DRAFT
ENVIRONMENTAL IMPACT REPORT

HAN-LI INTERNATIONAL MARINE TERMINAL

C.U.P. Application No. U-88-36

CITY OF PITTSBURG, CALIFORNIA

STATE CLEARINGHOUSE #89082209

DUNCAN & JONES
Urban & Environmental Planning Consultants

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April 20, 1990

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This environmental impact report was prepared by Duncan & Jones, Berkeley, California, and its affiliate consultants, to conform to the California Environmental Quality Act of 1970, as amended, and to the State Guidelines adopted for its implementation. The Consultants have devoted their best efforts to preparing a comprehensive information document that identifies and evaluates the possible environmental impacts of the proposed Project and the Project alternatives, and the possible measures which could be taken to mitigate adverse impacts.

This report is intended to be a full disclosure document and is provided solely to assist in the evaluation of the proposed Project. The Consultant shall not be liable for costs or damages of any client or third parties caused by use of this document for any other purposes, for such costs or damages of any client or third parties caused by delay or termination of any project due to judicial or administrative action, whether or not such action is based on the form or content of this report or any portion thereof prepared by the Consultants.

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EXECUTIVE SUMMARY

This Environmental Impact Report (EIR) evaluates the proposal by Han-Li International Group to construct a marine/rail/truck dry-bulk storage and transfer facility on approximately 15 acres of land situated between the New York Slough of the San Joaquin River and East Third Street approximately 750 feet east of Harbor Street. The proposed Project would, at full capacity, provide for the storage and/or transfer of up to a total of 2.235 million tons per year of dry-bulk materials, which include cement (1 million tons), bauxite, limestone and gypsum (0.42 million tons), aggregate (0.24 million tons), grain (0.25 million tons), granular (prilled) sulphur, lumber and scrap metal (together comprising 0.325 million tons). The Project requires the issuance of a Conditional Use Permit from the City of Pittsburg. The applicants are required to participate in an Assessment District for the provision of road, sewer, water, power and other improvements required both for Project operation and for use by other industrial developments in the Project vicinity, including the previously-approved GWF cogeneration power plant, immediately adjacent to the Project site. This EIR evaluates the facility and does not address the Assessment District itself.

The California Environmental Quality Act (CEQA) of 1970 as amended requires EIRs to be prepared for all projects which may have a significant impact on the environment. The following general topic areas have been identified as subjects of principal concern in this EIR:

- Planning and Policy Context
- Traffic and Circulation
- Water Quality
- Air Quality
- Noise
- Visual Considerations
- Biotic Resources

For each of these impact categories, this Executive Summary outlines the environmental impacts that could result from approval and implementation of the proposed Project, as well as measures that have been identified to mitigate or eliminate those impacts. Each impact is discussed in detail in the body of the EIR text.

Topic	Impacts	Mitigation Measures
Planning and Policy Context (Chapter III)	The Project is consistent with the General Plan land use designation for industrial uses on the site. However, the Project will generate truck traffic on existing truck routes in significantly increased volumes, which conflicts with General Plan objectives of directing truck traffic away from residential neighborhoods.	The City should prepare a Specific Plan for the Northeast River Area to address, among other issues, an alternate truck bypass route and appropriate open space and circulation patterns consistent with complete Project development and buildout, and General Plan goals for the area. The Specific Plan should utilize the established assessment district in order to provide for the financing and construction of a truck route which directs Project traffic away from residential neighborhoods, to be completed before truck volumes are allowed to exceed 80 to 100 truck trips per day.
	Implementation of the Project as proposed requires the closure of Third Street adjacent to the Project site, a street which is presently designated schematically as a bikeway, pedestrian path and collector street in the General Plan Open Space and Circulation Element Policies.	
	The Project creates a limited number of jobs in proportion to the size of the Project site; its location in an industrial zone district is underutilized for preferred and potential labor-intensive industry. However, secondary and tertiary employment (for truck, train, service and Project client crews) will offset to an undetermined extent the non-labor-intensive character of the Project.	The City should provide incentives for the applicant to hire locally by seeking to incorporate the Project site into the City's Enterprise Zone.

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES continued:

Topic	Impacts	Mitigation Measures
Traffic and Circulation (Chapter IV)	At full buildout and operation, the Han-Li Terminal will generate a maximum of 542 truck trips (271 total round trips) per day at a peak level. Traffic volumes on Harbor Street would be increased by 20 percent and truck trips would be roughly doubled (which is within the roadway capacity). Significant increases on California Avenue and the SR 4 freeway ramps serving Railroad Avenue would also result. The Project will result in increased congestion (together with associated noise and air quality impacts discussed below) and traffic safety hazards, with probable negative effects on some residential neighborhoods along Harbor Street and California Avenue. Peak hour traffic is projected to be 79 one-way vehicle trips per hour, and during the typical morning Pittsburg commute period 65 trips per hour are projected. During the average evening commute period, approximately 45 vehicle trips will be generated.	The City should implement a program to construct a truck bypass route, connecting Third Street at the Project site with the Pittsburg-Antioch Highway east of the affected residential neighborhoods. The applicants should participate in an extension of the previously required assessment district to assist in financing the bypass route. Prior to construction of the new truck bypass route, the general mitigation measures could include 1) spreading the truck traffic among several routes, including Harbor Street and Tenth Street/Railroad Avenue, 2) scheduling the truck traffic to avoid the weekday commute hours, and to avoid the congested freeway ramp intersections, 3) modifying the operation of the Project to decrease the number of truck trips that would be generated.
	The Project will add approximately 160 truck trips per day to each of two freeway ramps at Railroad Avenue and State Highway 4. This will significantly increase the congestion that already exists on the freeway entry and exit ramps, and on the route itself, particularly between Pittsburg and the Willow Pass grade.	To mitigate this impact on Highway 4 traffic at peak hours, operation of the Project should be managed to decrease or limit truck trips to and from the terminal during the peak hours, including both the AM and PM peak hours. Controls on the scheduling of Project truck traffic should continue after completion of the alternative truck bypass route, and remain in place until freeway ramps and general widening of Highway 4 is

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES continued:

Topic	Impacts	Mitigation Measures
Traffic and Circulation (continued)		completed, after which the controls may be reevaluated. The potential alternate truck route will result in significant congestion at the Highway 4 freeway ramps at Loveridge Road and should eliminate congestion impacts of the Project at the Railroad Avenue freeway ramps. Planned improvements to Highway 4 in five to ten years include widening the freeway ramps at both Railroad Avenue and Loveridge Road, possibly tied to an extension of the Bay Area Rapid Transit (BART) line. These improvements may alleviate congestion impacts of the Project, depending on cumulative growth in Pittsburg and surrounding communities, and dependent on other more speculative factors such as the regional effectiveness of Transportation Control Measures (TCMs, such as ridesharing and public transit) and social and technological changes.
	The consistently large volume of heavy truck traffic generated by the Project is likely to cause significant wear and tear to the pavement on the existing truck routes.	The applicant should be required to contribute to the cost of upgrading and improving the pavement sections on the roads impacted by truck traffic, when the specific truck routes and distribution of trucks on those routes is determined. The applicant should participate in the cost of a study to determine the existing conditions and types of reconstruction required on those routes. The specific improvements and fiscal re-

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES continued:

Topic	Impacts	Mitigation Measures
Traffic and Circulation (continued)		sponsibility of the Project applicant would be determined on the basis of the results of such a study.
	The truck traffic generated by the Project will exacerbate the problems created by wide-turning trucks with respect to the corner radii at several intersections, particularly at Harbor Street and California Avenue and at California Avenue and Railroad Avenue.	The Project applicant should be required to contribute to the costs of improving the curb radii in those roadway sections where these pose a problem to turning trucks, such as at Harbor Street and at California Avenue.
Water Quality (Chapter V)	The open storage of gypsum and bauxite could cause degradation of the water quality of runoff from the site.	The Project applicants should install a detention basin to provide for settling and pH control of runoff, and to provide for emergency containment of pollutant spills.
	The handling and storage of cement and sulphur on the site could potentially impact water quality. However, the Project will minimize the exposure of cement and sulphur to the environment by: (1) use of sealed storage domes; (2) transfer of cement to ships by a pneumatic vacuum system; and (3) transfer of "prilled" sulphur to ships by enclosed conveyor system.	City Safety and Building engineers should inspect and monitor these structures and systems to verify their effectiveness. The installation of the detention basis (see above) will provide additional protection against water contamination in the event of an on-site spillage of cement or sulphur.
Air Quality (Chapter VI)	Project construction would result in temporary deterioration of air quality, primarily from fugitive dust, resulting in locally elevated levels of suspended particulates. There are	Construction contracts should require equipment and manpower to be available at all times for watering exposed soil surfaces. Materials subject to wind dispersion should be

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES continued:

Topic	Impacts	Mitigation Measures
Air Quality (continued)	no sensitive land uses downwind of the Project site, to the east. The proposed Project would release particulate emissions from a variety of sources and activities on the site. The annual emission of particulates from the site with proposed air pollution controls would be over 37,600 pounds per year. The peak daily emission of particulates would be 243 pounds per day. The Project incorporates Best Available Control Technology (BACT) for most aspects of Project operation, as described below. The pneumatic unloading, loading and storage system for cement would be equipped with fabric filters with an effectiveness of over 99.9 percent. Fabric filters would also be provided for the grain unloading hopper. The conveyor system for grain and prilled sulphur is enclosed to reduce emissions. The sulphur prilling operation would take place in an enclosure to reduce the possibility of emissions to the atmosphere. The path for trucks loading cement and sulphur would be paved. Other areas of the site would be treated with chemical stabilizers, and a truck grizzley would be provided to remove dirt or mud from truck tires before they leave the site.	covered as necessary, and street and site sweepers should be used on a daily basis.

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES continued:

Topic	Impacts	Mitigation Measures
Air Quality (continued)	Emissions from the unloading and loading of sand, gravel, bauxite, gypsum and limestone utilizes water sprays at entry points and transfer points. A permanent spray system would water storage piles to reduce wind-blown particulates and wet the materials prior to removal from storage. The use of water sprays for control of particulates during loading and unloading of these materials would not be considered as BACT.	The use of water sprays for control of particulates during loading and unloading of sand, gravel, bauxite, gypsum and limestone requires negotiations between the applicant and the Bay Area Air Quality Management District (BAAQMD) to identify and incorporate appropriate BACT for the Project and into the BAAQMD permit before the City may issue the Conditional Use Permit.
	Regional emissions from transportation-related and direct emissions from the site would exceed Bay Area Air Quality Management District thresholds of significance for hydrocarbons, oxides of nitrogen and particulate matter.	There are no mitigation measures considered available or practical which would reduce transportation-related emissions having a regional impact.
Noise Considerations (Chapter VII)	Noise from on-site activities such as conveyors, front-end loaders, railroad car and truck loading is not expected to exceed the City's noise standard at the nearest residential areas. However, some on-site noise may periodically be audible at these residences.	If significant noise complaints are received, mitigation may be necessary. Potential mitigation measures include barriers or berms around the truck and train loading areas, and fitting the "Docksider" with additional noise controls.
	Noise from Project-generated trucks is expected to generate noise levels at residential areas along Harbor Street in excess of the City's "normally acceptable" standard for residential land use. However, existing noise levels at these residential areas are already in excess of the	The possibility of using noise barriers to shield residential areas along Harbor Street and California Avenue should be investigated. Barriers would not be effective where driveway access is required from the truck routes.

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES continued:

Topic	Impacts	Mitigation Measures
Noise Considerations (continued)	City's standards, and Project-generated trucks would not significantly increase existing noise levels.	
	The revised truck route alternative has the potential to generate significant adverse noise impacts at residential areas presently exposed to "normally acceptable" noise levels.	An alternative truck route requires a full noise impact analysis. Implementation of this alternative would require significant setbacks or noise barriers to maintain normally acceptable levels in residential areas.
Visual Considerations (Chapter VIII)	Implementation of the Project will result in the construction of at least three massive dome structures, visible from various locations in the City of Pittsburg. The visual character of the proposed Project improvements will be industrial in appearance (e.g. mechanical equipment, etc.), with little appeal to aesthetic interests. During ship and periodic rail loading and unloading operations, high-intensity flood lights may produce glare during nighttime hours.	The distance of the site from residential neighborhoods and the downtown area, and existing structures in the area will prevent the domes from appearing overwhelming. Landscaping along the perimeters of the Project site will soften the appearance. Lighting should be designed to minimize light spillage beyond the immediate vicinity, where there are no residential uses sensitive to the use of floodlights.
Biotic Considerations (Chapter IX)	Development of the Project as proposed would result in removal of ruderal, grassland and sparse riparian vegetation.	The applicant should be required to provide landscaping with native plant species along New York Slough, in intermittent planting areas along the shoreline.
	Wildlife species common to urban areas would be eliminated or temporarily displaced from the site.	No mitigation required.

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES continued:

Topic	Impacts	Mitigation Measures
Biotic Considerations (continued)	No impact on special-status taxa are anticipated.	No mitigation required.
	Proposed dredging along New York Slough would temporarily disturb the aquatic environment.	Dredging should be performed at times other than peak runs of anadromous fishes.
	Wetland habitat would be modified by channel bank improvements and bottom dredging.	Coordinate proposed modifications with Corps and Fish and Game, providing mitigation as required.

Figure S-1

SUMMARY OVERVIEW OF EVALUATION OF IMPACTS AND MITIGATION MEASURES: PROJECT AND ALTERNATIVES
Han-Li International Marine Terminal EIR
City of Pittsburg, California

	IMPACTS					MITIGATION MEASURES		
Impact Category	Project	Alt A	Alt B	Alt C	Alt D	Effectiveness	Practicality	Implementors
Planning and Policy Context	S	I	S	I	*	O	++	City
Traffic and Circulation	S	I	S	S	*	O	+/-	App./City/ Caltrans
Water Quality	S	I	S	S	*	O	+	App./City/ SFBRWQCB/CE
Air Quality	S	?	S	S	*	X	+/-	App./BAAQMD
Noise Considerations	I	?	I	S	*	O	+/-	City/App.
Visual Considerations	I	I	I	I	*	n.a.	+	App.
Biotic Resources	I	I	I	I	*	n.a.	++	App./CE/CDFG

S = Significant impact
I = Insignificant impact
O = Mitigation would reduce impact to insignificant level
X = Mitigation would not reduce impact to insignificant level
***** = Not specifically determined
? = Unknown
n.a. = not applicable

Implementors: **App.** = Applicant
CDFG = California Department of Fish & Game
SFBRWQCB = San Francisco Bay Regional Water Quality Control Board
Caltrans = California Department of Transportation
CE = Corps of Engineers
BAAQMD = Bay Area Air Quality Management District

Practicality Ratings: ++ Very High; + High; - Low; -- Very Low; +/- Mixed High/Low

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I. INTRODUCTION

This report, together with its appendices, constitutes the Draft Environmental Impact Report (EIR) on the request submitted to the City of Pittsburg for a Conditional Use Permit to construct an international dry bulk marine/truck/rail transfer and storage facility (C.U.P. No. U-88-36) on property between Third Street and the New York Slough. The applicants are Han-Li International Group and its subsidiary Han-Li Pittsburg Terminal Operations.

In addition, in order to identify the comprehensive impacts of the Project, this EIR examines the cumulative effects of the transfer facility stemming from the increment of industrial activity that the facility would produce in the surrounding industrial district.

A. PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act of 1970 as amended (CEQA), requires EIRs to be prepared for all projects which may have a significant impact on the environment.

