



## **PORT MASTER PLAN**

**UPDATE 1990**

**An Amendment to the 1978 and 1983 Port Master Plans**



**LONG BEACH  
CALIFORNIA**

**DATE** November, 2005

**TO** Interested Parties

**FROM** Robert Kanter, Director of Planning and Environmental Affairs

**SUBJECT** Port of Long Beach Port Master Plan

Enclosed you will find the 1990 Update of the Port of Long Beach Port Master Plan (PMP), which was certified by the California Coastal Commission in September, 1990. The original PMP was certified by the Coastal Commission in 1978 and was updated in 1983. The 1990 certified update incorporates PMP Amendments 1 – 5, (the 1990 update represents PMP No. 6) and is the most recent version of the PMP that has been approved by the Coastal Commission. Since 1990, the Port of Long Beach has completed PMP Amendments 7 – 17, and 19. These Amendments were certified by the Coastal Commission, and are summarized and included in this electronic document as Appendix G. Complete PMP amendments can be provided on request.

**PORT OF LONG BEACH MASTER PLAN**

**UPDATE '90**

**AN AMENDMENT TO THE 1978 AND 1983 PORT MASTER PLANS**

**PORT OF LONG BEACH**

**MAY 1990**

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## **TABLE OF CONTENTS**

	<b><u>Page</u></b>
I. INTRODUCTION AND SUMMARY OF PLAN	I-1
A. Purpose	I-2
B. Port Master Plan Update 1990	I-2
C. Program Environmental Impact Report	I-6
II. REGULATIONS AND GUIDELINES AFFECTING PORT DEVELOPMENT	II-1
A. Federal Regulations/Guidelines	II-1
1. Coastal Zone Management Act	II-1
2. Federal Water Pollution Control Act	II-1
3. Federal Clean Air Act	II-2
B. State Regulations and Guidelines	II-3
1. California Clean Air Act of 1988	II-3
2. California Coastal Act	II-3
3. Risk Management Plan	II-4
4. Relevant Changes in CEQA Legislation Since 1983	II-5
C. Regional and Local Regulations/Guidelines	II-5
1. Zoning Regulations	II-5
2. Southern California Air Quality Management Plan	II-7
3. City of Long Beach General Plan	II-7
III. ECONOMIC TRADE AND DEVELOPMENT	III-1
A. Market Areas	III-2
B. Commodities	III-6
1. General Cargo	III-6
2. Dry Bulk	III-7
3. Liquid Bulk	III-12
IV. LAND USE DESIGNATIONS, GOALS, OBJECTIVES, AND LONG-RANGE PLANS	IV-1
A. Land and Water Use Designations	IV-1
1. Land Uses	IV-1

## TABLE OF CONTENTS (cont.)

	<u>Page</u>
2. Water Uses	IV-2
B. Goals for Port Development	IV-3
C. Long-Range Plans to the Year 2020	IV-9
V. PLAN ELEMENTS	V-1
A. Public Access, Visual Quality, and Recreational/Tourist	V-2
B. Navigation	V-6
C. Environmental	V-11
D. Transportation/Circulation	V-20
E. Intermodal Rail Facility	V-31
F. Oil Production and Operation	V-46
VI. DISTRICT UPDATE	VI-1
1. North Harbor	VI-3
2. West Harbor	VI-7
3. Northwest Harbor	VI-10
4. Northeast Harbor	VI-14
5. Federal Use Area	VI-18
6. Middle Harbor	VI-20
7. Queensway Bay	VI-24
8. Southwest Harbor	VI-28
9. Navigation Corridor	VI-30
10. Southeast Harbor	VI-32
11. Outer Harbor	VI-36
CONFORMANCE OF ANTICIPATED PROJECTS WITH COASTAL ACT POLICIES	VI-38
VII. APPENDICES	VII-1
A. Intermodal Rail Land Use Analysis	VII-2
B. Glossary of Intermodal and Maritime Terms	VII-4
C. Agencies/Organizations	VII-14
D. Abbreviations	VII-15
E. References	VII-16
F. Bibliography	VII-17
G. PMP Amendment Summary 7-17, 19	VII-18

## **LIST OF FIGURES**

	<b><u>Page</u></b>
I-1 Long Beach Harbor Planning Districts	I-3
I-2 Location of Anticipated Port Projects	I-7
I-3 Minor Landfill Sites	I-8
II-1 Port Zoning Designations	II-6
III-1 Total Cargo MRT Percentage Breakdown Per Fiscal Year	III-4
III-2 Major Commodities of the Five Leading Trade Partners	III-8
III-3 Major Commodities of the Five Leading General Cargo Countries	III-10
III-4 Major Commodities of the Five Leading Dry Bulk Countries	III-13
IV-1 Location of Anticipated Projects	IV-8
IV-2 San Pedro Bay Ports' 2020 Plan	IV-10
IV-3 San Pedro Bay Ports Major Cargo Classes 2020 Forecasts	IV-11
IV-4 San Pedro Bay Ports' TEUs-2020 Forecast	IV-12
V-1 San Pedro Bay Anchorage Grounds	V-7
V-2 Port of Long Beach Master Road and Railway Transportation Improvements	V-26
V-3 Transportation Improvements to Serve 2020 Landfill	V-30
V-4 Containership Evolution	V-32
V-5 Third Generation Double Stacked Intermodal Rail Car Schematic	V-33
V-6 Integrated Surface Transportation Systems	V-35
V-7 U.S. Intercity Freight Revenues	V-36
V-8 Domestic Containerization Sources of Conversions	V-37
V-9 Container and Estimated Traffic Flow Volumes	V-38
V-10 Trucker Productivity	V-39

## **LIST OF FIGURES (cont.)**

	<b><u>Page</u></b>
V-11 The Intermodal Interface	V-42
V-12 Container Terminal Throughput Capacity Analogy	V-43
V-13 Port of Long Beach DST Rail Plan	V-45
V-14 Wilmington Oil Field	V-47
V-15 Port of Long Beach Surface Well Site Concentration	V-48
V-16 Scheme of Tideland Property Supervision and Operation	V-53
VI-1 Long Beach Harbor Planning Districts	VI-2
VI-2 North Harbor Planning District	VI-4
VI-3 West Harbor Planning District	VI-8
VI-4 Northwest Harbor Planning District	VI-11
VI-5 Northeast Harbor Planning District	VI-15
VI-6 Federal Use Planning District	VI-19
VI-7 Middle Harbor Planning District	VI-22
VI-8 Queensway Bay Planning District	VI-25
VI-9 Southwest Harbor Planning District	VI-29
VI-10 Navigation Planning District	VI-31
VI-11 Southeast Harbor Planning District	Vi-34
VI-12 Outer Harbor Planning District	VI-37

## LIST OF TABLES

	<u>Page</u>
III-1 Total Metric Revenue Tonnage Percentage Breakdown Per Fiscal Year	III-3
III-2 Ten Leading Trading Partners	III-5
III-3 General Cargo Forecast	III-9
III-4 Container and TEU Forecast	III-11
III-5 Five Leading Dry Bulk trading Partners	III-14
III-6 Dry Bulk Forecast	III-15
III-7 Liquid Bulk Forecast	III-17
III-8 Summary of Cargo Forecast	III-18
IV-1 Project Conformance with Goals for Port Development	IV-7
V-1 Possible "Minor" Landfill Mitigation	V-16
V-2 Port of Long Beach Port Access Demonstration Projects' Location and Improvements Phase I/II	V-24
V-3 Port of Long Beach Master Road and Railway Transportation Improvements	V-25
V-4 Terminal Island Transportation Study: Recommended Projects	V-29
VI-1 Conformance of Port Master Plan Anticipated Projects with Coastal Act Policies	VI-41

# I. INTRODUCTION

## I. INTRODUCTION AND SUMMARY OF THE PORT MASTER PLAN

On October 17, 1978, the California Coastal Commission certified the *Port of Long Beach Port Master Plan (PMP)* as being in conformance with the policies of Chapters 8 (*Ports*) and 3 (*Coastal Resources Planning Management Policies*) of the California Coastal Act of 1976. Certification of the PMP was subject to the Port submitting a revised plan for re-certification within five years and preparing a risk management plan for assessing hazardous risks. On June 16, 1981, the Coastal Commission certified the Port's *Risk Management Plan*. The *Risk Management Plan* is primarily concerned with the transfer, handling, storage, and transport of hazardous liquid bulk cargoes. The *Risk Management Plan* amended the 1978 PMP. The PMP was reviewed in 1983 to determine its adequacy and updated to reflect the changing conditions that had occurred. The *PMP Update 1983* was certified and was the second amendment to the 1978 PMP.

Since 1983, the Board of Harbor Commissioners has adopted the following projects as amendments to the PMP: a) Planning District Boundary changes in the Southeast Harbor Planning District, b) Pier A Landfill in the Middle Harbor Planning District, and c) the Pier J Expansion Project (located in the Southeast Harbor Planning District). The Coastal Commission has approved and certified each of these amendments. There are a total of five amendments to the *Port Master Plan*.

In addition, the Queensway Bay Rezoning and Redevelopment Project, located in the Queensway Bay Planning District, was approved by the Board of Harbor Commissioners in 1986. Since an earlier design similar to this project was identified in the *PMP Update 1983*, this project did not require an amendment and was found to conform to the policies of the PMP. The rezoning for this planning district (PD) became part of the City's Zoning Regulations for establishing development guidelines along Queensway Bay.

The *PMP Update 1990* is a five-year plan intended to be a further amendment to the PMP. It revises the *PMP Update 1983* and reflects the major changes that have occurred since then, and incorporates the Port's anticipated projects and long-term plans. Through this document, the Port will request certification by the California Coastal Commission (CCC) for three "minor" (which total less than 30 acres) landfill projects proposed through 1995.

The commitment to periodically update the *PMP* is the result of continuing Harbor Department involvement in the process of port planning, development, and management. As an amendment, this document complements but does not replace the *1978 Port Master Plan* or *PMP Update 1983*. These previous documents are incorporated by reference to the *PMP Update 1990* due to their comprehensive background data. The *PMP Update 1990* serves as an independent document.

## **A. Purpose**

The purpose of preparing the *Port Master Plan Update 1990* is to:

1. Provide a planning tool to guide future port development;
2. Keep the *PMP* current by discussing major changes that have occurred over the past five years;
3. Clarify the *PMP's* goals and objectives for the 11 planning districts; and
4. Avoid individual amendments for three "minor" landfill projects.

A re-evaluation of the Port's commodity import and export trends has been included in the *PMP Update 1990*. An analysis of the economic trade and development is essential for determining additional facility and landfill requirements in the Port of Long Beach. For information purposes, the *PMP Update 1990* provides a summary of long-range plans for cargo facility and infrastructure requirements to the Year 2020. In addition, the Plan provides extensive discussions on the Port's long-range plans and transportation improvement programs, including "on-dock" intermodal rail facilities.

The Port will continue to provide periodic updates to the *Master Plan* to facilitate the use of this document as a planning guide. These subsequent updates will be furnished to the Coastal Commission and interested parties. However, this should not be construed as a requirement in compliance with the Coastal Act. Future updates of the *Master Plan* will primarily consist of updating the market forecasts, re-evaluating long-term and specific planning district goals in light of current market trends and tenant needs, and updating specific project plans.

## **B. Port Master Plan Update 1990**

The Long Beach Harbor District is divided into eleven (11) planning districts (Figure I-1). In 1987, the Coastal Commission certified a boundary change affecting the Southeast and Outer Harbor Planning Districts to incorporate the 147 acre Pier J Expansion project. The boundary change incorporates the landfill area into a district with similar land use and planning goals. The eastern and southwestern boundaries of the Outer Harbor Planning District remained the same.

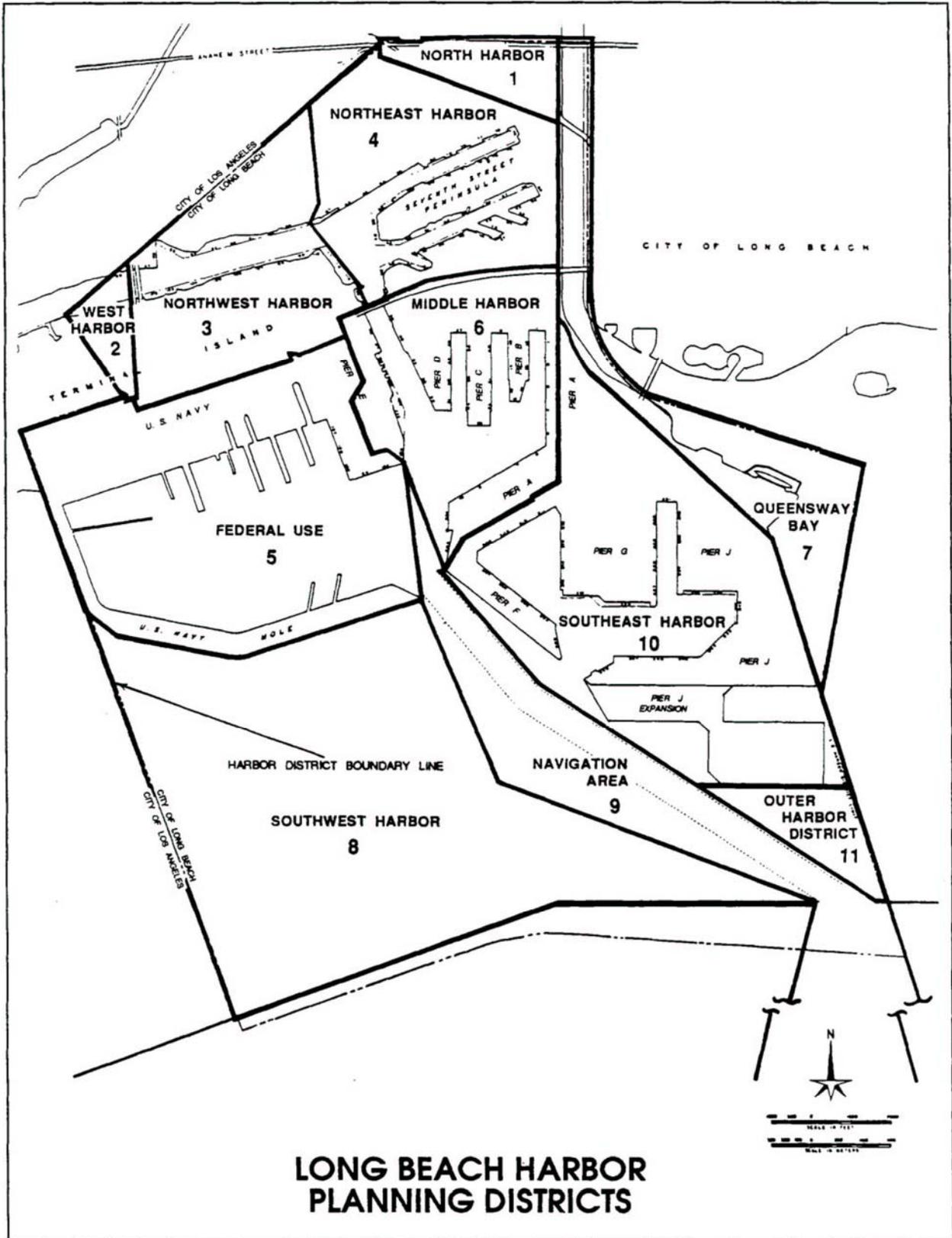


FIGURE I-1

The *PMP Update '90* is divided into five major sections as summarized below:

1. Regulations and Guidelines Affecting Port Development

This section reviews the Coastal Act Mandates, summarizes the regulations that impact the Port, and discusses changes in federal and state regulations and guidelines that have occurred since the *PMP* was updated in 1983 which would affect port development.

2. Economic Trade and Development

An evaluation of tonnage and cargo trends of the major market areas for the Port of Long Beach is discussed. This includes an analysis of the Port's leading trading partner's tonnage and major commodities. A historical time series of the major commodity groups has been used to forecast future commodity throughputs and to make annual comparisons. The time horizon of the projected forecasts is through fiscal year 1994/1995. This section serves as a basis for short-term forecasting (i.e., five-year time frame).

3. Land Use Designations, Goals, Objectives, and Long-Range Plans

This section defines and reviews thirteen (13) land and water designations in the Port. The Ancillary Port Facilities Category is a new land use designation. This type of use includes water dependent activities, other than those involving a Primary Port Facilities use. Although ancillary uses were included in the *PMP '78* and *PMP Update '83*, they were not defined as "designated" port uses.

The land and water use designations are listed below. Each permitted use is described in this section.

Land Uses

- (1) *Primary Port Facilities*
- (2) *Hazardous Cargo Facilities*
- (3) *Port-Related Industries and Facilities*
- (4) *Ancillary Port Facilities*
- (5) *Commercial Recreational Facilities*
- (6) *Federal Use*
- (7) *Oil and Gas Production*
- (8) *Utilities*
- (9) *Non-Port Related Areas*

## Water Uses

- (10) *Anchorage Area*
- (11) *Maneuvering Areas*
- (12) *Navigable Corridors*
- (13) *Recreation/Sportfishing*

In addition, this section includes the following six long-range planning goals and objectives for developing Port policies involving future port development and expansion. The goals are designed to maintain flexibility and respond to Port tenant needs. A matrix exhibiting long-range planning goals for port development compares the projects certified in the PMP Update '83 with the anticipated projects identified in this document.

- GOAL 1: CONSOLIDATE SIMILAR AND COMPATIBLE LAND AND WATER AREAS**
- GOAL 2: ENCOURAGE MAXIMUM UTILIZATION OF FACILITIES**
- GOAL 3: IMPROVE INTERNAL CIRCULATION INVOLVING ROADWAYS AND RAIL**
- GOAL 4: PROVIDE FOR THE SAFE CARGO HANDLING AND MOVEMENT OF VESSELS WITHIN THE PORT**
- GOAL 5: DEVELOP LAND FOR PRIMARY PORT FACILITIES AND PORT-RELATED USES**
- GOAL 6: PROTECT, MAINTAIN, AND ENHANCE THE OVERALL QUALITY OF THE COASTAL ENVIRONMENT**

This section also provides a summary of long-range plans for cargo facility and infrastructure requirements to the year 2020, specifically those necessary to implement the Port's proposed *2020 Plan*, a phased program of dredging, landfilling, and constructing facilities over the next 30 years. The long-range plans are discussed for informational purposes only and should not be considered by the Coastal Commission as a submission for certification at this time.

#### 4. Plan Elements

The purpose of this section is to focus in detail on specific areas where a port-wide review is pertinent as compared to the individual district plans. The plan elements are issue oriented and include the following:

- A. Public Access, Visual Quality, and Recreation/Tourist

- B. Navigation
- C. Environmental
- D. Vehicular Transportation/Circulation
- E. Intermodal Rail Facilities - (This is a new Plan Element and was provided specifically to respond to the Coastal Commission's request for explanatory information in this area).
- F. Oil Production and Operations.

Each of these planning elements outline specific planning goals, issues, and a recommendation/implementation program.

#### 5. District Update

The designated land and water uses for each of the eleven Harbor Planning Districts are discussed in this section. Changes in district goals since the *PMP* was updated in 1983 are summarized. The planning goals for each district serve as guidelines for long-term development within the district. Objectives are included as actions for implementing the goals.

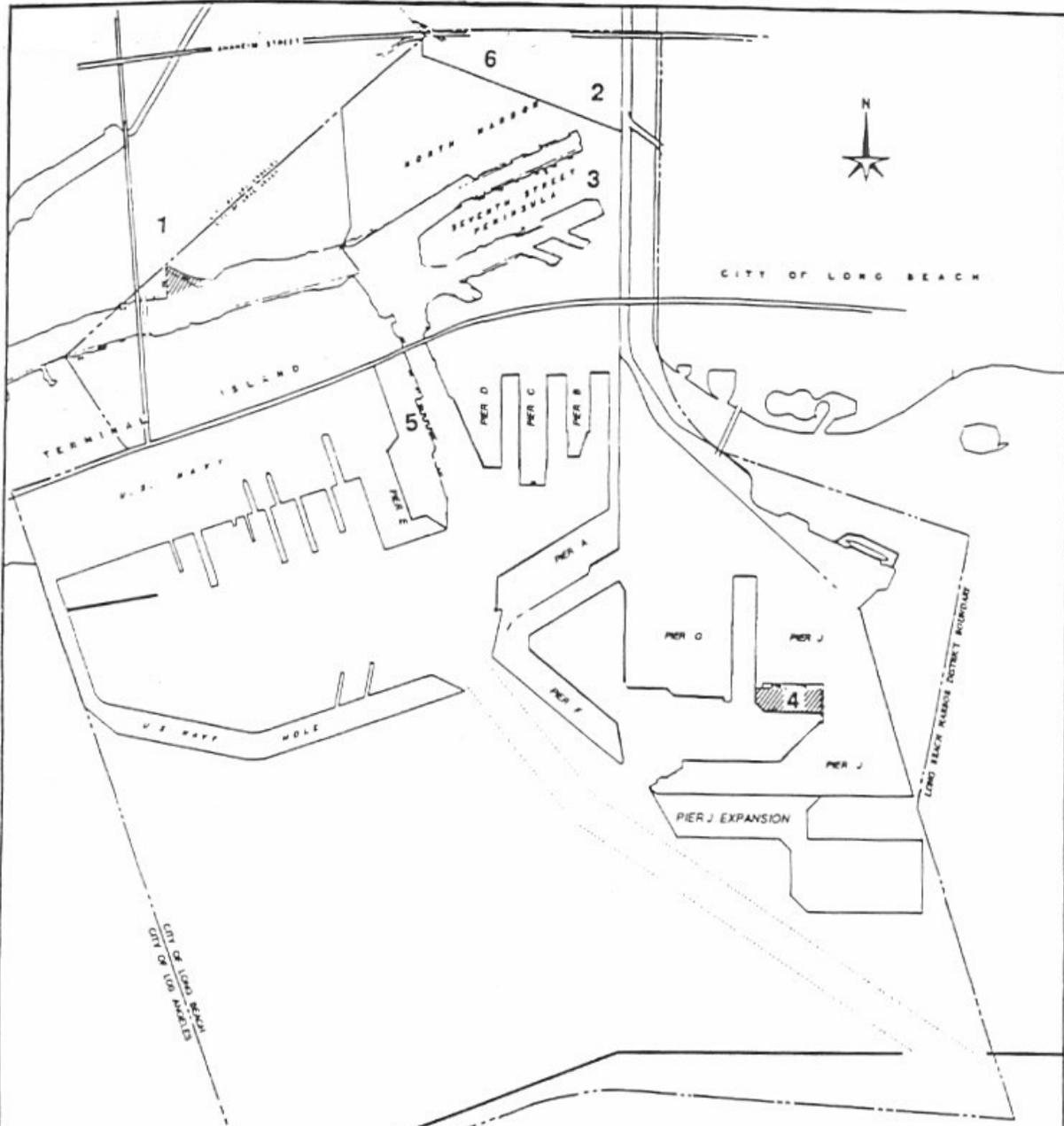
The "anticipated" projects over the next five years include development, redevelopment, "minor" landfill, and road and railway transportation improvements. These are described in the District Update, Section VI. The anticipated projects can be seen in Figure I-2. "Minor" landfill projects proposed for development are listed below and exhibited in Figure I-3:

- (1) Berths 95-97 Marine Terminal Development (8 acres);
- (2) Pier J Southeast Basin (12 acres); and
- (3) Berths 72-73 (0.15 acres) Channel No. Two.

Mitigation for fish and wildlife losses associated with these three landfills will be from existing mitigation banks established for the Newport Bay and Anaheim Bay wetlands restoration projects already approved by the Coastal Commission.

#### **C. Program Environmental Impact Report**

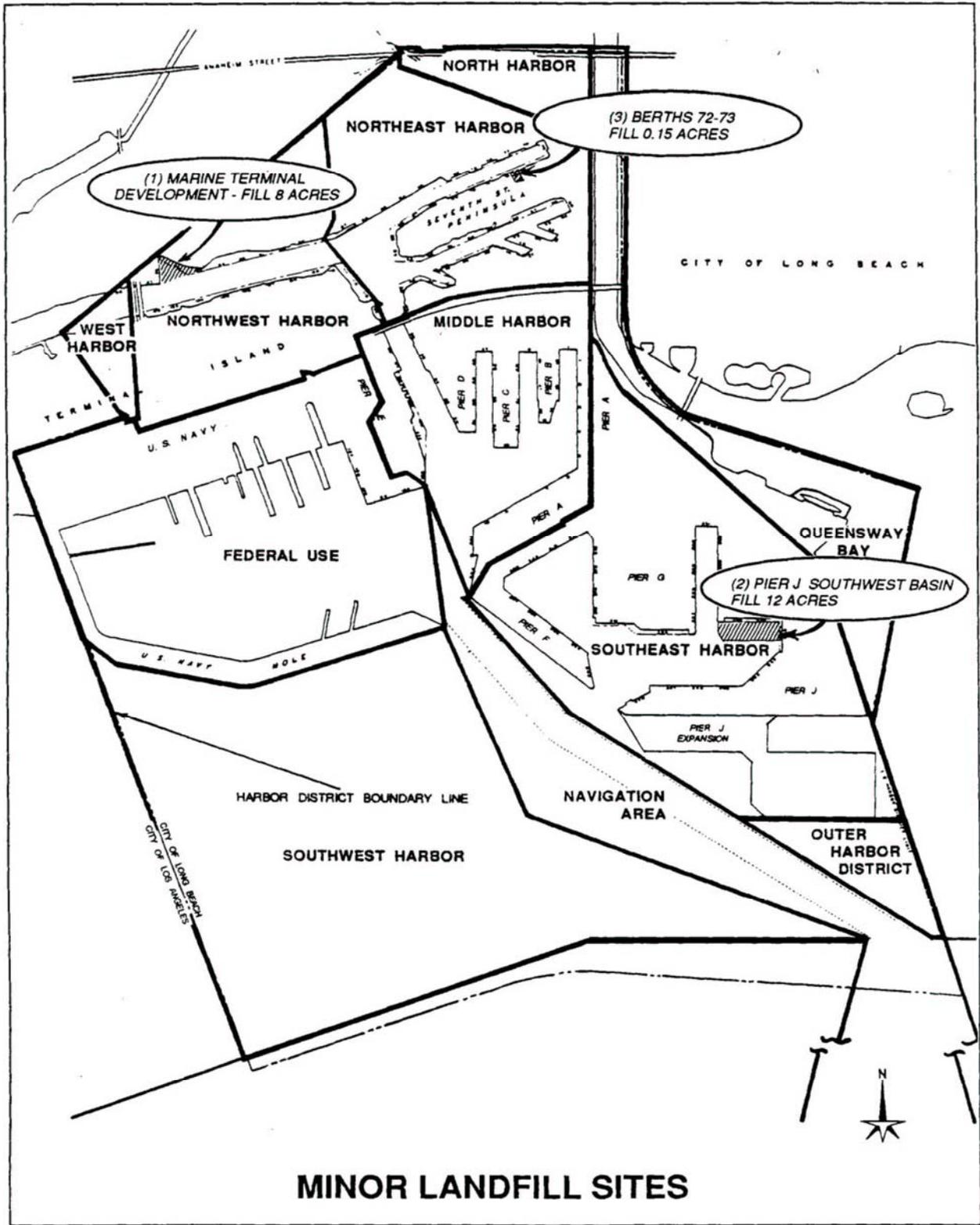
Pursuant to the *Guidelines for Implementation of the California Environmental Quality Act (CEQA), 14 California Code of Regulations, Section 15168*, a Program Environmental Impact Report (PEIR) "...may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) a logical part in the chain of contemplated actions; (3) in connection with issuance of



**LOCATION OF ANTICIPATED PROJECTS**

- |  |  |
|--|--|
| 1 Berths 95-97 Marine Terminal Development (with 8 acres of fill)  | 4 Pier J Southeast Basin Fill (12 acres)   |
| 2 North Harbor Acquisition/Development                             | 5 North American Materials   |
| 3 West Seventh Street Terminal Expansion (with 0.15 acres of fill) | 6 Master Road and Railway Transportation Improvements (not shown) * Refer to Figure V-2. |

**FIGURE I - 2**



**FIGURE I - 3**

*rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways."*

Due to the inclusion of "minor" landfill projects and additional projects "anticipated" for development, a new Program EIR has been prepared on the *PMP '90* to ensure consideration of cumulative impacts. However, individual environmental assessments will be performed on each "anticipated" project as required in accordance with CEQA.

A major advantage of performing a Program EIR is to avoid duplication of basic policy issues analysis and allowing the Port to consider broad policy alternatives and mitigation measures early in the planning process. The Program EIR on the Port Master Plan Update 1990 has been prepared as a separate document.

## **II. REGULATION AND GUIDELINES AFFECTING PORT DEVELOPMENT**

## II. REGULATIONS AND GUIDELINES AFFECTING PORT DEVELOPMENT

A complete discussion of regulations and guidelines affecting port development and those agencies which have jurisdiction within the Long Beach Harbor District can be found in the *1978 PMP and 1983 PMP Update*. The primary purpose of this section is to review the Coastal Act mandates, summarize the regulations that impact the Port, and discuss any major changes in regulations and guidelines that have occurred since the *PMP Update 1983* which would affect port development. Port policies adopted since 1983 involving environmental and land use issues are also discussed.

### A. Federal Regulations/Guidelines

#### 1. Coastal Zone Management Act (CZMA)

The major focus of the federal Coastal Zone Management Act (CZMA) is to assist states in the development and implementation of management programs for coastal zone land and water resources, giving full consideration to ecological, cultural, historic, and aesthetic values as well as to the needs of economic development. The CZMA establishes a "federal consistency" review process whereby each federal agency conducting or supporting activities directly affecting the coastal zone must conduct or support activities in a manner consistent with, to the maximum extent practicable, the Coastal Zone Management Program. The CZMP is the means for coordinating all coastal activities.

As provided under the CZMA, determinations of federal consistency review with the CZMP are made by the federal agency (or applicant for a federal license or permit) and submitted to the state for review and concurrence or disagreement. Under the CZMP, that final decision does not rest with the local government with an adopted Port Master Plan or Local Coastal Program (LCP), but rather, with the Coastal Commission. The California Coastal Act (rather than the PMP or LCP) is the legal standard upon which the Coastal Commissioners' decision regarding federal consistency will be based on. However, the Port may participate in an advisory capacity.

The Port continues to implement the CZMA and no substantive changes to the Act have occurred since 1983 that would affect the Port's master planning and implementation process.

#### 2. Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act was amended by the Clean Water Act of 1977 and is commonly known as the Clean Water Act. This federal regulation affects the Port with respect to the disposal of dredge material and the construction of new terminals. Congress has assigned the U.S. Army Corps of Engineers (ACOE) the responsibility of regulating construction and other work in the federal waters. The

ACOE is charged with protecting our Nation's harbors and navigation channels from destruction and encroachments, and with restoring and maintaining environmental quality.

The ACOE administers a permit program through its regulatory branch, and seeks to ensure that our Nation's water resources and wetlands are used in the best interest of the public. This includes consideration of environmental, cultural, and other public interest concerns.

There are no major changes in federal statutes since 1983 that affect the Port's master planning and implementation process. Whenever dredging of harbor channels is proposed in the Long Beach Harbor District, the Port continues to comply with Section 404 of the Clean Water Act amendment of 1977, which governs the discharge of dredge and fill material in navigable waters.

### 3. Federal Clean Air Act

The Federal Clean Air Act was enacted in 1967 and required that all areas of the United States attain the federal ambient air standards by 1975. These standards were not met in the prescribed time limits and compliance was extended to 1977. The ambient air standards could not be attained by 1977 and the Act was once again amended to extend the deadline, this time to 1982, with an additional extension for ozone and carbon monoxide to 1987.

The amendment to the Act established local air quality planning processes, requiring separate plans for each local area that had not attained the standards. These plans, called non-attainment plans, were to be prepared by local agencies designated by the governor of each state and incorporated into a State Implementation Plan (SIP). The Environmental Protection Agency (EPA) could issue sanctions for failure to submit a plan or carry out commitments in a plan. Sanctions could be a ban on construction of major new facilities and the withholding of federal highway, sewage treatment, and/or air planning funds.

The 1987 deadline for states attaining federal standards has once again passed. The Act and legal interpretations of the EPA are in flux and the courts are engaged in a number of cases of potential relevance. This uncertainty may continue until Congress once again amends the Act.

The South Coast Air Basin (SCAB), which comprises all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, has one of the worst air quality problems in the nation, and is designated as a non-attainment area. The Port of Long Beach lies within this geographical boundary and is primarily effected by the federal Clean Air Act with respect to cumulative air quality impacts

associated with vessel, train, vehicular, and heavy duty construction equipment emissions.

Although the Basin is in compliance with federal standards for sulfur dioxide and lead, the maximum ozone concentrations have reached about three times the federal health standard. Carbon monoxide and fine particulate matter reach maximum levels of twice the federal standard. The SCAB is the only area in the country that still fails to meet the nitrogen dioxide standard.

## **B. State Regulations and Guidelines**

### **1. California Clean Air Act of 1988**

The California Clean Air Act (Health and Safety Code Sections 40910 - 40926) became effective on January 1, 1989. This legislation requires the South Coast Air Quality Management District (SCAQMD) to prepare a plan by December 31, 1990 for attaining state air quality standards and maintaining compliance.

The South Coast Air Quality Management District (SCAQMD) and Southern California Association of Governments (SCAG) prepared the Air Quality Management Plan (AQMP) to ensure compliance with the requirements of the bill. The AQMP became effective upon approval by the Air Resources Board (ARB) in August 1989.

The ARB, SCAQMD, and SCAG are unable to guarantee implementation of all AQMP measures, and therefore the EPA may not be able to approve every measure included in the AQMP. However, a joint study of the AQMP strategies applicable to the San Pedro Bay Ports is currently being prepared by the Port of Long Beach, Port of Los Angeles, SCAQMD, and other interested agencies.

### **2. California Coastal Act**

In 1978, the California Coastal Commission (CCC) certified the *Port of Long Beach Master Plan* (PMP) and found that the document conformed to the policies of either Chapter 8 (*Ports*) or 3 (*Coastal Resources Planning Management Policies*), of the California Coastal Act of 1976. Those projects which are appealable, as noted in Section 30715, were found to be in conformity with all the policies of Chapter 3. Certification of the PMP was subject to the Port submitting a revised plan for re-certification within five years. As a result of this condition, the *PMP Update 1983* was reviewed to determine its adequacy and updated to reflect the changes that had occurred. Since 1983, the Board of Harbor Commissioners have adopted three amendments to the PMP and approved several port-related projects. In light of these changes, the Port has prepared the *PMP Update 1990* to address the major changes that have occurred over the past five years and to incorporate the anticipated projects and long term plans. Although future updates to the PMP will be submitted to the CCC,

it should not be construed on the part of the CCC as a requirement in compliance with the Coastal Act.

Since 1983, two statutory changes have occurred in Chapter 8 of the Coastal Act provisions pertaining to port's PMP implementation process. There have been only minor changes in Chapter 3 since that time. Changes in Chapter 3 are not detailed here since they are primarily editorial in nature.

Subsection 8(d) was added to Section 30705 pertaining to diking, filling, or dredging a water area to require that the CCC balance and consider socioeconomic and environmental factors when approving minor fill for improving shoreline appearance or public access to the water. Any of these activities may be pursued in the water areas when consistent with a certified port master plan.

In compliance with the Coastal Act, the Port is requesting certification from the CCC on three specific "minor" landfill projects proposed for development over the next five years. These include: 1) Marine Terminal Development at Berths 95-97 (8 acres), 2) Pier J Southeast Basin (12 acres), and 3) Berths 72-73 (0.15 acres) north of Channel No. Two on the West 7<sup>th</sup> Street Peninsula. These will be discussed in more detail in their respective Harbor Planning District discussions.

In 1984, Section 30716(b) pertaining to amendments of a certified Port Master Plan, was added and states that..." *the commission shall, by regulation, establish a procedure whereby proposed amendments to a PMP may be reviewed and designated by the Executive Director of the Commission as being minor in nature and need not comply with Section 30714*", e.g., submit the Plan to the Commission for certification.

### 3. Risk Management Plan (RMP)

On June 16, 1981, the California Coastal Commission certified the Port's Risk Management Plan (RMP) as an amendment to the 1978 PMP. The RMP, available as a separate document, serves as a means for judiciously managing, controlling, and directing proposed developments in order to prevent, insure, protect against, and minimize the risks of loss or significant adverse impacts due to potential hazards within and surrounding the Port of Long Beach. The Port's primary objective in the development of this document was consideration for the safety and preservation of life with economics being secondary to these factors.

The *RMP* maintains its accuracy for assessing hazardous risks. There have been no revisions made since its adoption except that the methodology supporting rational planning decisions has been computerized to assist in prompt project analysis. A complete discussion of the Port's *Risk Management Plan* is found in the *1978 PMP and 1983 PMP Update*.

#### 4. Relevant Changes in CEQA Legislation Since 1983

The State statutes and guidelines for implementing the California Environmental Quality Act (CEQA) have undergone annual revisions since the Office of Planning and Research (OPR) published its 1983 Guidelines. The Guideline revisions were published in June 1986, and again in January 1990.

Recent legislation (AB 3180) amends CEQA by requiring the adoption of monitoring programs (Public Resource Code, Section 21080.6). This legislative issue came as a result of California agencies allegedly not monitoring whether mitigation measures were being implemented. AB 3180 ensures that mitigation identified in CEQA documents is implemented after a project is approved.

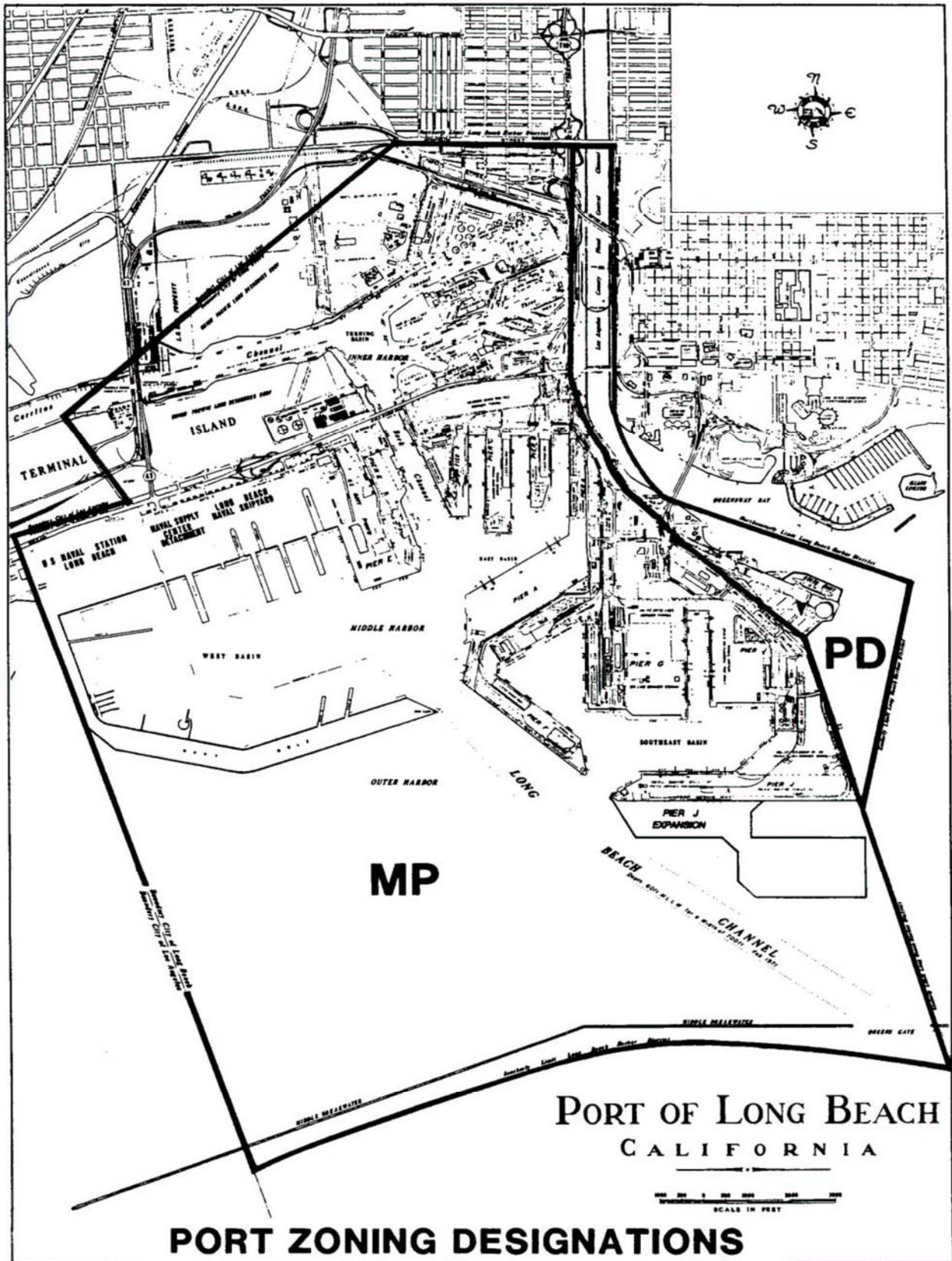
The Port of Long Beach has adopted a mitigation monitoring program in compliance with this legislative change. This applies to both "mitigated" negative declarations and Level III projects (EIRs) when findings include significant environmental impacts. Findings and conditions made by the Port under its Coastal Act authority are also included in this monitoring program to ensure maximum compliance with those regulations.

### **C. Regional and Local Regulations/Guidelines**

#### 1. Zoning Regulations

In 1981, the Long Beach Harbor District was rezoned, placing all land west of Harbor Scenic Drive in the "MP - Port Manufacturing" Zone and all land east of Harbor Scenic Drive in "CT - Tourist Commercial" Zone (Figure II-1). The primary purpose for making these changes was to bring each zoning designation and its regulations into consistency with the *PMP* and city-wide land use policies.

In 1987, the Queensway Bay Planning District (refer to District Update, Section VI) was rezoned from a CT zone designation to a Planned Development District (Queensway Bay Planned District PD-21; Long Beach City Council Ordinance No. C-6356).



**FIGURE II - 1**

The creation of a planned development district and ordinance for Queensway Bay provided a flexible planning mechanism related to the phased recreation-commercial development planned at that time for the Queen Mary Hotel and adjacent shorelands along Queensway Bay. Land and water uses and development standards that are specified in PD-21 are consistent with Chapters 3 and 8 of the Coastal Act and with the *PMP*. PD-21 further insures that the Port and City will provide specific guidelines for preserving the landmark status for this area.

## 2. Southern California Air Quality Management Plan

Under the California Coastal Act, the South Coast Air Quality Management District (SCAQMD) has the primary responsibility for regulating air pollutant emissions in the region.

