AMERICA'S CUP MARINA
SAND ISLAND, HAWAII

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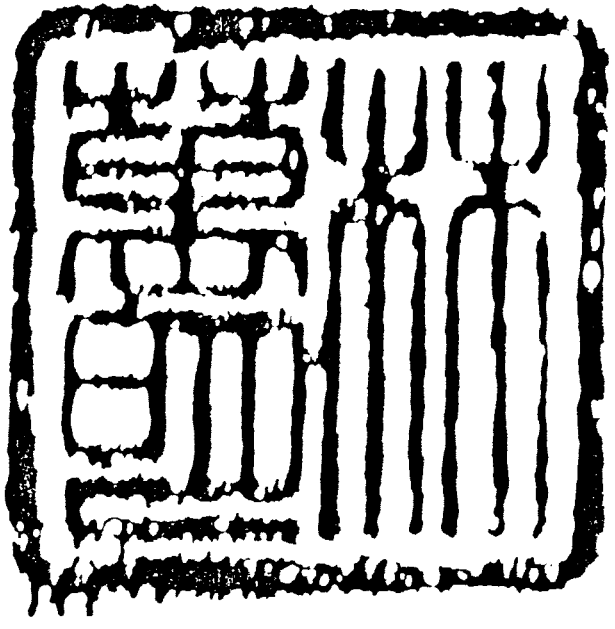
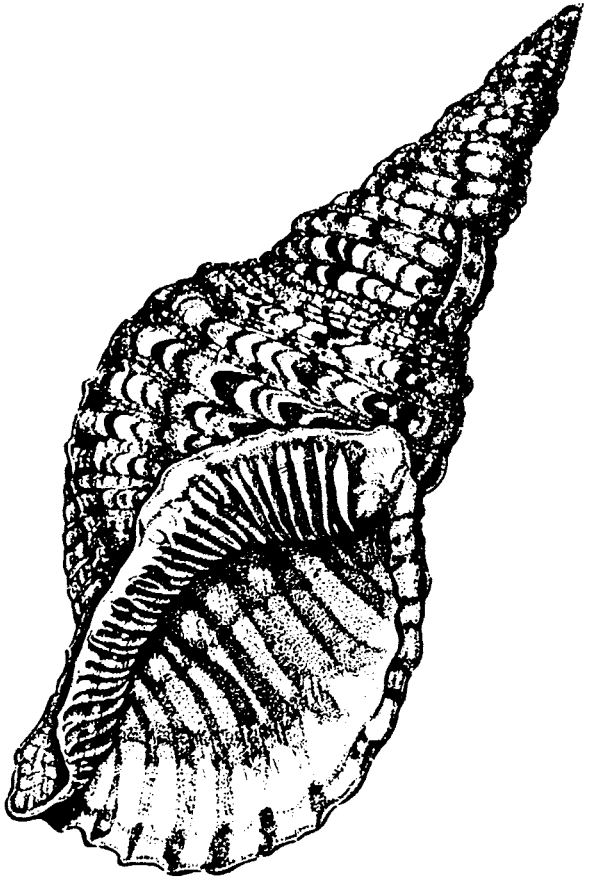
DEDICATION

I dedicate this program to my parents Peter and Lo Sumarlim whose neverending sacrifice to put me through school,thesis, moral and financial support; for without their support, I would never have made it this far.

Irwan Sumarlim.



AVOWALS



I would like to thank this group of individuals for their help and advice in the gathering of all the data and information concerning my profesional project as well as aknowledging the time and patience they have taken to reflect their interest in my project.

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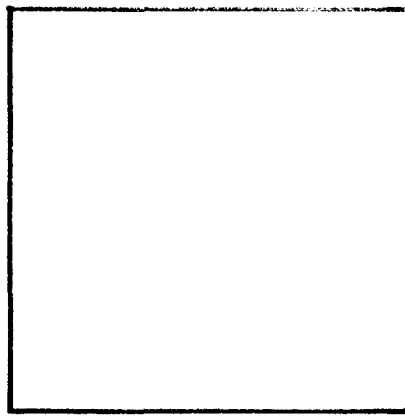
INTRODUCTION



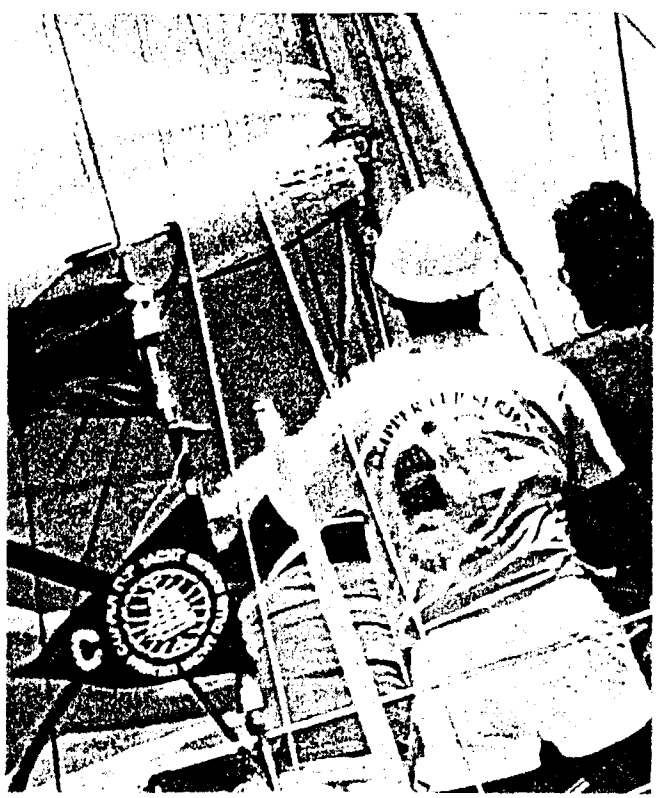
MISSION STATEMENT

Hawaii wants to help San Diego Yacht Club build upon this existing tradition for the upcoming America's Cup defense. It is committed to a successful defense and wants to provide the sport's most advanced world class America's Cup Center.

The facility will serve two function : It will be used first for America's Cup, Challenger's Office , and secondarily it will serve for the Hawaii Ocean Sport Center for educational boat training purposes after the competition is over.

The site is located at the west side of the Sand Island and a part of the Keehi Lagoon recreational area. The protected waters provides a variety of recreational opportunities such as boating , wild life resoucers for mature appreciation and fishing , and shoreline parks for picniking and camping. So , setting this new facility within this area provides the enrichment and meaning are a direct result of interaction.

The result of this project is intended to unite this facility, the Sand Island State Park within the recreation complex.



USERS

GENERAL PUBLIC/VISITORS

The visitors include all ages. They come to the Marina to see the water activities. Since this facility initially serves for the America's Cup racing support, the visitors will be viewing all elements of this yacht races . Later, the facility will serve as the Hawaii Sport Center for boat training education , entertainment and as an integrated part of the Sand Island State Park.

SNACK BAR VISITORS

This includes groups, families, couples, coming to the bar during daytime, office break time, or after hours. The public will come to the snack bar because of the recreational resources and the beautiful view out on to the bay. These people come from the city and from the state park.

MEMBERS/SPECIAL GUESTS

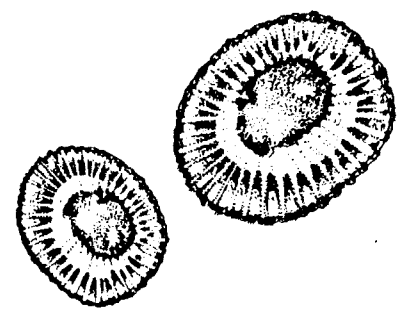
This includes people who pay monthly membership fees and the syndicate members before or after the Competition. Their roles are to enjoy privileges of boating facility and surrounding area and to make use of the facility as the Committee Office during the race.

STUDENTS

This includes the university students who will use the facility for educational purposes. They will use the conference room as a classroom for lectures and office spaces for registration.

PRESS

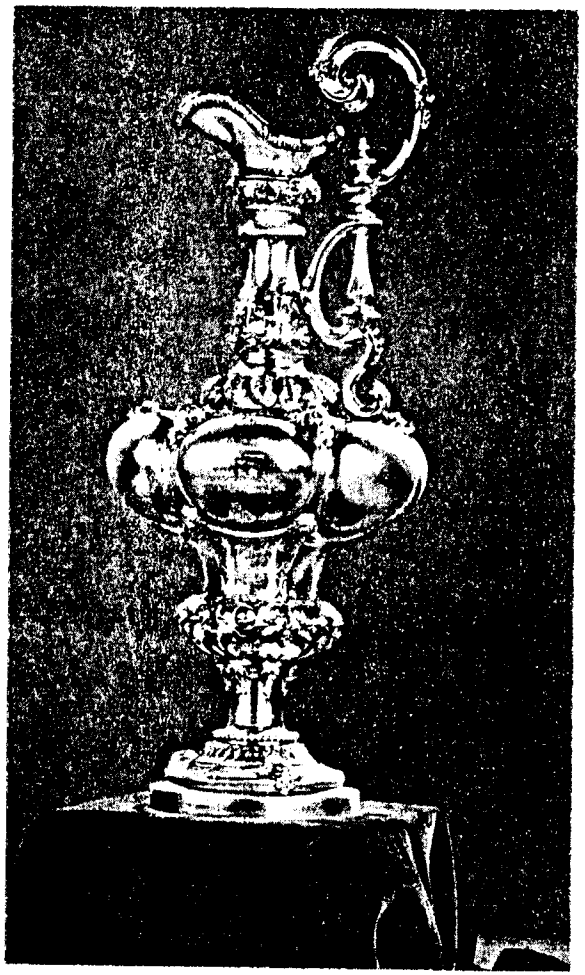
Press representatives will come from all over the world to view the America's Cup races. They will use the facility to video tape the activities before or during the races. The event will be televised in many foreign countries.

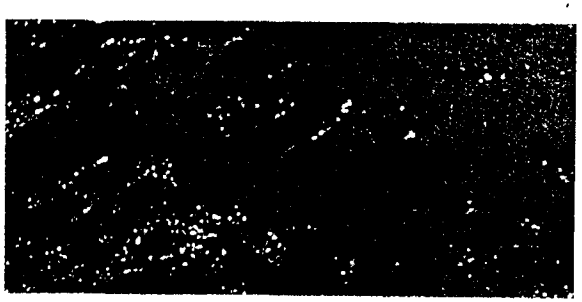


"MARINA"

The word 'Marina' is defined as meaning "a modern waterfront facility for recreational boats" and was coined in 1928 by the National Association of Engine and Boat Manufacturer incorporated in America. The Association further described the term as being a facility offering services which have come to be a part of modern boating, a place where boatmen may berth, launch, repair, fuel, and provision their craft conveniently and be able to have a hot shower, dine, ashore, and be within easy reach of shops, communication and transportation.

AMERICA'S CUP HISTOR





In 1851, when American clipper ships were the acknowledged queens of the world's ocean commerce, a Yankee schooner yacht sailed over to England for the express purpose of proving to British yachtsmen that American yachts were as outstanding in their way as the big cargo-carrying, square-rigged clippers were in theirs. She found the yachtsmen of England, who were generally regarded as the leaders in the sport in those days, surprisingly reluctant to take on her wide-flung challenge to meet her in match races for money or marbles. But she beat 17 of them in a race around their own stamping ground, the Isle of Wight, one fine day, and brought home a trophy that became the grail for more than a century of top-level international yachting competition, and bids fair to continue in that position for some time to come.

The America's Cup, named for the schooner that first won it, is the oldest trophy internationally competed for in any sport. How many millions of dollars have been spent in efforts to win it, and how many millions have been spent by members of the New York Yacht Club to defend it, would be hard even to make a good guess at. But the dollars in themselves mean less than the history that has woven itself around this trophy in the century-plus of competition for it. That history is the history of the whole sport. It is the history of naval architecture, as applied to sailing craft throughout the yachting world. It is the history of the sport's outstanding men down through the years. It is the history of the development of sportmanship and the ethics of competition, from the days when some people said that "a match should be won when its terms are made" to today's ideal of starting the contestants off with an even break.

The Cup itself is no great beauty, by modern standards, being typical or the ornate tastes of its day. It cost 100 guineas-- in fact, was

originally called the Hundred Guines Cup. It doesn't even have a bottom to it, so you couldn't fill it with champagne to celebrate with if you won it. But a lot of people have wanted it, and a lot still do. The quality of the sportsmanship, like the quality of the competition, has steadily improved over the years. The America's Cup has been, in general, an instrument of international good will, just as the America herself was intended to be.

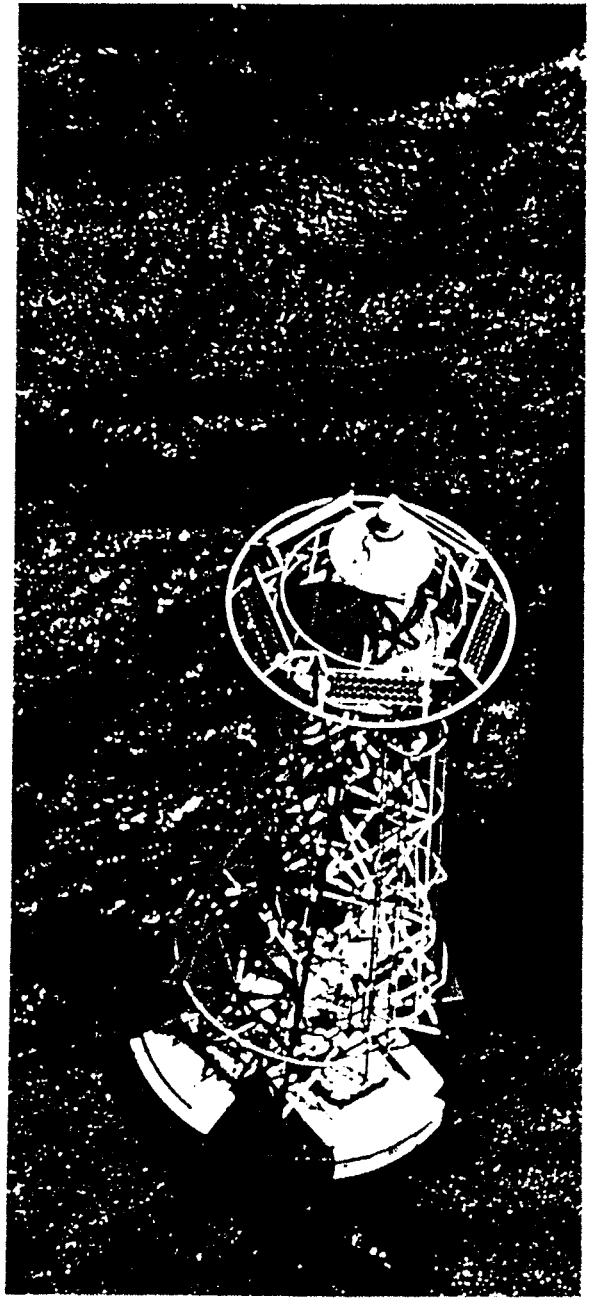
To fully appreciate what the America did in that expedition to the Solent, traditional heart and nerve center of British yachting, in 1851, let's look at the state of the sport in the two countries.

In America there had been some yachting-- in the literal sense of the word, meaning the use of privately owned vessels for pleasure-- since Colonial times, but few men had either the leisure time or the money to indulge extensively in sailing as a sport until around 1840. By then there were enough yachts and yachtsmen for yacht clubs to be formed in leading cities like New York, Boston, Charleston, S.C., New Orleans and others. Most were short-lived, but the New York Yavht Club, organized in 1844 with Col. John C. Stevens as its first commodore, survived and has been this country's most prominent club ever since.

This club's first clubhouse was a simple one-room building on the Weehawken flats on the New Jersey shore of the Hudson River. (This house, far from its birthplace, stands today in the Mystic Seaport at Mystic, Conn.) In its first year nine yachts, of 17 to 45 tons measurement, sailed its first regatta over a course starting in New York's Upper Bay, down through the Narrows and the Lower Bay, out to sea to a buoy off Sandy Hook, and back, a course that was to see a lot of action in the early matches for the America's Cup.

The moving spirit of the enterprise was Commodore Stevens, prominent member of a famous family. The Stevens's owned much of what is now Hoboken, and among other things they founded Stevens Institute of Technology which many years later, with its ship mmodel towing tank, was to play a major part in the design of defenders for the America's Cup. Commodore Stevens was a noted engineer who applied his talents to , among many matters such as the development of the steamboat, the design and building of sailing yachts. It was reported that his cooperation and advice was an important aid to success of George Steers, who modeled the America and supervised her construction.

Steers was a young designer and builder who had already made quite a reputation with the yachts and pilot boats he had turned out by the time he was 30 years old. Particularly in the pilot schooner Mary Taylor, which he built in 1849, he had shown progressive ideas. He discarded the conventional "cod's head and mackerel tail" model of older vessels--i.e. full, bluff bows and a long, tapering run in the afterbody--and gave her long, sharp, concave bow lines, more powerful sections aft and other features. She proved a very fast vessel and the America's model was an improvement on the Taylor's.

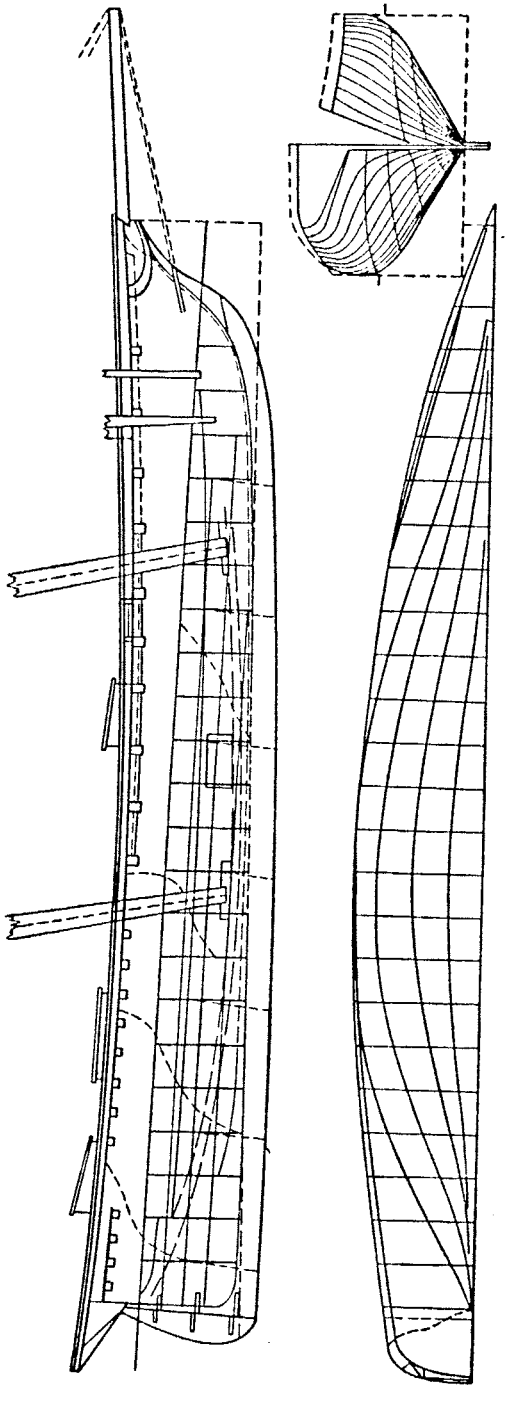


The syndicate made a contract with William H. Brown, by whom Steers was then employed, to build the new yacht in his yard at the foot of 12th Street on the East River. It was such a contract as a yachtsman today wouldn't believe if he saw it. The price named was $30,000, fully equipped, with the delivery date set for April 1, 1851. She was to be tried out by the syndicate, and if she did not prove the fastest vessel in the United States, the syndicate need not accept her. Furthermore, if they took her to England and she was not successful there, they could still return her to Brown. Builders today don't have that much confidence in either their own products or their customers' racing prowess or integrity.

Of course the schooner wasn't ready on contract time. Boats never are. It was May 3rd before she was launched, and on may 24th, when she was still not ready, the syndicate offered to purchase her outright for $20,000. She was finally delivered on June 18.

The principal dimensions of the America: length over all, 101 feet 9 inches; length waterline, 90 feet, 3 inches; beam, 22 feet; draft, 11 feet. Her mainmast was 81 feet long, her foremast 79 feet, 6 inches and they were stepped with a strong rake, characteristic of the pilot schooners and the old Baltimore clippers. Her bowsprit was 32 feet from tip to heel and her 53-foot main boom extended well out over the stern. She carried 5263 square feet of sail in the simplest possible schooner rigmainsail, foresail and a single jib. The sails were made by R. H. Wilson of New York, one of whose descendants, Prescott Wilson, was to make sails for the Cup defenders of the 1930s.

Below decks her accommodations were, in general, like the pilot schooners. There was a large main saloon running from the mainmast aft, around the sides of which were six built-



in berth with transom seats in front. Forward of this were four starerooms, then the galley and pantry, and a large forcastle accomodating 15 men. A bathroom and a clothes locker flaned a passage that ran aft from the main saloon to cockpit, under which was the sail locker.

The America was beaten in trial races by larger centerboardsloop Maria, a famous yacht in top condition and sailed with crew that had won many races with her. The new schoonerdid, however, beaten,several other boats, and her owners were far from discourageed. On June 21, with her racing sails stowed below and a heavier seagoing suit bent, she was towed down to sandy Hook and took her departure,carrying with her the hopes of her owners and large part of America people. She was the last in America ship builder, and was going forth presumably,to meet the peak of England yachting fleet. Aboard her 13 men, included George Steers, his brother and a young nephew Henry,captain Dick Brown, Sandy Hook pilot,in command six sailors and cook.

In spite of the traditionally unlucky number aboard, they made a good passage of 20 days to Havre,France, which incuded a day run of 284 miles and six days of over 200 miles in 24 hours. Commodore Stevens joined at Havre, where she spent three weeks refiting and getting in racing trim for her invasion of the Solent.

The arrival of the America seemed to impressed the English yachtmen. Commodore Steven, as the representative owner, immediately set about the business of arranging races, but for some weeks had no success at all. The Englishmen were most hospitable, but showed a strong disinclination to match their yachts against the American boat, and no effort was made on their part to arrange a special match for the trophy.

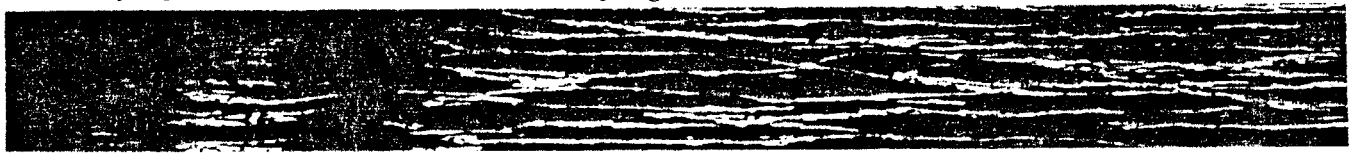
Commodore Steven first offered to sail a match against any of their schooners, and when this was not taken up he enlarged the challenge to include cutters as well. Still meeting with no response, and thinking that if the stakes were made large enough they might prove attractive to some of the English owners, the Commodore, to quote Mr. George L. Schuyer, one of the syndicate, with this usual promptness, and regardless of his pocket of his assciates, had posted in the club house at Cowes a challenge to sail the America a match against any British vessel whatever, for any sum from one to ten thousand guineas, merely stipulating that there should be not less than sixty knot breeze. Even this brought no response from the sport loving English yachtmen. Later, Mr. Robert Stephenson came forward with an offer to match with Titania against the America for a race of twenty miles to winward and return for 100 pounds. This offer was accepted and they both party set the day of the match. The failure of British yacthmen to take up the gauntlet flung down by their American visitors was not viewed favorably by the English people at large. In the meantime Commodore Steven was notified by the Royal Yacht Squadron that ther would be a regular open regatta around the Isle of Wight for which all boats would be eligible to be sailed without time allowance, and the America would be wellcomed. This race was valued for a trophy at 100 guineas.

In those days the start of the race was made from an anchor, instead of sailing start now is a custom, the boat hoisting sail and getting under way when the starting gun was fired. The preparatory signal was given at 9 Am on which the yacht made sail and the starting gun on 10 Am. When they were to cast off and get under way. America was the last of the fleet to get away.

It was 5 Pm when the America rounded the needles, and at that point it was estimated by the best English authorities, she was a good 8 miles ahead of the second boat, the little Aurora, with the rest of the squadron were out of sight. As she crossed the finish line the Yankess yacht was timed at 8:37 Pm, Aurora at 8:55. Then came Bacchante at 9:30. The Amerca won the race. The next day the owner of the Brilliant protested the Amerca on the ground that she had passed on the wrong side of the Nab lightship, but as the sailing instructions given to commodore Steven did not specify on the side to pass it, the protest was not allowed. There was an awful crying and moaning about Cowes the night when the race finished. The British said they could build a boat that would beat America. They said she was a mere shell a Yankess trick.

The following day Queen Victoria, who was very much interested in the outcome of the race, visited the America with the Prince Consort and her suite. The trophy won by the America in this race, frequently called the Queen's Cup, had infact

nothing to do with Queen Victoria and was not donated by her. It was put up by the Royal Yacht Squadron and was known as the Hundred Guinea Cup (it cost at time), or, as the America's Cup. It became the permanent property of the yacht winning it, and Commodore Stevens brought it back to America with him, as practically the only spoils of their summer's campaign.



[1]Dobbs Ferry, Sail of the century: America's Cup 1987, pp.7-13.

[2]Ibid., pp. 15.

[3]Ibid., pp. 17.

[4]Herbert L. Stone, The America's Cup Races, D. Van Nostrand Company, Inc Princeton, New Jersey,1958. pp.8.

HAWAII

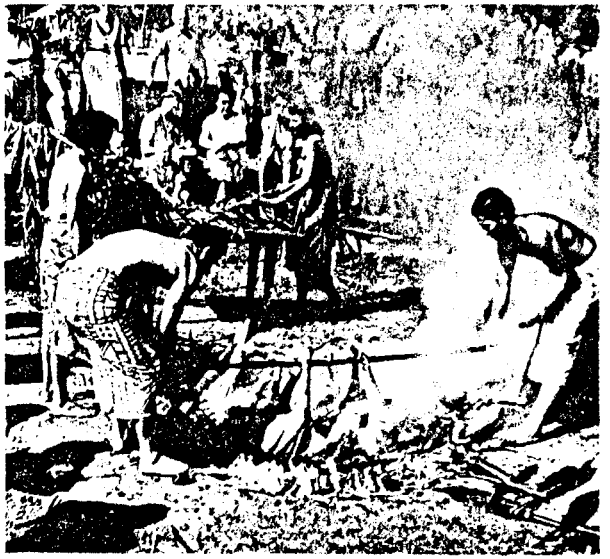
A Polynesian kingdom until 1893 and then briefly a republic, requested and was granted annexation to the United States in 1898 and was given a territorial form of government in 1900. By Presidential proclamation of August 21, 1959, Hawaii officially became the 50th of the United States.

THE HAWAIIAN ISLANDS, an archipelago, consist of eight large islands, plus many islets, reefs, and shoals, strung out from SE to NW for 1,400 nautical miles in the north central Pacific Ocean. The archipelago extends from 18°55′N to 28°25′N., and from 154°49′W to 178°20′W., straddling the Tropic of Cancer. All the islands of the archipelago, except 2-square-mile Midway, are part of the State of Hawaii.

The capital and chief population center of the State is Honolulu on the island of Oahu; the port is 2,091 nautical miles from San francisco, 4,685 miles from the Panama Canal, and 2,477 miles from Anchorage, Alaska. Land area of the State totals 6,425 square statute miles, of which the "Big Island" of Hawaii alone accounts for nearly 63 percent. The other seven large islands are, in order of size, Maui, Oahu, Kauai, Molokai, Lanai, Niihau, and Kahoolawe.

The major islands are mountainous and of volcanic origin; the Island of Hawaii has two volcanoes that are still active.Elevations range from sea level to nearly 14,000 feet, with many peaks in excess of 2,500 feet. Although coastal plains, valley floors, and certain plateaus are relatively flat, much of the surface is quite rugged, with high ranges and deep ravines or gorges.

Nearly all of the island streams may be classified as mountain torrents, although some of them can be navigated for short distances by small boats. Most of the streams are on the N and E coasts, where rainfall generally is heaviest.



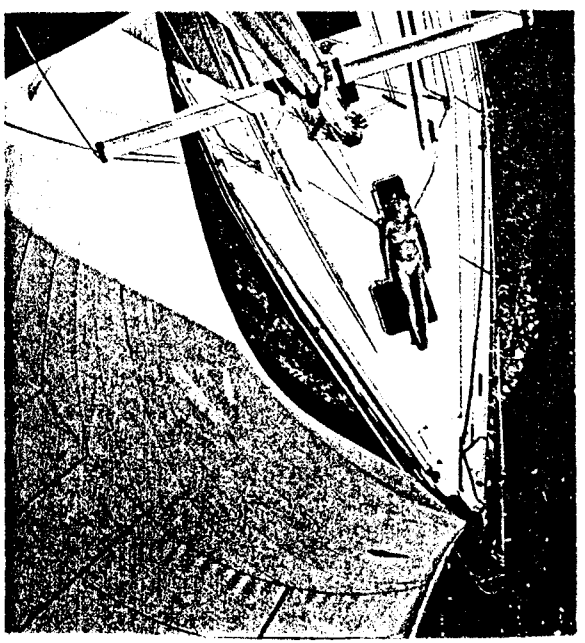
AGRICULTURE is Hawaii's bedrock industry. Sugar exports total over a million tons annually and the State produces and exports well over half of the world's output of canned pineapple. Truck farming is intensive, particularly on the Island of Oahu, and cattle ranches range from small to very large (one of the largest cattle ranches in the United States is on the Island of Hawaii). Military expenditures and tourist trade are major sources of income.

PEOPLE

It has often been said that all Hawaiians are members of minorities, since no ethnic group predominates. It may still surprise some visitors to learn that the largest single group in the present population (nearly three tenths of the total) traces its origin to southern Japan and Okinawa. Other major population elements include immigrants (or descendants of immigrants) from the U.S. mainland, the Philippines, and the southern provinces of China. Although pure Polynesian Hawaiians are few, there may be some Hawaiian blood in as much as one fifth of all of the peoples who now live in the islands.

RELIGION. The religion of the Polynesian Hawaiians was polytheistic, bequeathing myths rich in accounts of the adventures of demi-deities. Among these were Pele, the goddess of fire and volcanoes, and Maui, who was known as "Maui-of-the-Thousand-Tricks." The latter was believed to have pulled up the Hawaiian Islands from the bottom of the ocean with a magic fish-hook made from the jawbone of his grandmother. This ancient animistic faith survives chiefly as a body of folklore, though remnants of it can be discerned in certain unusual customs. For example, when construction workers accidentally uncover an ancient grave, some of the men will no longer work in that part of the excavation.

The Congregationalists in the 1820's were the first to convert the Hawaiians to Christianity.



They were followed by Methodists, French Roman Catholics, priests of the Church of England, German Lutherans, and , still later, by additional U.S. denominations and sects. Among the latter, the Mormons were highly successful in conversion and community building.

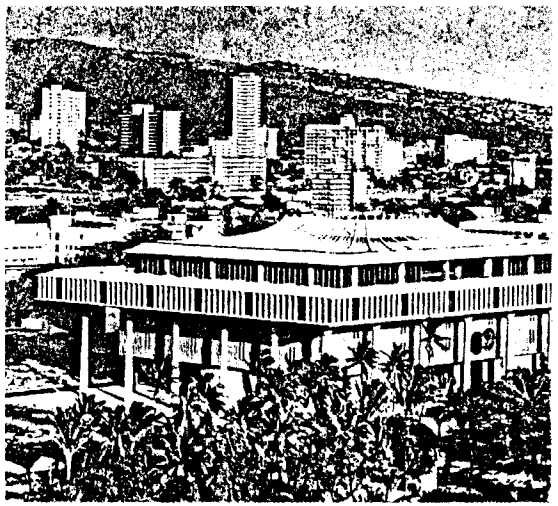
The Chinese began to arrive in force in the 1850's, bringing with them a combination of beliefs- rather more man-centered than god-centered -based on Confucianism, Taoism, and Buddhism. Japanese immigrants had been brought up in various Buddhist sects, interwoven with a Confucian tradition of social deities and not a little Shinto- the pre-Confucian "national" religion of Japan. There has been some conversion of Orientals to Christianity and some minor absorption of Christians into the Asian systems.

RECREATION

Surfers were among those who took nails from Captain Cook when he first dropped anchor. Honolulu's Bishop Museum boasts that it has on display the oldest wooden surfboards in the world. Except for one reference to surfing in West Africa (1838), there is no historical evidence of such an activity taking place anywhere outside of the Pacific Ocean triangle whose base stretches from New Zealand to Easter Island and whose apex is at Hawaii.

Hawaiian recreations are proverbially sea oriented and include many varieties. The Outrigger Canoe Club, relocated near Diamond Head, is a center not only of surfing but also of traditional outrigger canoe paddling and the sailing of small, swift catamarans and trimarans. The Waikiki Yacht Club is a base for larger craft and conducts a racing season from February to Thanksgiving.

Despite the multitude of boats and boat clubs, Hawaiian recreation also has a land-based dimension that is often underreported. Cockfighting, a favorite sport of the indigenous inhabitants, is illegal in Hawaii; nevertheless



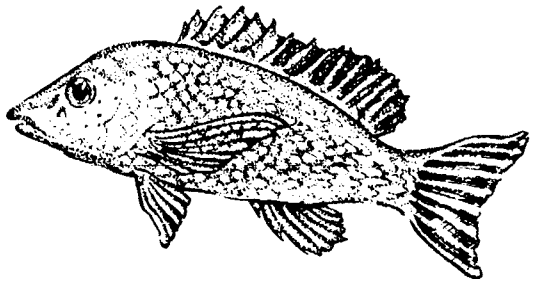
it is passionately pursued by Filipinos and others. The state has many fine golf courses, both public and private, the best known including Waialae, Mauna Kea, and Royal Kaanapali. Many residents and not a few visitors are avid hunters of game such as wild boar , deer, wild goats, and (on Lanai) mouflon sheep.

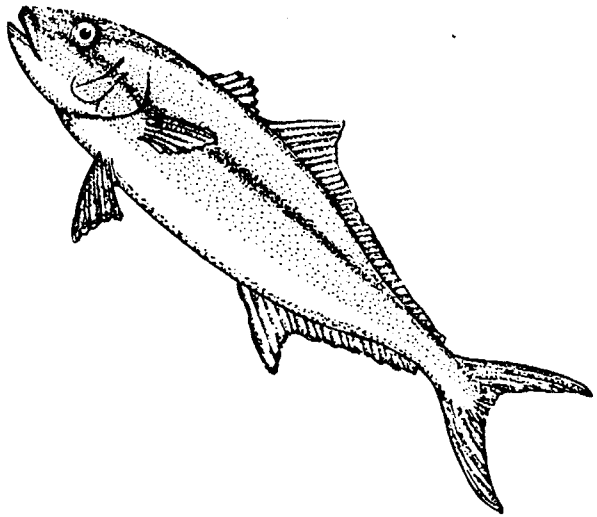
Hawaii has two national parks; Hawaii Volcanoes, with its Mauna Loa and Kilauea craters, on the island of Hawaii; and Haleakala, on Maui. One of the great state preserves is the Waimea Canyon of Kauai. Many of the recreational areas are carved out of mountain lands preserved by the kings and handed down to the territory and the state. These spaces include more than 20 state parks.

