Planning Assistance Report
Coastal Structures Inventory

New Haven Harbor

New Haven, Connecticut

October 1988

US Army Corps of Engineers
New England Division

NEW HAVEN HARBOR & VICINITY
NEW HAVEN, CONNECTICUT

Planning Assistance Report
COASTAL STRUCTURES INVENTORY

Department of the Army
New England Division, Corps of Engineers
Waltham, Massachusetts

EXECUTIVE SUMMARY

This coastal inventory report was accomplished by the U.S. Army Corps of Engineers, New England Division, at the request of the Connecticut Department of Environmental Protection. This report was prepared under the provisions of Section 22 of the Water Resources Development Act of 1974 (Planning Assistance to the States) as amended. This report is in support of the Department's continuing effort to inventory all existing shoreline and nearshore structures along the Connecticut coast and presents a comprehensive picture of conditions in New Haven Harbor as verified by field inspections conducted in October 1986 and in September 1988. This report provides useful information for Federal, State and local planners from a variety of sources and in a single volume. In addition to listing coastal and nearshore structures, the report presents detailed information on the use, condition, ownership and general construction of coastal structures, as well as a listing of Federal and State projects in the immediate area.

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I. INTRODUCTION

BACKGROUND

The Connecticut Coastal Management Act of 1978 (CCMA) established a comprehensive coastal resource management program in Connecticut that is administered jointly at the municipal and State level. The Connecticut Department of Environmental Protection (DEP) which is the primary State permitting agency for both public and private coastal development is the lead agency for overall implementation of the Coast Management Program (CMP). The coastal municipalities locally enforce the various policies and standards of the CMP with assistance and guidance from the State. Comprehensive coastal planning and technical research and investigation are conducted by the Department of Environmental Protection. This inventory report is in support of the Department's continuing effort to inventory all existing shoreline and nearshore structures along the Connecticut coast.

AUTHORITY

This report was initiated by the New England Division of the U.S. Army Corps of Engineers at the request of the Connecticut Department of Environmental Protection. It was prepared under the provisions of Section 22 of the Water Resources Development Act of 1974, Public Law 93-251, as amended.

PURPOSE

This report provides an inventory of existing shoreline and water structures in the New Haven Harbor area noting their location and function. It also identifies navigational and support facilities in the harbor area. A glossary of terms is included in the Appendix.

II. STUDY AREA

LOCATION AND GENERAL DESCRIPTION

New Haven, Connecticut is at the head of New Haven Harbor, a bay on the northern side of Long Island Sound, Figure 1. New Haven is about 68 nautical miles northeast of New York City and 179-nautical miles southeast of Boston, Massachusetts via the Cape Cod Canal. Three detached breakwaters protect the entrance of New Haven Harbor from Long Island Sound. The deepwater entrance of the main ship channel to the harbor lies between the Luddington Rock Breakwater and the East Breakwater, and the ship channel extends from deep water in the Sound to the head of the harbor, Figure 1.

The port area of New Haven includes the inner portion of New Haven Harbor extending from Sandy Point on the west side and Fort Hale on the east to the head of the harbor, and the navigable portions of the Mill, Quinnipiac and West Rivers. The Mill and Quinnipiac Rivers empty into the head of the harbor through a common mouth, and the West River enters the west side of the harbor about one mile northwest of Sandy Point. New Haven Harbor is 4.5-miles long and varies from one to four miles in width.

Waterfront facilities for deepdraft vessels are located north and east of the inner portion of New Haven Harbor. Facilities for smaller vessels and barges are along the sides of the harbor and along the Mill, Quinnipiac, and West Rivers. Petroleum products, chemicals, scrap metal, lumber, steel products, cement, and general cargo are the principal commodities handled at the port.

The primary area served by the harbor is the south central Connecticut region. The largest city is New Haven. The most significant natural resources in south central Connecticut are the harbor itself, the coastal terrain, the Quinnipiac, West and Mill Rivers that flow into New Haven Harbor, and Long Island Sound. The irregular coastline provides many fine beaches and sheltered coves for a variety of waterside recreation.

LAND USE

Most of the shoreline sections of Long Island Sound are heavily developed and occupied by residential, commercial and industrial interests. Many locations immediately adjacent to the water are devoted to waterbased recreational activities such as fishing, swimming, water skiing and pleasure boating. The port of New Haven is a significant focus for commercial and industrial activity. Along New Haven Harbor development and channel usage has been, and continues to be, intensive. Very little land adjacent to the channel remains vacant. Inland, land usage is characterized by several large population centers, with residential, commercial and industrial components, numerous towns and villages as well as large undeveloped or agriculturally based land tracts with a generally rural setting.

HISTORICAL - ARCHAEOLOGICAL FEATURES

A cultural resource reconnaissance of the harbor area was performed in August 1977 by Dr. Stephen L. Dyson and Jan Cunningham of Wesleyan University and Dr. Roger Moeller of the American Indian Archaeological Institute.

Their work was done in connection with a navigation feasibility study. The researchers examined literature for reported sites and performed a brief inspection of the harbor area. Numerous prehistoric sites are reported onshore in the harbor vicinity, especially near the mouths of the Quinnipiac, Mill and West Rivers and along the eastern shore. These sites by virtue of their onshore location, are all outside the harbor area. Most are now generally disturbed by urban expansion.

New Haven Harbor was used as early as the first decade of the 17th century by Dutch and English traders, and was first charted in 1614. After the founding of the New Haven colony, and particularly in the late 18th century, numerous wharves were built on both sides of the inner harbor. From the mid-19th century to the present, extensive dredging and filling operations in these areas resulted in an extension of the shoreline considerably beyond its 18th century limits. The cultural resource reconnaissance confirmed these harbor changes, indicating that all early historic waterfront sites are now located considerably inland. The researchers located no historic period cultural resources within the immediate harbor area.

HYDROGRAPHY

Except for dredged areas, depths over about half of the outer harbor are from 15-feet to 25-feet, and in the inner harbor, depths are less than 6-feet.

The tide in New Haven Harbor is semidiurnal. At the head of the harbor, the tide has a mean range of 6.3- feet and a mean spring range of 7.2-feet. At the harbor entrance, the mean tide range is 6.2-feet and the mean spring range is 7.1-feet. Extreme tides in the vicinity of the harbor entrance, due to storm winds and atmospheric pressure, have ranged from more than 2.5-feet below mean low water to about 12.4-feet above the same datum, a range of nearly 15-feet.

The inner harbor is fairly well protected from storm and wave action by natural land barriers. The outer harbor, except for the shelter of the breakwaters, is exposed to southerly storms. Morris Cove, on the east side of the outer harbor, affords good anchorage for yachts, but is rough in westerly and southerly winds.

In the entrance channel between the breakwaters, and in the draw of Tomlinson Bridge, the tidal currents have average velocities of about 1.2 knots.

The State-designated Long Island Sound Central Disposal Site is located approximately six nautical miles south of the entrance to New Haven Harbor. The natural bottom at the site is comprised of silts and clayey silts with less than 20 percent sand. The bottom is relatively featureless and slopes gently to the south and is an environment of net sediment deposition. Existing water depths range from 50-feet to 75-feet. Maximum tidal currents at the bottom are moderate from 0.5-knots to 0.6-knots wave induced currents are low.

WATER QUALITY

The waters of New Haven Harbor are characterized by high organic and contaminant load with periods of low dissolved oxygen resulting from municipal and industrial discharge and combined sewer outflows. New Haven urban runoff contributes to the degraded conditions. The waters of the inner harbor are in an SD condition, indicated by the State of Connecticut to be suitable as fish and wildlife habitat, but are impacted by periods of low dissolved oxygen. SD waters are also suitable for industrial cooling and possibly have a good aesthetic value. The outer harbor waters are in an SC condition: suitable for fish, shellfish and wildlife habitat; for recreational boating and industrial cooling; and have a good aesthetic value. The State is striving to bring the entire harbor to an SB condition: suitable for bathing, other recreational purposes, industrial cooling and shellfish harvesting for human consumption after depuration, and excellent fish and wildlife habitat.

FEDERAL HARBOR AND CHANNEL IMPROVEMENTS

The Federal Government has constructed several improvements in the interest of navigation at New Haven Harbor as shown in Figure 1. They consist of:

a. a commercial channel 35-feet deep and 400-feet wide from Long Island Sound to a turning basin located north of Fort Hale, a distance of about 4.5-miles,

b. a turning basin 35-feet deep, 800-feet wide and about 5,800-feet long at the head of deep-draft navigation,

c. 16-foot and 15-foot deep anchorages adjacent to the turning basin, and below the Tolinson Bridge,

d. a connection channel 12-feet deep, 100-feet to 150-feet wide from the southwest corner of a 16-foot anchorage basin, west to the mouth of the West River at the Kimberly Avenue Bridge,

e. a West River channel 12-feet deep and 75-feet wide, extending 600 feet upstream of the Kimberly Avenue Bridge,

f. a Quinnipiac River channel 16-feet deep and 200-feet wide, upstream to Grand Avenue,

g. a Mill River channel 12-feet deep and 200-feet wide, including two branches: East Branch, 100-feet wide, and West Branch, 125-feet wide,

h. a pile and riprap dike about 4,200-feet long in West Haven, and

i. three major granite breakwater structures located at the entrance to the harbor.

ANCHORAGES

At the entrance to New Haven Harbor from Long Island Sound, anchorage is available for vessels up to 20-foot draft inside the West Breakwater and the southwest half of the Middle Breakwater. Vessels also may anchor in depths of 18-feet to 20-feet (with soft bottom in places) northward of Southwest Ledge Light. Deepdraft vessels awaiting berthing assignments can anchor about one mile southward of the sea buoy, where holding ground is excellent.

Morris Cove on the east side of the main channel, which is just above the Lighthouse Point, affords good anchorage and is used by yachts, but is rough in westerly and southerly winds. In July 1981, isolated, uncharted 40-foot spots were reported in the cove. A Coast Guard station (Ref. No. 24) is on the north side of the jutting point, about 1.5-miles northward of Lighthouse Point.

An anchorage basin on the west side of the main channel southward of New Haven Long Wharf (Ref. No. 3) is sometimes used, but considerable shoaling is gradually extending into the anchorage from westward. A sunken barge, about 5-feet below the surface, is in this anchorage about 550 yards southward of New Haven Long Wharf.

An anchorage area, sometimes used by small craft and scows, is northward of the New Haven Long Wharf (Ref No. 3) in the northwest side of the main channel where depths range from about 5-feet to 6-feet.