In order to meet the goals of attaining the state and federal air quality standards, the SCAQMD developed an aggressive and far-reaching plan to reduce emissions from a variety of pollution sources in the South Coast Air Basin (SCAB), whether regulated now or not. This *Air Quality Management Plan (AQMP)* proposes to bring the Basin into compliance with federal air quality standards by the year 2007.

The air quality planning process requires SCAQMD to produce and periodically update the *AQMP*. In June 1988, the latest policies for inclusion in the *AQMP* were released. The *Final AQMP* was adopted by SCAQMD in April 1989 and approved by the State Air Resources Board in August 1989. In general, the AQMP places controls on transportation systems and land use to reduce vehicular traffic, improve traffic flow, improve public transit, and control growth. These regulations are proposed in three tiers or phases, and are assumed to have a negative effect on the Port's ability to accommodate future maritime and commercial facilities. However, certain AQMP provisions may hasten the abandonment of oil production activities in the Port, making such land available for maritime use earlier than anticipated. Each Tier proposal that can impact the Port of Long Beach is discussed in the *Air Quality* Issue of the *Environmental Element, Section V*.

## 3. City of Long Beach General Plan

The Long Beach Harbor area is designated in the City of Long Beach General Plan within Land Use District (LUD) Number 12. This district is composed of freeways, the Long Beach Harbor, and Long Beach Airport. The General Plan assumes that the water and land use composition within the harbor area is separately formulated and adopted by due process as the specific plan of the Long Beach Harbor (Port Master Plan, as amended in May 1983). The General Plan indicates that the responsibilities for planning within legal boundaries of the harbor lies with the Board of Harbor Commissioners

### **III. ECONOMIC TRADE AND DEVELOPMENT**

### III. ECONOMIC TRADE AND DEVELOPMENT

Port expansion plans are determined by a cross sectional analysis of the factors which affect port development. Among the primary factors affecting port development are the trends shaping international and domestic markets and the flows of commodities between the U.S. and its major trading partners.

The *Economic Trade and Development* section seeks to clarify how cargo flows through the Port of Long Beach are determined by focusing on:

- (1) the tonnage and cargo trends of the major market areas for the Port;
- (2) analysis of the Port's leading trading partner's tonnage and major commodities;
- (3) the major cargo classes, general cargo, dry bulk and liquid bulk, detailing the leading trading partners for each class and the leading commodities within each class; and
- (4) a five-year forecast of the future trends in the major commodity groups of the Port.

In order to develop the short-term forecast by major commodity type, a database of historical cargo volumes was constructed from which a regression analysis technique was used to determine future volumes. The regression approach essentially illustrates the relationship or causality between two variables. Through the regression technique, the mathematical expression which best describes the causality between the historical time series and port cargo tonnage is used to predict future cargo volumes.

A forecast range providing an upper and lower limit is used for achieving a more accurate estimate. The forecast's lower limit is determined from the regression of the full time series (1973-1989 fiscal year). The forecast upper limit is determined from the most recent six years of the time series. Forecasting experience has shown that in the absence of any unusual circumstances, the near term future generally reflects the near term past. Where there exists any reason for the near term to differ from the near past, such as expected new business or a loss of existing business, the forecast has been adjusted to reflect such anticipated developments.

New technology or improvements in handling and shipping operations may also contribute to statistical deviations from the historical record. Events such as on-dock transfer of containerized cargo and double-stack loading of unit trains may enhance the capability of the port to handle more cargo than the historical record would predict. Where appropriate, these considerations are explicitly accounted for.

## A. Market Areas

The Port of Long Beach imports and exports a wide variety of commodities with over 120 countries. A geographical pattern of the Port's trading partners is extremely interesting and allows for a thorough analysis of the emerging trends in new and existing market areas.

The world market has been classified into nine regions: North America, Central America, South America, Europe, Asia, Australia & Oceania, Africa, U.S. and Possessions, and Miscellaneous. Table III-1 shows the regional trading distribution of the total cargo volume for the Port of Long Beach during the period covering fiscal years 1977-78 through 1987-88. The percentage breakdown provides insight on the relative importance of each geographic region in overall Port tonnage volume and how these major markets have changed over time. The cargo trends of the major market areas are shown in Figure III-1.

Due to a change in the way that the Port of Long Beach cargo statistics are processed, the geographic distribution of cargo tonnage during 1988-89 is not comparable to the data of previous years. This is necessitated by the change to an external source of reporting (*Journal of Commerce - PIERS*) which provides details of international shipments in metric tonnage (MT) as opposed to the Port of Long Beach's use of the reporting measure of metric revenue tonnage (MRT).

Since the late 1970s, the Asian market and the domestic U.S. market have represented the most important regions for the Port's business. As shown in Table III-2, the top four countries in trade volume with the Port of Long Beach are located in the Pacific Rim. However, during the 1980s, the continuous growth of the Asian market has caused an increase in the percentage share of total Port tonnage for the Far Eastern market area and a decrease in the market share for the European area and the U.S. and territorial possessions. Other major market trends have shown relative stability.

The continuation of these trends of near double-digit annual growth into the 1990s is uncertain, particularly in view of the ongoing need to reduce trade imbalances with the dominant Asian markets. The Port of Lon Beach, being strategically located in the midst of the Southern California market area, will continue to receive large volumes of imported commodities from the major Asian nations, i.e., Japan, South Korea, Taiwan, and Hong Kong.

However, with the European Unifications Act of 1992, presenting a new era of cooperative economic planning for the European common market counties (ECC) and the opening up of East European Block countries to free trade opportunities, the importance of bilateral trade between Europe and the Port of Long Beach is likely to increase over the balance of the 20<sup>th</sup> century and more importantly as the 21<sup>st</sup> century begins.

**TABLE III – 1  
PORT OF LONG BEACH**

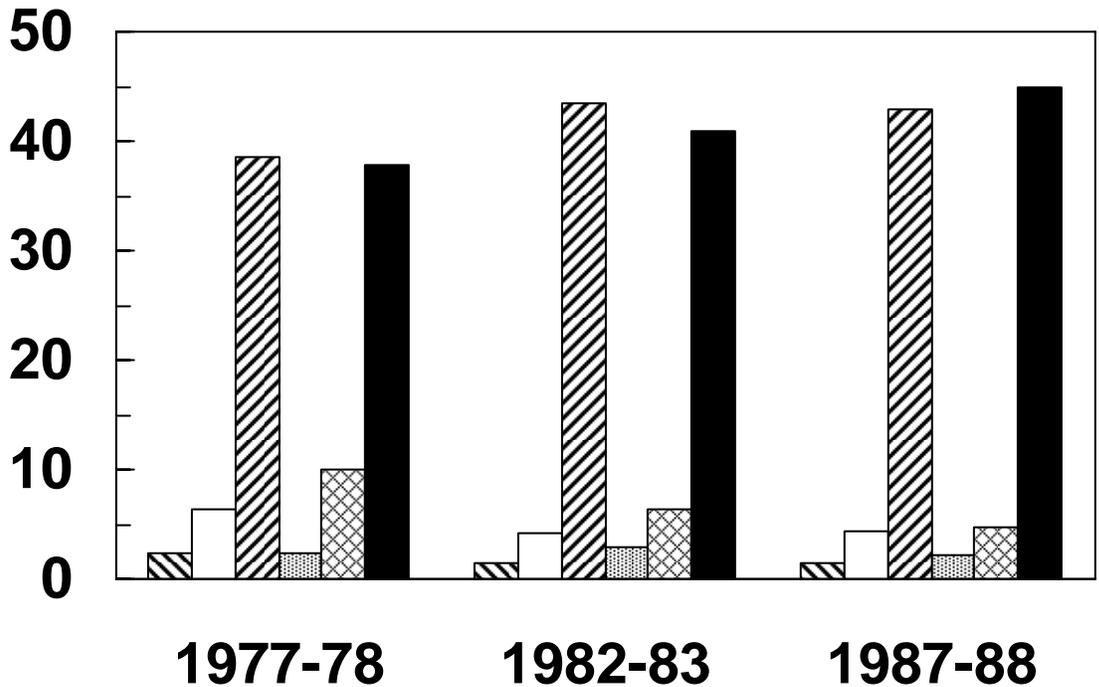
**TOTAL METRIC REVENUE TONNAGE PERCENTAGE BREAKDOWN  
PER FISCAL YEAR**

MARKET AREAS	77-78	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88
North America	1.9	1.6	1.4	1.1	1	1	0.7	0.9	1	0.7	0.8
Central America	3.4	3.9	3.6	4	2.5	3	2.3	2.5	3.2	2.4	2.7
South America	2.2	1.5	1.3	1.3	1.6	1.6	1.5	1.9	2.4	2.6	2.3
U.S. & Possessions	39.2	42.1	39.8	39.4	44.3	43.7	38.6	38.8	38.5	35.3	43.4
Europe	8.1	8.5	7.2	5.9	6.6	6.5	5.1	5.3	5.7	5.6	4.8
Africa	2	0.2	1	0.4	0.2	0.6	0.4	0.2	0.4	0.3	--
Asia	38.5	40.2	42.8	45.5	41.5	40.9	48.9	48.4	47	51.4	44.3
Australia & Oceania	2.1	1.9	2.7	2.3	2.5	2.7	2.5	1.9	1.7	1.7	1.7
Misc.	2.6	0.1	0.2	0.1	0.1	--	--	0.1	0.1	--	--
Total Percentage	100	100	100	100	100	100	100	100	100	100	100
Total Metric Revenue Tonnage (Millions)	33.368	35.389	39.721	43.724	49.007	47.989	54.147	52.685	57.008	59.131	63.596

Source: POLB, Finance Division

**PORT OF LONG BEACH  
TOTAL CARGO MRT PERCENTAGE BREAKDOWN PER FISCAL YEAR**

% of MRT



- ▣ North America
- ▣ South & Central America
- ▣ U.S. & Possessions
- ▣ Australia & Oceania
- ▣ Europe & Africa
- ▣ Asia

Source: POLB, Statistics

Figure III-1

**TABLE III-2  
PORT OF LONG BEACH**

**TEN LEADING TRADING PARTNERS  
(In Metric Revenue Tons)  
FY 1999-1989**

	Country	Inbound (MRT)	Outbound (MRT)	Total (MRT)
1.	Japan	5,528,606	5,519,345	11,047,951
2.	Taiwan	5,519,670	1,694,782	7,214,452
3.	South Korea	3,246,396	1,343,888	4,590,284
4.	Hong Kong	2,117,432	729,749	2,847,181
5.	Netherlands	211,343	947,906	1,159,249
6.	Mexico	885,075	70,883	955,958
7.	Australia	336,853	341,689	678,542
8.	Belgium	261,481	255,815	517,296
9.	Indonesia	391,936	93,152	485,088
10.	Malaysia	269,004	74,969	343,973
	Total	18,767,796	11,072,178	29,839,974
	Total All Cargo	49,016,749	19,873,550	68,890,299

Source: POLB, Finance Division

## **B. Commodities**

The commodities handled by the Port of Long Beach are classified into three main categories: General Cargo, Dry Bulk, and Liquid Bulk.

### **1. General Cargo**

General Cargo is a catch-all description composed of the following sub-categories: Breakbulk, Neobulk, Roll-on/Roll-off, Heavy Lifts, and Containerized Cargoes. Breakbulk cargoes are miscellaneous goods and commodities shipped in small packages, bags or boxes, which are small enough to be handled individually. Since these are non-containerized commodities, they are usually loaded and unloaded on small pallets by ship's gear or handled individually by stevedores. Although the demand for facilities of this type has dropped considerably due to the introduction and steady growth of container use, these facilities will still be needed for trade with underdeveloped countries that presently do not use new shipping technologies.

Neobulk cargoes are various goods and commodities that are packaged and shipped in units. Automobiles, lumber in stacks, and heavy machinery are examples of neobulk.

Roll-on/Roll-off (Ro-Ro) identifies a cargo classification which includes containerized or unitized cargo to be loaded and unloaded by self-propelled power and driven on and off the vessel via ramps at the cargo terminals Ro-Ro berth (i.e., vehicles, farm equipment, construction machinery, etc.).

Heavy Lift cargoes require special handling because of their size, shape, and weight. These cargoes may consist of large industrial components, machinery, equipment or materials which are imported or exported on a relatively infrequent basis, or they may consist of a sealed container whose contents must be handled with special care and cannot be accommodated at usual container facilities. More definitive examples include steel products that are either rolled sheets or slabs. These "awkward" handling types of cargo represent a small proportion of present general cargo tonnage.

Containerized cargoes refer to cargo handled in a standardized, intermodal unit. The intermodal container is interchangeable between ship, truck, and rail, yielding a more efficient method of loading, unloading, and transporting cargo. Containers are generally quantified in twenty-foot equivalent units, known as TEUs. Containerization has led to developments of the bridge concepts including land bridge, mini-land bridge, and micro-bridge. The bridge concept generally is relevant for cargo destinations or origins east of the U.S. Rocky Mountains. This common territory is known throughout the shipping industry as Overland Common Point (OCP). Faster transit times and cost savings, when compared against the all-water routes via the Panama Canal, are the primary factors encouraging development of those methods.

The Asian Pacific Rim countries are the main general cargo trade partners of the Port of Long Beach. Almost 83% of the general cargo tonnage shipped through the Port of Long Beach comes from or is shipped to Asian countries. Of the five leading general cargo trading partners for the Port of Long Beach, the top four are located in Asia. In other major areas two remarkable changes have occurred: Europe and U.S. & Possessions market shares have decreased, emphasizing the shift of the general cargo movement from the east coast ports towards the west coast ports as consumer goods enter the U.S. in increasing amounts from the Far East as opposed to Europe.

According to the forecasts, Asia is likely to remain the dominant market for the Port of Long Beach over the near term future, handling 81% to 83% of the Port's general cargo tonnage. Figure III-2 illustrates the major commodities imported and exported through the Port of Long Beach with the Pacific Rim countries. Most of these commodities are general cargo products shipped in containers. For example, as Table III-3 and Figure III-3 illustrate, some of the traditional containerized items imported from the Asian leading trade partners include electrical machinery and parts, mechanical machinery and parts and manufactured plastic items. Indeed, containerized shipments represent almost 90% of the Port of Long Beach general cargo tonnage and are expected to stay around this percentage share throughout the projection period Table III-4.

The present container cargo capacity within the Port of Long Beach, measured in TEUs per year should be able to meet the demand forecasted through the fiscal year 1994/95, as total Port of Long Beach capacity for containerized cargo has been estimated at 2,138,439 TEUs annually (OFI Study, April 1988). However, in anticipation of the future shortfall in container terminal capacity, the Port of Long Beach has embarked upon a planned acquisition of waterfront private property for conversion into much needed container cargo terminal space. In addition to the private property purchases, the Port has begun construction on the Pier J Landfill Project. This project will add approximately 147 acres of additional land area to an existing container terminal located on Pier J. This project was started in September 1988 and is estimated to be completed by year end 1992.

## 2. Dry Bulk

Dry bulk cargo may be either loose grains or free flowing products. The distinguishing feature is that the product is not shipped in packaged form and is usually handled by specialized mechanical equipment at specially designed dry bulk terminals. The versatility of some of these terminals allows them to handle several different types of dry bulk commodities if needed as seen in Figure III-4. As Table III-5 reveals, Japan is the dominant dry bulk partner for the Port of Long Beach.

The trend in the dry bulk series shows a decrease in the dry bulk tonnage over the last eight fiscal years (Table III-6). Whereas, dry bulk was 19.4% of the total cargo

**PORT OF LONG BEACH**  
**MAJOR COMMODITIES OF THE FIVE LEADING TRADE PARTNERS**  
**FY 1988-1989**

<b>IMPORTS</b>		<b>EXPORTS</b>	
Japan	1. Elec. Mach./Pts 2. Mech. Equip./Pts 3. Cement Bulk	Japan	1. Petro., Coke Bulk 2. Foods, Misc. 3. Feeds, Misc.
Taiwan	1. Elec. Mach./Pts 2. Plastics Mfg. 3. Furniture	Taiwan	1. Petro., Coke Bulk 2. Wastepaper 3. Misc. Chemicals
South Korea	1. Elec. Mach./Pts 2. Plastics Mfg. 3. Cement Bulk	South Korea	1. Wastepaper 2. Petro., Coke Bulk 3. Raw Cotton (Bales)
Hong Kong	1. Plastics Mfg. 2. Elec. Mach./Pts 3. Clothing	Hong Kong	1. Misc. Chemicals 2. Soda Ash 3. Fresh Fruit
Mexico	1. Gypsum 2. Salt	Mexico	1. Gasoline

**Figure III-2**

**TABLE III-3  
PORT OF LONG BEACH  
GENERAL CARGO FORECAST  
(In Metric Revenue Tons)**

**FY 1990 – 1995**

FISCAL YEAR	LEADING INBOUND		LEADING OUTBOUND		TOTAL GENERAL CARGO
	ELECTRIC MACH. & PARTS	PLASTIC MFG.	CHEMICALS MISC.	WASTE PAPER	
1979/80	565,315	332,256	874,277	368,678	11,365,874
1980/81	529,866	340,691	887,653	422,966	12,630,403
1981/82	752,112	450,204	229,556	396,067	14,674,611
1982/83	1,121,677	772,380	417,728	507,763	16,206,056
1983/84	2,474,720	1,881,471	571,848	1,078,516	22,455,188
1984/85	2,695,445	2,092,611	327,950	499,242	22,584,420
1985/86	2,957,422	2,231,150	320,629	463,223	24,823,562
1986/87	3,356,324	2,599,422	498,806	523,568	28,604,766
1987/88	3,538,412	2,595,517	775,854	562,139	30,107,784
1988/89	3,904,824	2,760,449	1,040,852	902,782	31,332,752
1989/90	4.19 – 4.27	2.94 – 3.04	.970 – 1.20	.953 - .993	32.5 – 34.0
1990/91	4.48 – 4.63	3.12 – 3.13	1.07 – 1.41	1.04 – 1.08	33.7 – 35.5
1991/92	4.77 – 5.00	3.30 – 3.59	1.16 – 1.62	1.13 – 1.18	34.7 – 37.0
1992/93	5.06 – 5.37	3.48 – 3.87	1.26 – 1.83	1.22 – 1.27	35.5 – 39.0
1993/94	5.34 – 5.74	3.66 - 4.14	1.36 - 2.04	1.32 – 1.36	37.0 – 41.2
1994/95	5.63 – 6.10	3.84 – 4.42	1.46 – 2.25	1.41 – 1.45	38.7 – 43.7

Source: POLB, Planning Division, 1989.

**Port of Long Beach  
Major Commodities of the Five Leading General Cargo Countries**

**FY 1987-88**

	OUTBOUND	INBOUND
Japan	Fresh Fruit Feeds	Mach. & Pts. Elect. Mach. & Pts.
Taiwan	Wastepaper	Plastics Mfg. Elect. Mach. & Pts.
S. Korea	Wastepaper	Plastics Mfg. Elect. Mach. & Pts.
Hong Kong	Misc. Chemicals Plastics Mfg.	Plastics Mfg. Elect. Mach. & Pts.
Brazil	----	Steel

**Figure III-3**

**TABLE III-4**  
**PORT OF LONG BEACH**  
(In Metric Revenue Tons)  
FY 1990 - 1995

**CONTAINER AND TEU FORECAST**

<b>FISCAL YEAR</b>	<b>CONTAINER TONNAGE</b>	<b>CONTAINER % OF GEN. CARGO</b>	<b>GEN. CARGO TONNAGE</b>	<b>TEUs*</b>
1979/80	8,248,957	72.6	11,365,874	513,395
1980/81	9,346,500	74.0	12,630,403	561,847
1981/82	12,023,189	81.9	14,674,611	714,410
1982/83	13,422,979	83.0	16,206,056	838,936
1983/84	19,480,738	86.8	22,455,188	1,101,358
1984/85	19,122,844	84.7	22,584,420	1,141,358
1985/86	20,353,748	82.0	24,823,562	1,277,852
1986/87	24,086,940	84.2	28,604,766	1,451,561
1987/88	26,665,625	88.6	30,107,784	1,484,467
1988/89	27,876,783	89.0	31,332,752	1,545,243
1989/90	28.2 - 30.0	89.8 - 88.2	32.5 - 34.0	1.60 - 1.66
1990/91	30.0 - 31.5	88.7 - 89.0	33.7 - 35.5	1.67 - 1.74
1991/92	31.7 - 33.0	90.1 - 91.4	34.7 - 37.0	1.75 - 1.81
1992/93	32.7 - 34.5	88.5 - 92.1	35.5 - 39.0	1.82 - 1.87
1993/94	34.0 - 36.5	88.6 - 91.9	37.0 - 41.2	1.88 - 1.95
1994/95	36.0 - 39.0	89.2 - 93.0	38.7 - 43.7	1.96 - 2.05

Source: POLB, Planning Division, 1989.

\* Twenty foot equivalent Unit

tonnage handled by the Port of Long Beach during the 1980/81 fiscal year, in 1988/89 it was 10.2%. The commodity detailed report of the dry bulk cargoes is useful in evaluating the practical capacity of the terminals compared with the projections. Future projections of growth in dry bulk exports from the Port are based upon the most recent information gathered by Port sponsored trade missions to the Far East. The results of trade missions indicate a significantly greater demand for U.S. coal and petroleum coke exports than our historical trade volumes reveal.

### 3. Liquid Bulk

Liquid bulk cargoes consist of voluminous liquid commodities that are transported by tankers or tank barges. Crude petroleum and petroleum products, aggregated under "petroleum bulk" to facilitate forecasting and demand capacity analysis, accounted for over 99% of cargo classified as liquid bulk.

Since the end of the 1970s the continental U.S. and Possessions, together with Asia, have been the primary sources of liquid bulk supply. Domestic sources of liquid bulk supply have grown more rapidly, as a share of total cargo, and now account for more than 95% of the total liquid bulk shipped through the Port of Long Beach.

The strong growth of intra-United States liquid bulk volumes is mostly related to crude oil discoveries and the development of extraction facilities in Alaska. Alaska's liquid bulk petroleum is almost 70% of the total liquid tonnage and according to the desegregated forecast the interval estimate reveals that it will probably account for as much as 70%-80% by the 1995/96 fiscal year (Table III-7). This predicted trend is consistent with the projections concerning all the liquid bulk commodities.

The recent changes in world trade trends and the new location of the major commodities markets in the Pacific Rim area have emphasized the growing importance of the Port of Long Beach as a vital link in the worldwide maritime industry and therefore as a primary direct and indirect source of economic benefits to the nearby region, the southwestern U.S., and the continental United States.

A two-way relationship is now established between the Port of Long Beach and the domestic market area it serves on one side and the Asian Pacific Rim countries on the other side. The performance of the Port of Long Beach and the performance of the entire U.S. in the international market is closely related to the current and expected development

**Port of Long Beach  
Major Commodities of the Five Leading Dry Bulk Countries**

**FY 1988-89**

	OUTBOUND	INBOUND
Japan	Petroleum Coke Bulk Sulphur	Cement
Mexico	Bulk Borax	Crude Gypsum
Netherlands	Petroleum Coke	Cement
Taiwan	Petroleum Coke Coal	Cement
South Korea	Petroleum Coke Soda Ash	Cement

**Figure III-4**

**TABLE III-5  
PORT OF LONG BEACH**

**FIVE LEADING DRY BULK TRADING PARTNERS  
(In Metric Revenue Tons)  
FY 1988 – 1989**

Country	Dry Bulk Tonnage	% of Total Dry Bulk Tonnage
1. Japan	2,953,628	42.0
2. Netherlands	873,313	12.4
3. Mexico	824,284	11.7
4. Taiwan	519,779	7.4
5. South Korea	461,186	6.6
<b>TOTAL</b>	<b>5,632,190</b>	<b>80.1</b>

Source: POLB, Finance Division

**TABLE III-6  
PORT OF LONG BEACH**

**DRY BULK FORECAST  
(In Metric Revenue Tons)  
FY 1990 – 1995**

	Historical Leading Inbound		Historical Leading Outbound		
Historical Time Series	CEMENT (MRT)	GYPSUM BULK (MRT)	PETROLEUM COKE BULK (MRT)	SODA ASH (MRT)	TOTAL DRY BULK (MRT)
79/80	n.a.	408,620	3,129,254	n.a.	7,210,891
80/81	n.a.	343,919	2,875,191	n.a.	8,481,869
81/82	121,734	292,826	3,085,471	449,011	8,133,494
82/83	92,089	169,888	4,347,274	288,613	7,209,112
83/84	226,833	248,383	3,845,106	421,119	7,440,538
84/85	579,323	360,257	3,418,902	380,978	6,169,179
85/86	709,038	708,366	4,018,207	333,699	6,195,787
86/87	819,562	646,182	3,745,477	391,831	6,106,560
87/88	837,757	616,263	3,183,022	518,636	6,100,691
88/89	979,452	738,705	3,721,054	542,301	7,030,505
Projected Time Series	Estimated Range (Millions)	Estimated Range (Millions)	Estimated Range (Millions)	Estimated Range (Millions)	Estimated Range (Millions)
89/90	1.06 - 1.12	.693 - .880	3.77 - 3.98	.525 - .562	7.20 - 7.40
90/91	1.13 - 1.31	.719 - .907	3.81 - 4.07	.545 - .582	7.30 - 7.60
91/92	1.25 - 1.45	.746 - .934	3.85 - 4.16	.565 - .602	7.60 - 7.90
92/93	1.34 - 1.59	.773 - .960	3.90 - 4.24	.585 - .622	7.90 - 8.30
93/94	1.44 - 1.72	.780 - .987	3.94 - 4.33	.604 - .642	8.20 - 8.80
94/95	1.53 - 1.84	.787 - 1.014	3.48 - 4.41	.625 - .662	8.40 - 9.30

Source: POLB, Planning Division, 1989.

of our major trade partners. In a reciprocal manner, the future growth of much of the Asian Pacific Rim nations is conditioned by the outlook for continued growth in positive U.S. economic trends. In addition much of this continuance of free and efficient flows is dependent upon the smooth expansion of Port facilities.

The total cargo tonnage at the Port of Long Beach has experienced rapid growth over the previous ten-year period. During the last fiscal year, 1988/89, when the total volume of cargo handled was approximately 68,890,299 MRT, the rate of growth in total tonnage was approximately 8.3% above the previous year. According to the projections (Table III-8), the total tonnage will continue this growth trend at a somewhat slower rate as port terminals and infrastructure facilities reach capacity. Overall growth will be mainly due to the increase in containerized trade with the Asian countries and to the increase of the liquid bulk inbound flow from Alaska and other sources. Dry bulk cargoes are expected to increase slightly until new capacity for dry bulk cargoes are added to the Port facilities inventory at which time more rapid growth is expected.

The long term outlook for dry bulk products, notably, U.S. coal exports and petroleum coke exports, is significantly improved over previous estimates, due to long term estimates of demand for U.S. coal exports to Japan, South Korea, and Taiwan. As with most long term forecasts, external market conditions and unknown political events may dramatically alter the forecast trade flows predicted for the Port of Long Beach. Regular updating of the forecasts and considerations of economic and political changes will help to ensure accurate market assessments.

**TABLE III-7  
PORT OF LONG BEACH**

**LIQUID BULK FORECAST  
(In Metric Revenue Tons)  
FY 1990 – 1995**

<b>FISCAL YEAR</b>	<b>LIQUID BULK</b>	<b>ALASKA SHARE LIQUID BULK</b>	<b>ALASKA % OF LIQUID BULK</b>
1979/80	21,153,703	9,073,013	43.79
1980/81	22,612,720	9,901,750	43.79
1981/82	26,199,032	10,614,298	41.16
1982/83	24,574,631	12,329,147	50.17
1983/84	24,251,944	14,618,924	60.27
1984/85	24,509,888	14,178,924	57.84
1985/86	25,989,596	15,351,795	59.06
1986/87	24,599,376	15,597,009	63.39
1987/88	27,388,278	16,540,597	60.39
1988/89	30,527,045	21,359,033	69.90
1989/90	29.8 - 31.4	20.2 - 22.5	67.9 - 71.7
1990/91	30.6 - 32.3	20.7 - 23.7	67.7 - 73.3
1991/92	31.5 - 33.1	22.4 - 24.8	71.2 - 74.9
1992/93	32.4 - 34.0	23.5 - 26.0	72.5 - 76.4
1993/94	34.1 - 35.8	24.0 - 27.1	72.1 - 77.8
1994/95	36.0 - 39.0	24.5 - 28.3	71.8 - 79.1

Source: POLB, Planning Division, 1989.

**TABLE III-8  
PORT OF LONG BEACH**

**SUMMARY OF CARGO FORECASTS  
(In Metric Revenue Tons)  
FY 1988 – 1989**

Historical Time Series	GENERAL CARGO (MRT)	CONTAINER CARGO (MRT)	LIQUID BULK (MRT)	DRY BULK (MRT)	TOTAL CARGO (MRT)
77/78	8,690,187	5,329,296	17,264,964	4,324,827	30,279,977
78/79	9,753,004	6,361,235	19,771,223	6,265,312	35,789,539
79/80	11,356,874	8,248,957	21,153,703	7,210,891	39,721,468
80/81	12,630,403	9,346,500	22,612,720	8,481,869	43,724,992
81/82	14,674,611	12,023,189	26,199,031	8,133,494	49,007,138
82/83	16,206,056	13,422,979	24,574,631	7,209,112	47,989,799
83/84	22,455,188	19,480,738	24,251,944	7,440,538	54,147,669
84/85	22,584,420	19,122,844	24,509,888	6,169,179	53,263,487
85/86	24,823,562	20,353,748	25,989,596	6,195,787	57,008,946
86/87	28,604,766	24,086,940	24,599,376	6,106,560	59,310,702
87/88	30,107,784	26,665,625	27,388,278	6,100,691	63,596,753
88/89	31,332,749	27,876,783	30,527,045	7,030,505	68,890,299
Projected Time Series	Estimated Range (000,000's)				
89/90	34.080-36.520	29.820-30.390	28.618-32.860	5.839-8.380	67.096-70.105
90/91	36.330-39.230	31.960-32.610	29.232-35.595	5.750-9.520	69.646-73.182
91/92	38.590-41.950	34.100-34.830	29.847-38.331	5.660-10.660	72.197-76.260
92/93	40.840-44.670	36.240-37.050	30.462-41.067	5.572-11.800	74.747-79.337
93/94	43.100-47.380	38.380-39.270	31.077-43.802	5.482-12.940	77.298-82.415
94/95	45.350-50.100	40.520-41.490	31.691-46.538	5.393-14.080	79.848-85.492

Source: POLB, Planning Division, 1989.

## **IV. LAND USE DESIGNATIONS**

## IV. LAND USE DESIGNATIONS, GOALS, OBJECTIVES, AND LONG-RANGE PLANS

### A. Land and Water Use Designations

The conventional terminology utilized to identify land uses in the *Long Beach General Plan* are not applicable to uses which are found in the Port. For example, in the *General Plan*, the Port is categorized in a broad and general land use designation entitled "Harbor, Airport, and Freeway District". Although the *General Plan* also identifies "Mixed Tourist/Recreational" and "Open Space and Park" uses, as those concerning both land and water areas, it does not provide a land use designation for other non-recreational water uses.

Chapter 2, Section 30711(a) of the Coastal Act, states that a port master plan shall include a description of proposed land and water areas, where known. To satisfy these requirements, the Port employs a set of functional land and water uses. These designations and an operational description of what they include follows. The Ancillary Port Facilities Category is a new land use designation which includes activities other than those included in a Primary Port Facilities use. Although ancillary uses described in this document were included in the PMP '78 and PMP Update '83, they were not defined as "designated" port uses. Specific permitted uses for each planning district as certified by the Coastal Commission in October 1978, will be further discussed in each respective District Update section.

#### 1. Land Uses

*Primary Port Facilities:* Areas primarily dependent on access to water frontage. Typically primary port facilities include shiploading/unloading facilities, transshipment warehouses, stevedoring operations, open storage and transfer areas for cargo, and industrial operations primarily engaged in the shipment of goods and raw materials, and cruise ship facilities.

*Hazardous Cargo Facilities:* Operations and terminals engaged in the loading/unloading, storage and transfer of crude, and bulk refined petroleum products and chemicals with a National Fire Protection Association (NFPA) rating of 2 or greater. These facilities are normally included in primary port operations, but because of the hazardous nature of the cargoes and the fact that these projects constitute a significant portion of port tonnage, they have been categorized separately. In the *1978 PMP*, this category was entitled "Petroleum Import/Export Facilities."

*Port-Related Industries and Facilities:* Areas that do not require access to berthing facilities or water frontage, but are heavily dependent on primary Port operations. This dependency necessitates the siting of port-related uses within the Harbor District. These uses include warehousing, distribution centers, container storage, railroad facilities,

container freight stations, ship chandlers, offices of public agencies involved in Port activities, and processing operations whose products or raw materials normally move through the Port.

*Ancillary Port Facilities:* Water department areas other than those included as Primary Port facilities. Typical ancillary port facilities are: ship building and repair, towboat and salvage operations, bunker barge loading, sport fishing launching, marine research, Coast Guard operations, marine-oriented fire protection, storage of equipment for dredging and waterfront construction, mobilization area for off-shore platform crews or oil spill clean-up operations, and improved harbor maintenance facilities.

*Commercial/Recreational Facilities:* Those areas primarily serving the general public. These areas could include water-oriented parks, sightseeing, sportfishing areas, water skiing areas, restaurants, hotels, curio shops, marinas, boat sales and manufacturing, charter boat operations, tackle shops, and other special tourist attractions such as the Queen Mary.

*Federal Use:* Areas occupied for various activities such as shipyard and drydock operations; Navy Base and support operations; reserved vessel storage for the Navy, Coast Guard and/or other federal agencies.

*Oil and Gas Production:* Areas utilized for oil and gas production, tankage and processing plants, drilling sites and water injection wells. Major installations and multiple wells may exist in other land use areas. These areas will exist in the port until such a time as the oil and gas have been depleted, or have become uneconomical to produce.

*Utilities:* Areas utilized for surface installations and rights-of-way of public utilities. These uses can and will occur in conjunction with other port land uses. Utilities include storm drain, gas, water, electrical, sewage, telephone, waste handling, resource recovery, bunkering, and oil transmission systems. The Southern California Edison combined cycle generating station on Terminal Island is included in this category.

*Non-Port Related Areas:* Those portions of the Harbor that are devoted to activities other than port-related, primary port, etc. Typically, these areas might include light industry, commercial businesses, auto salvage, and repair shops.

## 2. Water Uses

*Anchorage Area:* These designations are based on the following anchorage assignment categories: a) 24-hour limited stay, b) commercial and recreational anchorage with no bunkering or lightering activities, c) anchorage for lightering and bunkering, d) deep draft anchorage with 48 hour limit, e) anchorage for vessels with a draft over 40 feet (12.1 meters) and/or 800 feet (244 meters) in length, f) explosive anchorage, and g)

anchorage for vessels outside the breakwater (Refer to *Navigation Element, District Update, Section VI*).

The anchorage areas outside the Harbor District are important to Port operations but, due to governmental restrictions, the federal government has jurisdictional responsibilities over such areas. The Port Wharfingers participate with the Coast Guard in assigning anchorages.

*Maneuvering Areas:* Water areas needed for the handling, turning, and maneuvering of vessels either entering or leaving the Port. Sufficient turning basins must be available to enable a vessel to be turned completely around. Typically, a maneuvering basin will service a group of berths.

*Navigable Corridors:* Includes all channels used for the movement of vessels into and out of the Port. The main navigable corridors include the Long Beach Main Channel, Back Channel, Cerritos Channel, and Channels No. Two and Three.

*Recreational/Sportfishing:* Open and sheltered water areas that are used predominately for recreational and sportfishing activities and those facilities in the Port that service these uses. The Queensway Bay and Outer Harbor Planning Districts are typically used in this manner.

## **B. Goals for Port Development**

The long-range planning goals and objectives for the Port are essential for developing policies involving future Port development and expansion. These planning goals are intended to be general to maintain flexibility and respond to Port tenant needs. In addition, since development policies are driven by national and international economic trends, general goals allow the Port to respond to immediate and short-term requirements dictated by these trends.

The goals and objectives are also shaped by the forces of the Coastal Act, legislative grants of the Tide and Submerged lands, City of Long Beach Charter, Municipal Code, and City General Plan.

The following are the Port's long-range goals and objectives. Inherent in them is the objective to maximize revenue while providing quality services. The Port's responsibility is to develop, build, assign, and lease facilities at the request of its customers. Maximizing the use of Port land is only effective when facilities are versatile, efficient, and comply with environmental regulations.

## **GOAL 1: CONSOLIDATE SIMILAR AND COMPATIBLE LAND AND WATER AREAS**

*Recreation/Tourist activities should be consolidated away from primary port uses to maximize the efficiency of Port activities. Several oil companies have randomly leased land in the Port from which to stage Outer Continental Shelf (OCS) exploratory drilling, and/or supply operations. OCS land-based activities should be consolidated to maximize the efficiency of primary port activities. The Port should not allow water-based activities in established shipping lanes. This will lessen the potential for collision between a marine vessel, many of which contain hazardous cargoes, and fixed oil production structures. Similar Port uses should be consolidated to maximize the efficiency of Port activities.*

### Objectives:

- a. Separate hazardous cargo from non-compatible vulnerable resources.
- b. Augment and consolidate recreational and tourist activities in the Queensway Bay Planning District to complement development proposed by the City of Long Beach in the downtown shoreline area.
- c. Consolidate, as much as possible, Outer Continental Shelf (OCS) land-based activities so that the maximum efficiency of primary port activities within the Harbor District can be maintained.

## **GOAL 2: ENCOURAGE MAXIMUM USE OF FACILITIES**

*The Port of Long Beach is faced with the scarcity of existing land. This land shortage requires the Port to maximize the use of its terminal facilities with the goal of increasing cargo throughput.*

### Objectives:

- a. Promote multiple cargo uses at terminals, consistent with the *PMP* and *RMP*.
- b. Rehabilitate and modernize under-utilized terminal facilities.
- c. Redevelop sites that are not dependent on access to water frontage to increase "primary" port uses.
- d. Improve the efficiency of cargo handling facilities.

### **GOAL 3: IMPROVE TERMINAL CIRCULATION INVOLVING ROADWAYS AND RAIL**

*The projected cargo growth will stimulate increased traffic volumes and overload the capacities of the internal roadways and major arterials serving the Port. The increase in container volumes will increase future train movements, creating a demand for more efficient and expedient ways of moving the cargo to its destination.*

#### Objectives:

- a. Actively pursue implementation of the Consolidated Transportation Corridor Plan.
- b. Pursue Port Access Demonstration Projects.
- c. Encourage On-Dock Double Stack Trains.
- d. Provide additional rail and highway access to Terminal Island.

### **GOAL 4: PROVIDE FOR THE SAFE CARGO HANDLING AND MOVEMENT OF VESSELS WITHIN THE PORT**

*Planning considerations should focus on the "anticipated" projects and their relationship to future vessel activity, ship navigation, and accommodating larger vessel size. These factors will have an influence on turning basins and berths. Although recreational boating facilities are permitted within the Harbor boundaries, the Port is committed to minimizing potential traffic conflicts between recreational small craft and ocean-going vessels.*

#### Objectives:

- a. Deepen channels and basins to accommodate supertanker and post-panamax vessels.
- b. Concentrate public small-craft marina facilities in the Queensway Bay Planning District to minimize vessel hazards.

### **GOAL 5: DEVELOP LAND FOR PRIMARY PORT FACILITIES AND PORT-RELATED USES**

*Cargo projections indicate a need to expand Port facilities to meet future cargo demands. In addition to maximizing the efficiency of existing land, the Port should create additional landfill as well as purchase non-Port owned land within the Harbor District.*

Objectives:

- a. Intensify existing development.
- b. Develop, and/or redevelop as necessary, existing land within the Harbor District.
- c. Create “minor” landfills when necessary.
- d. Enhance areas outside the Harbor District that are entrusted to the Port for international trade, such as the World Trade Center and Foreign Trade Zone #50.
- e. Evaluate and mitigate seismic and geologic hazards as appropriate.

**GOAL 6: PROTECT, MAINTAIN, AND ENHANCE THE OVERALL QUALITY OF THE COASTAL ENVIRONMENT**

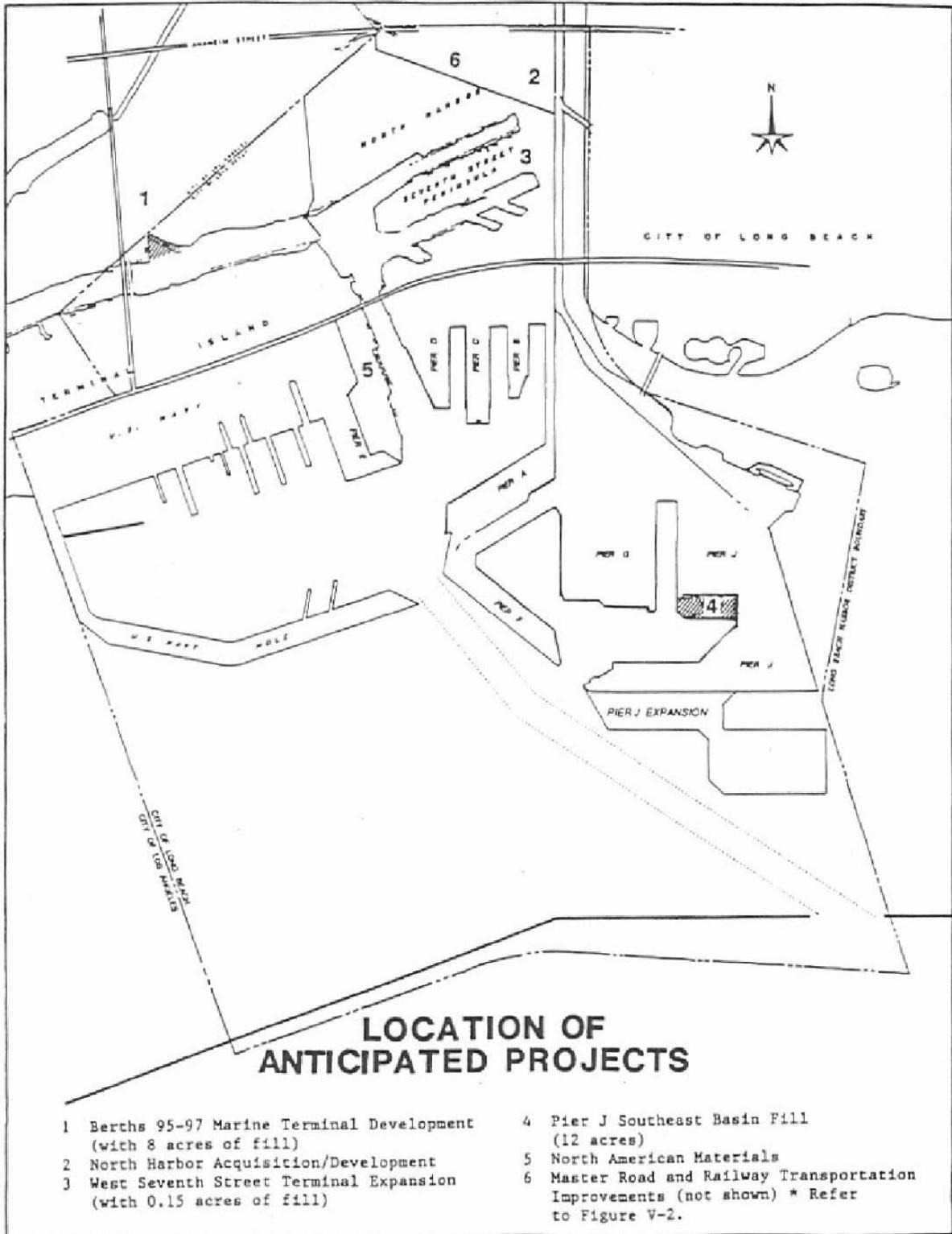
*The construction and operation of new terminal facilities will inevitably place stress on the environment. The Port must seek to balance its service as an international port with the demands for a cleaner and visually aesthetic environment.*

Objectives:

- a. Minimize view obstruction and improve the visual quality at the entry and within the boundaries of the Port.
- b. Implement the Harbor Beautification Plan that aesthetically “unifies” the Port.
- c. Provide an attractive landscaping buffer separating the recreational waterfront area from Port industrial areas.
- d. Promote quality recreational and tourist activities in the Queensway Bay Planning District.
- e. Create a fish and wildlife habitat mitigation bank of credits for proposed landfill projects.