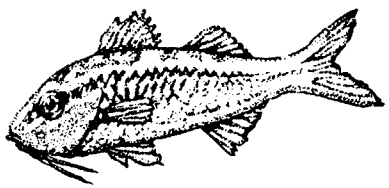
The park system of Honolulu, like that of London, owes much to royal grants. Kapiolani Park, former racetrack of the monarchs, is one of the most charming parks in the world- a haunt of soccer, cricket, and tennis players. It has also been a playing ground of the great polo teams that still maintain Hawaii's world eminence in this sport on their field at Mokuleia. In addition, the park accommodates archers, kite-fliers, and softball and badminton players, and on summer weekends is the scene of the clan and neighborhood rallies of Asian groups.

Honolulu also has a fine centrally located public golf course at Ala Wai and a fine seaside park at Ala Moana. The city's famous Foster Botanic Garden,founded in 1885, was made public in 1931. Many of the highest mountains visible on Oahu are part of Hawaii's wilderness preserve and make ideal retreats for mountain climbers and hikers.

FISH AGGREGATING DEVICES (FADs) along the coastal waters of the main Hawaiian Islands make the area very popular with commercial and recreational fishermen. For reasons unknown, fish in the N and W Pacific Ocean frequently







gather in schools under floating objects. FADs may be as sophisticated as floating devices often buoys, with electronic equipment attached for tracking or as crude as floating logs or other objects. The FADs inHawaiian waters, established by the State, are yellow.

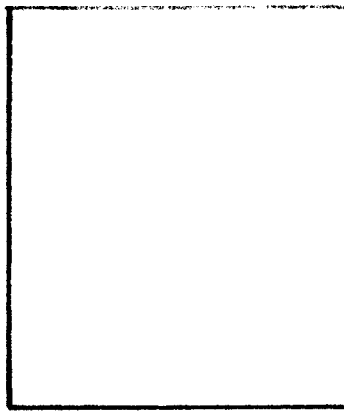
EMERGENCY SIGNAL FLAG - The State of Hawaii has adopted an emergency signal flag as one of the signals that may be used or displayed when a vessel is in need of assistance; the flag should be at least 2 feet square and international orange in color. This distress signal is authorized by the Hawaii Boating Law.

HARBORS AND PORTS - Honolulu is by far the largest commercial deepwater facility in Hawaii. Other commercial deepwater harbors are Hilo and Kawaihae on Hawaii Island, Kahului on Maui, and Nawiliwili and port Allen on Kauai. These ports service both overseas and interisland shipping.

Hawaii has several commercial barge harbors engaged in interisland shipping. Some of the more important are at Kaumalaupau on Lanai, and Kaunakakai, Haleolono, and Kalaupapa on Molokai. These harbors service only light-draft vessels.

MARINE RADIO COMMUNICATIONS - Honolulu is the only port that maintains a commercial radio communication watch. Vessels desiring services at other Hawaiian ports must make arrangements in advance.

NEEDS & DATAS



BOAT HANDLING, STORAGE

ARCHITECTURAL CONSIDERATIONS

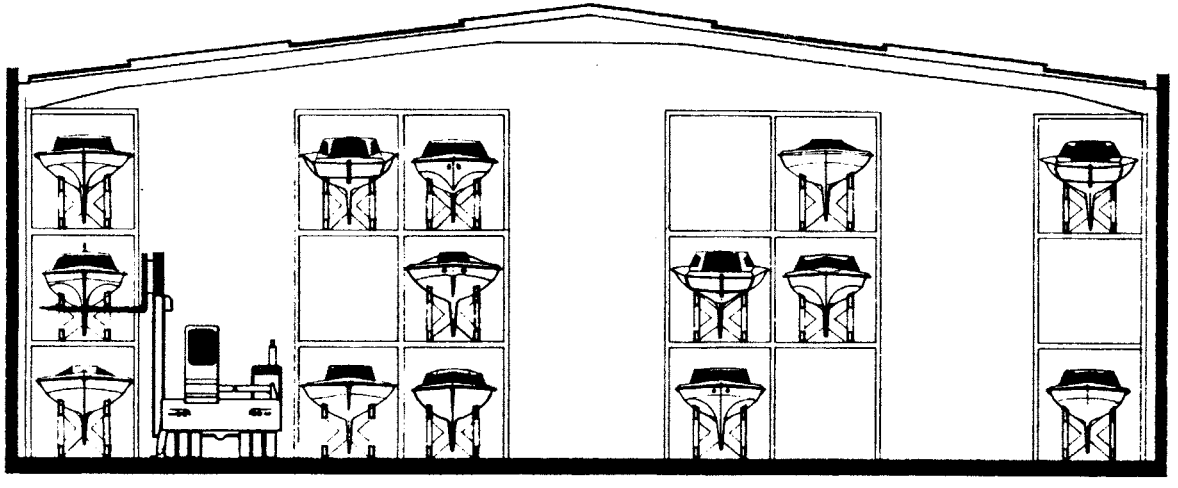
Assess likely bulk of storage building and assess impact on local and long distance view.
Consult local planning authority.
Consider planting, screening, impact and color of materials.
Consider non-boat storage gear, lockers, trailers, cradles etc.

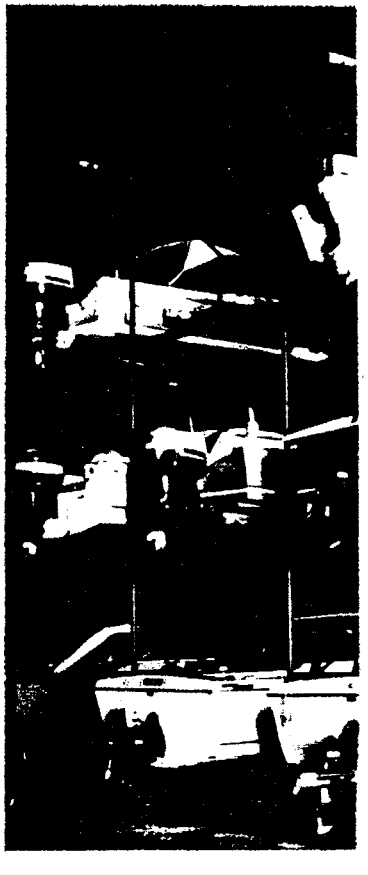
HANDLING EQUIPMENT

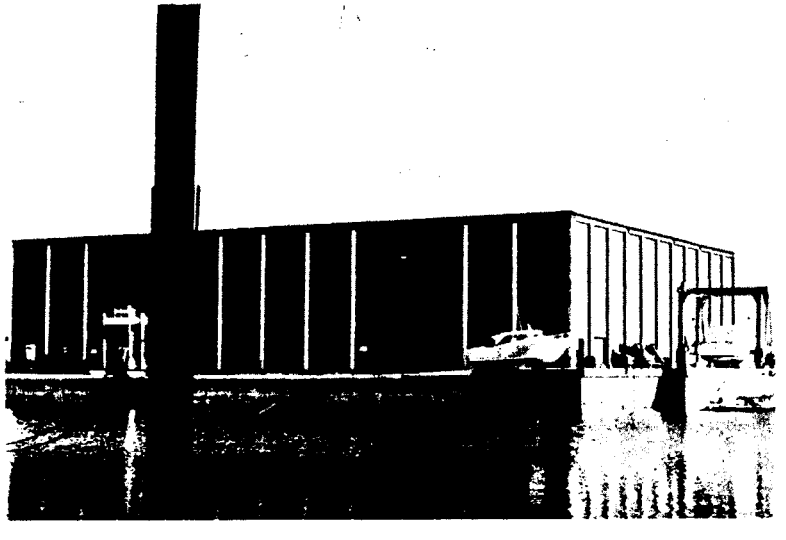
Consider handling and storage together, including all methods of launching and retrieval.
Design adequate vehicular access and manoeuvring space.
Relate equipment to marina needs regarding timing, cost, type, relationship.
Seek manufacturers advice.
Examine suitable prprietary systems and compare with adaption of standart equipment or purpose-made designs.
Evaluate structural needs at design stage.
Examine nearby marinas and ascertain needs of potential patrons.
Determine[at design stage] whather to have piled [built out] hoist, wells or recessed [built in] type.
With launching ramps in sheitered water decide whether fixed or hinged and determine the incline, width and material.
Consider rollers and non slip surfaces
Decide on winches and whether hand operated or electric.
Investigate pros and cons of gantries and hoists versus platforms and lifts.
Tie in boatyard needs with those of marina moorings [dual use].
prepare maintenance programmes and safety measures.

STORAGE

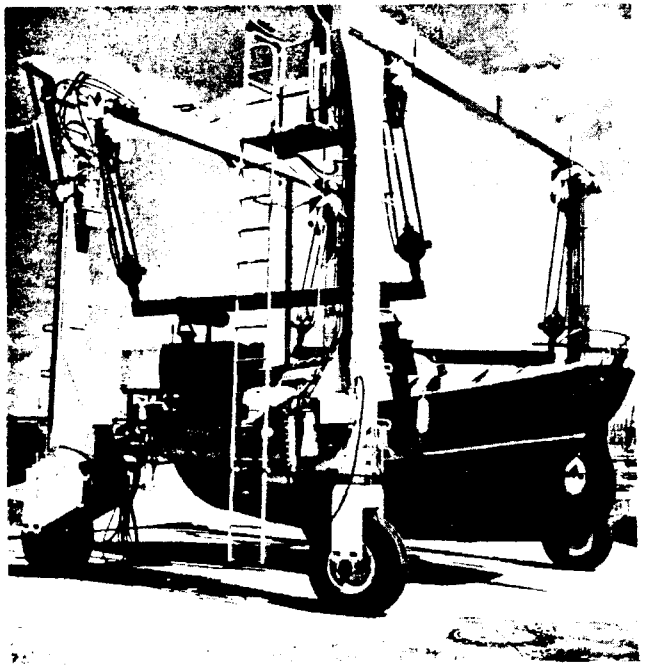
Establish value of boat storage in terms of land use economics.
Determine policy regarding long-term storage
Consider self-maintenance and provision of space, materials and equipment.



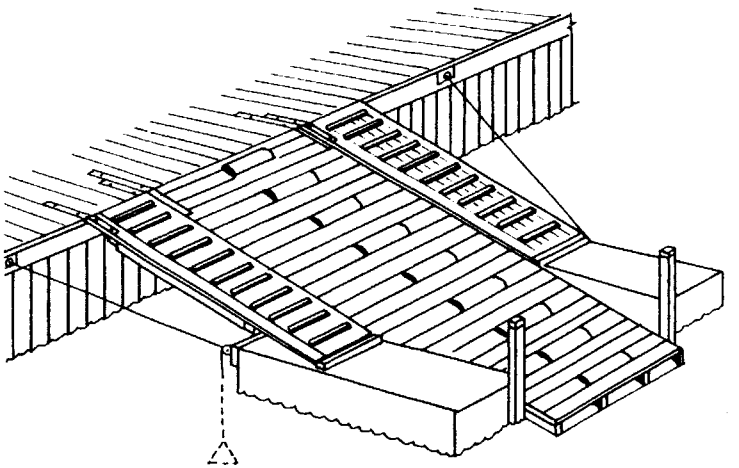




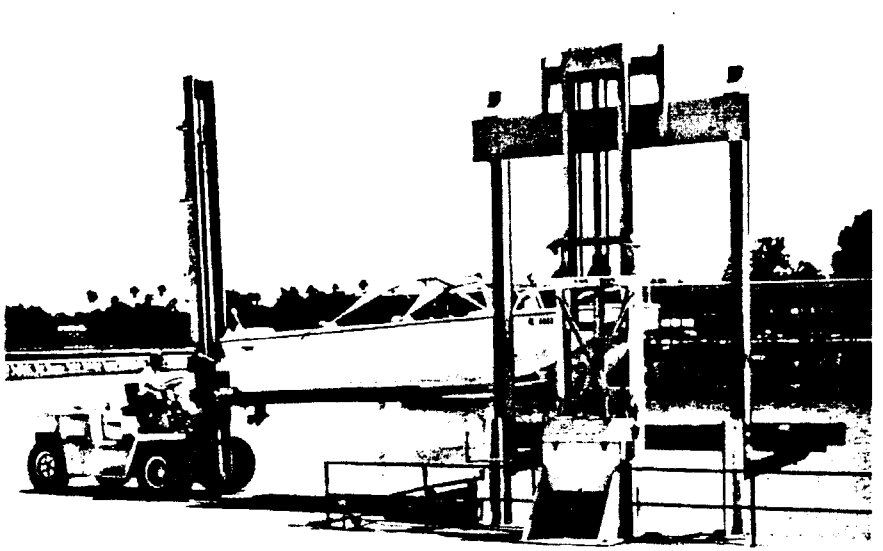
This multi stack boat store can hold 240 vessels in Florida. It also contain a boat sales area, offices and maintenance bays.

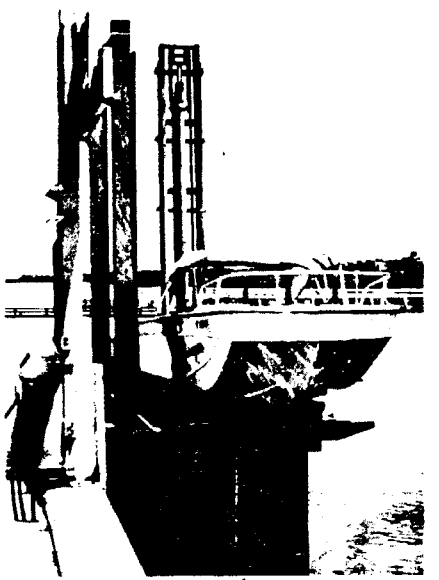


TRAVELIFT BOAT HOIST

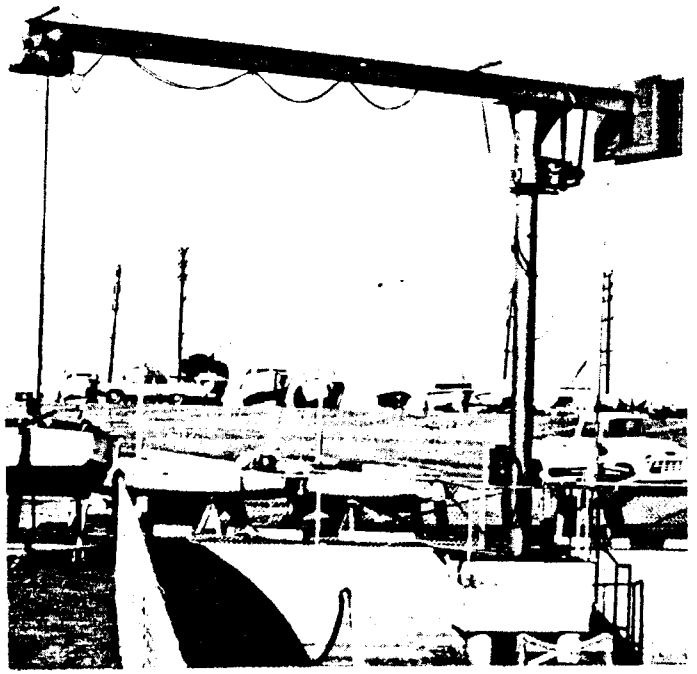


ROLLER RAMP

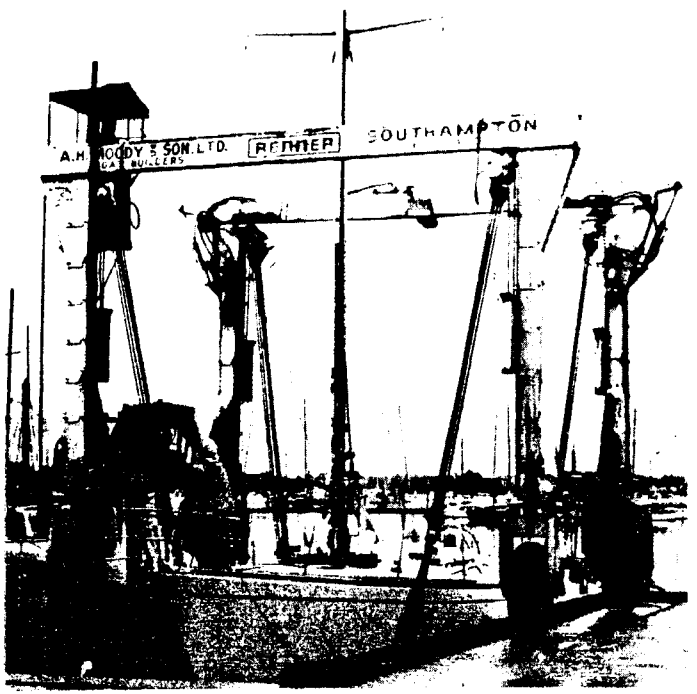




FORKLIFT BOAT HOIST

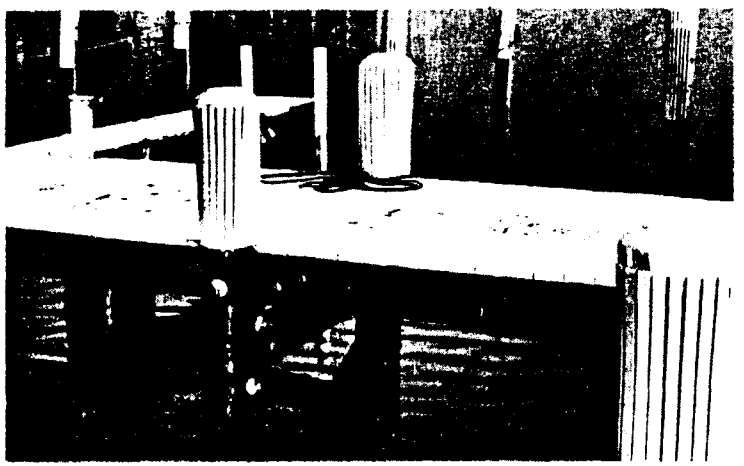


HOIST



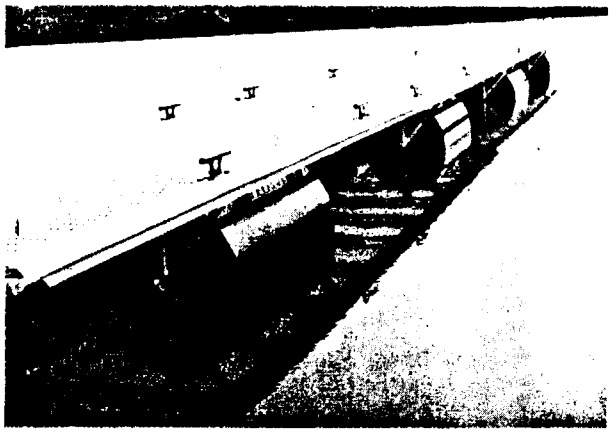
HEAVY DUTY COMPORTER

TYPICAL DOCK WITH LANDING PLACE

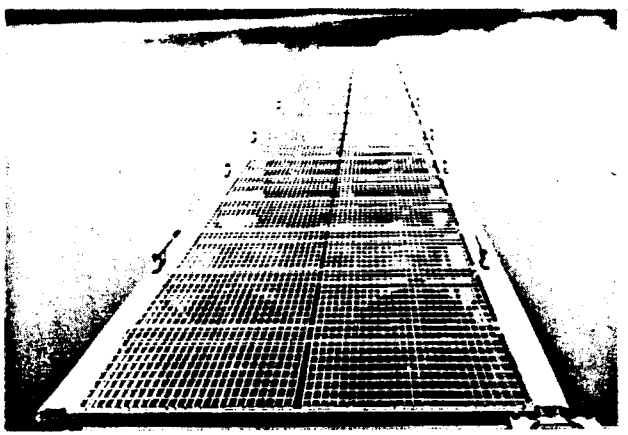


FIXED PIER

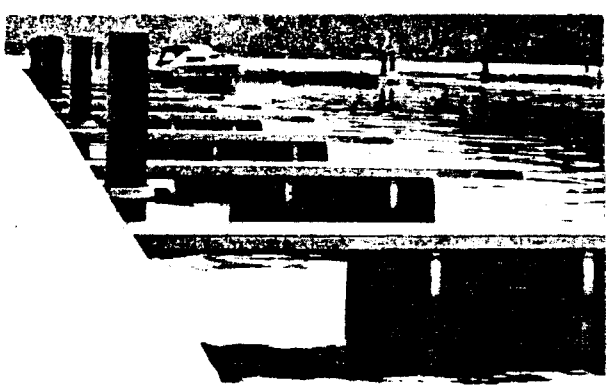
CRISPLY PAINTED FIXED WALK WAY



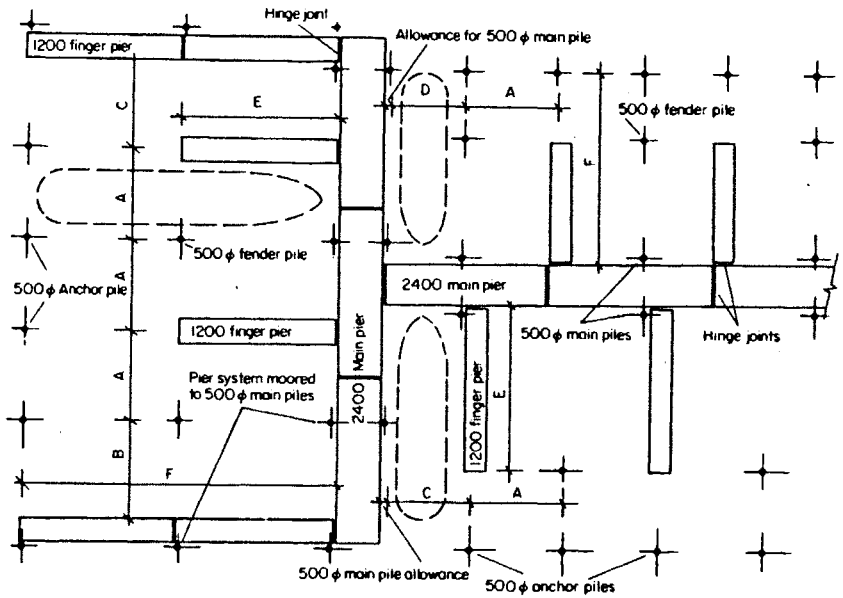
FLOATING DECK WITH OIL DRUM



OPEN STEEL MESH



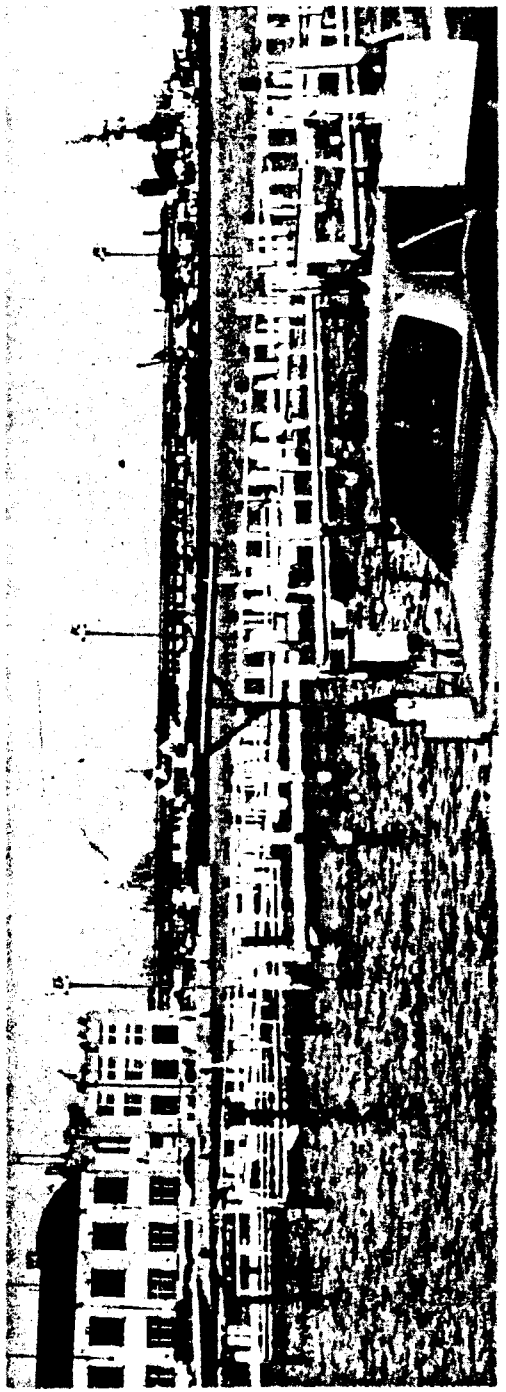
FLOATING PIERS MOORED TO PILES



RECOMMENDED DIMENSIONS FOR BOAT BERTHS AND PIER SYSTEMS

Length groups for boats	*Beam to be provided for*	*Minimum clearance for boat beam-total*	*Minimum clear width of boat berth*	*Allowance for half of fender pile*	*Allowance for half of finger pier*	*Gross berth width type* **A**- *fixed and floating piers*	*Gross berth width type* **B**- *fixed and floating piers*	*Gross berth width type* **C**- *fixed and floating piers*	*Gross berth width type* **D**- *floating piers*	*Total length of finger pier*-**E**	*Total length of boat berth*-**F**
Up to 4.250	2.000	690	2.690	250	600	3.450	2.940	3.290	2.940	3.660	5.180
Over 4.250 to 4.900	2.240	710	2.950	250	600	3.800	3.200	3.550	3.200	3.660	5.790
Over 4.900 to 5.500	2.440	740	3.180	250	600	4.030	3.430	3.780	3.430	4.250	6.400
Over 5.500 to 6.100	2.600	760	3.360	250	600	4.210	3.610	3.960	3.610	4.900	7.010
Over 6.100 to 6.700	2.800	760	3.560	250	600	4.410	3.810	4.160	3.810	5.500	7.600
Over 6.700 to 7.600	3.120	860	3.980	250	600	4.830	4.230	4.580	4.230	5.500	8.500
Over 7.600 to 9.150	3.430	910	4.340	250	600	5.190	4.590	4.940	4.590	6.100	10.060
Over 9.150 to 10.670	3.740	1.040	4.780	250	600	5.630	5.030	5.380	5.030	6.700	11.590
Over 10.670 to 12.200	4.040	1.120	5.160	250	600	6.010	5.410	5.760	5.410	7.300	13.100
Over 12.200 to 13.270	4.300	1.170	5.470	250	600	6.320	5.720	6.070	5.720	7.900	14.630
Over 13.270 to 15.250	4.550	1.250	5.800	250	600	6.650	6.050	6.400	6.050	8.540	16.150
Over 15.250 to 18.300	5.030	1.370	6.400	250	600	7.250	6.650	7.000	6.650	10.360	19.200
Over 18.300 to 21.350	5.500	1.500	7.000	250	600	7.850	7.250	7.600	7.250	10.360	22.250
Over 21.350 to 24.390	6.020	1.575	7.595	250	600	8.445	7.845	8.195	7.845	10.360	25.300

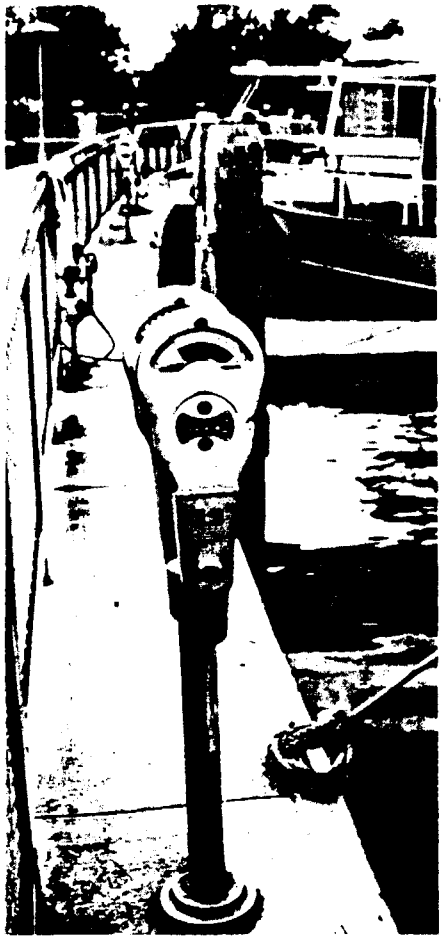
SECURITY



Security is a major management responsibility. This is largely what boat owners are paying for loss or damage to craft and gear should be an acute embarrassment to the management which owes it to its client to pursue a policy of effective and continuous vigilance.
Because of its watery and often remote position a marina and its craft are vulnerable to both natural and malicious damage.
Protection from the elements is usually inherent in the design but safeguards against theft and vandalism are often poor. Boatyard are particular susceptible to entry and with tools and material lying about , the cost of damage and disruption can be very high .
Good security should start at a deeper level than gates and barbed wire. Liason with the police, the adequate lighting of ground the education of owners and reliable communications, both within the harbor and form it to the outside world, all from a sensible security groundwork. Security arrangement once put into operation will need a regular overhaul just as much as the equipment and buildings.

The presence of lock-keeper, harbour master and custom officials help as a deterrent and so do night watchman and security patrol the dangers are great in winter when thing may be quiet as they are in summer . It is very difficult to control entry to the marina. Many genuine visitors may be unknown to the staff and with boating people one can not go by locks. Security gates either to the ground or to the berths are not really much use even the keys are limited to the owners and staff only.

Security fencing needs careful detailing, black plastic coated nylon can de reinforced with back up planting of small trees and shrub preferably evergreen.



The increase in crime and vandalism of marinas becoming increasingly necessary to adopt more modern systems of security control. The four principals method are as follows :

1. External audible alarm. This covers many types of alarm and may be used as alone or in additional to other means of protection.

2. Transmission of signal to company's central station. An alarm signal feeds back to a screen within a central console.

3. Sending pre-recorded messages to GPO (Gear Box Police Station Operator)telephone operators for tranmission to police. A break in circuit triggers a message to the GPO.

4. Direct signals to police. As above but direct to the police or patrol cars.

System 1 and 2 require security staff where 3 and 4 operate entirely automatically. With 2, 3 and 4 the area to be safeguard usually divided into separate circuits-buildings, ground moorings (or separate piers), boundary fence and so on, each of which can be separately identified to narrow the field of search.

NATIONAL WEATHER SERVICE COASTAL WARNING DISPLAYS

WARNING DISPLAYS

DAYTIME SIGNALS NIGHT(LIGHT)SIGNALS

SMALL CRAFT ADVISORY

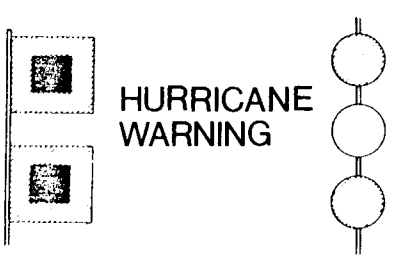
Small craft advisory : One red pennant displayed by day and a Red light above a white light at night, to alert mariners to sustained weather or sea condition, either present or forecast, that might be hazardous to small boat. Mariners are urged to determine immediately the reason by turning their radios to the latest marine broadcast.

GALE WARNING

Gale warning : Two red pennants displayed by day and a white light above a red light to indicate that winds within the range 34 to 47 knots are forecast to the area.

STORM WARNING

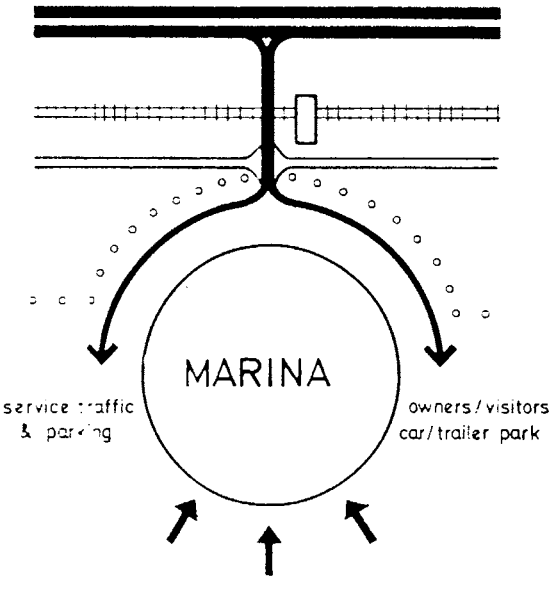
Storm warning : A single square red flag with a black center displayed during day time and two red lights at niht to indicate that winds 48 knots and above, no matter how the speed, are forecast for the area However, if the winds are associated with the tropical cyclone [hurricane] the storm warning display indicates that the winds within the range 48 to 63 are the forecast.



HURRICANE WARNING

Hurricane warning: Displayed only with the connection of tropical cyclone. Two square red flags with black center by day and a white light between two red indicate the winds 64 knots and above for the area.