No special regulations prescribe the limits within which vessels must anchor, except that the dredged channels must be kept clear.

BRIDGES

Six bridges cross the navigable waterways of the port of New Haven as shown in Figure 1. None cross over, limit access or create transportation problems in the existing 35-foot navigation project, but five of the six bridges do impact on navigation. Four bridges span the Quinnipiac River; one spans the Mill River; and one spans the West River. Overall, horizontal and vertical clearance of these bridges limit use of the tidal

portion of the three rivers to small vessels (barges) and recreational craft. Their presence also limits navigation improvement options. Bridge locations and characteristics are itemized in Table 1 and Figure 1.

UTILITIES

There are five utility lines, three sewer, one drain and one cable, lying on the harbor floor. None of these lines are affected by the existing 35-foot navigation channel.

OIL HANDLING FACILITIES

Seventeen of the waterfront facilities at New Haven are equipped to handle petroleum products; sixteen receive and/or shop by water, and one receives products via commercial pipeline.

Jet Lines, Inc., a subsidiary of Buckeye Pipeline Co., operates a 12-inch, common carrier, oil pipeline extending from New Haven northward to Hardford, Connecticut, and Springfield, Massachusetts. The line connects with several of the oil companies operating waterfront facilities.

Table 2 gives information on facilities equipped to handle petroleum products.

HOISTING EQUIPMENT - ASHORE AND AFLOAT

General cargo at the port usually is handled to and from vessels by ships' tackle. However, shorebased hoisting equipment with lifting capacities ranging up to 250-tons and floating cranes and derricks with lifting capacities up to 100-tons are available as required.

Tables 3 and 4 give details of the hoisting equipment ashore and afloat and available for hire at the Port of New Haven, respectively. Other cranes, derricks, and special handling equipment at other waterfront facilities within the port area are for the sole use of the operating companies.

MARINE REPAIR AND DRYDOCK FACILITIES

There are no facilities available for making extensive repairs, drydocking, or hauling out large, deepdraft vessels in the immediate area; the newest such facilities are at Newport, Rhode Island, and New London (Groton), Connecticut. Additional facilities are located at the Port of New York, NY and NJ.

FLOATING EQUIPMENT

Spentonbush Red Star Towing Co., Inc. provides towing service for vessels calling at the Ports of New Haven and Bridgeport. The company owns and operates two diesel tugs: "New Haven" and "Newport," having horsepower ratings of 1,800 and 1,500, respectively.

TABLE 1

LIST OF BRIDGES

MILES (ABOVE MOUTH)	LOCATION AND NAME	TYPE	CLEARANCE (FEET) HORIZONTAL	VERTICAL MLW	VERTICAL MHW
	MOUTH OF QUINNIPIAC AND MILL RIVERS				
0.1	Tomlinson	Bascule	125	18	12
0.1	Connecticut Turnpike Interstate 95	Fixed	283	66	60
	QUINNIPIAC RIVER				
0.7	Ferry Street	Bascule	101	31	25
1.3	Grand Avenue	Bascule	70		18
	MILL RIVER				
0.4	Chapel Street	Swing	71, west 72, east	13	7
	WEST RIVER				
0.0	Kimberly Avenue	Fixed	75	29	23

TABLE 2

OIL HANDLING FACILITIES

REF. NO.	OPERATOR AND/OR USER	BERTHING SPACE (FEET)	DEPTH ALONGSIDE MLW (FEET)	STORAGE TANKS NUMBER	STORAGE TANKS CAPACITY (BARRELS)
8	Amerada Hess Corp.	440	10-12	18	368,500
19	ARCO Petroleum Products Co.	760	35	16	713,000
2	Bell Harbor Refining Co., Inc.	200	18	4	21,500
(1)	Benedict & Co., Inc.	200	7	14	14,850
1	Connecticut Refining Co. Inc., The	598	12	10	150,000
12	East Coast Environmental Service Corp.	550	9	19	122,300
22	Exxon Co., U.S.A.	700+200	16-35	21	1,768,700
15	Fireline Petroleum Supply Distribution Co., Inc.	300	15	5	83,800
16	Getty Refining and Marketing Co.	260	15-20	4	91,000
13(1)	Goodrich Oil Co., Inc.	152	9	7(2)	51,100
17	Gulf Refining and Marketing Co.	735	35	19	1,026,050
18	Gulf Refining and Marketing Co.	400+380	25	-	-
I4	Mobil Oil Corp.	300	13	15(3)	585,550
21	New Haven Terminal, Co.	700+700	35-39	41	2,250,000
23(4)	United Illuminating Co., The	400	25	2	650,000
4	Wyatt, Inc.	715	38	18	1,310,000
5(5)	Wyatt, Inc.	480+250	6-30	4(6)	141,200
	TOTAL	--	--	217	9,347,550

(1) Not in use at time of survey
(2) Waterborne petroleum products are received via an 8-inch pipeline connecting with Jet Lines, Inc. 12-inch inland piping.
(3) Eleven of the tanks are also connected by pipeline to ARCO Petroleum Products Co. Wharf (Ref. No. 19).
(4) Fuel oil for plant consumption.
(5) Fueling small craft.
(6) Asphalt

TABLE 3

HOISTING EQUIPMENT - ASHORE

REF. NO.	OPERATOR	CRANE TYPE	CRANE LENGTH OF BOOM (FEET)	CRANE LIFT CAPACITY (TONS)
20	New Haven Terminal, Co. Scrap Metal Dock	Diesel-electric, traveling, revolving gantry (2)	90	30
		Diesel, crawler (1)	130	250
		Diesel, crawler (1)	100	100
		Diesel, crawler (2)	80	50
21	New Haven Terminal, Co. Wharf	Diesel, crawler (2)	80	50

(1) Used primarily for marine construction, but occasionally cranes are available for public use.
(2) Diesel derricks.

TABLE 4

HOISTING EQUIPMENT - AFLOAT (1)

OPERATOR	NAME	LENGTH (FEET)	BEAM (FEET)	CRANE (2) LENGTH OF BOOM (FEET)	CRANE (2) LIFT CAPACITY (TONS)
Blakeslee, Arpia, Chapman, Inc.	Blakeslee No. 10	100	38	110	60
	Blakeslee No. 11	90	32	80	35
	Blakeslee No. 12	135	55	120	100

TRANSPORTATION FACILITIES AND SERVICES

Within the region there is an extensive network of air, rail and highway systems and services. Interstate highway routes 95 and 91 greatly enhance the potential of the port of New Haven. Conrail provides rail service to all major towns and cities in Connecticut. The Amtrak network includes three routes in Connecticut: two routes between New York and Boston, one through New Haven, New London and Providence, the other through New Haven, Hartford and Springfield, Massachusetts; and a third route, which connects Montreal with New York by way of New Haven, Hartford and Springfield, Massachusetts. Air service at Tweed-New Haven Airport is provided by Air Wisconsin and Business Express. A petroleum pipeline, "Jet Lines," runs from New Haven to Springfield, Massachusetts.

III. SUMMARY OF PORT FACILITIES AND STRUCTURES

The identification of port facilities and structures are denoted in Table 5, Plates 1 and 2 and facility/structure descriptions. Table 5 includes reference numbers, owner and type of facility/structure. Plates 1 and 2 show the general location in the inner and outer harbors, respectively. The facility/structure descriptions provide specific information of each port facility/structure.

TABLE 5

MAJOR PORT FACILITIES AND STRUCTURES

REFERENCE NUMBER	OWNER	FACILITY/STRUCTURE
1	Connecticut Refining Co.	Wharf
2	Bell Harbor Refining Co.	Pier
3	City of New Haven	Pier
4	Wyatt, Inc.	Pier
5	Wyatt, Inc.	Wharf
6	Balsamo Brothers	Wharf
7	Talmadge Brothers	Dock
8	Amerada Hess Corp.	Wharf
9	Edward Flanagan	Bulkhead
10	Long Island Oyster Farms, Inc.	Wharf
11	Long Island Oyster Farms, Inc.	Wharf
12	East Coast Environmental Service Corp.	Wharf
13	Goodrich Oil, Co.	Wharf
14	Mobil Oil Co.	Pier
15	Fireline Petroleum Supply Distribution Co.	Pier
16	Getty Oil Co.	Pier
17	Gulf Oil Co.	Wharf
18	Gulf Oil Co.	Pier
19	Arco Oil Co.	Wharf
20	New Haven Terminal, Inc.	Dock
21	New Haven Terminal, Inc.	Pier
22	Exxon Co.	Wharf
23	United Illuminating Co.	Pier
24	US Government	Pier
25	West Cove Marina Yacht Club (D. Fiorini)	Marina
26	City Point Yacht Club	Yacht Club
27	West Haven Yacht Club	Yacht Club
28	U.S. Government	Breakwater
29	U.S. Government	Breakwater
30	Fair Haven Marina (J. Tsilfoglou)	Marina
31	Waucoma Yacht Club	Marina
32	Nicola & Tommasino Delfalco	Fish Pond
33	New Haven Parks Dept.	Fishing Pier
34	City of New Haven	Jetty