An EIR is an informational document, the purpose of which, according to the State Guidelines, is "...to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which such significant effects can be mitigated or avoided." The information contained in this report is intended to be objective and impartial, so as to permit the reader to arrive at an independent judgment as to the probable character and significance of the impacts resulting from the transfer and storage facility.

The primary purpose of this EIR is to address the degree of the proposed changes in use of the site, as represented by the applications for Conditional Use Permit No. U-88-36. The analysis of the proposed uses of the Project site provides only a generalized indication of the potential nature and scale of impacts, and

addresses possible impacts related to building layout and design only in its preliminary format. Detailed design evaluation must await submission by the applicants of formal development plans, engineering drawings, construction schedules, architectural details, and other specifics, which may or may not coincide in every instance with the proposals analyzed in this report. At the time such materials become available, it will be necessary to determine the extent to which they differ from the assumptions used in the EIR, and the apparent significance of such deviations, as a basis for establishing the validity of the EIR evaluations, and the necessity for any revised or supplemental assessments.

B. NATURE AND CONTENT OF THE EIR

The EIR evaluates the impacts of the proposed development of the site as identified in the Initial Study that is on file with the City of Pittsburg Planning Department. The impact issues of principal concern identified by the City of Pittsburg as the focus of the EIR include the following: impacts on traffic and circulation, surface water quality, air quality, noise, visual impacts, and light and glare. Each topic area of concern is addressed in turn in the following chapters.

A description of the proposed Project and the Project area is presented in **Chapter II**. In **Chapter III**, the planning and policy context of the applicant's proposal is discussed and evaluated in terms of its relationship to the overall General Plan, zoning and development patterns and policies in the City. The Traffic Impact Study for the Project is incorporated into this EIR in **Chapter IV**, in which circulation conditions and impacts are analyzed. The existing water quality and potential Project impacts and mitigation measures regarding New York Slough are addressed in **Chapter V**. The setting, probable Project impacts and the mitigation measures relating to other issues, including air quality, noise, visual characteristics and biotic resources are presented in **Chapters VI, VII, VIII and IX** respectively. Within each Chapter

in turn, the character of existing conditions is described (under the sub-heading "Setting"), then the probable effects of the Plan are discussed ("Impacts"), and finally the corrective actions applicable to these impacts are identified ("Mitigation Measures").

Chapter IX addresses the overall cumulative effects of the Project, in terms of unavoidable impacts and irreversible changes, short-term versus long-term tradeoffs, growth inducement and cumulative impacts. **Chapter X** examines alternatives to the Plan, and compares the relative scale of their impacts. The alternatives represent possible development options that can serve as representative examples. The primary purpose in defining and evaluating alternatives is to enable their relative effects to be identified and assessed, and thereby to provide a comparative yardstick for measuring the character and weight of factors involved in any consideration of trade-offs between mixtures of negative and positive attributes.

Chapter XI lists the persons involved in the preparation of this report, the organizations and individuals contacted, and the reference materials utilized. Every effort has been made to ensure the utility of this EIR as a document that can be effective in assisting the decision-making process. To this end, the report has been made as concise and as readable as possible by the use of references to figures and statistical tables included in the text or in the appendices, to sources of verbal information, and to bibliographic references. Parenthetical references are made in the text to individuals who have provided information in telephone or other conversations. The numbers assigned in the bibliography to each report are used as the mode of reference throughout the text of the report, rather than by means of footnotes. These references are shown in parentheses, for example: (Ref. 3) or (Ref. 4, page 100). Reference materials used in this report are incorporated into the EIR by reference. Every effort possible will be made by the City of Pittsburg to make the reference materials available to the reader.

The Appendices include the Notice of Preparation (issued 8/18/89) and Environmental Checklist; descriptive materials submitted by the applicant; supporting technical materials associated with the preparation of the traffic and circulation section of this report; technical materials used in evaluating the sediment samples discussed in the water quality section; the Caline 3 Model assumptions for the Air Quality section of the EIR; and a description of noise measurement techniques.

C. EIR REVIEW PROCESS

This EIR addresses the requested Conditional Use Permit No. U-88-36. The EIR is to be completed and certified prior to the first discretionary approval action on the Project, in accordance with State law.

If subsequent, more detailed and refined site development plans deviate substantially in intensity, type of use, or physical configuration from the schematic Site Plan diagram or other information used as the basis for evaluation in this EIR, it may be necessary to evaluate the extent to which these modifications change the character or significance of the impacts identified in this report, and to document these changes in a supplement or addendum to this EIR.

The Draft EIR will be the subject of a review period, as required, during which individuals, interested organizations and agencies can offer their comments on the adequacy of its evaluation of the impacts of the Project and the alternatives considered.

The comments and questions on the Draft EIR received during this period will be compiled in a supplement to this report, together with responses to the comments, prepared by the Consultants. The City of Pittsburg Planning Commission will in turn review the Response Document and the Draft EIR, together comprising the Final EIR, and verify that it provides a full and adequate appraisal of the Project, its alternatives and their effects.

Following certification of the EIR by the Planning Commission, the Commission will then be in a position to determine whether the Project should be approved as submitted, be subject to revision, or be rejected, based upon information presented on the Project, its relationship to the City's policies, goals and regulations, its impacts and probable consequences, and the possible alternatives or mitigation measures available.

D. MITIGATION MONITORING AND REPORTING PROGRAM

In accordance with recent State legislation (AB 3180), a monitoring and reporting program must be established for the Project to ensure that in its implementation, it complies with mitigation measures incorporated as conditions of approval for the purpose of reducing or avoiding its anticipated significant environmental impacts. The legislation, adopted as Section 21081.6 of the California Public Resources Code, states that "the public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment." The program is to be adopted at the time that the agency (in this case, the City of Pittsburg) makes findings for Project approval.

The mitigation monitoring and reporting program would include a Project description, list of required mitigation measures, program schedule, delegation of responsibilities and authority in the monitoring process, and procedures for monitoring, reporting, enforcement, and handling of disputes, appeals, and modifications. The program would be adopted as a condition of approval for the Project. Monitoring and reporting during Project development and construction would be conducted by the City of Pittsburg, the Project applicants, and other public agencies affected by the Project. Certain aspects of the Project will require continuing monitoring (generally by the City staff) and reporting (generally by Project operators) throughout the life of the Pro-

ject. The program may be refined as necessary over time, to the extent required to mitigate or avoid significant effects on the environment.

This Draft EIR identifies measures which appear to be available for and effective in mitigating the Project's significant environmental effects, many, if not all of which will be incorporated into the mitigation monitoring and reporting program. The mitigation measures are subject to change based on comments received on the Draft EIR during the public review period. For this reason, establishing a mitigation monitoring and reporting program for the Project is not appropriate at this stage in the public review process. The monitoring and reporting program, developed in part in response to the public review period, will be presented after publication and consideration of the Final EIR, at the time that the Planning Commission takes action on the proposed Project.

II. DESCRIPTION OF THE PROJECT

A. INTRODUCTION

The Draft Environmental Impact Report evaluates the proposed Project to construct an international dry bulk marine transfer and storage terminal on approximately 15 acres along the Pittsburg shoreline of the New York Slough.

The facility will provide a location for storage structures and equipment, and will utilize systems and equipment for transferring materials among ships, barges, trains and trucks. Materials to be handled include cement, raw ores, aggregate, grain, sulphur and lumber, among others.

The Project is the proposal of the Han-Li International Group, which requires a conditional use permit (U-88-36) from the City of Pittsburg for both project development and operation. Design review approval is also required from the Planning Commission for the Project's site plan, building design and landscape improvements. A permit for Authority to Construct and Operate Industrial Sources from the Bay Area Air Quality Management District (BAAQMD) is required, as well as permits and certification from the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) and the U.S. Army Corps of Engineers for the dredging of the site waterfront area. The State Department of Fish and Game will require a Streambed Alteration Agreement for Project approval. A permit from the State Department of Agriculture to handle grain will also be required. The Planning Division of the Pittsburg Community Development Department has made the determination that potentially detrimental impacts on traffic circulation, water quality, air quality, noise, and visual character could result from the full development of the Project. Nearby residents and downtown Pittsburg interests have expressed concern for previously proposed industrial development projects in the area, specifically relating to noise, dust and visual impacts associated with a proposed limestone processing facility, and the

approved GWF co-generation plant (Ref. personal communication with Randy Jerome, City of Pittsburg).

B. LOCATION AND ENVIRONS OF THE PROJECT SITE

The site of the proposed marine terminal is located in the northeastern area of the San Francisco bay region, as shown in Figure 1. The site is located in the northeast corner of the Pittsburg city limits area, and in the western area of a very large basic industry district (which includes POSCO, Dow Chemical and other major industrial facilities), as shown in Figure 2. The local setting of the Project and several of the neighboring property owners are illustrated in Figure 3. The main southern boundary of the Project site is formed by a private, unpaved extension of Third Street. One segment of the site comprises a 300-foot square area (2.02 acres) on the south side of the Third Street extension, which is bordered on the west by a truck and heavy equipment yard. Directly west of the Project site is a 2½-acre material storage yard which is presently operating at a very limited level. A raw material (petroleum coke, primarily) storage, transfer and processing operation (Diablo Services), which includes docking facilities, is located to the west of this Project site. A largely undeveloped industrial area (including liquid waste basins) is located to the south (USS/POSCO property). A waste treatment process, called bio-remediation, is currently in use in this area in which organisms digest oil and grease and produce carbon monoxide. This treatment is presently expected to continue for several more months (Ref. personal communication with Terry Gleason, POSCO Engineering). On the east side of the Project site a co-generation power plant (GWF) is currently in the early stages of construction, and to the east of that site a PG&E substation and additional storage areas of raw materials, including petroleum products are located. A limited use marine transfer facility serving the neighboring steel and chemical industry is located further to the east.

The northern edge of the Project site is formed by the San Joaquin River (New York Slough), on the other side of which lies

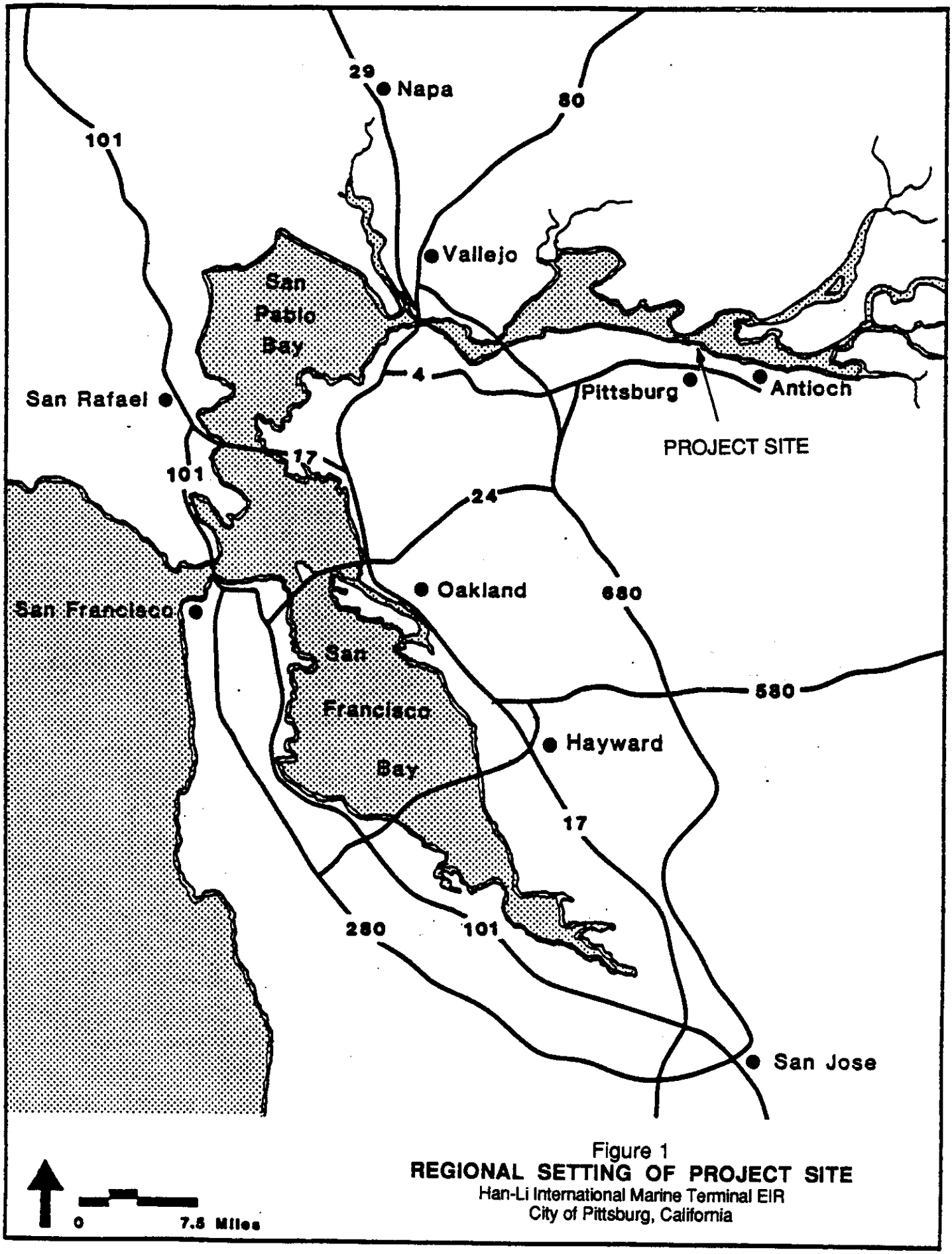


Figure 1
REGIONAL SETTING OF PROJECT SITE
Han-Li International Marine Terminal EIR
City of Pittsburg, California

