Marina: 109 slips Ballena Isle Marina: 500 slips	2,786
Bayside Boatworks	156	Schoonmaker Marina: 161 slips Clipper Yacht Harbor: 800 slips Marina Plaza Yacht Harbor: 103 Slips Pelican Yacht Harbor: 90 slips Richardson Bay Marina: 221slips Sausalito Yacht Harbor: 600 slips	1,975
Aquarius Boatworks	600	Santa Cruz Harbor: 965 slips	965
Gravelles Boatyard	480	Moss Landing Harbor: 700 slips	700
VJ Marine	350	Pittsburg Marina: 575 slips	575
Monterey Bay Boatworks	300	Breakwater Cove Marina: 80 slips Monterey Municipal Marina: 413 slips	493
Eagle Marine	100	Martinez Marina: 350 slips	350
Average	**452**		**1,311**

Haul-out operators indicated that late spring (May) and summer months (June-August) typically represent the peak season for recreational boaters. During the summer months boating in San Francisco Bay is at its height and with all this usage there is much repair work that is generated during this time. Survey respondents also indicated that there are often a substantial number of haul-outs during the spring months (April-May) as well, as many boaters wish to service their vessels or complete necessary repairs prior to the start of the busy summer boating season. Dan Temko, Harbormaster at Pillar Point Harbor, confirmed these findings, indicating that the peak haul-out period for recreational boaters docked in Pillar Point Harbor would likely be during the summer months of June through August. Mr. Temko also indicated that the peak haul-out times for commercial vessels, primarily fishing vessels, would be during the months of March and April and September and October, prior to the start of the fishing seasons.

Most San Francisco Bay haul-out facility operators surveyed were unwilling to provide Dornbusch with data regarding the number of monthly haul-outs or even to estimate the

percentage of annual haul-outs that might occur during the peak and off-peak seasons. However, Monterey Bay Boatworks did provide Dornbusch with three years of monthly haul-out data, which is presented in Figure 2 below.

Figure 2. Average Monthly Haul-Outs: Monterey Bay Boatworks, 2004-2006

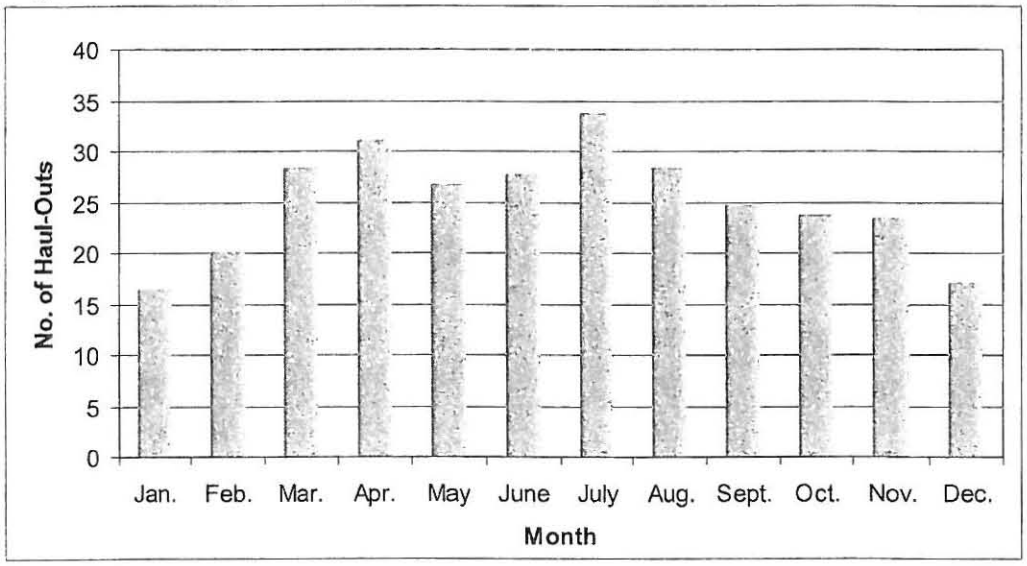

Figure 2 indicates that the greatest number of haul-outs at Monterey Bay Boatworks occurs during the Months of July and August and March and April, which reflects the peak seasons described by Mr. Temko and the operating seasons described by haul-out facility operators surveyed in San Francisco Bay and elsewhere. The figure reveals July typically has the greatest number of haul-outs with nearly 35 lifts, representing around 11% of total annual haul-outs. The off-peak season is represented by the months of December through February with January typically having the fewest number at around 16 lifts, or around 5% of total annual haul-outs. Although the seasonality and number of lifts at a Pillar Point haul-out operation would likely differ from Monterey Bay Boatworks, this haul-out facility does represent a relatively good comparable to the operating conditions at Pillar Point. First, Monterey Bay Boatworks is the sole haul-out operator primarily serving one harbor location – Monterey Municipal Harbor, just as Pillar Point would likely primarily serve tenants of Pillar Point Harbor. Second, the number of slip tenants potentially served by the haul-out facility is larger than the corresponding number of slips at Pillar Point (approximately 493 vs. 369 slips), yet the difference is still within the range of comparison. Lastly, Monterey Bay Boatworks serves a relatively large number of commercial fishermen as would be the case at Pillar Point Harbor.

C. Services Demanded Upon Haul-Out

Haul-out operators were surveyed regarding the types of services demanded by boaters at their facilities which required them to haul-out their vessel out of the water. Haul-out facility operators responded that typical services demanded by boaters include the following:

- Bottom painting to prevent corrosion of the vessels hull
- Replacing zincs to prevent electrolysis from corroding underwater metal parts,
- Buffing and waxing sides
- Polish and clean props
- Replace, repair, and/or re-pitch propellers/shafts
- Servicing and replacing valves and thru hulls
- Stuffing box maintenance
- Replacing stern bearings
- Engine service (typically replacing oil and filters) and repairs
- Fiberglass repairs
- Systems repairs: plumbing and electrical
- Replacing keel and rudders
- Woodworking
- Surveys/appraisal and/or transportation
- Rigging repairs

A number of these services would not necessarily require the vessel to be hauled-out, yet many of these services are performed while the vessel is being hauled-out for other reasons, such as painting, propeller or engine work. By far the most common reason cited for haul-out was bottom painting, a service which obviously requires the vessel be removed from the water.

To assess the level of demand for different types of services Dornbusch surveyed haul-out operators as to what percentage of haul-outs received different categories of services, broadly defined as: 1) painting/re-zincing, 2) mechanical, and 3) other services.[1] Mechanical services consist primarily of engine service, servicing and replacing valves, replacing or repairing propeller shafts, stuffing box maintenance, while other services would include buffing and waxing, polishing and cleaning props, woodworking, rigging repairs, fiber glass repairs, etc.

Eight out of the twelve haul-out facility operators surveyed provided estimates of the percentage of annual haul-outs who generally demand painting, mechanical or other types of repair and maintenance services. These estimates are displayed in Table 3. Regarding painting and re-zincing services, estimates of the percentage of haul-out customers who demand these services

[1] Other services include electrical and plumbing system repairs, woodworking, surveys/appraisals, and other miscellaneous services.

ranged from 58% to 90%, with a median of 80% of all haul-outs receiving bottom painting and re-zincing services. Estimates for mechanical repairs ranged from 25% to 50%, with a median of 40%, one-half the number that receives painting and re-zincing services. Haul-out facility operators estimated that between 13% and 45% receive some other type boat repair service, with a median of 19%, about half the number that receive mechanical type repairs.

Table 3. Percentage of Haul-Outs Demanding Various R&M Services

	Painting & Re-zincing	Mechanical Repairs	Other
Aquarius Marine	58%	25%	15%
Bay Marine Boatworks	80%	50%	45%
Bayside Boatworks	60%	20%	13%
British Marine	60%	50%	25%
Grand Marina Boatyard	90%	30%	13%
Gravelles Boatworks	88%	50%	n/a
Monterey Bay Boatworks	90%	20%	n/a
SF Boatworks	80%	50%	23%
Median	***80%***	***40%***	***19%***

Dornbusch sought a greater level of detail regarding the demand and expenditures for *specific* types of common repair and maintenance services within each general category, including painting and re-zincing, mechanical and other repairs. Haul-out facility operators surveyed generally indicated the following types of services to be commonly demanded:

- Bottom painting
- Replacing zincs
- Servicing/replacing valves
- Polish & clean props
- Stuffing Box maintenance
- Engine service (oil & filters) and propeller service

Many haul-out facility operators contacted did not wish to disclose information on the average dollar expenditure amounts for these common types of repair and maintenance services. However, Steve Taft, Manager of Bay Marine Boatworks in Point Richmond provided demand and average expenditure data which Mr. Taft believed was representative of demand and expenditures throughout the haul-out facilities in the San Francisco Bay.[2] Table 4 summarizes Mr. Taft's estimates of the percentage of haul-outs that demand such services.

[2] Telephone interview with Steve Taft, Manager of Bay Marine Boatworks in Point Richmond, 8/29/07.

Table 4. Estimated Avg. Expenditures for Typical R&M Services: *Bay Marine Boatworks*

Type of Service	% of Haul-Outs	Avg. Expenditure
Bottom Painting	85%	$1,000
Replacing Zincs	90%	$100
Servicing/Replacing Valves	70%	$300
Polish & clean props	60%	$200
Stuffing Box maintenance	50%	$100
Engine Service (oil & filters)	30%	$700
Weighted Average Expenditure per Haul-Out	**$1,530**	

The table indicates that the largest expenditure is for bottom painting at around $1,000 followed by basic engine service work estimated at $700. The table reveals that similar to other haul-out facility operators surveyed, the greatest demand is for bottom painting and re-zincing (85% and 90% respectively), followed by servicing and replacing valves (70%), while only about 30% of all haul-outs demand routine engine service. Of course, the services listed in Table 4 do not represent the only types of repair and maintenance services demanded by boaters, but these services represent those which are considered to by common and routine.

Regardless of whether the above repair and maintenance services are performed by skilled professionals at full service boatyards or whether they are performed by boat owners themselves, the need to perform these services provides the motivation for hauling ones boat out of the water.

D. Rates at Competitive Haul-Out Facilities

1. Haul-Out Rates

Haul-out rates were generally found to be based on an escalating per linear foot basis for different vessel size ranges. The rationale for charging on a per linear foot basis is that typically longer boats are heavier and more difficult to lift, which translates into greater wear on the lift and more staff time operating the lift, both of which translate into greater costs. Table 5 presents the haul-out rates at locations where Pillar Point tenants have indicated they have patronized in the past. The table shows that the rates are quite similar across all facilities except that Anderson's Boatyard in Sausalito and SF Boatworks in San Francisco have relatively greater rates across nearly all size categories, which may be a reflection of the high land values/rents in these locations and/or the relatively large numbers of affluent boaters found in these communities as well. The average haul-out rates range from a low of $10.60 per foot for vessels 20 to 25 feet in length to $13.20 per foot for vessels 66 feet and greater in length. Haul-out rates typically cover launch, pressure washing the hull, and setting up the vessel on boat stands, and often an environmental surcharge of $1.00 associated with pressure washing the haul. Most operators indicated that they raise rates every couple of years to keep pace with inflation.