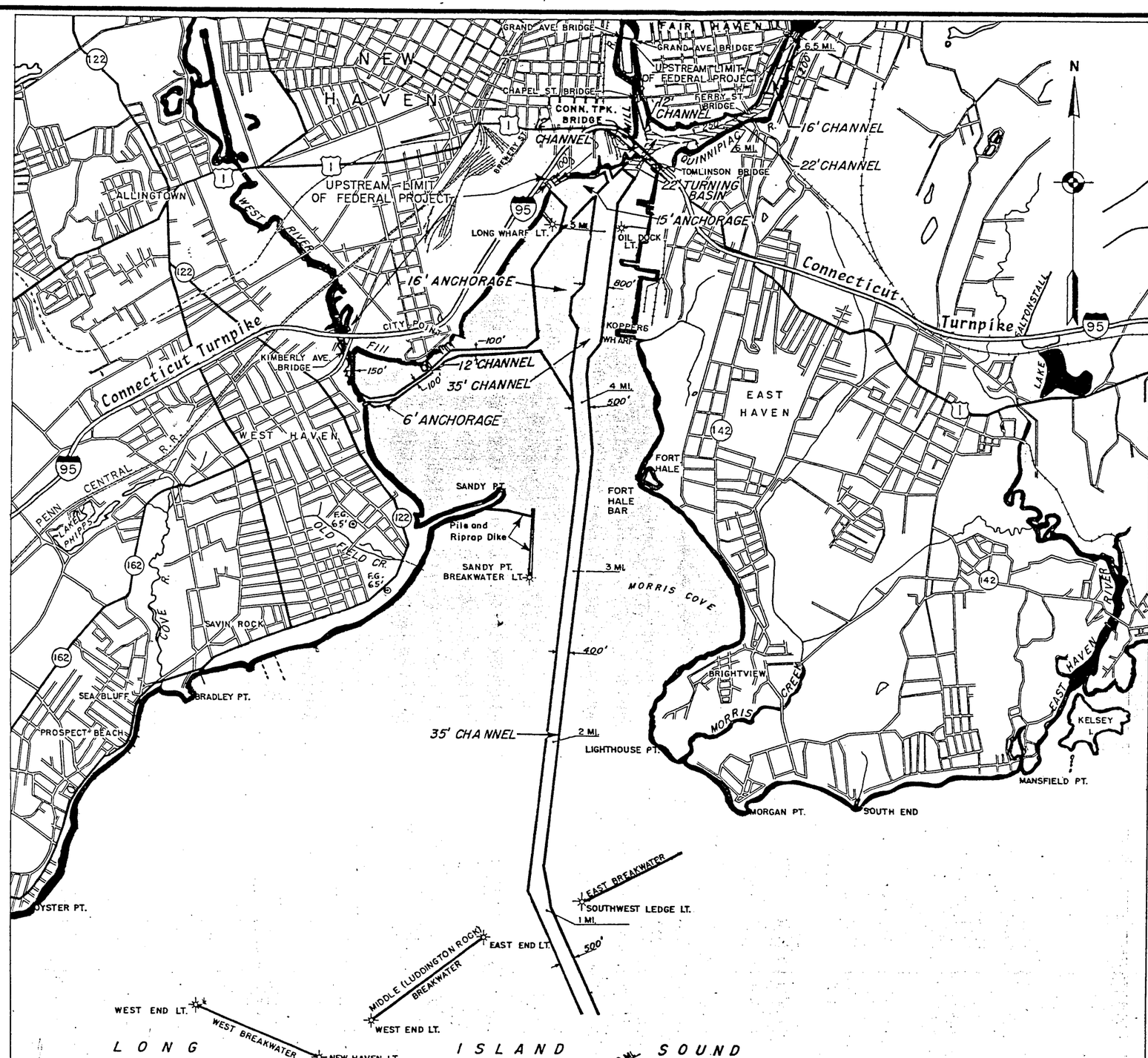
MAJOR PORT FACILITIES AND STRUCTURES (Cont.)

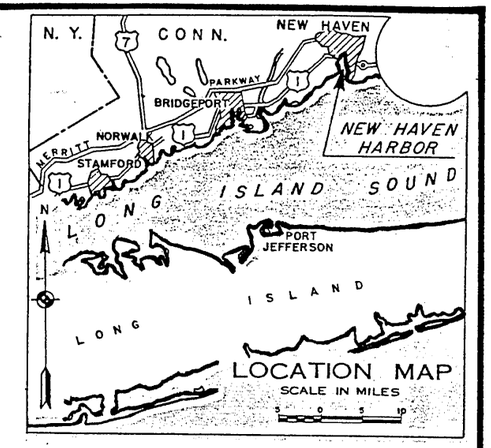
REFERENCE NUMBER	OWNER	FACILITY/STRUCTURE
35	City of West Haven	Groin & Outfall Pipe
36	U.S. Government	Breakwater
37	U.S. Government	Dike
38	City of New Haven	Launch Ramp
39	Sigismund W. Malicki	Docking
40	Charles Farren	Marina
42	E.I. Dupont Denemours & Co.	Dock
43	Conrail, Inc.	Dock
44	Edward Varipapa	Marina/ Revetment
45	Marina Landing Development Corp.	Marina/Pier
46	City of West Haven	Groins
47	City of West Haven	Groins
48	City of New Haven	Bulkhead
49	New Haven Yacht Club	Yacht Club
50	New Haven Marina	Marina
51	Andrew & Marie Amarante	Riprap
52	United Illuminating Co.	Bulkheads
53	City of West Haven	Groin
54	City of West Haven	Derelict Structure
55	City of New Haven	Outfall pipe
56	Fusco Corp.	Bulkhead/ Marina
57	Chapman Blakeslee	Mooring Facility
58	United Illuminating Co.	Tower Piers
59	Southern Conn. Gas Co.	Bulkhead
60	City of New Haven	Bulkhead/ Retaining Wall
61	Seaboard Coal & Oil Co.	Retaining Wall
62	City of New Haven	Bulkhead/ Riprap/Retaining Wall
63		Private Dock
64	Juliano's/New Haven Fish, Lobster & Bait	Retaining Wall
66	Oyster Harbor Ltd.	Derelict Piles
67	Tilcon Materials, Inc.	Derelict wharf & wooden piles
68	City of New Haven	Bulkhead

MAJOR PORT FACILITIES AND STRUCTURES (Cont.)

REFERENCE NUMBER	OWNER	FACILITY/STRUCTURE
69	James Redden	Building foundation
70	U.S. Government	Derelict Pier
71	Pardee Parkway	Retaining wall/groin
72	Litchfield Johnson Corp.	Retaining wall/floating docks

FACILITY/STRUCTURE DESCRIPTIONS





BRIDGE CLEARANCES

TOMLINSON BRIDGE (BASCULE)
Hor. 125.4 ft.
Vert. 12.1 ft. M.H.W.

WEST RIVER
KIMBERLY AVE. BRIDGE (FIXED)
HOR. 75.0 FT.
VERT. 23.0 FT. M.H.W.
N.Y. N.H. & H. R.R. BRIDGE (FIXED)
Hor. 23 ft.
Vert. 5 ft. M.H.W.

MILL RIVER
CHAPEL ST. BRIDGE (SWING)
Hor. West Draw 71 ft., East Draw 72 ft.
Vert. 7.1 ft. M.H.W.
GRAND AVE. BRIDGE WEST BRANCH (FIXED)
Hor. 20 ft.
Vert. 4.5 ft. M.H.W.
GRAND AVE. BRIDGE EAST BRANCH (FIXED)
Hor. 39.5 ft.
Vert. 6 ft. M.H.W.

QUINNIPIAC RIVER
CONN. TURNPIKE BRIDGE (FIXED)
HOR. 283 FT.
VERT. 60 FT., M.H.W.
FERRY ST. BRIDGE (BASCULE)
Hor. 101 ft.
Vert. 25.5 ft. M.H.W.
GRAND AVE. BRIDGE (SWING)
Hor. East and West Draw 70 ft.
Vert. 9.5 ft. M.H.W.

Incompleted work

NEW HAVEN HARBOR, CONN.

shoreline

SCALE IN FEET
2000 0 2000 4000

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS
WALTHAM, MASS.

Figure 1

Reference Number: 1

Facility: Connecticut Refining Co., West Haven Terminal Wharf

Location on Waterfront: West Haven; West bank of West River, 105 Water Street

Owner: Connecticut Refining Co.

Operator: Connecticut Refining Co.

Use: Receipt of Petroleum Products

Construction Type: Timber and Fill

Description: A 205-foot by 25-foot timber bulkhead with solid fill. Two mooring dolphins are located on the southerly side of a building situated on a small peninsula. On easterly side of the building derelict wooden pilings extend 250 feet into the harbor.

Depth alongside at MLW = 12-feet
Breasting distance = 205-feet and 393-feet
Total berthing space = 598-feet
Load capacity = 500-psf
Height of deck above MLW = 10-feet

Remarks: South Terminal - One 8-inch pipeline connects with four 6-inch pipe lines extending to five storage tanks with a total capacity of 85,000 barrels.
North Terminal - One 8-inch pipeline connects with four 6-inch pipelines extending to five steel storage tanks with a total capacity of 65,000 barrels.

Reference Number: 2

Facility: Bell Harbor Refining Co., West Haven Terminal Pier

Location on Waterfront: West Haven; West Bank of West River, 16 Elm Street

Owner: Bell Harbor Refining Co.

Operator: Bell Harbor Refining Co.

Use: Receipt of Petroleum Products

Construction Type: Timber

Description: A 12-foot by 12-foot timber pile, timber decked, offshore platform with a 130-foot by 3-foot walkway and pipeline trestle approach; one timber dolphin in line with face at each side.

Depth alongside at MLW = 18-feet
Total berthing space = 200-feet
Height of deck above MLW = 11-feet
Load capacity = 100-psf

Remarks: Two 6-inch pipelines extend from face of pier to four steel storage tanks at rear with a total capacity of 21,500 barrels.

No water or electric services are available.

Reference Number: 3

Facility: New Haven Long Wharf Pier

Location on Waterfront: New Haven; Westerly shore of New Haven Harbor, upper side of Long Wharf Jetty

Owner: City of New Haven

Operator: Spenton Bush Red Star Towing Co. and Long Wharf Steamship Lines, Inc.

Use: Mooring tugs and excursion boats

Construction Type: Timber

Description: Timber pile, timber decked, offshore wharf connected to upper side of jetty by 30-foot by 32-foot concrete approach; one 83-foot by 4-foot walkway extends from each side of the wharf to one timber mooring dolphin in line with face. A row of three timber mooring dolphins is located parallel to the wharf.

Depth alongside at MLW = 19-feet
Total berthing space = 266-feet
Pier load capacity = 300-psf

Remarks: Water service is available to vessels through a 3/4-inch hose connections and electric service is available through a 480-volt AC cable.

Reference Number: 4

Facility: Wyatt New Haven Terminal, Light Oil Pier

Location on Waterfront: New Haven; Westerly shore of New Haven Harbor, East Street

Owner: Wyatt, Inc.

Operator: Wyatt, Inc.

Use: Receipt of Petroleum Products

Construction Type: Timber Pile, Timber Decked Pier

Description: An offshore wharf with dimensions of 150-feet by 45-feet with a 295-foot by 14-foot approach to inner end; inner end of approach is connected to shore with a 70-foot by 5-foot walkway and a 45-foot by 5-foot pipeline trestle.

Depth alongside at MLW = 38-feet
Total berthing space = 715-feet
Height of deck above MLW = 11-feet

Remarks: Two 12-inch and two 8-inch pipelines extend from wharf to eighteen steel storage tanks with a total capacity of 1,310,000 barrels. Tank loading rack accommodates twelve railroad tank cars. Three surface rail tracks connect with Conrail, water service is available to vessels through a 2.5-inch line and electric service is available to vessels through 110/220-volts AC cables.