The matrix in Table IV-1 illustrates how the certified projects completed since 1983 and the “anticipated” projects scheduled for development over the next five years serve to meet these long-range goals. Projects from the *1983 PMP Update* have been included to maintain continuity with this *PMP* update. The Port has continually concentrated on achieving maximum utilization of the existing land and creating and developing new land within the Harbor District. The location of the “anticipated” projects can be seen in Figure IV-1.





**FIGURE IV - 1**

### C. Long-Range Plans to the Year 2020

In April 1988, the Port performed a study to evaluate and quantify the cargo handling operations, facilities, and infrastructure (OFI). OFI identified landfill and terminal requirements for meeting the Port's cargo throughput demand to 2020, specifically, those necessary to implement the Port's *2020 Plan*. The *2020 Plan* is a phased program of dredging, landfilling, and constructing Port facilities over the next 30 years. In the OFI study, operational capacities of present and future terminal facilities were measured and future needs quantified for the Port of Long Beach and the Port of Los Angeles. Land and water use plans were prepared for an expanded Port complex including 2,400 - 2,600 acres of new landfill and 600 acres of development of existing land in both ports (Figure IV-2). A summary of the Port's long-range cargo facility and infrastructure requirements for implementing the *2020 Plan* is provided for information purposes.

By 2020, cargo throughput at the San Pedro Bay Ports is estimated to exceed 197 million metric tons (Figure IV-3), including 8.8 million loaded Twenty-foot Equivalent Units (TEUs) as seen in Figure IV-4. These projections are based on the Wharton Econometric Forecasting Associates (WEFA)/Manalytics cargo forecast that was completed in December 1987. It can be seen that the greatest increase occurs in the container and liquid bulk categories, with a steady increase in dry bulk. The OFI study determined that at least 18 new terminals would be needed in the Port of Long Beach by 2020. This represents approximately 1,202 acres of new land. The first landfill project of the *2020 Plan* includes the 147 acre Pier J Expansion project, scheduled for completion in 1992. This development will add two new container terminals to the Port.

The OFI study integrated analysis for the development of land and water use plans. The most significant infrastructure consideration in the study was channel configurations responsive to future world fleet requirements and the locations and configurations of rail and highway facilities. Water depths ranging from 50' MLLW to 85' MLLW will be required to accommodate liquid bulk tankers, dry bulk vessels, and 4<sup>th</sup> generation container vessels carrying up to 3,000 TEUs. By 2020, it is estimated that both ports combined will generate over 50 unit train movements per day and over 20,000 vehicle trips per day. Future plans call for rail facilities to be provided to dry bulk and auto terminals. In order to minimize conflicts between rail and vehicular traffic, a system of roads, grade separations, overpasses, and interchanges will have to be provided.

# SAN PEDRO BAY PORTS 2020 PLAN

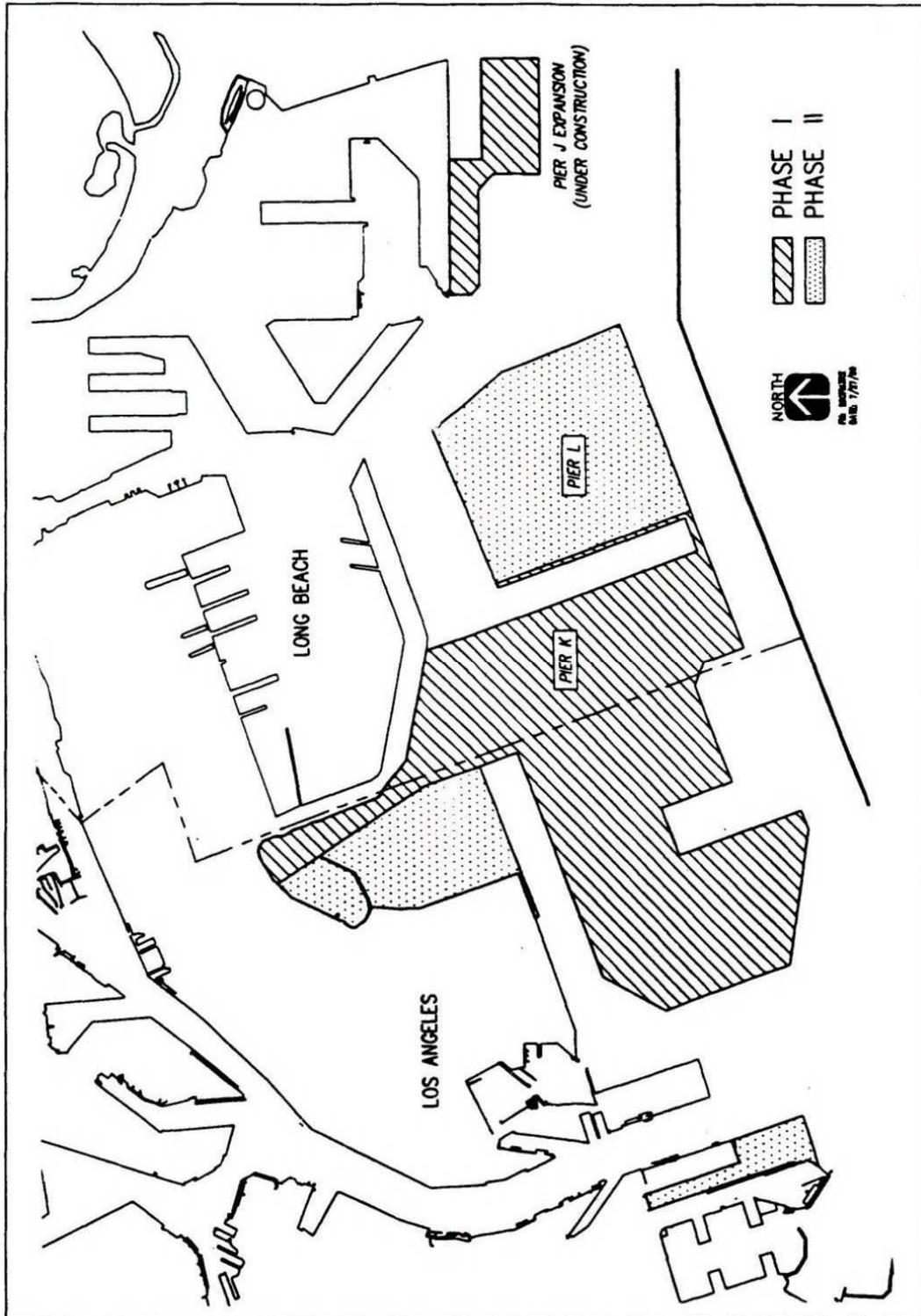
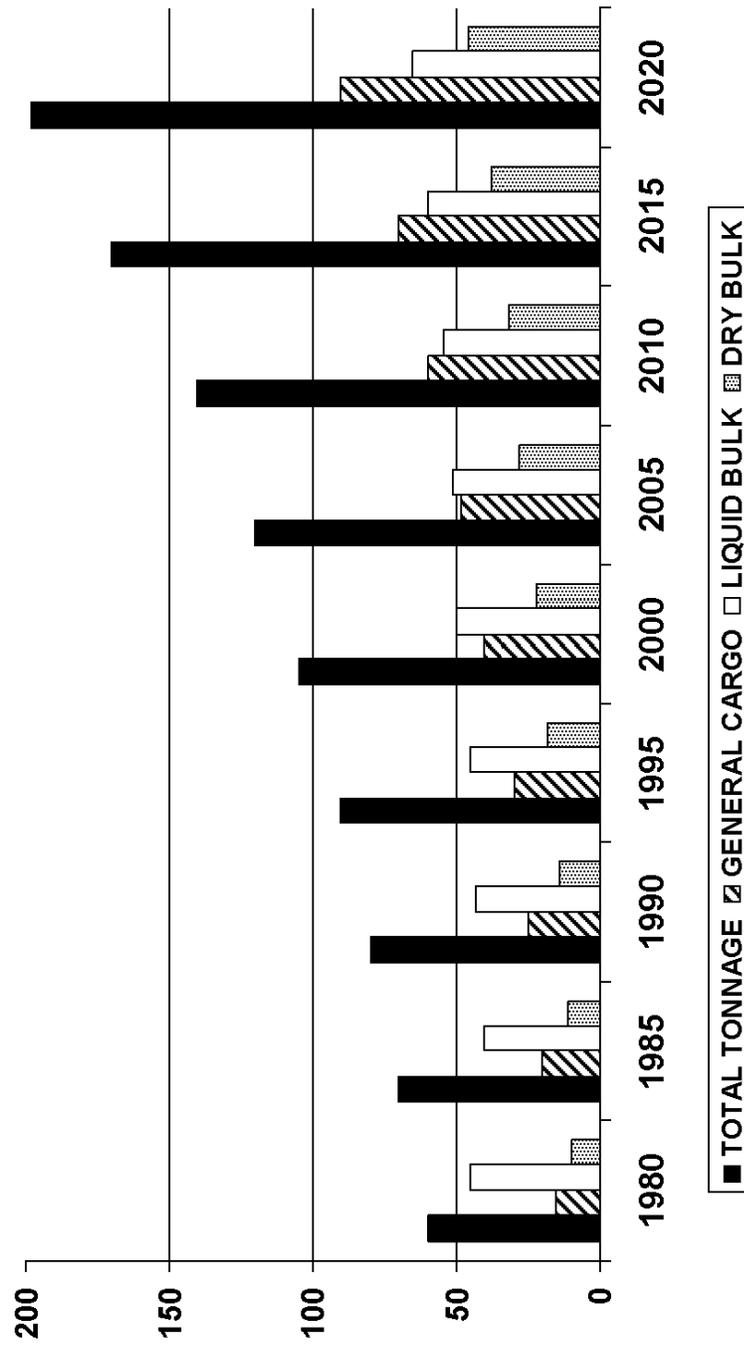


Figure IV-2

**San Pedro Bay Ports  
Major Cargo Classes  
2020 Forecast  
METRIC TONS (Millions)**

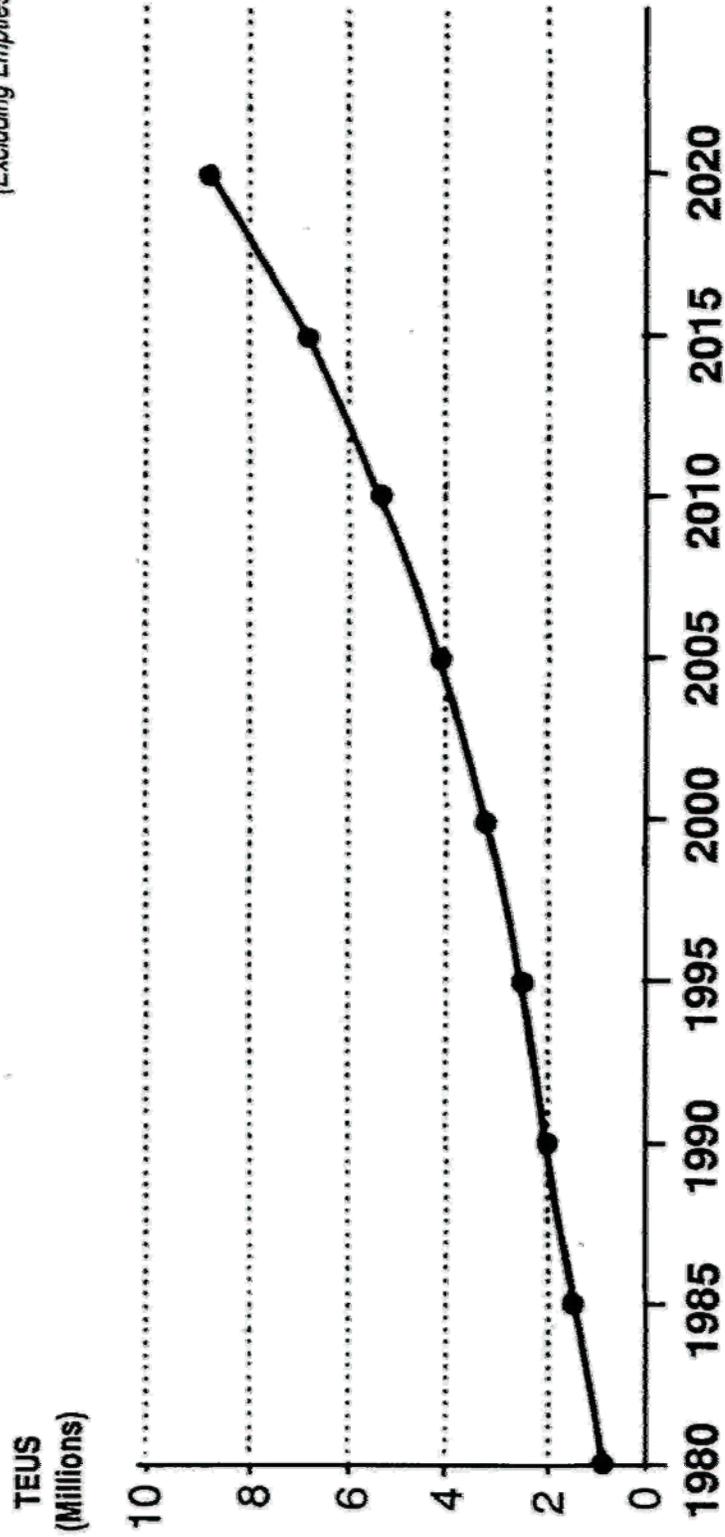


Source: The WEFA Group 1987

Figure IV-3

**San Pedro Bay Ports  
20 Ft. Equivalent Units (TEUS)  
2020 Forecast**

● Containers in TEUS  
(Excluding Empties)



Source: The WEFA Group 1987

Figure IV-4

Concurrent with the OFI study, the Ports retained the firm of De Leuw Cather and Company to develop recommendations for rail and highway access to and from Terminal Island in support of the *2020 Plan*. The principal findings of transportation study are:

- (1) The existing rail infrastructure which will serve the 2020 landfill should be significantly upgraded and expanded to meet the anticipated rail needs;
- (2) The rail approach corridor to the 2020 landfill should be grade separated from highway traffic; and
- (3) The principal identified highway corridor improvements, when implemented, should allow adequate future highway traffic capacity.

The 2020 project will be constructed in two phases. In the Port of Long Beach, Phase I (Pier K) of the landfill and terminal construction is scheduled for completion around 2010. Phase II (Pier L) construction and all other facilities required to meet the projected forecast and that can be physically accommodated within new or existing landfill areas, are scheduled for completion in 2020. Approximately 2,369 acres of new landfill will be added to the Port as a result of the full buildout of the 2020 Plan.

## **V. PLAN ELEMENTS**

## V. PLAN ELEMENTS

The *PMP* has been developed to provide guidance and direction for policy and business decisions affecting the future growth and development of the Port. The purpose of the plan elements is to focus on specific areas where a port-wide review is pertinent as compared to the individual district plans. While the district analysis is location oriented, the plan elements are issue oriented.

Each Plan Element outlines specific planning goals and issues, and provides a list of recommendations and/or an implementation program. There are six plan elements. These include:

- A. **Public Access, Visual Quality, and Recreation/Tourist**
- B. **Navigation**
- C. **Environmental**
- D. **Vehicular Transportation/Circulation**
- E. **Intermodal Rail Facilities**
- F. **Oil Production and Operations**

Each of the above plan elements are comprised of three major components, forming a base for making critical planning decisions in the future. These components are listed and defined below:

**Planning Goals:** General statements intended to guide Port development and expansion.

**Issues:** Discussion on areas of controversy.

**Recommendations/Implementation Program:** Course of action for correcting, alleviating, and/or necessitating further study of the issue.

## **A. PUBLIC ACCESS, VISUAL QUALITY, AND RECREATIONAL/TOURIST ELEMENT**

Recreational uses are found in four Harbor Planning Districts. The types of uses in each District are outlined below.

- 1) *West Harbor District:* Marina Facilities
- 2) *Northwest Harbor District:* Marina Facilities
- 3) *Northeast Harbor District:* Sportfishing/whale watching cruises; restaurants
- 4) *Queensway Bay District:* Hotels; restaurants, public viewing and fishing areas; open spaces; and heliport.

The majority of public and commercial recreational opportunities are located by design within the Queensway Bay Planning District. The District acts as a buffer between the higher-industrialized inner port complex and the waterfront recreation activities of the Port and City of Long Beach. Because of this relationship, this element concentrates on Queensway Bay. The specific issues of concern in this element are 1) public access, 2) increased recreational use of the flood control channel, 3) visual quality, and 4) recreational/tourist facilities.

### **Planning Goals:**

- Goal 1: Revitalize the Queensway Bay area.**
- Goal 2: Promote quality recreational and tourist activities in the Queensway Bay District.**
- Goal 3: Consolidate harbor recreational activities into the Queensway Bay District.**
- Goal 4: Enhance and Augment recreational and tourist activities to complement recreational developments proposed by the City of Long Beach.**
- Goal 5: Meet the demand for additional hotel facilities.**
- Goal 6: Encourage increased use of the Los Angeles County Flood Control Channel.**
- Goal 7: Develop a cruise ship passenger terminal.**

- Goal 8: Enhance Public Access in the Queensway Bay Planning District.**
- Goal 9: Provide landscaping between recreational facilities and port industries.**
- Goal 10: Minimize disruptive views.**
- Goal 11: Improve appearance of Harbor lands at and along major vehicular approaches.**
- Goal 12: Encourage the development of a shuttle system between City of Long Beach and the Port's recreational corridor in Queensway Bay.**

### **Issues**

1) Public Access

A complete discussion of public access issues is covered in the *1978 PMP*. Discussion concerning non-vehicular access is provided in the *Transportation/Circulation Element*. Public access to the Port must be tempered by prudent consideration of safety, security, property rights, and liabilities. The Coastal Act and the Government Code Section 66478.1 through 66498.14, inclusive, recognize the need for such control near industrial facilities, especially coastally dependent facilities. The Federal Use Planning District and hazardous material storage and handling areas are off limits to the general public. Activities on ships and at docks and wharves are strictly regulated for purposes of safety by the Port Wharfinger, Port Security, and others.

Recreational activities such as fishing, scuba diving, and boating are regulated within the harbor jurisdiction. Fishing from any berth, barge, or wharf and scuba diving is prohibited unless approval from the Harbor Department is secured. Fishing is permitted at selected locations along the eastern boundary of Pier J. However, during the construction of the Pier J expansion landfill, safe access will be maintained on the eastern side.

For the reasons outlined above, recreational uses are primarily concentrated in the Queensway Bay Planning District, away from primary port facilities where safety and security are of primary importance. The development of new recreational uses in other planning districts is not encouraged and those existing uses are encouraged to relocate to the Queensway Planning District when feasible. Public use of the Queensway Bay Planning District is encouraged and the Port's goal is to enhance public access in this district while at the same time complementing recreational developments in the shoreline area of downtown Long Beach.

## **Recommendations/Implementation Program**

- a) Preserve and enhance adequate public access to fishing, viewing, and other public facilities.
- b) Reduce conflicts between public and port-related surface traffic within the Harbor District.

### 2) **Increased Recreational Use of the Flood Control Channel**

Recreational use of the Los Angeles Flood Control Channel for water contact recreation is not permitted. Although water-skiing and jetskiing in the flood control channel do not hinder the activities in Port operations, high bacterial counts in the water, particularly following heavy winter rains make water contact sports unsafe. However, the Port encourages the development of non-contact water sports in the flood control channel and maritime-support of recreational uses on the eastern levee. According to the Port of Long Beach Tariff No. 4, Section 7, regarding vessel speed limits, navigational speeds cannot exceed 5 m.p.h. within any portion of the navigable waters of the Harbor District. This is intended to maintain safe boating practices.

## **Recommendations/Implementation Program**

- a) Continue to enforce the 5 m.p.h. speed limit to encourage safe boating practices.
- 3) **Visual Quality**

The Port has several major responsibilities in the area of visual quality, particularly in regard to: a) minimizing disruptive views, b) landscaping or providing an attractive buffer between the recreational facilities and port industries, and c) improving the appearance of Harbor lands at and along major vehicular approaches. The Port has also made a commitment to providing enhanced comprehensive informational signage to provide better guidance to the public in reaching places of business and points of interest within the Harbor District.

The most sensitive views include:

- Predominate structures visible to the east from downtown Long Beach and along the ocean bluffs;
- Ground level views along the boundary of Queensway Bay; and

- Ground level views along Harbor Scenic Drive from southbound lanes south of Anaheim Street.

Color, form, texture, and scale are the four criteria used during a project review.

### **Recommendations/Implementation Program**

- a) Adopt a comprehensive Harbor Beautification Plan and implement the recommended actions through Harbor Development Permits.

#### 4) Recreational/Tourist Facilities

Although one of the planning goals is to encourage development of a cruise ship passenger terminal, no terminal has been developed primarily due to the lack of an available berthing location with adequate parking facilities for users and guests. (However, the Port could serve as a "Port-of-Call" to passenger cruise ships making an intermediate stop in Long Beach. This could require extending a landing from the passenger vessel to off and on-load passengers).

Remote parking lots with bus service to a passenger terminal is an option. However, a sizable remote lot with sufficient room for baggage handling would need to be located. The passenger terminal is a permitted use for the Queensway Bay Planning District, as it will complement existing and future tourist and recreational uses. There is currently no landside location in this district where a passenger terminal could be accommodated. This is reaffirmed in the policies of the Queensway Bay Planned Development Ordinance. The current terminal for the land and water area surrounding the Queen Mary Hotel (WCO Port Properties/Disney) may take advantage of their site characteristics and propose a marine passenger terminal as part of their master plan proposal. The previous Queensway Bay Redevelopment Plan (Wrather) was an anticipated project identified in the PMP Update '83 and is on hold pending finalization of Disney Development Corporation plans. The Disney Master Plan proposal is not being submitted for certification at this time. Further discussions on the Queensway Bay Planning District can be referenced in Section VI, District Update.

### **Recommendations/Implementation Program**

- a) Encourage a viable revitalization plan for enhancing recreational/tourist facilities in the Queensway Bay area.
- b) Increase public access to the shoreline.

## B. NAVIGATION ELEMENT

The basic ingredient for any international port is its ability to accommodate the “world fleet,” particularly liquid bulk, dry bulk, and “post-panamax” container vessels. The Navigation Element therefore considers the existing navigational procedures and operational and physical constraints governing the maneuvering of vessels for existing and proposed vessel activities within the Port. Consideration is given to existing physical configuration of channels, turning basins and berths, berth occupancy characteristics, vessel accident information, proposed projects and their relationship to vessel activity and navigation; existing navigational procedures and operations; and, deficiencies which may exist in navigational procedures and/or equipment.

Navigational activities occur in all planning districts with the exception of the North Harbor as outlined below. Anchorage grounds are represented by corresponding letters and can be seen in Figure V-1:

- \*\* *Navigational Area* - Ingress/egress in transit to berthing areas or to anchorage;
- \*\* *West Harbor* - Transit to private commercial berths and marina facilities; maneuvering;
- \*\* *Middle Harbor* - Through transit to inner harbor; transit to public commercial berths; maneuvering;
- \*\* *Federal Use* - Restricted transit to federal berths (Long Beach Naval Station); Restricted maneuvering;
- \*\* *Southeast Harbor* - Transit to public commercial berths; maneuvering;
- \*\* *Southwest Harbor* - Interport transit; Anchorage areas B, C, and J;
- \*\* *Northeast Harbor* - Transit to public and private commercial berths and marina facilities; maneuvering;
- \*\* *Northwest Harbor* - Transit to public and private commercial berths and marina facilities; through transit to Port of Los Angeles;
- \*\* *Outer Harbor* - Through transit to Anchorage area D;
- \*\* *Queensway Bay* - Through transit to public marina/launch facilities and commercial facilities; Non-anchorage area X; Reduced speed limit for all boating activities.

# SAN PEDRO BAY ANCHORAGE GROUNDS

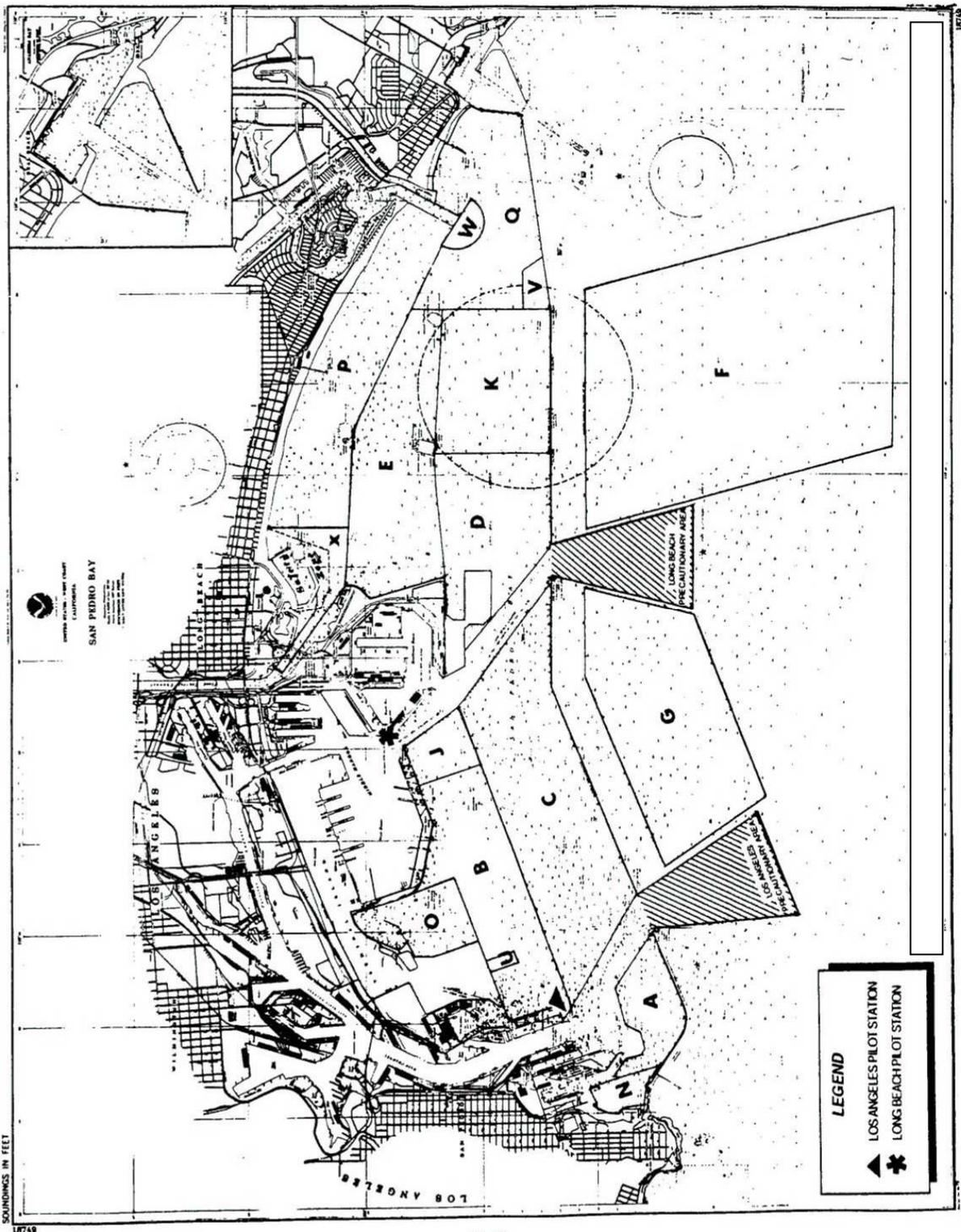


FIGURE V-1

## **Planning Goals:**

- Goal 1:** Remain current to the changing needs of the maritime industry with respect to deep water access to commercial berths and anchorage areas by deepening channels to accommodate the existing and future tanker, dry bulk and general cargo fleet.
- Goal 2:** Enhance surveillance capabilities for port pilots for vessels approaching, within and departing the Port of Long Beach, thereby improving vessel safety while transit or maneuvering in Southern California waters.
- Goal 3:** Continue to facilitate access to anchorage areas within and adjacent to the Harbor.
- Goal 4:** Minimize vessel congestion possibilities by properly coordinating and arranging ancillary port uses (i.e., sportfishing; marine contracting, etc.) to complement primary port activities.

## **Issues:**

### 1) Harbor Dredging

Water depths in the terminal approaches within the Harbor range from -15.3 meters (-50 feet) in the Middle Harbor Basin and Channels Two and Three to -26.2 meters (-76 feet) in the Main Channel. Portions of the Main Channel have been dredged to -27.4 meters (-90 feet) in conjunction with the Pier J Expansion project now under construction. Adjacent to berths, water depths range from -11 meters (-36 feet) to -23 meters (-76 feet). All measurements are taken from 0.0 (mean lower low water), which represents the mean of the daily low tides over a 19 year period. On average, the diurnal tide fluctuation at Long Beach is  $\pm 2.44$  meters ( $\pm 8$  feet).

The deeper berths and channels in the Harbor can accommodate vessels in the 50,000 to 165,000 DWT class that have maximum operating draft of -17.7 meters (-58 feet). This range of ships includes large crude oil carriers and dry bulk carriers. Water depths of -13.7 meters (-45 feet) can accommodate large container ships, ro-ro vessels, and lighter-aboard-ship (LASH) vessels in the 20,000 to 50,000 DWT class, as well as smaller bulk carriers with drafts not exceeding -34 feet. Typical general cargo and break bulk cargo ships of the 15,000 to 20,000 DWT class can be accommodated at berths with a water depth of -36 to -40 feet.

Increasingly larger ships in the Pacific trade have found it difficult to call at Long Beach because of draft restrictions to the harbor channels. This is being remedied to a certain extent by the Port's current efforts to deepen the Long Beach Main Channel within

the breakwater from -60 to -65 to as much as -76 to -90 feet, in conjunction with the Port's Pier J Expansion project. In addition, dredging activities are also being performed outside the breakwater. ARCO's Pier E (Berth 121) terminal, where depths are -76 feet, will be able to receive deliveries from tankers up to 265,000 DWT that could not transit the Port waters before.

Maintenance dredging is undertaken throughout the Harbor District on an infrequent basis in order to maintain design depth and to eliminate minor hazards caused by sediment deposition or vessel propwash anomalies occurring on the bottom.

Disposal of this dredged material will either occur at an EPA-approved ocean dump site, be transported to nearby fill sites, or be disposed at an approved landfill. Dredged material which is found to be suitable for fill may be eligible for placement in one of several Port locations (refer to anticipated projects sections of various districts). Maritime commerce-related projects will continue to take priority over commercial/recreation needs in the use of landfill material.

### **Recommendations/Implementation Program**

- a) Pursue wharveside deepening to accommodate deeper cargo vessels.
- b) Vessel Safety

In order to remain current with available technology and improve vessel management capability, port pilots and harbor management will continue to provide the highest level of pilotage service and improvements to radar surveillance in the Port. Continued improvements to navigational aids such as communications, radar, and the addition of range lights on the Back Channel and at channel and slip entrances are also contemplated.

VTIS: In recent years, more attention has been given to improving safety when vessels enter or leave San Pedro Bay. The Marine Exchange of LA/LB has re-established the Vessel Traffic Information System (VTIS) including a more modern facility with new sophisticated radar. VTIS permits updated vessel arrival/departure information to be relayed directly to vessels.

Radar Scanners: Future navigational improvements within the Port will involve the installation of remote radar scanners by the U.S. Coast Guard for isolated areas of the Harbor including the Inner Harbor and Southeast Basin and the installation of range lights in the Back Channel to aid in vessel transiting.

Operationally, remote radar scanners will increase the ability of the port pilot control center to provide advisory information to vessels underway. Radar information will be

beamed back to the base station via microwave transmission for central display and monitoring.

Existing radar effectiveness has been reduced due to recent construction of large buildings and structures within the Port and around its perimeter. The tall elements create "shadow sectors" through which vessels must move and in which the control center cannot see objects at water level. However, recent developments in marine electronics (e.g., ARPA) have resulted in radar systems which are more reliable and offer a wider range of operational features important to effective pilotage.

Range Lights: Back Channel range lights are being considered by the Port's pilot station captain to enable onboard pilots to visually determine the position of transiting vessels relative to the centerline of each channel. Two tall towers, a lower one in front and a higher one behind, would be erected at each end of the Channel with lights atop each tower. The higher light would "drift" to the left or the right of the lower light when viewed from the Channel (or ship's bridge) and indicate how far left or right of center the vessel is in the Channel. This navigational advantage is considered crucial given the anticipated increase in the number and size of vessels calling in the inner harbor.

Addition of this navigation equipment would fulfill the goal of the Port's Risk Management Plan by providing safer vessel movements and, thus, reducing the likelihood of collision and disaster. These improvements may be cost effective by increasing the margin of safety in ship handling overall, as the Port continues to handle hazardous cargoes.

Harbor Communications System: Long Beach and Los Angeles pilots, in concert with the U.S. Coast Guard, U.S. Navy, and the Marine Exchange, have recently upgraded inter harbor communications by means of the *Harbor Communication System*. This system facilitates communication between and among all parties via voice or modem and is helpful in notifying all concerned prior to vessel movements.

### **Recommendations/Implementation Program**

- a) Install remote radar scanners in the inner harbor and Southeast Basin.
- b) Install range lights in the Back Channel.
- c) Maintain state-of-art communication systems to facilitate communication with any vessel moving to San Pedro Bay.

## C. ENVIRONMENTAL ELEMENT

The Port of Long Beach seeks to protect, maintain, enhance, and restore the overall quality of both the man-made and the natural coastal environment. This objective has been and will continue to be met through careful planning for Port development and implementing a program of regulatory compliance. The specific issues of concern in this element are: 1) air quality, 2) habitat preservation/marine mitigation, 3) hazardous waste, and 4) permit processing. Although the Port is involved in other aspects of the environment (i.e., water quality), this element concentrates on only those areas where it is appropriate to outline a specific policy beyond what was considered in 1983.

### Planning Goals:

- Goal 1: Minimize pollutant levels from existing and future sources.**
- Goal 2: Minimize habitat loss within Port boundaries.**
- Goal 3: Identify and remediate soil and groundwater contamination within the Harbor District.**
- Goal 4: "Streamline" Harbor Development Permit (HDP) processing procedures.**
- Goal 5: Develop additional Mitigation Banks.**

### Issues

#### 1) Air Quality

Although the Port has little direct control over air quality within the Harbor District, it is concerned with minimizing pollutant primarily from trucks and existing as well as future movable and stationary sources.

As part of the permitting responsibilities, the Port grants Harbor Development Permits (HDPs), reviews all Port projects, and refers applicants to the SCAQMD for any required permits when projects are presumed to emit air pollutants. The Port conditions the granting of any permit to comply with all applicable SCAQMD rules and regulations. The Port will continue to do so in the future.

In April 1989, the SCAQMD released the final *Air Quality Management Plan (AQMP)*. This plan provides policy proposals for improving air quality in the South Coast Air Basis (SCAB) by placing controls on transportation systems and land use. These regulations are

proposed in the three tiers (phases) and may negatively effect the Port's ability to accommodate future maritime and commercial facilities.

Tier I measures are to be in place by 1993. These measures that could directly and/or indirectly affect the Port involve reduced emission standards for ships, locomotives, trucks, construction equipment, and pleasure boats. Tier II measures are primarily an extension of Tier I measures, but with more stringent requirements. Tier III measures involve technology advances whose impacts on the Port cannot be determined.

The Port of Long Beach has also formed a *Port of Long Beach Truck/Air Quality Task Force* to address the implementation and compliance with the AQMP proposals with its tenants. Specific proposals call for reducing rail grade crossings and diverting port-related truck traffic to rail. The Port has made a commitment to providing on-dock rail and has approved the development of such facilities at two of its container terminals. Recently, a rule for truck peak periods was introduced.

One of the SCAQMD proposals involves Regulation XIII (New Source Review) which governs emissions from new or "modified stationary sources", which are physical changes or conditions in the method of operation of any building, structure, facility, or installation which emits or may emit any air pollutant. Regulation XIII is designed to assure that no net emissions from growth occur from new stationary sources so that "reasonable further progress" towards cleaner air is not impaired. (This is the annual incremental reduction in emissions of the applicable air pollutant which are sufficient in the judgment of SCAQMD to provide for attainment of the applicable national ambient air quality standard). This regulation may make it difficult for the Port to build new bulk petroleum, coal, coke, soda ash, grain, or other terminals requiring SCAQMD permits to operate.

A joint study of the AQMP strategies applicable to the San Pedro Bay Ports is currently being performed by the Port of Long Beach, Port of Los Angeles, SCAQMD, and other interested agencies. The SCAQMD is also proposing Regulation 1165 which will require the Port to "cold iron" vessels at berth to prevent hotelling emissions. The proposed rule would require the majority of vessels calling at both Port of Long Beach and Port of Los Angeles to shut down their diesel powered operations while at berth over four hours. The SCAQMD anticipates implementation of this rule will prevent approximately nine tons of nitrogen oxides (Nox) per day from being generated by ships within the ports and thus released into the atmosphere of the SCAB.

The implementation of Regulation 1165 could create a worker safety issue within the port area. This could be primarily attributed to certain provisions within 33 CFR and 49 CFR, requiring vessels which carry and discharge hazardous materials (e.g., tankers carrying or discharging petroleum or petrochemical materials) to maintain a state of "readiness", that is, to be prepared to get underway in the event of an accident on the ship or on the dock. These regulations require all foreign and U.S. flag tankers carrying hazardous materials to maintain an independent powered up status while at berth. The

requirements for ships to utilize shore power for all energy requirements will necessitate the use of large power cables which will run from the shore facilities to the vessels, thus complicating evacuation.

### **Recommendations/Implementation Program**

The Port, whenever feasible, should impose mitigation measures as permit conditions to reduce air pollutants emitted from Port facilities when shown to have a significant localized impact. The Port should ensure that excessive air pollution resulting from construction/demolition projects will be minimized by requiring the project proponents to do the following:

- a) Limit idling of construction equipment and vehicles.
- b) Utilize electric dredges whenever possible.
- c) Implement a watering program to minimize fugitive dust. (The Port's carbon petroleum facilities generate an extensive amount of coke dust throughout the Port vicinity. The Port should continue requiring tenants to wash trucks to minimize coke particulates).
- d) Use low sulfur fuel.
- e) Implement air monitoring programs when hazardous air emissions may be encountered.

#### 2) Habitat Losses and Mitigation

The Port seeks to minimize habitat losses within its boundaries whenever possible. Since there are no natural terrestrial habitats which are of significant value, most efforts in this area are focused on marine habitat.

In 1984, the Port entered into a Memorandum of Understanding (MOU) with state and federal wildlife resource agencies which established a procedure to compensate for marine habitat losses incurred by landfill development within the Harbor District. This MOU led to the successful creation of wetland areas in Upper Newport Bay and provided the Port with 16.80 acres of banked mitigation credit to be used as compensation for additional landfill projects. The Port intends to utilize these banked credits to mitigate the loss of 0.15, 2.65, and 12 acres of marine habitat in Channel No. 2 (Berths 73-74), Cerritos Channel (Berths 95-97), and the Southeast Basin (Berths 235-242), respectively. However, 14 of the 16.8 banked acres available from the Newport Bay Restoration Project are being held for the Port "in escrow" pending the results of a monitoring study to examine effects of the Pier J channel deepening and slip construction. If no adverse physical or biological impacts are observed, these 14 acres of credits will be applied as mitigation for the

Southeast Basin landfill project. Consequently, a balance of 2 acres will remain in the Newport Bay mitigation bank at the conclusion of the above proposed fills.

A similar MOU with the state and federal wildlife agencies was established in February 1986 to create marine habitat at Anaheim Bay (Seal Beach National Wildlife Refuge). This restoration project was undertaken as mitigation for the Pier J Expansion landfill project. This project involved the creation of a 135-acre landfill south of the existing Pier J, and a 12-acre landfill proposed for the Southeast Basin. Subsequently, plans for developing the 12-acre fill were abandoned and the acreage combined with Pier J, resulting in a reconfigured landfill of 147 acres. A Final Subsequent EIR and Master Plan Amendment for the Pier J Completion Project and Anaheim Bay Mitigation Project was certified by the BHC on November 2, 1987 and a permit granted by the CCC on March 23, 1988.

The Port is currently excavating areas in Anaheim Bay in order to restore tidal influence and provide additional nursery habitat for marine fish and foraging areas for birds, including the endangered California Least Tern and Light-footed Clapper Rail. Upon successful completion, the Port will have 6.12 acres of banked mitigation credits available. The Port intends to use 5.35 of these acres as mitigation for the remaining portion of the 8 acre Cerritos Channel (Berths 95-97) landfill associated with a marine terminal development project. Therefore, a balance of 0.77 acres of mitigation will remain in the Anaheim Bay bank after the Berth 95-97 fill is completed.