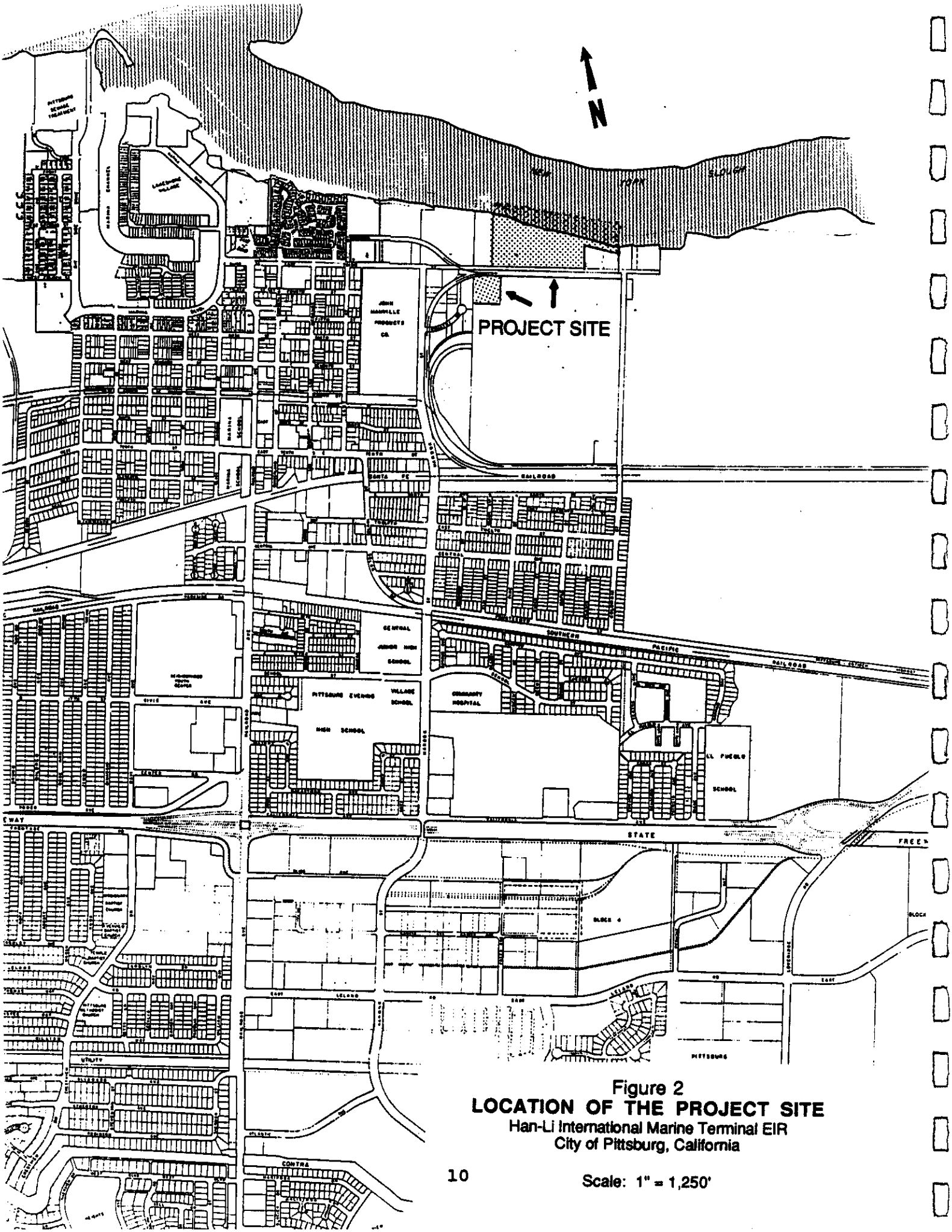


Figure 2
LOCATION OF THE PROJECT SITE
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Scale: 1" = 1,250'

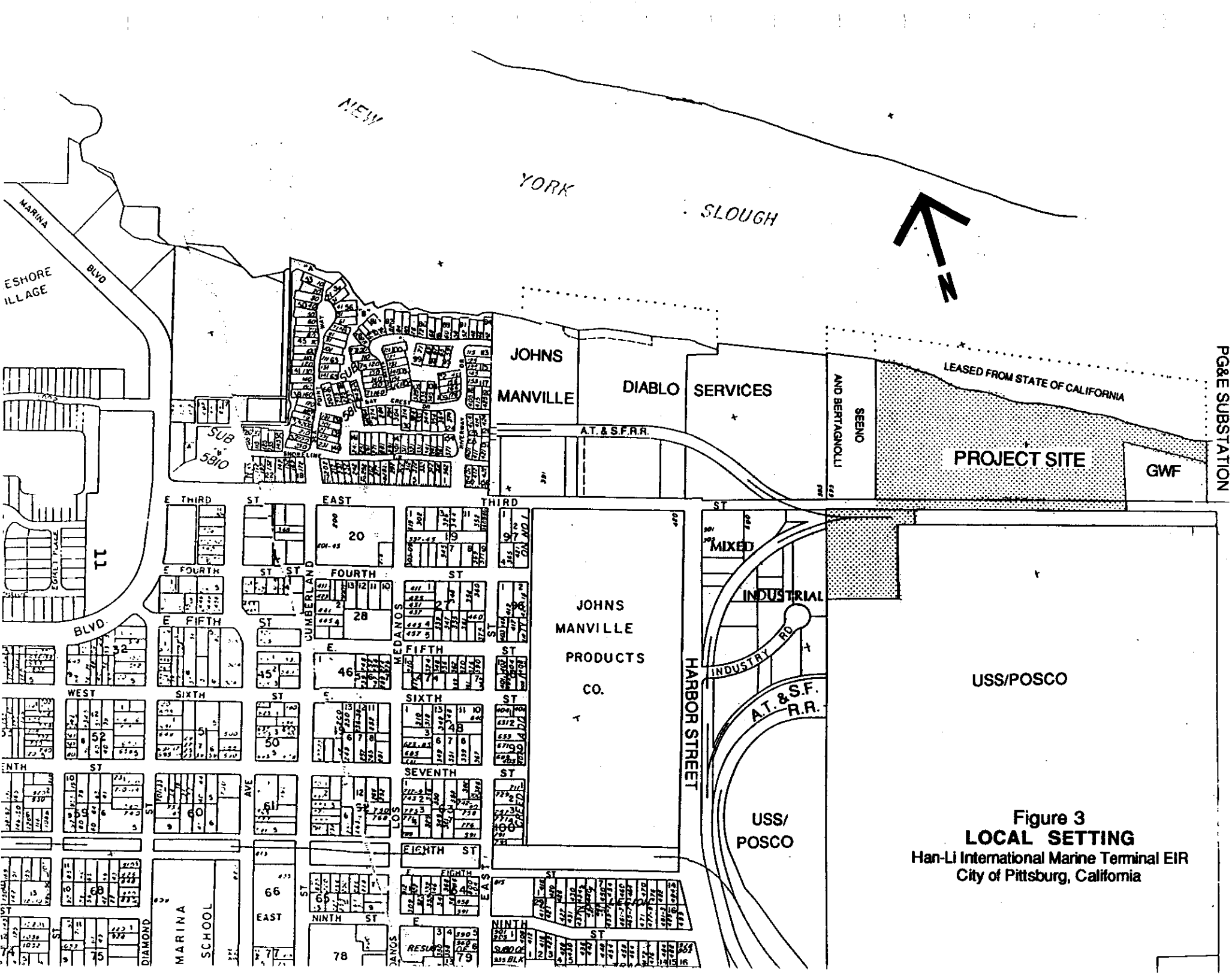


Figure 3
LOCAL SETTING
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Brown's Island, a natural preserve area within the Pittsburg City limits, most of which is owned and managed by the East Bay Regional Park District. The New York Slough is approximately 700 feet wide at this location. The nearest residential area is roughly 1,400 feet to the southwest, with another such area 1,500 feet to the west.

Access to the Project site by road is presently provided from Third Street, which ends as a public street at the edge of the Project site. Third Street serves as an industrial cul-de-sac from Harbor Street, and is presently characterized by potholes and general deterioration. The underpass of Harbor Sreet at 14th Street is presently being upgraded to provide a continuous four-lane arterial route connecting to State Highway 4, the regional freeway route. Harbor Street, however, does not connect directly to Highway 4, and trucks must use Railroad Avenue, California Avenue, or Loveridge Road, for example, to gain freeway access. Railroad tracks of the Atchinson Topeka and Santa Fe line run to the Third Avenue site entry. Barges and ocean-going ships presently use the New York Slough to load and unload materials for the steel and chemical plants in the vicinity on an infrequent basis.

C. THE PROJECT SITE

The site consists of 15.58 acres of open, level land, which presently serves as storage for gravel, aggregate fill, and other materials in relatively minor quantities. Included in the site is a 2.02-acre area south of Third Street, which is not proposed for development at the present. Use of this southwestern portion may be subject to requirements for a new Conditional Use Permit. A large accumulation of soil dominates the center of the site, with dimensions of about 200 feet by 20 feet by 8 feet high. This material is from the excavation for the neighboring cogeneration plant construction, and will be removed as construction on that project proceeds. Most of the land has been compacted by vehicles, and approximately one acre is fenced off and in active use

as a parking lot for the use of steel plant employees. Two large ocean-going ships are presently moored at the site but have no relationship to the loading or unloading of materials of the kind proposed for this site. A few pieces of equipment, such as a large hopper for loading a conveyor belt, are on the site. Debris, trash and waste are scattered in several areas of the site. A small office building is situated at the westernmost edge of the site, with broken windows but in otherwise serviceable condition. A sidewalk, partially buried, runs along the south side of the Third Street extension.

The elevation of the property ranges between seven and nine feet above sea level, except for the piles of material, which presently rise to about 30 feet above sea level. By comparison, the ships alongside the site have upper decks at about 60 feet above the water and superstructures as much as 100 feet high. Piles of petroleum coke in a property to the west rise to around 50 feet in height. Drainage of the site is primarily directly north to the New York Slough, with a tendency for the eastern one-fourth of the property to drain towards the eastern boundary.

Over the majority of the site there is very little vegetation, with the exception of a 10- to 25-foot wide strip along the western two-thirds of the site. This consists of low shrubs, not exceeding eight feet in height. This area has apparently been previously used only marginally for mooring ships or boats, and is the only area which can be considered to be in a natural state. Dredging has been carried out historically in New York Slough along the shoreline of the Project site, so as to extend the 'natural' depth of the water to about 33 feet.

The present appearance of the Project site is generally poor, due to the debris, scattered equipment, deteriorated structure, and lack of activity. It is visible from the public termination of Third Street, but is hidden from view at the intersection of Third and Harbor Streets by intervening buildings that are up to 25 feet high. The most likely public view of the site would be from boats in New York Slough.

D. DESCRIPTION OF THE PROJECT

The facility will handle about ten different types of dry bulk materials, requiring different means of movement and storage. The primary types of handling systems proposed include enclosed domes, open storage areas (about five acres), and direct shipment. Among materials arriving by ship for storage and handling will be cement, bauxite, limestone, gypsum, sand, gravel and lumber, which will be transported out by rail and truck.

Cement will be stored in the domes and moved by pneumatic vacuum hoses in order to minimize releasing dust to the outside environment. Cement will arrive by ship and will be transported from the site in sealed hopper-type trailer trucks. Sulphur will be brought to the site in sealed trucks in a molten, semi-liquid form, and will be water-cooled to a granular state for storage, and subsequent export by ship. Bauxite, limestone and gypsum will arrive by ship for distribution by both trucks and trains. Scrap metal from the neighboring steel mill will be delivered to the site for direct loading from trucks to barges. Grain, including wheat, rice and barley, will arrive by train to be directly loaded by conveyor belts to ships. Lumber will arrive on barges and be stored on the site, before being loaded out by both trucks and trains. Up to three trains per day will be loaded on the site.

The proposed site plan is shown in **Figure 4**. The elevations of the various domes, gantries, support rails, conveyor belts and silos are illustrated in **Figure 5**, along with some nearby industrial structures. **Figures 6 and 7** provide an outline of materials, transportation and handling systems, and each material operation is discussed in the following sections. The details of the phasing of the Project leading to its full implementation over a period of years as proposed by the Applicants is presented in Appendix B (see page B-13).

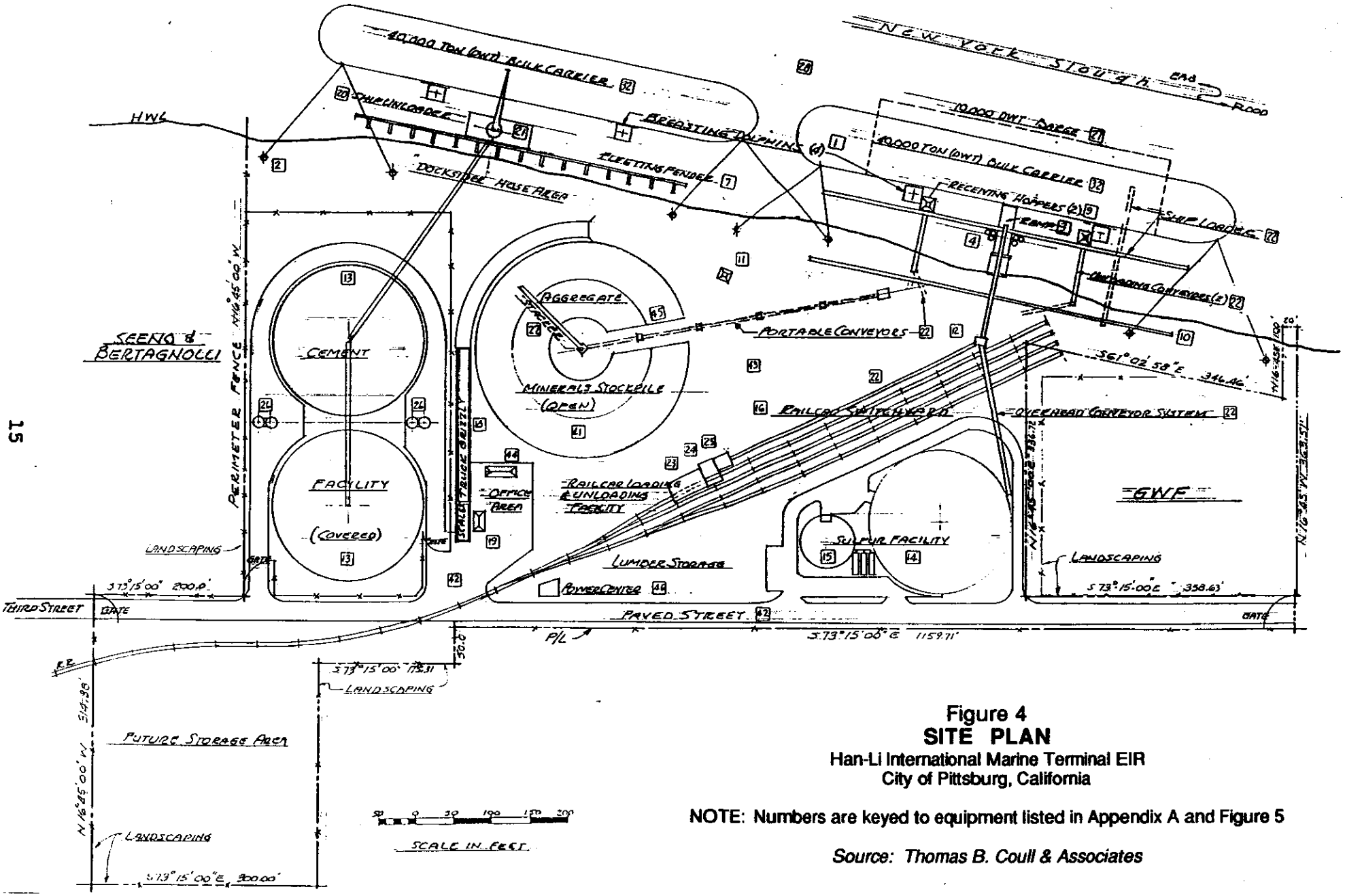


Figure 4
SITE PLAN
Han-Li International Marine Terminal EIR
City of Pittsburg, California