Reference Number: 5

Facility: Wyatt New Haven Terminal, Heavy Oil Wharf

Location on Waterfront: New Haven; Westerly shore of New Haven Harbor

Owner: Wyatt, Inc.

Operator: Wyatt, Inc.

Use: Receipt of petroleum and asphalt; mooring and fueling tug

Construction Type: Timber and sheet steel

Description: Lower side: 210-foot timber pile, timber decked wharf extending from sheet steel bulkhead with asphalt surfaced solid fill; four breasting dolphins in line with face.
Upper side: 120-foot timber pile, timber decked extension from steel sheet pile bulkhead

Depth alongside at MLW = 30-feet (Upper) 6-feet to 22-feet (lower)

Remarks: One 10-inch asphalt pipeline extends from wharf to four steel storage tanks at rear with a total capacity of 141,200 barrels. One 10-inch, two 8-inch, and one 6-inch pipelines extend from the wharf to the storage tanks described in Reference No. 4.

Rail and electric service same as Reference No. 4.

Reference Number: 6

Facility: Atlantic Cement Co., New Haven Wharf

Location on Waterfront: New Haven; East bank of Mill River, 275 Wolcott Street

Owner: Balsamo Brothers, Inc.

Operator: Atlantic Cement Co.

Use: Receipt of bulk cement by barge

Construction Type: Steel sheet pile and solid fill

Description: 332-foot steel sheet pile bulkhead with solid backfill

Depth alongside at MLW = 13-feet
Total berthing space = 332-feet
Height of deck above MLW = 6-feet
Load capacity = 500-psf
Pier is lighted

Remarks: One 10-inch pipeline extends from face of wharf to four cement storage silos with a total capacity of 5,600-tons. Barge discharge rate is 200-tons per hour. Truck loading rate is 4.6-tons per minute. One 4-inch truck discharge line serves each silo for emergency use. 110/440-volt electric service is available and water service is available through a 1.5-inch line.

Reference Number: 7

Facility: Oysters and Clams Dock

Location on Waterfront: New Haven; East bank of Mill River, 50 Mill Street

Owner: Talmadge Brothers

Operator: Talmadge Brothers

Use: Receipt of Oyster Shells

Construction Type: Steel Sheet Pile

Description: 200-foot steel sheet pile bulkhead with solid fill, fronted by timber fender system.

Depth alongside at MLW = 12-feet to 15-feet
Total berthing space = 200-feet
Height of deck above MLW = 6-feet
Load capacity = 500-psf
Pier is lighted

Remarks: Water service is available through a 2-inch line and electric service is available to vessels through 110/208-volts AC. One 30-ton diesel crawler crane with 60-foot boom and a 1.5-cubic yard bucket is available for unloading purposes.

Reference Number: 8

Facility: Amerada Hess Corp, New Haven Terminal Wharf

Location on Waterfront: New Haven; West bank of Quinnipiac River, 100 River Street

Owner: Amerada Hess Corp.

Operator: Amerada Hess Corp.

Use: Receipt of petroleum products

Construction Type: Sheet pile

Description: 440-foot steel sheet pile bulkhead with solid fill fronted by timber fender system.

Depth alongside at MLW = 10-feet to 12-feet
Total berthing space = 440-feet
Height of deck above MLW = 11-feet
Load capacity = 500-psf
Pier is lighted

Remarks: One 12-inch and six 6-inch pipelines extend from the wharf face to eighteen steel storage tanks with a capacity of 368,500 barrels. 120/277-volt AC electric service is available to vessels.

Reference Number: 9

Facility: Bulkhead

Location on Waterfront: New Haven; West bank of Quinnipiac River, just north of Grand Avenue Bridge.

Owner: Edward Flanagan

Operator: Edward Flanagan

Use: Shore protection

Construction Type: Steel

Description: 130-foot length of sheet piling along shoreline. Sheet piling tied back at 20-foot intervals.

Remarks: Docking facility proposed for personal use.

Reference Number: 10

Facility: Long Island Oyster Farms Upper Wharf

Location on Waterfront: New Haven; East bank of Quinnipiac River, 610 Quinnipiac Avenue.

Owner: Long Island Oyster Farms, Inc.

Operator: Long Island Oyster Farms, Inc.

Use: Receipt of oyster shells; fueling fishing vessels

Construction Type: Timber, steel and concrete

Description: 192-foot bulkhead of timber, concrete and steel sheet pile construction with solid fill fronted by timber pile, timber decked extension.

Depth alongside at MLW = 8-feet to 10-feet
Total berthing space = 362-feet
Height of deck above MLW = 10-feet
Load capacity = 250-psf

Remarks: Frame building in rear used for storage of supplies and equipment. One metered diesel pump at the face of the wharf connects with two underground steel storage tanks with a total capacity of 10,000 gallons. Water service is available through a 3/4-inch line and electric service is available to vessels through 110/270 volts AC.

Reference Number: 11

Facility: Long Island Oyster Farms Lower Wharf

Location on Waterfront: New Haven; Foot of Aner Street extended, 610 Quinnipiac Avenue.

Owner: Long Island Oyster Farms, Inc.

Operator: Long Island Oyster Farms, Inc.

Use: Idle

Construction Type: Masonry

Description: 99-foot masonry bulkhead with solid fill fronted by a timber pile and timber decked extension.

Depth alongside at MLW = 5-feet
Total berthing space = 99-feet
Height of deck above MLW = 11-feet
Load capacity = 150-psf
Pier is unlighted

Remarks: Boatbuilding shed, marine repair plant and marine railways are located on the upper side.

Reference Number: 12

Facility: East Coast Environmental Service Wharf

Location on Waterfront: New Haven; East Bank of Quinnipiac River, 454 Quinnipiac Avenue

Owner: East Coast Environmental Service Corp.

Operator: East Coast Environmental Service Corp.

Use: Receipt of Petroleum Products

Construction Type: Timber

Description: 550-foot timber bulkhead with solid fill, fronted by a 4-foot wide timber walkway and four steel breasting dolphins with a 10-foot by 14-foot steel pile platform.

Depth alongside at MLW = 9-feet
Total berthing space = 550-feet
Height of deck above MLW = 8-feet
Pier is lighted

Remarks: One 8-inch and one 6-inch pipeline extends from the platform to nineteen steel storage tanks with a total capacity of 122,300 barrels. One 2-inch steam line serves the wharf and 110-volt A/C electric service is available to vessels.

Reference Number: 13

Facility: Goodrich Oil Co. New Haven Terminal Wharf

Location on Waterfront: New Haven; East bank of Quinnipiac River, 39 Ferry Street

Owner: Goodrich Oil Co.

Operator: Goodrich Oil Co.

Use: Receipt of petroleum products

Construction Type: Steel

Description: 152-foot steel sheet pile bulkhead with solid fill.

Depth alongside at MLW = 9-feet
Total berthing space = 152-feet
Height of deck above MLW = 8-feet
Load capacity = 250-psf

Remarks: Seven steel storage tanks at the rear of the facility with a total capacity of 51,100 barrels, can receive waterborne petroleum products from an 8-inch pipeline connecting to a Jet Lines, Inc. 12-inch inland pipeline extending from other petroleum handing wharves in the port area.

Facility currently idle.

Reference Number: 14

Facility: Mobil Oil Co., New Haven Terminal Pier

Location on Waterfront: New Haven; East bank of Quinnipiac River, 134 Forbes Avenue

Owner: Mobil Oil Co.

Operator: Mobil Oil Co.

Use: Receipt of Petroleum Products

Construction Type: Timber

Description: 20-foot by 35-foot timber pile, timber decked offshore platform with 230-foot by 7-foot approach supporting walkway and pipelines; three timber breasting dolphins in line with face. Two timber dolphins on upper side form barge slip with upper rear of face.

Depth alongside at MLW = 13-feet
Height of deck above MLW = 12-feet
Total berthing space = 200-feet

Remarks: 110-volt AC electric service available to vessels. Six 8-inch and three 6-inch pipelines extend from wharf to fifteen steel storage tanks in rear with a total capacity 585,550 barrels. Six additional storage tanks with a total capacity of 22,300 barrels are located in rear and are not connected to the wharf. In addition, two 12- and one 10-inch pipelines extend from the ARCO Petroleum Products Co. Wharf (Reference No. 19) to eleven of the fifteen storage tanks described above. Face of wharf is in line and contiguous with Reference No. 15, providing 300 feet of continuous berthing space.

Reference Number: 15

Facility: Fireline Petroleum Supply Distribution Co., New Haven Terminal Pier

Location on Waterfront: New Haven, East bank of Quinnipiac, 120 Forbes Avenue

Owner: Fireline Petroleum Supply Distribution Co., Inc.

Operator: Fireline Petroleum Supply Distribution Co., Inc.

Use: Receipt of Petroleum Products

Construction Type: Timber

Description: 25-foot by 10-foot timber pile, timber decked offshore platform with 220-foot by 8-foot approach supporting walkway and pipelines; two timber breasting dolphins in line with face.

Depth alongside at MLW = 10-feet
Breasting distance = 175-feet
Loading capacity = 200-psf
Pier is lighted

Remarks: One 8-inch and three 6-inch pipelines extend from platform to five steel storage tanks with a total capacity of 83,800 barrels. Approximately 400-feet of floating boom for oil spill containment available on wharf. Face of wharf is in line and contiguous with Ref. No. 14 providing 300-feet of continuous berthing space.

Reference Number: 16

Facility: Getty Refining and Marketing Co., New Haven Terminal Pier

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 85 Forbes Avenue

Owner: Getty Oil Co.

Operator: Getty Oil Co.

Use: Receipt of petroleum products by barge

Construction Type: Timber

Description: 25-foot by 10-foot timber pile, timber decked offshore platform with a 240-foot by 9-foot approach supporting walkway and pipelines; two timber breasting dolphins in line with face at each side.

Depth alongside at MLW = 15-feet to 20-feet
Total berthing space = 260-feet
Load capacity = 250-psf
Pier is lighted

Remarks: One 14-inch and one 6-inch pipelines extend from platform to four steel storage tanks with a total capacity of 91,000 barrels. 220-volt AC electric service is available to vessels.

Reference Number: 17

Facility: Gulf Refining and Marketing Co., New Haven Terminal Wharf

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 500 Water Street

Owner: Gulf Oil Co.

Operator: Gulf Oil Co.