As indicated above and in Table V-1, the Port has completed or is completing marine habitat mitigation projects which will entirely compensate for the three proposed minor harbor landfills.

### **Recommendations/Implementation Program**

- a) Obtain mitigation credits prior to or concurrent with the development of the minor landfill projects.
- b) Continue to investigate suitable mitigation projects for anticipated "minor" and long-term landfill projects.
- 3) **Hazardous and Contaminated Waste and Marine Pollution**

The Port is in the process of conducting soil and groundwater assessments in order to determine the types and amounts of hazardous wastes, if any, which exist throughout the Long Beach Harbor District. These tests are being done in anticipation of anticipated projects such as: the marine terminal development at Berths 95-97 located in the Northwest Harbor; West 7<sup>th</sup> Street Terminal Development and Expansion; and numerous areas within the North Harbor Planning District. (These projects are discussed in further

detail in Section VI, District Update). The Port will continue to perform these tests as new projects arise and will assist tenants by providing information so they can conduct their own hazardous waste assessments.

In order to aid in the prevention of marine pollution in the surrounding waters, the Port complies with the regulations established in the Annexes to the *International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL 1973/1978)*.

Currently enforced are MARPOL regulations involving oily discharges (Annex I) and noxious liquid substances in bulk (Annex II). On December 31, 1988, regulations regarding marine garbage disposal (Annex V) went into effect. This MARPOL regulation prohibits the dumping of plastics in the ocean and restricts the dumping of other ship wastes within 25 miles from shore. The Port has an Animal and Plant Health Inspection Service (APHIS) approved incinerator located within the Northwest Harbor Planning District which tenants can utilize for disposal of ship-generated garbage.

MARPOL is actively pursuing regulations that pertain to harmful substances in packaged form (Annex II) and sewage waste (Annex IV). The Port will be monitoring the outcome of these proposed regulations.

**TABLE V – 1  
PORT OF LONG BEACH**

**POSSIBLE “MINOR” LANDFILL MITIGATION**

ANTICIPATED “MINOR” LANDFILLS (With Fill Requirements in Acres)	TOTAL BANKED MITIGATION CREDITS AVAILABLE		
	NEWPORT BAY	ANAHEIM BAY	
	16.80	6.12	
Fill (Ac)			
1. Berths 95-97	8.00	2.65	5.35
2. Pier J South East Basin Berths 235-242	12.00	12.00*	
3. Berth 72 – 73 (W. 7 <sup>th</sup> St.) Terminal Expansion	0.15	0.15	
<b>REMAINING MITIGATION CREDITS</b>	<b>2.00</b>	<b>0.77</b>	

Source: POLB, Planning Division, 1989.

\*Assumes that 14 acres are released after Pier J slip monitoring shows no adverse environmental effects

## **Recommendations/Implementations Program**

- a) Develop a Hazardous Material Auditing Program to identify possible hazardous wastes throughout the Harbor District.
- b) Monitor MARPOL regulations to determine their impacts on the Port of Long Beach.
- 4) Permit Processing

In December 1978, the Port of Long Beach adopted the guidelines for implementing the *Port of Long Beach Master Plan*. The purpose of the guidelines is to provide the Board of Harbor Commissioners (BHC) with the necessary procedures, objectives, and criteria for the implementation of the *PMP* in accordance with the provisions of the California Coastal Act of 1976.

As part of these guidelines, the Port's policy prohibits the BHC from approving coastal development projects within the Harbor District unless a determination has been made for issuing a Permit Level I, II, or III.

The following defines these various permitting levels. Projects which are appealable to the Coastal Commission are also defined.

a) Level I Permits: Encompasses developments occurring within the Harbor District that are emergency, administrative, or minor and expected to have insignificant impacts on the Port or surrounding environment. Level I developments must conform to the following requirements: 1) minimal resources are involved, 2) estimated development costs are less than \$400,000 and the development is not part of a larger phased development exceeding \$400,000 cost criteria, 3) major changes in land and/or water use are not anticipated, 4) minimal changes in the density or intensity of the use of land and water area are expected, 5) there are no significant adverse environmental impacts, and 6) the development is not an appealable project as defined in Section 30715 of the Coastal Act.

b) Level II Permits: Encompasses developments occurring within the Long Beach Harbor District that conform to the following requirements: 1) estimated development costs are greater than \$400,000, 2) potential minor changes in the land and/or water use and in the density or intensity of the uses, and 3) minor environmental impacts which can be mitigated.

c) Level III Permits: Encompasses developments which may involve: 1) large capital expenditures, 2) the risk of substantial adverse environmental impacts that can be mitigated, 3) the potential for unavoidable adverse impacts that cannot be mitigated, 4) potential changes in land and/or water use, and 5) a major increase in the density or intensity of use. These projects include development of new port facilities such as marine

terminals; major structures for recreational purposes; creation of new landfills, and major dredging of water areas not presently used for navigation maneuvering or berthing; and in general, major alterations in the use of existing land or water resources.

In accordance with Public Resources Code Section 30715, the following categories of development specifically relating to the Port may be appealed to the Coastal Commission prior to the BHC approving a development project.

- 1) Developments for storage, transmission, and processing liquefied natural gas and crude oil in such quantities as would have significant impact upon the oil and gas supply of the state and/or nation;
- 2) Waste water treatment facilities;
- 3) Roads or highways which are not principally for internal circulation within the Port boundaries (e.g., Port Access Demonstration Projects);
- 4) Office buildings not principally devoted to administration of activities within the Port; hotels; motels and shopping facilities not principally devoted to the sale of commercial goods utilized for water-oriented purposes; commercial fishing facilities; and recreational small craft marina related facilities;
- 5) Oil refineries; and
- 6) Petroleum productions plants.

Although these guidelines are extensively relied upon for analyzing proposed development projects prior to granting a permit, the guidelines have not been updated since the 1978 document was first prepared. The issuance of Emergency Permits is particularly in need of updating. Recognizing this factor, the Port's attorneys are planning to update these guidelines in the near future.

In reference to Level I and II Permits, estimated development costs are to be adjusted annually in accordance with incremental changes in the *Producers Price Index* by the Port's Director of Planning and approved by the Port's Executive Director. The Port is currently evaluating the fiscal features of the *Construction Cost Index* and the *Producers Price Index* to determine which more accurately reflects actual construction costs.

The Port is taking efforts to further streamline the Harbor Development Permit (HDP) process. In the near future, the Port anticipates adopting a policy which allows Categorical Exempt (CE) Level I projects to be evaluated and approved by the Port's Director of Planning before submitting to the Board of Harbor Commissioners. Furthermore, the Port anticipates accessing the City of Long Beach's computerized Building Permits database to follow-up on the status of the various construction permits and to

promote better coordination between the City Planning and Building Department and the Harbor Department for constructing projects within the Harbor District.

In order to assist the Port tenants who apply for HDPs, the Port's Planning Division issues a *Permit Handbook* to tenants within the Harbor District. This handbook includes the requirements for obtaining a Harbor Development Permit (HDP) and provides guidance to the applicant in submitting a complete application. It also provides information on all other permits which may be required, so that permits may be applied for and obtained in a timely manner. The *Permit Handbook* is kept current and updated every two years. The latest revision was completed in October 1989.

### **Recommendations/Implementation Program**

- a) Update the *Port Master Plan Guidelines* to remain current and integrate changes in permit policies.
- b) Network into the City of Long Beach's computerized permit processing system to access information on the City and Port permits.
- c) Obtain the Board of Harbor Commissioners approval for allowing the CE Level I permits to be issued at the discretion of the Port's Planning Director.

## D. TRANSPORTATION/CIRCULATION ELEMENT

The Transportation/Circulation Element was not provided as part of the *1978 PMP* or the *PMP Update 1983*. Instead, discussion of transportation related issues was incorporated with discussions of general planning concerns and projects. With immediate and future transportation problems impacting the Port and the need to address highway congestion and intra-harbor vehicular circulation, this element is new in the *1990 PMP Update*. This element is essential for establishing the direction of vehicular, truck, and rail related transportation activities. The specific transportation/circulation improvements discussed are anticipated for completion within the next five years. Because of their special nature, intermodal rail issues will be thoroughly addressed in a separate Intermodal Rail Facilities Element.

This element has been prepared to: 1) identify existing transportation/circulation problems, 2) identify future transportation needs of the Port, and 3) present current plans and recommendations to address the Port's transportation demands.

Providing adequate rail and highway access to handle the forecasted cargo moving through the San Pedro Bay, while minimizing the negative impacts by the increased transportation activities on existing Port of Long Beach facilities and surrounding communities, is the major transportation issue facing the Port of Long Beach. Current expansion plans through minor landfill and marine terminal development will result in significant demands on rail and highway systems serving the Port. Immediate concerns involve the traffic impacts associated with the 147-acre Pier J Expansion Project, the full build out of the West 7<sup>th</sup> Street Peninsula, a 72-acre Marine Terminal Development located at Berths 95-97, and minor landfill development required for expanding containerized cargo handling.

In the past, similar types of development projects prompted concerns from Port tenants and the surrounding communities regarding the impacts on the transportation infrastructure. These concerns, the desire to address the environmental issues of these projects resulted in the preparation of the following transportation studies:

- \*\* San Pedro Bay Transportation Study, U.S. Army Corps of Engineers, 1984;
- \*\* San Pedro Bay Ports Access Study (Phase I and II), SCAG, 1982 and 1984;
- \*\* Terminal Island Transportation Study, DeLeuw Cather, 1988;
- \*\* Consolidated Rail Corridor Strategic Plan, (TMS, 1988); and
- \*\* Operations, Facilities, and Infrastructure (OFI 1988), Vickerman, Zachary, Miller. As a result of these studies, various recommendations and implementation programs have been developed. Many of these shape the policies adopted in the

Transportation/Circulation Element. The Port of Long Beach has requested that the port developments provide mitigation for highway and traffic impacts, particularly truck movements generated by new terminals. The Port is working towards establishing appropriate mitigation measures.

### **Planning Goals:**

- Goal 1: Provide for efficient circulation of vehicular and rail traffic within the Port (with minimum disruption to port activities).**
- Goal 2: Implement the Consolidated Transportation Corridor (CTC).**
- Goal 3: Ensure port improvements are consistent with the regional transportation network.**
- Goal 4: Provide safe and convenient parking for port tenants and visitors while minimizing the amount of primary port land devoted exclusively to parking.**
- Goal 5: Encourage ridesharing activities within the Harbor District to reduce miles traveled (VMT) and parking space requirements in compliance with the SCAQMD requirements.**

### **Issues**

#### **1) Consolidated Transportation Corridor**

The total volume of port-handled freight and the level of rail traffic have steadily increased in recent years. Present trends indicate that the San Pedro Bay ports will have the fastest containerized growth in the nation in the 1990s. With this steady cargo growth, the existing transportation infrastructure will not be able to handle the additional tonnage. Given the current range of alternatives to handle the projected demand, the most functional way to assure efficient cargo handling would be to establish a high-capacity rail and highway corridor between the Ports and downtown Los Angeles. This is where port-related rail movements from all railroads would be concentrated.

In August 1989, a Joint Powers Authority (JPA) was created to oversee implementation of a proposed 20 mile route along Alameda Street which would divert train and truck traffic originating from or destined to the San Pedro Bay ports along a central corridor linked to downtown Los Angeles. Implementation of this corridor will result in a comprehensive program of rail and highway improvements.

Two of the three railroads that operate in both ports now use circuitous routes that substantially impact residential neighborhoods. Under the corridor proposal, three railroads (Union Pacific, Southern Pacific, and Santa Fe) would share tracks parallel to Alameda Street, along the existing Southern Pacific San Pedro Branch line. Other improvements would be Alameda Street widening north of the Artesia Freeway, at least 16 major grade separations, and other improvements to rail and roadbed to reduce rail impacts and add system integrity.

The benefits of the Consolidated Transportation Corridor include improved air quality, reduction truck traffic within the region, and substantially reduced impacts of trains at grade crossings and in residential areas.

### **Recommendations/Implementation Program**

- a) Provide improved planning assistance in the areas of rail and highway access.
  - b) Pursue developing a Consolidated Transportation Corridor and associated improvements for meeting the increasing demand for high capacity rail and highways.
- 2) Port Access Demonstration Project - Phase I/II

In 1982 and 1987, the Port of Long Beach, along with CALTRANS, the county of Los Angeles, and the cities of Los Angeles, Long Beach, and Carson were awarded federal funding for constructing road and highway improvements. This funding provides a total of \$117 million for projects related to Port and regional transportation growth. In Long Beach, the demonstration projects include the reconstruction of one mile of Harbor Scenic Drive between Pacific Coast Highway and Ocean Boulevard for extending the I-710 freeway southward. In addition, the project includes two interchange bridges connecting the extended freeway to Ocean Boulevard and the Gerald Desmond Bridge. These have recently been completed. Ocean Boulevard eastbound is directly connected to the I-710 freeway northbound and the I-710 southbound is connected to Ocean Boulevard westbound. A new ramp now links westbound Ocean Boulevard to Pico Avenue. This particular project received funding of \$27 million from the Surface Transportation Assistance Act of 1982.

Table V-2 lists the Port's Master Road and Railway Transportation Improvements funded by the 1982 and 1987 Act in the Port Access Demonstration Project-Phase I and II.

### **Recommendations/Implementation Program**

- a) Pursue timely completion of the Ports Access Demonstration projects.
- 3) Master Road and Railway Transportation Improvements

The Port has identified several projects that are necessary to separate the roadways and railways within the Harbor District to eliminate traffic delays associated with increased train movements and reliance on on-dock rail. It is estimated that the total cost of these improvements within the Port would be \$176 million. Some of these transportation projects for improved circulation will be paid for by assessments placed on port tenants, proportionate to their relative contributions to transportation impacts. The Port has committed to a time schedule for completion of these improvements (See Table V-3 and Figure V-2).

### **Recommendations/Implementation Program**

- a) Implement the proposed Harbor Department Transportation Phase I projects to alleviate vehicular congestion.
- b) Pursue inclusion of port projects in the State Transportation Improvement Program.
- c) Develop a Port of Long Beach Transportation Improvement Fund.

**TABLE V – 2  
PORT OF LONG BEACH**

**PORT ACCESS DEMONSTRATION PROJECT  
LOCATION AND IMPROVEMENTS PHASE I AND II**

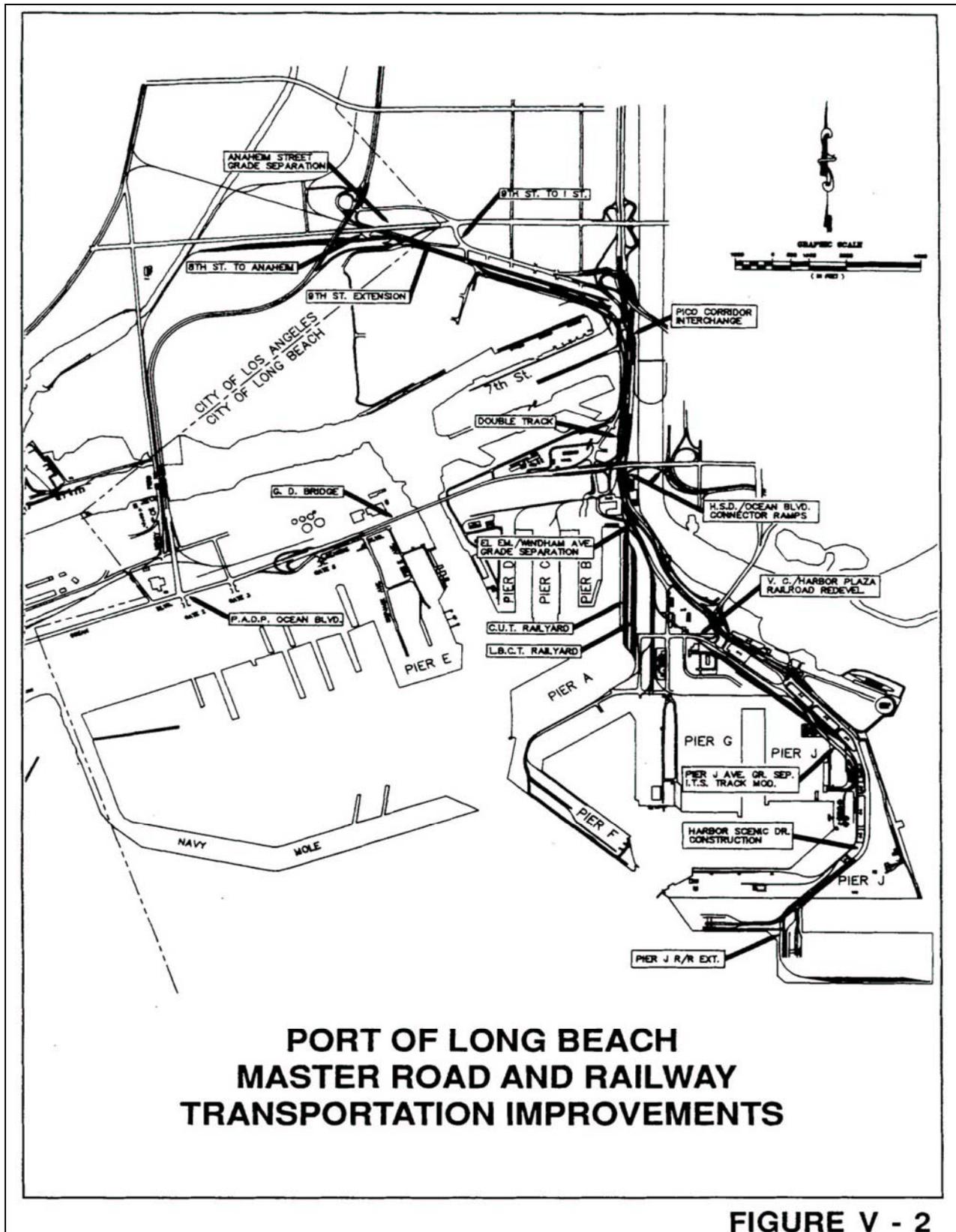
<b>PHASE I</b>		
<b>STATE RTE NO.</b>	<b>PROJECT LOCATION</b>	<b>PROPOSED IMPROVEMENTS</b>
1. N/A	Anaheim St. (“I” St. to Harbor Scenic Dr.)	A.C. Overlay, Restripe 4 lanes, Median, Parking Lane
2. 710	Ocean Blvd. (Rt. 47 to Gerald Desmond Bridge)	A.C. Overlay, 6 Lanes, Median, Signalize Gate 3
3. 710	Gerald Desmond Bridge	Operational Improvement
4. 710	Ocean Blvd. (Gerald Desmond Bridge to Ocean Blvd./Harbor Scenic Drive I/C)	A.C. Overlay, 6 Lanes, Median
5. Rte. 47	Ocean Blvd. (City Limits to Rt. 47)	Construct 6 Lanes, Median, Signalize Gate 1, Henry Ford, Rte. 47
6. 710	Ocean Blvd./Harbor Scenic Drive I/C	Construct 2 Lanes E/B to N/B and S/B to W/B
7. 710	Harbor Scenic Drive (Ocean Blvd. To PCH)	Realign, Repave, and Upgrade
<b>PHASE II</b>		
8. 710	Gerald Desmond Bridge	Widen to 5 lanes
9. 710	Harbor Scenic/Ocean	Connector Ramps

**Source: POLB, Planning Division, 1989.**

NOTE: A.C. = Asphalt Concrete  
 I/C = Interchange  
 E/B = Eastbound  
 N/B = Northbound  
 S/B = Southbound  
 W/B = Westbound

**TABLE V – 3  
PORT OF LONG BEACH  
MASTER ROAD AND RAILWAY  
TRANSPORTATION IMPROVEMENTS**

<b>PHASE I</b>			
<b>PRIORITY</b>	<b>DESCRIPTION</b>	<b>COMPLETION</b>	<b>COST (Millions)</b>
1	Ninth to I Street Connection	1990	1.0
2	Eighth to Anaheim Street Connection	1990	0.4
3	Double Track – Eighth Street to Pier A Railyard	1990	1.8
4	Harbor Scenic Drive South of J-3	1991	2.0
5	Pier J Railroad Extension	1991	5.5
6	PADP – Ocean Boulevard	1991	8.9
7	Gerald Desmond Bridge	1991	8.2
8	Harbor Scenic Drive – Ocean Boulevard Connector Ramps	1993	14.0
9	California United Terminals Railyard – Water Street Loop Track	1992	8.5
10	Anaheim Street Grade Separation at Southern Pacific Crossing	1993	20.0
11	Ninth Street to Terminal Island Freeway Extension	1993	<u>3.0</u>
		Subtotal	73.3
<b>PHASE II</b>			
<b>PRIORITY</b>	<b>DESCRIPTION</b>	<b>COMPLETION</b>	<b>COST (Millions)</b>
1	El Embarcadero – Windham Grade Separation	1994	20.0
2	West 7 <sup>th</sup> Street Terminal Expansion On-Dock Rail	1997	2.0
3	Pico Corridor Interchange	1997	44.6
4	Van Camp – Harbor Plaza – Railroad Redevelopment	1998	10.4
5	Pier J Grade Separation – ITS Rail Yard Modification	2000	<u>26.0</u>
		Subtotal	103.0
		TOTAL	176.3



#### 4) Parking

Parking for developments within the Harbor District is usually provided along with the tenant leasehold or as a requirement of building permits issued for construction. For those facilities that are labor intensive, more land may be devoted exclusively to parking. In particular, insufficient parking has been noted in association with the following operations: (1) Pier E, where port uses conflict with Naval Shipyard Parking, (2) Berth 55 Queen's Wharf, (3) THUMS marshaling area/Pier J, and (4) SeaLand. SeaLand operates a shuttle between Pier G and SeaLand Container Freight Station to minimize parking requirements at their terminal.

To ensure adequate parking for port development, projects are evaluated through the permit process for adequate parking assignments. Specific parking standards are contained in the City Zoning Regulations (LBMC 12.37 and 12.41), under the "MP" or "PD-21" Zone sections.

In the long term, a shuttle system may be viable option for shuttling visitors between the Queen Mary, downtown Long Beach, Shoreline Aquatic Park, or other remote locations, particularly if the Queen Mary parking needs expand. Shuttle systems for port operations like SeaLand's may also prove to be feasible at other locations.

#### **Recommendations/Implementation Program**

Develop a management plan for the purpose of reducing the amount of port land dedicated to parking by providing remote parking facilities within easy reach of port operations. The plan can be initiated by:

- a) Identifying all areas in the Port where land devoted to parking on-site could be used for more productive uses.
- b) Identifying areas near the Port boundaries where remote parking lots may be established.
- c) Examining ways in which the cost of a shuttle system will be the responsibility of the lease holder.
- d) Identifying and studying locations where parking structures may be cost effective and feasible.

#### 5) Terminal Island Transportation Improvements - Long Range Plan

A Terminal Island Transportation Study was authorized by both the Port of Long Beach and the Port of Los Angeles to study the adequacy of the existing railroad network

to carry substantial increases in rail traffic to Terminal Island, particularly for accommodating the *2020 Plan*. The study included an examination of the San Pedro Bay area between the San Diego, Harbor, and the Long Beach freeways.

The study developed recommendations for rail and highway access to Terminal Island, future landfills, and adjacent industrial areas. Recommended projects are intended to: (1) eliminate rail/vehicular conflicts, (2) maintain smooth traffic flows throughout the harbor and industrial areas, and (3) maintain vehicular access to U.S. Navy facilities on Terminal Island.

The study recommended a phased program over the next 35 years involving 14 transportation improvement projects to address rail, roadway, and intermodal coordination needs with both ports and the Navy. These improvements are shown on Table V-4 and Figure V-3.

### **Recommendations/Implementation Program**

- a) Develop and implement mitigation measures associated with each project's environmental impacts.
- b) Ensure that compatible infrastructure will be used with the proposed transportation-related projects.
- c) Assist in securing funding to finance Port transportation improvement programs.
- d) Continue to work with the U.S. Naval Station and Shipyard to improve access to their facilities and to minimize disruption to their facilities due to Port transportation projects.

**TABLE V-4  
PORT OF LONG BEACH  
TERMINAL ISLAND TRANSPORTATION STUDY  
RECOMMENDED PROJECTS**

No.	DESCRIPTION	YEAR NEEDED	COST EST. (\$Million1987)
1	Badger Avenue Bridge Rehabilitation	1995	4.0
<b>MAINLAND</b>			
2	Direct Rail Connection: Fe Rwy @ Thenard Tower	1995	
3	Direct Rail Connection: SPTCo. To Badger Avenue Bridg	1995	3.9
4	Pacific Coast Highway Interchange/Separation	2010	8.0
4a	Alameda-Anaheim Interchange & Separation	2010	10.0
5	Harbor Belt Line RR Yard Relocation	2000	11.7
6	Terminal Island Fwy Ramps	2000	5.5
7	Henry Ford Avenue Underpass	1995	12.2
<b>ON TERMINAL ISLAND</b>			
8	New Dock Street Underpass (incl. Trackwork)	2010	16.3
9	Vincent Thomas Bridge Toll Plaza Direct Ramps	1995	1.4
10	Seaside Avenue/Navy Way Interchange	1995	7.1
11	Ocean Blvd/Terminal Island fwy Interchange	1995	19.1
12	Brighton Beach Yard Ext.	2010	5.7
<b>LANDFILL ACCESS CORRIDOR</b>			
13	Pilchard St/Navy Way Separation	2010	6.6
14	Landfill Braided Interchange	2010	8.8

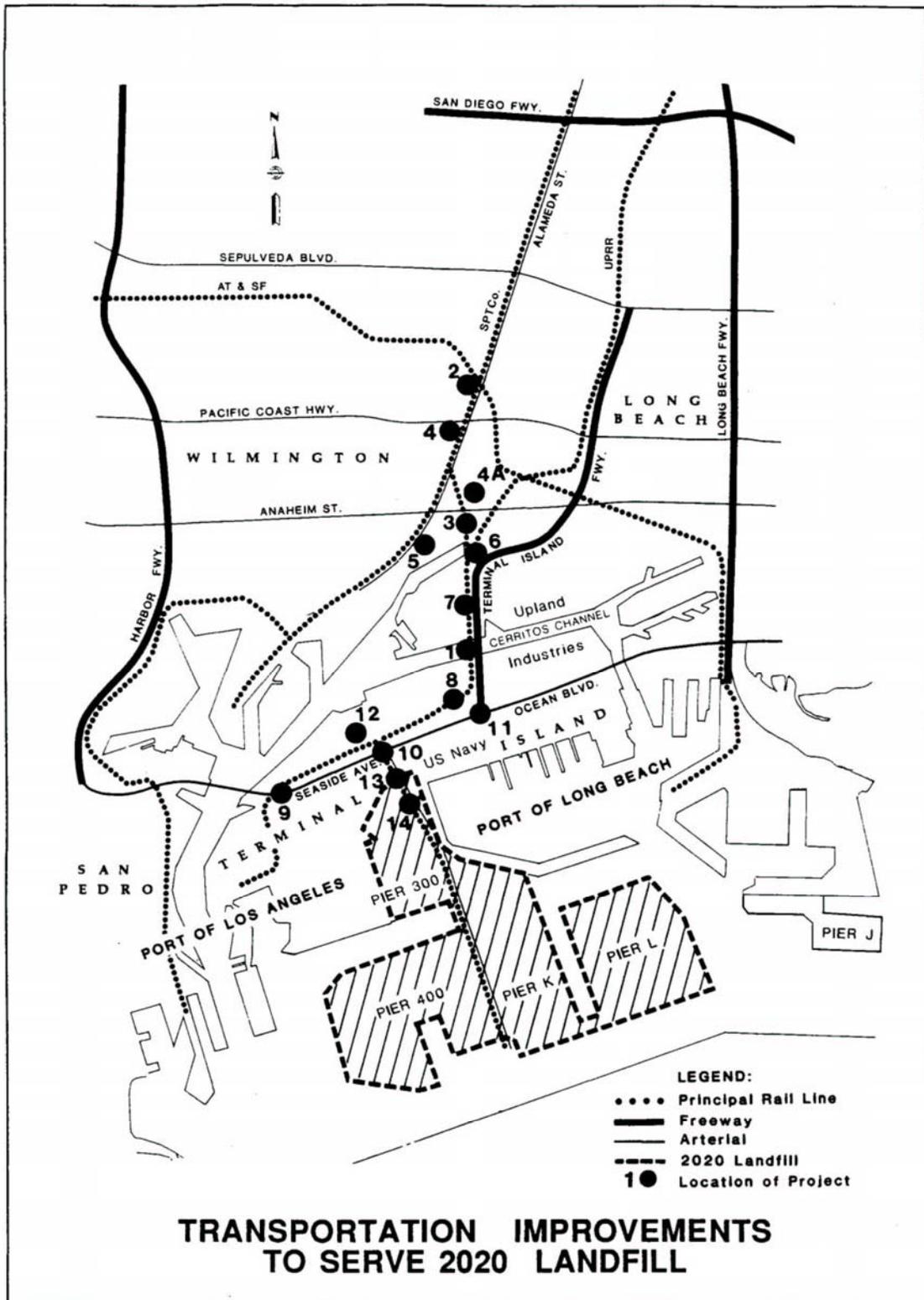


FIGURE V - 3

## **E. INTERMODAL RAIL FACILITY ELEMENT**

The Port has systematically reviewed all significant intermodal rail options. From a master planning standpoint, the focus has been narrowed to an approach which will provide six on-dock DST facilities to all of the Port's major container terminals. Most of these on-dock DST facilities will be dedicated for exclusive use of the immediate terminal served. Conceptually, the facilities will be developed in a phased program with the first three anticipated for completion in 1992 (ITS, LBCT, and the Pier J Expansion Project).

The development of on-dock DST facilities will maintain and enhance the stature of the Port as a major intermodal port. It is clear that intermodal transportation has become a significant part of the container shipping industry and that the use of rail will increase dramatically in the future. The integration of rail facilities into the overall port transportation system is an essential part of the Port's master planning effort of the 1980's and 1990's.

On-dock DST facilities provide the most effective response to these pressures for technological change. The interface of rail within the container terminal allows for efficient and economical intermodal cargo transfer. Steamship companies, shippers, and their customers will be provided with improved marketability. Container storage requirements in existing terminals can be reduced since more of the containers can be transferred through to the on-dock facility to and from inland or bridge markets. As a result, truck traffic on Port roads and freeways will be reduced.

There are significant planning challengers in developing on-dock DST facilities. Careful layout of the lead track and support track is required to allow efficient train access and storage within the terminal. Additional capital expenditures are required to provide for grade separations between auto, truck, and rail traffic. Terminal area and other Port properties must be given over to the DST facilities and their support infrastructure, although this is offset by the reduced container storage requirements of a system using on-dock rail. Provisions for segregating domestic from foreign container cargo should be considered. It may be most effective to handle domestic cargo at inland points such as the ICTF, and reserve the use of the waterside facilities for foreign intermodal cargo.

This element describes and evaluates the issues related to intermodal rail facilities and their associated impacts. The Intermodal Rail Facilities Element provides a historical perspective about intermodal rail facilities and addresses the emerging double-stacked (DST) train technology and its effect on west coast ports. The element identifies conceptual intermodal rail alternatives and provides a general benefits analysis focusing on specific intermodal rail alternatives for the Port of Long Beach. The Port's long-range plans (1995-2020) involving intermodal rail are also discussed.

## Planning Goals:

- Goal 1:**     **Develop on-dock Intermodal rail facilities.**
- Goal 2:**     **Reduce truck traffic on Port roads and adjacent freeways.**
- Goal 3:**     **Provide appropriate areas for on-dock or near-dock rail facilities.**

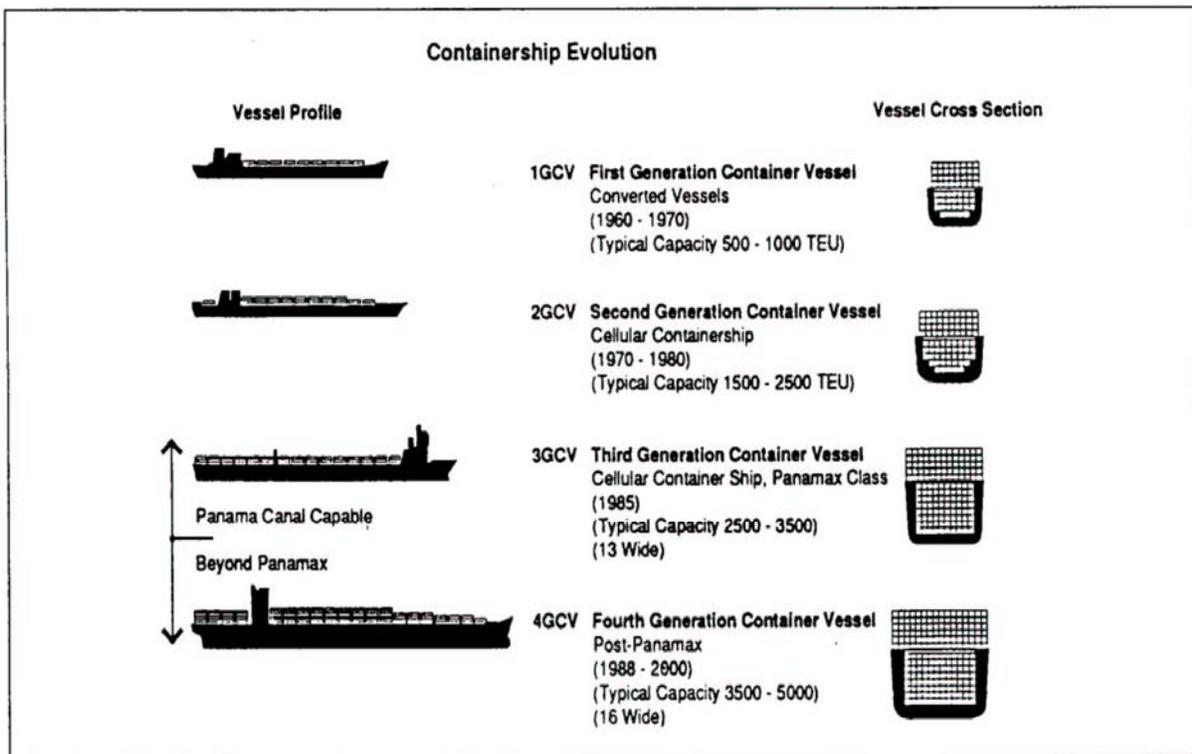
## Issues

### 1)     Effect of Deregulation

With the emergence of containerized shipping in the late 1950s, technological developments in vessel and shoreside cargo-handling facilities have had to keep pace with the dramatic expansion of U.S. and world trade. This has caused significant evolutionary pressures on the container transportation industry since 1975. Today, the maritime industry finds itself again on the verge of another container revolution involving dramatic advances in intermodal rail operations, post-Panamax container vessels, and dramatic improvements in container handling technology. A brief definition of terms is included in the Appendix located at the end of this document.

As can be seen in Figure V-4, these evolutionary pressures have continued to produce larger and more efficient container vessel characteristics.

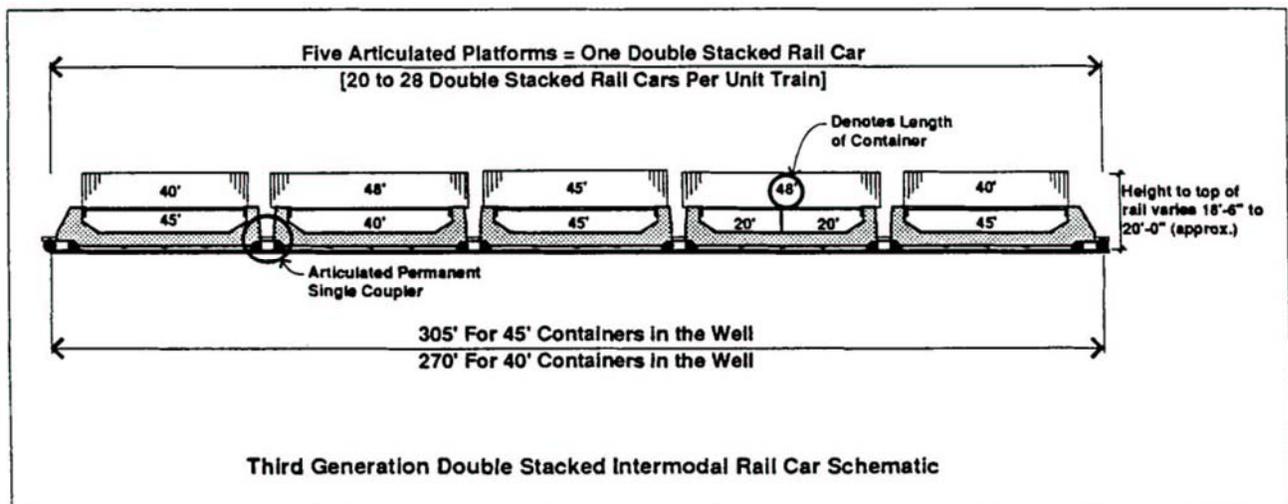
**FIGURE V - 4**



Economic pressures supported by recent industry deregulation have provided impetus for innovative, flexible new intermodal transportation services. Intermodal rail traffic was exempted from Federal regulation by the Interstate Commerce Commission in March 1981, following the passage of the Staggers Act of 1980. Deregulation of the shipping industry, following the 1984 Shipping Act, has further fostered competition among many transportation sectors, including railroads, steamship companies, and truckers.

New intermodal full-service competitors have emerged, with new operating concepts and new equipment. Deregulation has provided the railroads, shipping companies, and other intermodal transportation concerns with significant financial incentives to make long-term capital investment decisions, especially in the areas of new equipment, computerization, and terminal facilities. Shipping companies have started to take full advantage of their new-found point-to-point rate-making capability. This increased competition has spurred the development of widespread use of such technological innovations as articulated double-stacked intermodal rail platforms, larger, more efficient fourth-generation (Post-Panamax) container vessels, higher-capacity dual-hoist dockside container cranes, automatic container identification (ACI) and other innovative equipment designed to increase savings and profits. The double-stacked intermodal rail car has already undergone three generations of evolutionary change. The current double-stacked intermodal rail car is show in Figure V-5.

**FIGURE V - 5**



Full service transportation companies with portal rate-making capability have implemented fully-integrated intermodal service involving vessel, rail, and truck distribution systems. Complementing these intermodal services are computer systems usually fully-integrated electronic data interchange (EDI) systems which is necessary in the intermodal marketplace. The Shipping Act of 1984 has encouraged shipping lines to become more flexible and innovative. Along with the advent of deregulation, long-term strategies have evolved which substantially reduce traditional intermodal transportation operating costs.

Deregulation and the surge in intermodal traffic have created new intermodal full-service competitors with new operating concepts and new equipment. Shipping companies are becoming competitors with truckers and railroads while inland terminals and ports on both U.S. coasts are competing to service regional hubs and load centers.

Over the last five years, the effect of intermodalism on shipping company operations has been dramatic. As an illustration, American President Companies (APC) began its dedicated DST service between Los Angeles and Chicago in 1984, moving 30,000 units, predominantly eastbound foreign containers. By 1987, APC was moving more than 280,000 units, predominantly westbound domestic containers. In 1988, APC is reported to have moved in excess of 600,000 units by intermodal rail, surpassing its international container maritime operations. Today, many other shipping lines and transportation companies offer fully-developed, dedicated DST service throughout the U.S. to serve the international and domestic container markets.

### **Recommendations/Implementation Programs**

- a) Provide rail/terminal facilities for articulated double-stacked intermodal rail platforms to accommodate fourth-generation container vessels.
- b) Provide higher-capacity dual-hoist dockside container cranes for increasing the efficiency of container handling.
- c) Explore technological innovations to meet the needs of transferring container cargo through intermodalism.

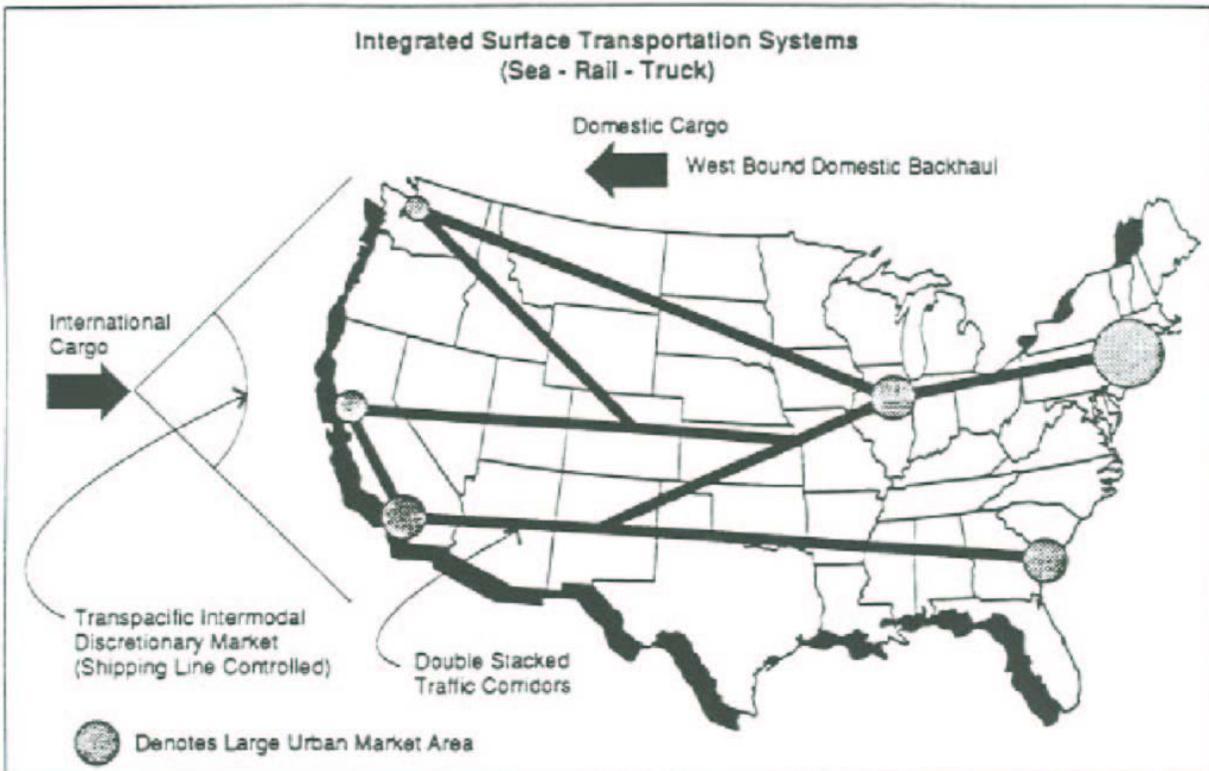
#### 2) **Vessel Deployment Strategies**

The criteria for selecting a vessel port-of-call are becoming increasingly complex. The existence of full capability, efficient intermodal rail facilities has become a significant factor in vessel deployment planning. As a result, U.S. port facilities will have to provide efficient, large-volume intermodal marine-rail transfer facilities. Deployment strategies for the latest generation of full cellular container vessels may focus on selection of a port based upon first port-of-call or only port-of-call scenarios so that optimum vessel usage is

gained. These scenarios require that large percentages of containers be quickly and efficiently moved to the intermodal rail system. The results are that the transpacific intermodal market is a discretionary market in terms of shipping line-controlled ports of call on the West Coast.