MARINA ACCESS POINTS



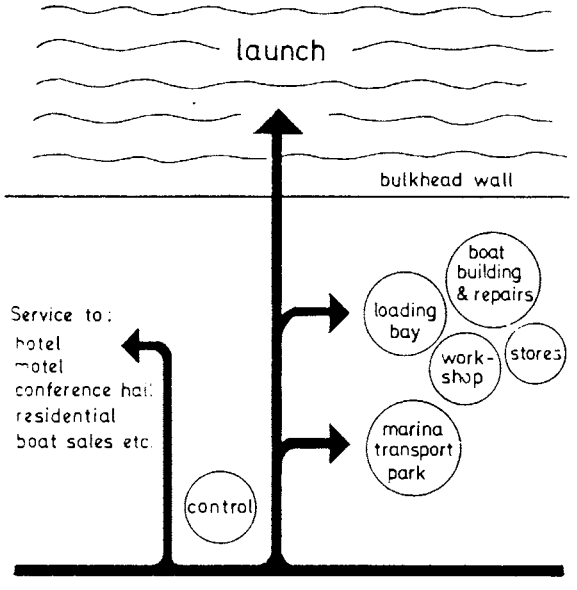
Approach by water

Motorway

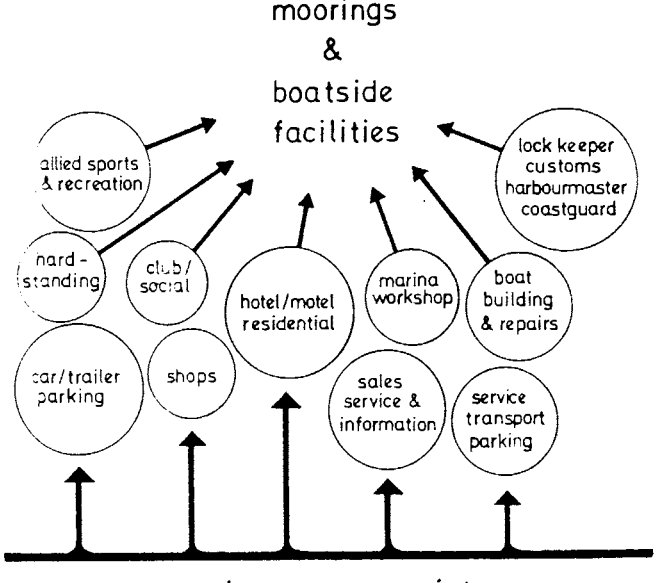
Railway

Secondary Road

Pedestrians



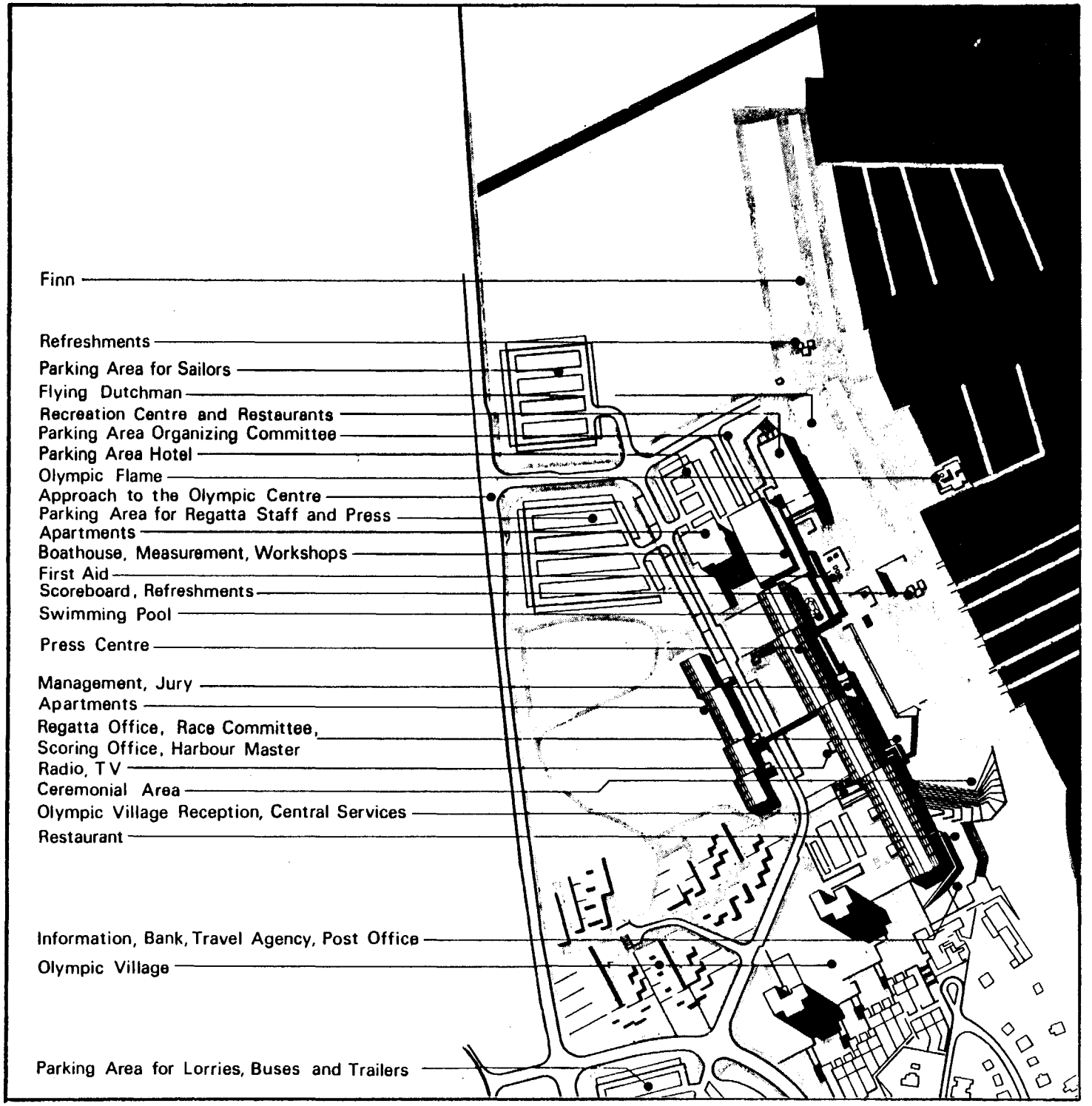
access

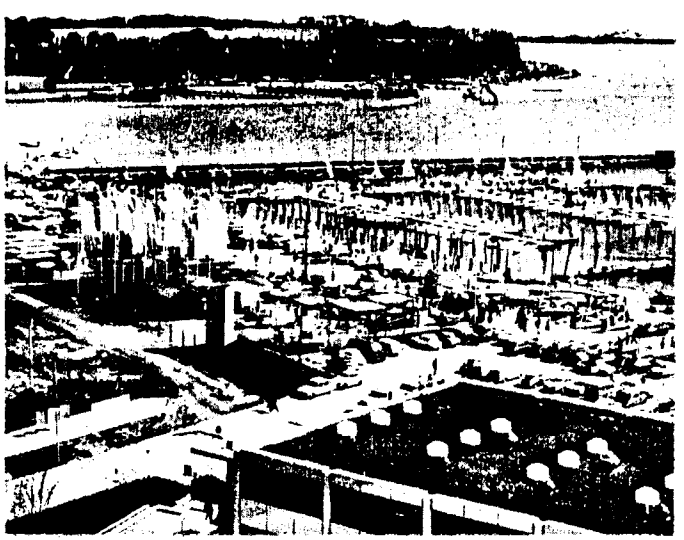


main access points

OLYMPIC CENTER

AT KIEL SCHILKSEE
ON THE BALTIC



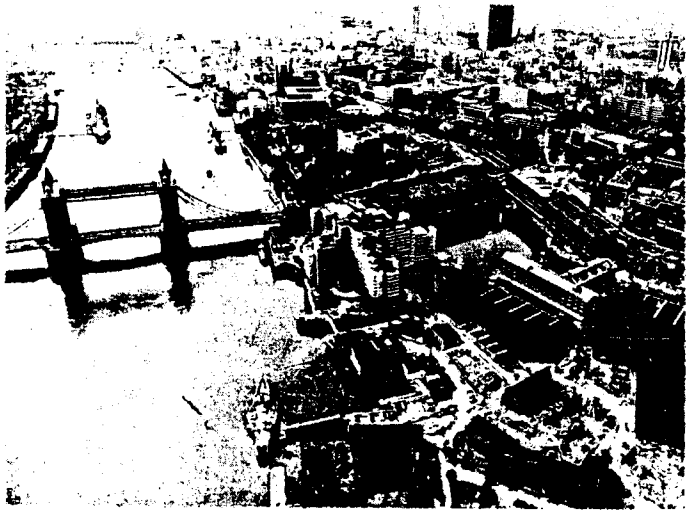


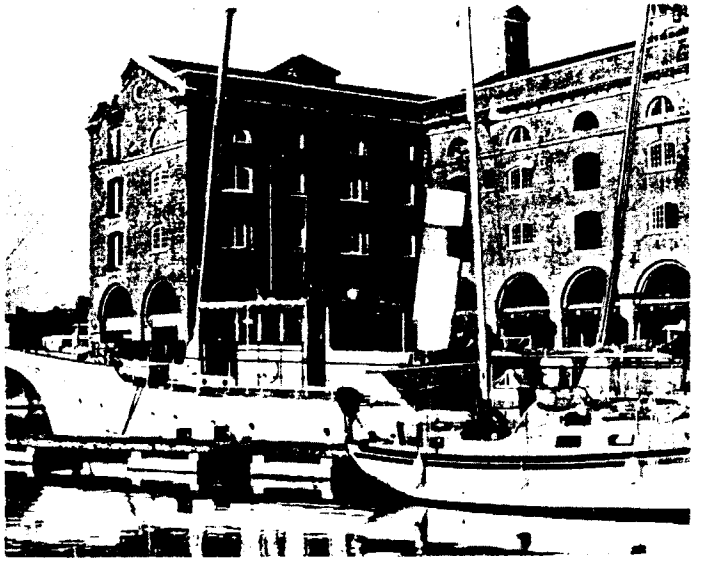
The olympic harbor is a splendid example of what a special marina complex can be. Mooring for over 400 crafts are provided of which 173 actually sailed in the olympic Regatta. The main building are set parall to the bay and contain administration offices, committee and jury room, hall, restaurant, swimming pool and communication press center.The latter ocupies the top 3 floors of main building in modern apartments each with a typewriter and television. All 3 cources were visible from the press box with 26 press boats in addition.

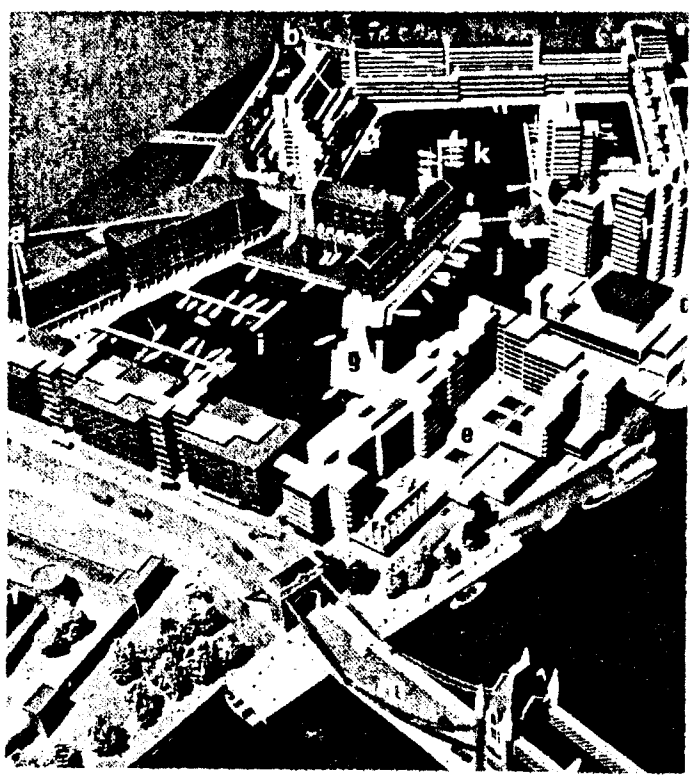
32 bungalows and 2 apartment blocks provide for each yacht crew, team captin and manager having their own offices. 4000 spectators were accomodated vieng the races from 14 steamers near the courses as well as on the television The center is absolutely unsurpassed by anathing in the intire globe. Starting from scratch the German built vast working monument which will stand as the finest collection of amenities for dinghe and keelboat sailors for the to come.

KATHERINE DOCKS

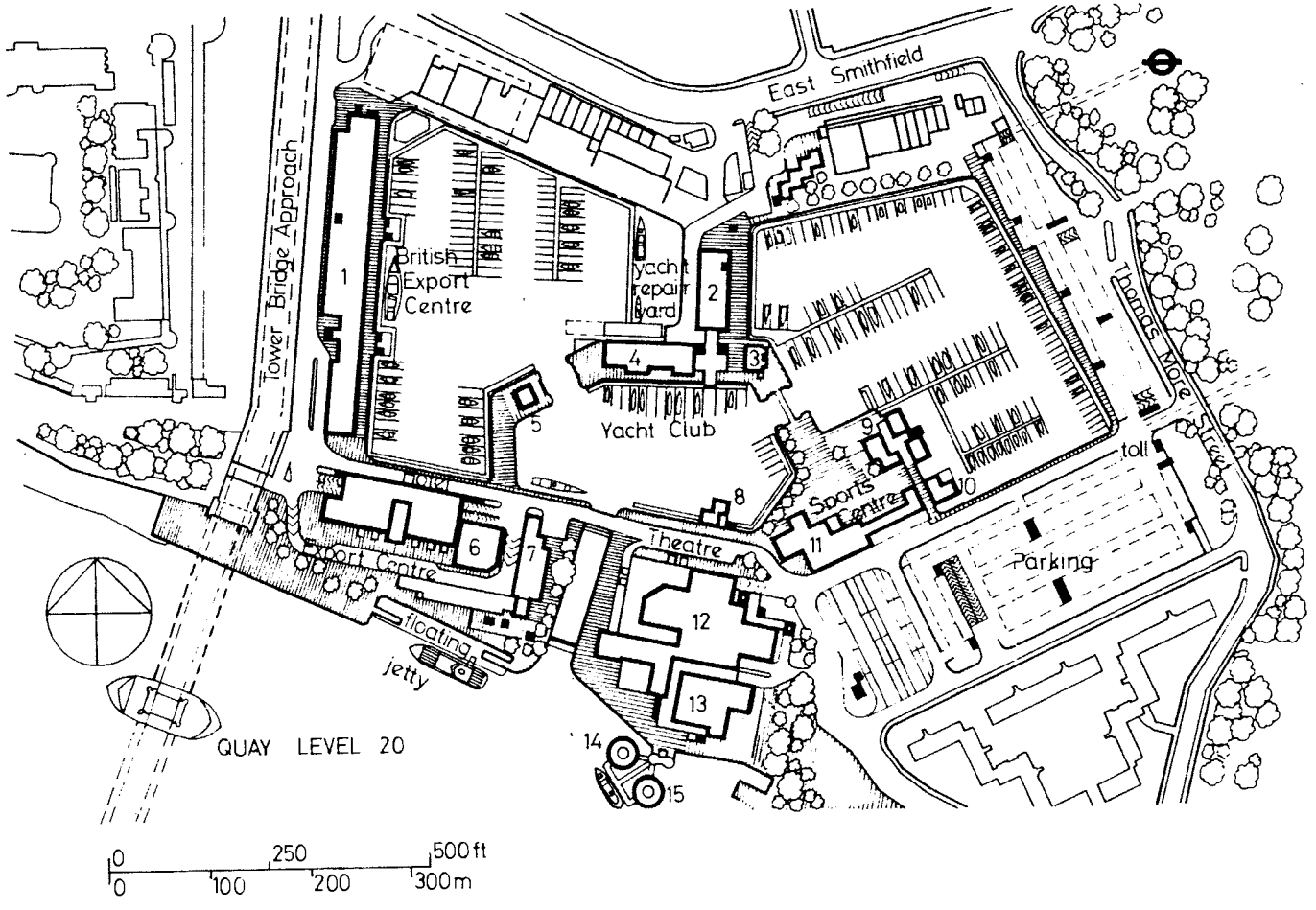
LONDON



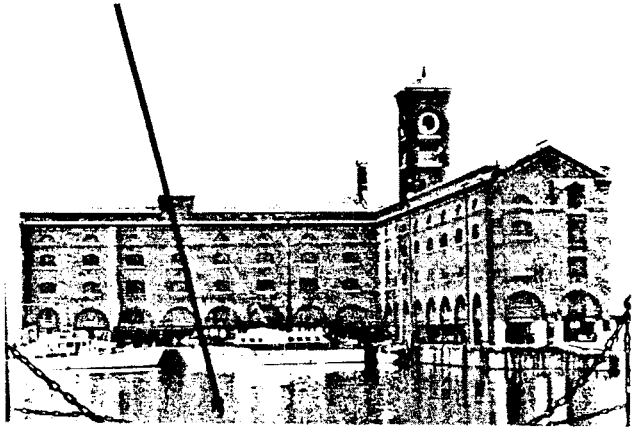




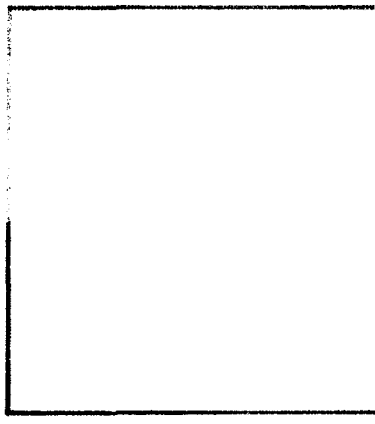
General view of the Katherine dock development.
[a] World Trade Center.
[b] Apartments and shopping center.
[c] Apartments and school, health center.
[d] Confrence and entertaintment center.
[e] Hotel.
[f] Yacht club and apartments.
[g] Chapel.
[h] Apartments.
[i] West dock.
[j] Basin.
[k] East dock.
[l] River Thames.
[m] Tower bridge.
[n] Tower of London.

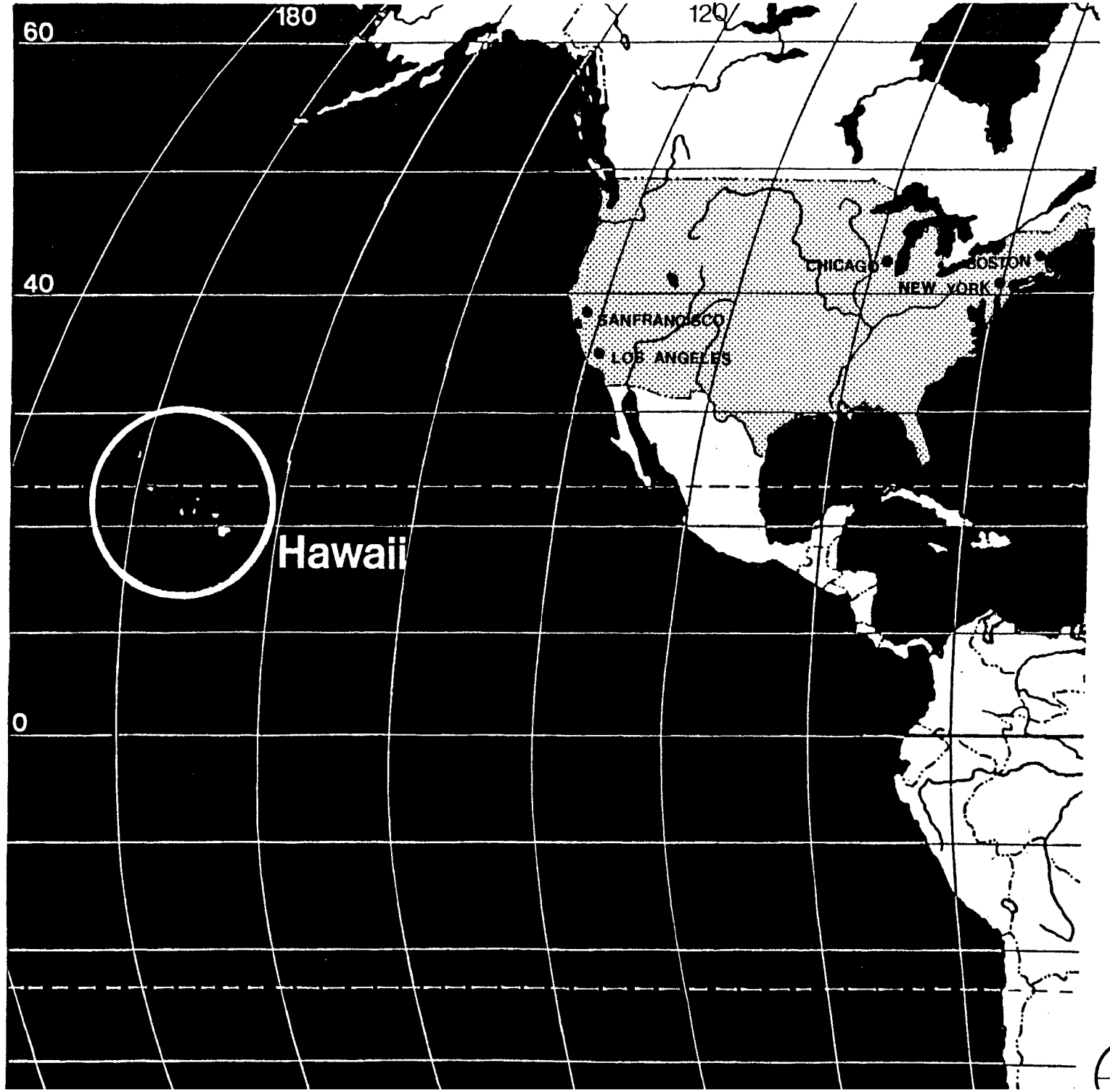


St. Katharine's Dock berth lay out.



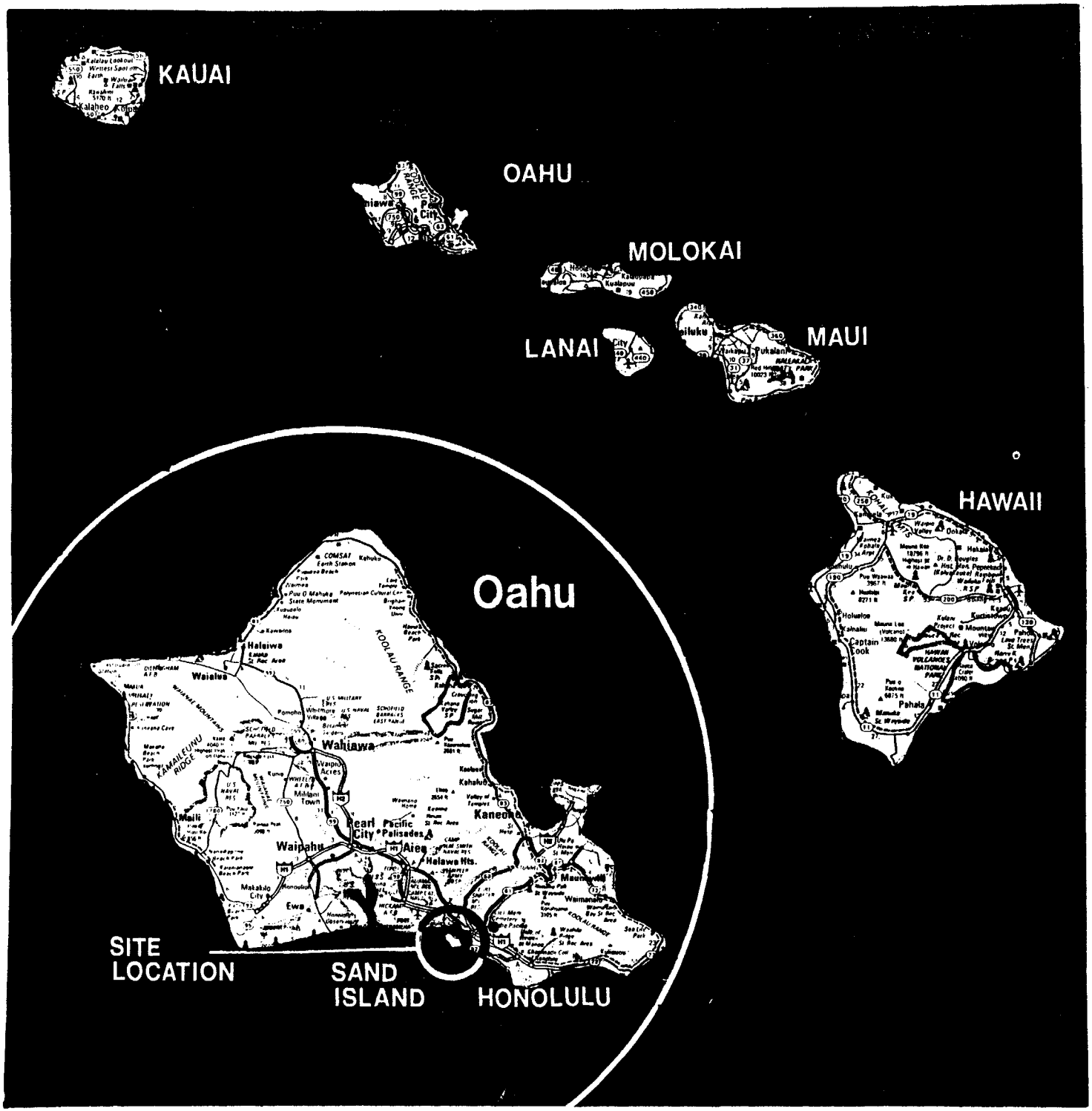
SITE ANALYSIS

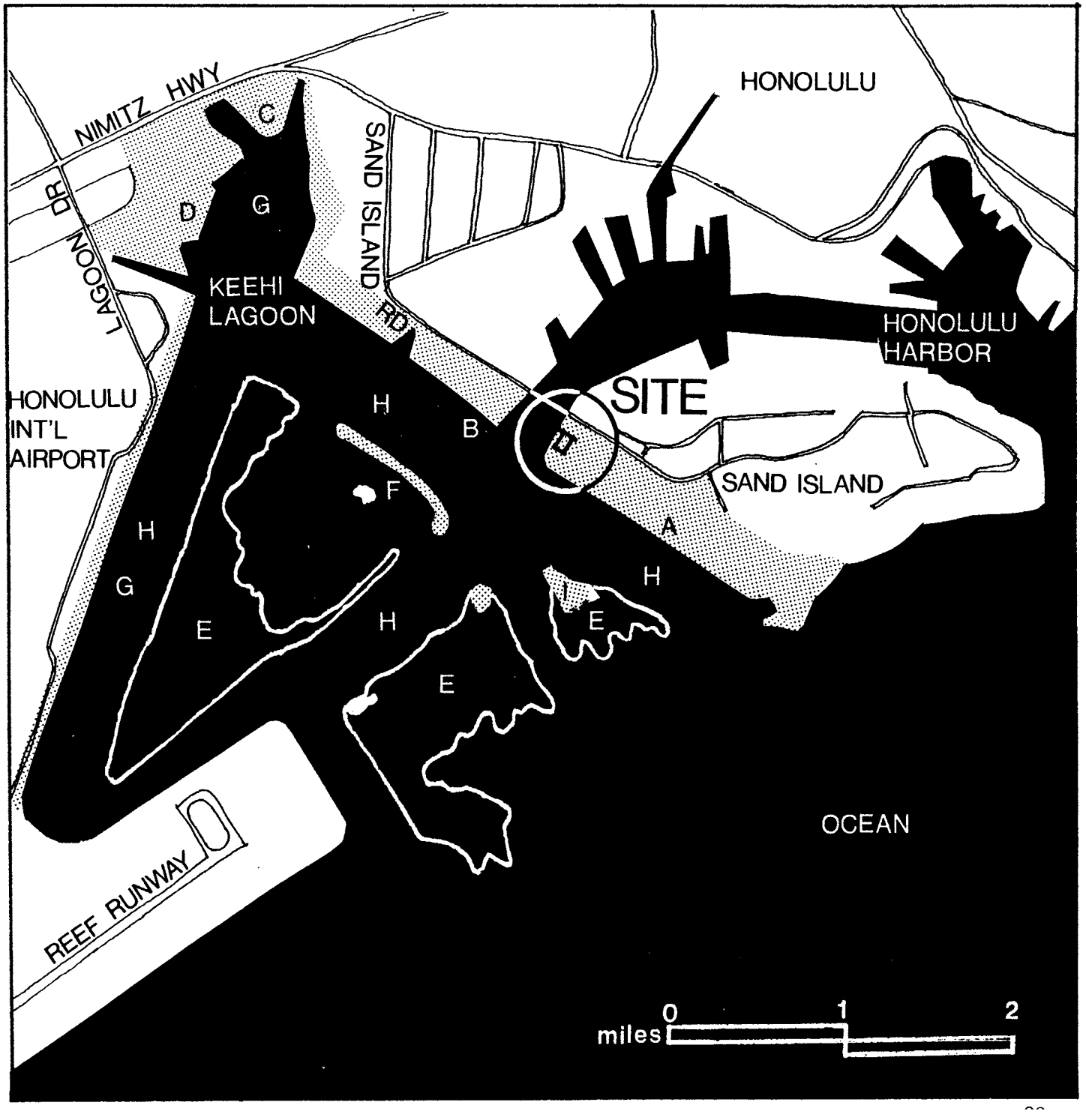




NATIONAL MAP

ISLAND'S MAP


KAUAI
OAHU
MOLOKAI
LANAI
MAUI
HAWAII
Oahu
SITE LOCATION
SAND ISLAND
HONOLULU
N



KEEHI LAGOON

RECREATIONAL AREA (MASTER PLAN)

[A] Sand island state park.

[B] Boating facilities.

[C] Canoe clubs.

[D] Shoreline park.

[E] Wildlife refuge.

[F] Competition waterskiing.

[G] Canoe racing.

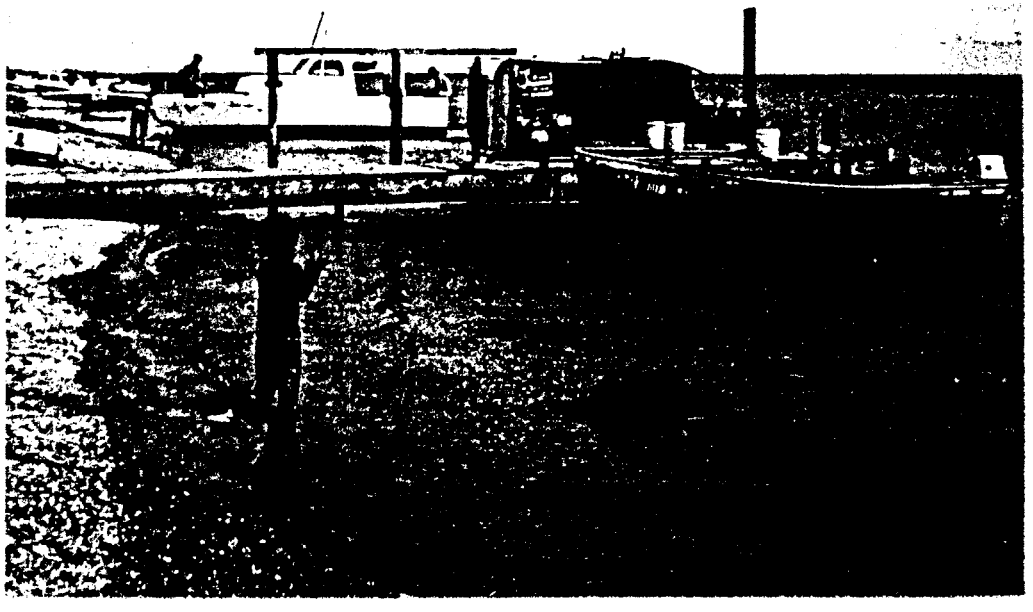
[H] General water recreation.

[I] Fishing village.

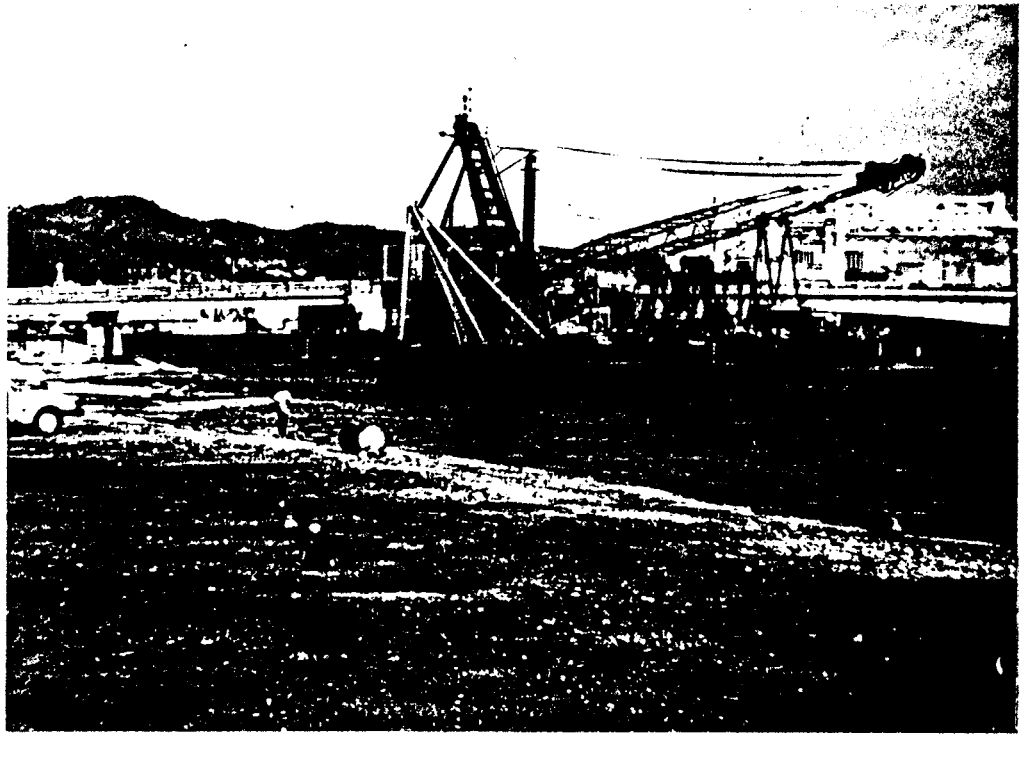
PHOTO SURVEY

1 View from the site looking at the water skiing recreation and boat mooring from the Keehi harbor.

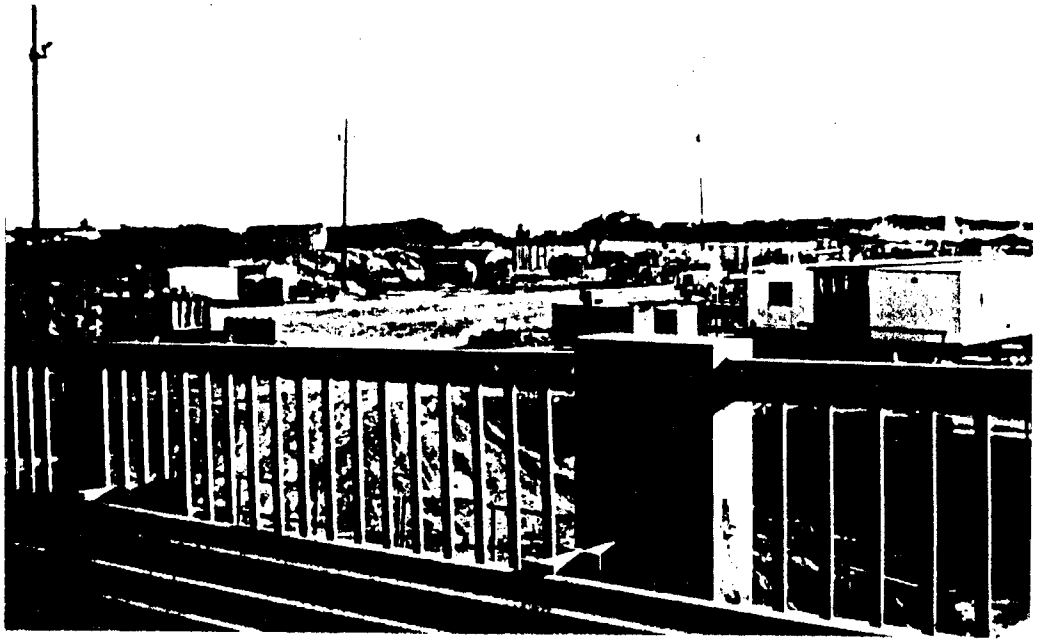
2 This view is from the site looking toward Moukeae island or fishing village.



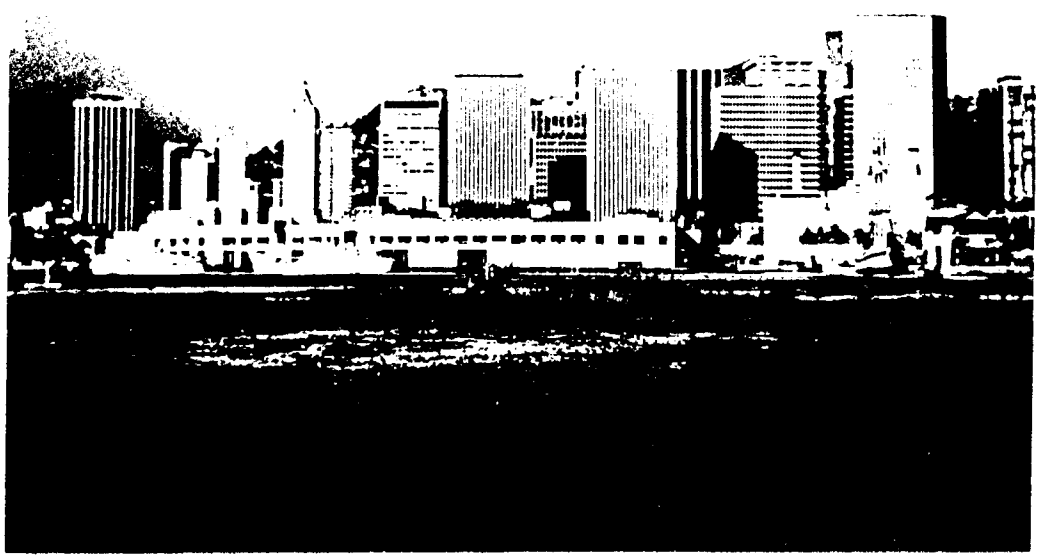
3 Physical condition of the site.