Table 5. Haul-Out Rates per Linear Foot at Selected Haul-Out Facilities in San Francisco & Monterey Bay

	Anderson's Boatworks	Bay Marine	KKMI	Svendsen's Boatworks	SF Boatworks	Aquarius Marine	Monterey Boatworks	Avg. $/ft
20-25	$10.00	$10.00	$10.00	$11.00	$13.00	$10.00	$10.00	**$10.60**
26-30	$10.00	$10.00	$10.00	$11.00	$13.00	$9.75	$10.00	**$10.50**
31-35	$11.00	$10.00	$10.00	$11.00	$13.00	$10.25	$11.00	**$10.90**
36-40	$11.00	$10.00	$10.00	$11.00	$13.00	$10.75	$11.60	**$11.10**
41-45	$12.00	$11.00	$11.00	$11.00	$14.00	$11.25	$11.75	**$11.70**
46-50	$12.00	$11.00	$11.00	$11.00	$14.00	$11.75	$11.95	**$11.80**
51-55	$13.00	$12.00	$12.00	$11.00	$14.00	$12.00	$11.95	**$12.30**
56-60	$13.00	$12.00	$12.00	$11.00	$14.00	$12.25	$12.50	**$12.40**
61-65	$15.00	$14.00	$13.00	$11.00	$14.00	$12.50	$12.95	**$13.20**
66+	$15.00	$14.00	$13.00	$11.00	$14.00	$12.50	$12.95	**$13.20**

2. Lay-Day Rates

Lay-days are defined as the number of days which a vessel occupies a space within the boat yard of a haul-out facility. Typically, lay-day charges are not applied to the day of haul-out and the day of launch, nor are lay-days generally charged while the vessel is being worked on by the haul-out facility. Lay-days are most relevant for do-it-yourself type haul-out-facilities where the boat owner performs the maintenance and repair work yet is charged for all the lay-days their boat is in the yard. Table 6 summarizes the lay-day rates found at haul-out facilities frequented by Pillar Point tenants.

Table 6. Lay-Day Rates per Linear Foot at Selected Haul-out Facilities in San Francisco & Monterey Bay

	Anderson's Boatworks	Bay Marine	KKMI	Svendsen's Boatworks	SF Boatworks	Aquarius Marine	Monterey Boatworks	Avg. $/ft
20-25	$0.50	$1.00	$0.90	$2.50	$1.00	$1.25	$1.25	**$1.20**
26-30	$0.50	$1.00	$0.90	$2.50	$1.00	$1.25	$1.25	**$1.20**
31-35	$0.75	$1.00	$0.90	$2.50	$1.00	$1.25	$1.25	**$1.24**
36-40	$0.75	$1.00	$0.90	$2.50	$1.00	$1.25	$1.25	**$1.24**
41-45	$1.00	$1.00	$1.20	$2.50	$1.00	$1.25	$1.25	**$1.31**
46-50	$1.00	$1.00	$1.20	$2.50	$1.00	$1.25	$1.25	**$1.31**
51-55	$2.00	$1.00	$1.50	$2.50	$1.00	$1.25	$1.25	**$1.50**
56-60	$2.00	$1.00	$1.50	$2.50	$1.00	$1.25	$1.25	**$1.50**
61-65	$4.00	$1.00	$1.80	$2.50	$1.00	$1.25	$1.25	**$1.83**
66+	$4.00	$1.00	$1.80	$2.50	$1.00	$1.25	$1.25	**$1.83**

Table 6 indicates that lay-days are charged on a linear foot basis based on the length of ones boat. Some haul-out facility operators increase the linear foot price over different vessel length categories, while others simply charge a flat fee across all vessel length categories. The table reveals that average lay-day charges range from an average of $1.20 per foot for vessels between 20 to 25 feet in length to $1.83 per linear foot for vessels 66 feet and above.

Charging lay-day fees, to some extent, acts as a deterrent to boaters keeping their vessels in the yard for excessively long periods of time, which would limit the number of incoming boats that

could be serviced at the facility and constrain revenues. Haul-out facility operators surveyed by Dornbusch provided estimates for the average number of lay-days associated with a typical haul-out. These estimates ranged from a minimum of five days to two weeks, with an average lay-day period of seven days, excluding the day of haul and the day of launch.

3. Bottom Painting Rates

Table 7 depicts bottom painting rates at haul-out facilities used by Pillar Point tenants. The table indicates that bottom painting rates at these facilities are typically reported as rates charged per hour of painting/preparation work or based on the length of the vessel, which makes rate comparison across haul-out facilities difficult. Dornbusch found that the lower rates of $11.00 per foot typically do not reflect the cost of preparation or materials (including anti-fouling paint) which are additional charges and often a significant share of the total bottom painting costs. The higher rates found at Bay Marine Boatworks in Point Richmond and Bayside Boatworks in Sausalito do reflect all labor and material costs and more accurately reflect the complete price of a bottom painting job.

Table 7. Painting Rates at Selected Haul-out Facilities in San Francisco & Monterey Bay

	Anderson's Boatworks	Bay Marine	KKMI	Svendsen's Boatworks	Bayside Boatworks	SF Boatworks	Aquarius Marine	Monterey Bay Boatworks
20-25	$11.00/ ft	$21.90/ ft	$86/ hour	$11.00/ ft	$30.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
26-30	$11.00/ ft	$21.95/ ft	$86/ hour	$11.00/ ft	$30.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
31-35	$11.00/ ft	$23.40/ ft	$86/ hour	$11.00/ ft	$30.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
36-40	$11.00/ ft	$23.70/ ft	$86/ hour	$11.00/ ft	$30.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
41-45	$11.00/ ft	$24.95/ ft	$86/ hour	$11.00/ ft	$30.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
46-50	$11.00/ ft	$26.10/ ft	$86/ hour	$11.00/ ft	$30.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
51-55	$12.00/ ft	$29.00/ ft	$86/ hour	$11.00/ ft	$45.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
56-60	$12.00/ ft	$31.55/ ft	$86/ hour	$11.00/ ft	$45.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
61-65	$13.00/ ft	$35.40/ ft	$86/ hour	$11.00/ ft	$45.00/ ft	$85/ hour	$80/ hour	$7.00/ ft
65+	$13.00/ ft	$40.30/ ft	$86/ hour	$11.00/ ft	$45.00/ ft	$85/ hour	$80/ hour	$7.00/ ft

4. Rates for Other Repair and Maintenance Services

Rates charged for all other types of repair and maintenance services would of course vary according to the complexity of the specific repair job and by the number of labor hours required to perform the task, in addition to the cost of materials and parts. Most haul-out facility operators simply reported the hourly rate of skilled labor charged to perform repairs rather than a unit price for such repairs. As previously mentioned, Steve Taft, Manager of Bay Marine Boatworks in Point Richmond, provided estimates of average expenditures on typical repair and maintenance tasks. These are expenditures which are generally performed on a cyclic basis rather than more sporadic and unpredictable type repairs. Table 8 presents price estimates for these repairs, which include parts and labor costs, previously presented in Table 4. Engine service and valve service/replacement represent the largest repair and maintenance expenses, typically costing approximately $700 and $300, respectively.

Table 8. Mechanical/Other Repair and Maintenance Rates: Bay Marine Boatworks

Type of Service	Average Expenditure
Replacing Zincs	$100
Servicing/Replacing Valves	$300
Polish & clean props	$200
Stuffing Box maintenance	$100
Engine Service (oil & filters)	$700

E. Sizes and Types of Lifts Found at Regional Haul-Out Facilities

Table 9 presents the weight capacity and type of lifts at a number of haul-out facilities in San Francisco and Monterey Bay. The table reveals that the weight capacity of lifts at regional haul-out facilities ranges between 10 tons to 250 tons, while the average lift size ranges between 45 and 67 tons. Nearly all haul-out facility operators use Marine Travel Lift type lifts rather than the older rail car or crane type lifts.

Nearly all haul-out operators which serve commercial vessels, including fishing vessels, need lifts with greater weight capacities. This can be seen in the table as haul-out facilities which service commercial vessels including Anderson's, Bayside, KKMI, Bay Marine, Monterey Bay, and Gravelle's Boat Yard, all have lifts that can haul-out vessels 60 tons and greater.

Table 9. Capacity and Type of Lifts at Regional Haul-Out Facilities

Haul-Out Facility	Weight Capacity (tons)	Type of Lift
San Francisco Boatworks	40	Travel Lift
Anderson Boatyard	50, 70, and 100+	Travel Lift
Bayside Boatworks	10, 40, and 250	Rail Car
KKMI	60 and 88	Travel Lift
Bay Marine Boatworks	88	Travel Lift
Berkeley Marine Center	35	Travel Lift
British Marine	30	Travel Lift
Grand Marina Boatyard	60	Travel Lift
Nelson's Marina	n/a	n/a
Svendsens Boatworks	35 and 60	Travel Lift & Elevator Platform
Vallejo Boatworks	n/a	Travel Lift
Eagle Marine	20	Travel Lift
VJ Marine	30	Travel Lift
Bridge Head Dry Dock	65	Travel Lift
Marine Emporium	20 and 60	Travel Lift
Bethel Harbor	35	Travel Lift
Napa Valley Marina	35	Travel Lift
Aquarius Boatworks	60	Travel Lift
Monterey Bay Boatworks	70	Travel Lift
Gravelle's Boat Yard	75	Travel Lift
Low Average	*45*	-
High Average	*67*	-

III. DEMAND FOR HAUL-OUT FACILITIES AND SERVICES AT PILLAR POINT HARBOR

A. Demand Constraints at Pillar Point Harbor

Pillar Point is situated in a unique market setting with respect to the potential demand for a boat haul-out facility. Located along the Pacific coastline just south of San Francisco near El Granada, Pillar Point is perhaps one of the most isolated coastal harbors in Northern California. The nearest harbor located along the Pacific coast is Santa Cruz Harbor, approximately 54 miles to the south. The nearest haul-out facility lies in Sausalito, a journey of approximately 30 miles, where boaters must travel in the often rough waters of the northern Pacific coast. The implications of the relative isolation of Pillar Point Harbor from both other marinas and harbors *and* from haul-out facilities and services is that ***any haul-out facility developed at Pillar Point would be expected to serve only Pillar Point tenants.*** Of course the haul-out facility would be available to serve transient boaters in need of urgent repairs, yet these would presumably represent a very small proportion of the total number of annual haul-outs at the facility.