Figure V-6 depicts the primary DST rail corridors that serve major U.S. ports.

**FIGURE V - 6**



**Recommendations/Implementation Programs**

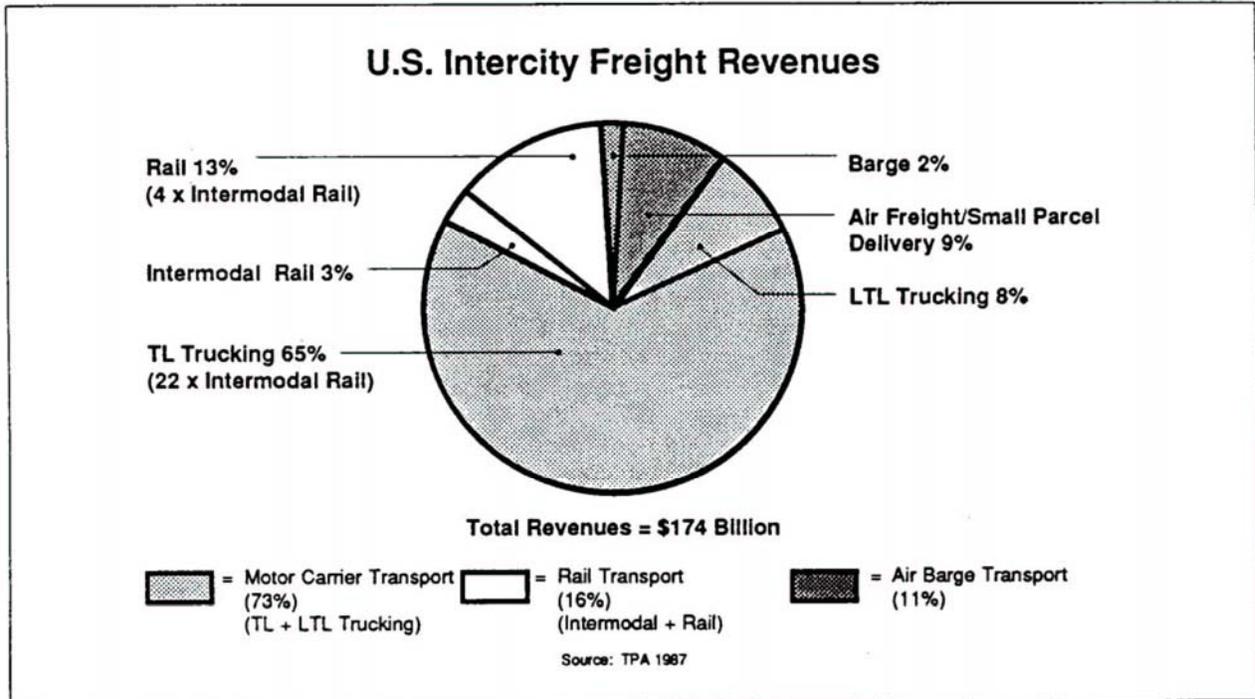
- a) Provide efficient, large-volume on-dock or near-dock intermodal marine-rail transfer facilities.

### 3) Domestic Containerization and Its Effect on the West Coast

In 1984, the first DST train consisted of a five-platform, lightweight, articulated intermodal rail car. This operation has reportedly saved as much as 25% to 40% of the rail freight rates associated with the more traditional cargo movement. The need to balance the logistic flow of containers in both eastbound and westbound directions became an early influential factor in planning intermodal rail container operations. Initially, the need to transport and reposition empty containers on their return to the West Coast (backhaul) became an important issue in the goal of keeping both legs of the intermodal container rail movement full (refer to above diagram). Today, shipping lines have been so successful in marketing and filling westbound empty boxes with domestic westbound freight that in many instances the westbound domestic movement is more than eastbound foreign container movement.

Domestic containerization is emerging as a large, new market which has greater potential impact than the current international container rail movements. Figure V-7 depicts the 1987 U.S. Intercity Freight Revenues and the virtually unlimited market potential for rail dependency. In 1987, for instance, intermodal rail transport accounted for only 3% of the U.S. Intercity Freight Revenues.

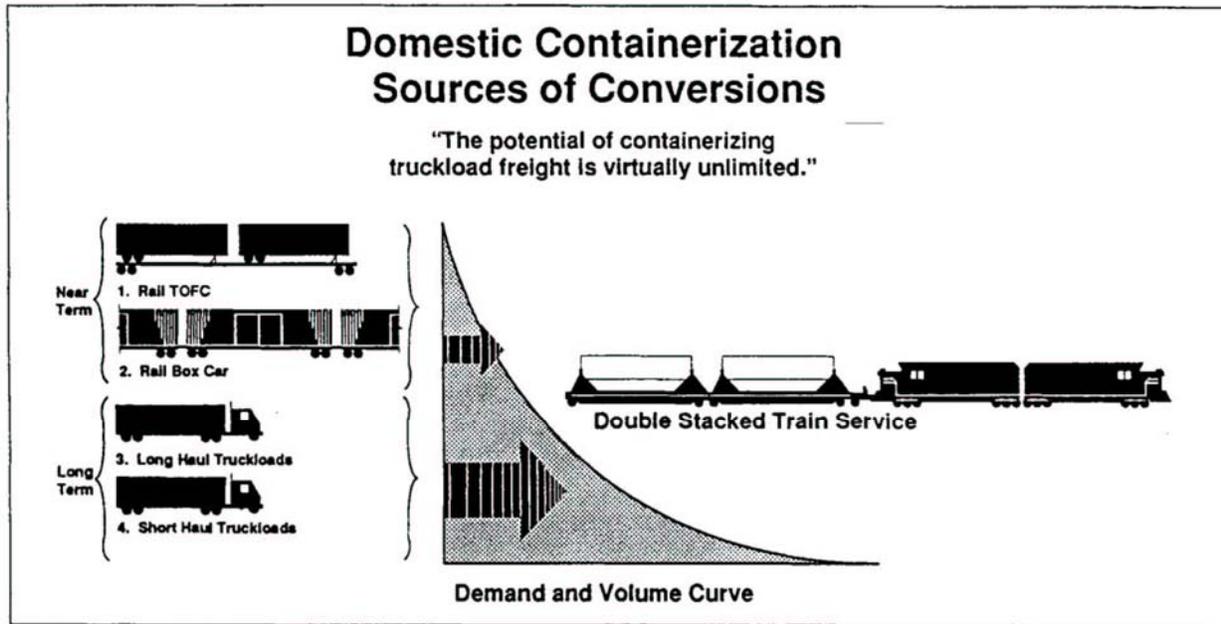
**FIGURE V - 7**



Although the amount of intermodal domestic container traffic which can be converted to double-stack train service from conventional piggyback and boxcar traffic may

be limited, the potential new domestic container market has been estimated at over 14 times the total of all international intermodal rail movements in the U.S. in 1987. Figure V-8 depicts the sources of conversion to domestic containerization.

FIGURE V - 8



To support this domestic cargo movement, shipping lines and railroad companies are designing their DST service to accommodate 45-foot and 48-foot containers. More recently, shipping lines have ordered 53-foot domestic containers for specific deployment in the U.S. intermodal domestic transportation system.

Domestic containerization was originally viewed as a device to offset the eastbound cargo import balance on DSTs from the East Coast and Midwest hubs to the West Coast. Long-haul truckers who operate along DST rail routes have already experienced a decline in business due to domestic containerization and the conversion to DSTs.

The potential for domestic containerization is directed at large urban market areas. The Port of Long Beach's proximity to a large population base is a key factor in attracting this cargo. To augment the eastbound and westbound traffic and capture larger domestic container markets, shipping companies are developing strategies to generate northbound and southbound cargoes in the U.S. and use triangulation routes to keep all logistical legs of the service full of cargo. Such concepts as remote inland intermodal container transfer facilities, which avoid urban transportation and environmental problems, may also become a key factor in U.S. port master planning for domestic containerization.

FIGURE V - 9

Container and Estimated Traffic Flow Volumes

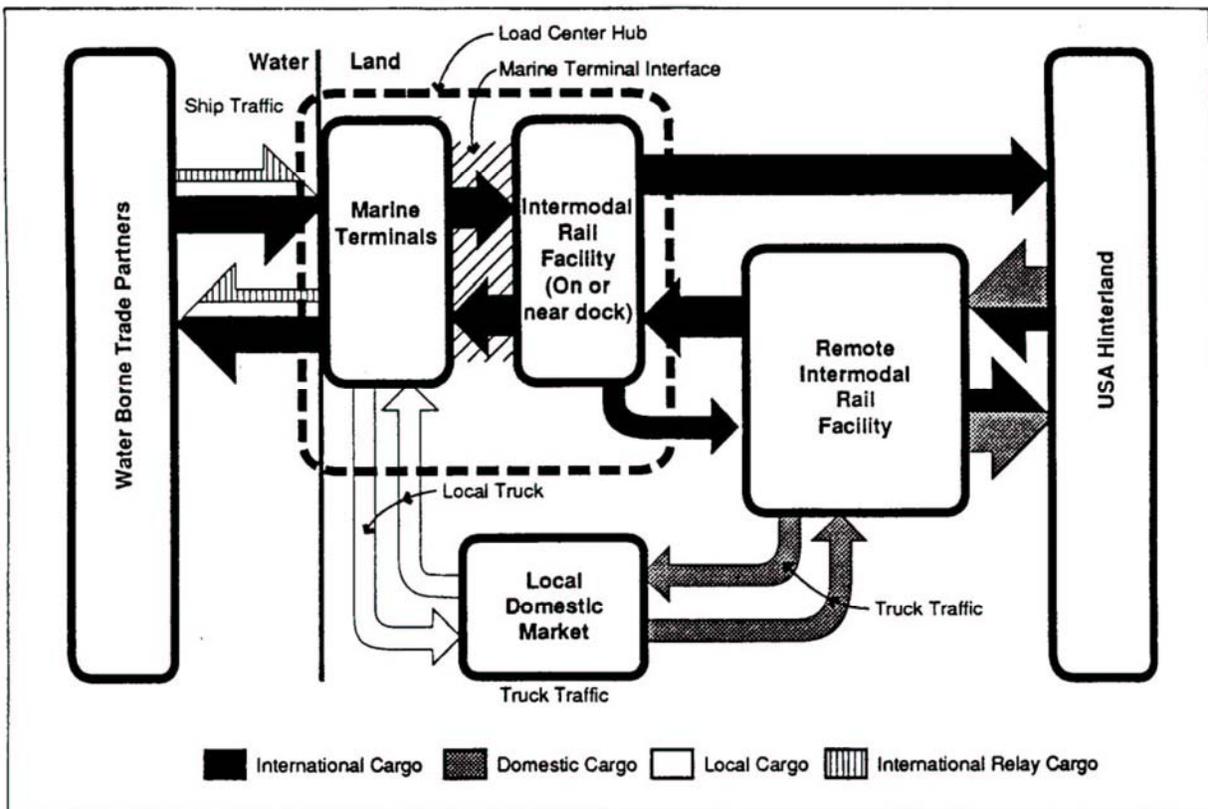


Figure V-9 provides a visualization of the possible container flows and estimated proportional volumes of traffic flow for an intermodal rail facility. It envisions that both marine intermodal rail facilities dedicated to international containers and remote inland intermodal rail facilities dedicated to domestic containerization are in use. The following four types of containerized cargo are depicted:

\*\* International Cargo represents foreign cargo destined to or originating from the U.S. hinterland. This cargo is also defined as bridge or overland common point (OCP) cargo;

\*\* Domestic Cargo represents cargo which does not travel by sea and therefore does not need to be handled at the Port;

\*\* Local Cargo represents sea-going cargo which is destined to or originates from locations in the immediate or nearby Port area; and

\*\* International Relay Cargo represents sea-going cargo which stays on ship or is temporarily stored in port terminals for transfer to later ports of call, perhaps by a different ship (Also referred to as "feeder" operations).

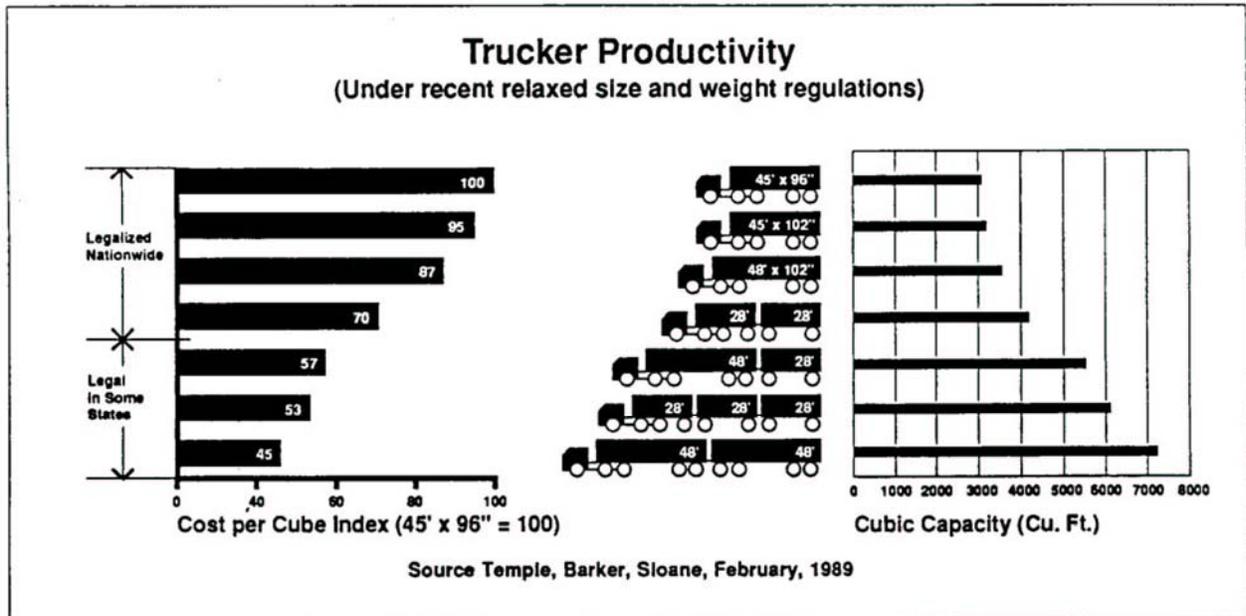
Domestic intermodal rail cargo is expected to increase dramatically in the future. This could lead to an increased demand for specialized inland remote (non-port) rail transfer facilities to handle domestic containers. Figure V-10 also demonstrates a schematic rationalization for such container movements which could reduce transport cost and time when facilities are located to improve intermodal service quality.

**Recommendations/Implementation Program**

- a) Ensure that the On-Dock rail service accommodates 45-foot and 48-foot containers.
- b) Pursue remote inland intermodal container transfer facilities to handle domestic cargo and avoid transportation and environmental problems.
- 4) The Trucking Industry Response

The U.S. trucking industry is responding to the intermodal rail challenge with new efficient low-cost intermodal truck options which are intended to relieve the DST conversion pressures. Figure V-10 is a descriptive summary of some of the latest truck-based productivity initiatives.

**FIGURE V - 10**



Trucking productivity initiatives depicted on the previous page are not new to other countries. Australia, for example, is reported to be using road trains which are comprised of three 48-foot road vans pulled by one truck tractor.

## **Recommendations/Implementation Program**

a) In view of the current intermodal technological revolution and the pressures on transportation companies to increase their quality of service, the Port of Long Beach should have the ability to move large numbers of containers quickly and efficiently between vessels and intermodal rail facilities planned for the future.

### 5) Identification of Intermodal Rail Alternatives

The previous issues summarize the relatively short (1984 to present) historical background of intermodal rail facilities and the current issues affecting intermodal container rail operations. This issue focuses on the identification of generic alternatives for providing intermodal rail facilities at the Port of Long Beach.

The requirement for and desirability of modern, efficient intermodal rail facilities at the Port is irrefutable. The concern for the intermodal rail facility at the Port centers on the following major areas:

- a) Proximity to Marine Terminals;
- b) Shared (Common) Versus Dedicated (Individual) Facility Operations;
- c) Facility Capability and Utilization;
- d) Specific Operating Mode Requirements; and
- e) Capital and Operating Costs.

In general, the proximity issue can be divided into the following three options:

- 1) On-dock intermodal rail facility within or adjacent to the marine terminal;
- 2) Near-dock intermodal rail facility close by the marine terminal and generally within a ten-mile distance; and
- 3) Off-dock intermodal rail facility further than a ten-mile distance away from the marine terminal.

All of the above concerns must be evaluated in light of the quality and level of service required, speed and efficiency of the operation, cost benefits of the intermodal rail facility with respect to the overall transportation system, cost to Port tenants, flexibility and expandability of the intermodal rail facility relative to the Port's marine terminal evolutionary requirements, and the need for unimpeded traffic flow throughout the harbor area.

## **Recommendation/Implementation Program**

- a) Improve the Port's competitive advantage by developing intermodal rail facilities to increase handling of intermodal cargo.
- b) Develop a comprehensive program of rail and highway improvements to satisfy the demands for on-dock intermodal rail facilities in the near term, as well as the transportation needs of the *2020 Plan* in the long term.
- 6) The Intermodal Interface with the Port of Long Beach

Figure V-11 graphically describes the current and the desired future characteristics of the intermodal interface between rail facilities and marine terminals.

The size, proximity, and operating configuration of the intermodal rail facility must be matched with the terminal facilities and railroad infrastructure it serves. The best analogy for this issue is to view the intermodal rail facility as a key segment of a cargo pipeline in which all segments of the pipe must be carefully fitted so as to allow the most efficient flow of container cargo from vessel to the mini/micro landbridge (Figure V-12).

FIGURE V - 11

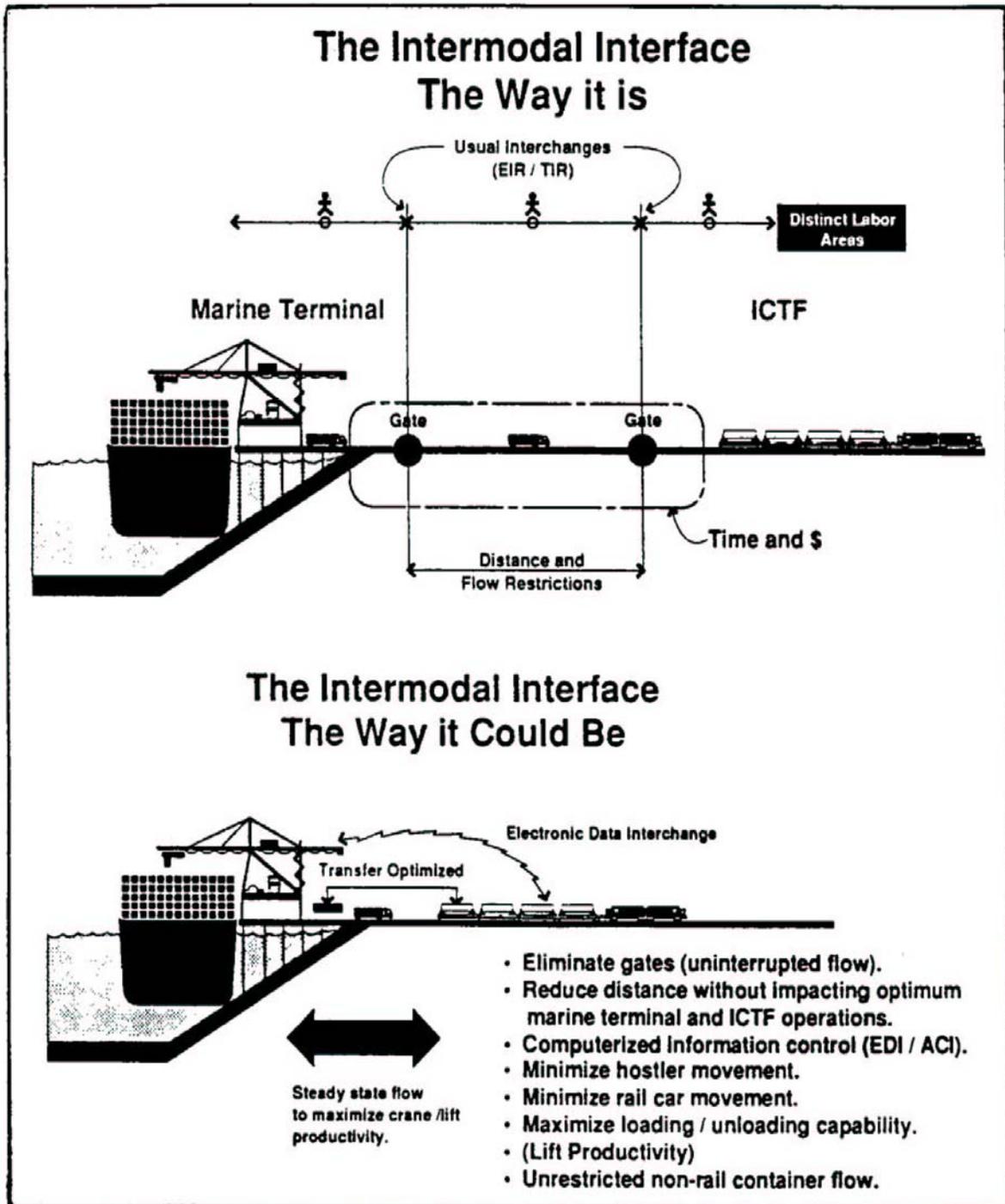
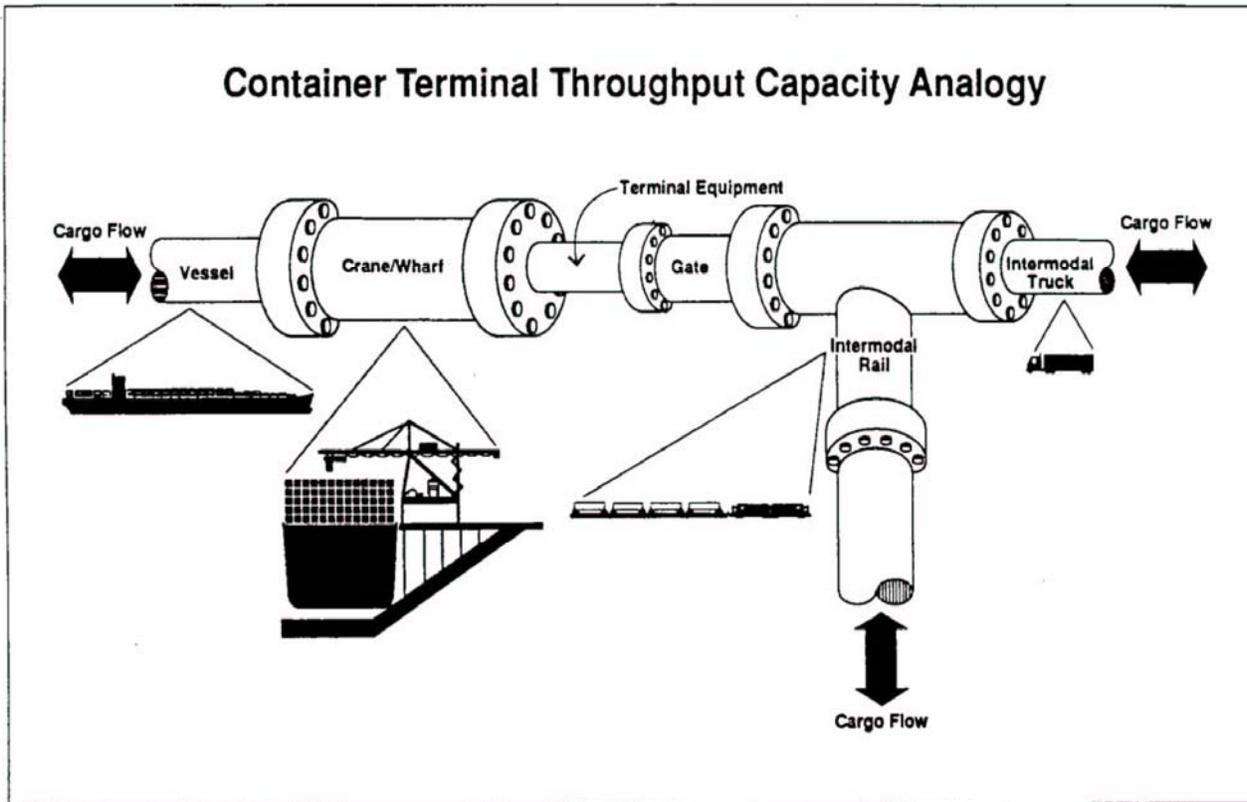


FIGURE V - 12



7) Double-Stacked Train (DST) Plan

Using the Double Stack Train Study of March 1988, the Port has evolved a workable (1995-2020) DST Plan for implementing on-dock DST facilities at its current and near-future container terminals. This same approach was incorporated into the *2020 Plan* developments so that the long-range picture for the Port involves on-dock DST facilities at all major container terminals (See *2020 Plan, O.F.I. Study Summary*, April 1988). The intermodal rail facility plans for current and near-future terminals are illustrated in Figure V-13.

The DST Plan incorporates five to six on-dock DST facilities as follows:

Location	Terminal(s) Served
7 <sup>th</sup> Street Pier B,C,D (Alternative) Pier A (Preferred Alternative)	Hanjin CUT (California United Terminal) LBCT (Long Beach Container Terminal), CUT
Pier J (North) Pier J (South) Pier J (Expansion)	ITS (International Transportation Services) Maersk, PCT (Pacific Container Terminal) (Future)

These facilities would be served by a system of multiple lead tracks designed to allow adequate length to make up full trains or store full trains while allowing uninterrupted access to other facilities. The lead tracks would be grade separated at all major road intersections and terminal truck gate access points. This would enhance the overall port throughput capacity by adding rail services without hindering existing and proposed truck access routes.

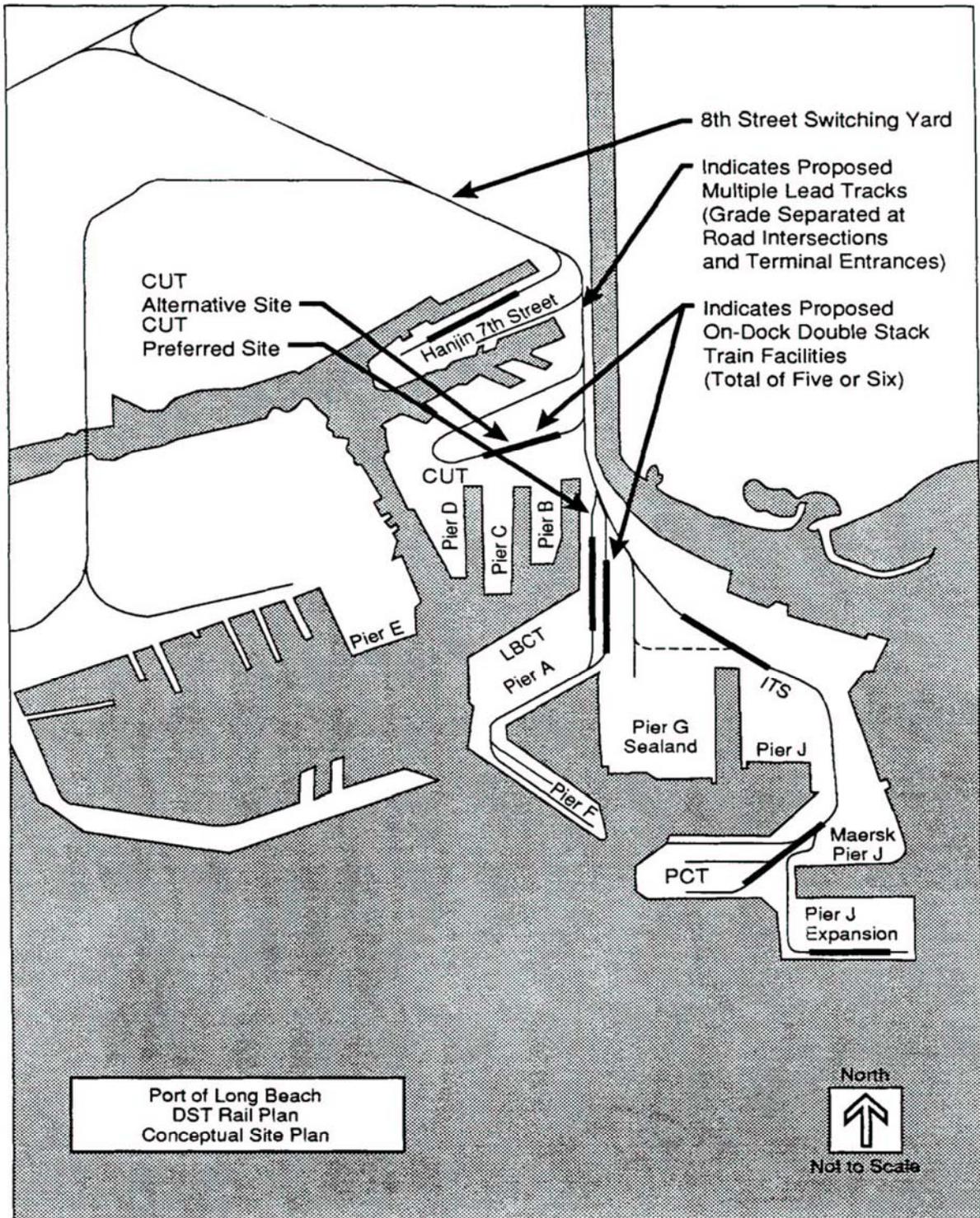
These facilities would be developed in a phased program based on immediate and anticipated needs. A suggested Interim Plan (1992-1995) could involve the following three facilities:

<b>Location</b>	<b>Terminal(s) Served</b>
Pier A Pier J (North)	LBCT, CUT (Preferred Alternative) ITS (expansion of the existing ITS rail facility)
Pier J (Expansion)	Future (would be constructed as part of the Pier J Expansion Project)

The addition of new intermodal rail facilities within the existing Port area will require that some land be converted from container storage or other uses to provide area for the rail facilities. This will not result in a decrease in container handling capacity. In fact, if utilized properly, the land turned over to the rail facilities will be more productive than if left as a container storage area.

**Recommendations/Implementation Program**

- a) Enhance the Port’s throughput capacity by adding rail service without hindering existing and proposed truck access routes.
- b) Where necessary, convert existing cargo storage areas to areas accommodating intermodal rail facilities.



**PORT OF LONG BEACH  
DST RAIL PLAN**

**FIGURE V - 13**

## F. OIL PRODUCTION AND OPERATIONS ELEMENT

Issues pertaining to oil operations within the Port of Long Beach are complex. Oil production activities have occurred in the Long Beach harbor since 1936. Cumulative production of the State Tidelands portion of the Wilmington Field reached 1,070 million barrels (bbls.) in 1981, with estimated reserves of approximately 456 million bbls. The term “reserves” refers only to oil that is economically recoverable. The field currently produces 67,000 bbls/day. Production in Tidelands is currently 57,000 bbls/day or 86% of the local portion of the field. Production in the Tidelands (Segment I) can be broken down as follows:

TOPKO	7,700 bbls/day
THUMS	50,000 bbls/day

In the Uplands (Segment II), the additional production is:

MOBIL	3,300 bbls/day
UPRC	6,000 bbls/day

The sum of these operations equals the 67,000 bbls/day referenced above for the total field. The location of these operations can be seen in Figure V-14.

Current estimates predict the useful life of the Tidelands portion of the Wilmington Field to be 25+ years. This estimate is dependent upon recovery technology and the price of oil. Experiments with tertiary recovery techniques are underway and, if successful, could extend the useful life of the field beyond current estimates. By the year 2020, it is anticipated that older areas of the field will shut down but that areas more recently exploited will continue production. Abandonment will take place on a northwest-to-southeast progression, since older areas of the Field lie to the northwest and the newer areas are to the southeast. Figure V-15 illustrates the concentration of wells within the Long Beach Harbor District.

State legislation requires the City of Long Beach, as Tidelands trustee, to operate oil production activities in the best interest of the State. This includes maximizing the extraction of oil and gas from the Tidelands. The management of these oil activities is the responsibility of the Long Beach Department of Oil Properties (DOP). The Harbor Department has only an advisory role in production planning within the Harbor District. However, recent acquisitions of private land by the Harbor Department have increased the ownership interest by the City of Long Beach and provided a greater voting share under the Long Beach Unit and Unit Operating Agreements.



# POLB SURFACE WELL SITE CONCENTRATIONS

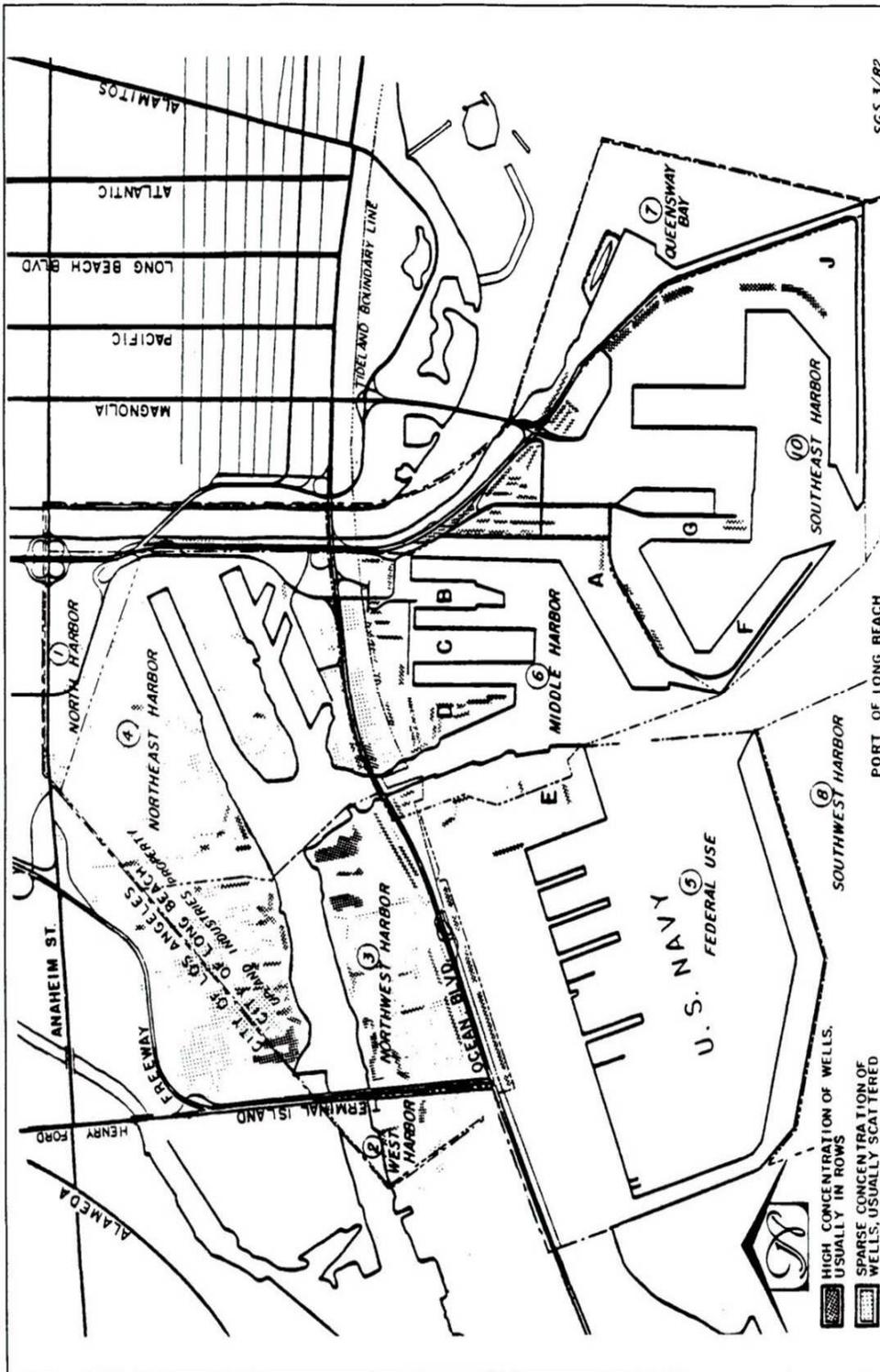


Figure V-15

Port policies governing oil production activities within the Harbor District are set forth in Sections 1203c and 1203d of the *Long Beach City Charter*, which reserve to the City Department of Oil Properties all matters pertaining to oil production. However, several Harbor Department policies guide general land uses within the Harbor District. These are discussed below:

Maximize efficient oil recovery operations: This policy encourages oil production as an ongoing and necessary use of land in the Harbor District. Oil production planning is entirely managed by DOP. The Harbor Department acts as lead agency for projects located in the Harbor District requiring environmental review and discretionary review of the Board of Harbor Commissioners. In this capacity, the Port can shape individual projects to suit maritime commercial and environmental needs while preserving efficient oil recovery.

Allow cargo storage among existing oil wells: Land of sufficient size and orientation to deep water is scarce, causing many areas to accommodate multiple users. Prime candidates for multiple use are oil field operations, especially those that have large, under-utilized areas between wells. The Port has completed three redevelopment projects to permit this sharing of areas to continue. At the Town Lot Area, a container terminal (CUT) is allowed to operate around producing and injection wells. At Berths 116-122, two lumber import terminals operate among well activities. Two auto import terminals operate efficiently in the Northwest Harbor District among significant oil activities. A fourth example to make way for a large container terminal is under construction on the West Seventh Street Peninsula area.

In all of these projects, the particular oil field operator and DOP participate in project planning to ensure maintenance of appropriate access for field operations. In each case, the efficient extraction of oil from these areas has been preserved.

### Consolidate Oil Production

By preserving maximum flexibility for future oil operations, the oil interests working with the Port have consolidated oil activities at existing port terminals and at new project sites. This process will continue as projects in the Northeast and Northwest Harbor Districts proceed where deemed to be feasible.

### Minimize Disruption to Oil Production Areas

All construction projects are undertaken to minimize disruption of oil productions. Notice is given to oil operators of any activity which might affect production. Through the Board of Harbor Commissioners, drilling and pipeline construction applications are reviewed for completeness and consistency with commercial maritime or other activities within the Harbor District.

The specific issues of critical concern in the *Oil Production and Operations Element* are: 1) Oil well abandonment; 2) Surface rights; 3) Abandonment costs; 4) Subsidence; and 5) Other Continental Shelf (OCS) development. A summary of unresolved issues (6) is also included.

### **Planning Goals**

**Goal 1: Continue to pursue development of under-utilized oil production areas for port related development including removal of idle wells and the restoration of the surface to usable condition.**

**Goal 2: Ensure proper adherence to control of hazardous materials related to oil field operations.**

**Goal 3: Consolidate oil wells where possible.**

### **Issues**

#### 1) Well Abandonment

There are several regulations that cover the abandonment of wells. A review of those regulations that address the physical requirements of the well site are outlined below:

#### *Public Resources Code - Div 3; Oil & Gas*

The California laws for the conservation of oil and gas, administered by the State Division of Oil and Gas, require that prior to abandonment of any well, the operator must shut off and exclude all water from entering oil - or gas-bearing strata penetrated by the well. The operator must protect any underground or surface water suitable for irrigation or domestic purposes from the infiltration or addition to any detrimental substances.

#### *Long Beach Municipal Code - Chapter 12.36*

Upon final and permanent cessation of all operations on any wells, the operator, after receiving the required permits from the Director of Planning & Building and the Board of Harbor Commissioners, is required to abandon the well in accordance with the rules and regulations of the State DOG, in addition to the following:

a. The removal from the premises of all equipment used in connection with the well which is not necessary for operation and maintenance of other wells in the vicinity in accordance with the regulations of DOG;

b. The cleaning and removal of all oil, oil residue, drilling fluid and rubbish from all sumps, cellars and ditches and the filling or leveling of these sumps, cellars and ditches. If the sumps, cellars and ditches are lined with concrete, the walls and bottoms must be broken up and removed in accordance with the regulations of the Department of Oil and Gas (DOG);

c. The cleaning and grading of the premises such that the area is left entirely free of oil, rotary mud, oil-soaked earth, asphalt, tar, concrete, litter, debris and other substances, and left in a clean and neat condition, all to the satisfaction of DOG;

d. The cleaning and restoration to substantially the same condition as existed at the time of issuance of a permit to drill, of all streets, sidewalks and other public properties which may have been disturbed in connection with the oil drilling operation, except for ordinary wear and tear of public streets and highways.

*Unit Agreement & Unit Operating Agreement; Fault Block Units of the Wilmington Oil Field*

There are six fault blocks in the old Wilmington Oil Field, five of which (I,II,III,IV, and V) have a unit operating agreement executed by the Working Interest Owners (WIO; person or entity owning a working interest in the fault block formation) of the specified fault block. Fault Block VI is not unitized and operates as a cooperative. The purpose of the Fault Block Unit Operating Agreement is to unitize all oil, gas, and other hydrocarbons produced by the Unitized Formations (the eligible unit formations as shown in the exhibits contained with each Fault Block Unit Agreement) for the purposes of:

- a. Initiating and conducting repressurization operations to control subsidence;
- b. Promoting the conservation of oil, gas, and other hydrocarbons in the unitized formations; and
- c. Increasing the maximum economic quantity of oil and gas and other hydrocarbon substances ultimately recovered from the unitized formations through repressurization operations.

To do the above, the Unit Operating Agreement establishes operational and legal requirements for each particular fault block. Article 18 of the Agreement deals with abandonment. According to the Unit Operating Agreement, the costs of abandonment shall be borne by the WIOs in proportion to their respective Unit participation (shares). The only exemption would be if a WIO desired to continue to operate a Unit well after termination of the Unit Agreement. In that case, the WIO would assume total responsibility for abandoning those wells. The WIO of the Tidelands region of the field is the City of Lon Beach. Figure V-16 illustrates the responsible parties for property supervision and operation in the Tidelands.

## **Recommendations/Implementation Program**

a) The Port shall actively pursue the abandonment or relocation of critical oil well locations necessary for port-related development.

b) The Port recommends that the City of Long Beach revise its oil drilling permit fees and procedures to ensure more timely abandonment of idle wells and the proper clean-up of site contamination resulting from oil well activities.