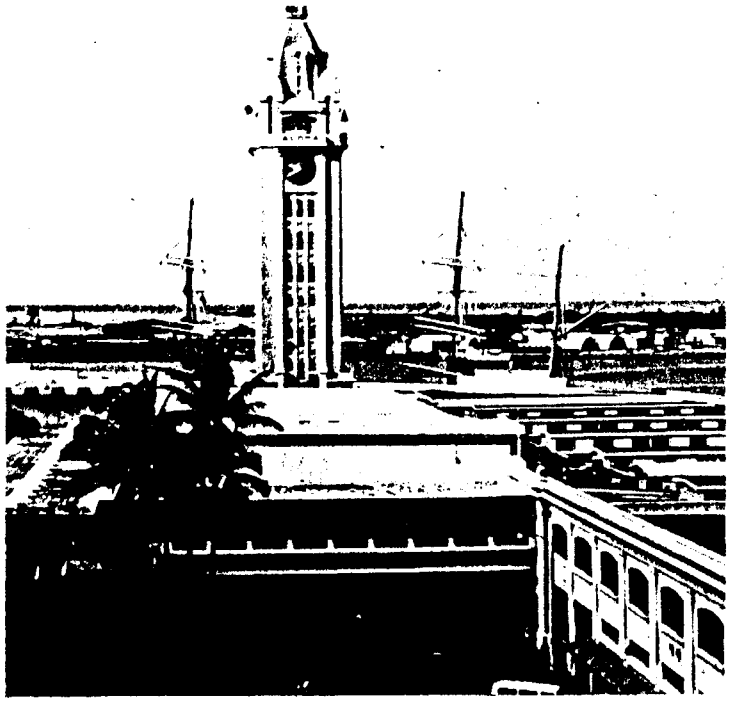
4 General view toward the bridge that connects Oahu and Sand Island.



5 This is the view from the bridge looking at the site.The construction is from the bridge.



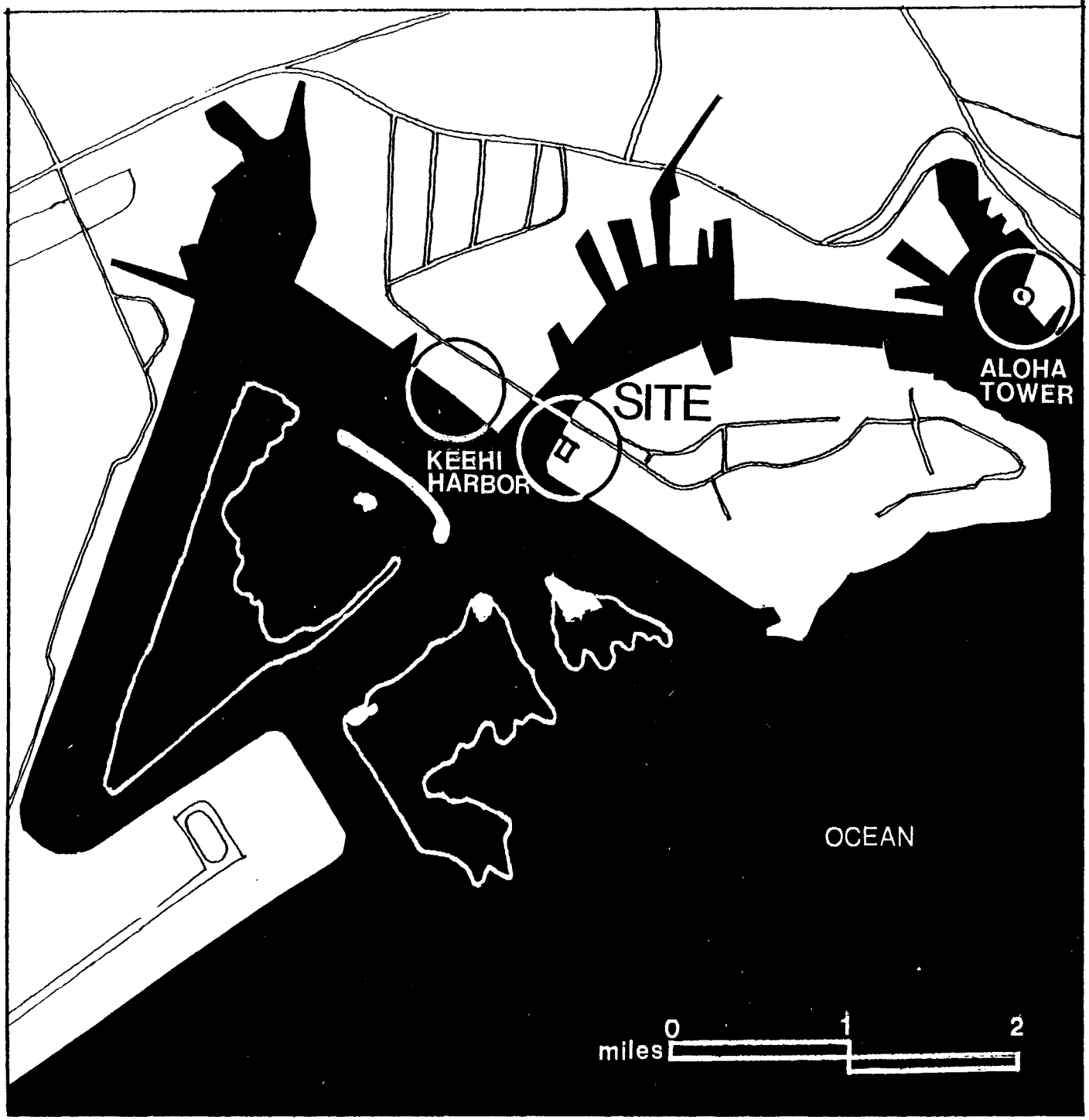
6 This view is from the North side of the Island looking toward Downtown and the Aloha Tower.



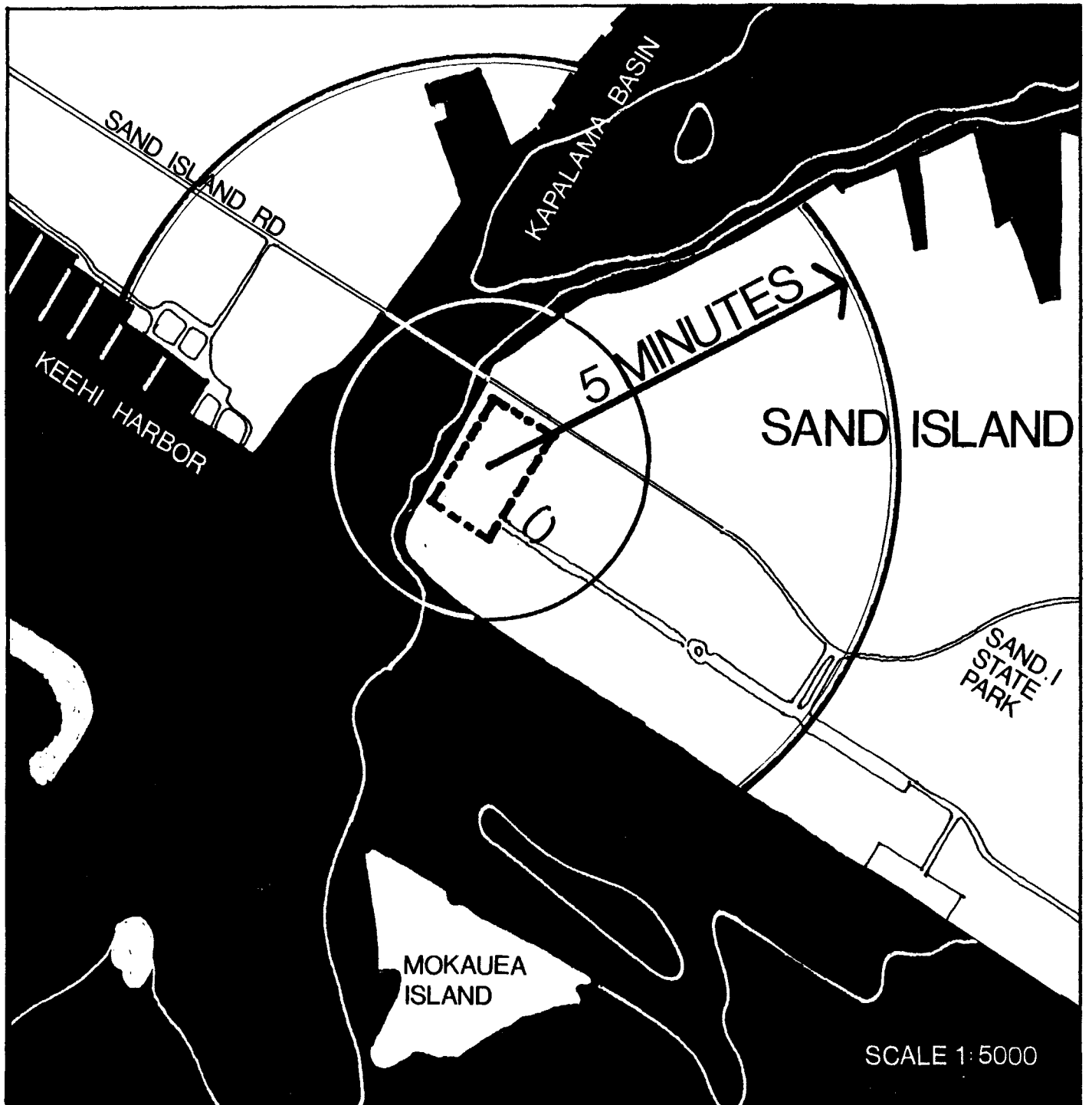
7 This view is from the Aloha Tower on Oahu looking the Sand Island.

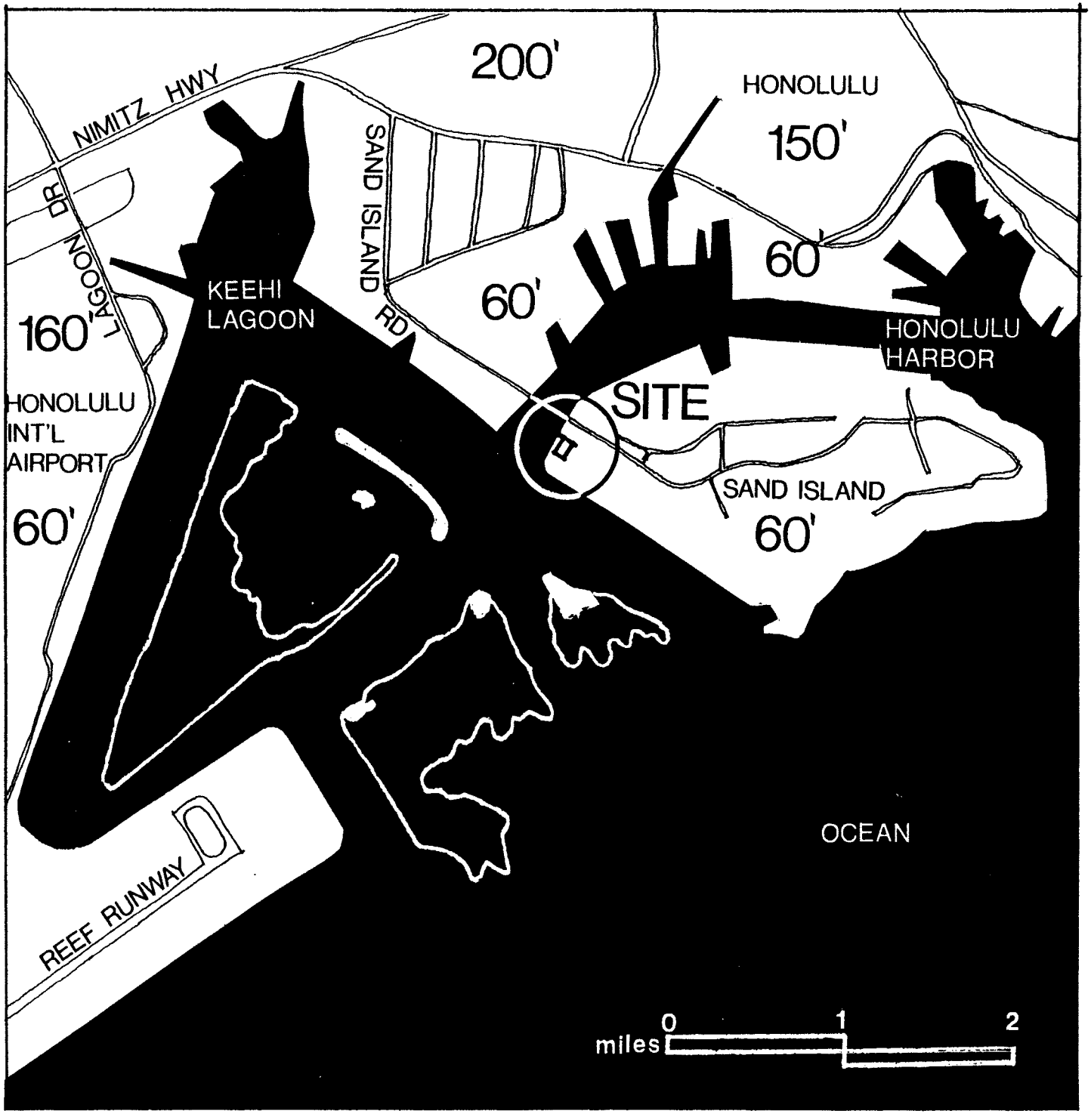
8 View from the Reef runway toward the Island.[circle].

LANDMARKS

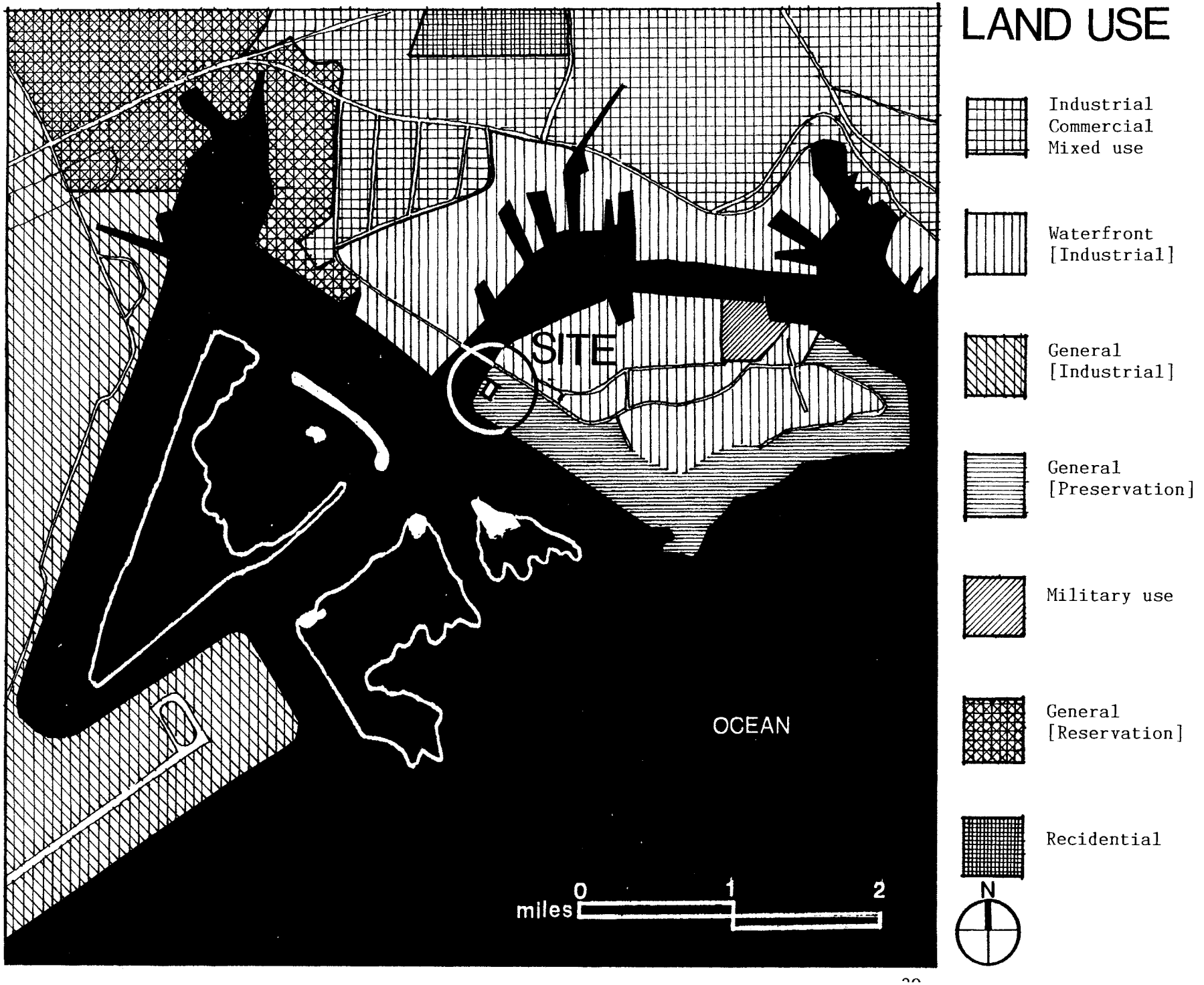


WALKING RADIUS





BUILDING HEIGHT CONTROL


LAND USE
Industrial
Commercial
Mixed use
Waterfront
[Industrial]
General
[Industrial]
General
[Preservation]
Military use
General
[Reservation]
Recidential
SITE
OCEAN
miles
0
1
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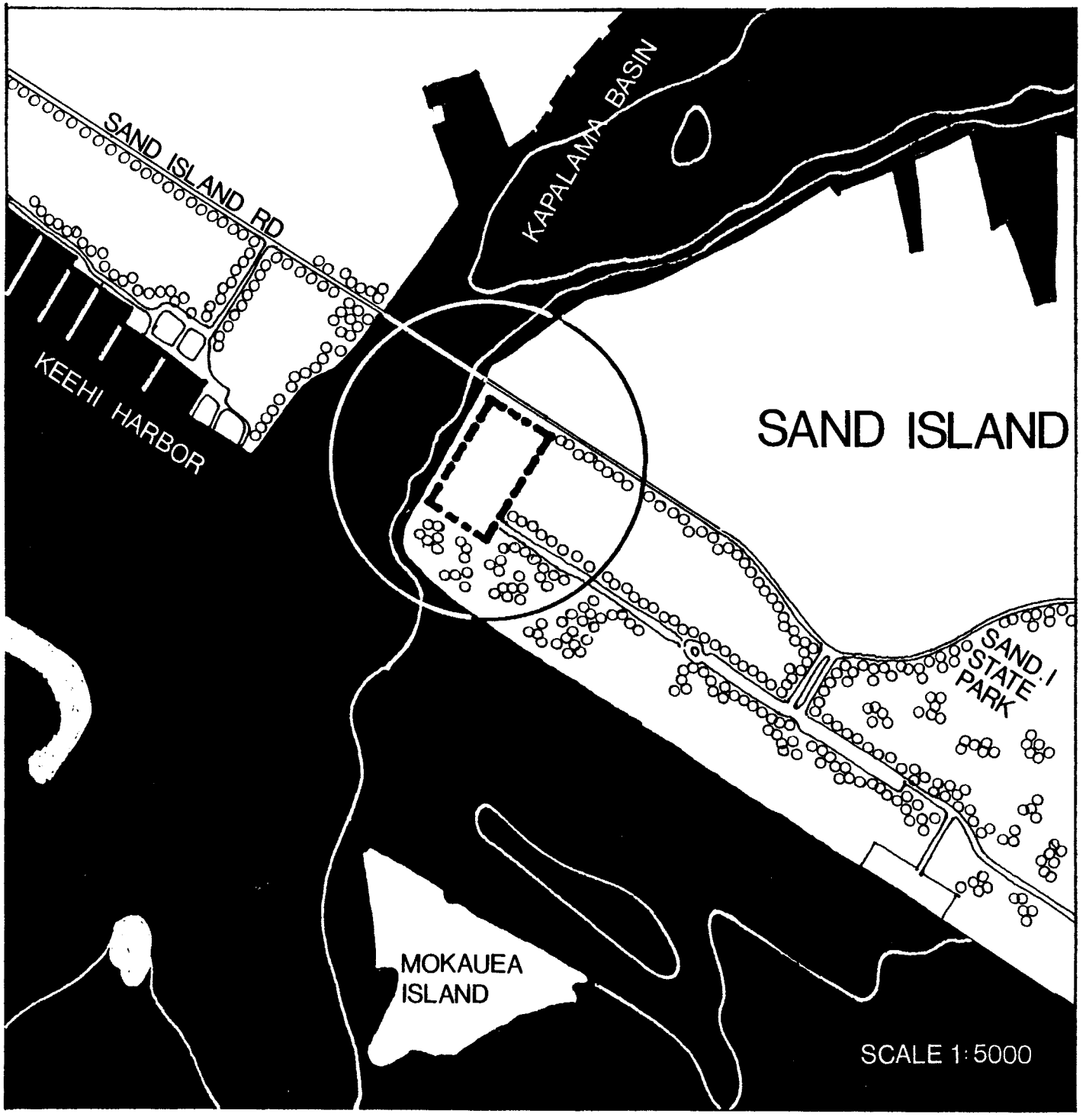
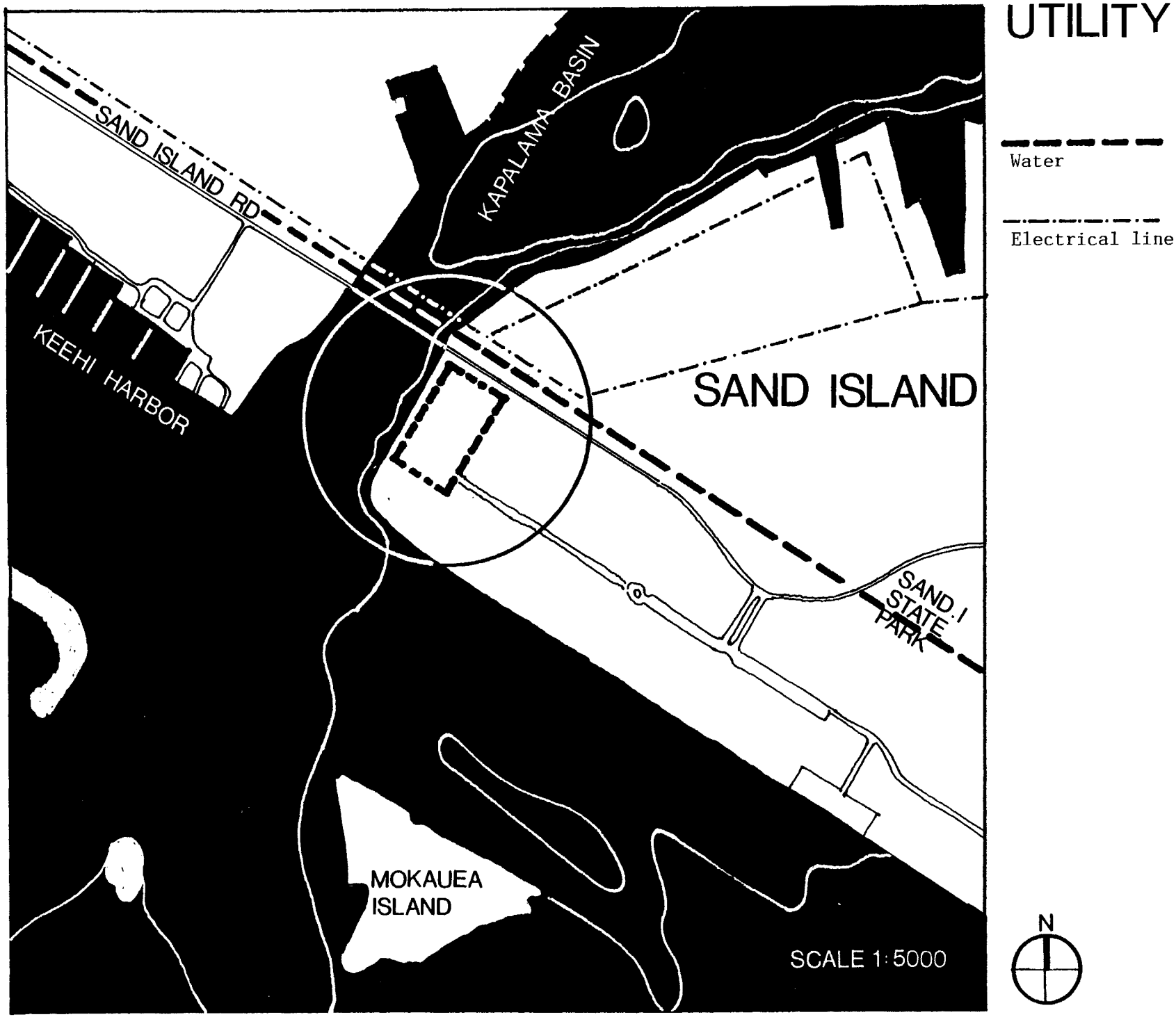
TOPOGRAPHY MAP

EXISTING LANDSCAPE

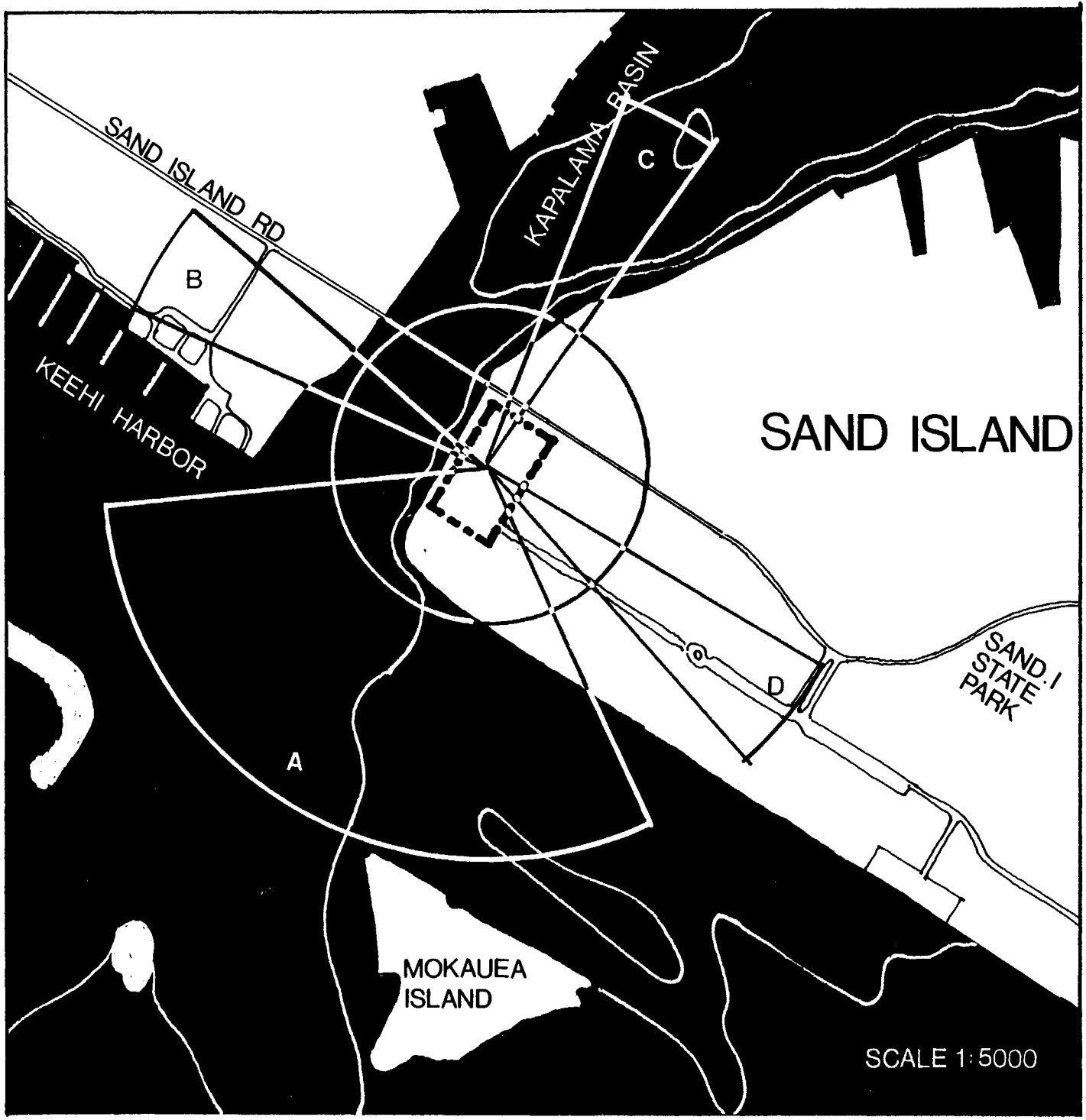




UTILITY

Water

Electrical line



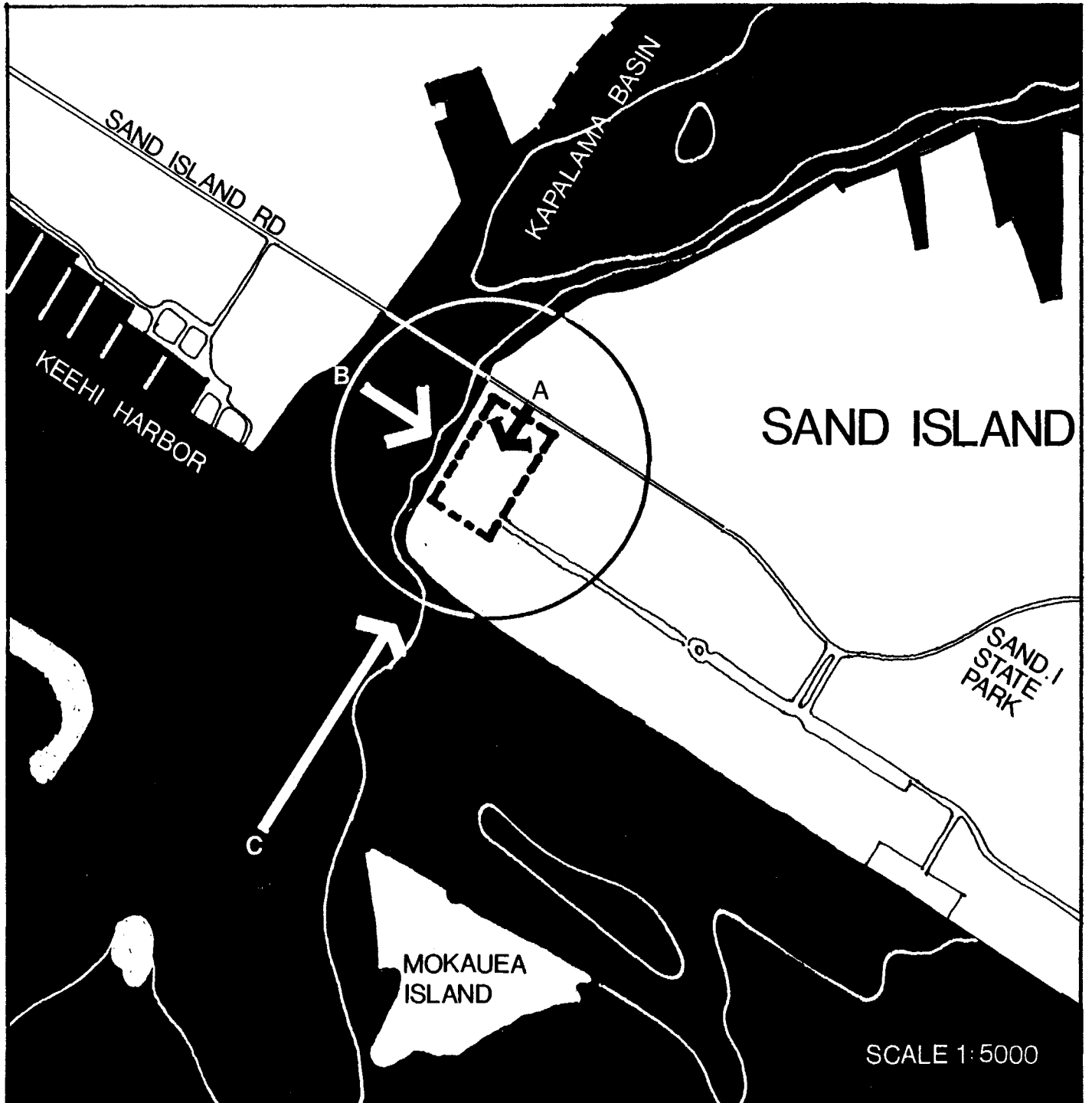
VIEWS

[A] Desired view to general water recreation.

[B] Boating facility.

[C] Unpleasant view to bridge structure warehouse .

[D] View to the beach and boat launching.

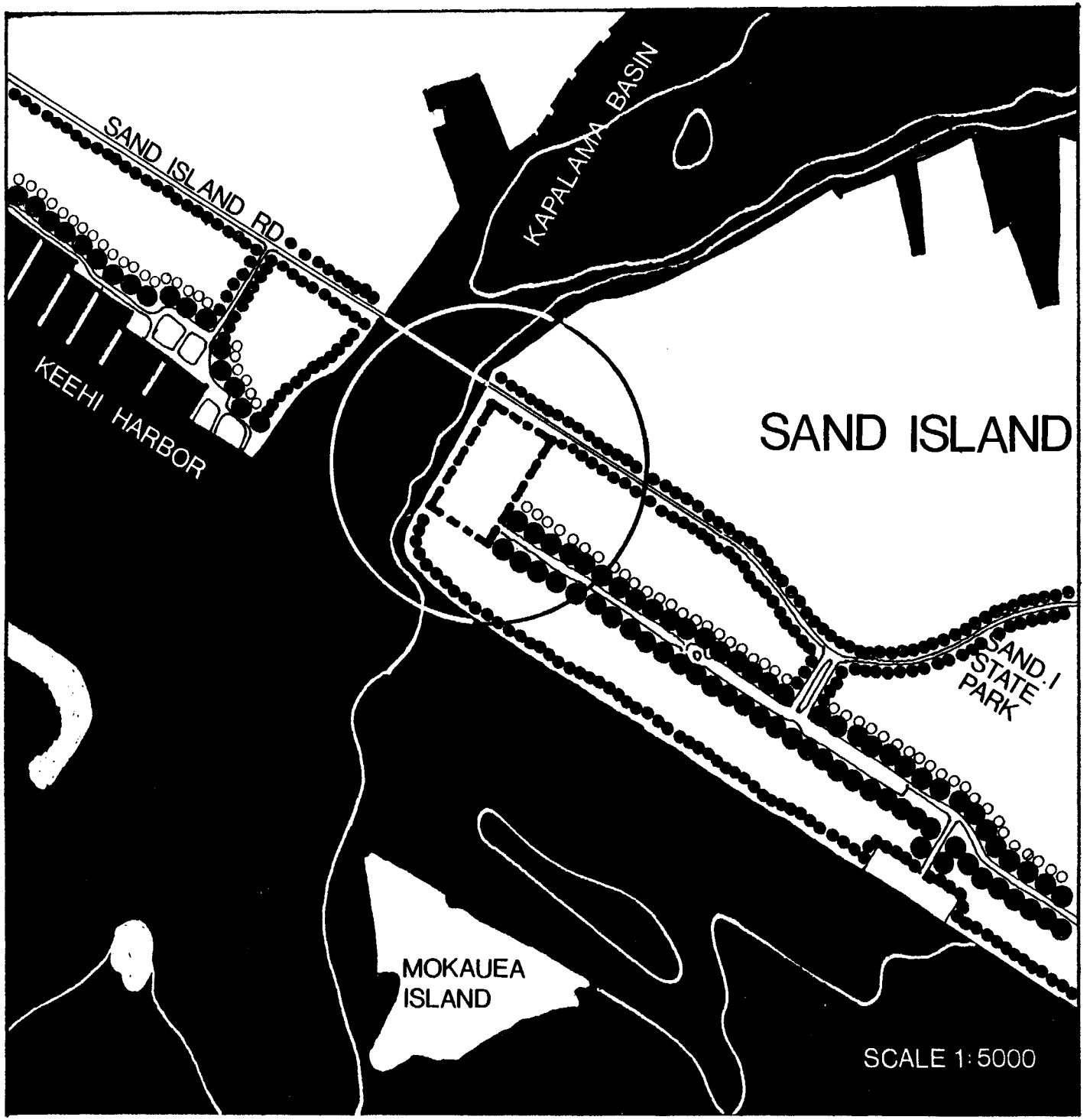


NOISE

[A] Noise from automobil on Sand Island road.