A boat haul-out facility at Pillar Point Harbor would essentially be serving a captive market of the Harbors' roughly 369 slip renters. If the service and prices offered at a Pillar Point haul-out facility were competitive with other haul-out facilities located in San Francisco and Monterey Bay, then it reasonable to believe that tenants would prefer to haul-out at Pillar Point than travel the 30 plus miles to the nearest haul-out facility in San Francisco Bay. However, this also implies that boaters located in San Francisco and Monterey Bay, who in most cases already have access to numerous nearby haul-out facilities, could not be expected to make the long trip to use a haul-out facility at Pillar Point when a number of similar facilities exist more closely to the boat owner's place of anchorage. Since Pillar Point Harbor is not located in close proximity to nearby marinas or harbors whose boaters could be expected to use the haul-out facility, this would act as a serious limitation and disadvantage for any haul-out facility operator located at Pillar Point. Furthermore, since the size of the Harbor is essentially fixed and cannot grow significantly in the future, and considering that it is unlikely for other marinas to be developed in close proximity to the Harbor in the future, future growth in haul-out demand is likely to be static at a haul-out facility located at Pillar Point Harbor.

B. Estimated Number of Annual Haul-Outs at Pillar Point Harbor

To estimate the proportion of Pillar Point Harbor tenants that might be expected to haul-out on an annual basis, Dornbusch reviewed past boat haul-out feasibility analyses and a survey of Pillar Point tenants conducted in September of 2007 regarding use of the proposed haul-out facility.

A 1998 haul-out study performed for the City of Morro Bay by Marshall and Associates examined the feasibility of a "boating access facility" which included a full service haul-out facility located in Morro Bay Harbor.[3] At the time of the report, the Harbor consisted of approximately 438 tenants and was served by one relatively small haul-out facility with a boatyard capacity of only four vessels at any given time.

Regarding the number of haul-outs which could be expected from a given harbor or marina the Morro Bay analysis stated that "...in any given year, approximately one-third of the permanent in-water vessels can be expected to haul-out for maintenance and repairs."[4] The report indicated that the number of haul-outs is partially a function of the vessel construction (i.e. wood, steel, or fiberglass), vessel age, and use (i.e. recreational versus commercial uses). Commercial vessels, such as commercial and charter fishing vessels, typically haul-out more frequently than do standard recreational vessels. According the Morro Bay report and confirmed by conversations with haul-out operators in San Francisco Bay, commercial vessels generally haul-out a minimum of once annually while recreational vessels typically haul-out every two to five years depending on the age and condition of the vessel. Dornbusch contacted Bruce Marshall, owner of Marshall and Associates, who authored the report to understand how the one-third demand formula might apply to Pillar Point Harbor. Mr. Marshall suggested that "...the one-third formula would be a very good estimate for Pillar Point Harbor, particularly because it has a similar mix of commercial and recreational vessels as does Morro Bay Harbor, with an emphasis on commercial fishing."[5] Indeed, at the time of the Morro Bay study was completed, approximately 25% of the tenants in Morro Bay Harbor were commercial vessels, compared to approximately 30% at Pillar Point Harbor currently. Mr. Marshall's input is valuable due to his extensive experience as a haul-out facility owner and operator. Mr. Marshall's experience includes owning and operating Coastal Marine Boatworks in Morro Bay (formally called Pacific Haven Boatworks), managing Monterey Bay Boatworks in Monterey, managing Virgin Gorda Yacht Harbor in the British Virgin Islands (this is largest boatyard in the Caribbean), and currently serving as the Harbor Director for Swantown Marina and Boatworks on behalf of the Port of Olympia in Washington.

Potential haul-out demand was also assessed via a survey of Pillar Point Harbor tenants conducted by SMCHD in September-October of 2007. The survey was attempted to be delivered to all Pillar Point tenants. In particular, the survey asked tenants whether they would use a haul-out facility, how often, and for what types of repair and maintenance services. Out of approximately 369 tenants who were sent the survey 168 tenants or 45% responded. Of those that did respond, approximately 76% indicated that they would haul-out at least once per year.

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[3] "City of Morro Bay: Economic and Operational Analysis of Proposed Boating Access Facility at Morro Bay Harbor, August 1998," Marshall & Associates, 1998.
[4] Ibid, pg. 18
[5] Telephone conversation with Bruce Marshall, 9/10/07.

This translates into roughly 35% of total Pillar Point tenants who would haul-out at least once annually, which is very much inline with the one-third (33%) annual haul-out demand formula recommended by Bruce Marshall and used in the Morro Bay haul-out feasibility analysis. Table 10 summarizes the survey's findings regarding the frequency of haul-out facility usage at Pillar Point Harbor.

Table 10. Pillar Point Tenant Survey: Estimated Haul-Outs

Frequency of Haul-Out	Number of Respondents	% of Survey Respondents	% of Total Pillar Point Tenants
More than twice per year	10	6.0%	2.7%
Twice per year	21	12.5%	5.7%
Once per year	97	57.7%	26.3%
Once every 2 years	20	11.9%	5.4%
Once every 3 years	3	1.8%	0.8%
Once every 4 years	1	0.6%	0.3%
No response	16	9.5%	4.3%
Total	**168**	**100.0%**	**45.5%**

Table 10 reveals that approximately 58% of survey respondents indicated that they would haul-out annually, while 12% indicated that they would haul out twice yearly, and 6% indicated that they would haul out more than two times annually. These figures correspond to roughly 26% of Pillar Point tenants hauling out once annually, 6% hauling out twice annually, and 3% hauling out more than twice annually. The figures in Table 10 indicate that on an annual basis between 128 (or 35% of all tenants) and 169 haul-outs (or 46% of all tenants) could be expected at Pillar Point Harbor and a maximum of 193 haul-outs (or 52% of all tenants) could occur if tenants who haul out at intervals of less then once per year are considered. However, it is important to recognize that assuming the greater haul-out rate reported by Pillar Point Harbor tenants would be somewhat speculative, as this haul-out rate was estimated by a total of 168 tenants or 45% of the roughly 369 tenants at Pillar Point. The remaining 201 tenants who did not respond to the survey present a challenge to the interpretation of the annual haul-out estimate. The fact that 55% of Pillar Point tenants did not respond to the survey could be interpreted as indicating that 55% of tenants would not use the haul-out facility at all. To be conservative, Dornbusch applied the haul-out demand formula provided in the Morro Bay analysis and recommended by Bruce Marshall, and which corresponds to the minimum haul-out rate found in the survey of Pillar Point Harbor tenants. ***Therefore, this analysis assumes that one-third or 123 Pillar Point tenants would haul-out annually.*** In Section VI of this analysis Dornbusch analyzes the financial implications of potentially greater haul-out rates.

C. Services Demanded

Demand for repair and maintenance services at a full service type haul-out facility at Pillar Point Harbor would be expected to be similar to demand for these same services found at other haul-

out facilities in the region. Therefore, estimates of demand for repair and maintenance services were developed primarily based on estimates of the relative levels of demand for these services provided by haul-out facility operators in San Francisco and Monterey Bay surveyed by Dornbusch and presented in Section II C and in Tables 3 and 4 of this report. In addition, Pillar Point tenants were surveyed regarding the types of services they would perform themselves or demand from an operator providing these services, which are also considered in the development of service demand estimates.

Table 11 presents estimates of the percentage of haul-outs that would demand two broad categories of repair and maintenance services: painting/re-zincing and mechanical/other repairs.

Table 11. Percentage of Haul-Outs Demanding Repair and Maintenance Services

	Painting /re-zincing	Mechanical and Other Repairs
Survey of Haul-Out Operators	*80%*	*59%*
Survey of Pillar Point Tenants	*93%*	*73%*

The table reveals that of the Pillar Point tenants who responded to the survey, 93% indicated that they would use the proposed haul-out facility for painting and 73% indicated that they would use the haul-out for some type of mechanical or other type of repair. Estimates for these same categories of services provided by haul-out operators were 80% and 59% respectively. To be conservative Dornbusch applied the lower demand estimates provided by haul-out operators rather than use those provided by Pillar Point tenants.

These estimates were then applied to the estimated annual number of haul-outs at Pillar Point Harbor, which results in an estimate for the number of haul-outs at Pillar Point who would demand painting, mechanical, and other types of repair and maintenance services. Under the Do-it-Yourself Alternative, boat owners would be expected to perform these same types of maintenance and repairs themselves, while under the Full Service Alternative boaters would pay for these services to be performed by professional haul-out facility staff.

On an annual basis, an estimated 98 haul-outs would demand painting services and 72 haul-outs would demand mechanical or other types of repairs which might include engine/propeller service, valve replacement/maintenance, rigging repairs, re-zincing, and other types of repairs and maintenance.

D. Recommended Yard Size

To assess the size of the boatyard that would be required to service the estimated number of haul-outs at Pillar Point, Dornbusch examined the size and number of boat spaces at other haul-out facilities in San Francisco and Monterey Bay. In general, the size of the boatyard will be

affected by the number of haul-outs demanded and the average number of days a given vessel remains in the yard for repair and maintenance services. As previously discussed, haul-out facility operators estimated that the average length of stay in the boatyard per haul-out was nine days. This estimate is very much in line with lay-time estimates provided by Pillar Point tenants surveyed by SMCHD, who indicated a range of between one and two weeks haul-out time. Dornbusch assumes that on average Pillar Point tenants would occupy a space in the boatyard for approximately nine days. Table 12 presents various characteristics, including the size and approximate number of annual haul-outs for a number of haul-out facilities surveyed by Dornbusch.

Table 12. Boatyard Characteristics at Regional Haul-Out Facilities

	Approximate Square Footage of Boatyard	Approximate Number of Boatyard Spaces	Annual Number of Haul-Outs	Annual Haul-Outs per Boatyard Space	Slips Near Facility	Boatyard Spaces per Slip
British Marine	17,252	10	180	18	2,786	0.004
Aquarius Boatworks	29,758	14	600	43	965	0.015
Monterey Bay Boatworks	31,319	18	300	17	493	0.037
Bayside	34,281	n/a	156	n/a	1,975	n/a
Vallejo Boatworks	40,939	25	n/a	n/a	809	0.031
Grand Marina	40,990	19	700	37	2,786	0.007
Andersons	50,589	32	n/a	n/a	1,975	0.016
San Francisco Boat Works	52,739	40	n/a	n/a	700	0.057
Bay Marine Boatworks	59,283	30	1,200	40	1,166	0.026
Eagle Marine	60,284	40	100	3	350	0.114
Svendsens	61,234	40	n/a	n/a	2,786	0.014
Berkeley Marine Center	69,520	45	n/a	n/a	975	0.046
Gravelles	74,280	25	480	19	700	0.036
KKMI	90,947	26	n/a	n/a	1,166	0.022
Nelsons	131,501	86	n/a	n/a	2,786	0.031
Napa Valley	330,404	150	n/a	n/a	1,009	0.149
Averages	**56,328**	**32**	**465**	**25**	**1,464**	**0.034**

Source: Dornbusch survey of boat boat-haul our operators; Google Earth

The table reveals that boatyards at regional haul-out facilities range between 17,000 and 330,000 square feet, with average size of 56,000 square feet. The number of average size boat spaces range from 10 to approximately 150 spaces at Napa Valley Marina haul-out facility.