### 2) **Retaking of Surface Access**

Recent surface and mineral right acquisitions by the Port have established a “working interest” in Long Beach Unit operations. As provided for in Section 8.1 of the *Unit Agreement* and Section 8.7 of the *Unit Operating Agreements* ((3) above), a working interest owner (WIO) has the right to retake or repossess all or part of the surface of the Unit Area that they own or control. In doing so, the affected WIO must provide reasonable compensation (as stipulated in the agreements) for such taking including alternate sites from which to conduct future operations, payment for relocation of Unit facilities, or payments in lieu for lost production.

## **Recommendation/Implementation Program**

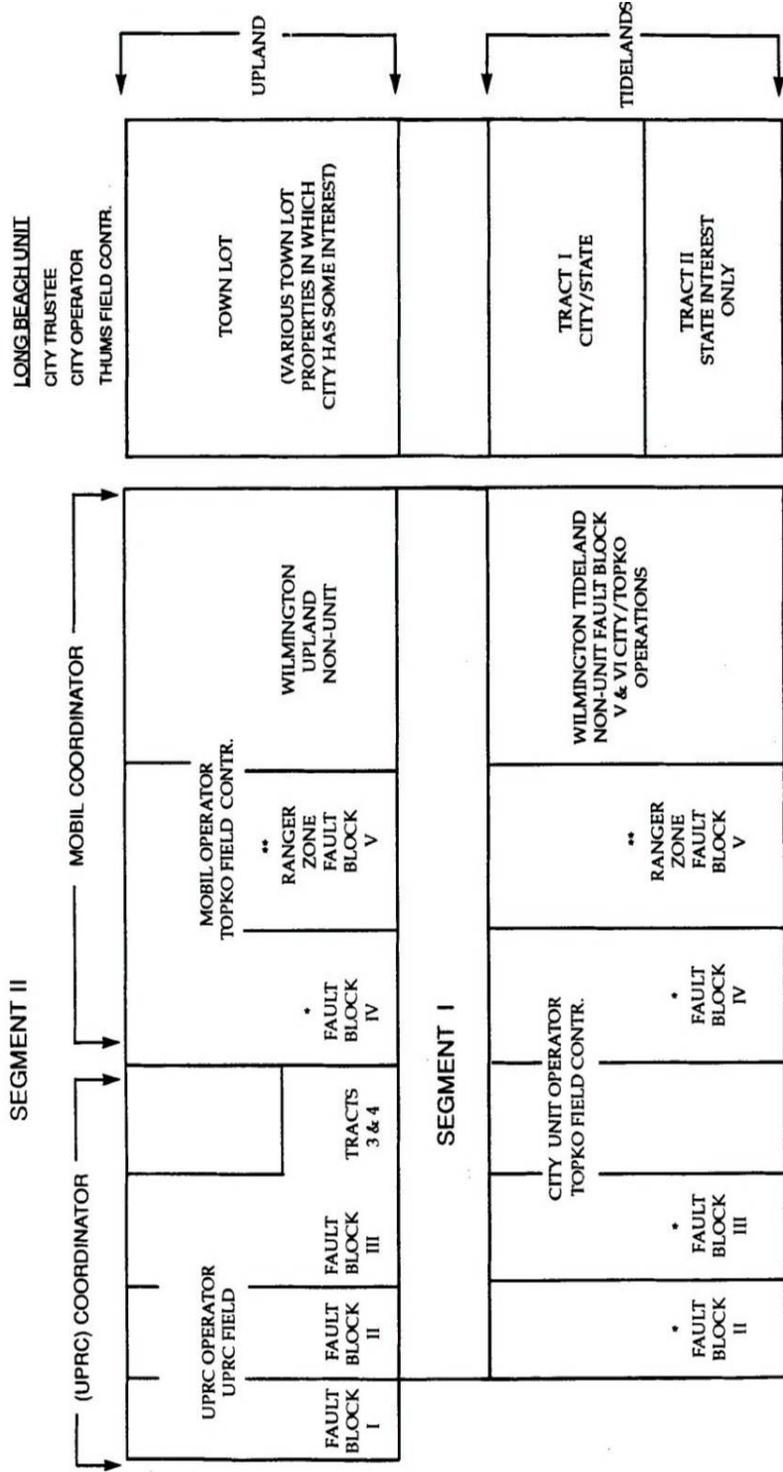
a) The Port should maintain its interest in converting or consolidating oil operating areas into “Primary port” uses, consistent with the goals to maximize the efficiency of port lands for maritime related uses.

### 3) **Abandonment Costs**

The cost of well abandonment varies from \$25,000 to over \$100,000 per well. This figure does not include grading, repair to public roadways, etc., as required by the Long Beach Municipal Code (Chapter 12.36).

There are 1,289 idle wells in the Wilmington Field. Wells are idle due to operating costs exceeding revenue from oil and gas production or mechanical problems with the well.

# SCHEME OF TIDELAND PROPERTY SUPERVISION AND OPERATION



TOPKO TIDELANDS OIL PRODUCTION COMPANY UPRC UNION PACIFIC RESOURCES COMPANY \*\*V PARCEL "L" IS NON-UNIT D.O.P. DRWG. NO. A-668 8/1/80 (REVISED 9/20/89 L.B.H.D.)

\* TV RANGER, PARCEL "L" 237 & SCHKST ARE NON-UNIT OPERATIONS

Figure V-16

An increase in oil prices can cause some of the more marginal wells to be returned to production. In the western portion of the field, the City and its Unit partners initiated an abandonment program several years ago. Approximately 350 wells have been abandoned since 1984. Wells are currently being abandoned at a rate of about 120 per year. For Fiscal Year 1989-90, the Long Beach Unit has a modest abandonment program consisting of 40 wells.

The cost of abandonment outside the Tidelands area (north of Seaside Avenue) is the responsibility of the operators (UPRC, Mobil, etc.). For wells within the Tidelands, there is no provision in Chapter 138, Statutes of 1964, 1<sup>st</sup> E.S., for payment of well abandonment costs. Such costs under the Unit Agreement are payable by the WIOs for that fault block.

The Unit operators do have a fund set aside to cover abandonment costs and there are no legal requirements for the operator to proceed with the abandonment of idle wells while the Unit is still operating or to set aside sufficient funds for future abandonment. Although there are State abandonment funds and regulations administered under D.O.G., these are only for use when the oil company becomes insolvent (this fund is separate from the Reserve Fund for Subsidence Contingencies, see next section). In this case, the D.O.G. would abandon the well. Use of State funds would be unlikely since all Unit operators appear to be in sound financial condition. However, minor well owners may require State assistance to complete abandonment of their wells.

### **Recommendation/Implementation Program**

a) The Port recommends that the oil field operators collectively initiate development of their own plan to set policies and establish appropriate levels of funding to deal with well abandonment and subsidence control.

#### 4) Subsidence

The main concern over the co-existence of oil production and harbor activities is the problem of land subsidence. While it has never been fully adjudicated, it is widely accepted that land subsidence has occurred as a result of oil and water extraction lowering subterranean pressure. Subsidence has been essentially halted by injecting water into the underground strata to replace the fluids extracted. This water injection program is managed by DOP, implemented by field contractors, and paid for through Tidelands oil revenue. The Port runs semi-annual surveys of surface locations in the Harbor District to monitor vertical movement. This information is forwarded to DOP for interpretation and correlation with injection data.

There is substantial debate over the prospects of renewed subsidence following oil depletion. Geologists disagree on the necessity, amounts and duration of water injection

that will be required to prevent possible future subsidence. If water injection needs to continue on a large scale and for a significant length of time, the \$40 million Reserve Fund for Subsidence Contingencies, as established in Chapter 138 and *Long Beach City Charter* Section 1711, would likely prove to be inadequate. There is no mechanism in place which would increase this fund except for interest accumulation.

It is the position of the Harbor Department that the field operators should consider long-term subsidence control as a regular cost of their operations and pay for subsidence costs. When the oil and its revenue is gone, the cost of extended subsidence control could become the responsibility of other entities if operators do not make provisions for these costs now. It is Harbor Department policy to prevent these subsidence costs from becoming a responsibility of the Harbor Department.

The question of subsidence and other issues such as orderly oil field abandonment and equipment removal are issues which may require State intervention. The Harbor Department will monitor development in these areas and act accordingly.

### **Recommendation/Implementation Program**

a. The Unit operators will monitor and suggest legislation when appropriate to ensure land levels in the Long Beach Harbor District remain stable and that the costs associated with subsidence control do not become a Harbor Department responsibility.

#### 5) Outer Continental Shelf (OCS) Development

The U.S. Department of Interior, through the Minerals Management Services (MMS), has proposed vast acceleration of Outer Continental Shelf (OCS) oil and gas leasing. Approximately 11 million acres of the federally controlled OCS lands are under lease (primarily from Alaska and Western states). As of 1989, these tracts accounted for two percent of the governments' holdings. In 1988, these tracts accounted for nine percent of the country's domestically produced crude oil and natural gas liquids and nearly a quarter of its natural gas. Many of the prospective areas off Alaska and Southern California have been withdrawn from individual sales. However, the MMS is preparing a five year OCS Oil and Gas Leasing Program. The current leasing program, approved July 1987, schedules lease sales through June 1992. The MMS intends to prepare a new program from the period fall 1991 to fall 1996.

Generally, the Port's overall purview of OCS operations has concentrated on review and comment on draft Environmental Impact Statements (EISs) with particular emphasis on those OCS operations that require shore-based ancillary facilities in the Port.

The Port opposes all leasing of tracts in established shipping lanes and the vessel precautionary area near the entrance to the Port of Long Beach (See Navigation Element).

The reason for this opposition is to lessen the potential for collision between marine vessels, which may contain hazardous cargoes, and fixed oil production structures. However, the Port supports legislative efforts to provide revenue sharing of OCS derived revenues with coastal states.

In 1988, the Port received state grant assistance to study the effects of OCS activities on regional economies and land use. Because the Port is close to many offshore leases, several oil companies have randomly leased land in the Port from which to stage OCS exploratory, drilling, or supply operations.

### **Recommendations/Implementation Program**

a) Discourage OCS tract leases in established shipping lanes and the vessel precautionary areas near the entrance to the Long Beach Harbor.

b) Consolidate, as much as possible, OCS land-based activities so that the maximum efficiency of primary port activities within the Long Beach Harbor District can be achieved.

#### 6) Summary of Unresolved Issues

a. After oil field depletion, not all of the water injection wells can be abandoned due to the need to sustain subsidence control measures. It is unknown how many active water injection wells will need to be maintained. In the Tidelands, the City is obligated (due to a settlement with the U.S. Navy) to maintain the water injection program and guarantee no future subsidence. It is uncertain if the \$40 million reserve Fund for Subsidence Contingencies will be enough to maintain pressurization after the field is abandoned. A prudent position for the operators would be to set up the wells for injection as the field gets older instead of waiting until the field closes, i.e., preparations for closure of the field should be anticipated and planned for. When the Reserve Fund for Subsidence Contingencies is depleted, the maintenance of the water injection wells may fall upon the City of Long Beach.

b. The possibility exists that the field may close sooner than anticipated due to economic considerations. The softening in the price of crude oil resulting from the worldwide surplus has impacted the Wilmington Field dramatically. A worsening of this pricing structure may cause premature abandonment of the Wilmington Field.

According to the DOG, oil well drilling operations have continued to decline since January 1982. However, it should be noted that the long-range outlook is for continued strong demand and higher oil prices.

c. Mobil Oil Company does not own all the wells in the units operated by them. Fault Block IV and V, for instance, have many other owners of oil and gas leases that are operated by Mobil. If the Unit dissolves its Fault Block IV and V operations, the operation and responsibility for those wells would revert to the original owners or lessees. This could cause considerable delay in proceeding with abandonment in an orderly fashion. However, if a small operator declares bankruptcy, the State fund for abandonment could be used.

d. Concern for the effect of allowing a Working Interest Owners (WIO) to retake the surface with compensation to the Unit remains untested at this time. The Port will pursue a resolution of this issue in order to move ahead with the port related development on lands that it owns that are impacted by oil development.

## **VI. DISTRICT UPDATES**

## VI. HARBOR DISTRICT UPDATES

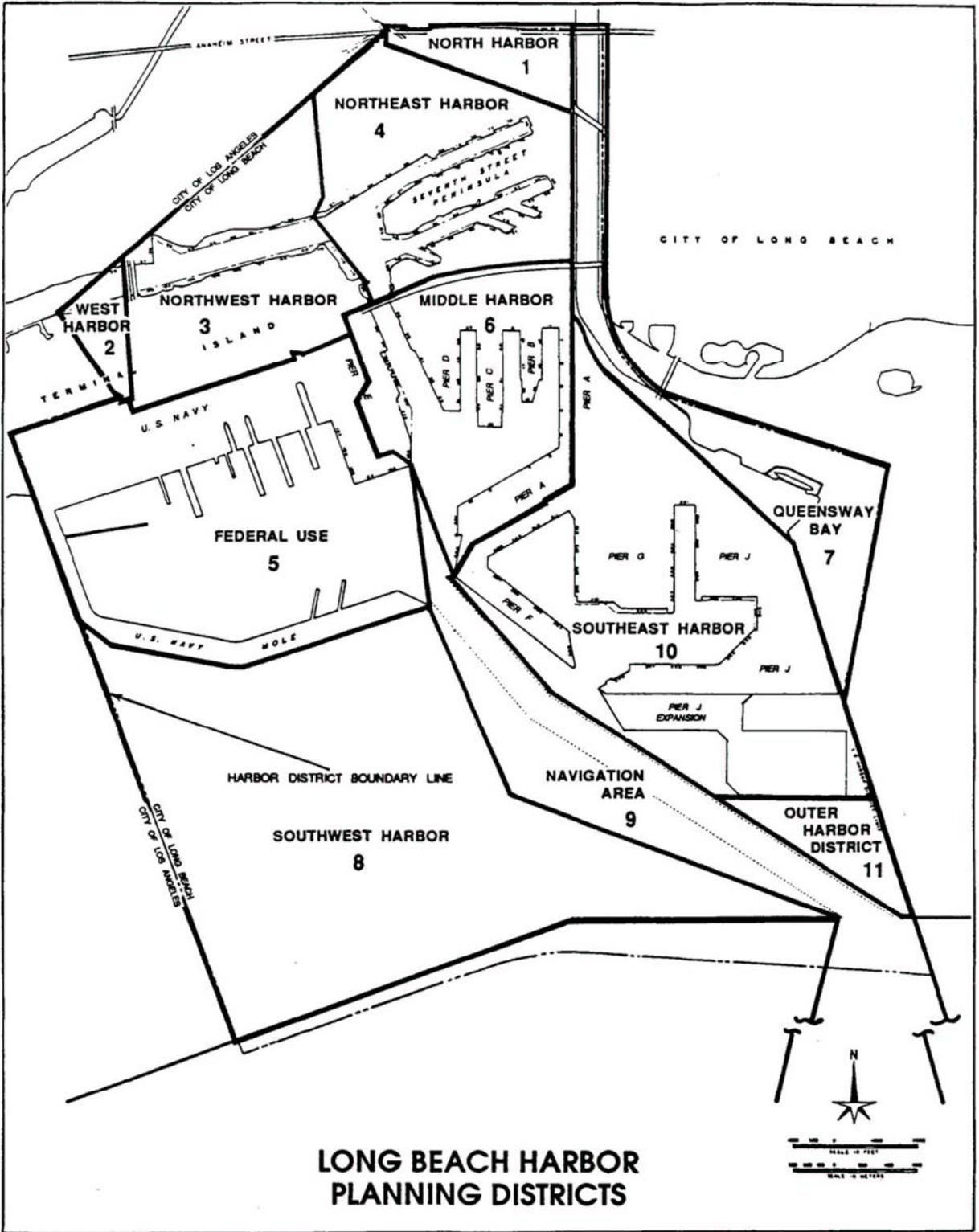
The Port is subdivided into eleven (11) geographical areas, defined by physical constraints and configurations of land and water areas. The planning areas are termed "Districts" and can be seen in Figure VI-1. The boundaries of these districts serve functional purposes by: 1) consolidating similar and compatible land and water uses, 2) encouraging maximum use of existing Port facilities, 3) increasing cargo handling efficiency, 4) promoting multi-company use of terminals, and 5) separating hazardous cargo from other areas of the Port. However, certain existing and new facilities may of necessity overlap planning district boundaries. In 1986, a Planning District Boundary change was made in the Southeast Harbor and Outer Harbor Planning Districts to conform to changes in land and water uses from the construction of the Pier J Expansion.

An update of each of Harbor Planning District's status follows. These updates summarize the changes in planning goals and projects since the PMP Update 1983. The planning goals for each district serve as guidelines for long-term development within that district. Objectives are the actions for implementing the goals. The "Anticipated Projects" represent short-term Port projects that are either proposed or currently under construction and targeted for completion by 1995. The scope of the "Anticipated Projects" can be changed or new projects not yet identified can be added to the list of anticipated project due to changing land use needs and economic trends.

The PMP Update '90 will be updated periodically to incorporate changes in land and water use and/or District status. This will be done to maintain a current planning platform for the Port and not for Coastal Commission certification.

The final section of this chapter addresses the conformity of the anticipated projects with the Coastal Act and addresses the appealability of the projects as defined in Section 30715 of the Coastal Act. Environmental assessments on the anticipated project developments may be required on a project-by-project basis as each is proposed, particularly as a project may relate to "minor" landfill developments.

Table VI-1, located at the end of this section is a matrix indicating each anticipated project's conformance with Coastal Act policies.



**FIGURE VI - 1**

## **DISTRICT 1 - NORTH HARBOR PLANNING DISTRICT**

The North Harbor Planning District (Figure VI-2) consists of numerous small, independently owned land parcels which are presently devoted to port-related and non-port related uses. This district is landlocked (i.e., without water frontage) and contains numerous older buildings in need of rehabilitation or repair. Anaheim Street, northern boundary of this district, functions as a major route for vehicular traffic entering or leaving the Port. The City's Redevelopment Agency adopted the West Long Beach Industrial Redevelopment Project in 1975 which also affects land use in this district north of Ninth Street.

**GOAL:       ENCOURAGE MORE EFFECTIVE USE OF EXISTING LAND IN THE PORT.**

### Objectives:

- o Promote growth in port-related industries and phase out non-port related activities.
- o Modify and consolidate oil recovery facilities.
- o Retain existing road and rail networks and promote improvements to serve the Port through and around the North Harbor Planning District.
- o Provide direct linkages between the Port and the ICTF and proposed Consolidated Transportation Corridor by improving the Ninth Street "I" Street intersection with Anaheim Street.
- o Improve Anaheim Street to enhance the area's circulation system and provide alternate access to the industrial uses along Ninth Street.

### Permitted Uses:

- o Port-related

### District Status:

In the past, redevelopment of this district and other areas north of Anaheim Street have been proposed by the City of Long Beach Redevelopment Agency. Extensive court findings have allowed existing uses to remain, with Port sponsored redevelopment activities occurring on a lot-by-lot basis as property within the District is acquired by the Port. As land is acquired it will be redeveloped for port-related uses and container storage.

In the event the Port uses eminent domain to obtain possession of privately owned land, the City Redevelopment Agency will assist in relocating the displaced businesses to

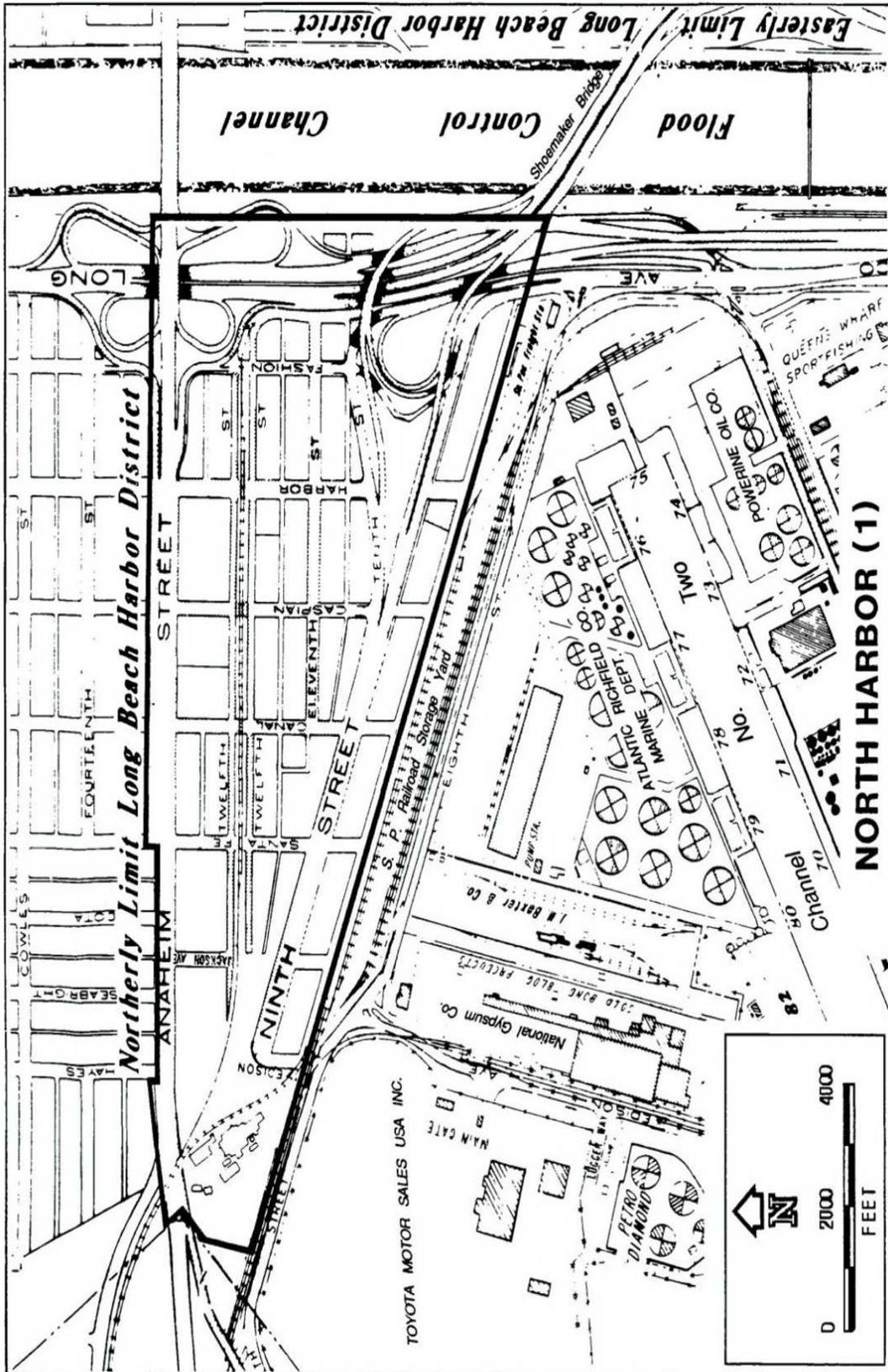


FIGURE VI-2

more appropriate locations. Transportation improvements (including streets and storm drains) on Anaheim Street and Ninth Street will be carried out cooperatively with the Port and the City Redevelopment Agency.

The following is the current status of the projects undertaken since 1983.

o Ninth Street Sewer Reconstruction

The construction of a 4,500 linear foot sewer along Ninth Street and the Edison easement between Harbor Avenue and the West City Boundary has been completed. The reconstruction was necessary to replace the former sewer which was in poor condition due to deterioration caused by excessive sulfide gases.

o Anaheim Street Storm Drain West of 9<sup>th</sup> Street

Construction of a storm drain has been completed. The former 48 inch line had subsided and was no longer usable. That situation caused serious and frequent flooding and has been corrected.

o Westside Industrial Development Project

Phase II (two years) of a five-year Capital Improvements Plan for infrastructure improvements has been completed. This Westside area is bounded by Anaheim Street, Pacific Coast Highway, the westerly City boundary, and the Long Beach Freeway (I-710). Since the northernmost boundary of the Harbor District is Anaheim Street, some of these improvements also service the North Harbor District of the Port.

Anticipated Projects:

o Ninth Street to "I" Street Connection

Ninth Street will be widened to 40 feet between its current terminus west of Santa Fe Avenue and Anaheim Street, including signalization at Anaheim Street. The Port plans to extend this segment, improve "I" Street to four travel lanes (undivided), signalize the Ninth/Anaheim Street intersection and upgrade the railroad grade crossing immediately to the west. The construction of this roadway extension will eliminate existing traffic delays and improve traffic circulation. It is anticipated for completion in 1993. This is part of the Master Road and Railway Transportation Improvement Plan.

- o Ninth Street to Terminal Island Freeway Extension

The Ninth Street to Terminal Island Freeway Extension is one of the projects proposed in the Master Road and Railway Transportation Improvement Plan.

## **DISTRICT 2 - WEST HARBOR PLANNING DISTRICT**

The West Harbor Planning District (Figure VI-3) is bounded on the north by the Los Angeles-Long Beach City boundary, on the east by the westerly side of the Terminal Island Freeway (SR-47) and on the south by Ocean Boulevard. The Cerritos Channel, with a water depth averaging 48 feet, crosses and dominates the northern portion of the district. The southern portion of the district is devoted primarily to oil production with the exception of small scale manufacturing of pleasure boats at Berth 99 and the Dow Chemical Company located adjacent to Berth 101. Recreational uses include pleasure boat marinas at Berths 99-100 and across the Cerritos Channel at Berth 98. Most of the land in the West Harbor Planning District is privately owned by Dow Chemical Corporation or Union Pacific Land Resources Corporation. In the southeast corner of this district, the City of Long Beach operates the 10 acre Southeast Resource Recovery Facility (SERRF).

Although recreational uses have been permitted in this district, the Port is currently exploring alternative marina locations to allow for the redevelopment of backland for primary port development. Alternative marina locations will be sought away from inner harbor channels to minimize potential traffic conflicts between recreational small craft and large ocean-going vessels.

### **GOAL 1: REDEVELOP BACKLAND FOR MORE INTENSIVE PRIMARY PORT USE**

#### *Objectives:*

- o Relocate recreational boating facilities to the Queensway Bay Planning District.
- o Develop Berths 99-100 backland eastward for cargo terminal use and abandon old Dock Street.
- o Consolidate or abandon oil production facilities.
- o Encourage short-term use of the backland area of Berths 99-100 for neo-bulk cargo operations.

The *1978 PMP and PMP Update 1983* had a planning goal of increasing vessel safety by increasing water depth. It is unlikely that the Port of Long Beach will undertake dredging west of the Henry Ford Bridge unless it is associated with a specific wharf and backland development proposal.

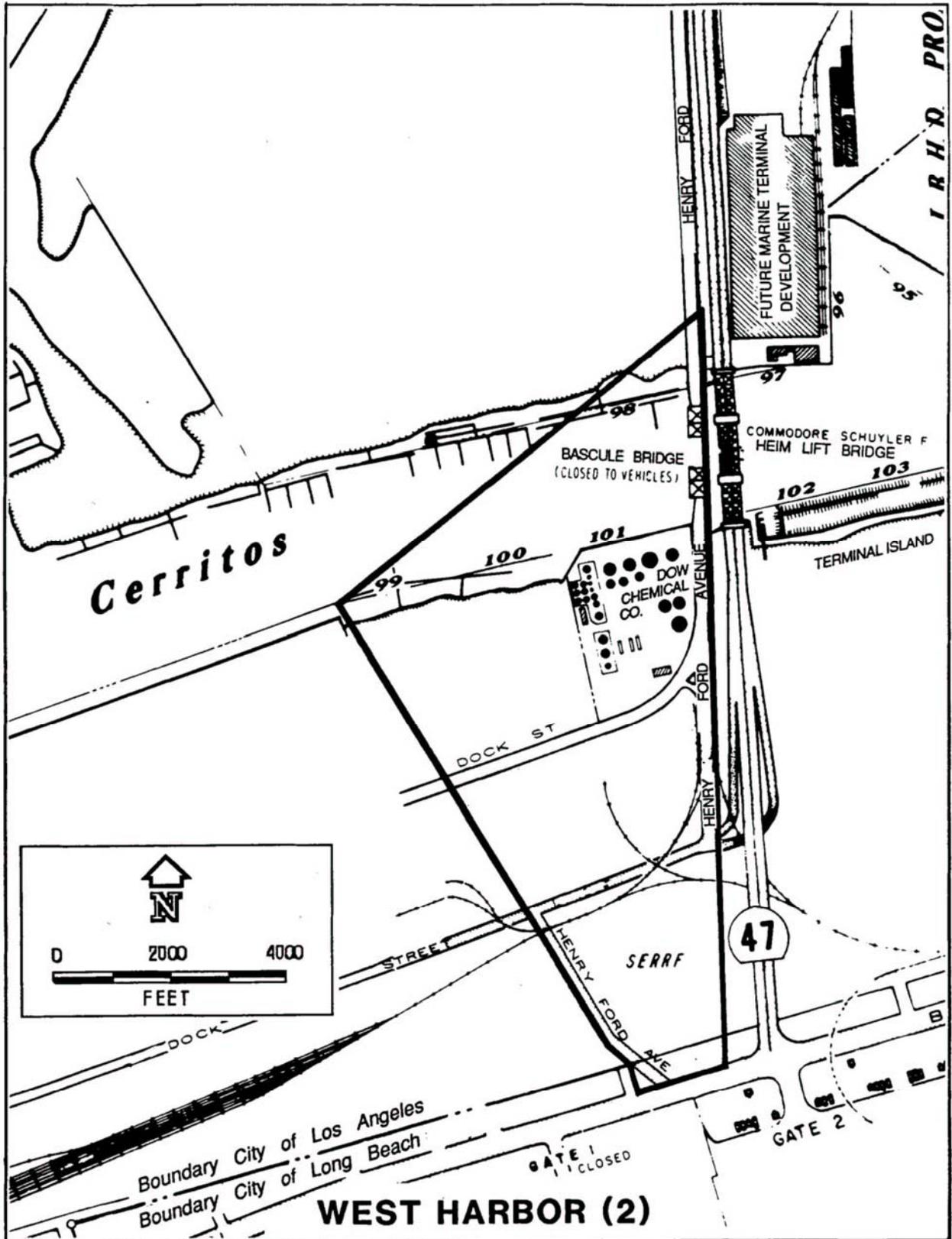


FIGURE VI - 3

## **GOAL 2: IMPROVE RAIL AND HIGHWAY ACCESS TO TERMINAL ISLAND**

### Objectives:

- o Upgrade highway corridor improvements to allow adequate future access to Terminal Island.
- o Upgrade the existing rail infrastructure to prepare for future on-dock rail needs.

### Permitted Uses:

- o Primary Port Facilities
- o Oil Production
- o Utilities
- o Ancillary Port Facilities

### District Status:

Definitive short-term plans for removing Berths 99-100 and redeveloping the existing backland for more intensive primary port use have not materialized. In the past, the Port has had numerous discussions with Upland Industries for developing a container terminal in the backland area. This type of development is still being considered. Since 1983 the following projects have occurred:

- o Dow Chemical Company Expansion

Dow has completed Phase VI of their planned expansion which included expanding its western and southern boundaries by acquiring two acres from Union Pacific Resources Corporation (UPLRC). Henry Ford Avenue south of the Cerritos Channel has been vacated to allow private access to Dow Chemical and the Port of Los Angeles' Matson Terminal.

- o Southeast Resource Recovery Facility (SERRF)

In 1983, the Los Angeles County Sanitation District proposed the Southeast Resource Recovery Facility (SERRF) project in one of three alternative sites in the West and Northwest Harbor Planning Districts. A site was selected and the project was constructed at the corner of Henry Ford Avenue and Ocean Boulevard on Terminal Island.

### Anticipated Projects:

- o None.

### **DISTRICT 3 - NORTHWEST HARBOR PLANNING DISTRICT**

All the property within the Northwest Harbor Planning District (Figure VI-4) is privately owned with the exception of SR-47, a public right-of-way, and the former Ford/Melamed plant now owned by the Port. The site of the Ford/Melamed plant lies partly within the Long Beach Harbor District (City of Long Beach) and partly within the City of Los Angeles. A major landowner in this district is Union Pacific Land Resources Corporation (UPLRC). UPLRC's property on the mainland side (north of the Cerritos Channel) comprises 130 acres. Their Terminal Island side property (south of Cerritos Channel) comprises 201 acres. In 1979, UPLRC produced a master plan with various options for long-range land development. In 1985, the *Wilmington Oil Field Reuse Market Study* was prepared (Williams Kuebelbeck) which studied the long-range productivity of oil resources for UPLRC (Ultramar/Champlin Petroleum, Inc.). Although no major projects have been formally proposed since those studies were completed, there is a proposal for developing two 38 Megawatt cogeneration plants.

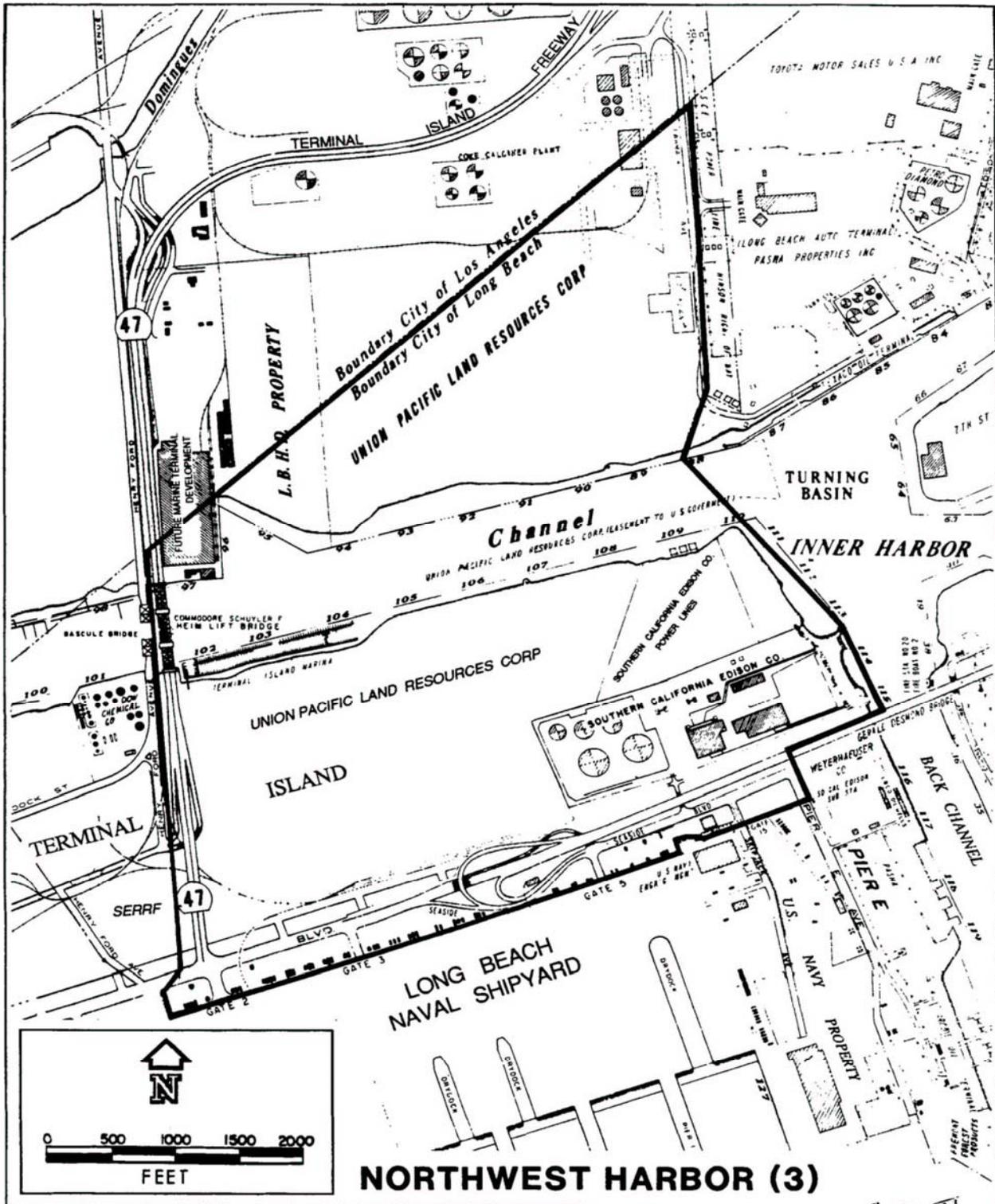
#### **GOAL 1: PURCHASE ALL NON-PORT OWNED PROPERTY TO INCREASE PRIMARY PORT LAND**

##### Objectives:

- o Remove and consolidate oil production facilities.
- o Relocate marina facilities to the Queensway Bay Planning District.
- o Dredge Cerritos Channel east of Terminal Island Freeway (SR-47).
- o Construct "minor" landfill development for Port expansion along the edges of the Cerritos Channel.
- o Pursue primary port terminal development on available lands within the District.
- o Relocate existing coastal-dependent uses to other sites in the harbor.

##### Permitted Uses:

- o Oil Production
- o Primary Port Facilities
- o Utilities
- o Ancillary Port Facilities



**NORTHWEST HARBOR (3)**

**FIGURE VI - 4**

District Status:

The existing land use is primarily dedicated to oil production. However, primary port activities are increasing. In 1986, the Port acquired the Ford/Melamed property at 700 Henry Ford Avenue, which included 72 acres of land and water. The Port is currently pursuing hazardous waste material clean-up at the site. The existing Ford Plant is scheduled for demolition. Future use of this site will be for primary port facility development.

The Port purchased "Our Marina" at Berths 95-97 in conjunction with the purchase of the Ford/Melamed property. In December 1987, "Our Marina" was demolished and an 8-acre landfill is proposed in its place to complement backland terminal development. This landfill development will require certification.

While the amount of surface area devoted to oil production in this planning district may decrease due to construction of primary port facilities, oil production should not decline due to these changes. No new oil development has occurred south of Cerritos Channel. This area has over 200 active oil and water injection wells and has a subsidence level averaging -11 feet MLLW. Consolidating existing production and injection wells for future port development will be a costly venture. While several projects were anticipated, since 1983 only one project was constructed.

o M. C. Carbon Coke Calciner

This company is now called ARCO C.Q.C. Kiln Inc. The construction of the petroleum coke calciner was completed and operations began in January 1983.

o Ford/Melamed Demolition

In 1990 the Port will demolish the Ford/Melamed Building along with an adjacent tavern (Red Witch Inn), and several other structures. Their removal provides approximately 64 acres of available land for primary port development.

Anticipated Projects:

o Berths 95-97 Marine Terminal Development

The Port proposes to construct 8 acres of new landfill at Berths 95-97 and develop the backland area (Ford/Melamed site) and the necessary wharf and berth improvements for a 73 acre marine terminal. Potential short-term uses could include neobulk (lumber and steel) or breakbulk (such as fruit). Long-term use would be for container cargo. Both Newport Bay (2.65 acres) and Anaheim Bay (5.35 acres) wetland restoration credits would be applied to this 8 acre landfill project.

- o Ocean Boulevard Connector - Port Access Demonstration Project

Ocean Boulevard is an east/west four and six lane divided roadway connecting the Port of Long Beach with downtown Long Beach. New connectors are expected to be opened in early 1990.

## **District 4 - NORTHEAST HARBOR PLANNING DISTRICT**

The Northeast Harbor Planning District (Figure VI-5) is the oldest part of the harbor and contains a substantial amount of privately-owned land. The Port intends to improve efficiency in cargo movements and provide for better allocation of available primary port facilities. This is particularly applicable to the West 7<sup>th</sup> Street Peninsula. With the unexpected closing of the Procter and Gamble Manufacturing Plant and subsequent acquisition of that property by the Port, the Port is pursuing the purchase of other privately owned property for primary port terminal development. The Port will also encourage consolidation of ancillary facilities in other locations.

Although small craft marinas are a coastally-dependent use, recreational uses are inconsistent with primary port development and therefore are not encouraged in this district. A small craft marina was recently removed from Channel No. Three to allow for extension of an existing wharf to accommodate primary port container terminal uses.

**GOAL: ACQUIRE PRIVATE PROPERTY AND INCREASE PRIMARY PORT USE.**

### Objectives:

- o Relocate existing coastal-dependent uses to other sites in the harbor.
- o Relocate petroleum terminals to less congested areas allowing for the redevelopment of land for other primary port uses.
- o Reduce non-coastal dependent activities throughout this district.

### Permitted Uses:

- o Primary Port Facilities
- o Port Related
- o Hazardous Cargo Facilities
- o Ancillary Port Facilities
- o Oil Production
- o Navigation

### District Status:

Consistent with the goal and objectives for this District, the Port has recently purchased the Procter and Gamble property located at 1600 and 1601 West 7<sup>th</sup> Street for the purpose of developing a 57 acre container terminal. In March 1989, the Port certified the Final EIR for the redevelopment of the former Procter and Gamble Manufacturing Company site, in combination with the southwesterly tip of the land already owned by the Port. In anticipation of future growth, the container facility will be expanded.



The existing usage of the West 7<sup>th</sup> Street Peninsula includes tank farms, a cement terminal, open storage, two boat repair shops, and railroad trackage. The Port intends to purchase all of the remaining privately-owned properties in order to accommodate the future needs of a larger container complex.

Pasha Industries and Toyota Motor Sales U.S.A., the Port's two automobile terminals, were relocated from Pier J to areas northerly of Berths 82 and 83. Other projects identified in the *PMP Update 1983* that further met this District's goals include:

- o Long Beach Terminal Company Expansion

This project was completed in 1983. The facility was bought by new owners and is now called Petro Diamond.

- o Reorientation of Roadway, Rail, and Utilities

The reorientation of the roadway, rail, utilities and the razing of oil wells was completed in the latter part of 1983. This was in preparation for the Pasha and Toyota auto terminals.

*Anticipated Projects:*

- o West 7<sup>th</sup> Street Terminal Expansion

This primary port project is an expansion of the West 7<sup>th</sup> Street Terminal Development Project. The proposed expansion will allow containers to be handled and/or stored at the site in a more efficient manner and will increase terminal throughput capacity by approximately 33%. Specific work will require the demolition and removal of all above ground structures, clean-up of hazardous wastes, and abandonment or relocation of approximately 25 oil wells. The existing .15 acre slip at Berths 71-72 on Channel No. Two will need to be filled and brought to grade. Newport Bay wetlands is the proposed mitigation site for this project.

- o Double Track - Eighth Street to Pier A Railyard

The Port is proposing to construct double track rail from Eighth Street to the Pier A Railyard, located in this District. This project is part of the Master Road and Railway Transportation Improvement Plan. It is anticipated to be complete by the end of 1990.