[B] Noise from boats entering the harbor.

[C] Noise from airplane at Reef runway.low occasionally.



PEDESTRIAN TRAFFIC DENSITY

- o Casual, low density
- ● Casual high density
- o Business.

N

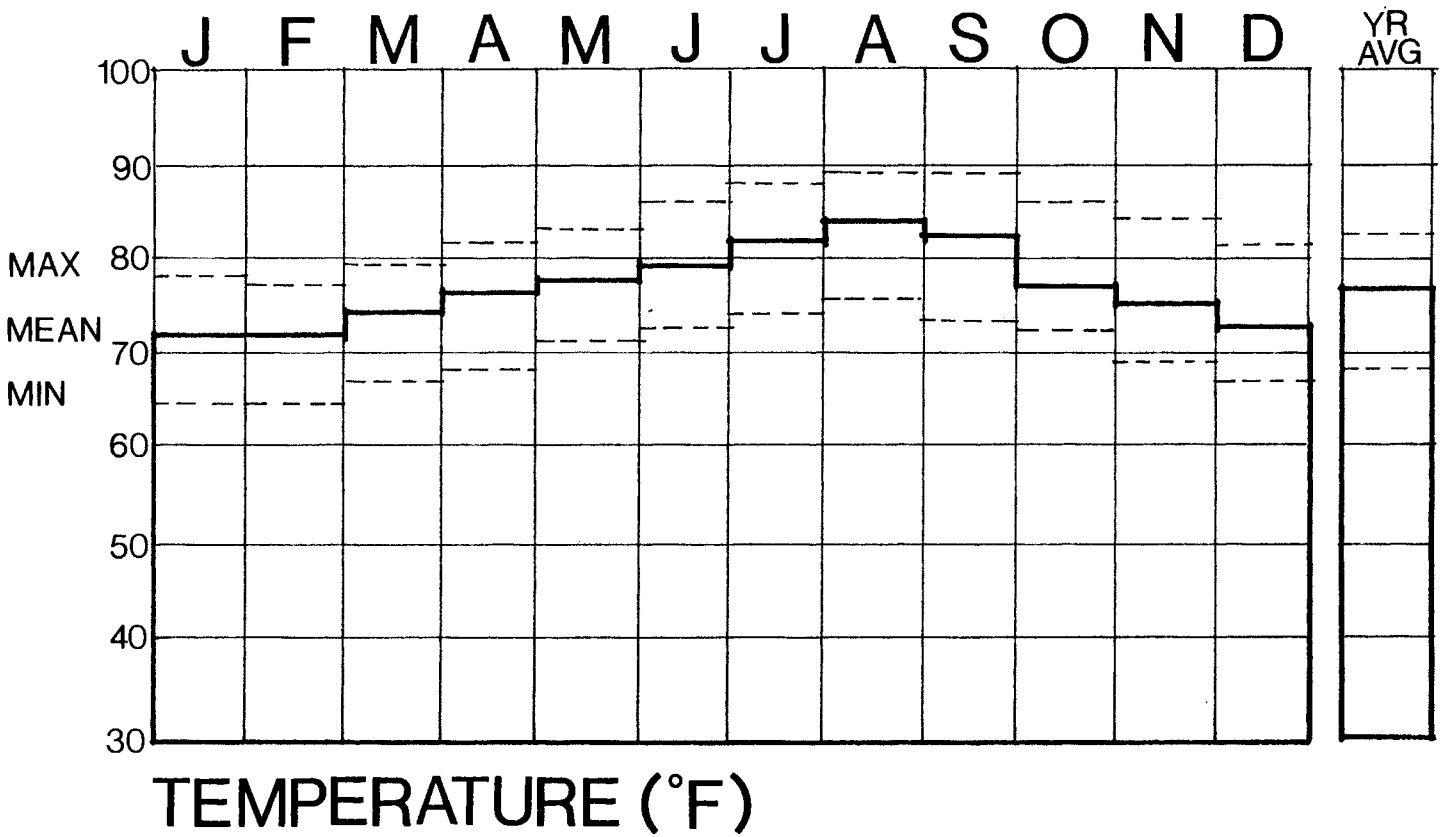
AUTOMOBILE TRAFFIC

CLIMATIC SUMMARY

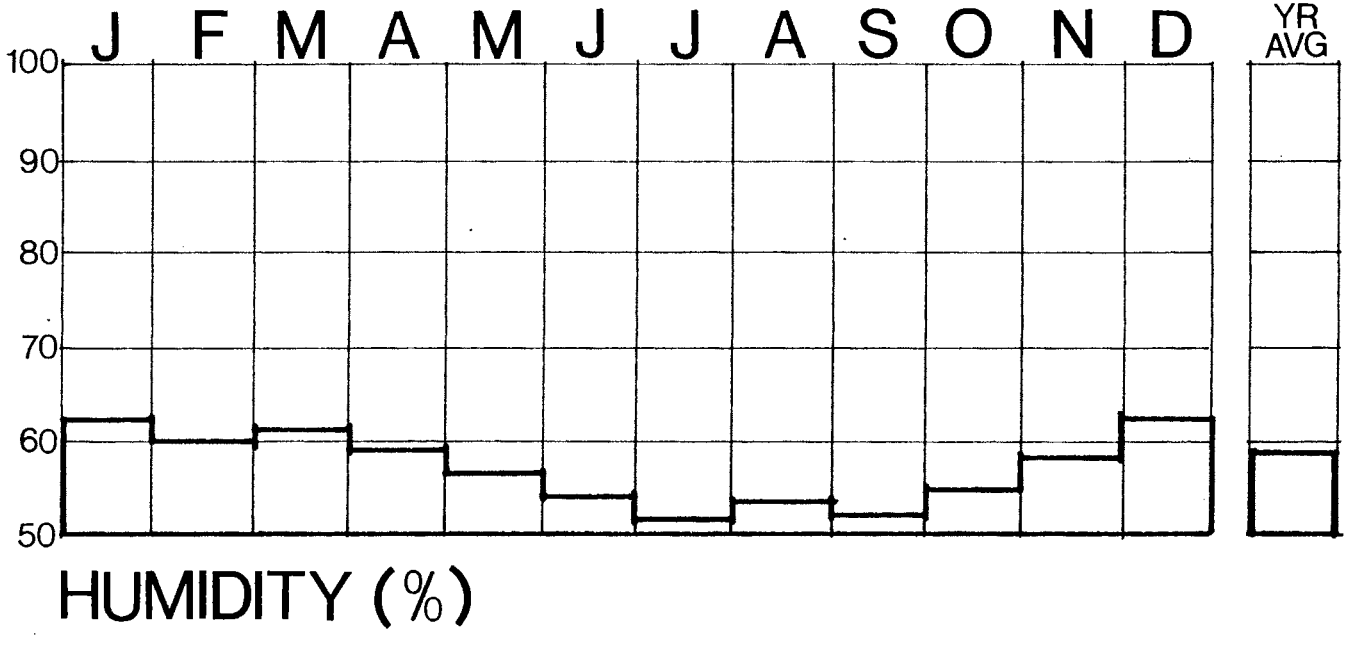
CLIMATE. The Hawaiian climate is subtropical, its temperatures ranging from a historic high of about 100°F (38°C) to a historic low of about 14° F (-10°C). Extremes such as these are rare, however, the climate being predominantly moderate and balmy. The mean temperature in Oahu is in the mid-70's (23-24°C). The weather is affected by the surrounding sea, the mountains, and the flow of wind. Both the sea and the winds moderate the temperature. The higher mountains cause cooling rainfalls. Since the sun over Oahu is never more than 45° from the zenith, night and day are much more equal in length than they are, for example, in Alaska or Maine, and this also tends to moderate annual extremes. Near sea level, a temperature of less than 60°F (15°C) is infrequent.

Local variations in precipitation are as great here as anywhere in the world. As much as 500 inches (12,700 mm) a year may fall in the high forests of Kauai, and as little as 10 inches (254 mm) a year at Puako, on the island of Hawaii. In general, abundant rainfall is due to moisture carried by the prevailing east-to-west(generally northeast) trade winds.

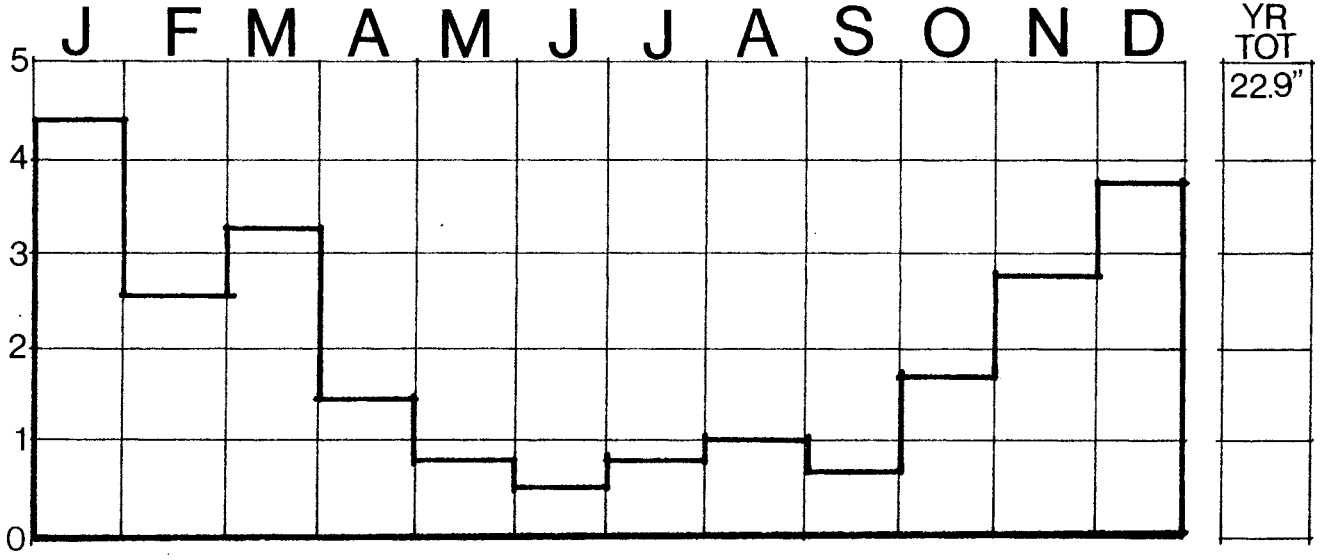
CLIMATIC DATA



CLIMATIC DATA

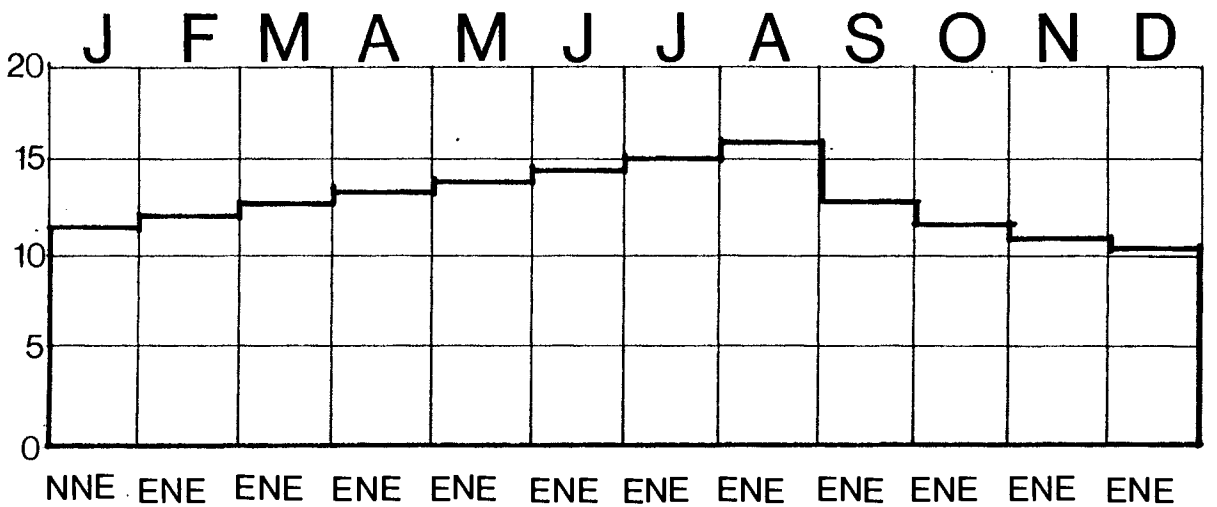


CLIMATIC DATA



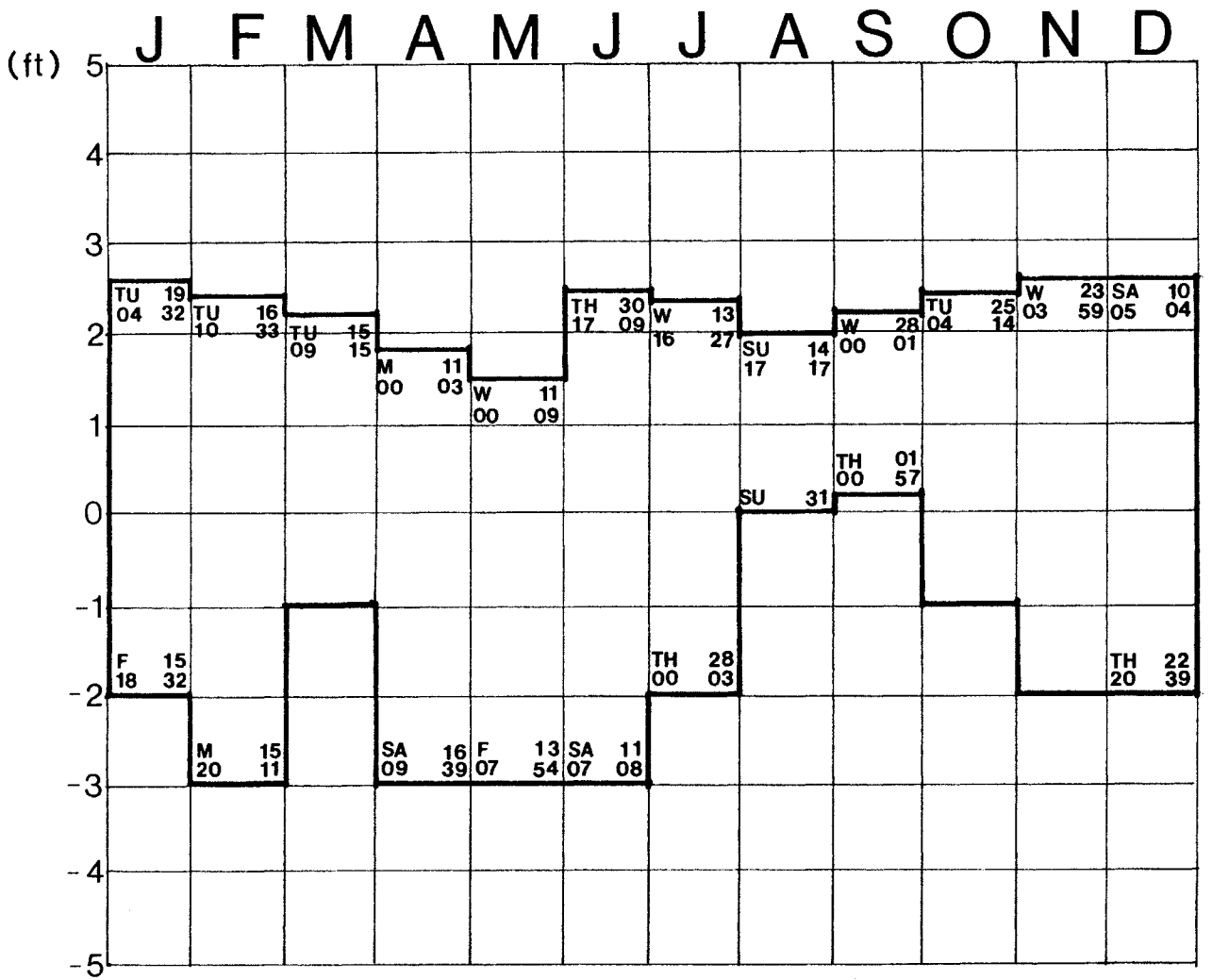
PRECIPITATION (INCHES)

CLIMATIC DATA



WIND (MPH)

HIGH/LOW TIDE LEVEL



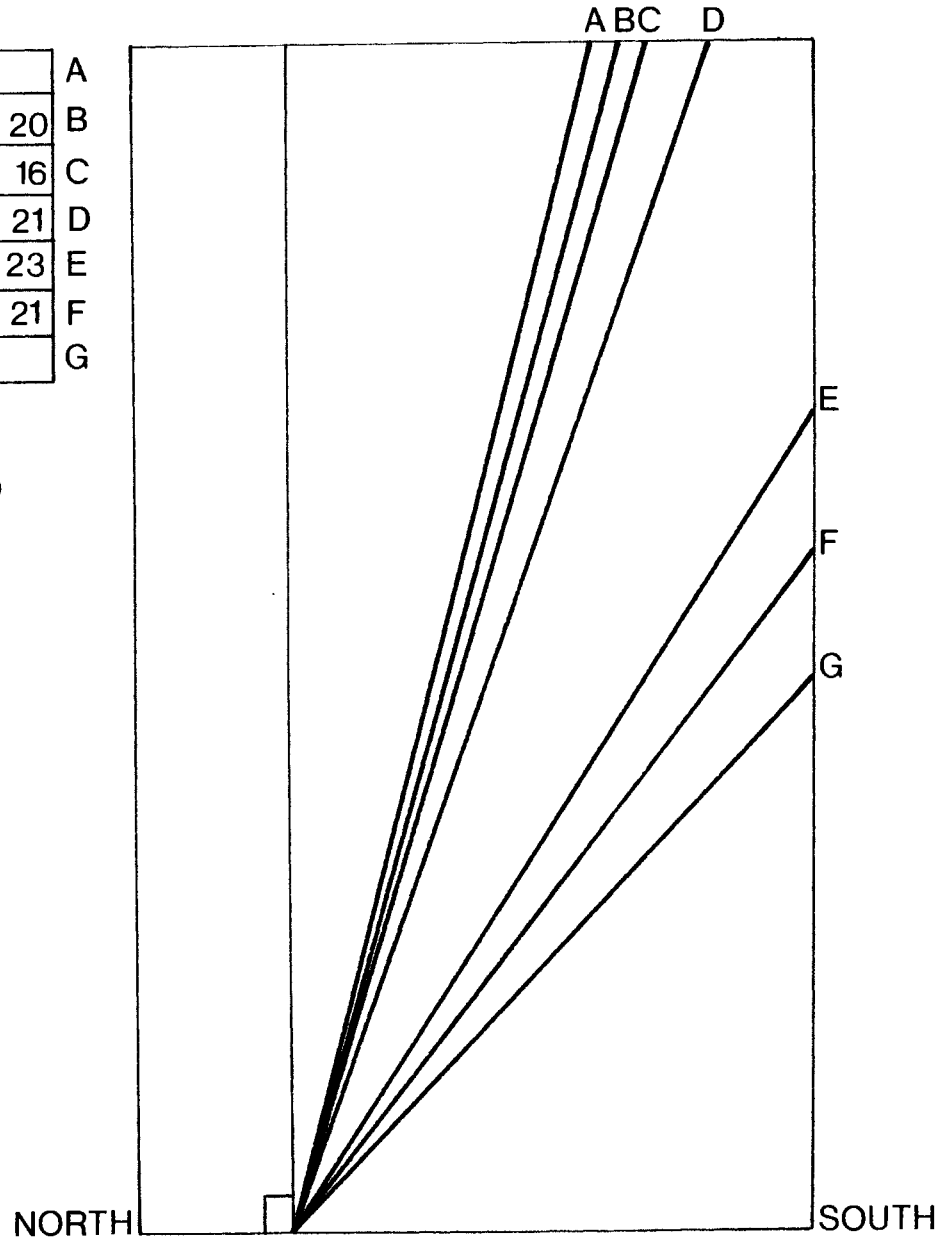
Time meridian 150 W. 0000 is midnight. 1200 is noon.
Heights are referred to mean lower low water which is the chart datum of soundings.

DAY
TIME

CLIMATIC DATA

JUNE	21	76°		A
JULY	23	75°	MAY 20	B
AUG	12	74°	APR 16	C
SEPT	23	65°	MAR 21	D
OCT	19	57°	FEB 23	E
NOV	3	52°	JAN 21	F
DEC	22	44°		G

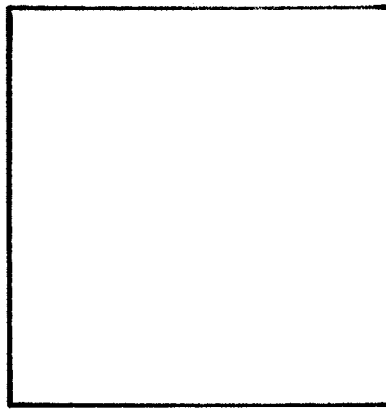
SUN ANGLES 21° LATITUDE



DETERMINATION OF WIND SPEED BY SEA CONDITION

Miles per hour	Knots	Descriptive	Sea Conditions	Wind force (Beaufort)	Probable wave height (in ft.)
0-1	0-1	Calm	Sea smooth and mirror-like.	0	–
1-3	1-3	Light air	Scale-like ripples without foam crests.	1	1/4
4-7	4-6	Light breeze	Small, short wavelets; crests have a glassy appearance and do not break.	2	1/2
8-12	7-10	Gentle breeze	Large wavelets; some crests begin to break; foam of glassy appearance. Occasional white foam crests.	3	2
13-18	11-16	Moderate breeze	Small waves, become longer; fairly frequent white foam crests.	4	4
19-24	17-21	Fresh breeze	Moderate waves, taking a more pronounced long form; many white foam crests; there may be some spray.	5	6
25-31	22-27	Strong breeze	Large waves begin to form; white foam crests are more extensive everywhere; there may be some spray.	6	10
32-38	28-33	Near gale	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind; spindrift begins.	7	14
39-46	34-40	Gale	Moderately high waves of greater length; edges of crests break into spindrift; foam is blown in well-marked streaks along the direction of the wind.	8	18
47-54	41-47	Strong gale	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble, and roll over; spray may reduce visibility.	9	23
55-63	48-55	Storm	Very high waves with long overhanging crests. The resulting foam in great patches is blown in dense white streaks along the direction of the wind. On the whole, the surface of the sea is white in appearance. The tumbling of the sea becomes heavy and shocklike. Visibility is reduced.	10	29
64-72	56-63	Violent storm	Exceptionally high waves that may obscure small and medium-sized ships. The sea is completely covered with long white patches of foam lying along the direction of the wind. Everywhere the edges of the wave crests are blown into froth. Visibility is reduced.	11	37
73 or more	64 or more	Hurricane	The air is filled with foam and spray. Sea completely white with driving spray; visibility very much reduced.	12	45

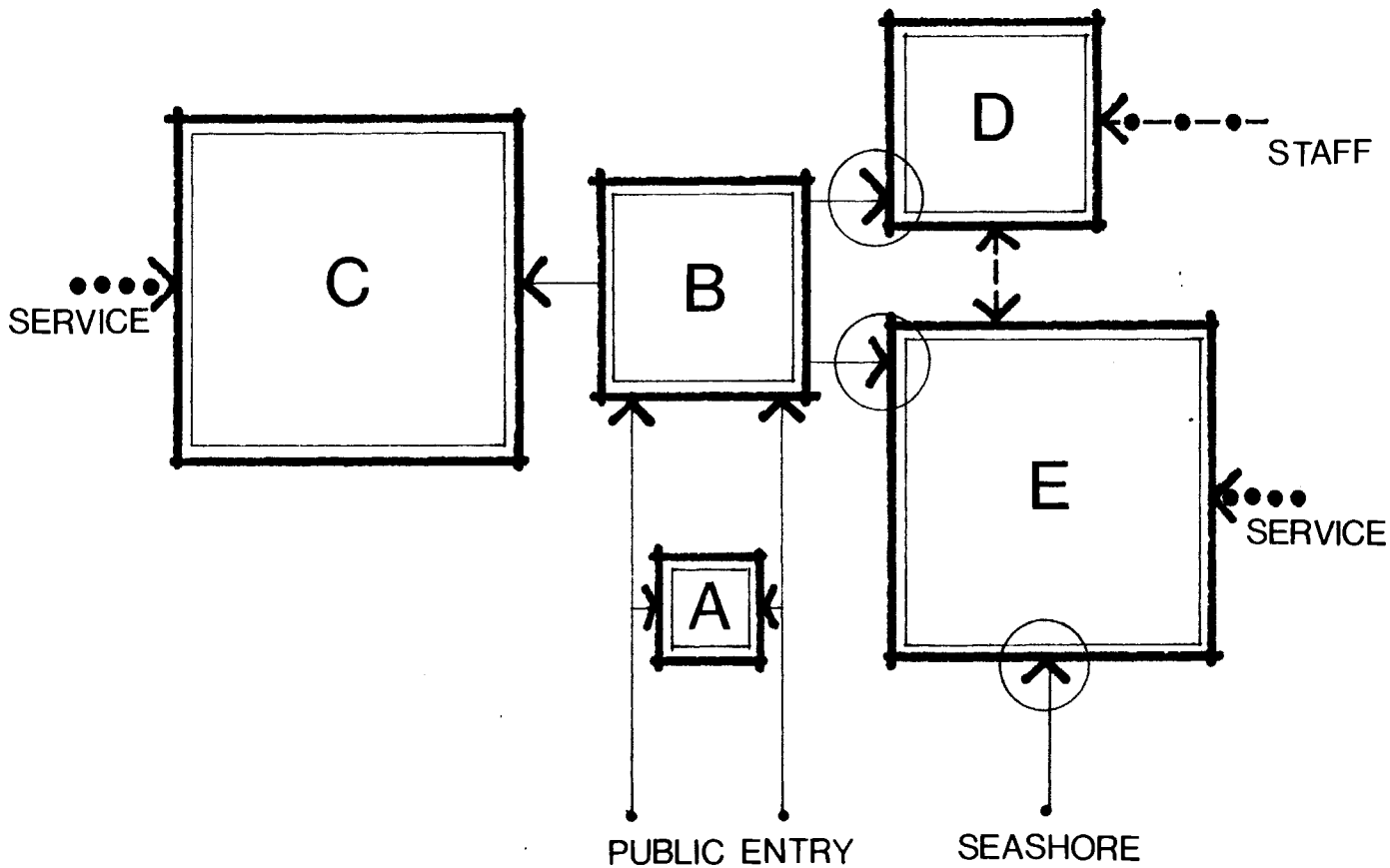
SPACE REQUIREMENTS



AREA NEED

A. SHOWER AND LOCKER	11520
B. LOBBY	17280
C. PUBLIC FACILITIES	14976
D. ADMINISTRATION	11520
E. CHALLENGER'S OFFICE	26496
SUBTOTAL	81792
15% CIRCULATION	12269
TOTAL SQ.FT.	94061

FUNCTIONAL RELATIONSHI DIAGRAM



A SHOWER AND LOCKI
B LOBBY
C PUBLIC FACILITIES
D ADMINISTRATION
E CHALLENGER'S OFFICE

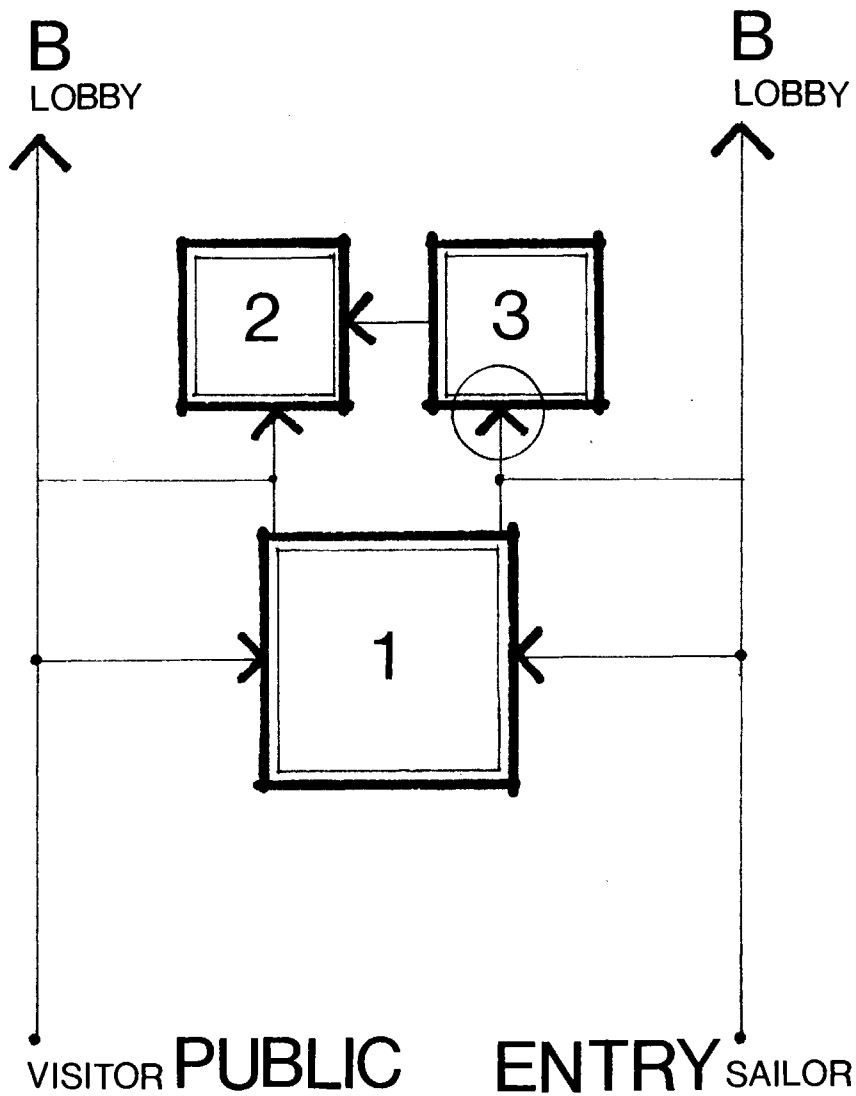
CONTROLLED
PRIVATE
STAFF
SERVICE

A. SHOWER, LOCKER

A1 SHOWER AND LOCKER	11000
A2 TOILET	300
A3 JANITOR	220
TOTAL SQ. FT.	11520

A. SHOWER, LOCKER

A1 SHOWER AND LOCI
A2 TOILET
A3 JANITOR



A1 SHOWER & LOCKER

A1 SHOWER AND LOCKER
A2 TOILET
A3 JANITOR

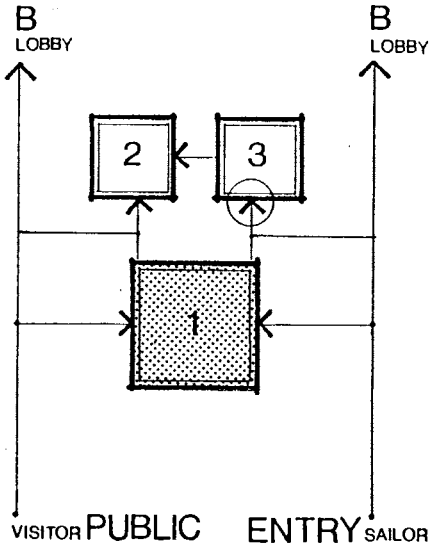
USER : Public/ Sailors

FUNCTION: Provide shower facilities for sailors.

SPECIAL CONSIDERATIONS:

Provide optimum ventilation and aesthetically design facade.

BUBBLE DIAGRAM



AREA : 11,000 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Clean	CEILING	- Plaster
FLOOR	- Hard tile	WALLS	- Hard tile

SYSTEMS :

HVAC	- Multi-zone, low velocity, separate return	PLUMBING	- Required by Code
LIGHTING	- Ambient		

FURNITURE/EQUIP. : - Locker cabinet

A2 TOILET

A1 SHOWER AND LOCKER
A2 TOILET
A3 JANITOR

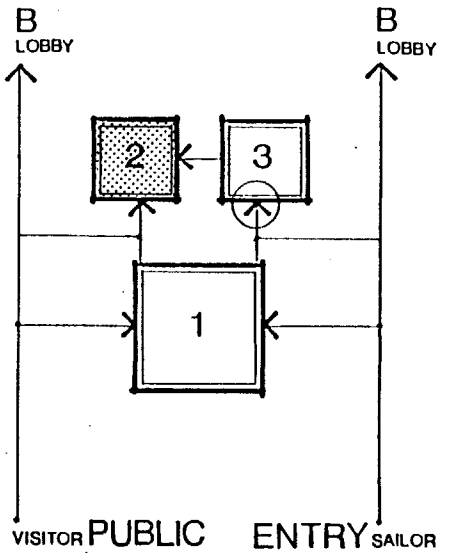
USER : Public/ Sailors

FUNCTION: Provide toilet facilities for visitors and for sailors alike.

SPECIAL CONSIDERATIONS:

It is separated function and also easy access without entering locker zone.

BUBBLE DIAGRAM



AREA : 300 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Clean	CEILING	- Plaster
FLOOR	- Hard tile	WALLS	- Hard tile

SYSTEMS :

HVAC	- Multi-zone, low velocity, separate return	PLUMBING	- Required by Code
LIGHTING	- Ambient		

FURNITURE / EQUIP. :

A3 JANITOR ROOM

A1 SHOWER AND LOCKER
A2 TOILET
A3 JANITOR

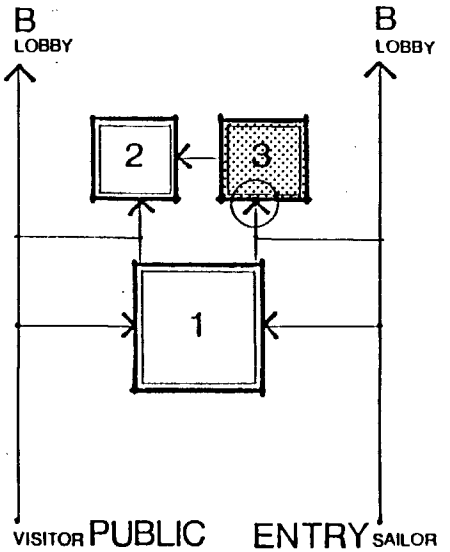
USER : Locker/ Shower staff

FUNCTION : Storage space for cleaning equipment for shower, locker and toilet.

SPECIAL CONSIDERATIONS:

Secured access and easy access for delivery.