Use: Receipt of petroleum products by tanner and barge

Construction Type: Steel and Timber

Description: 60-foot by 39-foot steel and timber pile, timber decked offshore wharf with 160-foot by 18-foot timber walkway and pipeline trestle approach; angular catwalks extend from sides to wharf to four steel breasting dolphins in line with face and to other mooring dolphins in rear.

Depth alongside at MLW = 35-feet
Total berthing space = 735-feet
Load capacity = 250-psf

Remarks: One 20-inch, four 16-inch, one 10-inch and one 6-inch pipelines extend from wharf to nineteen steel storage tanks at rear with a total capacity 1,026,050 barrels. Facilities are connected to Jet Lines, Inc., 12-inch inland pipeline.

Reference Number: 18

Facility: Gulf Refining and Marketing Co., New Haven Terminal Pier

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 500 Waterfront Street

Owner: Gulf Oil Co.

Operator: Gulf Oil Co.

Use: Receipt of petroleum products

Construction Type: Timber

Description: 400-foot by 43-foot timber pile, timber decked pier.

Depth alongside at MLW = 25-feet
Height of deck above MLW = 10-feet
Total berthing space = 400-feet
Load capacity = 250-psf
Pier is lighted

Remarks: One 10-inch pipeline extends from south side of pier to storage tanks described in Reference No. 17.

Reference Number: 19

Facility: Arco Petroleum Products Co., New Haven Terminal Wharf

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 280 Waterfront Street

Owner: Arco Oil Co.

Operator: Arco Oil Co.

Use: Receipt of petroleum products

Construction Type: Steel and concrete

Description: 110-foot steel pile, concrete decked, offshore wharf with 255-foot by 25-foot wide approach supporting a 5-foot walkway and pipelines; one steel breasting dolphin in line with face; catwalks extend to steel pile mooring dolphins at rear of face at each side.

Depth alongside at MLW = 35-feet
Total berthing space = 760-feet

Remarks: Water available through four 2.5-inch connections on wharf. Four 12-inch and one 8-inch pipelines extend from wharf to sixteen steel storage tanks located at rear with a total capacity of 713,000 barrels. Two 12-inch and two 10-inch pipelines extend from wharf to eleven storage tanks described in Ref. No. 14, and two 14-inch pipelines extend to New Haven Terminal described in Ref. No. 21. Storage tanks are connected to Jet Lines, Inc., 12-inch inland pipeline.

Reference Number: 20

Facility: New Haven Terminal Scrap Metal Dock

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 30 Waterfront Street

Owner: New Haven Terminal, Inc.

Operator: New Haven Terminal, Inc.

Use: Shipment of scrap metal. Receipt and shipment of containerized and conventional cargo.

Construction Type: Steel

Description: 640-foot steel sheet pile, cellular bulkhead with solid fill supporting concrete deck and fronted by a timber fender system.

Depth alongside at MLW = 35-feet
Breasting distance = 640-feet
Total berthing space = 640-feet
Load capacity = 1200-psf
Height of deck above MLW = 14-feet

Remarks: Vessels receive water through a 2.5-inch connection. 110/230-volt ac electric service is available to vessels. Gantry cranes travel along entire length of apron. Approximately three acres of open storage area are at the rear with a capacity for 25,000 tons of scrap metal. Wharf forms 196-foot slip with Ref. No. 21. Approximately 25 acres of open storage area, three acres of which are paved are located in the terminal yard at rear and on opposite side of Waterfront Street.

Two 30-ton, diesel electric, traveling, revolving, gantry cranes, each with 90-foot boom, one 250-ton, diesel, crawler crane with 130-foot boom; one 100-ton, diesel crawler crane with 100-foot boom; and two 50-ton, diesel crawler cranes, each with 80-foot boom. Cranes are equipped with electric magnets ranging from 70 inches to 90 inches in diameter. Crawler cranes described above are used wherever needed at terminal. Two container lift trucks are used for handling 20-foot and 40-foot containers.

Reference Number: 21

Facility: New Haven Terminal Pier

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 30 Waterfront Street

Owner: New Haven Terminal, Inc.

Operator: New Haven Terminal, Inc.

Use: Receipt and shipment of conventional general cargo in foreign and domestic trade

Construction Type: Timber and steel

Description: 470-foot by 60-foot part timber pile, timber decked, part steel sheet pile, concrete capped, asphalt surfaced pier; fronted by a timber fender system.

Depth alongside at MLW = 35-feet (upper); 39-feet (lower)

Remarks: Three transit sheds at rear of pier area

Two surface tracks at inner end of pier and one surface track on north side of property serves a four car capacity, tank carloading rack that joins additional trackage serving terminal and connect with Consolidated Rail Corp.

One 16-inch, one 12-inch, four 10-inch, four 8-inch, four 6-inch, and two 4-inch pipelines extend from pier to 41 steel storage tanks in rear with a total capacity of 2,250,000 barrels. In addition, six stainless steel tanks with a total capacity of 9,250 barrels are available for chemical storage. Facility is connected to Jet Lines, Inc. 12-inch inland pipeline.

Mechanical Handling Facilities:

Two 50-ton, diesel, crawler cranes, each with 80-foot boom; one 5-ton and one 2-ton, LP-gas, mobile cranes with telescopic booms up to 120-feet and 10-feet respectively, twenty-seven forklift trucks with capacities of up to 20 tons; one 5.5 cubic yard and one 2.75 cubic yard, diesel, front-end loaders; and one diesel, locomotive, switch engine is used throughout the terminal.

Reference Number: 22

Facility: Exxon Co., New Haven Terminal Wharf

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 481 East Shore Parkway

Owner: Exxon Co.

Operator: Exxon Co.

Use: Receipt and shipment of petroleum products

Construction Type: Timber and concrete

Description: Irregularly shaped, timber pile, concrete decked, offshore wharf with 900-foot by 20-foot timber walkway and pipeline trestle approach; two 33-foot by 28-foot concrete breasting dolphins in line with face and two timber dolphins in line with rear of face; two additional mooring dolphins on each side connected by catwalks.

Depth alongside at MLW = 35-feet (tanker berth) 16 feet (barge berth)
Breasting distance = 700-feet (tanker berth) 200 feet (barge berth)
Height of deck above MLW = 13-feet
Pier is lighted

Mechanical Handling Facilities

Steel tower on wharf supports four 8-inch diameter, swivel jointed, pipeline loading arms for tanker connections; handled by a "V" shaped, electrically operated, hinged boom on tower with a 50-foot reach; one additional swivel jointed loading arm on wharf.

Remarks: 110/220-volt VC electric service is available to vessels. One 18-inch, one 16-inch, two 14-inch, four 12-inch, and two 10-inch pipelines extend from wharf to 21 steel storage tanks located approximately 1,600-feet to the rear, with a total capacity of 1,768,700 barrels. Facility is connected to Jet Lines, Inc. 12-inch inland pipeline.

Reference Number: 23

Facility: United Illuminating Co., New Haven Harbor Station Pier

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 80 Temple Street

Owner: United Illuminating Co.

Operator: United Illuminating Co.

Use: Receipt of fuel oil by barge for plant consumption

Construction Type: Timber

Description: 500-foot by 50-foot timber pile, timber-decked, concrete surfaced pier with two steel pile fenders fronted by timber fenders on upper side.

Depth alongside at MLW = 25-feet
Total berthing space = 400-feet
Height of deck above MLW = 13-feet
Load capacity = 250-psf
Pier is lighted

Remarks: Water service is available through a 2-inch line. 110/440 volt AC electric service is available to vessels. One 18-inch pipeline extends from pier to two steel storage tanks with a total capacity of 650,000 barrels; 1200 feet of floating boom for oil spill containment available on wharf.

Power plant located on shore in rear. A 6-foot by 24-foot wooden float with styrofoam flotation is used as a small boat mooring facility and is attached to the pier.

Reference Number: 24

Facility: U.S. Coast Guard Group Long Island Sound Station, New Haven Pier

Location on Waterfront: New Haven; Easterly shore of New Haven Harbor, 120 Woodward Street

Owner: U.S. Government

Operator: U.S. Coast Guard

Use: Mooring Government Vessels

Construction Type: Timber and concrete

Description: 200-foot by 20-foot foot "L" shaped timber pile, timber and concrete decked pier.

Depth alongside at MLW = 5-feet to 12-feet
Total berthing space = 45-feet (upper side); 65-feet (lower side)
Pier is lighted

Remarks: Additional berthing is available for small craft above upper side of pier along three 50-foot by 8-foot timber floats forming "U" shaped boat slip. Additional floats added in 1979 at the northeast end of the "U" shaped boat slip are 50-foot by 6-foot and 50-foot by 8-foot floats in a "L" shaped configuration.

110/220/480-volt AC electric service is available to vessels and water service is available through a 2.5-inch line.

Reference Number: 25

Facility: West Cove Marina Yacht Club

Location on Waterfront: West Haven; West bank of West River, 13 Kimberly Avenue

Owner: D. Fiorini

Operator: D. Fiorini

Use: Marina

Construction Type: Timber

Description: Four floating docks approximately 200-feet long with finger slips, attached to driven wood piles.

Total frontage along river approximately 300 feet.

Reference Number: 26

Facility: City Point Yacht Club

Location on Waterfront: New Haven; East bank of West River, 347 & 355 Kimberly Avenue

Owner: City Point Yacht Club

Operator: Member operated

Use: Marina

Construction Type: Timber

Description: Marina occupies approximately 450-feet of river frontage and extends approximately 75-feet into the river. Two access docks extend from shore to floating docks parallel to the river.

Reference Number: 27

Facility: West Haven Yacht Club

Location on Waterfront: West Haven; Westerly shore of New Haven Harbor, First Avenue

Owner: West Haven Yacht Club

Operator: West Haven Yacht Club

Use: Marina

Construction Type: Timber

Description: Driven timber piles with many floating finger docks extending approximately 350-feet into the harbor.

Reference Number: 28

Facility: West Breakwater

Location on Waterfront: Entrance to outer harbor

Owner: U.S. Government

Operator: U.S. Government

Use: Harbor Refuge

Construction Type: Stone

Description: 4,200-foot breakwater constructed of riprap with a 2 on 3 side slope on the seaward (south) side and a 1 on 1 side slope on the landward (north) side.

Top width = 12-feet
Height above MLW = 12-feet

Remarks: A navigation light is located at the west end of the breakwater and New Haven Lighthouse is located at the east end of the breakwater.