NOTE: Numbers are keyed to equipment listed in Appendix A and Figure 5

Source: Thomas B. Coull & Associates

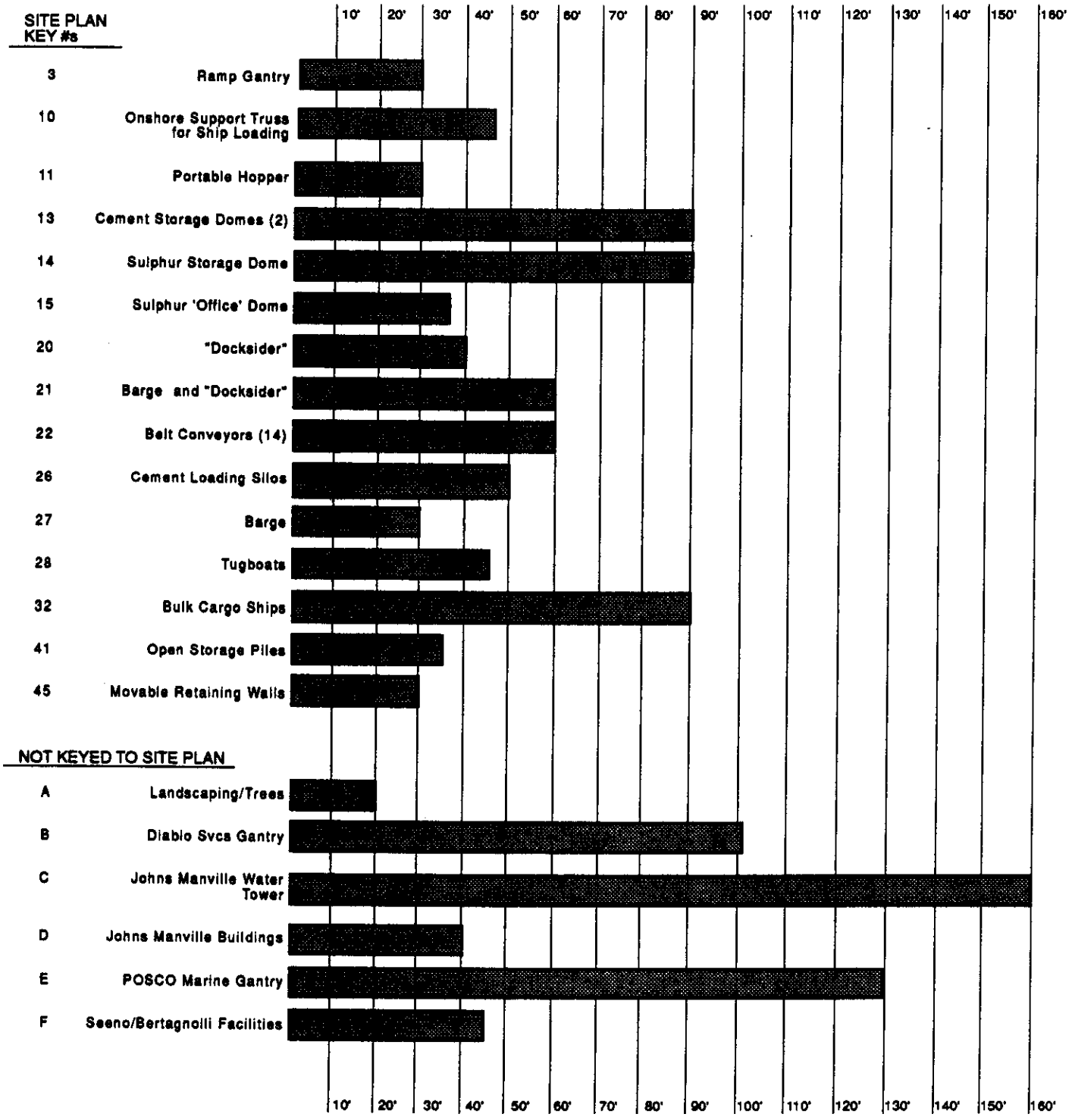


Figure 5
COMPARISON OF STRUCTURE HEIGHTS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Figure 6

HAN-LI INTERNATIONAL PITTSBURG TERMINAL PRODUCT STUDY
Han-Li International Dry Bulk Marine Terminal
City of Pittsburg, California

Product	Estimated Quantity Tons/Year	DELIVERY		SHIPMENT		STORAGE	NO. OF CARRYING UNITS REQUIRED PER YEAR				
		Carrier	Unloader	Carrier	Loader		Ships	Barges	Trains	Trucks	Berth
Cement	1,000,000	Ship	Docksider	Truck	Sealed Overhead Silo	2-40,000T Monolithic Domes	26	--	---	38,500	1
Sulphur	150,000	Truck (molten)	Direct to "Priller", pumped to Dome	Ship	Sealed Conveyor	1-40,000T Monolithic Domes	5	--	---	6,000	2
Grain	250,000	Rail	Bottom dump to sealed conveyor	Ship	Sealed Conveyor	None, direct shipment	9	--	250	---	2
Bauxite, Gypsum or Limestone	420,000	Ship	Ships Gear (Clamshells) to Belt Conveyors to open pile	Rail(75%) & Truck (25%)	Front end Loader	Open area for 13,000T	14	--	160	4,200	2
Aggregate (Sand and gravel)	240,000	Barge	F.E. Loader to storage pile	Rail(50%) & Truck (50%)	Front end Loader	Open area for 7,000T	--	12	60	4,800	2
Scrap Metal	60,000	Truck	Direct to Barge	Barge	none	none, direct shipment	--	6	---	*	2
Lumber	115,000	Barge	Forklift	Rail	Forklift	open area	--	12	41	2,900	2
Totals:	**2,235,000**						**54**	**30**	**511**	**56,400**	

* 2,400 on one-half-mile private road

Figure 7

Transportation Study

Han-Li International Marine Terminal EIR
City of Pittsburg, California

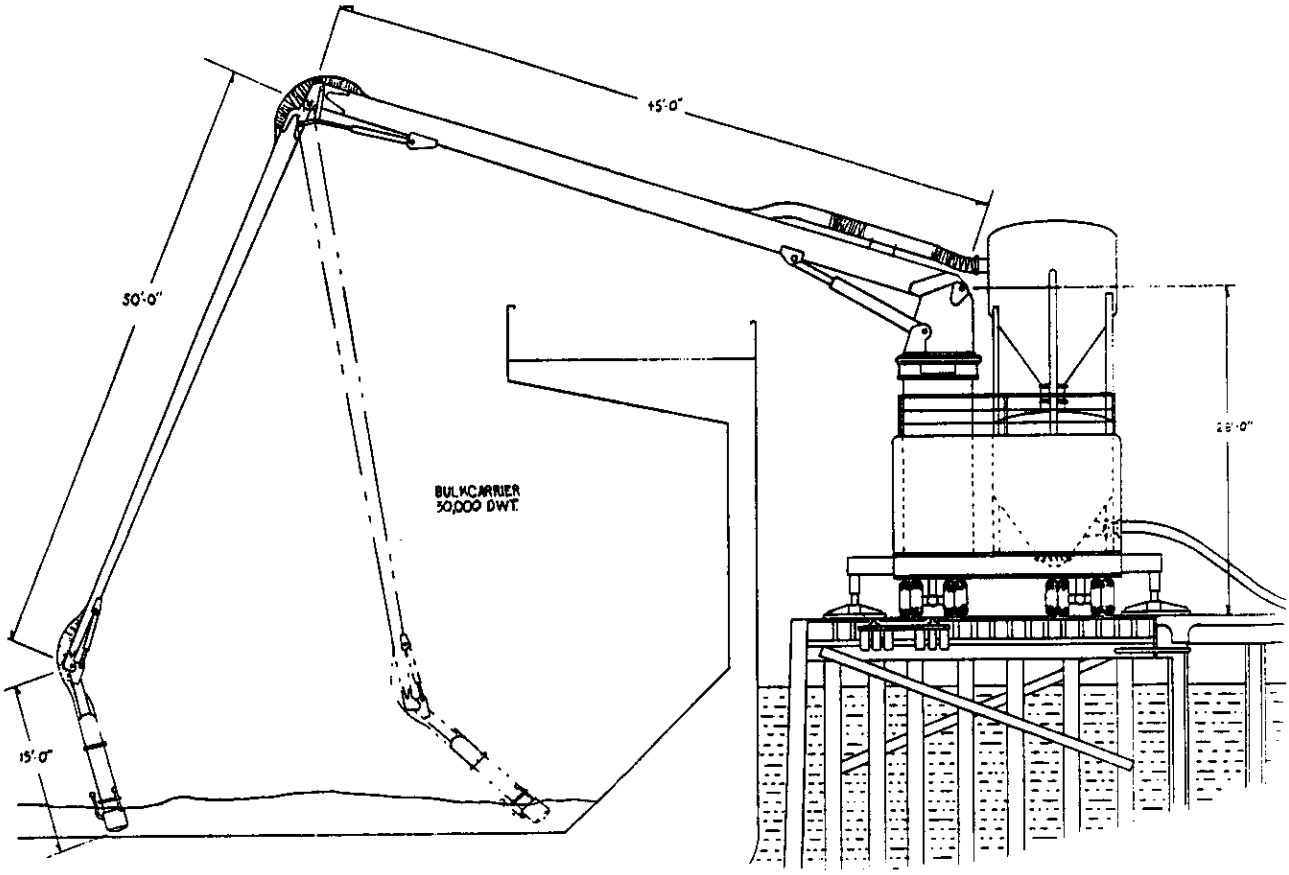
	Annual Tonnage	SHIPS/BARGES Capacity	#/YR	Transfer Days Per Load	Transfer Days Annual	TRAINS Rail Car Capacity	#/YR	Transfer Days Per Ship	Transfer Days Annual[2]	TRUCKS Capacity	#/YR	# Day[3]	TPH[1] In	TPH[1] Out
Cement (Inbound)	1,000,000	40,000	26	4.0	104	—	—	—	—	26	38,500	148	500	500
Sulphur (Outbound)	150,000	30,000	5	5.0	25	—	—	—	—	25	6,000	23	50	300
Bauxite, Limestone, and Gympsum (Inbound)	420,000	30,000	14	3.0	42	100	160	4.00[4]	56	25	4,200	14	500	800
Sand and Gravel (Inbound)	240,000	20,000[5]	12	5.0	60	100	60	1.66[6]	20[7]	25	4,800	20	400	800
Grain (Outbound)	250,000	30,000	9	10.0	90	50	250[8]	10.00[9]	90	—	—	—	200	200
Scrap Metal (Outbound)	60,000	10,000	6	4.0	24	—	—	—	—	25	—[10]	—	250	250
Lumber (Inbound)	115,000	10,000	12	7.0	84	70	41	6.25	75	20	2,900	12	160	80
TOTALS:	**2,235,000**	—	**84**	**38**	**429**	—	**511**	**17**	**241**	—	**56,400**	**217**	—	—

1. Tons Per Hour
2. Assuming maximum rate of delivery loading
3. 260 days a a year
4. 3 Trains per day maximum
5. Two 10,000-ton barges, one each by train and truck
6. Five trains per single barge load, 3 trains per day maximum
7. 7.5-hour days
8. Within four-month period
9. 15-hour day, 3 trains per day maximum
10. 2,400 on a half-mile private road

1. Cement

Ocean-going ships will bring cement to the facility in average quantities of 38,000 tons per ship (40,000 tons maximum), at an average rate of about one ship every other week. Annual tonnage will peak at around one million tons. Ships are unloaded by a pair of pneumatic vacuum (Kovako brand 'Docksider') systems mounted on a 30' X 128' barge which travels laterally between the shore and the ship, between an offshore 'fender' and ship moorings ('dolphins') (see site plan and illustration in **Figure 8**). The 'Docksider' system will have a total capacity to move 800 tons per hour (TPH), and operate at an average of 500 TPH. The Docksider is a type of equipment which has a reliable history, and is presently used at marine facilities in Los Angeles, California. This will require 76 hours of continuous operation to unload the average ship, or a little over three 24-hour days. Including docking and undocking, each ship will stay at the site for approximately four days, or 104 days per year.

The 'Docksider' is intended to pump material out of ships' holds in a highly sealed system, preventing dust from being discharged into the air or water. The system moves material directly in sealed pipes and hoses to two large concrete domes (Monolithic Dome, Inc., manufacturer - see Appendix, page B-11 for examples of previous uses), each 234 feet in diameter by 80 feet high, with capacity for 40,000 tons each (see **Figure 9**). Inside the domes, a paddle-like sweeper radiates from the center, propelling material into silo conveyor belts or pneumatic hoses when cement trailers are to be filled. The sealed cement hopper trailers, typically in dual hitches with one truck rig, handle approximately 26 tons each, and the Project applicants estimate that 148 trucks per day will be required to empty one dome over the course of ten days. With ships arriving every other week, the two domes would reach capacity about once a month, which requires that one shipload equivalent (38-40,000 tons) would be trucked out every two weeks. Truck routes within the site will be over asphalt paved surfaces only (Ref. 39).



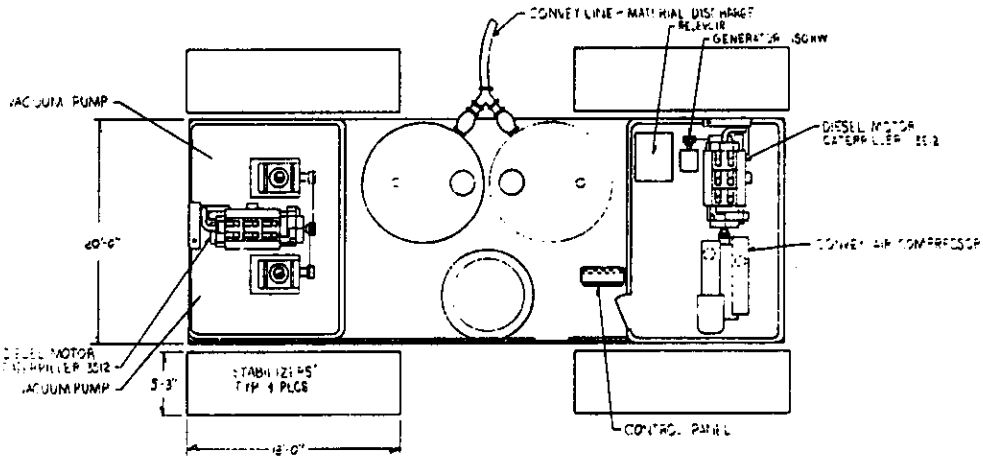


Figure 8
DOCKSIDER ILLUSTRATIONS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Source: Cyclonaire Corp.

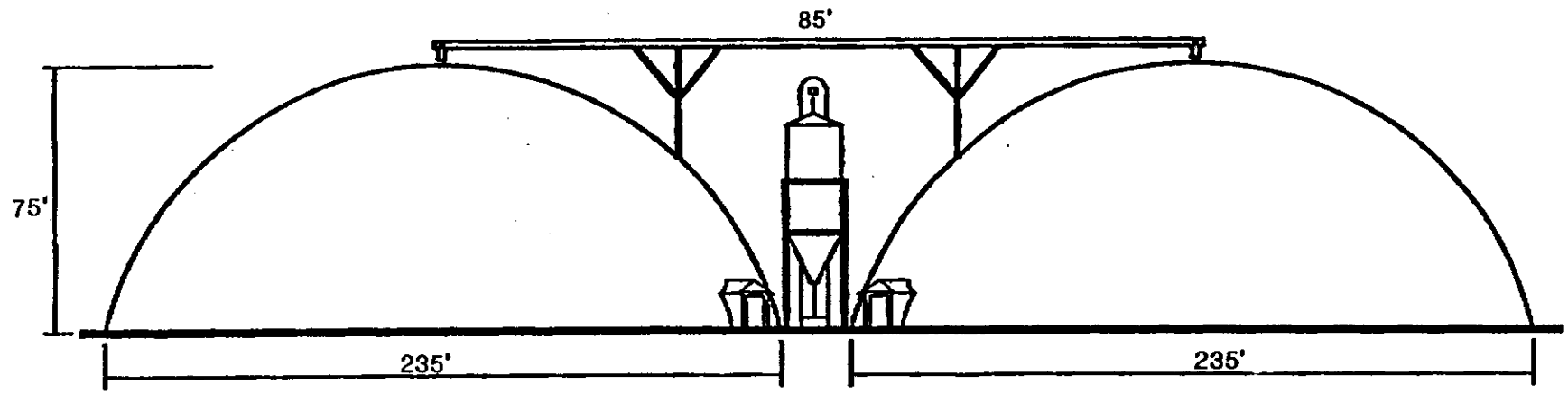


Figure 9
CONCEPTUAL CEMENT STORAGE DOME FACILITY, ELEVATION
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Source: Monolithic Constructors, Inc.