BUBBLE DIAGRAM



AREA : 220 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Clean	CEILING	- Tile
FLOOR	- Tile	WALLS	- Hard-paint

SYSTEMS :

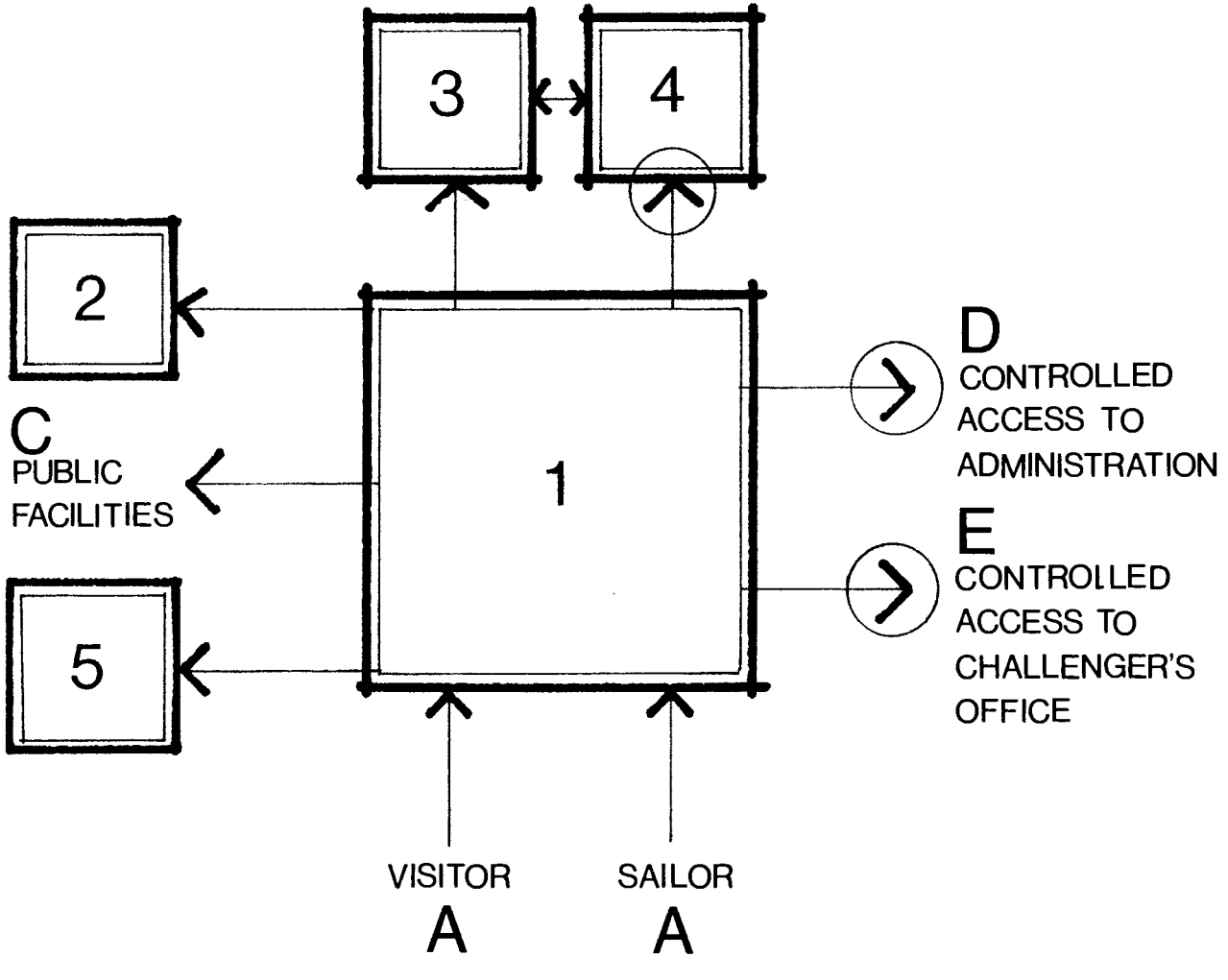
HVAC	- Multi-zone, low velocity	PLUMBING	- Slope sink
LIGHTING	- Ambient		

FURNITURE / EQUIP. :- Shelving

B. LOBBY

B 1 MAIN LOBBY	10720
B2 RECEPTION	200
B3 STORAGE	300
B4 TOILET	300
B5 PUBLIC INFORMATION	5760
TOTAL SQ.FT.	17280

B. LOBBY



B 1 MAIN LOBBY
B2 RECEPTION
B3 STORAGE
B4 TOILET
B5 PUBLIC INFORMATIC

B1
MAIN LOBBY

B 1 MAIN LOBBY
B2 RECEPTION
B3 STORAGE
B4 TOILET
B5 PUBLIC INFORMATION

USER : Visitors, large group

FUNCTION: Serve as an orientation area, controlled space for administration office.

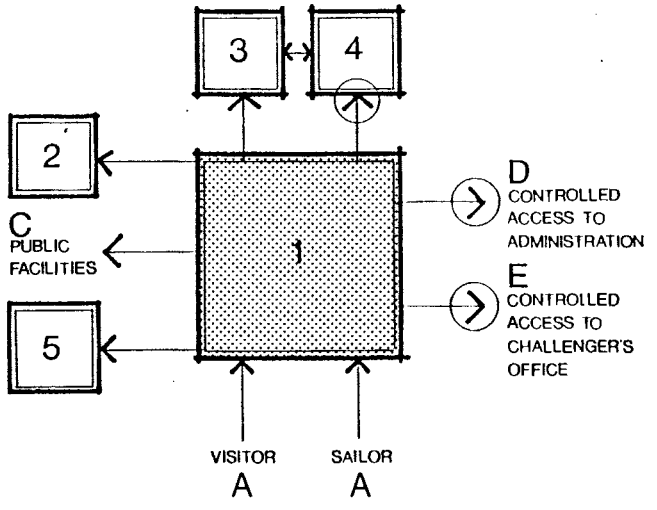
Presses.

SPECIAL CONSIDERATIONS:

Should provide easy access to information center toilet.

Provide good interior image.

BUBBLE DIAGRAM



AREA : 10,720 SF

HEIGHT : Variable

FINISHES :

IMAGE	- Strong, inviting	CEILING	- Variable
FLOOR	- Hard tile	WALLS	- Opening for windows, soft and hard enclosure

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- None
LIGHTING	- Daylight, indirect and ambient		

FURNITURE / EQUIP. : - Sitting

B2 RECEPTION

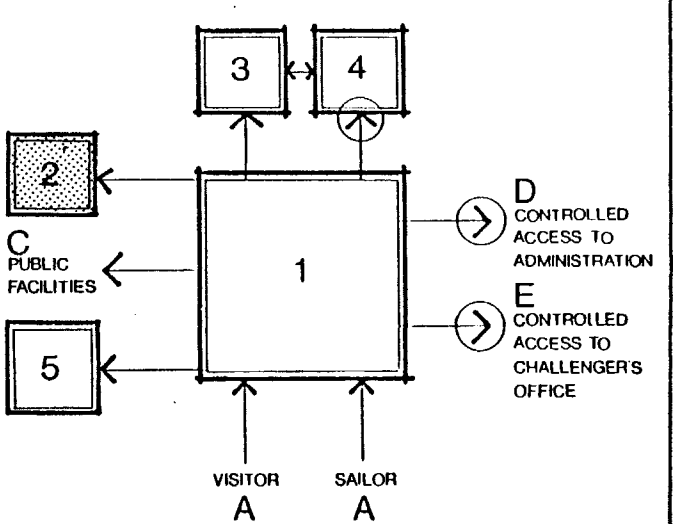
USER : Staff

FUNCTION: Provide controlling space, public access and information.

SPECIAL CONSIDERATIONS:

Low wall, focal point of the space.

BUBBLE DIAGRAM



B 1 MAIN LOBBY
B2 RECEPTION
B3 STORAGE
B4 TOILET
B5 PUBLIC INFORMATION

AREA : 200 SF

HEIGHT : Variable

FINISHES :

IMAGE	- Inviting, warm	CEILING	- Variable
FLOOR	- Hard tile	WALLS	- Soft and hard

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- None
LIGHTING	- Daylight, indirect and ambient		

FURNITURE/EQUIP. : - Working desk

B3 STORAGE

B 1 MAIN LOBBY
B2 RECEPTION
B3 STORAGE
B4 TOILET
B5 PUBLIC INFORMATION

USER : Staff

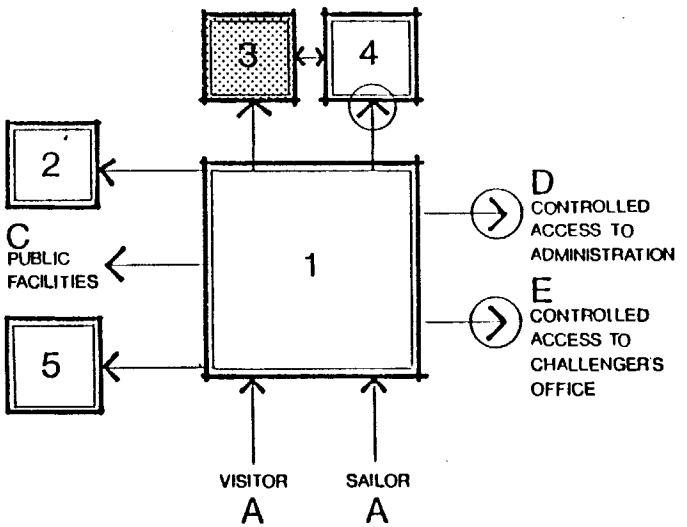
FUNCTION: Provide storage for sitting.

SPECIAL CONSIDERATIONS:

Secured access

Well ventilated and dry

BUBBLE DIAGRAM



AREA : 300 SF

HEIGHT : Exposed

FINISHES :

IMAGE	- Clean	CEILING	- Exposed
FLOOR	- Tile	WALLS	- Painted, hard

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- None
LIGHTING	- Ambient		

FURNITURE/EQUIP. : - None

B4 TOILET

USER : Public

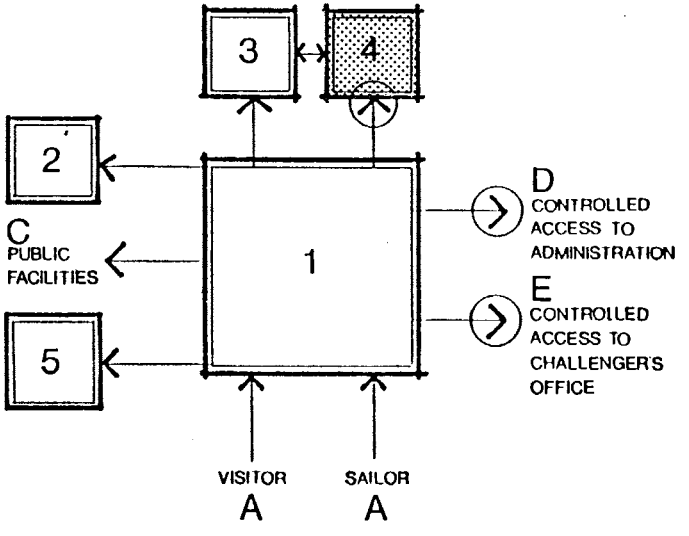
FUNCTION: Provide toilet facilities for public and staff at the lobby.

SPECIAL CONSIDERATIONS:

Well ventilated

Dry and clean

BUBBLE DIAGRAM



B 1 MAIN LOBBY
B2 RECEPTION
B3 STORAGE
B4 TOILET
B5 PUBLIC INFORMATION

AREA : 300 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Clean	CEILING	- Plaster
FLOOR	- Hard tile	WALLS	- Hard tile

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- Slope and required by Code
LIGHTING			

FURNITURE/EQUIP. :

B5 PUBLIC INFORMATIO

B 1 MAIN LOBBY
B2 RECEPTION
B3 STORAGE
B4 TOILET
B5 PUBLIC INFORMATION

USER : Public

FUNCTION: Provide space for public seeking information for America's Cup and full range of Keehi Lagoon activities.

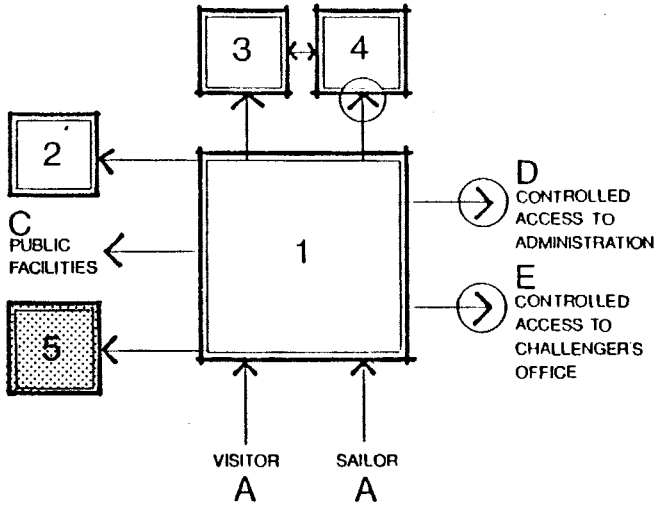
Orientation for large group of people.

SPECIAL CONSIDERATIONS:

The building has to be opened all sides.

Easy access to lobby.

BUBBLE DIAGRAM



AREA : 5,760 SF

HEIGHT : Variable

FINISHES :

IMAGE	- Cultural, warm, and inviting.	CEILING	- Variable
FLOOR	- Tile	WALLS	- Openings, soft and hard

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- None
LIGHTING	- Daylight, indirect, ambient		

FURNITURE / EQUIP. :

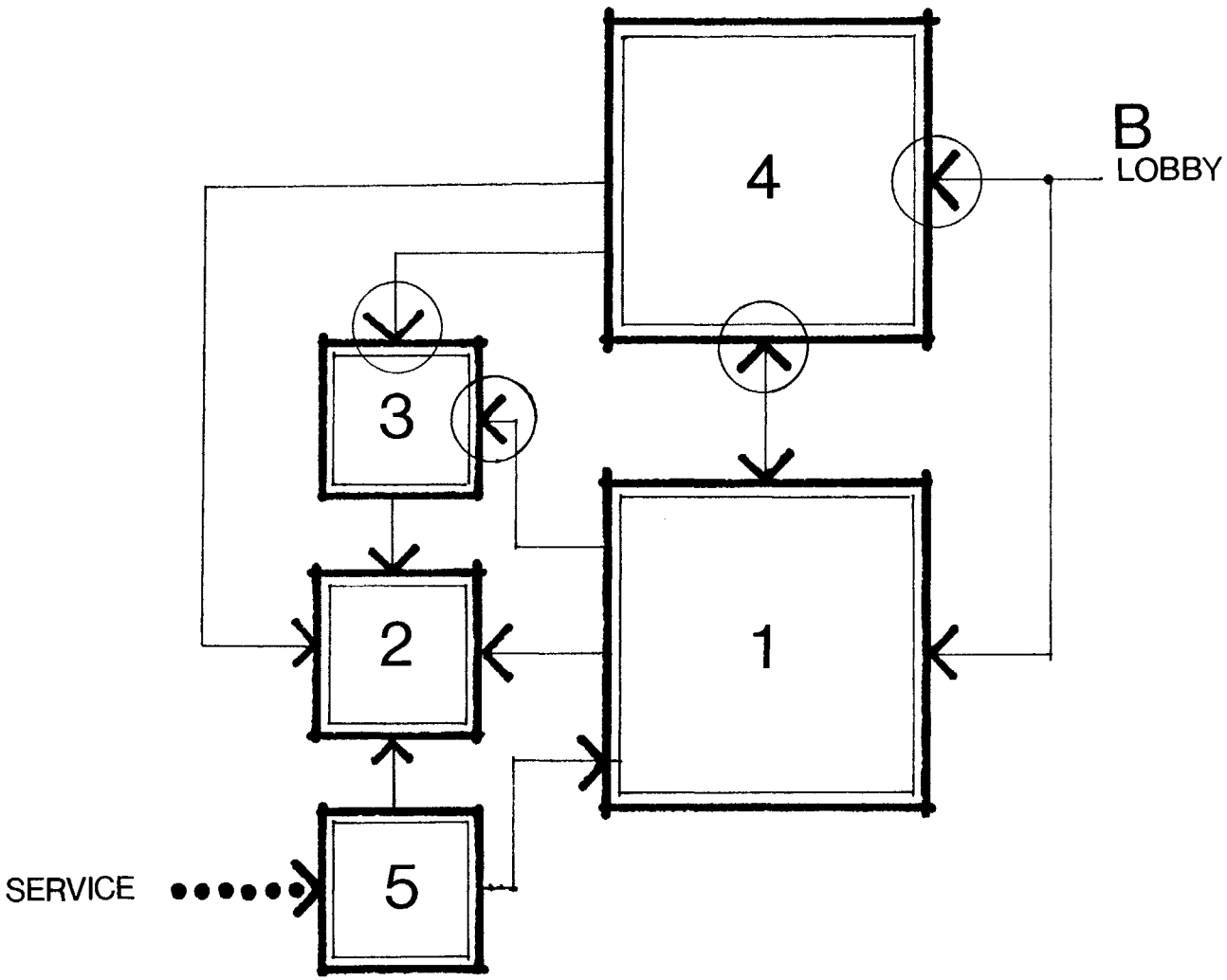
- Information desk seating

C. PUBLIC FACILITIE

C1 SNACK BAR	7000
C2 TOILET	200
C3 JANITOR	150
C4 SOUVENIR SHOP	6926
C5 KITCHEN	700
TOTAL SQ.FT.	14976

C. PUBLIC FACILITIES

C1 SNACK BAR
C2 TOILET
C3 JANITOR
C4 SOUVENIR SHOP
C5 KITCHEN



C1
SNACK BAR

USER : Public and staff

FUNCTION: To seat 350 people comfortably.

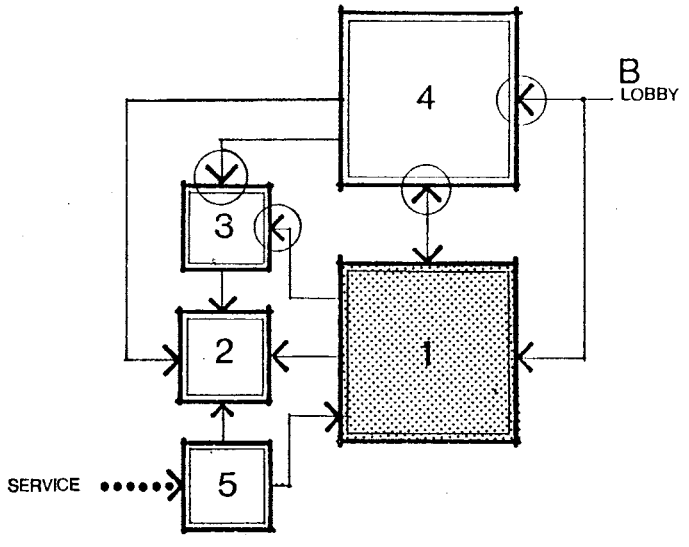
To be integrated part of the complex during daytime and after hours.

SPECIAL CONSIDERATIONS:

Separate entry for after hours.

Views out, critical.

BUBBLE DIAGRAM



C1 SNACK BAR
C2 TOILET
C3 JANITOR
C4 SOUVENIR SHOP
C5 KITCHEN

AREA : 7,000 SF

HEIGHT : Variable

FINISHES :

IMAGE	- Warm, cultural	CEILING	- Variable
FLOOR	- Hard tile	WALLS	- Variable

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- Double sink (drinking water)
LIGHTING	- Daylight, ambient		

FURNITURE/EQUIP. : - Tables and seats for 500 people.

C2 TOILET

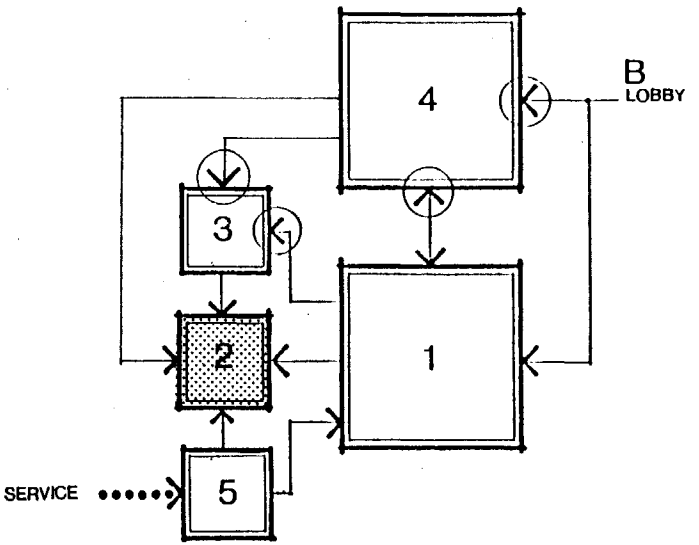
USER : Snack bar, souvenir shops and kitchen staff.

FUNCTION: Mainly to provide toilets for snack bar and souvenier shop visitors.

SPECIAL CONSIDERATIONS:

It should provide views to water activities.

BUBBLE DIAGRAM



C1 SNACK BAR
C2 TOILET
C3 JANITOR
C4 SOUVENIR SHOP
C5 KITCHEN

AREA : 200 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Clean	CEILING	- Plaster
FLOOR	- Hard tile	WALLS	- Hard tile or painted

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- Required by Code
LIGHTING	- Ambient		

FURNITURE / EQUIP. :

C3 JANITOR ROOM

C1 SNACK BAR
C2 TOILET
C3 JANITOR
C4 SOUVENIR SHOP
C5 KITCHEN

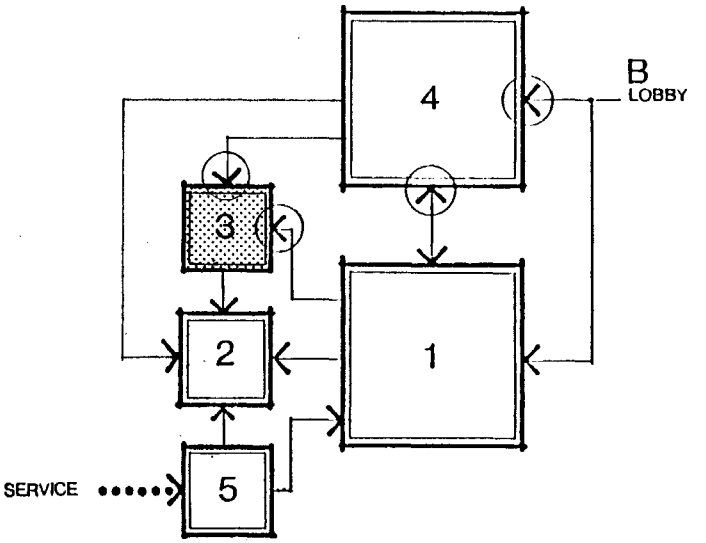
USER : Staff

FUNCTION: Provide space for cleaning equipment.

For this complex.

SPECIAL CONSIDERATIONS:

BUBBLE DIAGRAM



AREA : 150 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- None	CEILING	-Exposed
FLOOR	- Concrete	WALLS	- Hard, painted

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- Slope sink
LIGHTING	- Ambient		

FURNITURE / EQUIP. : - Shelving

C4 SOUVENIR SHOP

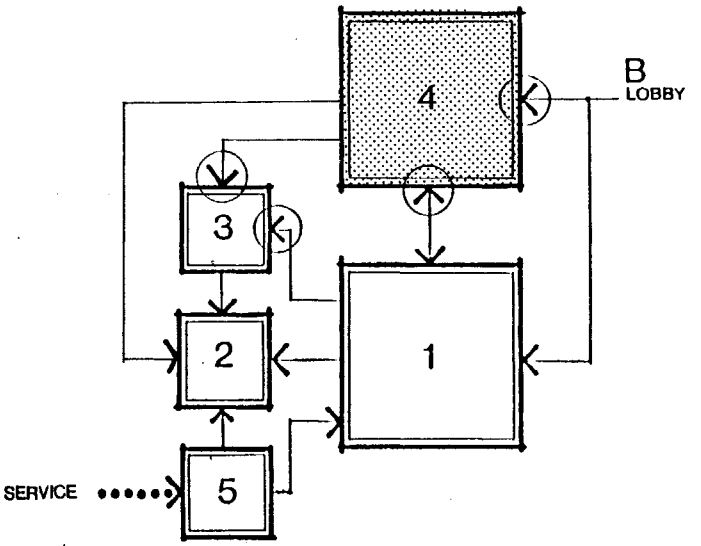
USER : Visitors

FUNCTION: Provide space to store and sell memorabilia of the America's Cup and local Hawaiian handcrafts.

SPECIAL CONSIDERATIONS:

Visually inviting from lobby and should be accessible from the snack bar.

BUBBLE DIAGRAM



C1 SNACK BAR
C2 TOILET
C3 JANITOR
C4 SOUVENIR SHOP
C5 KITCHEN

AREA : 6,926 SF

HEIGHT : Variable

FINISHES :

IMAGE	- Warm, inviting	CEILING	- Variable
FLOOR	- Hard tile	WALLS	- Soft and hard

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- None
LIGHTING	- Daylight, indirect.		

FURNITURE/EQUIP. : - Display cabinets

C5 KITCHEN

USER : Kitchen staff

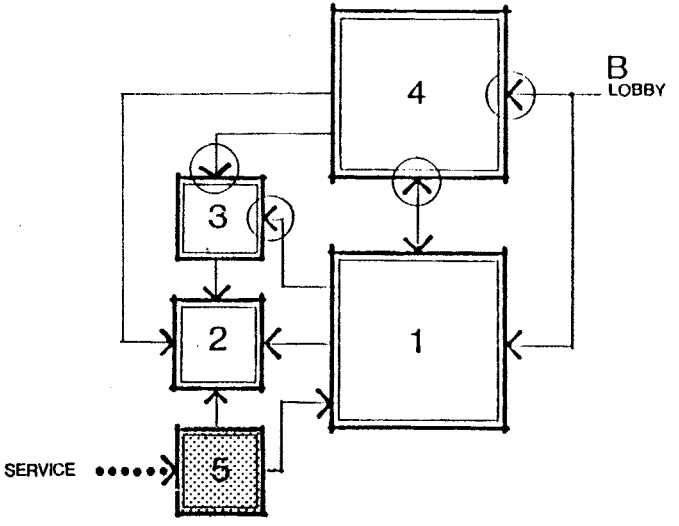
FUNCTION : To prepare food for daily activities, large group of people and after hours.

SPECIAL CONSIDERATIONS:

All materials should be cleanible type and long lasting.

Secured access for service.

BUBBLE DIAGRAM



C1 SNACK BAR
C2 TOILET
C3 JANITOR
C4 SOUVENIR SHOP
C5 KITCHEN

AREA : 700 SF

HEIGHT : 10 FT

FINISHES :

IMAGE	Clean	CEILING	Plaster
FLOOR	Hard, durable tile	WALLS	Hard tile/ Vinyl

SYSTEMS :

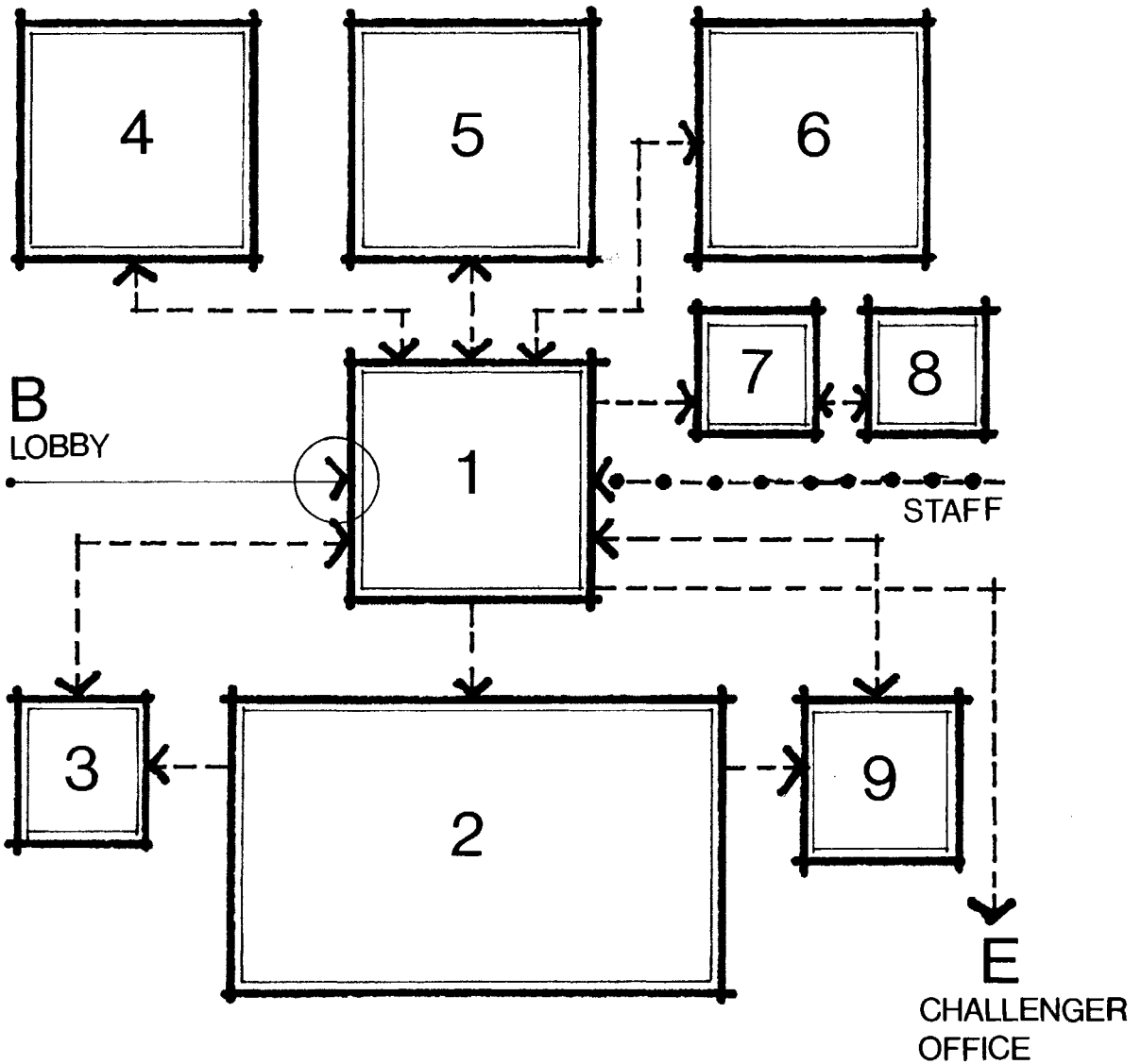
HVAC	Multi-zone, low velocity, separate return.	PLUMBING	Well furnished kitchen facilities.
LIGHTING	Ambient		

FURNITURE/EQUIP. : - Kitchen equipment
- movable cart

D. ADM. OFFICES

D1 ADMINISTRATION	2700
D2 CONFRENCE	4000
D3 STORAGE	300
D4 COMMITTEE'S OFFICE	700
D5 JURY OFFICE	700
D6 COMODORE'S OFFICE	700
D7 TOILET	400
D8 JANITOR	300
D9 KITCHEN	1420
TOTAL SQ.FT.	11520

D. ADM. OFFICES



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

D1
ADM. OFFIC

USER : Hawaii Recreation Center and America's Cup Committee.

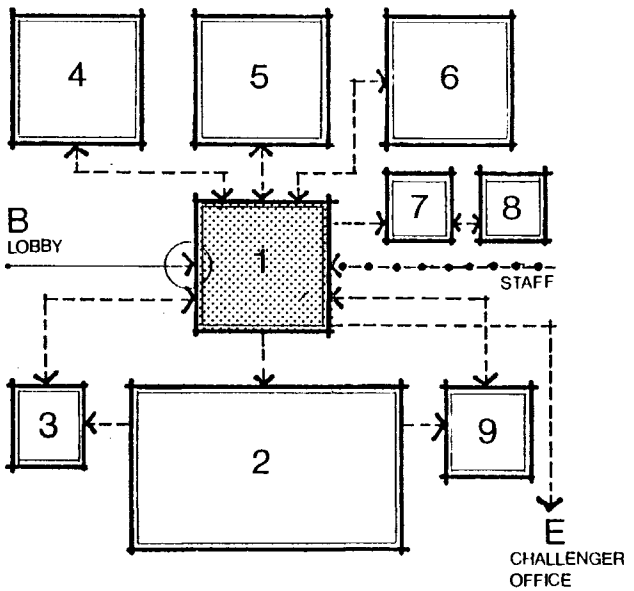
FUNCTION: Provide space for club's administration.

General business needs.

SPECIAL CONSIDERATIONS:

Should have a private character and view out.

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA : 2,700 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Private	CEILING	- Acoustic tile
FLOOR	- Hard tile	WALLS	- Hard paint

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- None
LIGHTING	- Ambient, task		

FURNITURE/EQUIP. : - File cabinets, desks, chairs.

D2 CONFERENCE ROOM

USER : Staff and race syndicate.

FUNCTION: To serve as an educational classroom.

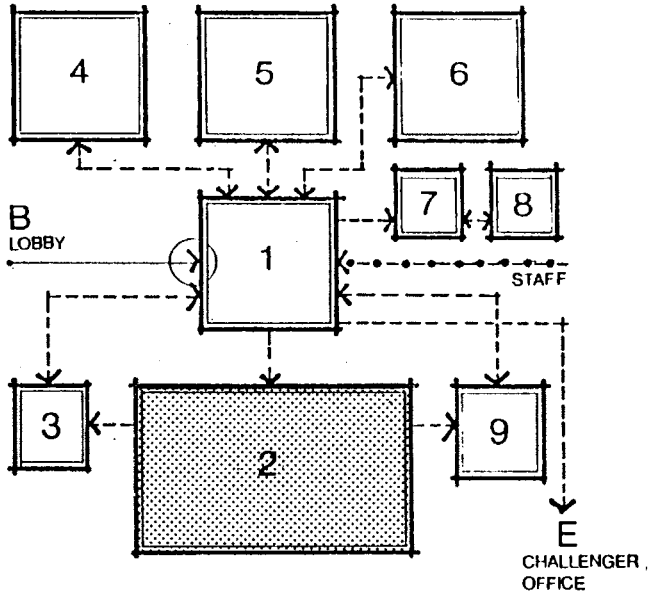
Race Committee's meetings.

Lectures and presentations.

SPECIAL CONSIDERATIONS:

Flexible, be able to divide into two rooms.

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA : 4,000 SF

HEIGHT : 10 FT

FINISHES :

IMAGE	- Educational - Warm
FLOOR	- Hard tile
CEILING	- Acoustic tile
WALLS	- Hard paint

SYSTEMS :

HVAC	- Multi-zone, low velocity
LIGHTING	- Non-glare, ambient track
PLUMBING	- None

FURNITURE / EQUIP. : - Work table and chairs, A/v facilities.

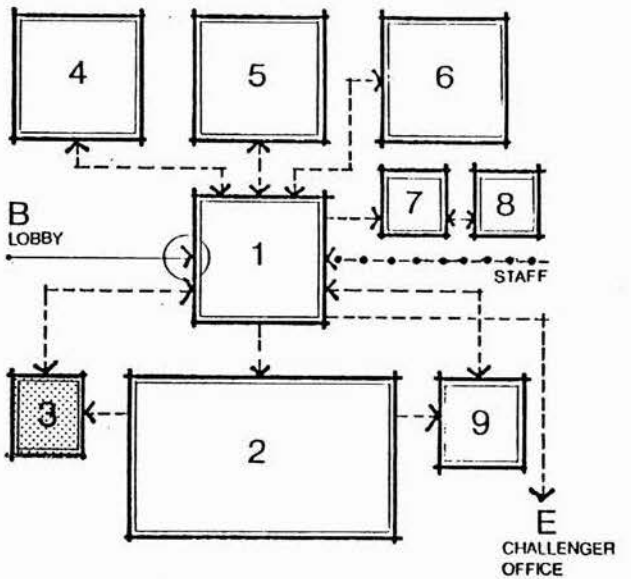
D3 STORAGE

USER : Staff

FUNCTION : Provide space for general office, storage.