- o CUT On-Dock Railyard

The Port plans to construct an on-dock double stack railyard at the California United Terminals (CUT). This project is part of the Master Road and Railway

Transportation Improvement Plan. A separate EIR will be prepared when this project is proposed.

o Long Beach Container Terminal (LBCT) Intermodal Container Transfer Rail Yard

Long Beach Container Terminal, Inc. (LBCT), an 88 acre container terminal, is building an intermodal container transfer rail yard (on-dock rail) to handle double stacked containers (DST) within their terminal on Pier A (Berths 6-10). This project will allow cargo containers to be directly transferred between ship and train instead of having to be trucked to inland railyards, as is the current practice. This will enable the terminal operator to assemble Overland Common Point (OCP) containerized cargo on unit DST, bound for the mid-west and east coast. This project is part of the Master Plan and Railway Transportation Improvement Plan.

## **DISTRICT 5 - FEDERAL USE PLANNING DISTRICT**

The Federal Use Planning District (Figure VI-6) is principally used by the U.S. Navy for shipyard and base operations. The Port of Long Beach does not have permitting authority in the district.

**GOAL 1: CONTINUED AND INTENSIFIED USE BY THE U.S. NAVY**

**GOAL 2: CONTINUED NAVY AND PORT COORDINATION AND CONSULTATION ON MATTERS OF MUTUAL CONCERN**

### *Permitted Uses:*

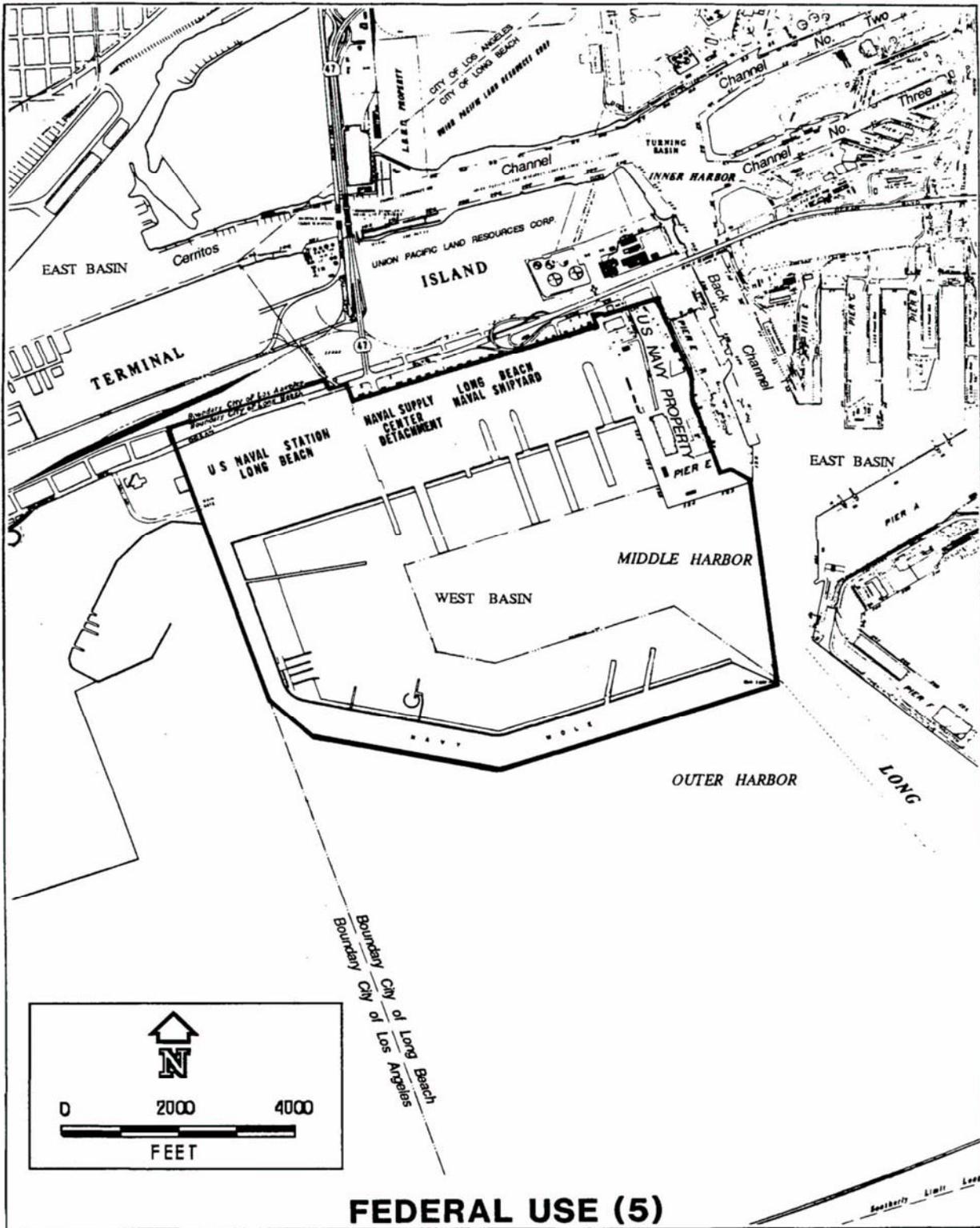
As federal land, development within this district is excluded from coastal permit requirements. However, state review of federal consistency with Coastal Act policies is required for Naval projects. This has resulted on cooperation and consultation with the Port on matters of mutual concern such as vessel traffic patterns and proposed landside development.

### *District Status:*

The Long Beach U.S. Naval Station is used as an active home port for over 37 ships. As a result of homeporting, the Navy rehabilitated the existing facilities at the Shipyard and Naval station which, after 40 years, were showing significant signs of deterioration. This rehabilitation included construction of new support facilities.

### *Anticipated Projects:*

- o None.



**FEDERAL USE (5)**

**FIGURE VI - 6**

## **DISTRICT 6 - MIDDLE HARBOR PLANNING DISTRICT**

The Middle Harbor Planning District (Figure VI-7) is bounded on the north by the north sides of the Gerald Desmond Bridge and Ocean Boulevard; on the West by the west side of Pier E Avenue down to the intersection of Berths 122 and 123, south to the pilot station (light No. 6) along the centerline of Panorama Drive to Pier A Avenue; on the east from the intersection of Panorama and Windham north along the west side of Windham to the centerline of Harbor Scenic Drive along the west side of the Los Angeles Floor Control District.

This district is the largest cargo handling portion of the Port. It includes major container, liquid bulk, break bulk and dry bulk handling terminals.

**GOAL 1: EXPAND PRIMARY PORT FACILITIES.**

**GOAL 2: CONSOLIDATE AND ABANDON OIL WELLS WHENEVER POSSIBLE.**

### Objectives:

- o Maximize cargo throughput on Pier E.
- o Construct "minor" landfills if the need for more land arises.
- o Eliminate and/or consolidate oil well facilities.
- o Provide on-dock rail facilities consistent with the Port's Master Road and Railway Transportation Improvement Plan.

### Permitted Uses:

- o Primary Port Facilities
- o Port-related
- o Oil Production
- o Ancillary Port Facilities

### District Status:

In 1985, the Board of Harbor Commissioners adopted the Pier A Landfill Expansion as an amendment to the Port Master Plan. The expansion provided for the extension of an existing marine cargo operation which operates at Berths 6 through 10. The tenant at this site, Long Beach Container Terminal (LBCT), will be constructing an intermodal container transfer railyard to handle double stack trains (DST) within their terminal. This project would allow cargo containers to be directly transferred between ship and train instead of having to be trucked to inland railyards as is currently practiced. This railyard would

enable this terminal to more easily assemble Overland Common Point (OCP) containerized cargo on unit DST. The OCP containers are destined for the mid-western and eastern United States.

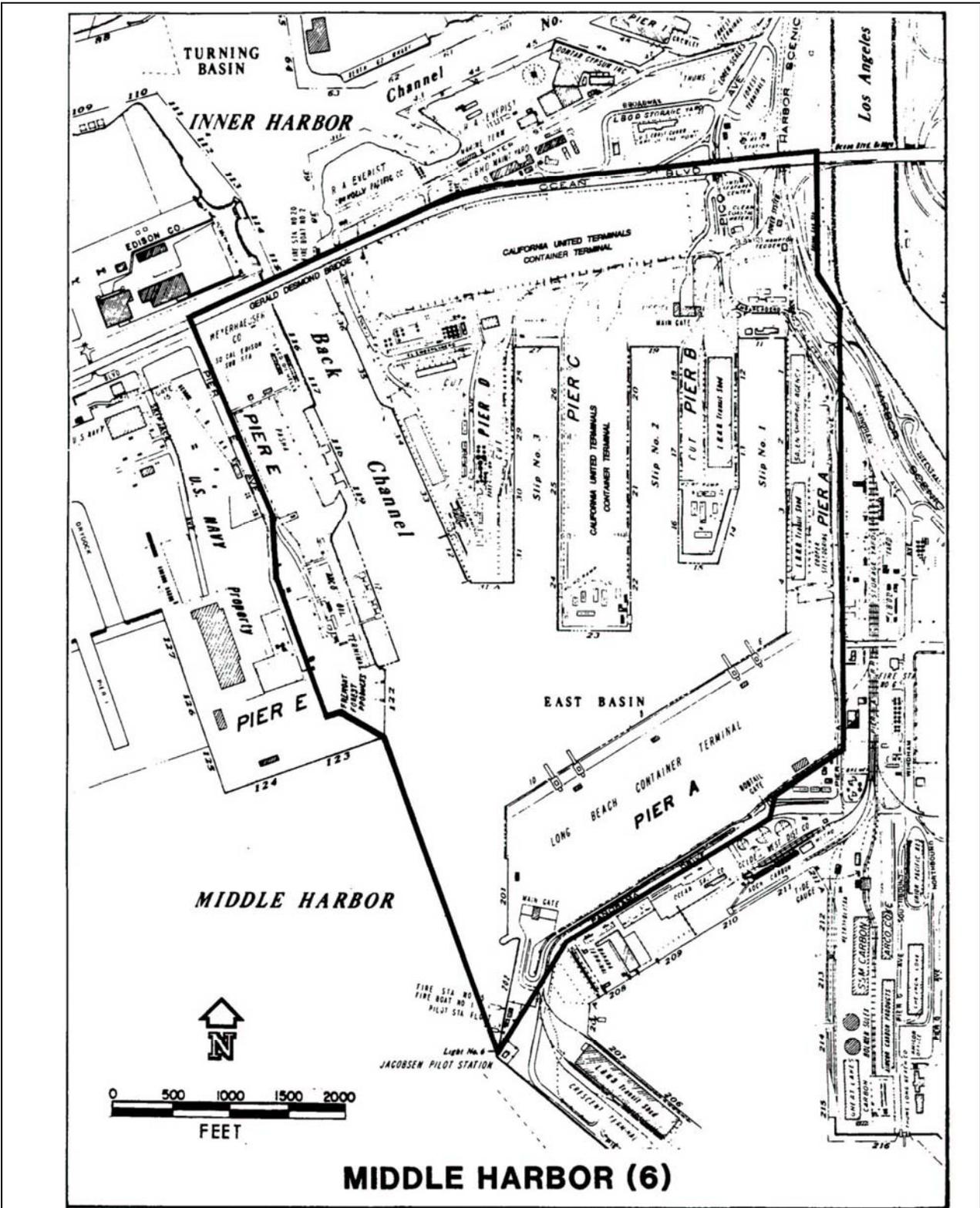


FIGURE VI-7

Construction for the project involves installation of approximately 12,000 linear feet of rail track in six rows to accommodate train sections. In addition, concrete transtainer runways will be constructed on either side of the tracks for container rail loading and unloading equipment. LBCT anticipates exercising an option under their existing lease to expand terminal operations into an additional 8.4 acres at Berths 3-4. This expanded area will be used for additional container storage. No new developments have occurred in this district since 1983.

Anticipated Projects:

o North American Materials Corporation Sand and Gravel Facility

North American Materials Corporation (NAM) is proposing to construct a 7-acre sand and gravel facility at Berth 118 on Pier E. The proposed facility will handle an initial 2.5 million tons per year of sand, gravel, and concrete aggregate, eventually expanding to 11 million tons annually at the end of five years. The facility will import the material from Mexico to supply the local concrete industry. Construction of the facility is scheduled to begin in 1990 and will take approximately four months to complete.

o Gerald Desmond Bridge

The Gerald Desmond Bridge is currently a four lane roadway. The Port intends to widen the existing bridge to a five lane roadway. This is one of the projects identified in the Master Road and Railway Transportation Improvement Plan.

o Harbor Scenic Drive - Ocean Boulevard Connector Ramps

Ocean Boulevard is an east/west four and six lane divided roadway connecting the Port of Long Beach with downtown Long Beach. As part of the Master Road and Railway Transportation Improvement Plan, construction will involve a west to south connection and a north to east connection.

o El Embarcadero - Windham Grade Separation

The El Embarcadero - Windham Grade Separation is one of the Phase Two projects of the Master Road and Railway Transportation Improvement Plan. The Port plans to add a grade separation from train and vehicular traffic.

## **DISTRICT 7 - QUEENSWAY BAY PLANNING DISTRICT**

The Queensway Bay Planning District (Figure VI-8) is bounded on the north by the north side of Anaheim Street; on the west by the west boundary of the Los Angeles County Flood Control Channel, then along the center line of Harbor Scenic Drive, west of the eastern shoreline of the Harbor District, then south parallel to the shoreline of the Harbor District to the end of Pier J; on the east from the north side of Anaheim Street down the eastern limit of the Long Beach Harbor District to the end of the existing Pier J.

### **GOAL 1: INTENSIFY COMMERCIAL AND RECREATIONAL ACTIVITIES CONSISTENT WITH CHAPTER 3 OF THE COASTAL ACT.**

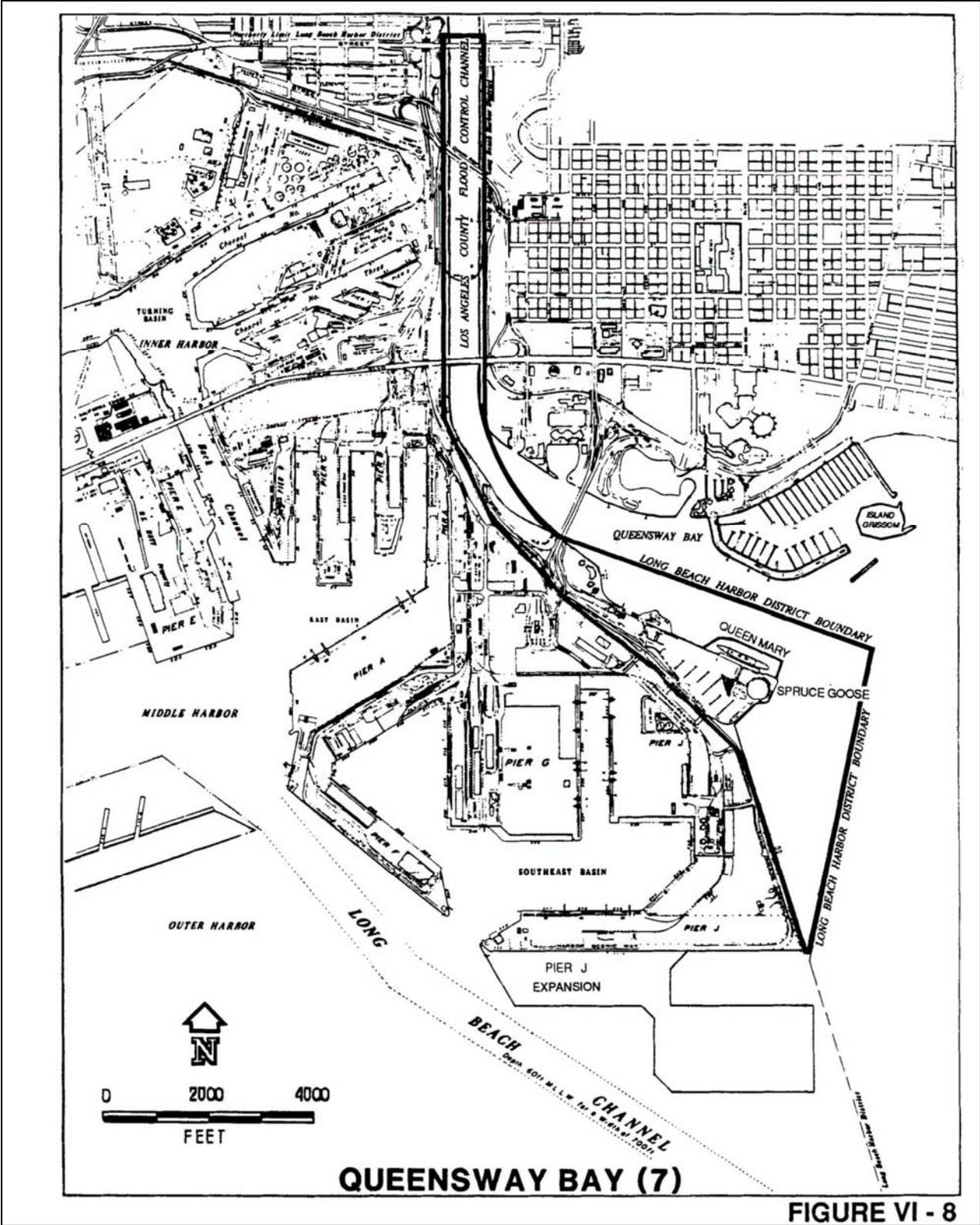
#### *Objectives:*

- o Meet the demand for appropriate visitor servicing facilities.
- o Preserve and enhance adequate public access to fishing, viewing, and other public facilities.
- o Promote quality recreational and tourist activities.
- o Consolidate harbor recreational activities into this District.
- o Augment recreational and tourist activities to complement recreational developments proposed by the City of Long Beach.
- o Develop a cruise ship terminal.
- o Support the development of a shuttle system or a rapid transit system between downtown Long Beach and the recreational corridor.
- o Develop a recreational boat marina.

### **GOAL 2: MAINTAIN AND ENHANCE LANDSCAPING AS A BUFFER BETWEEN QUEENSWAY BAY DISTRICT AND THE INNER HARBOR AREA.**

#### *Objectives:*

- o Develop and implement a Harbor Beautification Plan and recommend actions through the permit issuance process.
- o Improve the appearance of Harbor lands at and along major vehicular approaches.



**FIGURE VI - 8**

- o Provide enhanced information signing to provide better guidance to the public in reaching places of business and points of interest.

**GOAL 3: MINIMIZE DISRUPTION OF SIGNIFICANT VIEW CORRIDORS.**

Objectives:

- o Develop design criteria for future developments that involves color, form, texture, and scale.
- o Preserve ground level views along the boundary of Queensway Bay.

**GOAL 4: ENCOURAGE INCREASED USE OF THE FLOOD CONTROL CHANNEL FOR NON-CONTACT WATER SPORTS.**

Objectives:

- o Encourage the development of non-contact water sports in the flood control channel and maritime support of recreational uses on the eastern levee.
- o Continue to enforce the 5 m.p.h. speed limit to encourage safe boating practices.

Permitted Uses:

- o Recreation
- o Commercial
- o Primary Port Facilities
- o Oil Production
- o Ancillary Port Facilities

District Status:

The *1978 PMP and PMP Update 1983* proposed a slight shift from recreational to commercial recreation activities. Oil production activities have not changed. Over the next five years, this district will continue to serve as a recreational buffer between Downtown and Port operations.

The *PMP Update 1983* discussed the "Queen's Bay Development (Phase I)" as an anticipated project. The uses in the proposed project were certified in the *1978 PMP*. The project was proposed by the Wrather Properties Development on behalf of Wrather Port Properties. The proposal involved an urban waterfront complex incorporating the Queen Mary and the Hughes Flying Boat amusements as key anchors to recreational development. A general description of uses proposed included a marina, hotels, retail/commercial and exhibition space, tour shops, and approved office uses (maritime related or administrative

offices serving the recreational complex). To accommodate these uses, approximately 8 acres of landfill was deemed necessary for the marine, floating hotel, and adjacent land-side hotel.

In 1986, this proposed plan was modified and the "Queensway Bay Rezoning and Redevelopment Project" resulted. Wrather proposed to expand their recreation, attractions, and hotel uses by adding more retail, restaurants, and major offices. The project was planned as an integrated mixed use development capitalizing on the ocean front and enhancing public access and visitor-serving experiences.

In addition, a planned development ordinance (rezoning) for the Queensway Bay became part of the City of Long Beach Municipal Code (Title 21, Zoning Regulations) which delineates general standards for coordinating future planning and designs. This provided for rezoning of the "CT" (Commercial Tourist) designation to specific desirable development and use criteria. The Planned Development establishes a series of goals which will influence the type, location, and density of new development in the Queensway Bay Planning District.

The Board of Harbor Commissioners approved this revised project. It did not require a master plan amendment since its design and uses were similar to the earlier project. However, the development of this revised plan has not materialized.

It is possible that the Walt Disney Corporation may be forthcoming with a recreation/mixed-use proposal in the district. A further PMP amendment may have to be prepared to respond.

*Anticipated Projects:*

- o None.

## **DISTRICT 8 - SOUTHWEST HARBOR PLANNING DISTRICT**

This district (Figure VI-9) is an open water area lying south of the Navy Mole, east of the Long Beach Harbor District boundary, north of the federal breakwater, and west of the Navigation Planning District. Water depths in this area range from 21 to 56 MLLW.

### **GOAL 1: DEVELOP DEEP DRAFT BERTHING AREAS AND NEW LAND AREAS FOR PRIMARY PORT CARGO HANDLING FACILITIES**

#### *Objective:*

- o Design and develop landfills (as part of the 2020 Plan) in conjunction with the Port of Los Angeles' proposed expansions which preserve tidal flushing of the San Pedro Bay.

### **GOAL 2: IMPLEMENT THE INFRASTRUCTURE REQUIREMENTS WHICH PROVIDE ADEQUATE VEHICULAR AND RAIL ACCESS AND DEEP DRAFT BERTHING FACILITIES TO THIS DISTRICT.**

#### *Permitted Uses:*

- o Anchorage Area
- o Primary Port Facilities
- o Hazardous Cargo Facilities
- o Ancillary Port Facilities

#### *Anticipated Projects:*

- o None.

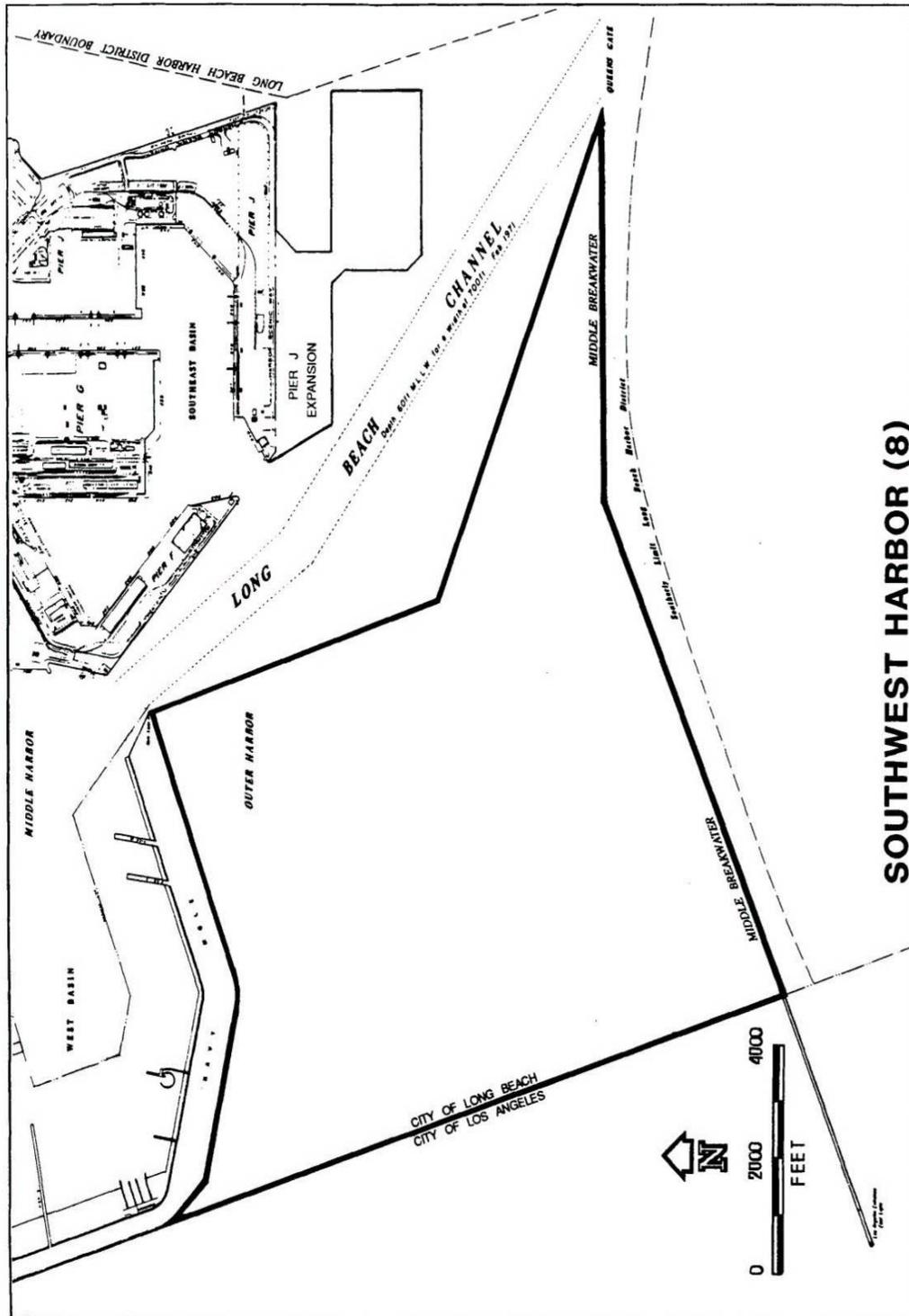


Figure VI-9 !

## **DISTRICT 9 - NAVIGATION PLANNING DISTRICT**

This area (Figure VI-10) is bounded on the north by the intersection of Berths 122 and 123; on the west by the eastern limit of the Federal Use District and Southwest Harbor Planning District; on the south by the Long Beach Pilot cruising area outside the breakwater; and on the east by the western limits of the Middle, Southeast, and Outer Harbor Planning Districts.

The District contains the Main Channel linking Queen's Gate to other portions of the harbor. This channel provides direct deep draft access to the Southeast Basin, the Middle Harbor, Southwest Harbor, and the Federal Use area. Present water depths in the Main Channel are 60 feet.

**GOAL:        MAINTAIN AND IMPROVE ACCESS FOR VESSELS ENTERING AND LEAVING THE PORT.**

### Objective:

- o     Plan and design for accommodating increased channel depths to handle larger liquid dry bulk vessels.

### Permitted Uses:

- o     Navigation

### District Status:

Main Channel deepening is underway which will increase the channel depth to 76 feet.

### Anticipated Projects:

- o     None.

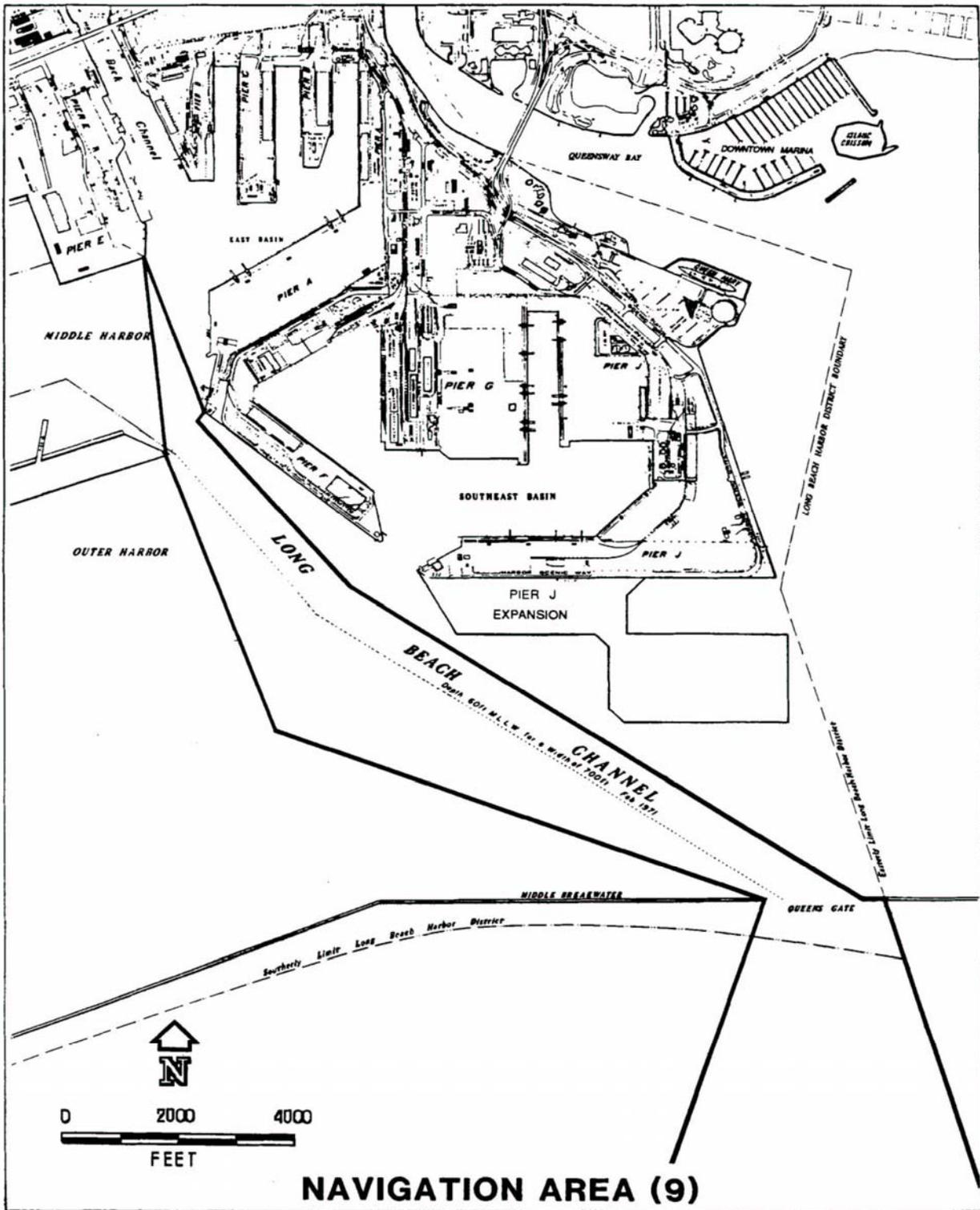


FIGURE VI-10

## **District 10 - SOUTHEAST HARBOR PLANNING DISTRICT**

This area can be seen in (Figure VI-11). It is bounded on the north by the southern limits of the Middle Harbor Planning District and the west by the eastern limits of the Navigation area. In 1986, the southern boundary was changed to include the 147 acre Pier J Expansion Project. The eastern boundary was changed in 1983 from the intersection of Harbor Scenic Drive to the end of the Pier J Expansion. This district encompasses Piers F, G, and J and a portion of Pier A.

### **GOAL 1: MODERNIZE AND MAXIMIZE USE OF EXISTING AND FUTURE FACILITIES**

#### *Objectives:*

- o Increase cargo handling efficiencies.
- o Provide alternative parking for Port personnel working outside the Harbor District.
- o Modernize fire fighting facilities.

#### *Permitted Uses:*

- o Primary Port Facilities
- o Port Related
- o Oil Production
- o Ancillary Port Facilities

#### *District Status:*

The 147 acre Pier J landfill project was amended to the Port Master Plan in 1986. Anaheim Bay was used as the mitigation area for reducing impacts on marine habitat. The following is the current status of projects since 1983.

- o Pier G Bulk Facility Modification

Modifications to the dry bulk facility at Berths 212-215 were completed in 1983. These modifications included the addition of a second shiploader and deepening of dockside water to allow larger bulk carriers at berth. These modifications were to allow the facility to increase coal exports. However, with the uncertain market for coal, the future plans for this is unknown.

- o Namolco - Berth 242 Extension

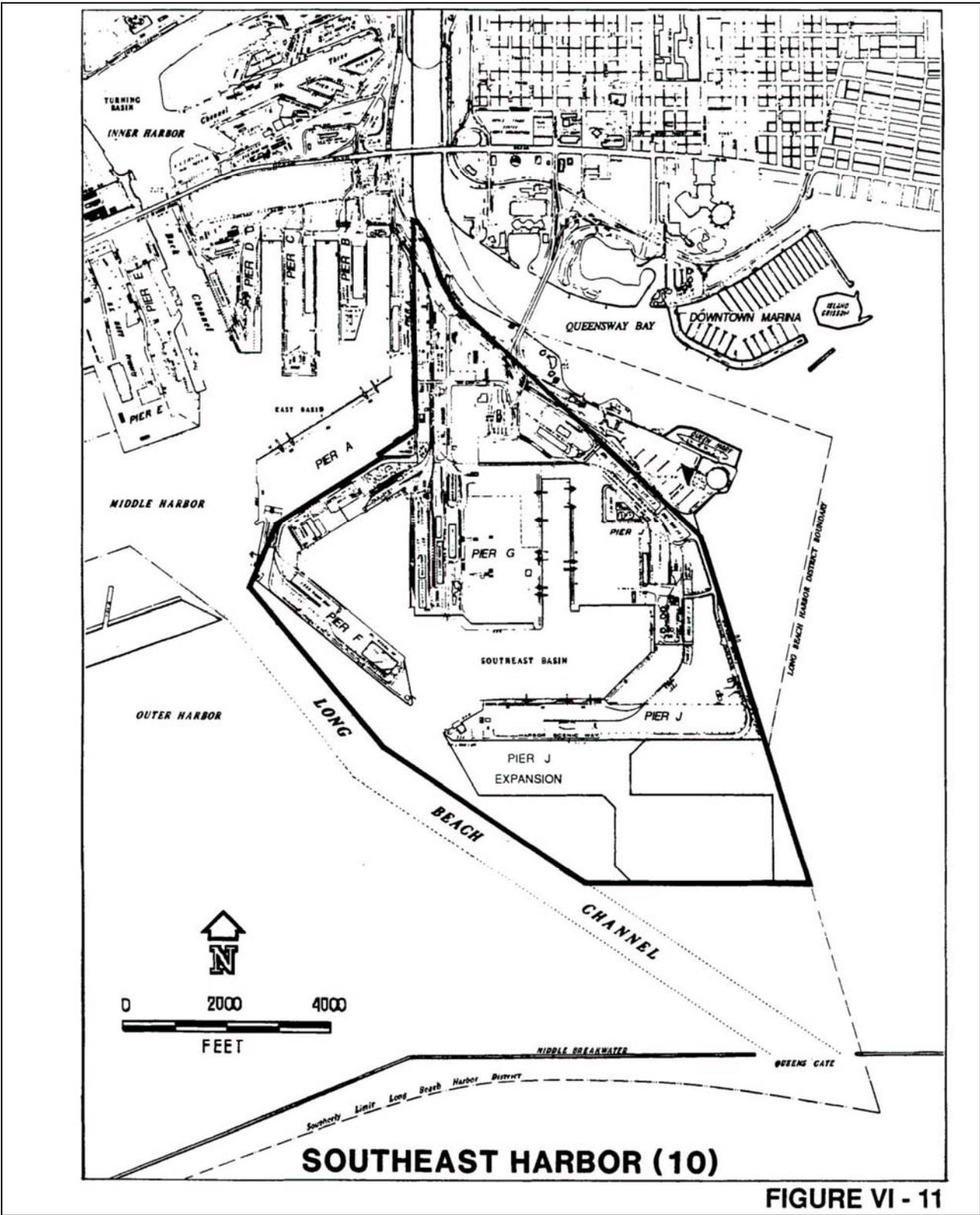
In 1983, Namolco (now C. Brewer) applied for a Harbor Development Permit to add new bunker fuel and asphalt storage at its Pico Facility on Pier A. Soon thereafter, the project was granted and constructed.

However, since purchase by the Port, the Namolco facility is now in the process of being demolished. Namolco extended the wharf at Berth 242 on Pier J to accommodate larger vessels calling at the terminal.

o International Transportation Service (ITS) Intermodal Container Transfer Rail Yard

On August 22, 1988, the Board of Harbor Commissioners certified the *International Transportation Service (ITS) On-Dock Intermodal Container Transfer Railroad Final EIR* for constructing an on-dock rail facility. The rail facility is intended to handle double stacked container trains destined for the mid-western and eastern United States (OCP).

Construction for the project involves laying approximately 6,000 linear feet of rail track to accommodate train sections (4 rows). ITS expects traffic to increase three trains per week as required railroad equipment become available and to a maximum of five trains per week, as business develops. The facility would have a maximum capacity of one train per day. K-Line, the shipping company presently using the existing tracks, has signed a three-year agreement for Union Pacific Railroad Company to run these trains over its San Pedro Branch line. However, the potential exists for other shipping companies to contract with other railroads for service from ITS terminal. Rail lines, such as Southern Pacific or Santa Fe, could experience some portion of the maximum five weekly trains run on their tracks.



Anticipated Projects:

o Southeast Basin Landfill

This will involve landfilling approximately 12 acres at Berths 242, 235, and 236 for increasing primary port land for containerized cargo handling. This configuration was addressed in an earlier draft of the Pier J Expansion Project EIR and will be certified as part of this PMP Update.

This landfill will not be built until 14 acres of mitigation credits are released after the Pier J Slip monitoring shows no adverse environmental effects.

o Harbor Scenic Drive, South of J-3

Harbor Scenic Drive is currently a two lane north/south roadway. Plans are to widen the existing roadway to four lanes for accommodating traffic from the additional Pier J landfill traffic. This project is part of the Port's Master Road and Railway Transportation Improvement Plan.

o Pier J Railroad Extension

The Port plans to extend the existing railroad track to the new landfill on Pier J and convert an existing single track to a double track. This project is part of the Port's Master Road and Railway Transportation Improvement Plan.

## **DISTRICT 11 - OUTER HARBOR PLANNING DISTRICT**

The boundaries of this district (Figure VI-12) have changed since 1983 when the Southeast Harbor Planning District boundaries were extended to accommodate the Pier J Expansion landfill project. However, this district is still bounded on the west by the eastern limits of the Navigation Area, on the south by the eastern corner of Queens Gate; and on the east by the eastern limits of the Harbor District.

### **GOAL 1: MAINTAIN AND IMPROVE VESSEL ACCESS AND MANAGEABILITY**

#### *Permitted Uses:*

- o Navigation
- o Maneuvering

#### *Anticipated Projects:*

- o None.

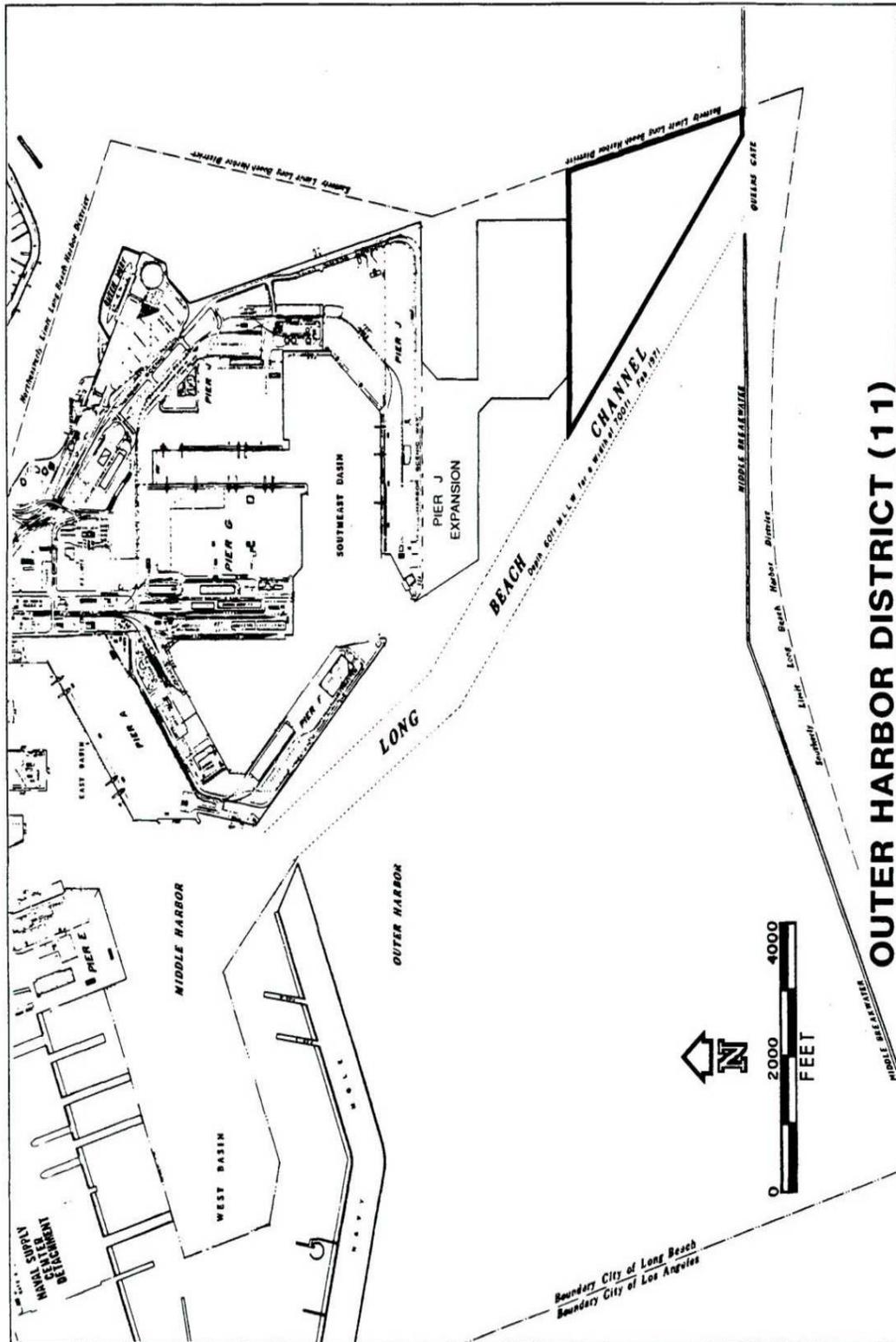


Figure VI-12

## CONFORMANCE OF ANTICIPATED PROJECTS WITH COASTAL ACT POLICIES

This section reviews the conformity of the anticipated projects in the PMP Update '90 with California Coastal Act policies. In addition, the section also reviews whether the projects are appealable under Section 30715 of the Coastal Act.