2. Sulphur

Local refineries would deliver molten sulphur in sealed trailer tanks, with approximately 25-ton capacity. The sulphur would be pumped through piping into a smaller dome (70' across, 30' high) where it will be injected into a cooling pool and on to enclosed conveyor belts that deposit it, in a cooled granular (B-B size) state, into a large storage dome (Monolithic Dome, Inc., manufacturer) 190 feet across and 80 feet high. This dome has a capacity for approximately 50,000 tons (see Figure 10).

One hundred fifty thousand tons of sulphur per year are anticipated to be exported by five 30,000-ton ships, requiring 6,000 truck trips per year, or approximately 23 truck loads per day (assuming 260 working days per year). Dock time for sulphur ships would be five days, at a loading rate of 300 TPH (Ref. 39).

3. Bauxite, Limestone and Gypsum

These materials will be stored in a large crescent-shaped open pile at the center of the site, together with sand and gravel (see following section). Total capacity of the pile will be 45,000 tons, although the average quantities stored will only be 20,000 tons. Materials will arrive by ships with average capacities of 30,000 tons, and will be unloaded by ship-mounted clamshell bucket cranes into two hoppers placed approximately 60 feet offshore. The unloading rate would be approximately 500 TPH over a continuous 60-hour period, or about three days time for the total ship unloading period. Some of these ships may be reloaded with the sulphur as described above. Belt conveyors transport the material to other conveyor belts (mobile and extendible) to deliver it to the radial stacker, which distributes the material to the crescent shaped pile. Water sprays for dust control are provided at these locations, but the moisture content of bauxite (12 to 13 percent) is such that dust is a less serious problem. Materials are kept separated by portable steel retaining walls. Water sprays will be attached to all conveyor belts and the radial stacker.

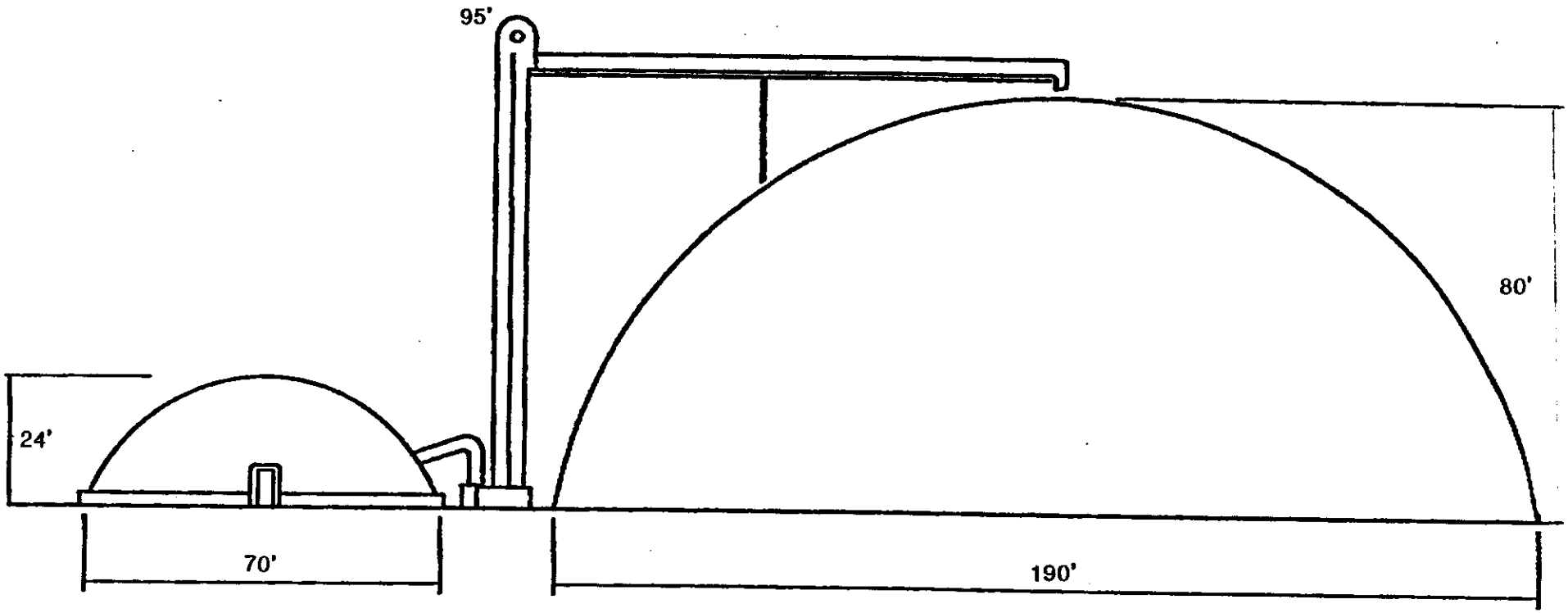


Figure 10
CONCEPTUAL SULPHUR STORAGE DOME FACILITY, ELEVATION
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Source: Monolithic Constructors, Inc.

The Project applicants expect that materials will be stored only briefly (three to four days) before being loaded out by two front end loaders using mobile hoppers, on to open trucks and rail cars. Trucks leaving this area will pass over a 200-foot long grate (a "grizzly"), which will clean off materials from tires and wheel base areas. Fourteen ships per year will deliver to the site approximately 420,000 tons of materials (primarily bauxite, an aluminum ore), of which roughly 75 percent, 315,000 tons, will be transported out by rail. The material is unloaded out at the rate of approximately 800 TPH, and it would take approximately two and a half hours to load a 2,000 ton 20-car train. Trucks with 25-ton capacity would handle 350 tons with about 14 trips per day (Ref. 39).

4. Sand and Gravel

Barges towed in pairs by ocean-going tugs will bring sand and gravel to the site about once a month, and will be unloaded by front-end loaders directly by use of a ramp from the shore to the barge. Each barge holds an average of 10,000 tons, and would be unloaded at a rate of about 400 TPH. The two barges would require five ten-hour days to be unloaded. Loaders will feed the material into hoppers which will in turn feed conveyor belts connected to the radial stacker. Storage will be in the crescent-shaped pile with the bauxite and other ores, but kept separate by the portable retaining walls. Trucks will also use the above-mentioned grate, to loosen wheel area materials. Annual tonnage is expected to be about 240,000, of which 50 percent will be transported from the facility by rail, while the remainder will be handled by trucks with 25 ton capacity. The front end loaders used to load the trucks and train cars would load at approximately 800 tons per hour, taking two and a half hours to load a 20-car train with 100-ton capacity cars. Truck trips would average 20 per day, and trains about once every four to five days, or 60 per year (Ref. 39).

5. Grain

Sealed railroad cars, with bottom-dump hatches, will deliver to the facility about 250,000 tons a year of wheat, rice, barley and other agricultural products. Approximately 250 twenty-car trains per year will be required, each of which can carry 1000 tons. The 50 ton cars can be unloaded at roughly four cars per hour. Nine 30,000-ton ships would be required each year, which would in turn require the use of 10 trains per ship. Two twenty-car trains can be 'staged' on the four railroad spurs on the site at one time, and the balance of trains to be unloaded can be held at the AT&SF railroad switchyards approximately a mile away, until the track is cleared. The loading process would require approximately ten days to complete, with an annual port time of 90 days. From the dumping bin, conveyor belts transfer the grain directly, in a sealed, enclosed system, to ships' holds with a discharge trunk suspended from an elevated railing (Ref. 39). Handling systems will be inspected and regulated by the State Department of Agriculture.

6. Scrap Metal

Dump-type trucks will travel from the neighboring USS/POSCO steel plant, approximately a quarter mile away, on private roads, such as the extension of Third Street east of the Project site, to bring scrap metal in both bales and loose form directly to moored barges by use of the steel ramp. This scrap metal material will not be stored on the site. Trucks will dump approximately 60,000 tons per year, or 5,000 tons a month. Each truck will transport about 25 tons, requiring up to 400 truck trips per barge, about six times a year, loading over a four-day period. The material will be dumped both into holds and on to barge decks (Ref. 39).

7. Lumber

An estimated 115,000 tons of lumber per year are expected to arrive by barge, to be unloaded across the ramp, by fork lifts and flat bed trucks, the latter of which can carry up to 15 tons.

Each barge will have a capacity for roughly 10,000 tons, and will arrive about 12 times per year. One hundred truck trips per day over a seven day period are required to unload a barge. The southwest section of the Project site will be used for lumber storage. Half the lumber is shipped out by rail on cars which can carry up to 70 tons, in 20-car trains with a total capacity of 1,400 tons. Annual trains would thus be 41. Lumber trucks will have an estimated capacity of 20 tons, requiring 2,900 truck trips a year, or about eleven trips a day on the basis of a five day work week (Ref. 39).

8. Additional Description

The docking area, between the shoreline and the 'pierhead' line (about 150 to 200 feet wide), which is leased from the State of California, is to be dredged to a depth of 40 feet, to provide for ships and barges which have a draft (extension below water surface) of up to 36 feet. The area has been dredged previously. A cross section of the proposed shoreline treatment is provided in **Figure 11**. Dredge material (approximately 60,000 cubic yards) will be deposited on the site, raising the site elevation by approximately 2 to 4 feet to an average of 12 feet above the water. This will also be graded to allow all drainage to run to the western edge of the site, where it will pass through an 18 inch outfall into the river. As part of grading proposed for the Project, material will be compacted to 80 percent relative density overall, but to 95 percent density beneath the railroad tracks (treatment of the shoreline is unspecified at present). A street sweeper will operate on both public and private roads for dust containment, as part of the facility as proposed. The applicants also propose to use a dust-suppressing spray of lignin sulfonate, an organic compound that is a wood pulp by-product, on the unpaved areas of the site where vehicles will be active.

Operation of the facility will vary from eight to ten hours a day, with frequent but irregular extensions to 24 hours a day to accommodate ship unloading. A regular workforce of approximately 18 persons will be employed at the site, but truck, train and

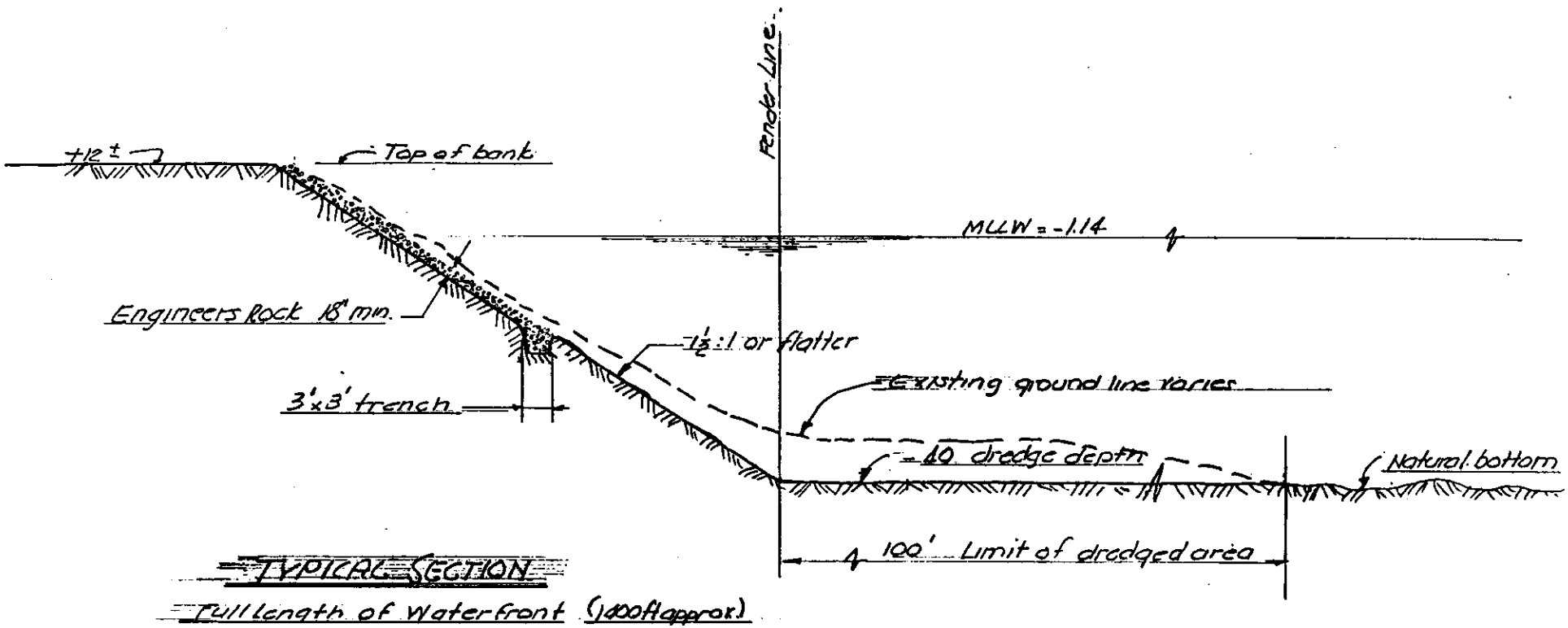


Figure 11
DETAIL OF BANK PROTECTION
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Source: Thomas B. Coull & Associates

ship crews, and additional shift crews will provide additional employment. The numbers of trucks per day that the facility will handle, described in the preceding subsections, are only averages, based on full operating capacity and full Project build-out. The facility will periodically have greater concentrations of truck and train traffic than is described, while at other times have less activity. Analysis of traffic conditions resulting from the complete implementation of the Project proposal is provided in Chapter IV (Traffic & Circulation).

Noise from the Project operation will arise from ship and tug docking maneuvers, operation of ships gears (cranes and hoists), discharge of material into hoppers or on to conveyor belts, engine noises of the 'Docksider', front-end loaders, trucks, train locomotives, conveyor belt motors and other items of equipment. The continual, 24-hour operation that will occur, perhaps as much as 200 days a year, requires operational lighting equivalent to 5.0 candle power, and security lighting of 0.2 to 0.5 candle power the remainder of the year, which is a standard street light level of illumination.

The sum total of annual material is estimated at 2.235 million tons. In the first year of operation, total tonnage will be an estimated 550,000, about half of which will consist of cement. This will double in the third year of operation, and reach full capacity in five years (see Appendix B, page B-13). At the two berths, ships and barges will be in port an estimated total of 485 days, simultaneously at times. Approximately 75 percent of the ships and barges arriving at the facility with 'inbound' materials will be reloaded with 'outbound' materials. Materials are handled for the most part in a highly sealed manner, but the degree of enclosure possible as materials are transferred on and off ships and barges requires the substantial use of water sprays to reduce dust emissions, estimated by the applicant at 15,000 gallons per day.

E. CUMULATIVE PROJECT SETTING

The City of Pittsburg has been growing at a moderate to high rate after many years of relatively slow growth. Information from the City of Pittsburg Community Development Department indicates that recently proposed, approved and completed developments in the city include the following:

Project Type	Proposed	Approved	Completed
Single Family	3,710 units	980 units	136 units
Townhouse/Duplex	1,202 units	243 units	128 units
Multi Family	1,474 units	24 units	2,105 units
Commercial	----	189,311 sq ft	598,101 sq ft
Industrial	----	22.5 acres	----

As these figures indicate, residential and commercial development has been very substantial, while industrial development has lagged behind. One of the more significant industrial developments, however, is the co-generation power plant immediately east of the Project site, which will use petroleum coke as fuel. This coke is presently a surplus commodity byproduct of oil refinement, typically shipped overseas. The plant will share use of a private extension of Third Street with the marine terminal operation, but will generate a relatively modest amount of traffic per day, estimated at approximately 74 trips per day, 44 of which would be in- and out-bound double-trailer fuel trucks.