SPECIAL CONSIDERATIONS:

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA : 300 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	Clean
FLOOR	Tile
CEILING	Acoustic tile
WALLS	Hard paint

SYSTEMS :

HVAC	Multi-zone, low velocity
LIGHTING	Ambient
PLUMBING	None

FURNITURE / EQUIP. : - Shelving

D4 COMMITTE OFFICE

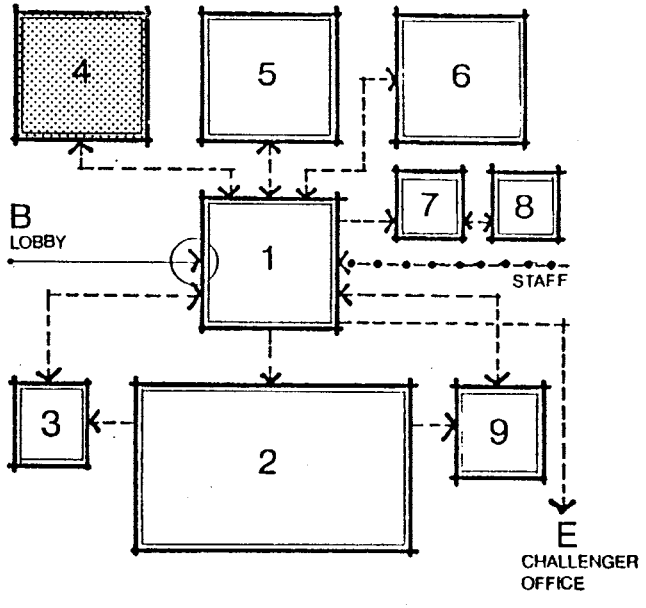
USER : Staff

FUNCTION : Provide space for general administrative offices for the Race Committee.

SPECIAL CONSIDERATIONS:

Views out to the sea-shore.

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA : 700 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Private	CEILING	- Acoustic tile
FLOOR	- Hard tile	WALLS	- Hard painted and soft

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- None
LIGHTING	- Non-glare, ambient		

FURNITURE/EQUIP. : - Desks and chairs, file cabinets.

D5
JURY OFFIC

USER : Staff

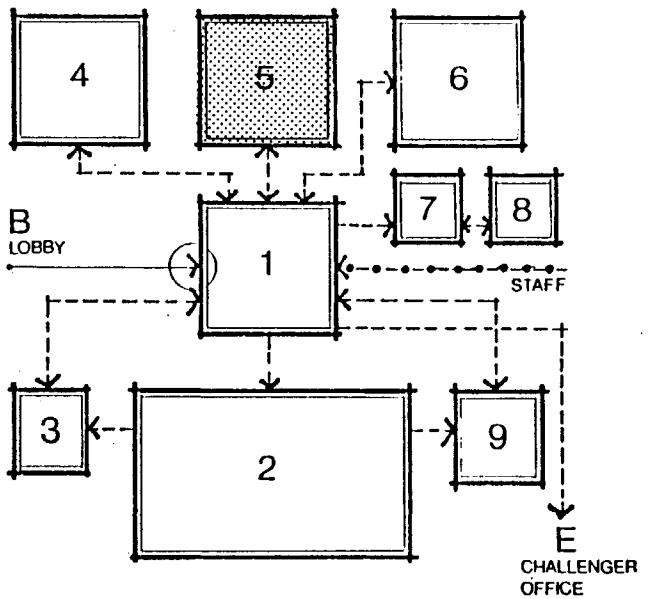
FUNCTION: To provide offices for the Jury which must serve to record and judge the races.

SPECIAL CONSIDERATIONS:

Views out to sea-shore

Accessible to Committee and Commodore's offices.

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA :700 SF

HEIGHT :8 FT

FINISHES :

IMAGE	Private	CEILING	Acoustic tile
FLOOR	Hard tile	WALLS	Hard paint, soft

SYSTEMS :

HVAC	Multi-zone, low velocity	PLUMBING	None
LIGHTING	Non-glare, ambient		

FURNITURE/EQUIP. : - Desks and chairs, file cabinets

D6 COMMODO OFFICE

USER : Staff

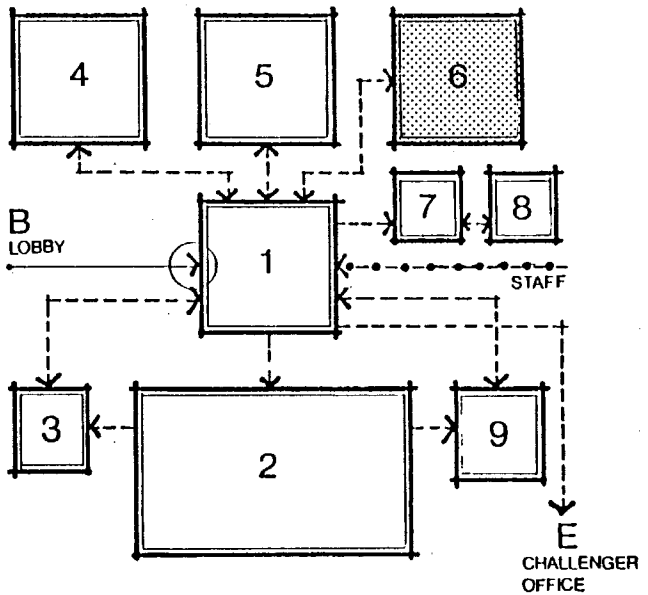
FUNCTION: Provide office space for the President (Commodore) of yacht club.

SPECIAL CONSIDERATIONS:

Views out to the sea-shore

Accessible to jury room and race committee.

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA : 700 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Private	CEILING	- Acoustic tile
FLOOR	- Hard tile	WALLS	- Hard paint

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- None
LIGHTING	-Non-glare, ambient		

FURNITURE / EQUIP. :- Desks and chairs

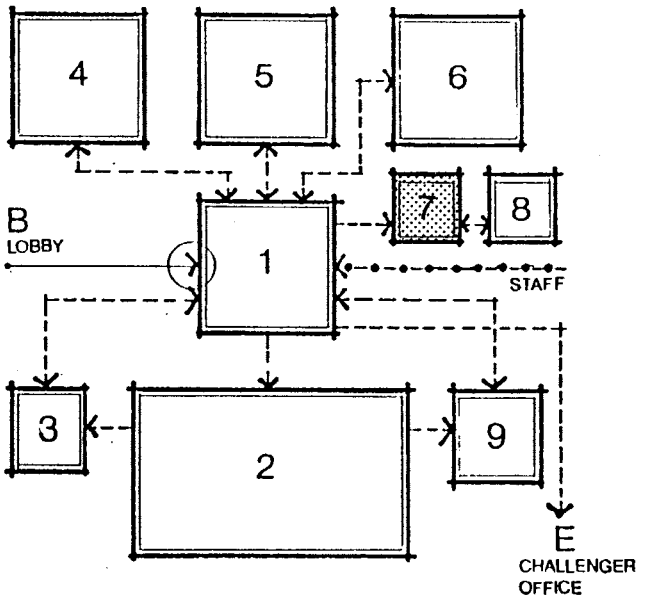
D7 TOILET

USER : Staff

FUNCTION: Provide toilet facilities for the staff and visitors to the office complex.

SPECIAL CONSIDERATIONS:

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA : 400 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Clean	CEILING	- Plaster
FLOOR	- Hard tile	WALLS	- Hard tile

SYSTEMS :

HVAC	- Multi-zone, low velocity	PLUMBING	- Required by Code
LIGHTING	-Ambient		

FURNITURE / EQUIP. :

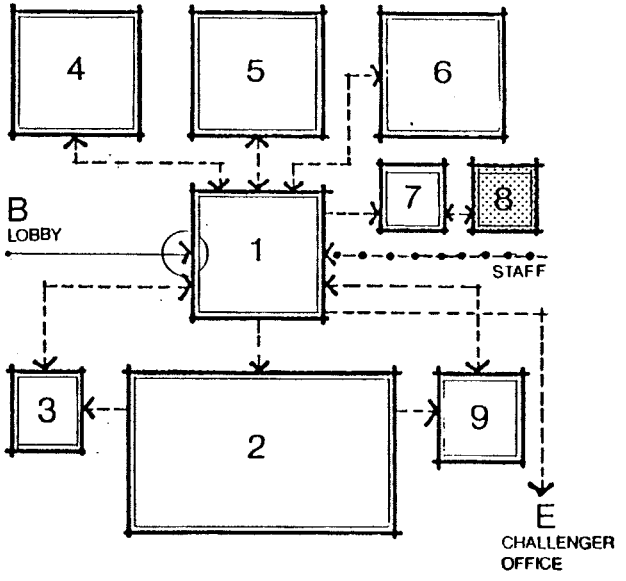
D8 JANITOR ROOM

USER : Janitor

FUNCTION : Provide space for cleaning equipment, and for storage.

SPECIAL CONSIDERATIONS:

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA : 300 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Clean	CEILING	- Tile
FLOOR	- Concrete	WALLS	- Hard paint

SYSTEMS :

HVAC	-Multi-zone, low velocity	PLUMBING	- Slop sink
LIGHTING	- Ambient		

FURNITURE / EQUIP. :

D9 KITCHEN

USER :Staff

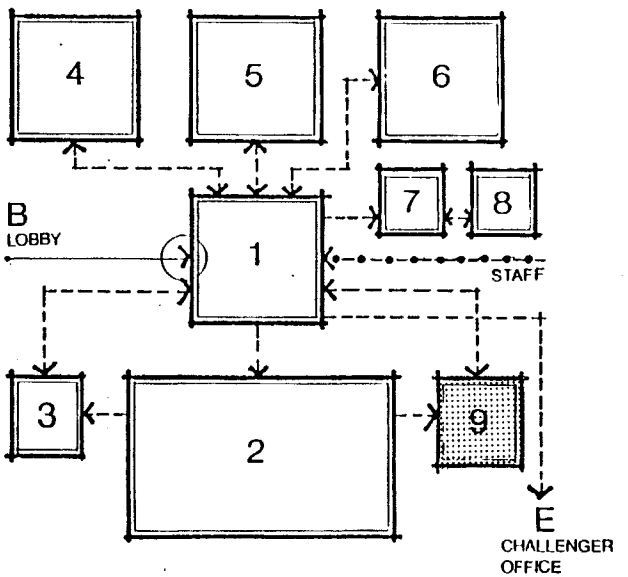
FUNCTION :To serve the staff at the lunch hours or during conference.

SPECIAL CONSIDERATIONS:

Easy access to administration office and conference

Easily washable materials.

BUBBLE DIAGRAM



D1 ADMINISTRATION
D2 CONFRENCE
D3 STORAGE
D4 COMMITTEE'S OFFICE
D5 JURY OFFICE
D6 COMODORE'S OFFICE
D7 TOILET
D8 JANITOR
D9 KITCHEN

AREA :1,420 SF

HEIGHT :8 FT

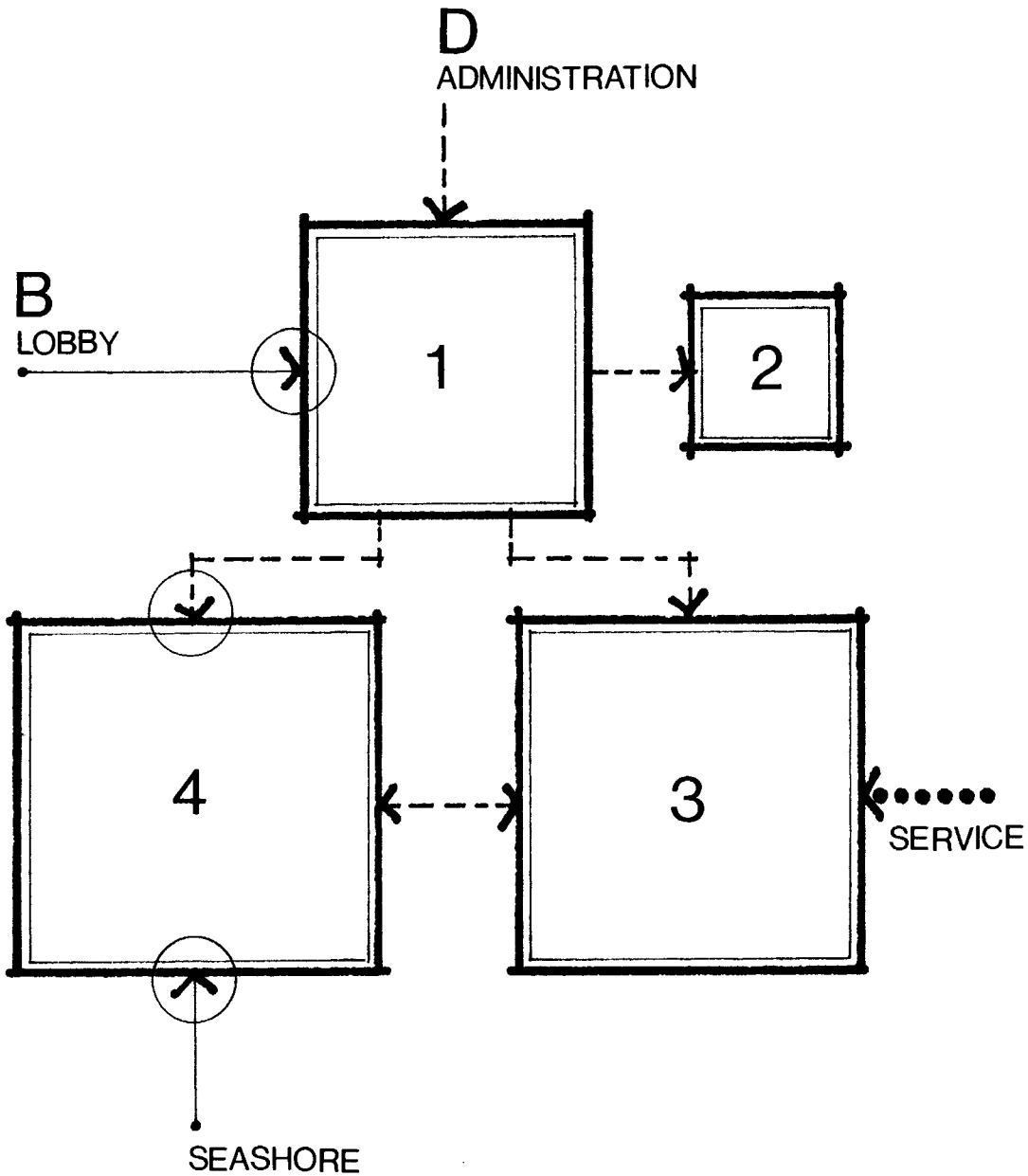
FINISHES :
- IMAGE — Clean, warm
- FLOOR — Hard tile
- CEILING — Plaster
- WALLS — Hard paint

SYSTEMS :
- HVAC — Multi-zone, low velocity , separated return.
- LIGHTING — Ambient
- PLUMBING — Well furnished

FURNITURE/EQUIP. :- Kitchen counter

E1 CHALLENGER OF RECORD ADM	11220
E2 TOILET	300
E3 RACE COMMITEE EQUIPMENT STORAGE	6912
E4 SHOP AND MAINTENANCE	8064
TOTAL SQ. FT.	26496

E.
CHALLENGE
OFFICE



E. CHALLENGE OFFICE

E1 CHALLENGER OF RECORD ADM

E2 TOILET

E3 RACE COMMITEE EQUIPMENT STORAG

E4 SHOP AND MAINTENANCE

E1 CHALLENG RECORD ADM OFFIC

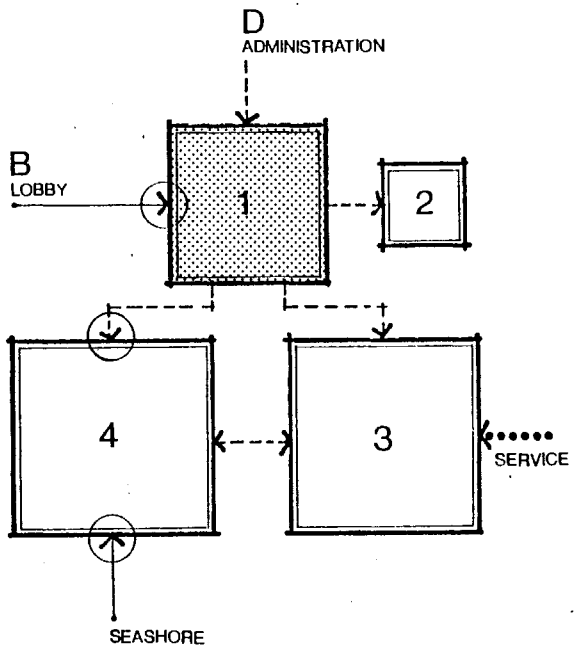
USER : Staff

FUNCTION : Provide office space for the Challenger of Record, who is responsible for conducting the Challenger Elimination Series.

SPECIAL CONSIDERATIONS:

This space should have views out to the sea-shore and water-deck.

BUBBLE DIAGRAM



E1 CHALLENGER OF RECORD ADM
E2 TOILET
E3 RACE COMMITEE EQUIPMENT STORAGE
E4 SHOP AND MAINTENANCE

AREA : 11,220 SF

HEIGHT : 8 FT

FINISHES :

IMAGE	- Warm, private
FLOOR	- Tile
CEILING	-Acoustic tile
WALLS	- Hard paint

SYSTEMS :

HVAC	- Multi-zone, low velocity
LIGHTING	- Daylight, indirect, ambient
PLUMBING	-None

FURNITURE/EQUIP. : - File cabinets, desks and chairs.

E2 TOILET

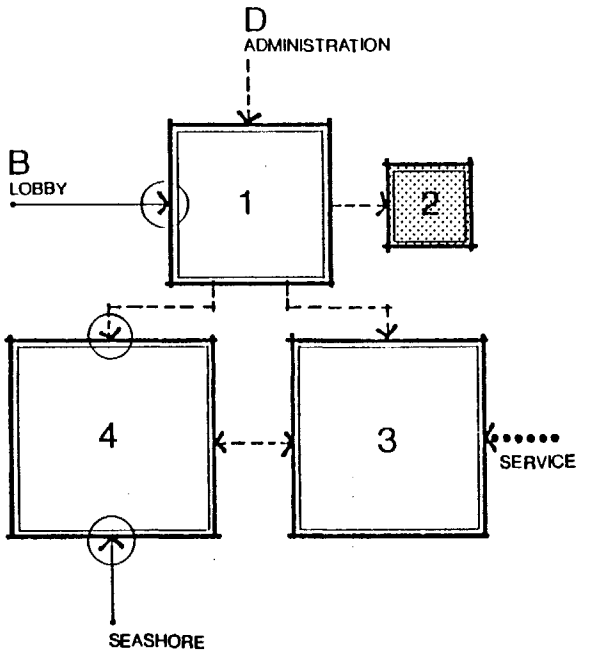
USER :Office and shop staff

FUNCTION: Provide toilet facilities for the office staff.

SPECIAL CONSIDERATIONS:

Requirements for handicaped

BUBBLE DIAGRAM



E1 CHALLENGER OF RECORD ADM
E2 TOILET
E3 RACE COMMITEE EQUIPMENT STORAGE
E4 SHOP AND MAINTENANCE

AREA :300 SF

HEIGHT :8 FT

FINISHES :

IMAGE	- Clean
FLOOR	- Hard tile
CEILING	- Plaster
WALLS	- Hard tile/ paint

SYSTEMS :

HVAC	-Multi-zone, low velocity
LIGHTING	- Ambient
PLUMBING	-Required by Code

FURNITURE/EQUIP. :

E3 RACE COMMITTE EQUIPMEN STORAGE

E1 CHALLENGER OF RECORD ADM
E2 TOILET
E3 RACE COMMITEE EQUIPMENT STORAGE
E4 SHOP AND MAINTENANCE

USER : Race committee's staff

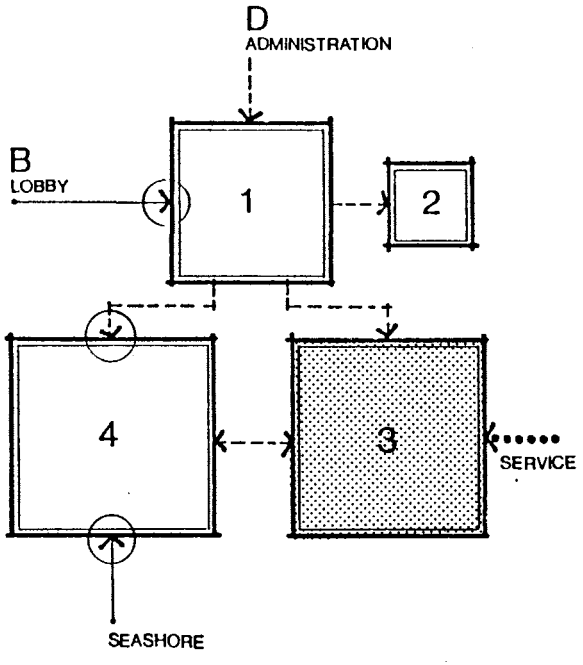
FUNCTION : Provide space for storage of Race equiptment.

SPECIAL CONSIDERATIONS:

Fully enclosed building

Should have large access doors for egress and ingress of large items of equipment. Provide large roll up doors for service.

BUBBLE DIAGRAM



AREA : 6,912 SF

HEIGHT : 16 FT

FINISHES :
- IMAGE – Clean
- FLOOR – Concrete
- CEILING – Exposed
- WALLS – Hard/ painted

SYSTEMS :
- HVAC – Multi-zone, low velocity
- LIGHTING – Ambient
- PLUMBING – Slope sink

FURNITURE/EQUIP. – Shelving and mini hoist.

E4 SHOP AND MAINTENANC

USER : Race committee staff

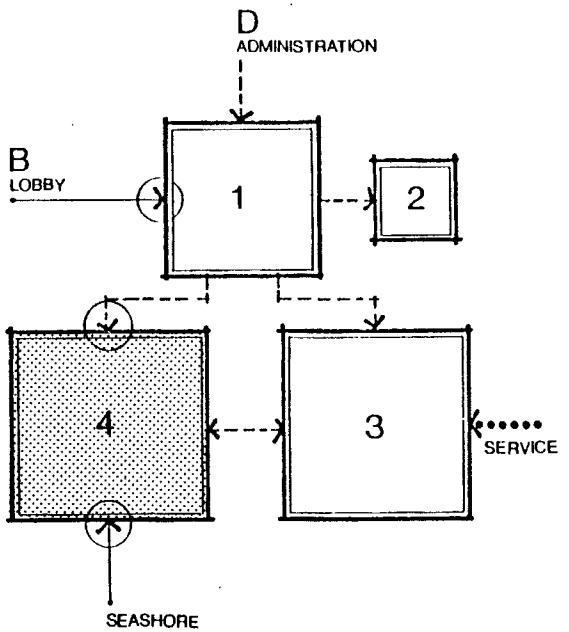
FUNCTION : Provide space for race committee's boat and equipment

Storage

SPECIAL CONSIDERATIONS:

The structure should be designed to accommodate overhead noise and travelers for lifting motors.
It should provide large roll up door and accessible from sea-shore.

BUBBLE DIAGRAM



E1 CHALLENGER OF RECORD ADM
E2 TOILET
E3 RACE COMMITEE EQUIPMENT STORAGE
E4 SHOP AND MAINTENANCE

AREA : 8,064 SF

HEIGHT : 16 FT

FINISHES :

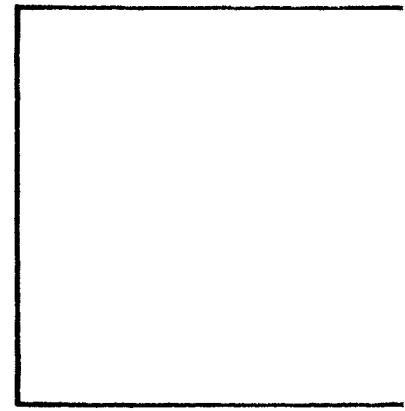
IMAGE	Clean	CEILING	Exposed
FLOOR	Concrete	WALLS	Hard/ painted

SYSTEMS :

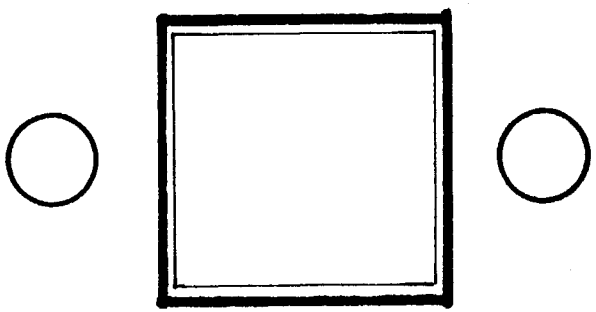
HVAC	Multi-zone, low velocity, separated return.	PLUMBING	Slope sink
LIGHTING	Ambient		

FURNITURE / EQUIP. : Boat shelving and hoist.

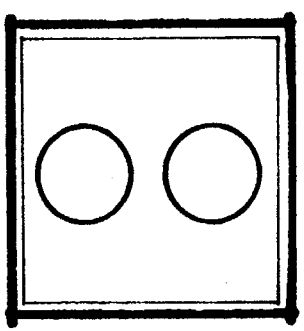
GOALS & CONCEPTS



GOAL : Provide a facility for America's Cup and Hawaii Ocean Sport Center in one complex.



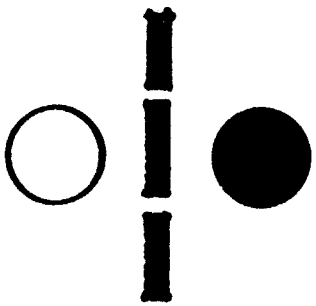
CONCEPT : Physically, the complex will be designed for America's Cup. After the races are over, this facility will serve as the Hawaii Ocean Sports Center, a boat training and recreation center in the Sand Island State Park.



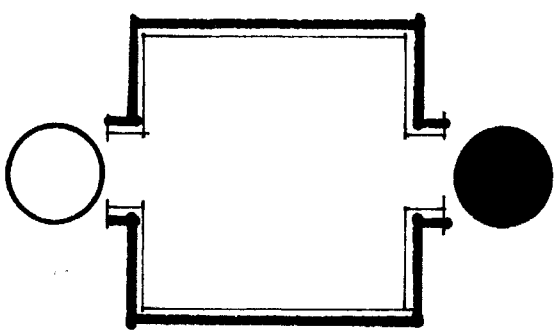
FUNCTION

GOALS & CONCEPT

GOAL : Provide separation between general public and private functions of the facility to prevent visitors and the press entering the private zone.



CONCEPT : Physically separate the public and press from the private functions. Possibly use the Lobby as the link between the two types of spaces.



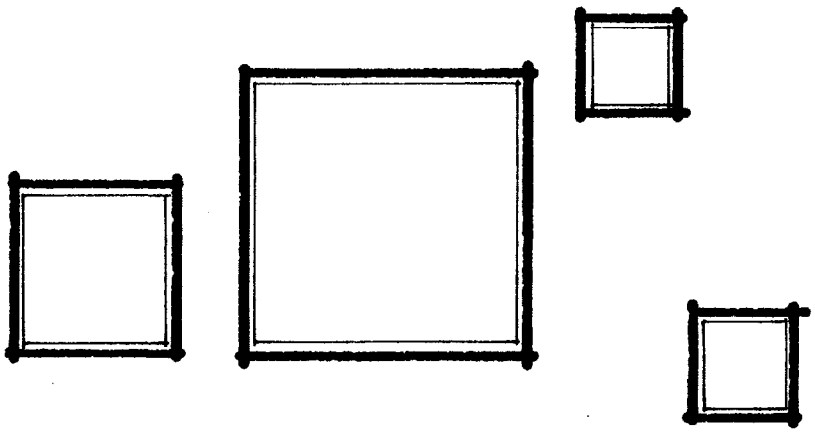
FUNCTION

GOALS & CONCEPT

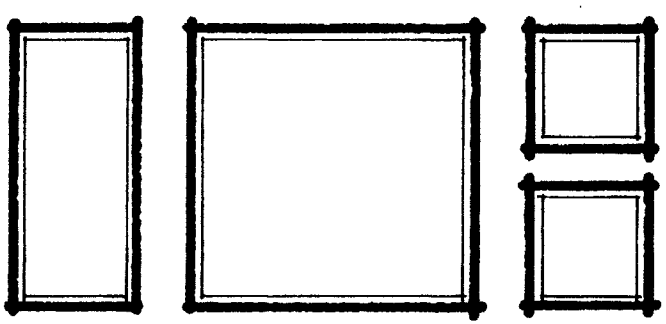
FUNCTION

GOALS & CONCEPT

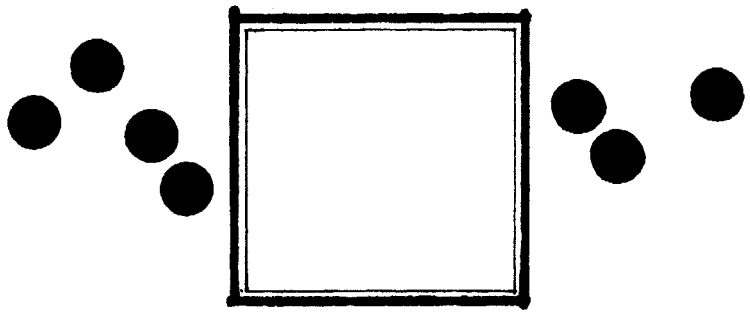
GOAL : Create a facility which will accomodate large number of people as well as the individual.



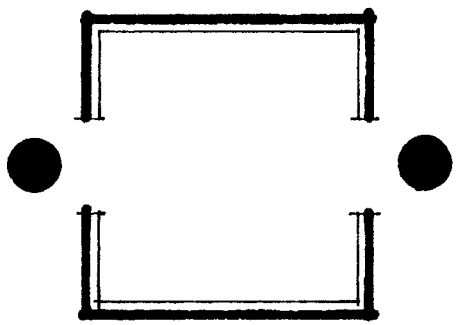
CONCEPT : Provide large spaces for drying and folding sails that can be also used for gatherings of members of people and also provide intimate public spaces.



GOAL : Provide easy accessibility from the Sand Island road to the site as well as from the public park.



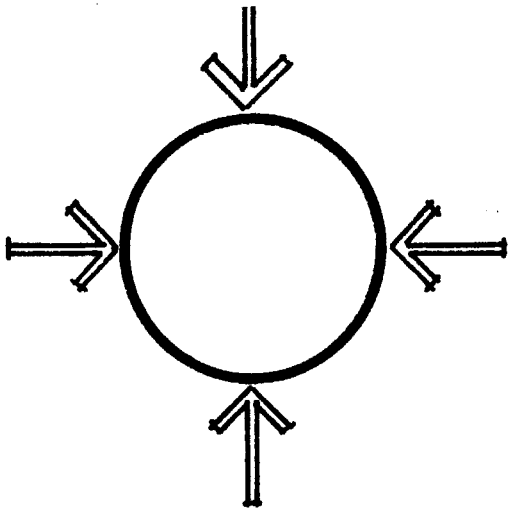
CONCEPT : Establish control points from the access of the Sand Island Road and the public park.



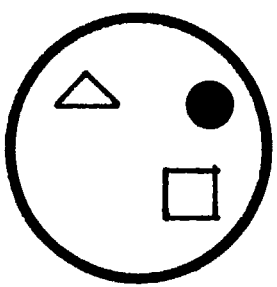
FUNCTION

GOALS & CONCEP

GOAL : Provide a facility which will serve to educate and inspire the general public concerning water leisure activities and the Spirit of America's Cup.



CONCEPT : Thru the use of graphic signage, flag, panflet, and boat replica on the display in the lobby, so that the individuals as well as large crowds can easily read the historical background of America's cup.

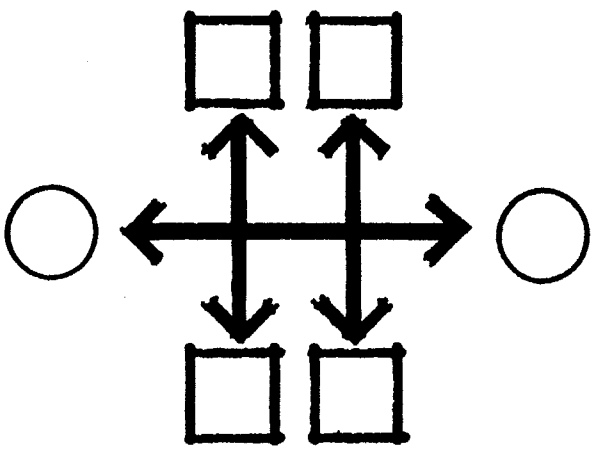


FUNCTION

GOALS & CONCEP

GOAL : Provide easy circulation, viewing to the surrounding area and places to rest.

CONCEPT : Provide visual orientation for viewing to the water activities.



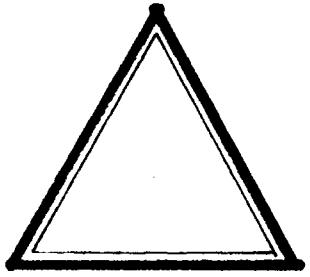
FUNCTION

GOALS & CONCEP

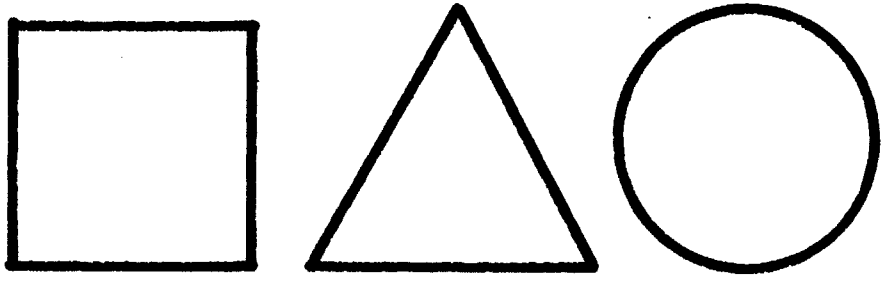
FORM

GOALS & CONCEP

GOAL : Provide a strong public image to identify the complex. However, the complex must fit into and respect the adjacent marina and the culture of the site.



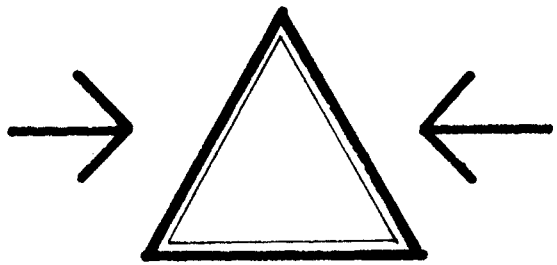
CONCEPT : Consideration of building form, character, material, detail and site planning which will compliment or contrast to the character of the site.



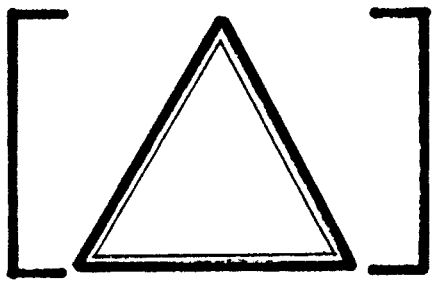
FORM

GOALS & CONCEPTS

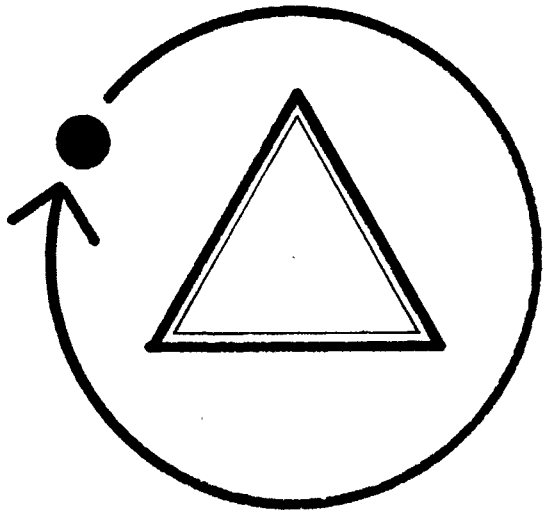
GOAL : Provide protection from tropical storms and flooding.



CONCEPT : Consideration of physical of the site, structural planning and massing, so the building will be able to withstand all external forces.



GOAL : Provide energy efficiency thru all seasons.