One approach to analyzing what size boatyard might be required at Pillar Point is to examine the ratio of annual haul-outs to the number of boat spaces at comparable haul-out facilities to determine the extent to which the typical boat space is utilized. Dividing total annual haul-outs

by the ratio of haul-outs to boat spaces results in the average number of spaces that would required. Table 12 indicates that the average number of haul-outs per space at regional boatyards is 25 haul-outs per space per year, which is very much in line with the estimate provided in the Morro Bay analysis which stated that "...an effective utilization rate of between 20 to 30 boats per space is reasonable."[6] Given a baseline estimate of 123 annual haul-outs at Pillar Point, this would result in approximately 5 boat spaces required at the Pillar Point facility. Based on a median area per boat space of 1,680 square feet, this would result in a boatyard at Pillar Point with an area of 8,400 square feet.

Dornbusch also assessed the required size of the proposed Pillar Point boatyard by examining the relationship between the number of vessels/slips which the haul-out facility might serve and the number of boat spaces in a given yard. The rationale for this analysis is that in general the number of spaces at a given boatyard would be positively related to the number of vessels (here slips) in the immediate region which the facility might serve. Table 12 reveals that the average number of boatyard spaces per slip that is potentially served by the haul-out facility is roughly 0.03 boat spaces per slip. Multiplying the average number of boat spaces per slip times the total number of slips in a given harbor would provide an estimate of the number of boat spaces that would be required to serve that number of slips. Performing this calculation for Pillar Point results in 11 spaces required to satisfy the 369 tenants at Pillar Point Harbor.

Given the range estimated using the above conceptual analyses, Dornbusch assumes that a capacity of 10 boat spaces would be a reasonable estimate of the number required to satisfy haul-out demand at Pillar Point. British Marine in Oakland is an example of an operational haul-out facility in San Francisco Bay which also has 10 yard spaces, the lowest in the range of operators surveyed by Dornbusch.

Recognizing that haul-out demand for the Pillar Point facility will not be evenly distributed throughout the year, it is important to offer a sufficient number of spaces in the boatyard to meet the needs of Pillar Point tenants. Assuming a 10 space boatyard and an average lay-day period of 9 days per haul-out, approximately 27% of the estimated Pillar Point annual haul-outs or 33 lifts, could be accommodated during any given month, slightly more than one lift per day. Despite the limited availability of detailed haul-out data, Monterey Boatworks did provide 3-years of monthly haul-out data. The data reveals that on average during the peak demand month only 11% of total annual haul-outs occur during this period. A 10 space haul-out facility at Pillar Point could handle more than twice this percentage and still satisfy demand without having to turn customers away.

[6] Op. Cit, City of Morro Bay, pg. 19

In conclusion, Dornbusch judges that a 10-space haul-out facility representing a total of 18,000 square feet would be an appropriate size facility to meet the estimated haul-out demand at Pillar Point Harbor.

E. Recommended Type and Size of Lift

Given the fact that any haul-out facility at Pillar Point would need to have the ability to lift the larger commercial vessels, particularly fishing vessels, at Pillar Point Harbor, and based on the finding that most haul-out operators which service commercial type vessels in the region offer lifts with the ability to lift vessels of 60 tons or more, Dornbusch judges that to serve most Pillar Point tenants, a 70 to 75-ton lift would be needed. This was confirmed by input provided by Erich Pfifer of Travel Lift, Inc. and Winzler and Kelly engineers. Such as a lift size would be similar to lift sizes at haul-out facilities including Monterey Bay Boatworks and Gravelles Boatworks which serve a relatively large number of commercial fishing vessels, both of which have travel lifts that have capacities of 70 to 75 tons.

Given that nearly all haul-out facility operators surveyed use travel lifts and that this type of lift generally represents the industry standard rather than older rail car type lifts or cranes, Dornbusch assumed that a travel lift would also be appropriate for the proposed Pillar Point haul-out facility. A 75-ton travel lift would have the capacity to lift vessels approximately 20 feet wide and 65 feet long.

In summary, Dornbusch believes that a 75-ton Travel Lift would be an appropriate type of lift for the proposed Pillar Point Harbor haul-out facility.

F. Location of Haul-Out Facility at Pillar Point Harbor

Based on input provided by Winzler and Kelly engineers, the haul-out facility would be located at the a newly developed eastern section of the landside portion of the Harbor, directly east of the Harbormasters Office and north and adjacent to the proposed new slip docks. The existing beach located along the north-east shoreline of the Harbor would be extended from the existing pier-head to provide additional space for the haul-out facility.

IV. HAUL-OUT FACILITY ALTERNATIVES

This analysis considers the financial feasibility of two types of boat haul-out facilities: a do-it-yourself facility and a traditional full service facility. In this section we present a description of the types of services which are assumed to be provided under each type of operation and our related assumptions for each alternative.

A. Do-it-Yourself Alternative

Do-it-yourself haul-out facilities offer boat owners a location where they (or someone they hire) can perform vessel repair and maintenance tasks, such as painting, re-zincing, or engine/prop maintenance, rather than having professional haul-out facility staff perform these tasks. The incentive for boat owners to use a do-it-yourself type facility is the cost savings achieved by avoiding the often expensive fees charged by full-service facilities to perform repair and maintenance tasks. Most do-it-yourself type yards in San Francisco Bay and elsewhere are typically integrated within full-service haul-out facilities which provide professional repair and maintenance services. Examples of haul-out facilities which allow do-it-yourselfer's include Nelson's Marine (Alameda), Anderson's Boatworks (Sausalito), Svendson's Boatworks (Alameda), KKMI Boatworks (Point Richmond), and Berkeley Marine Center (Berkeley).

For the purposes of this analysis, Dornbusch assumed that a very basic type do-it-yourself facility would be developed at Pillar Point Harbor and would primarily consist of an 18,000 square foot paved yard, enclosed by perimeter fencing and a security gate at the main entrance. The yard would provide electrical hookups to which power tools could be connected. The facility would also include a water pollution control system which would minimize wastewater runoff from vessel maintenance operations, such as hull cleaning and painting, and the potential for costly environmental damage and cleanup. The facility would be staffed by two part-time employees who would operate the travel lift, pressure wash vessel hulls, and set the vessels up on blocks and boat stands. We assumed that the facility would be open year-round, 7-days per week. Haul-outs would likely need to be scheduled in advance or during specific daytime hours. In addition, some level of security monitoring of the facility would likely need to be provided. This security might be provided by staff at SMCHD Harbormasters office which would be directly adjacent to the location of the proposed boatyard, and the additional security of monitoring the boatyard would likely consist of occasional patrols through the boat yard by the Harbor Patrol.

The primary sources of revenue from a do-it-yourself type facility would consist of revenues generated from haul-outs and revenues generated from lay-days. These revenue sources would be expected to generate the majority of all revenues and are what is considered in this analysis. Primary costs would include labor to operate the travel lift and block-up vessels within the yard,

utilities (electricity, water, garbage disposal), liability insurance costs, and to a lesser extent operating supplies such as straps, blocks, tarps, etc. In addition, annual travel lift operating maintenance costs would consist primarily of oil, fuel, and engine service costs.

B. Full Service Alternative

Full service haul out facilities are those which provide professional repair and maintenance services to boat owners. Such facilities typically have a boatyard and a repair and maintenance shop, and may also sell vessel repair and maintenance supplies such as zincs, anti-fouling paint, rigging equipment, and other products. Nearly all haul-out facilities in San Francisco Bay are full service facilities which offer boat owners an array of repair and maintenance services performed by professional staff.

We assume that under this alternative that a full-service type facility would be developed at Pillar Point, complete with at 1,920 square foot pre-fabricated repair and maintenance shop and an 18,000 square foot boatyard. This facility would offer basic repair and maintenance services which would include at a minimum the following types of services:

- Bottom painting and prep work
- Replacing zincs
- Servicing/replacing valves
- Polishing & cleaning props
- Stuffing Box maintenance
- Engine service (oil & filters)/propeller service

Revenues would be generated from these services as well as from haul-outs, however, no revenue was assumed to be generated from lay-day charges, as most full service facilities do not charge lay-days while working on a customer's boat, and this was assumed to be the case under the Full Service Alternative.

It was judged that approximately two part time yard workers/lift operators and one full-time professional repair employee would be required to staff this operation, for a total of two full-time equivalent staff members. Yard staff would be expected to operate the lift, pressure wash vessels, perform some repair and maintenance tasks, and block up vessels. The repair person would be responsible for performing and directing repair and maintenance jobs, particularly more sophisticated repair jobs which the yard staff could not perform, and also perform some level of administrative work such as bookkeeping, charging customers, and setting rates. Of course, there would likely be some overlap in employee responsibilities, with all employees performing an array of different day-to-day duties including answering phones, charging customers, running the travel lift, pressure washing or blocking up vessels.

C. Factors Common to Both Alternatives

It is assumed that the same number of annual haul-outs would occur under each alternative. This assumption is based on input initially provided by Bruce Marshall who indicated that roughly the same number of haul-outs would occur regardless of whether the facility was full service or do-it-yourself. Later this was largely confirmed by the fact that most the Pillar Point survey respondents appeared to be equaling willing to haul-out at either a do-it-yourself or full service facility, although some preference did appear to exist for a do-it-yourself facility. Similarly, it is assumed that the average length of stay or lay-days are the same under both facility alternatives based on input and estimates provided by haul-out operators surveyed by Dornbusch as well as comments and estimates on length of stay provided by Pillar Point survey respondents.