Reference Number: 29

Facility: Luddington Rock (Middle) Breakwater

Location on Waterfront: Entrance to outer harbor

Owner: U.S. Government

Operator: U.S. Government

Use: Harbor Refuge

Construction Type: Stone

Description: 4,450-foot breakwater constructed of riprap with a 2 on 3 side slope on the seaward (south) side and a 1 on 1 side slope on the landward (north) side.

Top width = 12-feet
Height above MLW = 12-feet

Remarks: Navigation lights occupy each end of the breakwater

Reference Number: 30

Facility: Fair Haven Marina

Location on Waterfront: New Haven; West bank of Quinnipiac River, 309 Front Street

Owner: John and Loretta Tsilfoglou

Operator: J. Tsilfoglou and John and Kathy Izzo

Use: Marina

Construction Type: Timber and concrete

Description: 900-feet of floats in various configurations. Numerous finger floats attached to main floats. A concrete ramp 25-feet by 15-feet extends approximately 20-feet beyond the high tide line. Bulkhead runs the length of the property and is constructed from 4-feet by 3-feet x 2-feet concrete blocks stepped back 1.5-inches and reinforced by treated piles every 12-feet.

Reference Number: 31

Facility: Waucoma Yacht Club

Location on Waterfront: New Haven; West bank of Quinnipiac River, 273 Front Street, New Haven

Owner: Waucoma Yacht Club

Operator: Waucoma Yacht Club

Use: Marina

Construction Type: Timber

Description: Numerous floats and slips in various configuration extending approximately 150-feet into the river.

Reference Number: 32

Facility: Seawall impoundment, for use as a fish pond

Location on Waterfront: New Haven; South end of Morris Cove, 160 Cove Street

Owner: Nicola & Tommasina Delfalco

Operator: Nicola & Tommasina Delfalco

Use: Fish Pond

Construction Type: Steel reinforced concrete and earth

Description: Seawall impoundment area is 26-feet wide and 30-feet long. The top of the seawall is at elevation 10.0-feet MLW.

Reference Number: 33

Facility: Lighthouse Point Park, Fishing Pier

Location on Waterfront: New Haven; About 1500-feet north of Lighthouse Point

Owner: New Haven Parks Department

Operator: New Haven Parks Department

Use: Fishing Pier (public)

Construction Type: Timber

Description: 203-foot by 16-foot timber pile, timber decked pier.

Remarks: Pier extends approximately 128-feet beyond mean high water.

Reference Number: 34

Facility: Jetty

Location on Waterfront: New Haven; At mouth of Morris Creek, extending from the north bank

Owner: City of New Haven

Operator: New Haven Redevelopment Agency

Use: Stabilize beach and shoreline

Construction Type: Concrete and stone

Description: Jetty extends about 400-feet beyond mean high water and has a top width of 5-feet.

Reference Number: 35

Facility: Groin and outfall pipe

Location on Waterfront: West Haven; Intersection of East Avenue and Beach Street

Owner: City of West Haven

Operator: West Haven Redevelopment Agency

Use: Storm drain outfall and fishing pier

Construction Type: Reinforced concrete pipe stone, steel sheet piling, and concrete.

Description: 14-foot by 380-foot groin. Groin consists of a 72-inch reinforced concrete pipe encased by steel sheet piles, filled with core stone and capped with concrete.

Reference Number: 36

Facility: East Breakwater

Location on Waterfront: Entrance to outer harbor

Owner: U.S. Government

Operator: U.S. Government

Use: Harbor Refuge

Construction Type: Stone

Description: 3,450-foot breakwater constructed of riprap with a 2 on 3 side slope on the seaward (south) side and a 1 on 1 side slope on the landward (north) side.

Top width = 12-feet
Height above MLW = 12-feet

Remarks: Southwest Ledge Lighthouse is located at the west end of the breakwater.

Reference Number: 37

Facility: Sandy Point Dike

Location on Waterfront: Directly south and east of Sandy Point

Owner: U.S. Government

Operator: U.S. Government

Use: Channel protection

Construction Type: Stone and timber

Description: 4,200-foot dike constructed with pilings and riprap. Dike is "L" shaped and has a navigation light at the southern most tip.

Reference Number: 38

Facility: City of New Haven, Public Boat Launch Ramp

Location on Waterfront: New Haven; Lighthouse point park, northerly of Lighthouse

Owner: City of New Haven

Operator: City of New Haven

Use: Public boat launch ramp

Construction Type: Stone and concrete

Description: 30-foot wide concrete launching ramp with adjacent parking facilities.

Remarks: Ramp and access road extend about 115-feet channelward from the mean high water. Old boat launch ramp is abandoned.

Reference Number: 39

Facility: Docking facility

Location on Waterfront: New Haven; On southerly bank of Quinnipiac River at 524 Quinnipiac Avenue

Owner: Sigismund W. Malicki

Operator: Sigismund W. Malicki

Use: Commercial docking facility for fishing boats

Construction Type: Timber and concrete

Description: 10-foot by 120-foot timber pile and concrete deck pier. Pier extends about 80-feet channelward from the mean low water.

Remarks: The existing floats at the site have been removed. The piles for the wharf have been driven, but the wharf has not been built yet.

Reference Number: 40

Facility: Farren's Marina, Floating Docks

Location on Waterfront: New Haven; West Bank of Quinnipiac River, 33 North Front St.

Owner: Charles Farren

Operator: Charles Farren

Use: Marina

Construction Type: Timber

Description: 1150-feet of floating wooden docks secured to twenty six timber piles.

Remarks: Entire wood structure is designed to be removed in winter months, December 1 to March 15 every year.

Reference Number: 42

Facility: E.I. Dupont Denemours & Co. Dock

Location on Waterfront: New Haven; West Bank Quinnipiac River, 46 River Street

Owner: E.I. Dupont Denemours & Co.

Operator: E.I. Dupont Denemours & Co.

Use: Shore protection

Construction Type: Sheet pile bulkhead with timber fender piles and timber dolphins.

Description: 178-feet of sheet pile bulkhead with solid backfill. Fender piles placed in front of bulkhead at 10-feet on center. Two seven-pile mooring dolphins are located at the end of the bulkhead.

Depth alongside at MLW = 9-feet
Height of dock above MLW = 10-feet.

Reference Number: 43

Facility: Conrail Inc., Bulkhead

Location on Waterfront: New Haven; North Bank Quinnipiac River, intersection of River Street and Poplar Street

Owner: Conrail, Inc.

Operator: Conrail, Inc.

Use: Shore protection

Construction Type: Timber

Description: 129-foot bulkhead with solid backfill material

Depth alongside at MLW = 12-feet.

Reference Number: 44

Facility: Leon's Restaurant & Marina, Rusty Scupper

Location on Waterfront: New Haven; Westerly shore of New Haven Harbor, 1st structure north of New Haven Long Wharf Pier

Owner: Edward Varipapa

Operator: Edward Varipapa

Use: Marina

Construction Type: Timber and masonry

Description: Masonry seawall protecting restaurant and parking area. Two floating docks with ten finger floats attached to permanent timber piles. Docks extend approximately 85-feet southerly into the harbor and approximately 50-feet westerly into the harbor.

Reference Number: 45

Facility: Oyster Point Marina, Traders Dock Marina

Location on Waterfront: New Haven; Intersection of South Water Street and Howard Avenue

Owner: Marina Landing Development Corp.

Operator: Marina Landing Development Corp.

Use: Marina

Construction Type: Timber

Description: Timber bulkhead along shore line. 85-foot by 250-foot filled bulkhead parking area with restaurant extends channelward between the two marinas. Floating breakwaters protect marinas. Numerous floating docks and finger floats. Located northeast of Oyster Point Marina is a timber pier, 8-feet wide and 150-feet long. Concrete retaining wall is approximately 220-feet long.

Remarks: West of these marinas, another marina is proposed by Harbor Landing Development Corp. but construction is not yet started.

Reference Number: 46

Facility: Erosion Control Groins

Location on Waterfront: West Haven; East of Bradley Point and south of Beach Street

Owner: City of West Haven

Operator: West Haven Redevelopment Agency

Use: Erosion Control

Construction Type: Steel, concrete and stone

Description: Three groins 380-feet long with an outfall pipe encased by steel sheet piling and capped with concrete. Three stone groins 380-feet long. One stone groin 100-feet long.

Reference Number: 47

Facility: Erosion Control Groins

Location on Waterfront: West Haven; Prospect Beach northeasterly from Oyster River Point

Owner: City of West Haven

Operator: West Haven Flood & Erosion Control Board

Use: Erosion Control

Construction Type: Stone and gravel

Description: Eight stone groins 330 feet long with a top width of 5-feet and side slopes of 1 on 5. Three wooden pile groins. One small stone groin.

Reference Number: 48

Facility: Brewery Square Site Bulkhead

Location on Waterfront: New Haven; Extending northeasterly from the Ferry Street bridge approximately 1045-feet along the Quinnipiac River.

Owner: City of New Haven

Operator: Gelardin/Bruner/Cott Development Corporation

Use: Riverfront Park

Construction Type: Steel, concrete and iron

Description: 1045-feet of steel sheet pile bulkhead with a concrete cap and iron fence on top of the bulkhead.

Reference Number: 49

Facility: New Haven Yacht Club Bulkhead & Pier

Location on Waterfront: New Haven; Morris Cove, 138-156 Cove Street

Owner: New Haven Yacht Club

Operator: New Haven Yacht Club

Use: Recreation

Construction Type: Wood and concrete

Description: Approximately 210 feet of concrete bulkhead. Wooden pier 100-feet by 6-feet with ten mooring piles on each side of the pier. At the end of the pier a 23-foot by 4-foot ramp connects to a 60-foot by 8.5-foot floating dock with four mooring piles on the east side. Stone jetty at westerly edge of property extends approximately 80-feet into the harbor.

Reference Number: 50

Facility: New Haven Marina

Location on Waterfront: New Haven; Morris Cove, Eight Cove Street

Owner: New Haven Marina

Operator: Nick Rascati

Use: Idle

Construction Type: Timber, stone and concrete

Description: "L" shaped stone breakwater covered with demolished concrete floor slabs approximately 200 feet into the harbor and 140-feet parallel to the shore. Wooden pilings and floating docks present in the marina area.

Reference Number: 51

Facility: Riprap

Location on Waterfront: New Haven; Morris Cove, 62 Cove Street

Owner: Andrew & Marie Amarante

Operator: Andrew & Marie Amarante

Use: Shore protection of restaurant

Construction Type: Stone

Description: Approximately 300-feet of riprap restored and/or installed along the waterfront.