CONCEPT :

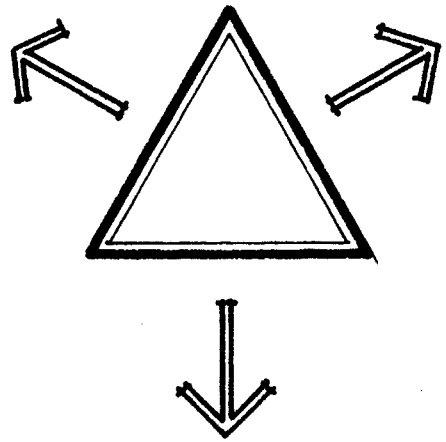
FORM

GOALS & CONCEP

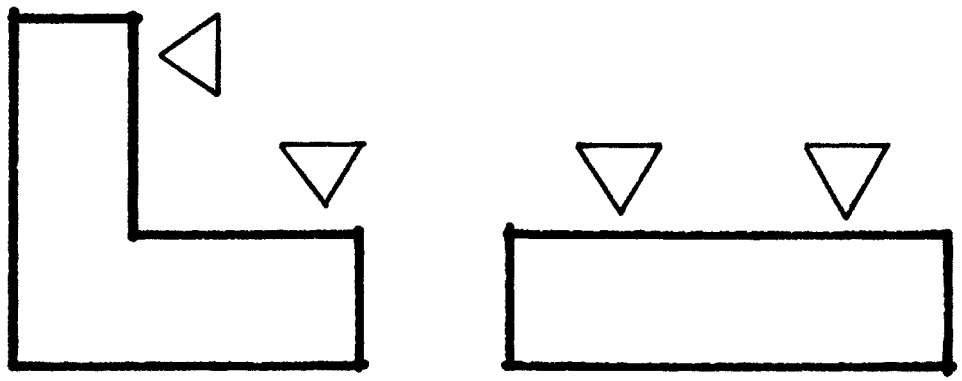
FORM

GOALS & CONCEPTS

GOAL : To maintain the existing view to Keehi harbor, fishing village and surrounding areas.



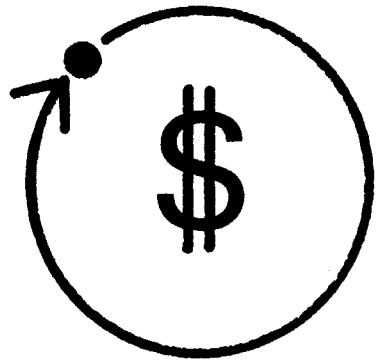
CONCEPT : Thru site planning, the shape of the building is determined to sit along the waterfront in L or linear shape, so this facility will be able to serve the orientation of all activities around the Keehi Lagoon.



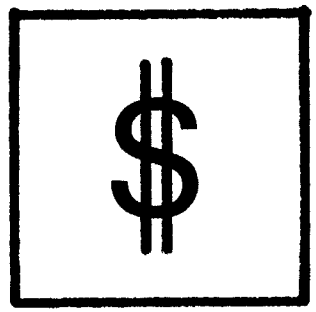
ECONOMY

GOALS & CONCEPT

GOAL : Minimize the operational cost of the facility.



CONCEPT : Consideration of the building shape, construction, climatic condition and the possibility of passive/alternate energy conservation system.



ECONOMY

GOALS & CONCEPT

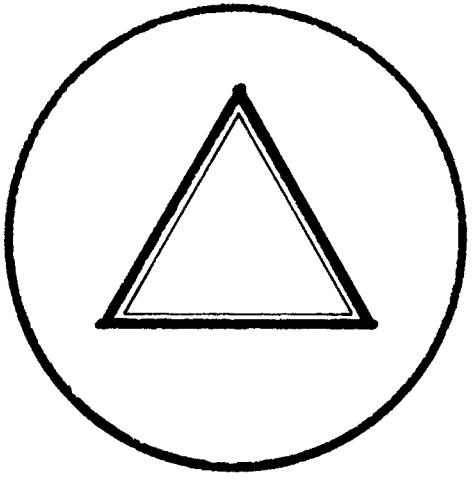
GOAL : Minimize the maintenance cost of the building.

CONCEPT : Consideration of building material, interior and exterior that will require minimal maintenance, especially at the water deck and boat storage.

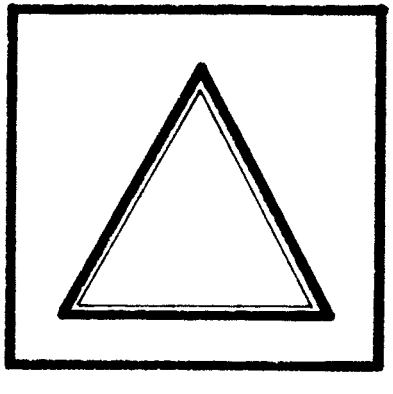
TIME

GOALS & CONCEPTS

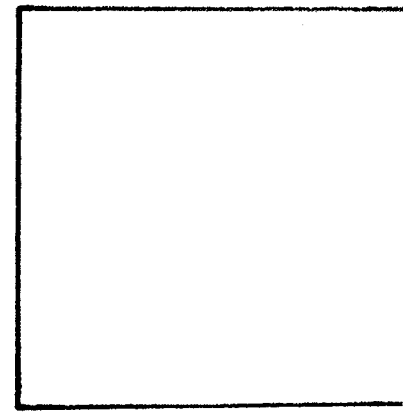
GOAL : Provide maximum life span within facility.



CONCEPT : Consideration the quality of structural system and material.



STATEMENT OF THE PROBLEM



Function: Since the primary function of the facility is to expose large numbers of visitors to yachting and sailing, the facility will mainly focus on yacht races, America's cup and water activities. The large crowds attracted to these events dictate a system with clearly defined spaces for private and public use.

The secondary function of the facility is dedicated to the Hawaii Ocean sport Recreation Center. The internal function will be the same, except the Race committee's office will be used for the manager's office and the conference room will be used as a classroom. This facility should intergrativity among the varios activities of the Sand Island State Park and Keehi Lagoon Recreational Center.

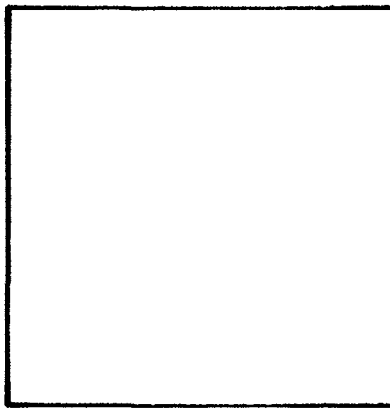
Since the facility contains a souvenir merchandise sales area and snack bar open for customer access during business hours together with restricted acess areas the circulation system must provide a clear system of control.

Form : Since the facility is mainly supported by the tourist, the exterior image and character of the site of the individual buildings should reflect the excitment and spirit yachting competition.

Economy : Since the facility is primarily used for the America's Cup competition and the Hawaii Ocean Sport Center, it should be constructed in one phase, and without consideration of cost.

Time : Since the facility is representing the Hawaiian culture and the America's Cup spirit, the materials and construction selected should support this image and at the same time be durable to insure longevity and stability in the environment both internationaly and externally.

RESOURCES



Mr. Charles Sutton.
Architects/Planners
1210 Ward Ave,
Honolulu,Hawaii 96914.

Keehi Lagoon Recreation Plan: Summary.
State Of Hawaii
Department Of Transportation,
Air Transportation Facilities Division.

Land Use Ordinance.
Department of Land Utilization,
City and County of Honolulu.

Pamphlets America's Cup.
The Ilikai.
1777 Ala Moana Blvd.216
Honolulu,Hawaii 9689.

Hawaii Access.
Richard Saul Wurman, Access press Ltd.
PO.Box.30706.
LA.Ca 90030.

Dobbs Ferry, Sail of The Century :
America's Cup 1987.

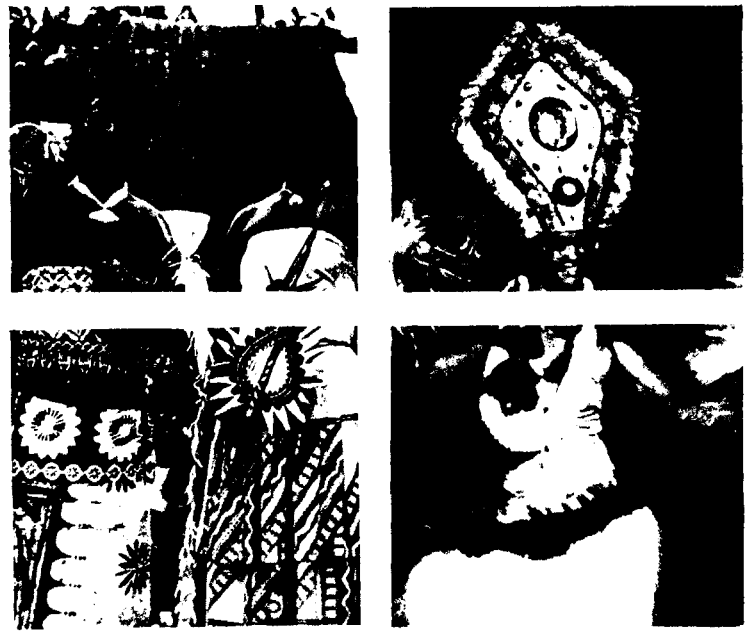
Adie, Donald W, Working Guide to their design and Development: Cashner Book, 1975, London.

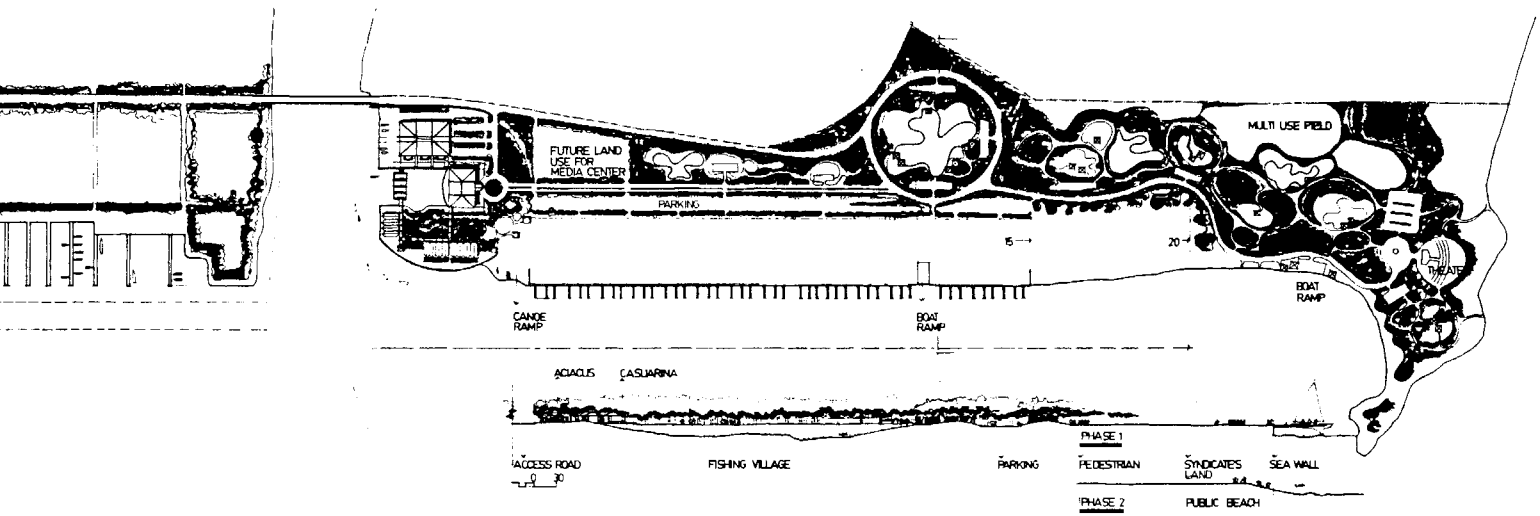
Sail, Oct.1987.

AMERICA'S CUP MARINA

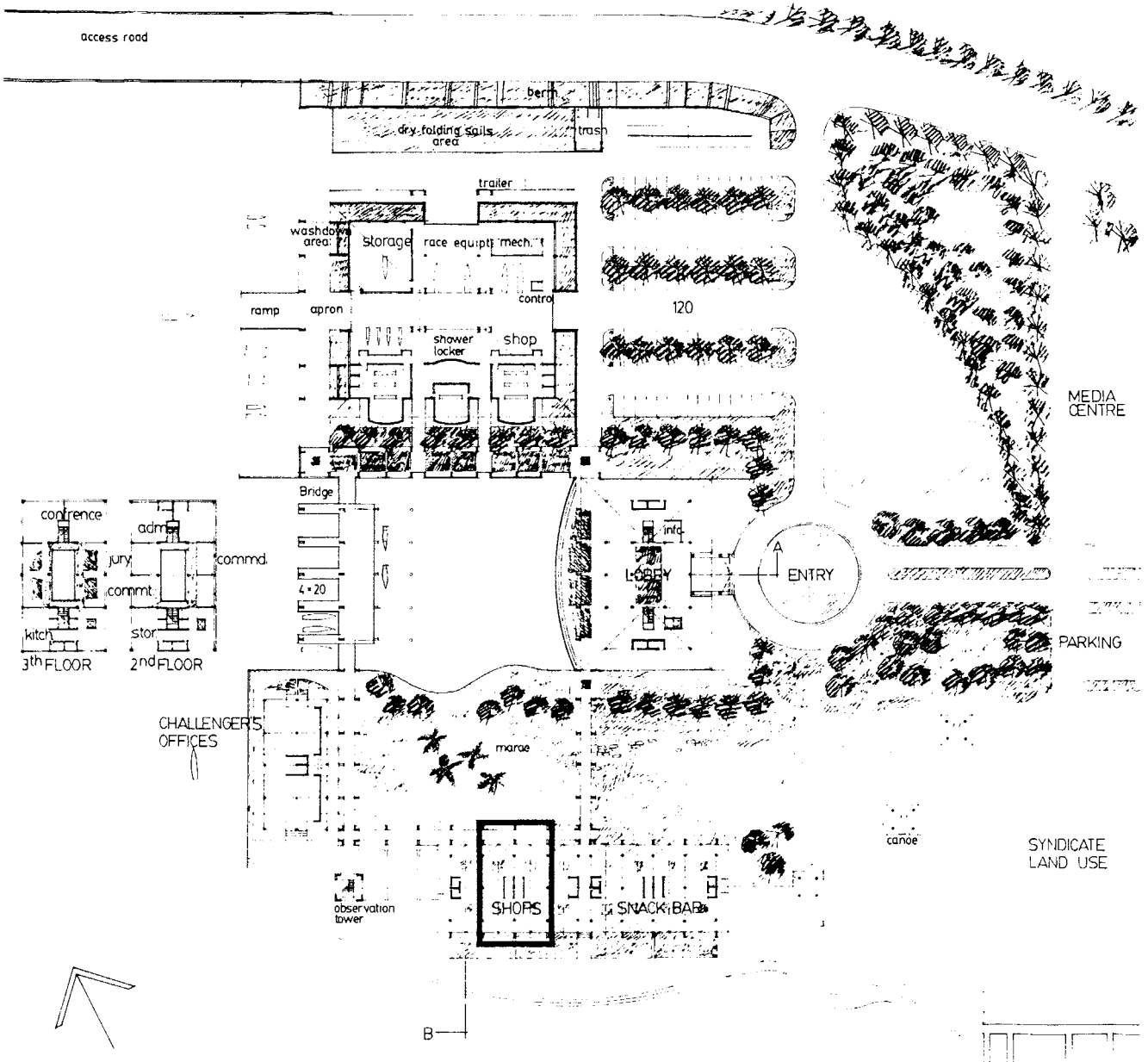
SAND ISLAND, HAWAII

This booklet is the final submission to the Oklahoma State University School of Architecture as the completion of my thesis project; America's Cup Marina 1990 Sand Island, Hawaii. The material was presented to the faculty members on my last jury December 15, 1988.





AMERICA'S CU
MARINA 1990-



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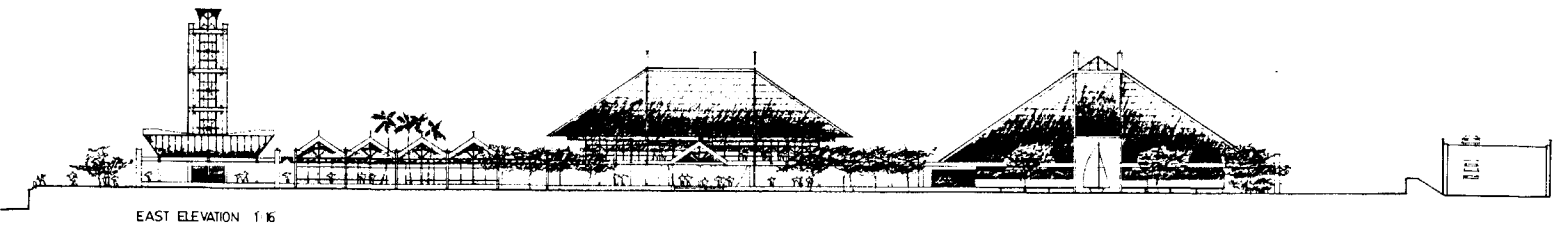
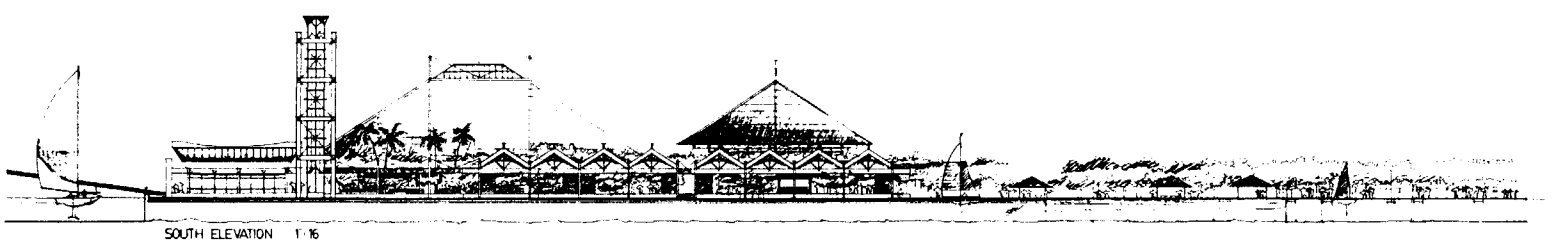
MARINA 1990

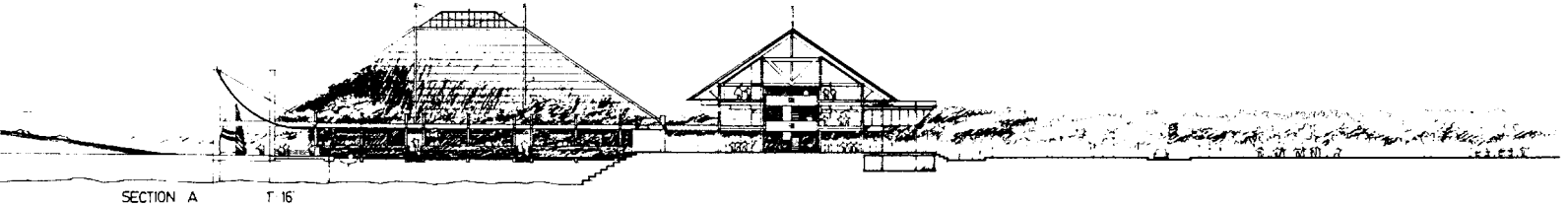


EAST ELEVATION 1:16

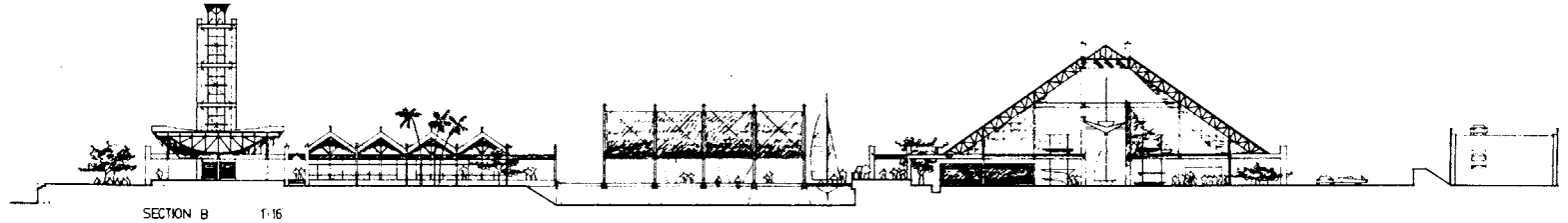


SOUTH ELEVATION 1:16

AMERICA'S C
MARINA 1990-

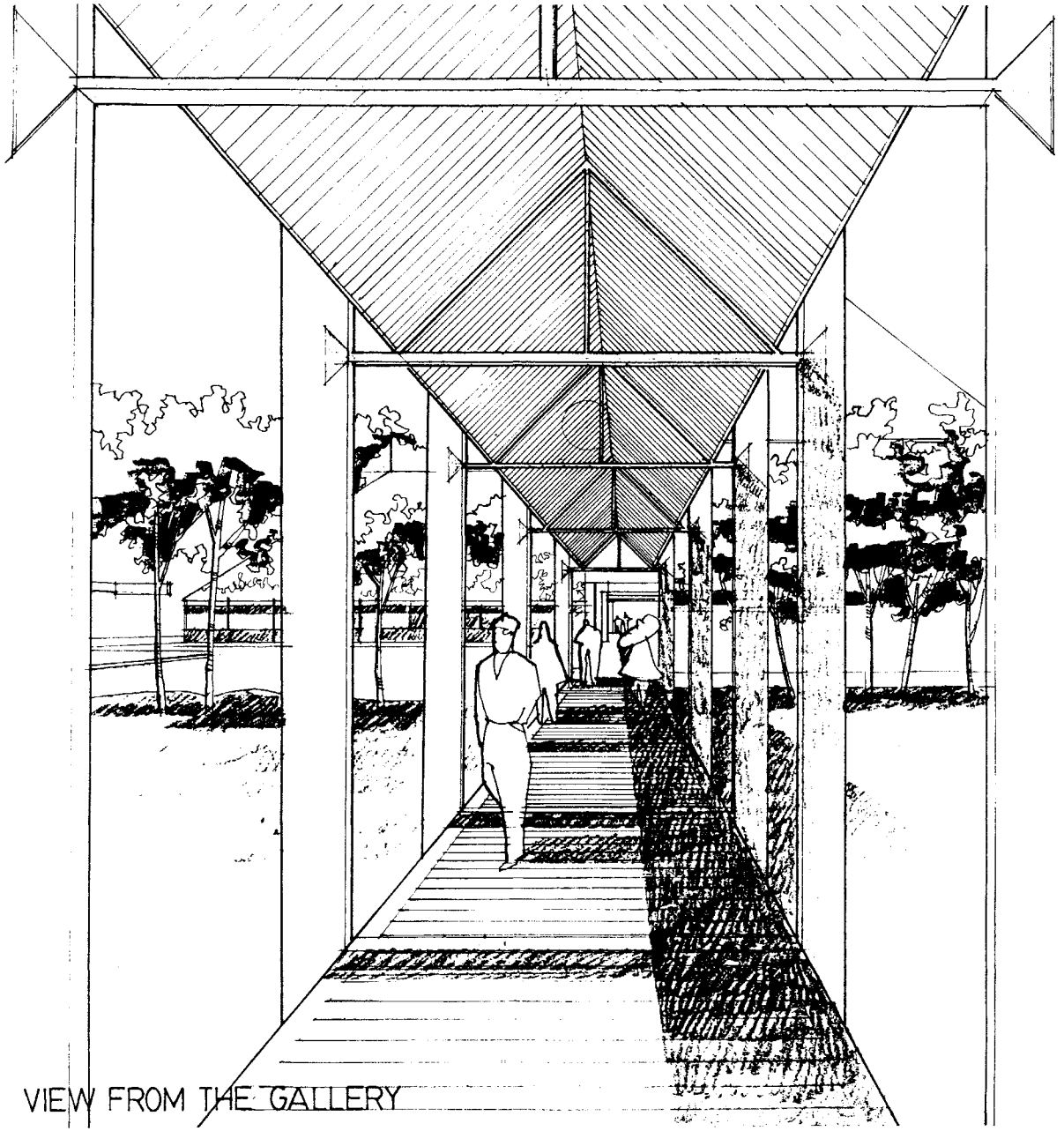


SECTION A 1" 16'



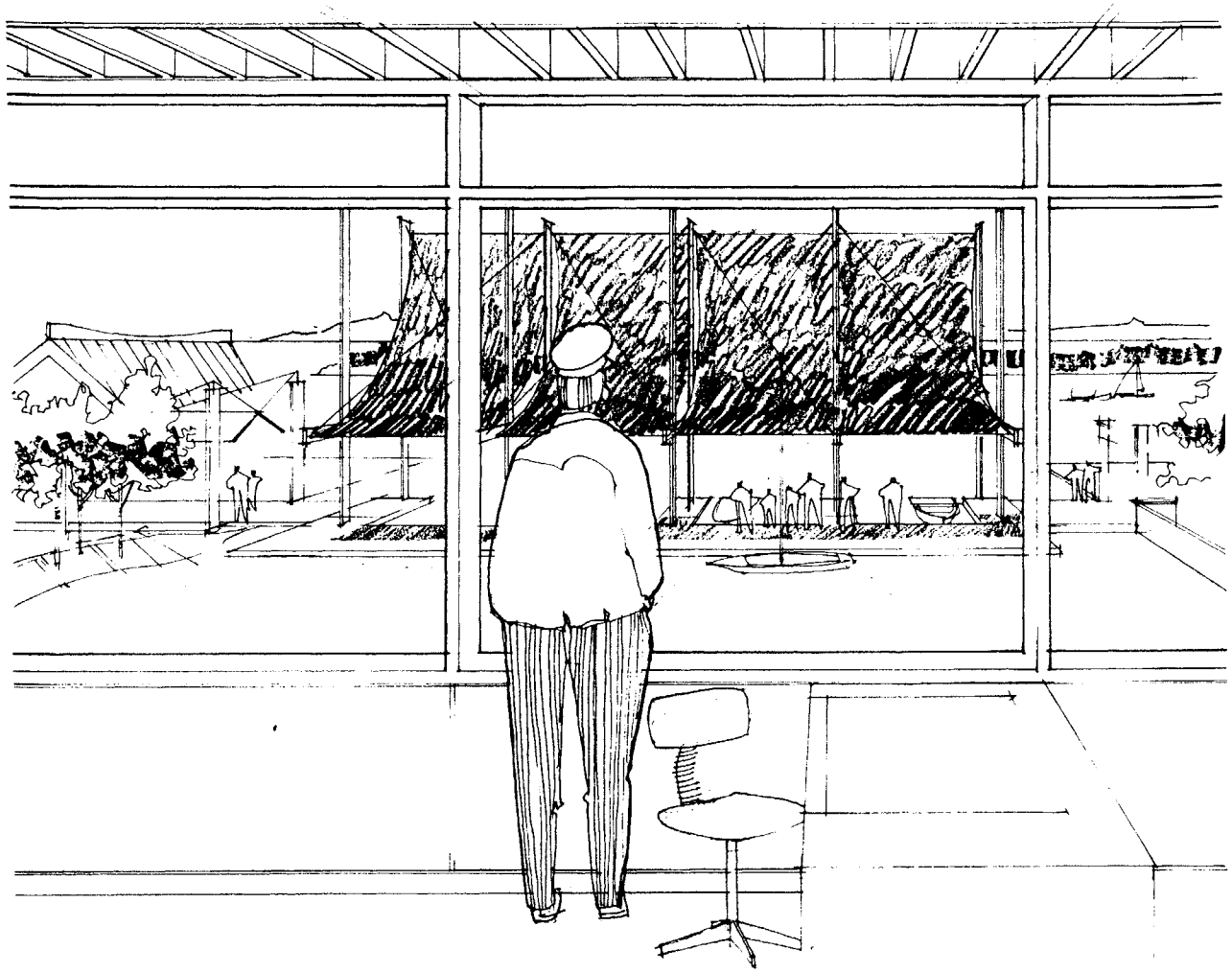
SECTION B 1:16

AMERICA'S C
MARINA 1990-



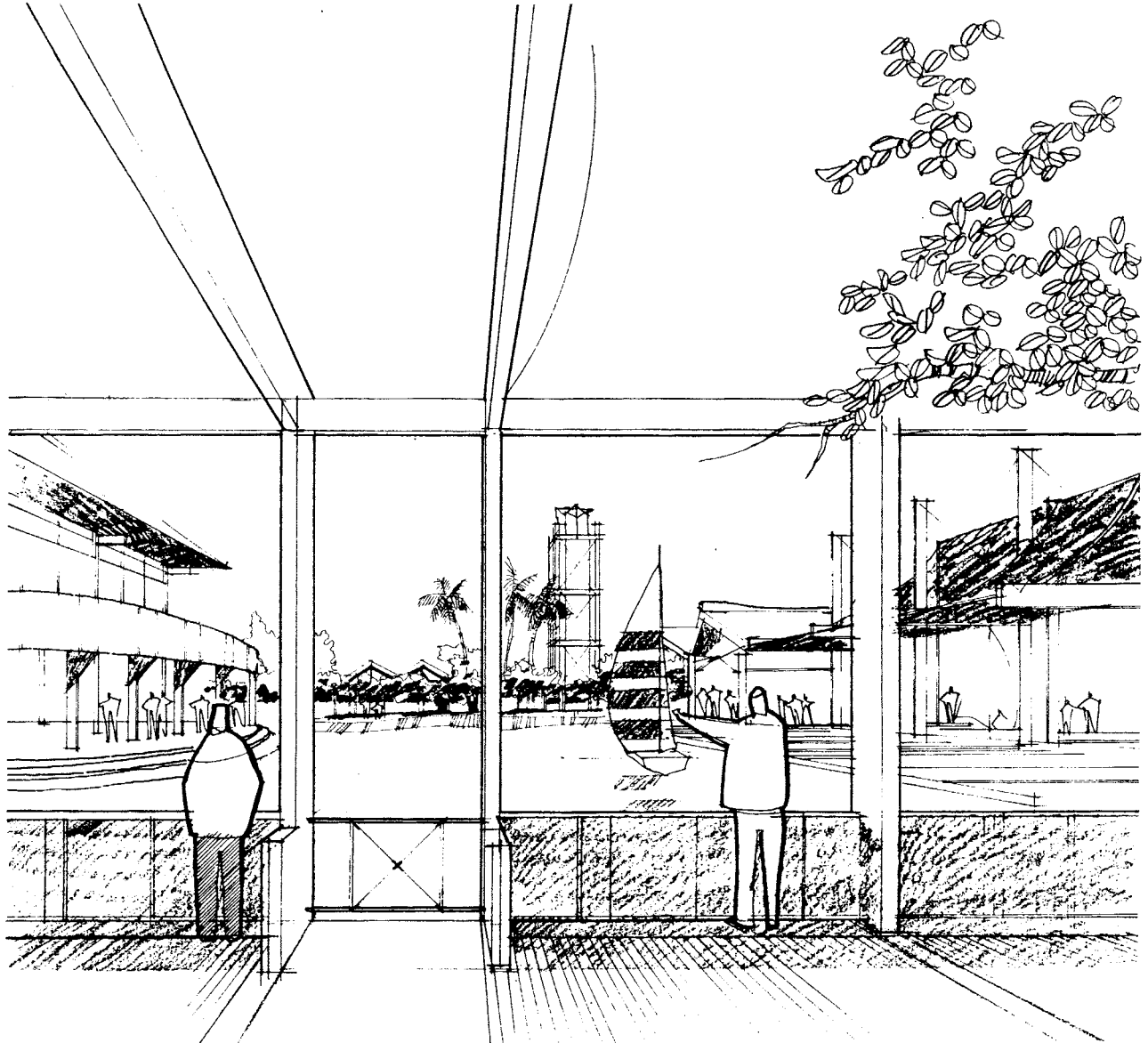
VIEW FROM THE GALLERY

AMERICA'S CU
MARINA 1990-



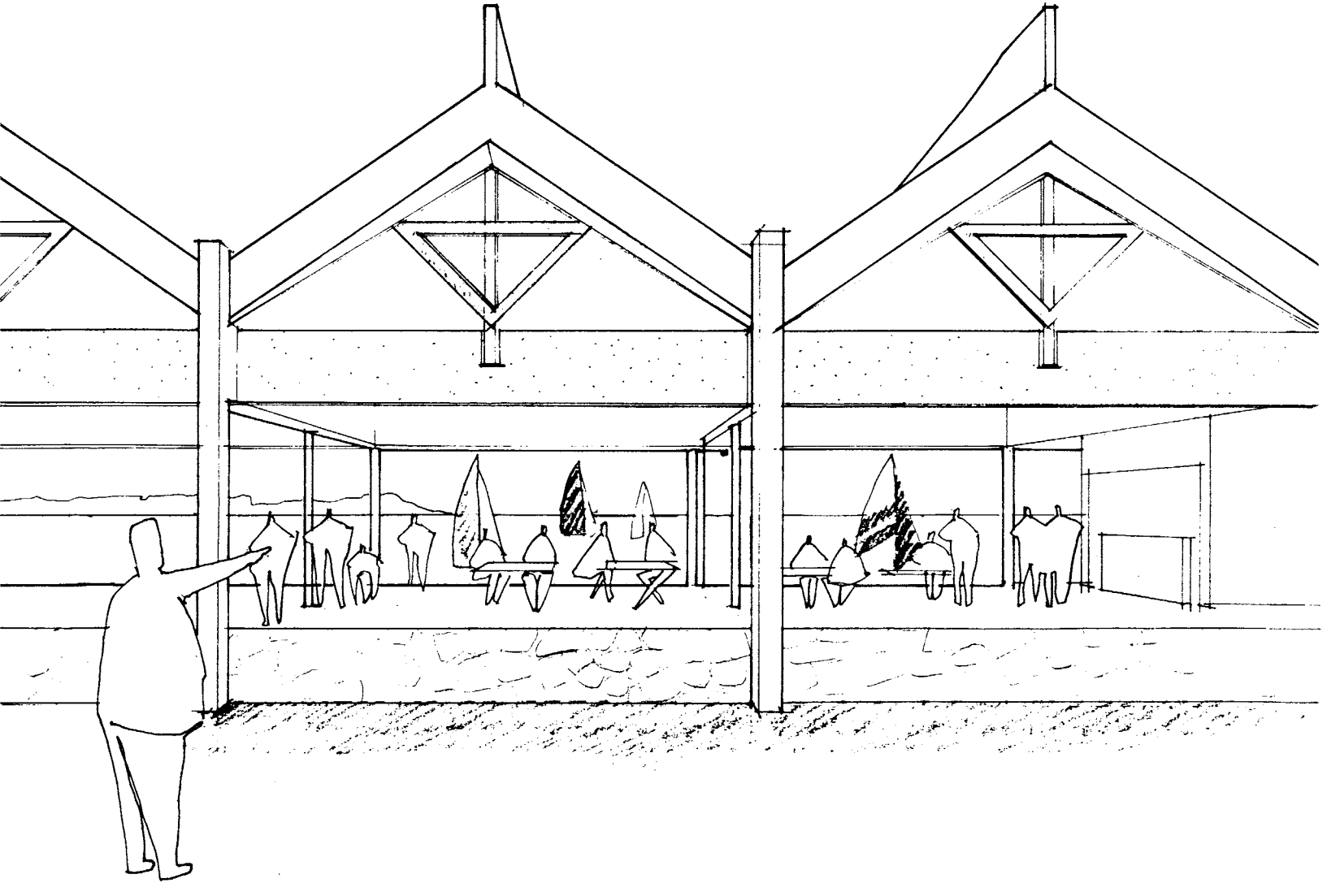
VIEW FROM COMMITTEE'S OFFICE (INSTRUCTOR OFFICE)

AMERICA'S C
MARINA 1990



VIEW FROM THE NORTH DECK

AMERICA'S C
MARINA 1990



AMERICA'S C
MARINA 1990