V. FINANCIAL EVALUATION

This section presents a financial evaluation of the Do-it-Yourself Alternative and the Full Service Alternative. The following sections present the assumptions used to develop the cost and revenue estimates, and explains the operating and contract assumptions employed in this analysis. ***Dornbusch assumes under both alternatives that San Mateo County Harbor District (SMCHD) would contract with a private entity that would operate and maintain the haul-out facility.***

A. Investment Assumptions

1. Overview

The development of a haul-out facility at Pillar Point Harbor would require a number of different investments under both the Do-it-Yourself Alternative and the Full-Service Alternative. These investments are assumed to be made by San Mateo County Harbor District directly or by using California Department of Boating and Waterways public loan funds to finance the development of the facility. After an examination of the estimated internal rate of return on investment (IRR), Dornbusch believes that the cash flows from a Pillar Point haul-out facility would be insufficient to achieve a target internal rate of return which would be sought by a private entity. Indeed, in this case the target internal rate of return even under a long-term lease of 50-years and assuming no additional capital improvements would result in an IRR of -1.6% under the Do-it-Yourself Alternative and 2.0% under the Full-Service Alternative. These rates of return would only be achieved if the private entity paid no fees, including rental fees, to SMCHD. ***Therefore, Dornbusch believes that a private operator would not be willing to make the capital improvements necessary to develop a haul-out facility, either a Do-it-Yourself or Full Service facility, at Pillar Point Harbor. Instead SMCHD would need to finance the project directly or use DBAW public loan funds to finance the project.***

In the case where SMCHD were to make the investment using its own funds, financial feasibility would depend on whether a private operator could pay SMCHD a fee which would result in achieving the District's minimum target internal rate of return (IRR) of 5%.[7] If a private operator could pay SMCHD a fee which achieved or exceeded this level, then the District would be making an investment that covered its opportunity cost of capital, that is, generating a return at a level similar to the next best investment SMCHD could make with its funds. If the operator could not pay fees which generated a minimum IRR of 5%, then the District would effectively be

[7] Telephone communication with Marcia Schnapp, Director of Finance, San Mateo County Harbor District, 11/18/07. Ms. Schnapp indicated that SMCHD would typically target a minimum IRR ranging from 5% to an upper limit of 7%, Dornbusch applies minimum target of 5% in this analysis.

suffering a financial loss over the operating term and useful life of the facility improvements, i.e. the District could have saved money by not having invested in the facility.

In the case where SMCHD were to borrow DBAW funds to develop the haul-out facility, financial feasibility would depend on whether a private operator could pay SMCHD a fee which would service the annual principal and interest payments on the DBAW loan. Currently, the DBAW public loan interest rate is 4.5% over a loan period of 30-years. If a private operator could pay fees which covered this debt service then SMCHD would effectively experience zero financial burden from the DBAW loan. However, if a private operator could not afford to pay SMCHD a fee that completely serviced this debt then SMCHD would be required to service some portion of the debt, which would result in some level of financial burden for the District.

2. Period of Analysis

If SMCHD were to use its own funds to develop the Pillar Point haul-out facility, Dornbusch assumes that the District might seek to amortize the investment in 15 years, which corresponds to the approximate useful life of a new travel lift. This period would also amortize a majority of the site improvement costs which have an estimated useful life of 20 to 25 years. Any period longer then 15 years would require large additional capital investments and replacements to keep the haul-out facility in a safe, functioning condition.

If SMCHD sought DBAW public loan funds to finance the development of a haul-out facility, loan repayment, per DBAW regulations, could be paid over a period of 30-years. As previously discussed financial feasibility of this funding alternative would be dependent on whether a private operator could service the annual principal and interest payments associated with this debt. In addition, to facilitate comparison between the two financing approaches, Dornbusch examines the debt service payments which would be required if SMCHD sought to amortize the DBAW loan over a 15 rather than 30-year period. Targeting a 15 rather than 30-year payback period would result in SMCHD fully amortizing the DBAW prior to large additional capital expenditures being required, including the likely purchase of a new travel lift after year 15 (2023) and renovations to the site improvements after year 20 (2028).

In addition, it is assumed that capital investments and haul-out facility development would begin in 2008 and the facility would begin operations in 2009.

3. Capital Costs

Capital costs for each haul-out facility alternative were estimated by Winzler and Kelly engineers and Erich Pfeifer of Travel Lift, Inc., and are displayed in Table 13 below. These estimates are based on the assumptions, previously discussed, that a 10 space, 18,000 square foot yard and a 70 to 75 ton lift would be required to meet the demands of Pillar Point Harbor tenants.

Erich Pfeifer estimated that a 75-ton travel lift would cost approximately $290,000 plus an additional $50,000 for lift delivery and set-up, for a total of $340,000. Winzler and Kelly engineers estimated that the development of an 18,000 square foot do-it-yourself haul-out facility would cost approximately $942,000 while the site improvements associated with a full service haul-out facility would cost around $1.32 million. The primary difference between the site improvement costs under the two alternatives is that the full service haul-out facility would require the addition of a 1,920 square foot repair and maintenance shop, which is valued at roughly $377,000.

Table 13. Haul-Out Facility Capital Costs for Each Alternative

	Do-it-Yourself Alternative	Full Service Alternative
75-Ton Travel Lift (new)	$340,000	$340,000
Site Improvements	$942,000	$1,319,000
Estimated Total Capital Cost	**$1,282,000**	**$1,659,000**

Table 14 provides a breakdown of the primary site improvement cost categories and items under both the Do-it-Yourself and Full Service Alternatives. The table reveals that site work and project mobilization costs are estimated to be the same under both alternatives at around $381,000. Similarly, the cost associated with concrete and metal structures, including construction of the travel lift pier, is also estimated to be the same for both alternatives at $488,000. Mechanical and equipment costs are estimated at $51,000 under the Do-it-Yourself Alternative and $366,000 under the Full Service Alternative, the difference being due to the full service facility including the 1,920 square foot maintenance/repair shop. Electrical costs are estimated at $51,000 under the Do-it-Yourself Alternative and $84,000 under the Full Service alternative, reflecting the higher electrical costs associated with wiring and lighting the maintenance/repair shop.

Table 14. Summary of Site Improvement Costs[8]

	Do-it-Yourself Alternative	Full Service Alternative
Site Work/Project Mobilization		
▪ Water pollution control ▪ Erosion control/grading ▪ Paving/drainage ▪ Catch Basin and Stormwater Filtration System ▪ Mobilization	**$381,000**	**$381,000**
Concrete/Metal		
▪ Concrete pile caps ▪ Precast concrete piles (pier and bulkhead) ▪ Concrete slab at grade ▪ Miscellaneous metals	**$488,000**	**$488,000**
Mechanical/Equipment		
▪ Security fence ▪ Rolling entrance gate ▪ Shop building ▪ Exhaust fan for shop building	**$51,000**	**$366,000**
Electrical		
▪ Basic electrical materials/setup ▪ Wiring of maintenance shop ▪ Maintenance shop lighting	**$22,000**	**$84,000**
TOTAL	**$942,000**	**$1,319,000**

Source: Winzler and Kelly

B. Projected Revenues

This section presents potential revenues which might be expected under both the Do-it-Yourself and Full Service Alternatives. These estimates are based upon demand assumptions developed in Section III of this report. One important concept with direct implications for revenues is that demand will be essentially limited to the demand of Pillar Point tenants and that due to this limitation, demand growth would likely be zero over time. This assumes that haul-out demand by Pillar Point tenants on average remains relatively constant from year to year, which we believe is a reasonable assumption.

Given that demand growth is expected to be limited at the proposed haul-out facility, nearly all of the growth in revenues would be from inflationary adjustments, assumed in this analysis to reflect the long-term historical regional inflation rate of 3.0% annually.

[8] The costs presented in the table include a construction contingency of 20%.

1. Haul-Outs

As discussed in Section III of this report, this analysis judges that one-third of the approximately 369 tenants would haul-out annually (123 haul-outs per year). Since haul-out revenues are dependent on the length of the vessel being hauled, it is important to assess the length distribution of Pillar Point tenants' vessels. It is assumed that of the total haul-outs each year the lengths of vessels hauled will reflect the same length distribution found in the Harbor overall. For example, if 31 to 35 foot vessels represent 30% of the total vessels in the Harbor, than 30% of the vessels hauled-out annually would be expected, on average, to be 31 to 35 feet in length.

Table 15 provides a breakdown of the distribution of vessels at Pillar Point by length. The table reveals that the largest single size category is for vessels between 26 to 30 feet in length, which represent around 27% of the total vessels at Pillar Point. Vessels 26 to 30 feet in length would also represent the largest size category for annual haul-outs, with 33 vessels of this size hauling out annually. The smallest size category with the corresponding smallest number of annual haul-outs is for vessels 56 feet and above, which combined represents 2.4% of the total number of vessels at Pillar Point or roughly three haul-outs per year.

Table 15. Vessel Size Distribution and Annual Haul-Outs at Pillar Point Harbor

Size (feet)	% of tenants	Approximate Number	Haul-Out Annually
20-25	12.3%	45	15
26-30	26.9%	99	33
31-35	15.9%	59	20
36-40	18.3%	68	23
41-45	13.2%	49	16
46-50	6.9%	25	8
51-55	4.2%	15	5
56-60	0.3%	1	0.3
61-65	1.8%	7	2
66-70	0.3%	1	0.3
Total	**100.0%**	**369**	**123**

Source: San Mateo County Harbor District

To estimate haul-out revenues Dornbusch applied the average haul-out rates prevailing at haul-out facilities in San Francisco and Monterey Bay presented in Section II, Table 5 of this report. These rates were then adjusted by two periods of inflation at 3% to 2009 dollars, the year in which operation of the Pillar Point haul-out facility is assumed to begin. The haul-out rates were then multiplied by the mid-point of the corresponding vessel length category and then multiplied by the estimated number of haul-outs within this length category. Table 16 presents this calculation and the estimated haul-out revenues in 2009.

Table 16. Estimated Haul-Out Revenues in 2009

Size (feet)	Haul-Out Fees $/Foot ($2009)	Average Haul-Out Charge	Estimated Annual Haul-Outs	Annual Haul-Out Revenues 2009
20-25	$11.20	$252	15	$3,800
26-30	$11.20	$314	33	$10,300
31-35	$11.60	$383	20	$7,700
36-40	$11.70	$445	23	$10,200
41-45	$12.40	$533	16	$8,500
46-50	$12.50	$600	8	$4,800
51-55	$13.00	$689	5	$3,400
56-60	$13.10	$760	0.3	$200
61-65	$14.00	$882	2	$1,800
66-70	$14.00	$952	0.3	$300
Total	-	-	**123**	**$51,000**

The table reveals that approximately $51,000 would be generated from the estimated 123 haul-outs in 2009. As previously discussed, the number of annual haul-outs is assumed to be the same under both the Do-it-Yourself and Full Service Alternatives and therefore the estimated $51,000 in haul-out revenues would be the same for both alternatives as well. Since demand growth is expected to remain constrained over the life of the haul-out facility and assuming the one-third demand formula remains relatively constant over time, the $51,000 in annual haul-out revenues would be expected to increase at the rate of 3% annually if haul-out rates were adjusted for inflation annually.

2. Lay-Days

As discussed in Section III of this report, this analysis assumes that lay-day fees would only be charged under the Do-it-Yourself Alternative and no lay-day fees would be charged under the Full Service Alternative. Based on surveys of Pillar Point tenants and haul-out facility operators in the region, the average length of stay in the boatyard is assumed to be nine days. In addition, it is assumed (as is common at other regional haul-out facilities) that no lay-day fees apply to the day of haul or the day of launch. Therefore, the estimated lay-day period for which associated fees might be charged is assumed to be seven days (nine days minus the day of haul and day of launch).