Preliminary planning is under way for an assessment district incorporating the marine terminal, the co-generation plant, and an unspecified number of other surrounding industrial parcels. In addition to financing water, sewer, power and other general public services, the assessment district could potentially assist in financing the construction of a new roadway through the undeveloped land south of the Project site, including a railroad overpass. Such a roadway would serve to re-route nearly all the truck traffic generated by industrial uses in the northeastern section within the City limits away from residential areas.

II. DESCRIPTION OF THE PROJECT

Circulation improvements that are presently approved for construction in the downtown and surrounding areas are:

- Harbor and 14th Streets Railroad Underpass Improvement. This project widens an existing two-lane underpass to four-lane capacity, and is expected to be completed in late 1990.

- Harbor and Third Streets Realignment. Shifts existing T-type intersection to a curved alignment, establishing a continuous roadway connecting the two streets. Completion is anticipated in 1991 or early 1992.

III. PLANNING AND POLICY CONTEXT

A. SETTING

The Han-Li Marine Terminal site is located within the City of Pittsburg, and so is subject to the City's General Plan and Zoning Ordinance, both of which designate the site for industrial use. The docking facilities and dredging proposed by the applicants require the issuance of a permit by the Army Corps of Engineers, and is subject to review by the U.S. Fish and Wildlife Service. The proposed open material storage and transfer operations, and the levels of truck and train activity require permit approvals by the Bay Area Air Quality Management Board. Other agencies which will be concerned in scrutinizing the Project include the San Francisco Regional Water Quality Control Board, and possibly the U.S. Environmental Protection Agency, to ensure that it conforms with their plans and regulations. Issuance of a Conditional Use Permit and design review approval by the City of Pittsburg in accordance with its General Plan, Zoning Ordinance and CEQA Guidelines, will be required to enable the facility to be built and operated.

1. Pittsburg General Plan

a. Land Use Element:

The 1988 Pittsburg General Plan encompasses both the area within the City limits and the City's Sphere of Influence (SOI). The Project site is located just within the current City limits, in the northwestern corner of a roughly 2,000-acre industrial district, which is designated in the General Plan as a Special Management Area (see Figure 12). Approximately 90 percent of this area is presently unincorporated, but it is expected to be completely annexed to the City of Pittsburg by the end of 1989. The designation of the district, the Northeast River Area, as a Special Management Area serves to identify it as the intended subject of a Specific Plan. It is expected that once the annexation is approved, analysis and planning will begin for the area in the

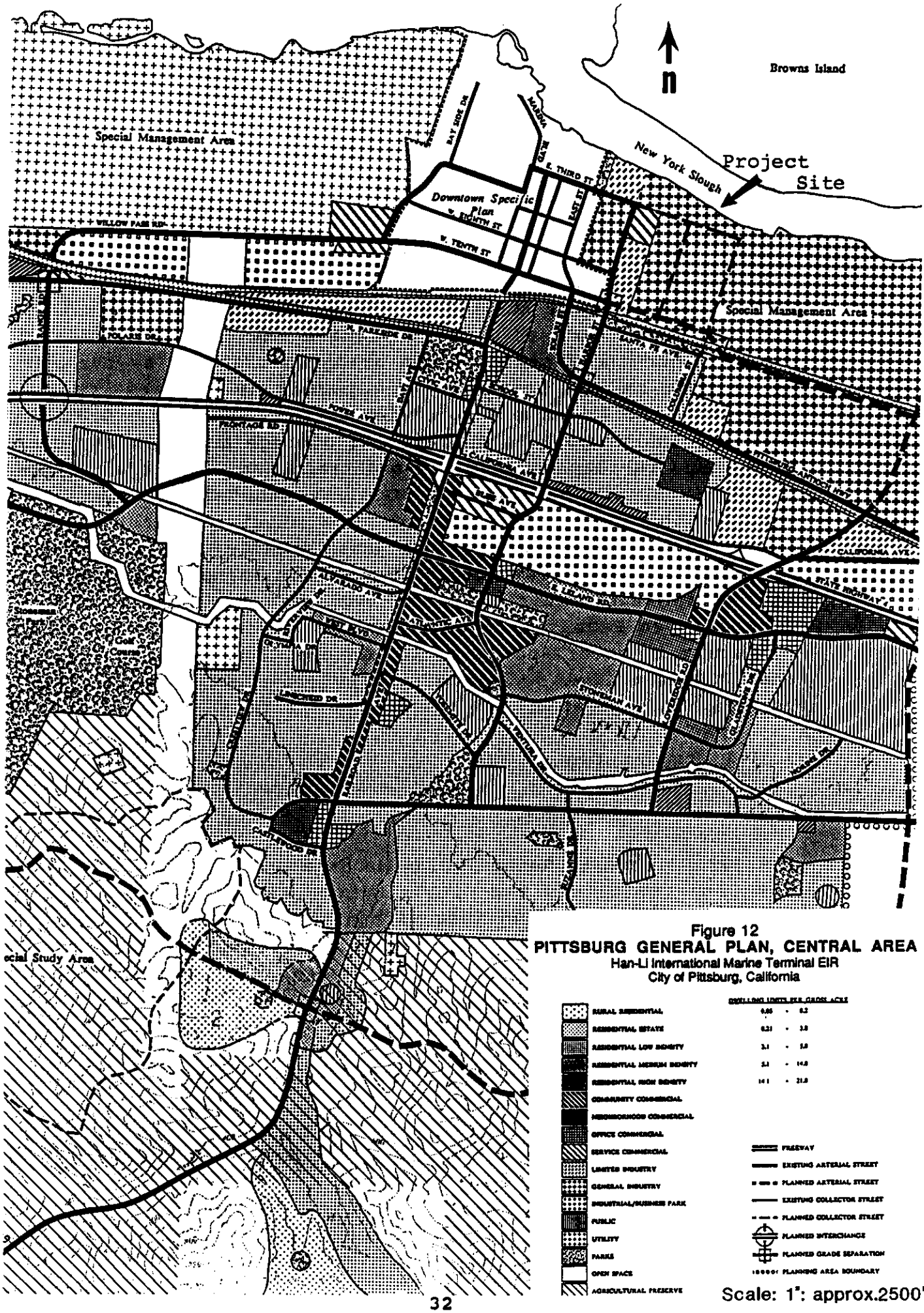


Figure 12
PITTSBURG GENERAL PLAN, CENTRAL AREA
Han-Li International Marine Terminal EIR
City of Pittsburg, California

DWELLING UNITS PER GROSS ACRE

- RURAL RESIDENTIAL 0.05 - 0.2
- RESIDENTIAL ESTATE 0.21 - 1.0
- RESIDENTIAL LOW DENSITY 1.1 - 5.0
- RESIDENTIAL MEDIUM DENSITY 5.1 - 14.0
- RESIDENTIAL HIGH DENSITY 14.1 - 21.0
- COMMUNITY COMMERCIAL
- NEIGHBORHOOD COMMERCIAL
- OFFICE COMMERCIAL
- SERVICE COMMERCIAL
- LIMITED INDUSTRY
- GENERAL INDUSTRY
- INDUSTRIAL/BUSINESS PARK
- PUBLIC
- UTILITY
- PARKS
- OPEN SPACE
- AGRICULTURAL PRESERVE

- FREEWAY
- EXISTING ARTERIAL STREET
- PLANNED ARTERIAL STREET
- EXISTING COLLECTOR STREET
- PLANNED COLLECTOR STREET
- PLANNED INTERCHANGE
- PLANNED GRADE SEPARATION
- PLANNING AREA BOUNDARY

Scale: 1": approx.2500'

form of the Northeast River Industrial Area Specific Plan. Presently the General Plan establishes 14 Planning Subareas, shown in **Figure 13**, which identifies the site as within the Downtown Subarea. The Downtown boundaries which supersede those in **Figure 13** are displayed in **Figure 12** as the outline of the Downtown Specific Plan. The Subarea boundaries are based partly on City limits, such as the border between Subareas 1 and 2. Guiding and Implementation Policies in the General Plan for these Subareas, however, follow land use patterns rather than the Subarea borderline. Policies for Subarea 1 address the office, retail, residential and recreational uses in the downtown area, but no mention is made of the industrial uses and sites which constitute approximately a quarter-square mile within Subarea 1. There are, on the other hand, specific policies addressing industrial uses in Subarea 2, which may reasonably be applied to the Project site. The Subarea Policies, therefore, that are relevant to the industrial character of the Project site include the following (Ref. 57, page 11):

- "Subareas 2 and 3: Northeast and Northwest River Areas. The Plan designates sufficient industrial land to allow existing industrial uses to be continued and expanded. The riverfront area includes PG&E's large holdings and power plant, which are designated as utility on the Plan. Large areas of the riverfront are designated as open space for the preservation of the major natural resources, including large areas of environmentally sensitive wetlands found in that area.

Guiding Policies:

- Allow a balance of land uses in the riverfront areas which will accommodate water-oriented residential and recreational developments, and industrial development, while protecting environmentally sensitive areas.

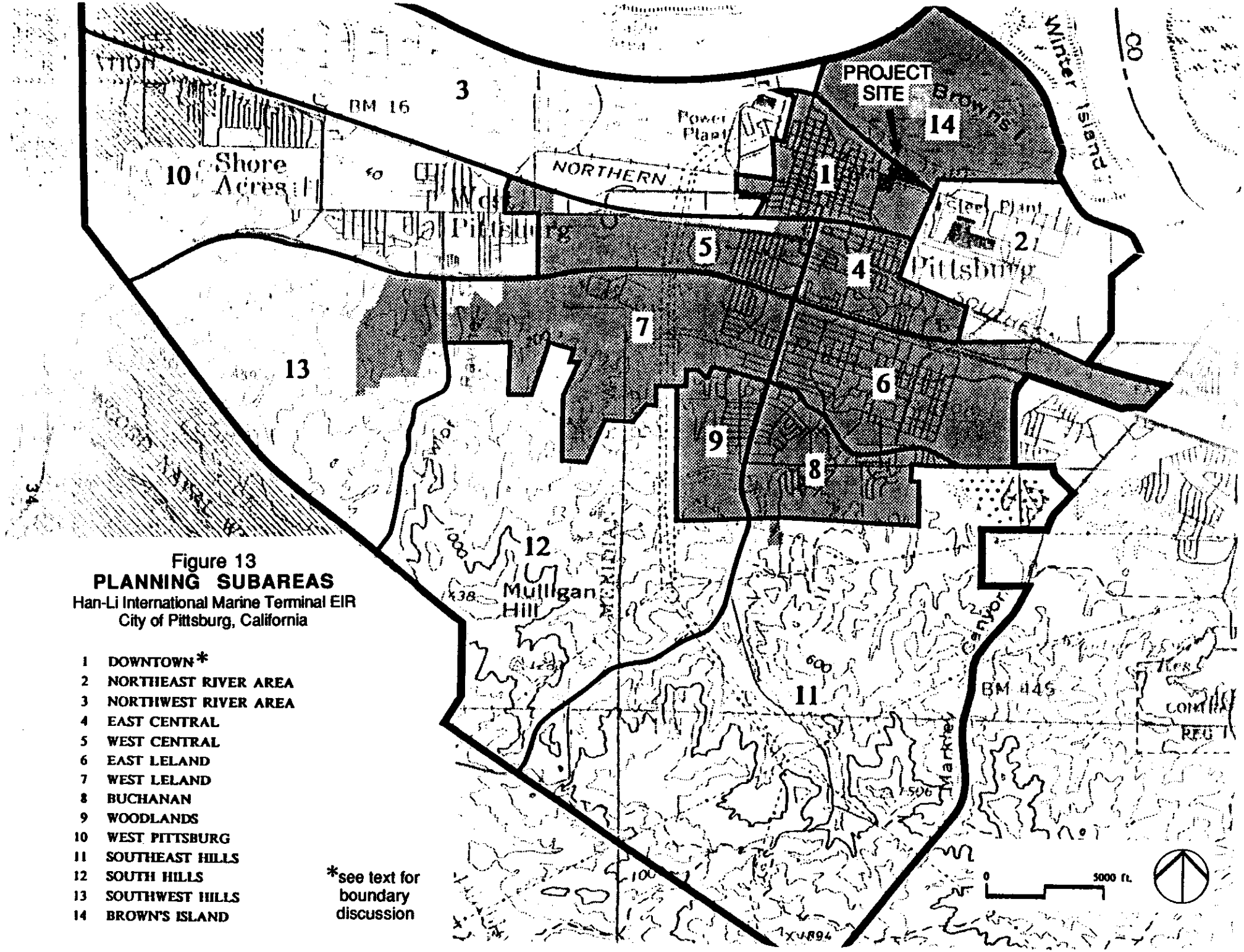


Figure 13
PLANNING SUBAREAS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

1 DOWNTOWN*
2 NORTHEAST RIVER AREA
3 NORTHWEST RIVER AREA
4 EAST CENTRAL
5 WEST CENTRAL
6 EAST LELAND
7 WEST LELAND
8 BUCHANAN
9 WOODLANDS
10 WEST PITTSBURG
11 SOUTHEAST HILLS
12 SOUTH HILLS
13 SOUTHWEST HILLS
14 BROWN'S ISLAND

*see text for boundary discussion

Implementing Policies:

- Designate Special Management Areas in the northeast and northwest riverfront subareas, and prepare specific plans for these areas as appropriate.

- Require that development take into account environmentally sensitive habitat and, to the extent feasible, not reduce wetlands area."

The above policies are accompanied by references to related policies in the Open Space, Conservation and Safety Elements. The above-mentioned open space preservation areas refer to open land in the Northwest River Area, and on Brown's Island, rather than to any portion of the downtown and Northeast River Area.

The initial discussion notes that a surplus of land currently exists for industrial expansion, and that heavy industry, though valuable to Pittsburg, is giving way to research and development (light industry), and that these types of uses and conversion of former heavy industrial sites should be encouraged. Industry in Pittsburg is encouraged to change in these directions, rather than to only expand.

Policies addressing the Industrial Development land use designations are more specific. Industrial land use is divided into three classes, the last of which is applicable to the marine terminal site: "General Industry: Large areas of major industrial manufacturing uses, including the existing operations such as USS-POSCO (formerly U.S. Steel) and Dow Chemical" (Ref. 57, page 16). The policies are as follows (Ref. 57, pages 23 and 24):

Guiding Policies:

- "Protect the supply of land suitable for industrial purposes and, in cooperation with the County, actively promote the development of appropriate industrial uses.

[Industrial activities are an important source of employment and make a major contribution to the economic health of the Pittsburg community.]*

- Retain existing industry, and allow existing industrial uses to expand, consistent with other General Plan policies.

- Encourage new, clean, employment-intensive industry to locate in Pittsburg.

- Protect existing and new residential areas from adverse effects of new industry and, wherever feasible, of existing industry.

- Limit the intensity of industrial development in areas exposed to geologic and/or flood hazards.

Implementing Policies:

- "Promote the stimulation of sound economic development of Pittsburg and all of the East County.

- Institute an effective referral process that will enable the City staff to participate in the planning and development review process applied by the County to future applications for industrial development in the planning area.

- Establish minimum performance standards in the zoning ordinance to protect persons, property, and natural resources from industrial hazards, pollution, harmful particulate matter, noise, and other potentially adverse impacts.

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* Statements in brackets are quoted from the General Plan, and indicate the rationale or context in which policy statements are made.