Consistent with Section 30701(b), all of the anticipated projects are intended to modernize and construct necessary facilities within the existing harbor boundaries. This minimizes the need to create new port facilities in new areas of the state.

Three of the anticipated projects will require diking, filling, or dredging. Each of these projects (Marine Terminal Development Berths 95-97, West 7<sup>th</sup> Street Terminal Expansion, and the Southeast Basin Landfill) are new or expanded port-related facilities which are permissible under Section 30705 of the Coastal Act. As such, each is reviewed under Sections 30706 and 30233 of the Coastal Act. Each of these landfill projects will have a significant effect on the marine environment. Today most of the land in the harbor is already developed and there is little land available for expansion of port facilities. With these minor landfill projects, the Port is seeking to make efficient use of its most scarce resource - available land.

The Marine Terminal Development at Berths 95-97 is one parcel of land that has become available for providing new terminal facilities. However, in order to make it an efficient operation, the eight acre landfill is the minimum required to provide adequate wharf space for operations. In addition to minimizing the amount of landfilling, the Port also will provide wetland restoration mitigation credits from our Newport Bay and Anaheim Bay restoration projects.

The .15 acre landfill associated with the West 7<sup>th</sup> Street Terminal Expansion project is a minor fill which will allow uninterrupted waterfront land for port-related facilities. Marine habitat mitigation for this landfill would come from the Port's mitigation credits from the Newport Bay wetlands restoration project, or the replacement slip to be dredged to relocate the ship repair facility in this area.

The final minor landfill project is the 12 acre Southeast Basin Landfill. This landfill is in an area of the harbor which has very little available land. There is great demand for additional land area in this portion of the Port for additional container handling facilities. Part of the effort to minimize the landfilling needs in this area is the development of on-dock rail facilities to improve efficiency in this portion of the harbor. Nevertheless, since only about 40% of the container cargo is loaded onto rail for transport out of Southern California, there is still the need for additional land area.

The proposed minor landfill is the minimum that can be efficiently provided in this area. In addition, the Port intends to provide habitat mitigation credits to offset the marine environment impacts of this project. This landfill will not be built until 14 acres of mitigation credits from the Pier J project which are currently in escrow are shown to be available through our monitoring process. Since the Port is currently pursuing additional wetlands restoration projects in Bolsa Chica, San Dieguito, and Ormand Beach, it is possible that mitigation from these sites might be used as alternatives if the Pier J escrow credits are not available.

Section 30708 of the Coastal Act relates to the location, design, and construction of port-related developments. Although detailed design and construction schedules are not available for the anticipated projects it is possible to indicate how they would conform with Section 30708 and to determine their status as non-appealable projects under Section 30715.

o North Harbor Acquisition

This is an on-going land acquisition program with no direct environmental impacts. This program is in a portion of the harbor with no waterways so there will be no potential conflict with vessels. The program is intended to obtain land in this portion of the harbor for ultimate use by port-related uses.

The project is not subject to appeal since it does not involve developments subject to appeal to the Coastal Commission under Section 30715. This section identifies the following types of uses as appealable:

- Developments for the storage, transmission, and processing of natural gas and crude oil;
- Waste water treatment facilities;
- Roads and highways which are not principally for internal circulation within Port boundaries;
- Office and residential buildings not principally devoted to the administration of activities within the Port; hotels, motels, and shopping facilities; commercial fishing facilities; and recreational small craft marina facilities;
- Oil refineries; and
- Petro chemical production plants.

o Master Road and Railway Transportation Improvements

These improvements are intended to reduce the environmental impacts of Port activities by encouraging the use of rail service where appropriate and reducing truck trips. The project will also improve truck movements within the Port reducing idling time and air pollution emissions. The project provides necessary support and access improvements to existing land within the Port. The project provides necessary support and access improvements to existing land within the Port. The project is not appealable under Section 30715 since the roadway improvements are intended to improve circulation within the Port boundaries.

- o Marine Terminal Development at Berths 95-97

As described above, this project will minimize its environmental impacts and gives high priority to the use of existing land space for Port purposes. This terminal provides additional berthing space which should help improve the efficiency of shipping and vessel use of the harbor. The project is not appealable since it is not one of the types of developments listed in Section 30715.

- o West 7<sup>th</sup> Street Terminal Expansion Project

This project will minimize its environmental impacts and provide highest priority on using existing land within the harbor for Port purposes. The project is appealable under Section 30715 of the Coastal Act.

- o Southeast Basin Landfill

As already described above, this project will minimize its environmental impacts and enhance the use of existing land within the harbor. The project will provide additional berthing space which will help relieve berthing congestion in this portion of the harbor. The project is not appealable since it is not one of the types of developments listed in Section 30715.

- o North American Materials

This is a redevelopment at an existing terminal site within the harbor. It is not anticipated to involve any dredging, filling, or diking. The project would use existing terminal space which is not currently being used and so places high priority on use of existing land. The project is not appealable since it is not one of the types of developments listed in Section 30715.

A summary of these findings by Harbor District is presented in Table VI-1.

**TABLE VI – 1  
PORT OF LONG BEACH  
CONFORMANCE OF PORT MASTER PLAN 1990 ANTICIPATED PROJECTS**

PORT PLANNING DISTRICT ANTICIPATED PROJECTS	PORT DEVELOPMENT (CHAPTER 8) APPEALABLE AND NON-APPEALABLE PROJECTS						
	Dike, Fill, Dredge 30705; 30706	Min. Environ Impacts 30708 (a)	Vessel Traffic Conflict 30708 (b)	Port Use Priority 30708 (c)	Encourage Rail Service 30708 (e)	Existing Port Modernized 30701 (b)	Appealable 30715
1. NORTH HARBOR: - N. Harbor Acquisition - Master Road & Railway Transportation Improvements		●		●		●	
2. WEST HARBOR: - None -							
3. NORTHWEST HARBOR: - Marine Terminal Develop. Berths 95-97	●	●	●	●			
4. NORTHWEST HARBOR: - W. 7 <sup>th</sup> St. Terminal Expansion	●	●		●		●	●
5. FEDERAL USE: -None-							
6. MIDDLE HARBOR: - N. American Materials				●	●	●	
7. QUEENSWAY BAY: - None -							
8. SOUTHWEST HARBOR: - None -							
9. NAVIGATION DISTRICT: - None -							
10. SOUTHEAST DISTRICT: - Fill Pier J: S.E. Basin	●						
11. OUTER HARBOR - None -							

## **VII. APPENDICES**

## **VII: APPENDICES**

- A. Intermodal Rail Use Analysis
- B. Glossary of Intermodal and Maritime Terms
- C. Agencies/Organizations
- D. Abbreviations
- E. References
- F. Bibliography
- G. PMP Amendment Summary

## A. INTERMODAL RAIL LAND USE ANALYSIS

Based on data collected and analyzed during the *2020 O.F.I. Study*, the average Port of Long Beach container terminal is 89.0 acres, 71.6 acres of which are used for storage. The average static storage capacity is 10,600 TEU which includes empties and which represents a combination of stacked and wheeled storage at 149 TEU per acre. The average annual throughput in TEU per terminal in 1987 was  $1,460,287/6 = 243,382$ , which represents a turnover of 23 times a year for each static TEU. As a check, assume that 70% of the static capacity was used for loaded containers (30% empties), and that these load slots would be used at 70% efficiency. Then the turnover per loaded containers would be  $224,382/(10,600 \times 0.70 \times 0.70) = 47$  times per year. This closely matches the typical rule of thumb of one week average dwell time for each container.

Now assume that a portion of this average terminal is used up by an intermodal rail facility of about 450' wide by 2,900' long (30.0 acres). Assuming the worst, the rail facility would reduce the container storage area to  $71.6 - 30.0 = 41.6$  acres, which would have a static capacity of  $41.6 \times 149 = 6,198$  TEU. At 23 turnovers per year the annual throughput for the container yard would be 142,554 TEU. The rail facility would have four working tracks, each with space for seven 20 TEU cars for a total static capacity of  $4 \times 7 \times 20 = 560$  TEU. If only three trains a week were handled at the facility the throughput per week would be  $3 \times 560 \times 2$  (to account for import and export) = 3,360 TEU for an annual throughput of 174,720. The total annual throughput of this facility would then be  $174,720 + 142,554 = 317,274$  TEU which is 73,892 more than the 243,382 TEU annual throughput of the same terminal without rail. This represents a 30% increase in productivity.

Therefore, in an average Port of Long Beach container terminal, the addition of an average rail facility will enhance productivity and more than offset any loss of area dedicated to container storage. The above analysis is conservative. In fact, the productivity enhancement may be much greater than 30% because:

- \*\* In reality, not all of the land required to develop new rail facilities will be existing container storage area. The analysis assumed the worst case.
- \*\* Adequate storage area was included in the 30 acre rail facility for a 2 to 1 ratio of stored containers to static train slots. This may be reduced if containers are pre-staged at track side directly to or from the ship, therefore allowing some of the rail container storage area to return to container yard storage use.
- \*\* The analysis considers three trains a week. There may be much more. The actual maximum capacity of the rail facility would be 14 trains a week.
- \*\* The incentives to efficiently utilize on-dock rail facilities are strong. Great advancements in productivity are possible at a minimum capital expenditure. A maximum one day dwell time is typical at existing on-dock rail facilities, because

unlike trucking operations, where the trucks related to each shipment arrive over a period of several days, a typical intermodal train arrives and departs within one day. The essence of the intermodal rail system is to facilitate the movement of large blocks of cargo in an efficient "just-in-time" mode. This principle is used in manufacturing environments to reduce storage requirements. This same principle applies to on-dock DST facilities.

**Intermodal Rail Facilities Master Plan Element  
Glossary of Intermodal and Maritime Terms**

**3GCV** Third-Generation Container Vessel. A vessel placed in service circa 1975-85, with typical capacities of 2,500 to 3,500 TEUs (twenty-foot equivalent unit containers).

**4GCV** Fourth-Generation Container Vessel. A vessel placed in service circa late 1980s-early 1990s with typical capacities of 3,500 to 5,000 TEUs.

**ACI** Automated Container Identification System.

**AEI** Automated Equipment Identification System.

**Back Haul** A marine transportation carrier's return movement of cargo, usually opposite from the direction of its primary cargo distribution.

**Backlands** Storage area of a marine terminal that is distant from the wharf area.

**Beam** The width of a vessel's hull at its widest part.

**Berth** The water area, at the waterfront edge of a wharf, reserved for a vessel. The term is sometimes used to refer to the dock or wharf structure.

**Beyond-Panamax** Refers to vessels too large to navigate (Post-Panamax) the Panama Canal.

**Bill of Lading** Document prepared by a transportation line, which shows point of origin, destination, route, consignee, description, etc., of a shipment. Also called a Waybill.

**Bomb Cart** A chassis with specialized corner guides used to move containers within the container or intermodal rail yard. The container twistlocks are not engaged, securing the container to the chassis.

**Box** Slang term for container.

**Break-Bulk Cargo** General cargo, conventionally stevedored and slowed (palletized or sling), as opposed to bulk or containerized cargo.

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**Port of Long Beach  
Master Plan Update**

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**Bulk Cargo** Cargo stowed without benefit of package or container, i.e., shipped loose, as in grains or liquid.

**CES** Central Examination Station for U.S. Customs, Department of Agriculture, and Food and Drug Administration.

**CFS** Containerized Freight Station. The physical facility where goods are received by carrier for loading into or unloading from containers. Sometimes referred to as a stripping or stuffing shed.

**COFC** Container-on-Flatcar. Intermodal operation of containers on railroad flat cars. Can be single- or double-stack.

**Container Terminal** Area where large-scale container handling and storage facilities are available, generally giving access to two or more modes of transportation.

**CY** Container Yard. Within a container terminal, that area dedicated to the movement or storage of containers.

**Carload** The quantity of freight required for the application of a carload rate (generally the quantity which will fill a freight car at a specified length, for which two shorter cars may be substituted as necessary). Carload freight is subject to delays en route at classification yards, where cars are switched to other trains.

**Carrier** An individual company or corporation engaged in the transportation of goods.

**Cellular Vessel** Ship specially designed and arranged for the carriage of containers. Holds or cells are arranged so that the containers are lowered and stowed in a vertical line and restrained at all four corners by vertical posts or guides. Traditionally stowed six- to seven-high below decks and three- to four-high above decks.

**Chassis** Special trailer or undercarriage on which containers are moved over-the-road.

**Chassis Pool** A facility or yard run by a chassis leasing company, where chassis can be rented to accommodate efficient cargo movement.

**Container** A box for transporting cargo, constructed with varying dimensions and to withstand transportation stresses.

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## Port of Long Beach Master Plan Update

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**Container Crane** Usually, a rail-mounted gantry crane located on a wharf for the purpose of loading and unloading containers on vessels.

**Crane Backreach** Dimension from the center line of the landside crane rail to the center line of the farthest landside position of the spreader.

**Crane Outreach** Dimension from the center line of the waterside crane rail to the center line of the farthest waterside position of the trolley spreader.

**Crossover** Two turnouts with a short-track segment between them, forming a passage between two parallel railroad tracks.

**Cut** Group of rail cars coupled together.

**DLR** Discharge, Load and Reload. Cargo discharged from a vessel and reloaded aboard the same vessel or another for transshipment.

**DWT** Deadweight Tonnage. A ship's load, including the total weight of cargo, fuel, and stores.

**Demand Analysis** Statistical projection (usually computerized) of a requirement or demand for goods or cargo over a specified period of time.

**Devanning** Removal of contents from a container (sometimes called stripping or discharging).

**Domestic Container** A container for transporting containerized cargo with both points of origin and destination within the contiguous United States. Specially constructed domestic containers do not meet the ISO requirements for international shipment and are therefore not normally handled in a marine CY.

**Double Stack** A special articulated railcar to haul containers one on top of another. The typical car consists of five articulated rail "platforms", each capable of holding two forty-foot containers.

**Drill Track** A rail track connecting with a lead or ladder track, over which locomotives and cars move back and forth in switching.

**EDI** Electronic Data Interchange. A system of electronic data processing standards.

**EIR** Equipment Interchange Report. See TIR.

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**Port of Long Beach  
Master Plan Update**

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**Escape Track** Also known as a Runaround Track. Used to allow road engines (locomotives) which pull trains to disconnect and “escape” from the railyard or terminal.

**FCL** Full Container Load. Used to indicate that the load carried in a container equals one of the two operating maxima -- weight or volume.

**FEU** Forty-Foot Equivalent Unit. A term used in indicating container vessel or terminal capacity. Two 20-foot containers (TEUs) equal one FEU.

**FLT** Forklift, i.e., a vehicle used for lifting and handling containers and other cargo.

**Freight Forwarder** A firm engaged by a shipper to handle all or most aspects of export shipments.

**Gantry Crane** A crane or hoisting machine mounted on a frame or structure spanning an intervening space and designed to hoist containers into or out of a ship. Also see “Container Crane.”

**Gauge, Gage** The distance between the rails of a railroad track. Also, the measurement of a gantry crane’s rail width, i.e., 34-foot gauge, 100-foot gauge, etc.

**High Cube** Any container that exceeds 8’6” (102”) in height. Usually refers to a container which is 9’6” in height.

**Hostler/Hustler** A tractor, usually unlicensed, for moving containers within a yard. An employee who drives a tractor for the purpose of moving cargo within a container yard.

**ICTF** Intermodal Container Transfer Facility. See ITF.

**ILA** International Longshoremen’s Association (East Coast).

**ILWU** International Longshoremen’s and Warehousemen’s Union (West Coast).

**ISO** International Standards Organization. Worldwide organization formed to promote development of standards to facilitate the international carriage and exchange of goods and services. Governs construction specifications for ISO containers.

**ITF** (ICTF) Intermodal Transfer Facility. A facility used for the transfer of cargo from ship to truck to rail, in any order.

**Industrial Lead** A railroad track serving an industrial area, with numerous branch tracks.

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## Port of Long Beach Master Plan Update

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**Intermodal** Used to denote the ability of containers to change mode of transport from ship to truck to rail, in any order.

**LCL** Less-Than-Container Load. A shipment moving at other than the rate for a full container load. Sometimes used to denote a shipment consisting of cargo for more than one consignee.

**Ladder Track** A track with numerous turnouts leading to parallel yard or body tracks. Often, a yard will have ladder tracks at both ends for improved access.

**Landbridge** A type of through-container movement involving the use of large land masses as “bridge” between two separate bodies of water, e.g., cargo shipped between Europe and the Far East using the Continental U.S. as a “bridge”.

**Load Center** Railroad and marine transportation term for concentrating cargo in one location for distribution to other locations. Similar to airline “hubs”.

**Lo-Lo** Lift-On/Lift-Off. A type of vessel that allows cargo to be loaded or unloaded by either ship or shore cranes.

**M&R** Maintenance and Repair. Facility used to maintain container yard equipment and containers.

**Material-Handling Equipment** Forklift trucks, platform trucks, warehousing industrial cranes, straddle carriers, pallet trucks, platform trucks, warehouse trailers, conveyer system and other equipment used in storage and handling operations.

**Micro-Landbridge** A through movement in which cargo moves between an inland U.S. point and a port via rail or truck, connecting with a ship for movement to or from a foreign port. (The ocean carrier accepts full responsibility for the entire movement on a single through bill of lading.)

**Mini-Landbridge** A through movement of cargo between Europe and the Pacific Coast and the U.S. or between the Far East and the Atlantic or Gulf Coast of the U.S. Also, a unit train movement across the U.S. that substitutes for the all-water route through the Panama Canal. (The ocean carrier accepts full responsibility for the entire movement on a single through bill of lading).

**NVOCC** Nonvessel Operating Common Carrier. A carrier defined by maritime law, offering an international cargo transport service through the use of underlying carriers and under one’s own rate structure, in accordance with tariffs filed with the Federal Maritime Commission.

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**Port of Long Beach  
Master Plan Update**

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**Neo Bulk Cargo** A type of cargo, such as iron, steel, forest products or automobiles.

**OCP** Overland Common Point. A term used on the U.S. West Coast for destinations east of the Rockies, i.e., the states of Montana, Wyoming, and Utah.

**Off-Dock** Refers to operations taking place at a distance from the wharf area.

**On-Dock** Refers to operations taking place at or adjacent to the wharf area.

**Over-the-Road** A term used, principally in the U.S., for the road freight carrier or vehicle's over-the-road operation. Describes equipment meeting safety and operational requirements for utilization of public access roads, which is specifically licensed to do so.

**Panamax** Refers to the maximum dimensions of a vessel in order to transit the Panama Canal.

**Pier** The location in a seaport at which cargo arrives or departs. A dock for loading or unloading ships or vessels. A type of wharf, running at an angle with the shoreline of a body of water.

**Piggyback** The hauling of road vehicles and trailers and containers on wheels or railroad flatcars.

**Piggy Packer** Trade name for a Raygo-Wagner front-end top-pick forklift vehicle that is used to lift containers and trailers on or off rail flatcars.

**Portpacker/Top Pick** Trade name for a front-end forklift made by Raygo-Wagner Corporation that lifts a container by securing the lift mechanism on the top of the container.

**Portainer** The registered trade name for low-profile container gantry cranes manufactured by Pacific Coast Engineering Company (PACECO).

**Port Side To** Refers to a vessel docked with its left side adjacent to the wharf.

**Pre-Blocked Run-Through Train** A through train made up of blocks or cuts of cars which are not separated until reaching a destination yard where the blocks may be sent off on separate branch lines or to individual consignees.

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**Port of Long Beach  
Master Plan Update**

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**Pre-Check** A system of collecting portions of check-in data from a vehicle prior to its reaching the gatehouse, using remote cameras, scales, intercoms, etc.

**Pre-Trip** Preparation and cleaning of a reefer or container prior to a trip.

**Queue** A waiting line at the entrance to a terminal or other operation for vehicles picking up or delivering cargo.

**RF Tag** Radio Frequency Tag. Used to identify a container through automated container identification.

**RITF** Regional Intermodal Transfer Facility. An intermodal facility serving several marine terminals with a given region. See ITF.

**RTG** Rubber-Tired Gantry Crane.

**Railhead** End of the railroad line or point in the area of operations at which cargo is loaded and unloaded.

**Railyard** A rail terminal at which occur traditional railroad activities for sorting and redistribution of railcars and cargo.

**Reefer** Slang for refrigerated containers.

**Ro-Ro** Roll-On/Roll-Off. A vessel constructed in such a way as to permit cargo to be driven on and off the vessel.

**Road Engine** A locomotive used by the railroads to haul cargo long distances over the main line trackage.

**Road Switcher** A locomotive used for through or main line movements, often in multiple with other similar units. Road switchers may also be used to do work along branch lines.

**Roadrailer** A specialized road chassis that has retractable rail wheels which allow it to operate directly on a rail system.

**Runaround Track** A running track kept clear to allow the movement of equipment from one end of a railyard or ITF to the other.

**Shiploading Container Gantry Crane** See Container Crane, Gantry Crane.

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**Port of Long Beach  
Master Plan Update**

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**Siding** An auxiliary to the main railroad track to allow the meeting or passing of trains.

**Sidepick** A lift truck with forks situated in such a manner as to lift the container from the side by inserting the forks under the container; also called a "Side-Loader."

**Signage** Refers to the total of all signs with writing and symbols denoting directions and destinations within a container terminal or ITF.

**Simulation** A terminal management assistance tool which makes use of a computer model that mimics, in real time, the operations of a terminal. Simulation is used to predict cargo throughput and areas of conflict under differing operation scenarios.

**Solid Train** A train transporting a single commodity from one source to one destination, in which the integrity of the loaded train is maintained; however, unlike unit trains, the empty cars may then be deadheaded separately back to the original or to other sources. Also see Unit Train.

**Spline Car** A lightweight, low-cut multi-platform articulated railcar designed for efficient transfer of intermodal container cargo.

**Spotting** The placement of a railroad car where required, so that it is accessible for loading/unloading.

**Spur** A section of track connected only at one end to a main track, i.e., a stub-ended siding.

**Spreader** A device used for handling (lifting) containers by their corner castings, which usually can be adjusted to handle various sizes of containers.

**Starboard Side to** Refers to a vessel docked with its right side adjacent to the wharf.

**Stevedore** Individual or firm employing longshoremen (or other labor) for the purpose of loading and unloading a vessel.

**Storage Track** A track on which railroad cars are placed when not in service.

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**Port of Long Beach  
Master Plan Update**

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**Straddle Carrier/Strad** A self-propelled, steerable vehicle on wheels, open in the middle, that can straddle a container or container-on-chassis, then lift and move it from one place to another in a container yard. Capable of straddling a single row of containers, stacked two to five containers high. Derived from the method used by old lumber carriers in moving lumber and timber around a lumber yard.

**TEU** Twenty-Foot Equivalent Unit. The common unit used in indicating the capacity of a container vessel or terminal. A 40-foot (FEU) container is equivalent to two TEUs.

**TIR (EIR)** Trailer Inspection (or Interchange) Report. Same as an Equipment Interchange Report, used to document damage and condition of containers and chassis.

**TOFC** Trailer-on-Flatcar. "Piggybacking" highway trailers on specially equipped rail flatcars.

**Tail Track** A stub-end track, usually at the end of a yard, kept clear of standing cars to allow space for rail equipment to switch or to exit from a ladder or body track.

**Throughput** The amount of cargo that reasonably can be expected to be processed, given the physical facilities available, the operating conditions present and the business conditions characteristic of the trade in which the terminal is engaged.

**Toplift** A type of forklift with a spreader device for lifting containers from the top.

**Turnout** A switch and accompanying section of track allowing the diversion of rolling stock from one track to another.

**UTR Parking** An area for parking utility tractors (yard hostlers) which are not in use in the container yard.

**Unit Train** A train transporting a single commodity or type of cargo from one source (shipper) to one destination (consignee). For coal and other bulk cargos, usually the integrity of unit trains is maintained after unloading at the destination, and the empties (still coupled in the same order) are returned for subsequent loading.

**Wash-Down Areas** Areas of a container yard specifically designed with apparatus to wash and clean containers and equipment.

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**Port of Long Beach  
Master Plan Update**

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**Waybill** Document prepared by a transportation line, which shows point of origin, destination, route, consignee, description, etc., of a shipment. Also called a Bill of Lading.

**Wharf** A berthing place for vessels to facilitate direct loading and discharge of cargo.

**Working Track** In an ITF, track used for loading or unloading containers from rail cars.

**Yard Air** Air compressors and distribution system installed in a yard so rail car air brake systems can be charged prior to arrival of motive power. Reduces time required for brake tests and departure of outbound trains.

### **C. AGENCIES/ORGANIZATIONS**

ACOE	-	U.S. Army Corps of Engineers
AQMD	-	Air Quality Management District
ARCO	-	Atlantic Richfield Corporation
BHC	-	Board of Harbor Commissioners
CCC	-	California Coastal Commission
CDFG	-	California Department of Fish and Game
CUT	-	California United Terminals
DOG	-	Department of Oil and Gas
EPA	-	U.S. Environmental Protection Agency
FEMA	-	Federal Emergency Management Agency
ITS	-	International Transportation Services
NAM	-	North American Materials
NFPA	-	National Fire Protection Agency
NMFS	-	National Marine Fisheries Service
NOAA	-	National Oceanographic and Atmospheric Administration
NWS	-	U.S. National Weather Service
PAC	-	Ports Advisory Committee
POLA	-	Port of Los Angeles
POLB	-	Port of Long Beach
RWQCB	-	Regional Water Quality Control Board
SCAG	-	Southern California Association of Governments
SCE	-	Southern California Edison Company
SHPO	-	State Historic Preservation Office
SPRR	-	Southern Pacific Railroad
SWRCB	-	(California) State Water Resources Control Board
USFWS	-	U.S. Fish and Wildlife Service
UPLRC	-	Union Pacific Land Resource Company

#### **D. ABBREVIATIONS**

ADT	-	Average Daily Traffic
BBL	-	Barrel
CAA	-	Clean Air Act
CAAQS	-	California Ambient Air Quality Standards
CE	-	Categorically Exempt
CEQA	-	California Environmental Quality Act
CT	-	Commercial Tourist
CZMA	-	Coastal Zone Management Act
DST	-	Double Stack Train
EIR	-	Environmental Impact Report
EPA	-	Environmental Protection Agency
HDP	-	Harbor Development Permit
LCP	-	Local Coastal Program
MLLW	-	Mean Lower Low Water
MP	-	Port Manufacturing
MRT	-	Metric Revenue Tons
MT	-	Metric Tons
OCS	-	Outer Continental Shelf
OFI	-	Operations, Facilities, and Infrastructure
PD	-	Planned Development
PEIR	-	Program Environmental Impact Report
PMP	-	Port Master Plan
SCAB	-	South Coast Air Basin
SCAQMP	-	South Coast Air Management Plan
TEU	-	Twenty Foot Equivalent Unit
VTIS	-	Vessel Traffic Information System
WIO	-	Working Interest Owners

**E. REFERENCES**

Persons Consulted

Richard J. Jacobsen  
Dennis Sullivan  
John Vickerman,  
David Vandev eer, and  
Jennifer Bartlett

Organization

Jacobsen Pilot Service, Inc.  
Long Beach Department of Oil Properties  
  
Vickerman, Zachary, Miller (VZM)

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## **G. PMP AMENDMENT SUMMARY**

### **Port Master Plan Amendment #7 De Minimis Amendment**

**Certified by California Coastal Commission September 1995**

PMP Amendment #7 did not change land or water uses in the Port. It only allowed for clean dredge material to be placed in a deep water pit in the Navigation Planning District. The pit was approximately 3,000 feet long and 400-900 feet wide. The placement of clean material raised the deep water pit up to design elevations and made the elevation consistent with the Long Beach Main Channel depth of -76 feet. The pit was formed during the dredging of the main channel and the construction of the Pier J expansion (PMP Amendment No. 5)

### **Port Master Plan Amendment #8**

**Certified by California Coastal Commission November 1996**

PMP Amendment #8 established a habitat mitigation credit account, which would allow the Port of Long Beach to offset the impacts on marine habitats resulting from port landfill projects. The mitigation credit account was for the Bolsa Chica Lowlands restoration program on the northern Orange County coast, and was a component of a Memorandum of Agreement (MOA) between the City of Long Beach, the City of Los Angeles, the California Department of Fish and Game, the California Coastal Conservancy, the California Resources Agency, the United States Army Corp of Engineers, the National Marine Fisheries Service, The United States Fish and Wildlife Service, and the Environmental Protection Agency.

PMP Amendment #8 established a process for the use of the mitigation credits, but did not approve any specific port projects or port development. The amendment clearly indicated that any new project or landfill not already included in the Port Master Plan would be subject to the normal PMP amendment procedures along with requiring environmental documentation. In terms of credit, the Port of Long Beach received 227 acres of mitigation credits, which became available with the creation of a project escrow account. Both the Port of Long Beach and the Port of Los Angeles participated and both were required to contribute nearly \$31,000,000 each to the escrow account. Also under the terms of the agreement, the Port of Long Beach would be able to use mitigation credits at a ratio of 1:2 for "inner harbor" landfills and 1:1 for "outer harbor" landfills.

## **Port Master Plan Amendment #9**

### **Certified by California Coastal Commission August 1996**

PMP Amendment #9 was intended to serve three purposes. The primary purpose was to designate new permitted uses within the Harbor Planning District No. 5 – Federal Uses. The second goal of PMP Amendment #9 was to realign the boundaries of the Harbor Planning Districts. And thirdly, the amendment provided for the development of an approximately 3 acre non-residential homeless center within the Harbor District.

The overall objective of this amendment was to allow for Port development on Terminal Island land that had formerly been the Long Beach Naval Complex. As Navy property the land was considered within Planning District 5 – Federal Uses, which allowed for uses related to the shipyard, but did not permit port related activity.

Thus PMP Amendment #9 changed the allowable uses to:

- Primary Port Facilities
- Hazardous Cargo Facilities
- Port Related
- Navigation
- Ancillary Port Facilities
- Federal Uses
- Non-Port Uses for a 3-acre Homeless Service Center
- Oil Production
- Utilities

The amendment also redesignated and reconfigured the Federal Use Harbor Planning District No. 5, changing it to District #4 – Terminal Island Planning District. The realignment absorbed the former District# 2 – the West Harbor Planning District, as well as portions of the Northwest Planning District, and the Middle Harbor Planning District. The revised Harbor District planning map is displayed at the end of this section.

The homeless service center was included in this PMP amendment as a condition of the Federal base closures process, which required consideration of the needs of the homeless in the reuse of military property.

## **Port Master Plan Amendment #10**

### **Certified by the California Coastal Commission July 1997**

PMP Amendment #10 added 40 additional credits to the Port's landfill mitigation credit account that was established in PMP Amendment #8. The additional acres were generated by an amendment to the interagency Memorandum of Agreement (MOA) that expanded the Bolsa Chica restoration program. The credits became available when the Port contributed an additional \$6 million to the restoration account. This amendment did not include any new landfill or Port development.

The amendment also shifted the location of the non-residential homeless service center from the Terminal Island Planning District to the North Harbor Planning District (District #1). The need for the service center resulted from the military base closure process which required consideration of the needs of the homeless. The relocation of the service center site to North Harbor was done to accommodate Port development on Terminal Island and would also allow the service center to better serve its clients by centrally locating the facility near public transportation services.

## **Port Master Plan Amendment #11**

### **Certified by the California Coastal Commission July 1998**

PMP Amendment #11 clarified that clean dredged material could be temporarily stored in a borrow site in the Southwest Harbor Planning District (District #6). The material would be allowed to be stored in an unconfined aquatic environment, and could be done so until needed as fill for some other Port development project. The timing of the dredging of the material and potential reuse of this dredged material necessitated the identification of a temporary storage location. The borrow site that was identified in this amendment, had been used as a source of sediments for construction projects that were completed decades earlier. This amendment dictated that any material would have to be tested prior to being placed in the borrow site, and that environmental documentation and a Harbor Development Permit would be required before the dredging and reuse of the material could occur.

## **Port Master Plan Amendment #12**

### **Certified by the California Coastal Commission December 1998**

The purpose of PMP Amendment #12 was to allow the construction of a 30 acre landfill in Slip 2 at Pier E in the Middle Harbor Planning District (Planning District #5). The proposed landfill was in the inner harbor and therefore required 15 acres of the available Bolsa Chica mitigation credits per PMP Amendments 8 and 10. The landfill was necessary to allow the California United Terminal to expand and be configured to be able to meet their anticipated growth of containerized cargo. The fill and associated reconfiguration allowed cargo to be handled and staged adjacent to the ship berthing area, thereby limiting unnecessary and inefficient cargo moves. Fill material came from other Port projects and regional entities.

## **Port Master Plan Amendment #13**

### **Certified by the California Coastal Commission December 1998**

PMP Amendment #13 was a follow up to PMP Amendment #9 which modified the allowable uses on Terminal Island and incorporated changes resulting from the closure of the former Long Beach Naval Station. PMP Amendment #13 accomplished three objectives:

- Modified the list of anticipated projects in the Master Plan for the Terminal Island Planning District to reflect the uses specified in the Local Redevelopment Authority (LRA) Reuse Plan;
- Transferred permitting authority for the remaining Naval Complex to the Port of Long Beach; and
- Added a 15-acre port use for a police headquarters/training academy to the permitted uses within Planning District #4.

In terms of permitting, following the certification of PMP #9, the California Coastal Commission retained permitting authority for a portion of the Naval Complex until additional environmental documentation was completed and a subsequent PMP Amendment was submitted to the Commission. This amendment, PMP Amendment #13, and the supporting environmental analysis allowed for the remaining permitting authority over the LB Naval Complex to be transferred to the Port of Long Beach.

The Federal Government designated the City of Long Beach to be the LRA for the former Naval complex, and PMP Amendment #13 reflects the anticipated projects within the LRA's plan, and modified the PMP to reflect the anticipated projects in the Terminal Island Planning District. These projects were:

- 327 acre container terminal
- Pier T ship repair facility
- Pier T liquid bulk terminal
- Relocation of lumber/break bulk facilities
- Expansion of recycled steel export terminal
- Police headquarters/Academy

All of the anticipated projects included in the LRA plan were considered allowable uses for the Terminal Island Planning District per the Port Master Plan, with the exception of the Police Headquarters/Academy. Hence this PMP Amendment was also undertaken to allow the 15 acre police facility to be added to the Permitted Uses section.

### **Port Master Plan Amendment #14**

#### **Certified by California Coastal Commission June, 1999**

PMP Amendment #14 was to add two minor landfills to the list of anticipated projects for the Terminal Island Planning District.

The first project was to create a net 1.5 acre landfill along the southern edge of the Cerritos Channel to support new development at Pier S. To accommodate the construction of a new dike on Pier S. 1.5 acres of land was required to be removed and 3 acres was required to be filled to straighten the dike area. This resulted in a net landfill or loss of marine habitat of 1.5 acres. Given this project was an inner harbor project, approximately .75 acres of mitigation credits were required from the Bolsa Chica account.

The second project was a 22 acre landfill on the Navy Mole on Pier T on Terminal Island. The purpose was to widen the mole to allow for the creation of a new rail yard to support a proposed Pier T marine terminal. This landfill resulted in the loss of 22 acres of outer harbor marine habitat and therefore 22 acres of mitigation credit from Bolsa Chica was used to offset the loss.

## **Port Master Plan Amendment #15**

**Certified by California Coastal Commission March, 2001**

The purpose of Port Master Plan Amendment #15 was to allow the construction of a 42 acre landfill that would consolidate and expand portions of Piers J and G in the Southeast Harbor Planning District (Planning District #8). The fill would create a new common berthing area between Piers J and G, and help modernize the facilities by merging a 235 acre terminal complex into a single 315 acre terminal. The 42 acres of fill would be inner harbor fill and thus require 21 of mitigation credit for the wetlands restoration at Bolsa Chica. Fill material would come from other Port projects.

## **Port Master Plan Amendment #16**

**Certified by California Coastal Commission March, 2001**

The purpose of this amendment was to allow for the consolidation, redevelopment, and modernization of the existing Pier D/E/F marine terminals. This would occur through a 45.4 net acre landfill that would combine Piers E and F in the Middle Harbor Planning District (Planning District #5). This project would involve both landfill and land removal to achieve the 45.4 net acres. The project also supplements the previously approved 30 acre landfill on Pier E that was authorized in PMP Amendment #12.

PMP Amendment #16 would occur in 3 phases. The phases are:

Phase I. Removal of 9.9 acres of Pier F, and creation of 22.5 acres of fill in Slip 1, and 7.9 acres of fill adjacent to Pier F in the East Basin.

Phase II. Completion of the Pier F wharf, and redevelopment of Pier F backland area.

Phase III. Construction of a 33.3 acre landfill in the East Basin, removal of 8.4 acres of Pier D land adjacent to Slip 3, and construction of a 950 foot wharf connecting Piers E and F.

Fill material would be obtained from other Port dredging projects. The proposed landfill sites are inner harbor and therefore the 45.4 net acres would require 22.7 acres of landfill mitigation credit from the Bolsa Chica Restoration Project. PMP Amendment #16 would merge a 315 acre marine terminal complex into a single, modern 360 acre marine terminal.

**Port Master Plan Amendment #17  
Minor Amendment**

**Certified by California Coastal Commission August, 2002**

The purpose of PMP Amendment #17 was to allow for the widening of the Cerritos Channel to facilitate the development and safe operation of a modern container terminal on Pier S in the Terminal Island Planning District (Harbor Planning District #4). Without the widening, the Cerritos Channel is too narrow to permit the largest planned container vessels to navigate the channel while a vessel is at berth at a future Pier S wharf simultaneously with a vessel berthing at the existing Pier A wharf on the north side of the Cerritos Channel.

The proposed project would remove up to 108 feet of existing Pier S land along approximately 3,500 feet of shoreline. The widening of Cerritos Channel would create about 9.2 acres of surface water which could be used to mitigate future port fill projects.

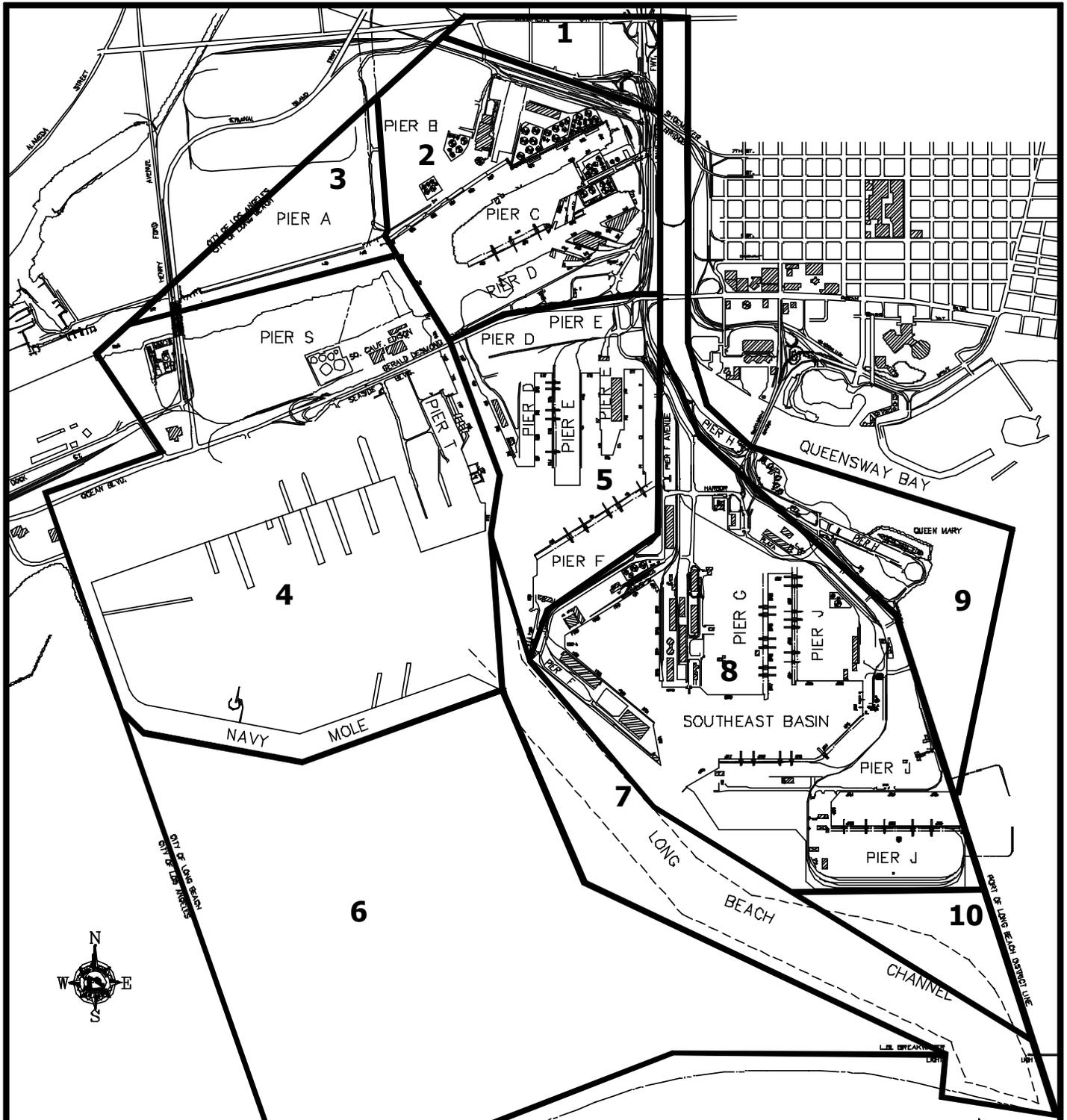
Additionally, this project is consistent with the improvements that were approved in PMP Amendment #14, but eliminates the need to undertake the landfill that was a component of PMP Amendment #14.

**Port Master Plan Amendment #19**

**Certified by California Coastal Commission April, 2003**

The purpose of PMP Amendment #19 was to allow for the widening of an approximately 1,700 foot long section of the former Navy Mole to accommodate the realignment of a portion of an existing roadway in the Port's Terminal Island Planning District (Planning District #4). The road realignment was needed in order to complete and maximize rail facilities that were approved in previous PMP Amendments, #13 and 14.

For the road realignment to occur, there needed to be approximately 2 acres of fill. The fill would be offset by the use of two mitigation credits from the Bolsa Chica Restoration Project, given that the fill area was considered in the outer harbor. Salvaged rock and concrete materials were used for the fill.



- 1 North Harbor
- 2 Northeast Harbor
- 3 Northwest Harbor
- 4 Terminal Island
- 5 Middle Harbor
- 6 Southwest Harbor
- 7 Navigation Area
- 8 Southeast Harbor
- 9 Queensway Bay
- 10 Outer Harbor

**LONG BEACH HARBOR  
PLANNING DISTRICTS**