To estimate revenues associated with lay-day charges under the Do-it-Yourself Scenario, Dornbusch applied the average lay-day rates found at other regional haul-out facilities, presented in Table 6 of this analysis. These average rates were then adjusted for two periods of inflation at 3% annual inflation, to reflect the year in which operations are assumed to begin or 2009. The rates were then multiplied by the mid-point length of each vessel length category, and then this product was multiplied by the estimated number of haul-outs within a given length category times seven lay-days. Table 15 summarizes the results of the lay-day revenue calculation for 2009.

Table 17. Estimated Lay-Day Revenues in 2009

Size (feet)	Lay-Day Fees $/Foot ($2009)	Average Lay-Day Charge ($/day)	Estimated Total Annual Lay-Days	Annual Lay-Day Revenues 2009
20-25	$1.00	$22.50	105	$2,400
26-30	$1.00	$28.00	231	$6,500
31-35	$1.10	$36.30	140	$5,100
36-40	$1.10	$41.80	161	$6,700
41-45	$1.20	$51.60	112	$5,800
46-50	$1.20	$57.60	56	$3,200
51-55	$1.40	$74.20	35	$2,600
56-60	$1.40	$81.20	2	$200
61-65	$1.80	$113.40	14	$1,600
66-70	$1.80	$122.40	2	$200
Total	-	-	**858**	**$34,300**

The table reveals that a total of approximately 858 annual lay-days would be expected to generate revenues of roughly $34,000 in 2009. Again, as growth in haul-out demand is assumed to be constrained at Pillar Point for reasons previously discussed, growth in lay-day revenues would result primarily from annual inflationary rate adjustments.

3. Bottom Painting

Revenues generated from bottom painting would only occur under the Full Service Alternative, where bottom painting services would be offered and performed by a private haul-out facility operator. Haul-out facility operators surveyed by Dornbusch estimated that on average 80% of their annual haul-outs receive a bottom paint job. Dornbusch applied this estimate to the total number of annual haul-outs at Pillar Point to estimate the number of vessels which might demand bottom painting services in a given year. This results in roughly 98 haul-outs which could be expected to demand bottom painting services per year.

Dornbusch applied bottom painting rates from Bay Marine Boatworks in Point Richmond, which charges its bottom painting rates based on length of the vessel. Rates from Bay Marine were used as they appear to most accurately reflect all charges involved in bottom painting, including all materials, labor time in preparation and painting, while the rates quoted at other facilities either leave out these additional charges (i.e. material and preparation charges) or charge based on hourly labor rate. The bottom painting fees from Bay Marine Boatworks were adjusted to exclude haul-out fees which are normally included in the bottom painting rates quoted by Bay Marine. In addition, Bay Marine rates differ depending upon the type of anti-fouling paint selected, therefore Dornbusch averaged across all paint categories to achieve an average bottom painting rate for the various types of paints offered in the market.

Table 18 presents the estimated annual revenues in 2009 associated with bottom painting using the method described above.

Table 18. Estimated Bottom-Painting Revenues, 2009

Size (feet)	Painting Fees $/Foot ($2009)	Average Painting Charge	Estimated Number Haul-Outs Seeking Painting Services	Annual Painting Revenues 2009
20-25	$23.30	$524	12.0	$6,300
26-30	$23.30	$652	26.4	$17,200
31-35	$24.80	$818	16.0	$13,100
36-40	$25.10	$954	18.4	$17,600
41-45	$26.40	$1,135	12.8	$14,500
46-50	$27.70	$1,330	6.4	$8,500
51-55	$30.70	$1,627	4.0	$6,500
56-60	$33.50	$1,943	0.2	$400
61-65	$37.50	$2,363	1.6	$3,800
66-70	$42.70	$2,904	0.2	$600
Total	-	-	**98**	**$88,500**

The table indicates that approximately 98 haul-outs demanding bottom painting services would generate an estimated $88,500 in annual revenues in 2009. Annual bottom painting revenues would be expected to increase based on an annual inflationary rate adjustments.

4. Other Revenues

Revenues from typical mechanical and other types of maintenance and repair services apply only to the Full Service Alternative. As discussed in Section III and presented in Table 11 of this report, haul-out facility operators surveyed by Dornbusch estimated that on average approximately 59% of annual haul-outs demand regular mechanical and other types of repair and maintenance services.[9] Common mechanical/other services described by haul-out facility operators surveyed by Dornbusch included replacing zincs, servicing/replacing valves, propeller maintenance, stuffing box maintenance, and engine service. To estimate revenues associated with these services, Dornbusch applied the average of 59% to the total number of annual haul-outs (123) to estimate the number of haul-outs which might demand these types of repair and maintenance services annually. This results in approximately 72 haul-outs that would demand such services on an annual basis at Pillar Point Harbor. To estimate the percentage of these haul-outs that would demand *specific* services, Dornbusch applied the estimated demand percentages and expenditure amounts for each type of service provide by Bay Marine Boatworks (presented in Table 4 in Section II of this report) to the estimated 72 haul-outs that would demand such services. Table 19 summarizes the revenue estimates for mechanical and other repairs and maintenance services at Pillar Point Harbor during the first year of facility operation in 2009.

[9] This 59% excludes re-zincing which is a service that on average 80% of annual haul-outs are estimated to demand (see Table 3).

Table 19. Estimated Mechanical and Other Service Revenues, 2009

	% of Annual Haul-Outs	Number Receiving Service	Average Charge	Mechanical/Other Total Revenue
Replacing Zincs	80.0%	98	$106	$10,400
Servicing & Replacing Valves	41.3%	51	$318	$16,200
Propeller Maintenance	35.4%	44	$212	$9,300
Stuffing Box maintenance	29.5%	36	$106	$3,800
Engine Service (oil & filters)	17.7%	22	$743	$16,300
Total	-	-	-	**$56,000**

It is important to recognize that the revenues presented in Table 19 reflect a very approximate estimate of the actual revenues that might materialize from repair and maintenance services. The reason for this is that to some extent, repairs are unpredictable and will occur irregularly over time. This analysis has tried to capture revenues which might be generated from more common and cyclical type repair and maintenance services. Table 19 indicates that an estimated $56,000 thousand would be generated from typical mechanical and other types of repairs annually at Pillar Point harbor under the Full Service Alternative in 2009.

C. Projected Expenses

Operating expenses were estimated based on a number of different sources including past studies, operating financials from other haul-out facilities, input provided by haul-out operators and marine consultants surveyed by Dornbusch, Travel Lift representatives, and other sources. This section describes the operating cost estimates and related assumptions associated with the Do-it-Yourself and Full Service Alternatives.

1. Labor Costs

Based on conversations with haul-out facility operators and Bruce Marshall, it was judged that two part time employees would be required to operate the haul-out facility under the Do-it-Yourself Alternative. The reason for two part time employees is that often two employees are needed to work together on a number of different tasks including blocking up vessels after haul-out and support in operating the travel lift, particularly if any emergencies were to occur. These so called "yard employees" would be employed part-time due to the relatively small number haul-outs that are estimated to occur at a Pillar Point haul-out facility in a given year. For example, on average around 2.4 haul-outs per week would occur during a year. Of course haul-outs would not likely be evenly distributed over the months but concentrated in certain peak and off-peak periods previously discussed.

Under the Full Service Alternative it is assumed that in addition to two part-time yard employees, a full-time repair and maintenance staff person would be required to perform more sophisticated repair and maintenance tasks. This person is assumed to work full-time given the amount of repair work that is estimated to occur at the facility.

In summary, under the Do-it-Yourself Alternative, two part or one full time equivalent staff members are judged to be required. Based on average wage rates for comparable occupations in the region it is assumed that yard staff are paid $20.41 per hour in 2009 dollars.[10] In addition assuming benefits and workers compensation insurance at 20% of gross wages, this would result in a labor expense of $50,950 in 2009. The labor expense for the Full Service Alternative would include the cost of one additional full time repair person. Assuming that this staff person receives an hourly wage of $24.50 in 2009 dollars which reflects the mean wage for boat mechanics in the region, and again assuming benefits and workers compensation insurance at 20% of gross wages, this would result in an additional labor expense of $61,140 in 2009.[11] Therefore, under the Full Service Alternative total labor costs would be approximately $112,000 in 2009. In the long run, labor expenses would tend to grow at the historical regional rate of inflation of 3.0% per annum.

Finally this analysis assumes that the staff described above would perform all of the administrative and booking type tasks under both alternatives and as such an additional book keeping/secretarial position would not be required. We believe this is a reasonable assumption due to the relatively limited scale of the haul-out facility operation.

2. Travel Lift Operating Costs

Travel Lift costs primarily consist of annual engine maintenance and fuel and oil costs. According to estimates provided by Travel Lift, Inc. staff, annual lift repair and maintenance costs are roughly 1% of the purchase price of the lift or approximately $3,080 annually in 2009 dollars. Travel Lift staff and Winzler and Kelly engineers estimated that based on the size of the operation being proposed at Pillar Point and the relatively small number of number of estimated annual lifts, that the lift would consume 30 gallons of diesel gas approximately every 2.5 weeks.[12] This fuel consumption rate would result in an annual fuel cost of $2,400 in 2009

[10] May 2006 Metropolitan and Non-metropolitan Area Occupational Employment and Wage Estimates for *Riggers*, San Francisco-San Mateo-Redwood City, CA Metropolitan Division, U.S. Bureau of Labor Statistics.
[11] May 2006 Metropolitan and Non-metropolitan Area Occupational Employment and Wage Estimates for *Motorboat Mechanics*, San Francisco-San Mateo-Redwood City, CA Metropolitan Division, U.S. Bureau of Labor Statistics.

[12] E-mail communications with Craig Lewis, Winzler & Kelly Consulting Engineers, 11/19/07.

dollars. Combined annual lift operating costs are therefore estimated at approximately $5,500 in 2009. In the future, these costs are estimated to increase at the average annual rate of inflation.

3. Operating Supplies

Operating supplies consist of such items as boat stands, wood blocks, tarps, lift straps, hydraulic oil, and repair parts/materials. These costs were estimated based on cost estimates provided in the 1998 Morro Bay study and five years of financial data provided by Bruce Marshall for Swantown Boatworks operated by the Port of Olympia in Washington.[13] Swantown Boatworks is operated by the Port which receives revenues from boat storage, haul-outs, lay-days, and rents received by repair and maintenance operators. Based on these sources, Dornbusch assumes that operating supplies would represent 3% of gross revenues under the Do-it-Yourself Alternative and approximately 4% of gross revenues under the Full Service Alternative. When these percentages are applied to gross revenues in 2009, this results in an operating supplies expense of roughly $2,600 under the Do-it-Yourself Alternative and $7,800 under the Full-Service Alternative. The reason for the significantly higher expense under the Full Service Alternative is due to the greater level of maintenance and repair equipment and supplies which the operator would be required to purchase to maintain service. On average these costs would be expected to increase at the projected inflation rate of 3%.