- Designate land in appropriate locations for Industrial and Business Park development. Appropriate locations have good access to vehicular and rail circulation facilities.

- Adopt setback, landscaping, and screening requirements for industrial development to protect adjacent non-industrial uses.

  [The zoning ordinance should include requirements for buffer areas between industrial uses and other uses, especially residential uses. Setback and landscaping requirements would establish standards for such buffers and, with screening requirements, would set standards for the appearance of industrial sites.]"

The figures for anticipated commercial and industrial development and employment in Subareas 1 and 2, and for the entire city, are presented below (Ref. 57, pages 17 and 21):

	Commercial				Industrial			
Subarea:	1,000* sq ft	% of total	jobs	% of total	1,000* sq ft	% of total	jobs	% of total
1	260	4	700	4	590	5	1,200	5
2**	240	4	600	4	6,040	48	9,500	43
Totals:								
CITY	4,140	73	12,470	75	3,450	28	6,800	30
SOI	6,130	100	16,620	100	12,540	100	22,300	100

No residential development is anticipated for subarea 2, but the downtown (Subarea 1) is expected to have approximately 300 new residential units added by the year 2005, about evenly split between single and multiple family housing. In addition, since the plan was adopted, the Pittsburg Redevelopment Agency has established plans to clear a 15-block area of existing housing (prin-

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* Building area.
** Unincorporated Area.

cipally single-family residences) and redevelop it for medium density housing (5 to 14 DU/acre) (Ref. 53). The northeasternmost corner of this redevelopment areas is roughly a quarter mile from the western edge of the marine terminal Project site, and the intervening area is characterized by general industrial uses. Of an estimated 15,500 additional housing units expected in the planning period through 2005, only about five percent will be built north of State Highway 4. Therefore only a small proportion of new housing in Pittsburg will be located near the Downtown area in the vicinity and none will be closer than about 1,500 feet from the Project site. The General Plan recommends Pittsburg maintain a single-family residential character, and designates only limited areas, such as downtown, for higher density developments. In general, housing policies are of only marginal relevance to the policy/planning context in which the Han-Li Project must be viewed.

The policies in the General Plan on Retailing and Commercial Services, and on Offices, focus on the Central Business District of the downtown area. Commercial Service uses, such as lumber yards, auto services and some retailing, are encouraged at the edges of industrial areas. A small district (roughly 25 acres) consisting of such uses (and some non-conforming uses) exists directly west of the southwest corner of the site. Relevant policies are as follows (Ref. 57, page 19):

- "Encourage improvement and redevelopment of the older downtown area with new specialty shops, major stores, and supporting commercial uses.

- Provide sufficient space to meet the need for commercial services that can be supported by Pittsburg's residents, businesses, and workers.

- Encourage similar and compatible types of commercial businesses to cluster together in appropriate locations.

- Encourage the location of more and different types of businesses in the planning area."

b. Open Space Element:

While the principal emphasis in this element is placed on the hillside areas within the Pittsburg Sphere of Influence, some policies address the river areas, and other areas near the site. Under the heading of "Open Space for Preservation of Natural Resources," Brown's Island is identified as a wetland with "many delicate habitats that support rare and endangered species, including the white-tailed kite, and several rare, native plants" (Ref. 57, page 26).

Under "Open Space for Outdoor Recreation," open space areas, including those along the riverfront and on Brown's Island, are suggested for passive recreation and hiking. Reference is made to the Parks and Recreation Element, which includes proposals for two new parks and a bikeway in the near vicinity of the site. Figures 14 and 15 illustrate these proposals. The riverfront park (Marina East) closest to the Project site is presently a grassy area, not open to public use, which serves to buffer the industrial riverfront parcels from the new residential area to the west. The proposal for a park in the southwest corner of the POSCO property, shown in Figure 14, is not discussed in the text of the General Plan (Ref. 57).

c. Utilities and Public Services Element:

The policies on these services stated in the General Plan are primarily concerned with areas lacking infrastructure or service capacity (such as the Project site which is the subject of this EIR). These policies include the following (Ref. 57, Page 43):

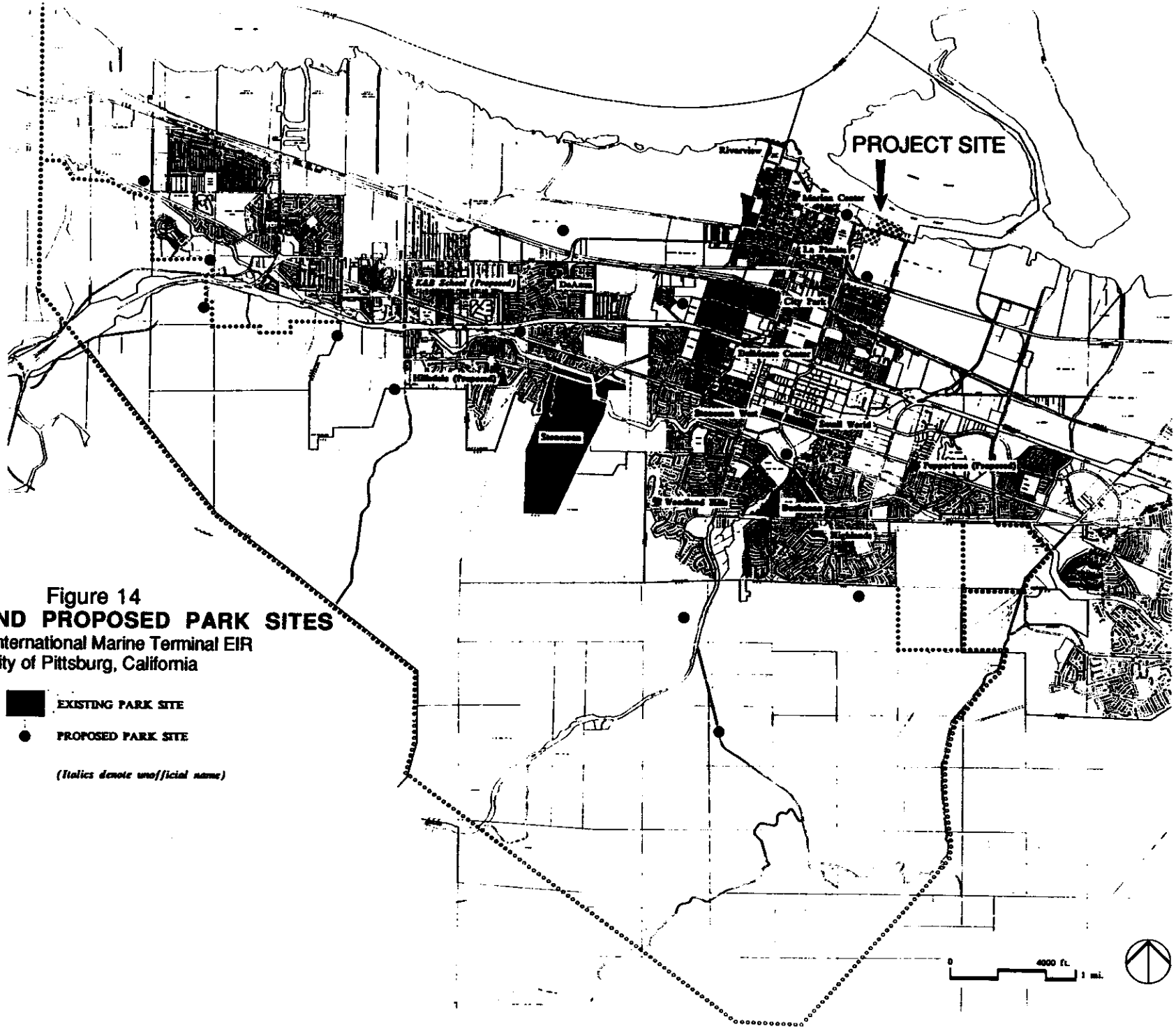


Figure 14
EXISTING AND PROPOSED PARK SITES
Han-Li International Marine Terminal EIR
City of Pittsburg, California

EXISTING PARK SITE

PROPOSED PARK SITE

(Italics denote unofficial name)

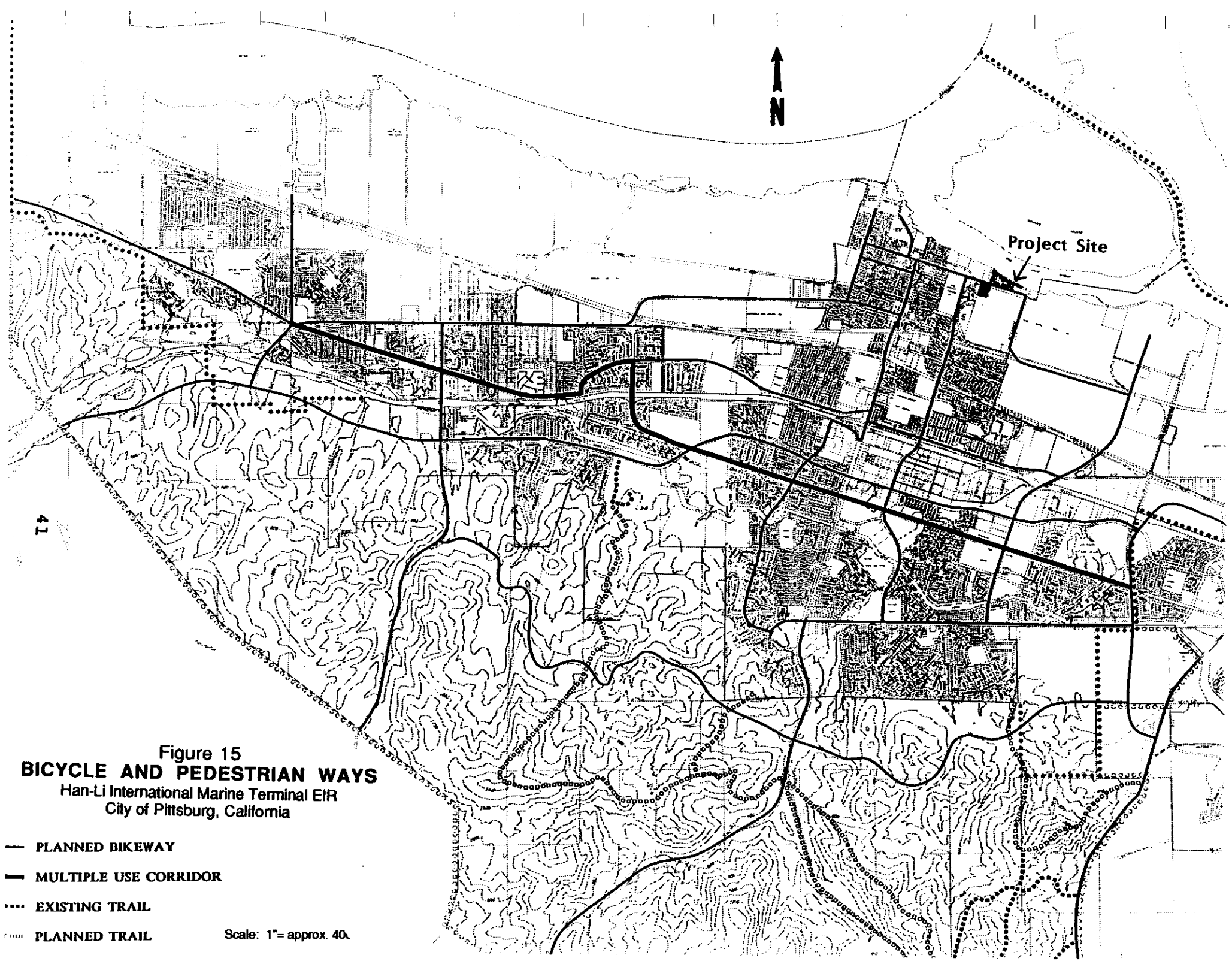


Figure 15
BICYCLE AND PEDESTRIAN WAYS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

— PLANNED BIKEWAY
▬ MULTIPLE USE CORRIDOR
···· EXISTING TRAIL
PLANNED TRAIL

Scale: 1"= approx. 40.

Guiding Policies:

- "Assess the adequacy of utilities in existing developed areas, and program any needed improvements to coordinate with providing facilities to serve developing portions of the planning area.

- Develop a plan and standards for the provision of public services, including fire and police services.

Implementing Policies:

- Require the undergrounding of all utility line adjacent to new construction as a condition of development."

d. Traffic and Circulation Element:

The general objectives of the circulation system are intended to provide a choice of direct routes, limiting intrusion of through-traffic on local roads, seeking alternatives to Highway 4, and providing greater efficiency for transit, emergency and other service vehicles. The circulation network plan is presented in Figure 16. The balance between traffic volumes and land use intensity is a key determining factor in the overall General Plan. Levels of Service (LOS) on the City's roadways are the measures for performance and policies. LOS A, B, or C indicates conditions allowing traffic to move freely with average delay of less than 25 seconds at intersections. LOS D and LOS E are progressively worse, similar to conditions in a busy downtown area, with average delays of 25 to 60 seconds. LOS F indicate projected traffic volumes which exceed the capacity of the intersection, resulting in long queues and delays averaging 60 seconds or more (Ref. 57, pages 44 and 45). The General Plan Element establishes these policies:

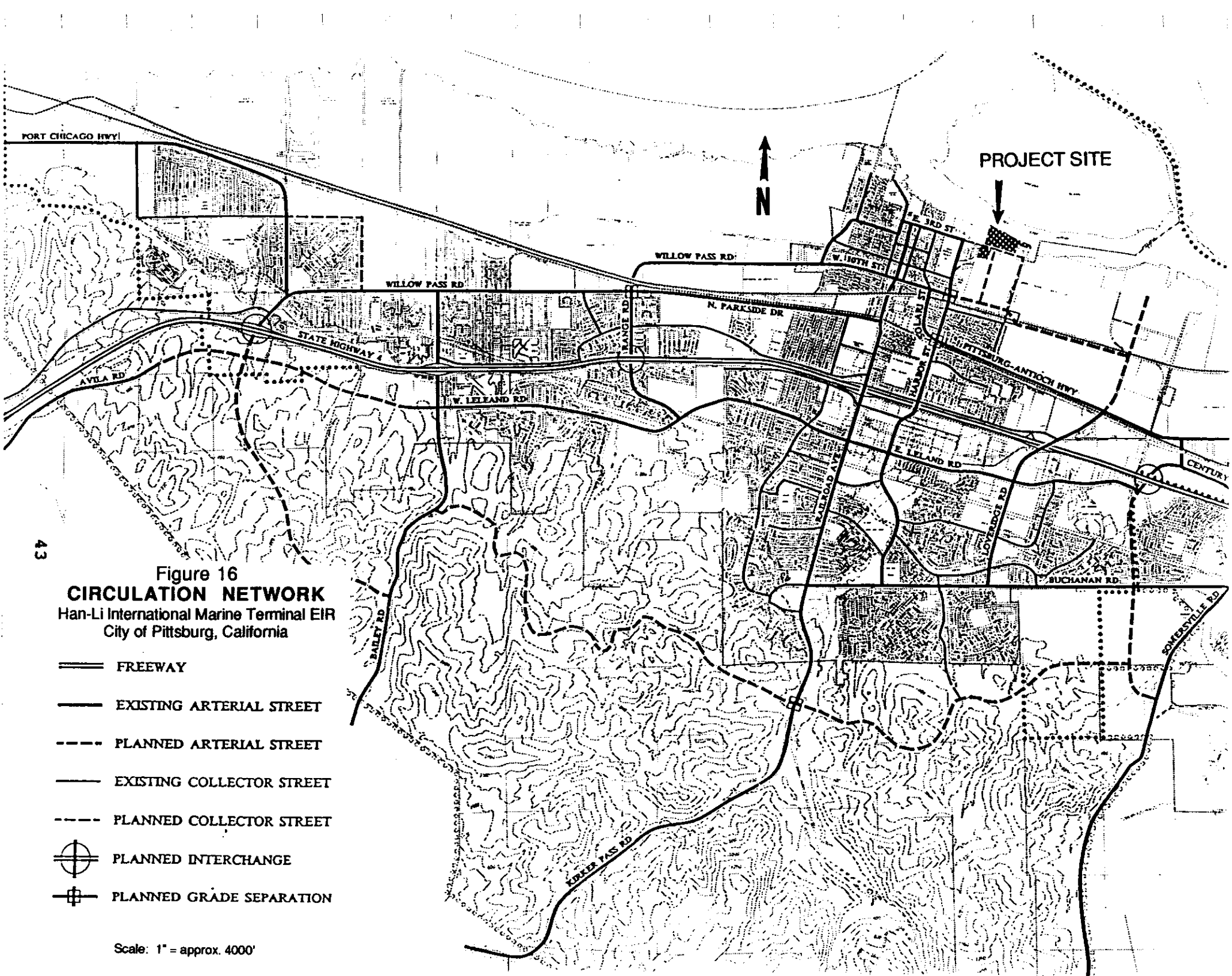


Figure 16
CIRCULATION NETWORK
Han-Li International Marine Terminal EIR
City of Pittsburg, California

FREEWAY

EXISTING ARTERIAL STREET

PLANNED ARTERIAL STREET

EXISTING COLLECTOR STREET

PLANNED COLLECTOR STREET

PLANNED INTERCHANGE

PLANNED GRADE SEPARATION

Scale: 1" = approx. 4000'

Guiding Policies:

- "Strive to maintain traffic LOS C or better as the standard at all intersections with LOS D during no more than three hours of the day (a.m., p.m., and noon peaks).