Height of stone above MLW = 11-feet

Reference Number: 52

Facility: United Illuminating Co. Bulkheads

Location on Waterfront: New Haven; South of Grand Avenue Bridge along the west shore and Island in middle of Mill River

Owner: United Illuminating Co.

Operator: United Illuminating Co.

Use: Shore protection

Construction Type: Steel sheet pile

Description: West bank southerly 628 feet. Steel sheet pile bulkhead around perimeter of island.

Reference Number: 53

Facility: Erosion Control Groin

Location on Waterfront: West Haven; Sandy point at end of Third Avenue

Owner: City of West Haven

Operator: West Haven Flood & Erosion Control Board

Use: Erosion Control

Construction Type: Timber

Description: Timber plank and pile groin approximately 250-feet long providing erosion control for Sandy Point.

Reference Number: 54

Facility: Derelict Structure

Location on Waterfront: West Haven; Between Sandy Point and April Street

Owner: City of West Haven

Operator: N/A

Use: Idle

Construction Type: Wooden pilings

Description: Derelict wooden pilings approximately 60-feet in length and 25 feet wide extending into the harbor.

Reference Number: 55

Facility: Wastewater Treatment Plant

Location on Waterfront: New Haven; Northeast corner of City Point

Owner: City of New Haven

Operator: City of New Haven

Use: Outfall pipe

Construction Type: Concrete and steel piling

Description: Approximately 300-feet long concrete outfall pipe encased by steel sheet piles.

Reference Number: 56

Facility: Long Wharf Marina

Location on Waterfront: New Haven; At intersection of Hamilton Street and Long Wharf Drive

Owner: Fusco Corp.

Operator: Fusco Corp.

Use: Bulkhead

Construction Type: Steel sheet pile

Description: Steel sheet pile bulkhead approximately 350-feet in length.

Remarks: 750-feet of riprap shore protection is proposed to be replaced by steel sheet pile for remainder of shoreline property. Proposed marina not yet under construction. Existing derelict piles are to be removed as construction progresses.

Reference Number: 57

Facility: Mooring Facility

Location on Waterfront: New Haven; Intersection of Mill and Quinnipiac rivers at northwesterly river bank between Forbes Avenue and Connecticut Turnpike

Owner: Chapman Blakeslee

Operator: Chapman Blakeslee

Use: Mooring facility for barge

Construction Type: Wooden

Description: Four wooden mooring dolphins along river bank. Stone riprap along shore.

Reference Number: 58

Facility: Electrical transmission line tower piers

Location on Waterfront: New Haven; Intersection of Mill and Quinnipiac Rivers

Owner: United Illuminating Co.

Operator: United Illuminating Co.

Use: Piers

Construction Type: Steel sheet piles, concrete and earth

Description: Approximately 50-foot by 50-foot foundation for transmission tower.

Reference Number: 59

Facility: Wooden Bulkhead

Location on Waterfront: New Haven; West bank of Mill River between Chapel Street and Ives Place

Owner: Southern Connecticut Gas Co.

Operator: Southern Connecticut Gas Co.

Use: Erosion Protection

Construction Type: Timber

Description: Wooden bulkhead approximately 1000-feet long.

Reference Number: 60

Facility: Quinnipiac Park

Location on Waterfront: New Haven; Intersection of Mill and Quinnipiac Rivers between Chapel Street and James Street

Owner: City of New Haven

Operator: New Haven Parks Department

Use: Public Park

Construction Type: Steel sheet pile and concrete

Description: Approximately 1000-feet of deteriorating steel sheet piling starting at Chapel Street ending near southern tip of park. Then approximately 300-feet of concrete retaining wall to eastern end of park.

Reference Number: 61

Facility: Bulkheads/Riprap

Location on Waterfront: New Haven; On the west bank of Quinnipiac River extending downstream from Ferry Street bridge

Owner: Seaboard Coal & Oil Co.

Operator: Seaboard Coal & Oil Co.

Use: Shore protection

Construction Type: Timber and steel sheet pile

Description: Steel sheet pile bulkhead extending downstream from Ferry Street approximately 100-feet. Thereafter wooden bulkhead in disrepair extends approximately another 100-feet connecting to stone riprap which extends approximately 200-feet.

Reference Number: 62

Facility: Front Street Park

Location on Waterfront: New Haven; On west bank of Quinnipiac River starting approximately 1045-feet above Ferry St. bridge and continuing to Grand Avenue bridge

Owner: City of New Haven

Operator: City of New Haven

Use: Public park

Construction Type: Stone, steel sheet pile and concrete

Description: 125-linear feet of stone wall. 580-linear feet of steel sheet pile bulkhead and concrete cap. 1000 linear feet of stone riprap. 36-linear feet of concrete block wall (2-foot by 3-foot by 6-foot blocks).

Reference Number: 63

Facility: Dock

Location on Waterfront: New Haven; East bank of Quinnipiac River approximately 1600-feet upstream from Grand Avenue bridge

Owner: Unidentified

Operator: Unidentified

Use: Private recreational docking facility

Construction Type: Wood

Description: Approximately 50-feet of floating dock attached to wooden piles.

Reference Number: 64

Facility: Riprap Slope

Location on Waterfront: New Haven; Quinnipiac River, east bank approximately 550-feet upstream from Grand Avenue bridge

Owner: Juliano's/New Haven Fish, Lobster & Bait

Operator: N/A

Use: Protect river bank from erosion

Construction Type: Stone and earth

Reference Number: 66

Facility: Derelict Piles

Location on Waterfront: East Haven; On the east bank of Quinnipiac River 1700-feet downstream from the Grand Avenue bridge

Owner: Oyster Harbor LTD

Operator: N/A

Use: Idle

Construction Type: Timber

Description: Several derelict wooden pilings extend approximately 25-feet into the river and parallels the shoreline approximately 300-feet. Appears to have formerly been a wharf.

Reference Number: 67

Facility: Wharf & Derelict Wooden Piles

Location on Waterfront: New Haven; Just downstream of Ferry Street bridge on east bank of Quinnipiac River

Owner: Tilcon Materials, Inc.

Operator: N/A

Use: Vacant Lot

Construction Type: Timber

Description: Extending downstream from the Ferry Street bridge approximately 350-feet is derelict pilings and wharf. Extends approximately 8-feet into the river.

Reference Number: 68

Facility: Bulkhead

Location on Waterfront: New Haven; On Quinnipiac River east bank approximately 700-feet below Ferry Street bridge

Owner: City of New Haven

Operator: N/A

Use: Lumber yard

Construction Type: Steel

Description: Approximately 300-feet of deteriorating steel sheet pile bulkhead.

Reference Number: 69

Facility: Former Boat House

Location on Waterfront: New Haven; East bank of Quinnipiac River between Forbes Avenue and Connecticut Turnpike, #74 Forbes Avenue

Owner: James Redden

Operator: N/A

Use: Office Building

Construction Type: Stone and brick

Description: Stone building foundation extending approximately 50-feet into the river and approximately 200-feet long.

Reference Number: 70

Facility: Derelict Pier

Location on Waterfront: New Haven; Naval station, Nathan Hale Park

Owner: U.S. Government

Operator: U.S. Navy

Use: Not in use

Construction Type: Timber

Description: Derelict timber pier approximately 250-feet long in disrepair.

Reference Number: 71

Facility: Stone Retaining Wall Stone Groin

Location on Waterfront: New Haven; Along Townsend Avenue between Myron Street and Beecher Place

Owner: Pardee Parkway

Operator: N/A

Use: Public Park

Construction Type: Stone

Description: Stone retaining wall from Myron Street to Beecher Place. Stone groin at Beecher place.

Reference Number: 72

Facility: Bulkhead/Floating Docks

Location on Waterfront: New Haven; 213 North Front Street

Owner: Litchfield-Johnson Corp.

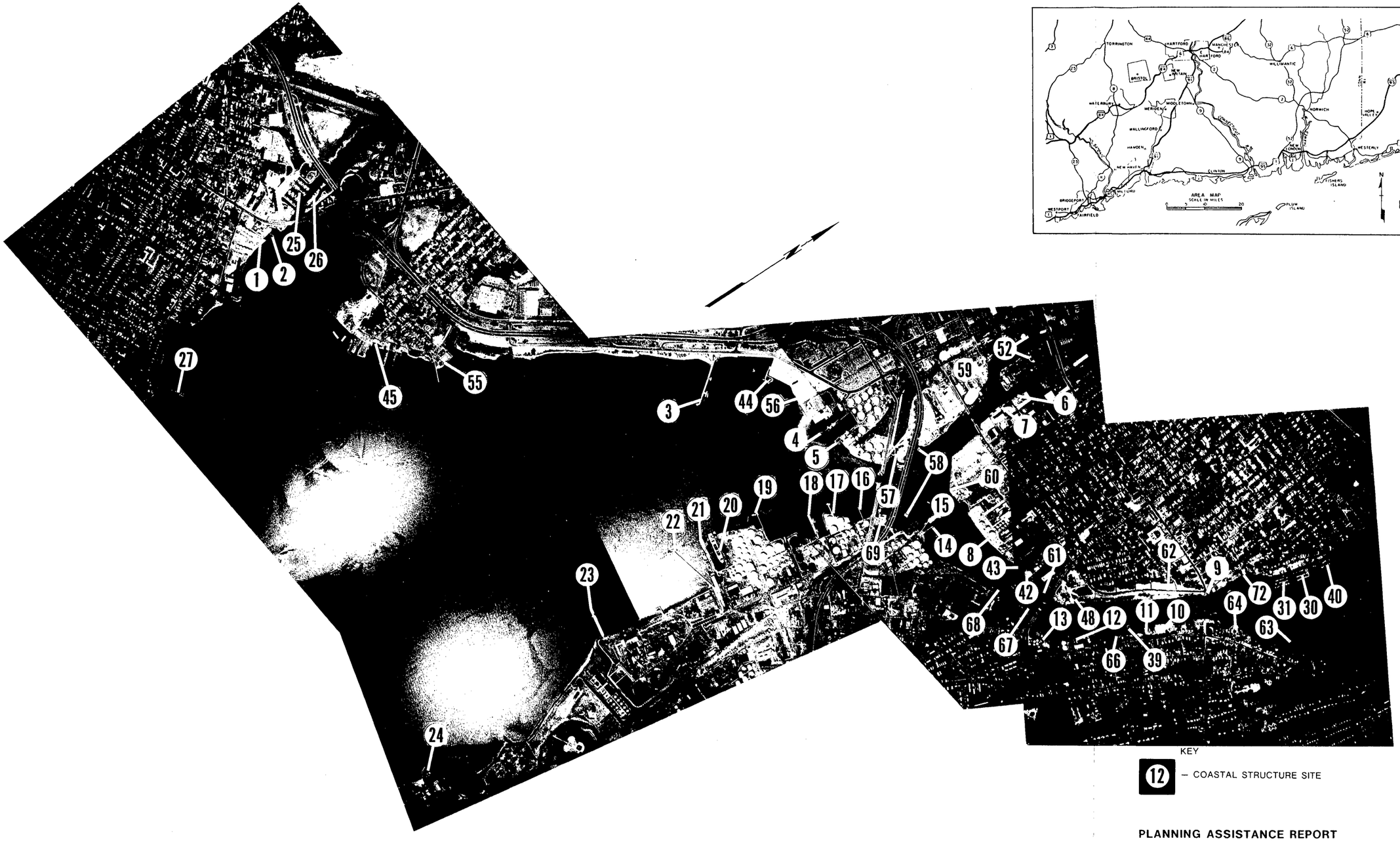
Operator: Litchfield-Johnson Corp.