4. Other Operating Expenses

This expense is assumed to include administrative and general (A&G) expenses, including office equipment/computers, business/accounting software, telephones, travel, office supplies, or any other costs of doing business. These costs were developed based on an assessment of five years of Swantown Boatworks' financial statements provided by Bruce Marshall. Under the Do-it-Yourself Alternative, it is assumed that other operating expenses would represent 5% of gross revenues (or $4,300 in 2009), while under the Full Service Alternative these same costs would represent 7% of gross revenues (or $13,700 in 2009).

5. Utilities

Utility costs were developed based on cost estimates described in the Swantown Marina financial statements. Utility costs include water, electricity, and garbage disposal expenses. Utility costs were assumed to be 5% of gross revenues under both the Do-it-Yourself and Full-Service Alternatives. This results in utility costs of roughly $4,300 and $9,800 under the Do-it-Yourself and Full Service Alternatives, respectively, during the first year of operation or (2009).

[13] E-mail communication with Bruce Marshall, Harbor Director for Swantown Marina and Boatworks, Port of Olympia, Washington, 11/20/07.

6. Other Fixed Expenses

Other fixed expenses would primarily include insurance, permit/license fees, equipment rentals, and other fixed costs. These costs were calculated by converting the estimates provided in the Morro Bay study to 2009 dollars assuming an annual inflation rate of 3%. This results in an estimated expense of $10,500 in 2009 under both of the Do-it-Yourself and Full Service Alternative. This majority of this expense would reflect general liability insurance costs.

7. Repair and Maintenance

Repair and maintenance costs would primarily apply to equipment and building repairs under the Full Service Alternative. This line item would not apply to the Do-it-Yourself Alternative, as the operator would have no maintenance building or significant amounts of equipment to repair or maintain. The annual repair and maintenance expenses were estimated based upon the Morro Bay study cost estimates and review of the Swantown Boatworks financial statements. Based on these sources, Dornbusch assumes repair and maintenance expenses would represent 2.5% of gross revenues or roughly $4,800 in 2009.

8. Tools

Annual tool costs would consist of replacing worn out tools and parts and maintaining the required inventory of the tools and equipment, including replacing worn out drills, sanders, wrenches, and associated supplies. This line item would only apply to the Full Service Alternative, as the private operator under the Do-it-Yourself Alternative would not be making repairs and would thus not have an inventory of tools to maintain. Theses costs were estimated using the estimates found in the Morro Bay study and are assumed to be 2.0% of gross revenues or approximately $3,900 in 2009.

In addition, based on estimates provided in a 2002 feasibility study for a haul-out facility in Wrangell Alaska, Dornbusch estimates that a start up cost of $6,000, consisting of tool and equipment purchases, would be required under the Full Service Alternative, in the year prior to the start of operations or 2008.[14]

9. Net Operating Income

Based on the revenue and expense projections presented in this section, Dornbusch projects net operating income, before rent or fees paid to SMCHD, as shown in the following table.

[14] "Feasibility Study of Marine Center in Wrangell, February 2002," Northern Economics, Inc., 2002.

Table 20. Projected Net Operating Income

	Do-it-Yourself Alternative	Full-Service Alternative
2009	$6,600	$26,600
2010	$6,800	$27,400
2011	$7,000	$28,200
2012	$7,200	$29,100
2013	$7,400	$29,900
2014	$7,700	$30,800
2015	$7,900	$31,800
2016	$8,100	$32,700
2017	$8,400	$33,700
2018	$8,600	$34,700
2019	$8,900	$35,700
2020	$9,200	$36,800
2021	$9,400	$37,900
2022	$9,700	$39,100
2023	$10,000	$40,200

Table 20 reveals that given the operating and revenue estimates and based on the assumptions described above, net operating income is positive over the assumed 15-year operating period under both alternatives. The table also indicates that net operating income is roughly four times greater under the Full Service Alternative compared to the Do-it-Yourself Alternative.

Conceptually, the estimates of net operating income reflect the remaining or available funds which a private operator would have to pay SMCHD after paying themselves a salary and covering their operating costs. The financial feasibility of a given haul-out facility alternative is dependent on whether the net operating income generated could conceivably cover the SMCHD costs to service the debt associated with developing the facility or to pay SMCHD a fee which achieved its target internal rate of return on investment.

The next section compares the net operating income to the estimated payments that would be required to service SMCHD's annual debt should the District elect to borrow funds from the California Department of Boating and Waterways to finance development of the facility. The following section also considers the payments the District would need to receive based on the District's specified minimum target internal rate of return (IRR) of 5% and whether or not the available net operating income could cover these payments.

D. Financial Results

1. Do-it-Yourself Alternative

Table 21 presents the cash flows of the Do-it-Yourself Alternative assuming SMCHD were to use DBAW public loan funds to finance the development of the haul-out facility. The table

shows both the annual payments assuming a $1.3 million loan at the DBAW public interest rate of 4.5%, amortized over a 30-year period and if the loan were to be amortized over a shorter period of 15 years, corresponding to the useful life of the Travel Lift and therefore prior to the first large future capital investment being required. The table reveals that regardless of the amortization period, the Do-it-Yourself facility could not generate sufficient funds to service the entire amount of the annual loan payment to DBAW, and SMCHD would be required to pay the deficit of $62,700 or $103,300 annually depending on the assumed term of the loan.

For example in the first year of operation, 2009, the net operating income generated by the haul-out facility would only be able to service 8% of the annual loan payment for a 30-year loan, while SMCHD would need to provide the remaining $72,100 to cover the cost of the loan, or roughly $6,000 per month. This payment effectively represents an annual subsidy paid by SMCHD to make the project feasible.

Table 21. Financial Feasibility of Do-it-Yourself Alternative: *DBAW Financed Facility*

		DBAW Interest Payment		Annual Shortfall	
	Net Operating Income	30-Year Loan	15-Year Loan	30-Year Loan	15-Year Loan
2009	$6,600	$78,700	$119,300	($72,100)	($112,700)
2010	$6,800	$78,700	$119,300	($71,900)	($112,500)
2011	$7,000	$78,700	$119,300	($71,700)	($112,300)
2012	$7,200	$78,700	$119,300	($71,500)	($112,100)
2013	$7,400	$78,700	$119,300	($71,200)	($111,900)
2014	$7,700	$78,700	$119,300	($71,000)	($111,700)
2015	$7,900	$78,700	$119,300	($70,800)	($111,400)
2016	$8,100	$78,700	$119,300	($70,600)	($111,200)
2017	$8,400	$78,700	$119,300	($70,300)	($111,000)
2018	$8,600	$78,700	$119,300	($70,100)	($110,700)
2019	$8,900	$78,700	$119,300	($69,800)	($110,500)
2020	$9,200	$78,700	$119,300	($69,500)	($110,200)
2021	$9,400	$78,700	$119,300	($69,300)	($109,900)
2022	$9,700	$78,700	$119,300	($69,000)	($109,600)
2023	$10,000	$78,700	$119,300	($68,700)	($109,300)

In the case where SMCHD were to finance the development of a haul-out facility using its own funds, as previously discussed, we assume SMCHD would seek a minimum return on investment of 5%.[15] Table 22 summarizes the annual payments that SMCHD would need to receive from the haul-out facility operator to achieve a 5% return on investment.

The table indicates that if SMCHD were to use its own funds to finance the development of the facility and seek a rate of return on investment of 5%, the private operator would be unable to

[15] Telephone communication with Marcia Schnapp, Director of Finance, San Mateo County Harbor District, 11/18/07. Ms. Schnapp indicated that SMCHD would typically target a minimum IRR ranging from 5% to an upper limit of 7%, Dornbusch applies the minimum target rate of 5% throughout this analysis.

pay SMCHD a fee which would generate this minimum IRR. For example, in 2009 the private operator would only be capable of paying $6,600 of the $123,500 fee necessary to generate a return of 5% for SMCHD, a shortfall of $116,900. If the entire net operating income was paid to SMCHD this would result in a return of -20% over the 15 year period, 2009 to 2023, substantially less then the District's target IRR of 5%.

Table 22. Financial Feasibility of Do-it-Yourself Alternative: *SMCHD Funds Investment*

	Net Operating Income	Payment Required for Target IRR of 5%	Annual Shortfall
2009	$6,600	$123,500	($116,900)
2010	$6,800	$123,500	($116,700)
2011	$7,000	$123,500	($116,500)
2012	$7,200	$123,500	($116,300)
2013	$7,400	$123,500	($116,000)
2014	$7,700	$123,500	($115,800)
2015	$7,900	$123,500	($115,600)
2016	$8,100	$123,500	($115,300)
2017	$8,400	$123,500	($115,100)
2018	$8,600	$123,500	($114,900)
2019	$8,900	$123,500	($114,600)
2020	$9,200	$123,500	($114,300)
2021	$9,400	$123,500	($114,100)
2022	$9,700	$123,500	($113,800)
2023	$10,000	$123,500	($113,500)

Tables 21 and 22 indicate that regardless of whether SMCHD used DBAW funds or its own funds to finance development of the haul-out facility, the Do-it-Yourself Alternative would not be financially feasible. Net operating income generated from the facility would not provide sufficient payments to service most or all of the DBAW loan payments or generate a return of 5% on the $1.3 million capital investment to develop the facility.

2. Full Service Alternative

Table 23 presents the cash flows associated with the Full Service Alternative under the scenario where SMCHD is successful in financing the development of a full-service haul-out facility by borrowing from DBAW. The table indicates that the net operating income from the haul-out facility would be insufficient to service the annual principal and interest payments on the DBAW debt regardless of whether the loan is amortized over a 30 or 15-year term. For example, assuming a 30-year loan term, net operating income in 2009 would only cover 26% of the annual loan payment, and the remaining 74% or $75,300 would need to be paid by SMCHD. This shortfall indicates that the net operating income available from operating the facility would be incapable of servicing the total annual DBAW loan payments.

Although net operating income would be nearly four times greater under the Full Service Alternative compared to the Do-it-Yourself Alternative, the greater capital costs associated with this alternative result in higher loan payments, producing a similar payment deficit under both alternatives in 2009- $72,100 under the Do-it-Yourself Alternative compared to $75,300 under the Full Service Alternative for a 30-year DBAW loan.

Table 23. Financial Feasibility of Full Service Alternative: *DBAW Financed Facility*

		DBAW Interest Payment		Annual Shortfall	
	Net Operating Income	30-Year Loan	15-Year Loan	30-Year Loan	15-Year Loan
2009	$26,600	$101,900	$154,500	($75,300)	($127,900)
2010	$27,400	$101,900	$154,500	($74,500)	($127,100)
2011	$28,200	$101,900	$154,500	($73,600)	($126,300)
2012	$29,100	$101,900	$154,500	($72,800)	($125,400)
2013	$29,900	$101,900	$154,500	($71,900)	($124,600)
2014	$30,800	$101,900	$154,500	($71,000)	($123,700)
2015	$31,800	$101,900	$154,500	($70,100)	($122,700)
2016	$32,700	$101,900	$154,500	($69,200)	($121,800)
2017	$33,700	$101,900	$154,500	($68,200)	($120,800)
2018	$34,700	$101,900	$154,500	($67,200)	($119,800)
2019	$35,700	$101,900	$154,500	($66,100)	($118,800)
2020	$36,800	$101,900	$154,500	($65,000)	($117,700)
2021	$37,900	$101,900	$154,500	($63,900)	($116,600)
2022	$39,100	$101,900	$154,500	($62,800)	($115,400)
2023	$40,200	$101,900	$154,500	($61,600)	($114,300)

Table 24 presents the cash flows under the Full Service Alternative assuming that SMCHD were to use its own funds to finance the $1.7 million investment to develop the facility. The table indicates that the net operating income under the Full Service Alternative would be insufficient to achieve the SMCHD minimum target rate of return of 5%. For example, if SMCHD sought a fee which would generate a return on investment of 5% annually (corresponding to $159,900 in 2009), the full service facility would only be capable of paying 17% of this fee, a shortfall of $133,300. If SMCHD were paid the entire annual net operating income, this would generate an IRR of -11% over the 15 year period, 2009 to 2023, far less than target IRR of 5%.

Again, although the net operating income is greater under the Full Service Alternative, the larger capital investment would necessarily result in larger fees paid to SMCHD to cover the capital investment costs.

Table 24. Financial Feasibility of Full Service Alternative: *SMCHD Funds Investment*

	Net Operating Income	Payment Required for Target IRR of 5%	Annual Shortfall
2009	$26,600	$159,900	($133,300)
2010	$27,400	$159,900	($132,500)
2011	$28,200	$159,900	($131,600)
2012	$29,100	$159,900	($130,800)
2013	$29,900	$159,900	($129,900)
2014	$30,800	$159,900	($129,000)
2015	$31,800	$159,900	($128,100)
2016	$32,700	$159,900	($127,100)
2017	$33,700	$159,900	($126,200)
2018	$34,700	$159,900	($125,200)
2019	$35,700	$159,900	($124,100)
2020	$36,800	$159,900	($123,000)
2021	$37,900	$159,900	($121,900)
2022	$39,100	$159,900	($120,800)
2023	$40,200	$159,900	($119,600)

Regardless of whether SMCHD were to use DBAW funds to finance the development of a full service haul-out facility or to fund the project with its own capital, the fees which a private operator could afford to pay would be insufficient to service even half of the annual DBAW loan payments or generate a minimum target IRR of 5% representing the District's opportunity cost of capital.

VI. SENSITIVITY ANALYSIS

This section analyzes the impacts to cash flows under each alternative arising from changes in the assumed annual haul-out rate at Pillar Point Harbor. As previously discussed, the baseline annual haul-out rate applied in this analysis is 33% or 123 haul-outs per year. Dornbusch considers annual haul-out rates in this section of 25% (92 haul-outs), 45% or (166 haul-outs), and 50% (185 haul-outs) and Tables 25 through 28 present the resulting impacts on cash flows for the first year of facility operation, assumed to be 2009.

A. Do-it-Yourself Haul-Out Facility

Table 25 indicates that if 25% of Pillar Point tenants were to haul-out annually under the Do-it-Yourself Alternative, the operation would suffer an annual operating loss of $10,900 in 2009, amounting to an annual total shortfall of $89,600 under a 30 year DBAW loan and $130,300 under a 15 year loan. If the haul-out rate were 45%, net operating income would increase from $6,600 to $34,200; however this income would still be insufficient to service the annual DBAW debt payments, resulting in an annual shortfall in 2009 of $44,500 under a 30 year loan and $85,200 under a 15 year loan. The table reveals that even if 50% of Pillar Point tenants were to haul-out annually, net operating income at $47,700 would be incapable of servicing annual DBAW debt payments, with annual shortfalls in 2009 of $31,000 and $71,700 for 30 and 15 year loans, respectively.

Table 25. Sensitivity Analysis Do-it-Yourself Alternative: *DBAW Financed Facility, 2009*

Annual Haul-Out Rate	Net Operating Income	DBAW Interest Payment		Annual Shortfall	
		30-Year Loan	15-Year Loan	30-Year Loan	15-Year Loan
Baseline (33%)	**$6,600**	**$78,700**	**$119,300**	**($72,100)**	**($112,700)**
25%	($10,900)	$78,700	$119,300	($89,600)	($130,300)
45%	$34,200	$78,700	$119,300	($44,500)	($85,200)
50%	$47,700	$78,700	$119,300	($31,000)	($71,700)

Table 26 indicates the impacts to cash flow under various haul-out rates if SMCHD were to finance the development of the haul-out facility and seek an IRR of 5%. The table reveals that if the annual haul-out rate was 25% net operating income would turn negative, and the haul-out facility would suffer an annual operating loss of $10,900, for a total annual shortfall in 2009 of $134,400. If the annual haul-out rate were 45% net operating income would remain insufficient to pay SMCHD a fee which generated an IRR of 5%, and SMCHD would suffer an annual shortfall on its investment of $89,300 in 2009. Finally, if the annual haul-out rate were 50%, the resulting net operating income of $47,700 would still be insufficient to pay SMCHD a fee which generated an IRR of 5%, and an annual shortfall in 2009 of $75,800 would occur.

Table 26. Sensitivity Analysis Do-it-Yourself Alternative: *SMCHD Funds Investment, 2009*

Annual Haul-Out Rate	Net Operating Income	Payment Required for Target IRR of 5%	Annual Shortfall
Baseline (33%)	**$6,600**	**$123,500**	**($116,900)**
25%	($10,900)	$123,500	($134,400)
45%	$34,200	$123,500	($89,300)
50%	$47,700	$123,500	($75,800)

Assuming an operating period of 15 years (2009 to 2023), which corresponds to the useful life of the Travel Lift, shortfalls would occur in every year over this period, regardless of whether the haul-out facility was financed by a DBAW loan or SMCHD.

B. Full Service Haul-Out Facility

Table 27 indicates that if the annual haul-out rate was 25% under the Full-Service Alternative, the enterprise would suffer an annual operating loss of $10,400 and a total annual shortfall in 2009 of $112,300 under a 30 year DBAW loan and $164,900 under a 15 year loan. If the annual haul-out rate was 45%, the resulting annual shortfall in 2009 would be $18,100 under a 30 year loan and $70,700 under a 15 year loan. However, under the 30 year loan, net operating income starting in the eighth year of operation or 2016, would be sufficient to service the annual DBAW loan payments. If the annual haul-out rate was 50% then net operating income would be sufficient to service the annual DBAW loan payment on a 30 year loan. Under a 15 year loan, starting in the twelfth year of operation or 2020, net operating income would be sufficient to service the annual DBAW loan payment.

Therefore if the annual haul-out rate were 50% then a full-service haul-out facility financed by a 30 year DBAW loan would be financially feasible. However, a haul-out rate of 50% is very high and any decline or fluctuation in this rate would likely result in net operating income being insufficient to cover annual loan payments.

Table 27. Sensitivity Analysis Full Service Alternative: *DBAW Financed Facility, 2009*

Annual Haul-Out Rate	Net Operating Income	DBAW Interest Payment		Annual Shortfall	
		30-Year Loan	15-Year Loan	30-Year Loan	15-Year Loan
Baseline (33%)	**$26,600**	**$101,900**	**$154,500**	**($75,300)**	**($127,900)**
25%	($10,400)	$101,900	$154,500	($112,300)	($164,900)
45%	$83,800	$101,900	$154,500	($18,100)	($70,700)
50%	$111,600	$101,900	$154,500	$9,800	($42,900)

Table 26 displays the impacts to cash flows under different haul-out rates if SMCHD were to finance the development of the haul-out facility, while seeking an IRR of 5%. The table indicates that if the annul haul-out rate was 25%, the haul-out facility would suffer an annual operating loss of $10,400, and the annual shortfall would be $170,300 in 2009. If the annual

haul-out rate were 45% the net operating income would be insufficient to pay SMCHD a fee which would generate an IRR of 5% and the annual shortfall would be $76,000 in 2009. Finally even if the annual haul-out rate was 50% the resulting net operating income would be incapable of paying SMCHD a fee that would generate an IRR of 5% in all but the fourteenth year of operation (assuming a 15 year operating period) or 2022. The annual shortfall assuming a haul-out rate of 50% would be $48,200 in 2009.

Table 28. Sensitivity Analysis Full Service Alternative: *SMCHD Funds Investment, 2009*

Annual Haul-Out Rate	Net Operating Income	Payment Required for Target IRR of 5%	Annual Shortfall
Baseline (33%)	**$26,600**	**$159,900**	**($133,300)**
25%	($10,400)	$159,900	($170,300)
45%	$83,800	$159,900	($76,000)
50%	$111,600	$159,900	($48,200)

In summary, even at greater annual haul-out rates of 45% and 50%, net operating income under the Do-it-Yourself Alternative would be insufficient to either service annual DBA loan payments or be capable of paying SMCHD a fee which would achieve the District's target IRR of 5%. Under the Full-Service Alternative, the development of the haul-out facility would need to be financed by a 30 year DBAW loan and the annual haul-out rate would need to be 50% for the operation to be financially feasible.

VII. CONCLUSION

Based on the financial analysis presented in the previous sections, Dornbusch believes that both the Do-it-Yourself and Full Service Alternatives would not be financially feasible. More specifically, given the finding that a private operator would be unable to make the capital investments required to develop either a do-it-yourself or full service facility at Pillar Point Harbor, this would require SMCHD to make the necessary capital investments to construct the facility. Under this case, net operating income levels under either alternative would be insufficient to cover service annual DBAW loan payments or to generate a sufficient return for the District.

In addition, given the constraints on haul-out demand at Pillar Point, future growth in demand is likely to be zero, which represents a significant constraint to the business opportunity of a haul-out facility. Potential private operators of the haul-out facility may find this demand limitation too significant a risk or barrier to operating a successful business. The relatively tight profit margins also imply a greater level of risk in that any unforeseen changes in costs or revenues might result in financial hardships which would likely involve the Districts financial assistance, such a postponement of rental/fee payments to the district.

For these reasons, a boat haul-out facility appears to be financially unfeasible at Pillar Point Harbor given the assumptions and estimates developed and presented throughout this analysis.