Use: Condos/Retaining wall and floating docks

Construction Type: Timber

Description: 5-foot wide timber boardwalk at the rivers edge supported by a bulkhead and wooden pilings for the length of the project approximately 540-feet. Two floating dock/slip assemblies, one 230-foot length and one 165-foot length.

Remarks: Condo project near completion. Boardwalk, bulkhead and dock/slip assemblies have been installed.



KEY

12 – COASTAL STRUCTURE SITE

PLANNING ASSISTANCE REPORT

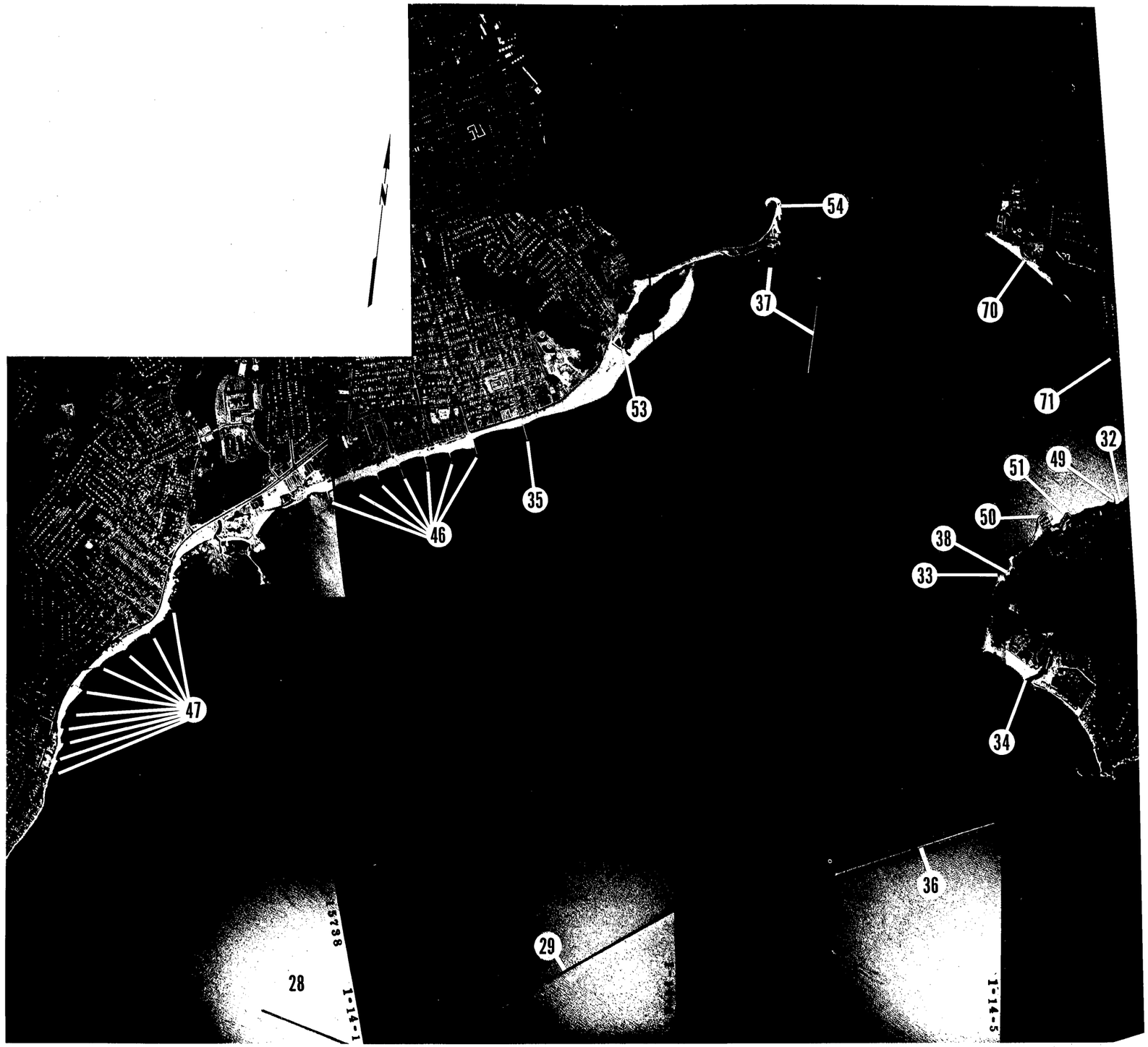
COASTAL STRUCTURES INVENTORY

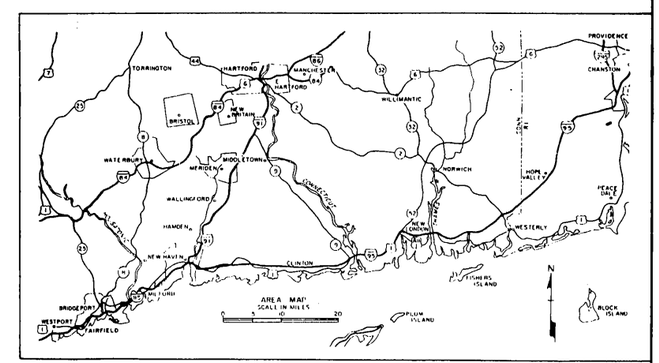
NEW HAVEN, CONNECTICUT

NEW ENGLAND DIVISION
U.S. ARMY CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS

APRIL, 1988

PLATE 1 INNER HARBOR





KEY

35 – COASTAL STRUCTURE SITE

PLANNING ASSISTANCE REPORT

COASTAL STRUCTURES INVENTORY

NEW HAVEN, CONNECTICUT

NEW ENGLAND DIVISION
U.S. ARMY CORPS OF ENGINEERS
WALTHAM, MASSACHUSETTS

APRIL, 1988

PLATE 2 OUTER HARBOR

APPENDIX A

GLOSSARY OF TERMS

GLOSSARY OF TERMS

BATHYMETRY. The measurement of water depths in large bodies of water.

BERTHING SPACE. A space at a wharf for a ship to dock or anchor.

BREAKWATER. A structure that protects a shore area, harbor, anchorage, or basin by intercepting waves. These structures are designed as wave energy barriers to protect any landforms or water area behind them from the direct assault of waves. A breakwater may be either shore connected or offshore. An offshore breakwater parallels the shore and is located in a water depth normally between 5-feet and 25-feet.

BREASTING DISTANCE. The seaward length of a docking structure available for alongside vessel mooring.

BULKHEAD. A structure placed on a bank or bluff to retain or prevent sliding of the land and protect the inland area against damage from wave action.

DEEP DRAFT. Water of such depth that surface waves are mostly unaffected by the bathymetry. Depths greater than 15-feet area considered as deep draft.

DEPTH ALONGSIDE. The water depth seaward and immediately adjacent to a waterfront structure.

DIKE. A wall or mound built around a low-lying area to prevent flooding or control sedimentation.

DOCK. A general landing area for ships and boats.

DOLPHIN. A cluster of offshore piles.

HARBOR ENTRANCE. The transition between Long Island Sound and the outer harbor of New Haven.

HEAD OF HARBOR. The inner-most portion of the harbor seaward of the coastline.

INNER HARBOR. That portion of the harbor with depths generally less than six feet except for dredged areas.

GROIN. A finger-like structure built perpendicular to the shoreline, usually with other groins to trap littoral drift or retard erosion of the shore.

JETTY. A structure extending into the water to direct and confine river or tidal flow into a channel and prevent or reduce the shoaling of the channel by littoral material. These structures may be located at the

entrance to a harbor or river to protect the entrance channel from wave action and crosscurrents. These structures may also be used to stabilize the inlet location.

KNOT. A unit of speed used in navigation equal to one nautical mile per hour.

LOAD CAPACITY. The force per unit area which can be safely supported by a structure. Load capacity is normally expressed in units of pounds per square foot (psf).

MEAN LOW WATER (MLW). The average height of the low waters over a nineteen-year period.

NAUTICAL MILE. A unit of length based on one minute of arc of the average circumference (great circle) of the earth which is equal to 6076.115-feet.

OUTER HARBOR. That portion of the harbor with depths generally between 15-feet and 25 feet except for dredged areas.

PIER. A structure, usually of open construction, extending out into the water from the shore, to serve as a landing place, recreational facility, etc., rather than to afford coastal protection.

PILE. A long, heavy timber or section of concrete or metal to be driven or jetted into the earth or seabed to serve as a support or protection.

REVETMENT. A stone or concrete armor facing placed on a bank or bluff, dune or embankment of stone to protect a slope, embankment, or shore structure against erosion by wave action or currents.

RIPRAP. A layer or protective mound of rubble or stones placed to prevent erosion, scour, or sloughing of a structure or embankment.

SEMI-DIURNAL. Having a period or cycle of approximately 12 hours.

SHALLOW DRAFT. Water of such depth that surface waves are noticeably affected by bathymetry. Depths less than 6-feet are considered as shallow draft.

SHEET PILE. A pile with a generally slender flat cross section to be driven into the ground or seabed and meshed or interlocked with like members to form a diaphram, wall, or bulkhead.

SPRING TIDE. The tide that occurs at or near the time of a full moon and which rises highest and falls lowest from the mean sea level.

TIDE RANGE. The difference in height between consecutive high and low water.

TOTAL BERTHING. The cumulative breasting distances of all docking facilities at a port facility.

WHARF. A structure on the shore of a harbor, river or canal so that vessels may lie alongside to receive and discharge cargo and passengers.