- Accept LOS D during two-hour peak periods, with the possibility of intersections at or closely approximating the limits of LOS D, only on arterial routes bordered by non-residential development where improvements to meet the City's standard would be prohibitively costly or disruptive.

- Establish and implement a uniform set of standards for the City's roadway network.

Implementing Policies:

- Determine the cost of required transportation improvements, and develop a program to require payment of pro rata share of the cost of transportation improvements for all development.

- Design roadway improvements and evaluate development proposals based on LOS standards prescribed in Policy 6.1A (first guiding policy above).

- Implement to the extent feasible Circulation Element improvements prior to deterioration in levels of service below the stated standard.

  [Development approvals should require reasonable demonstration that traffic improvements necessary to serve the development without violating the standard will be in place in time to accommodate trips generated by the project.]

- Improve intersections as needed to maintain traffic levels of service and safety on major roadways.

  [Specific improvements should be identified and implemented on the basis of detailed traffic studies. Improvements may include intersection approach land expansion, related channelization improvements and traffic signal installations. Intersections and interchanges where needed improvements are projected [can be found in Table 6.1 in the General Plan]. Other intersections not identified in the table also may need future improvements.]

- Adopt design standards for each functional roadway classification, including private streets.

  [Additional right-of-way may be needed for turn lanes at some intersection approaches. Different standards may govern in downtown and other Specific Plan areas.]"

Under the heading "Freeways and Arterial Roadways," the Traffic and Circulation Element establishes several policies, including the following, which are relevant to evaluation of the proposed Project (Ref. 57, pages 47 and 48):

- "Locate high traffic generating uses so that they have direct access for immediate secondary access to arterial roadways.

- Establish a funding system that will enable completion of arterial roadway capacity improvements before the projects that require them are fully occupied.

- Formulate and implement a program to levy fees based on traffic characteristics of major residential and non-residential development that is approved, to be used for roadway improvements.

- Construct an east-west arterial and collector system to serve the industrial areas east of downtown."

There are also relevant policies under the "Collector and Local Roadways" section, such as (Ref. 57, pages 48 and 49):

- "Designate truck routes, and discourage unnecessary through traffic in residential areas through circulation system design and planning.

- New development should not be expected to use existing collector roadways already carrying high traffic volumes."

The remaining sections of the Traffic and Circulation element, concerning systems management (transit measures), and bikeways and pedestrian paths, are not a significant factor in this EIR. However, as mentioned previously, a bikeway is recommended for Third Street from downtown through to Columbia Street.

e. Conservation Element:

The policies of the General Plan on the natural environment are intended to protect creeks, wetlands, wildlife, vegetation and air quality. While the policy statements are general, specific ordinances contain particular regulations for development proposals. Brown's Island and the shoreline are areas of concern, because they represent prime habitats for fish, wildlife and vegetation. Breeding, nesting and feeding occurs in the intertidal marshes on Brown's Island, the majority of which is owned by the East Bay Regional Park District. The Wildlife and Vegetation policies which constitute the policy framework applicable to the Project site are as follows (Ref. 57, page 63):

Guiding Policies:

- "Protect natural environments in recognition of their importance as wildlife habitats and visual amenities.

- Retain unique vegetation and wildlife areas adjacent to the water in the northern portion of the planning area in a natural condition. Such areas include the salt marshes and special habitat areas (for birds and mammals).

Implementing Policies:

- Require preservation or, where preservation is not possible, replacement of riparian vegetation.

  [Resource protection regulations should address conservation of riparian vegetation.]"

Under the topic of air quality, the General Plan adopts Guiding Policies to maintain air quality, and to cooperate with the Bay Area Air Quality Management District (BAAQMD), the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). Industrial plants, power plants and motor vehicles are identified generally as sources of air pollution, though Pittsburg air quality has been fairly good in relation to state and federal standards. Records indicate two days in 1986 when defined ozone levels were exceeded, and three days when the maximum levels of total suspended particulates (including dust) were exceeded. The Implementation Policies under the Air Quality heading includes the following (Ref. 57, page 64):

- "Encourage project design that conserves air quality and minimizes direct and indirect emissions of air contaminants.

  [The BAAQMD staff is willing to provide assistance in determining whether projects meet air quality goals.]"

Under the heading of Water Conservation, the General Plan notes the lack of any water conservation program, but provides the following policies (Ref. 57, page 67):

- "Encourage and support water conservation programs.
- Enact local regulations requiring water conservation.
- Minimize use of water for maintenance of landscaped areas."

f. Safety Element:

The Safety Element of the General Plan addresses geologic, soil, flood, fire and hazardous material risks present in the planning area. Earthquake faults, although potentially significant in parts of Pittsburg, are minimal in the northeast river area. There is, however, a minor liquefaction hazard, as indicated in Figure 17, which shows the site to be located on stream channel alluvium. A prohibition against the construction of critical facilities, such as utility stations, hospitals, and police stations, is applied to areas on current esturine alluvium.
The federal Emergency Management Agency (FEMA) has mapped flood areas and identified the Project site as being located within a 100-year flood hazard area. Flood and storm drainage policies include the following (Ref. 57, pages 72 and 73):

Guiding Policies:

- "Locate development outside mapped flood-prone areas unless mitigation of flood risk is assured.
- Ensure that new development will not add storm runoff exceeding a proportional share of designed storm drainage capacity.

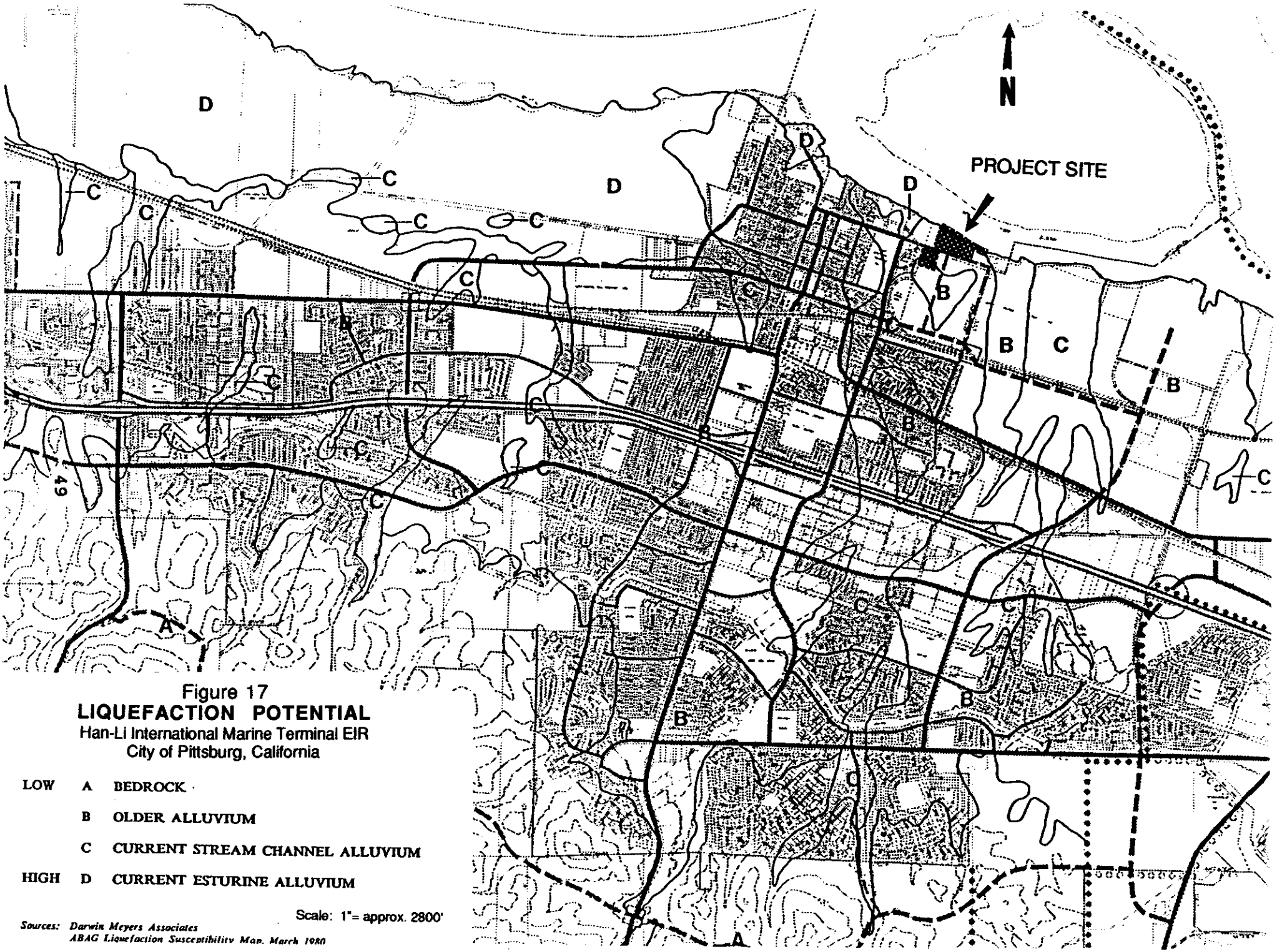


Figure 17
LIQUEFACTION POTENTIAL
Han-Li International Marine Terminal EIR
City of Pittsburg, California

LOW	A	BEDROCK
	B	OLDER ALLUVIUM
	C	CURRENT STREAM CHANNEL ALLUVIUM
HIGH	D	CURRENT ESTURINE ALLUVIUM

Scale: 1"= approx. 2800'

Sources: Darwin Meyers Associates
ABAG Liquefaction Susceptibility Map, March 1980

- Evaluate storm drainage needs for each project in the context of demand and capacity when the drainage area is fully developed. Require drainage improvements or other mitigation of the project's impacts on the storm drainage system appropriate to the project's share of cumulative effects.

- Assure through the Master Drainage Plan and development ordinances that proposed new development adequately provides for on-site and downstream off-site mitigation of potential flood hazards and drainage problems and requires development fees to fund the required improvements."

g. Noise Element:

The General Plan provides guidelines aimed at protecting the noise environment through source control, barriers and land use compatibility checks. The railroads, State Highway 4, and to a lesser degree the major arterials, are sources of excessive noise in many residential areas, but sound barriers are not consistently feasible or effective. Pertinent policies of the element for the marine terminal are as follows (Ref. 57, pages 74 and 76):

Guiding Policies:

- "Minimize vehicular and stationary noise sources, and noise emanating from temporary activities.

- Use barriers to mitigate traffic noise where other methods are not feasible.

- Ensure that new development is compatible with the noise environment.

Implementing Policies:

- Require an acoustic study for all proposed projects that would have noise exposure greater than normally acceptable.

  [State law requires mitigation to reduce Ldn (average day-night noise levels) to 45 dB in habitable rooms of multi-family housing, but the standard should apply to all housing.]

- Require construction of sound walls for new development where noise mitigation to acceptable levels by other means is not practical. Require that the effects of the construction of sound walls on noise levels at other areas be considered, and taken into account in the design and location of sound walls."

2. Pittsburg Zoning Ordinance

A revised Pittsburg Zoning Ordinance became effective on April 18, 1990. As shown in **Figure 18**, the proposed marine terminal site is located in the "IG-S" zoning district, which indicates that the site is classified as an "Industrial General" zone (IG) combined with an "Interim Study Overlay District" zone (__-S). The "IG" designation is intended to provide for a "full range of manufacturing, industrial processing, general service and distribution uses deemed suitable for location in Pittsburg" (Ref. 60, Section 18.54.005B.(3)), and to guide unrelated commercial uses into other, more appropriate locations. The "__-S" or Study District designation is intended to allow "discretionary review of a development proposal where a change in zoning regulations is contemplated or under study" (Ref. 60, Section 18.70.010). In this instance the preparation and approval of a planning study, the Northeast River Industrial Area Specific Plan, is required in order to determine land use and development objectives, and suitable long-term zoning districts for the area. A Conditional Use Permit is required for any proposed use in the "__-S" district, and the designation expires after two years unless the ordinance

establishing the district is amended, re-enacted or superseded by another zoning map amendment (Ref. 60, Section 18.70.050).

The revised Zoning Ordinance indicates that railroad terminals and switchyards, truck terminal, and wholesaling with indoor and outdoor storage are permitted uses in an "IG" zone district, although a wharf for the berthing and handling of cargo requires a use permit (Ref 60, Section 18.54.010). The Zoning Ordinance also requires landscaping treatment on a minimum of five percent of each parcel in this district, and allows riverfront vegetation to qualify as planting area. Front and street-facing side yards are to be either landscaped or enclosed by a six foot high (minimum) solid wall or fence, except for access driveways. Height regulations in the "IG" district allow structures up to 50 feet in height, with an increase allowed up to 75 feet on a one-to-one basis for each foot of setback from the property line added to the minimum required (ten feet on street frontage and street corner sides).

3. Pittsburg Downtown Specific Plan

The goals and objectives of the Downtown Specific Plan, adopted in 1986, are primarily to revitalize the downtown area through historic preservation, economic incentives, new residential development, improved design standards, and strengthened waterfront amenities. One specific objective is "to encourage a vehicular circulation pattern in existing and developing areas that minimizes the adverse impact on the more stable neighborhoods" (Ref. 53, page 12). There are five sub-districts in the plan, three of which have borders about a quarter mile from the Han-Li site (as shown in Figure 19). The Specific Plan also acts as a separate zone district as shown in Figure 18.

Recently developed luxury townhomes are located to the north of Third Street, while to the south there is a mix of historic buildings, vacant lots, and deteriorated commercial and residential structures. The northern portion of Area I is designated as

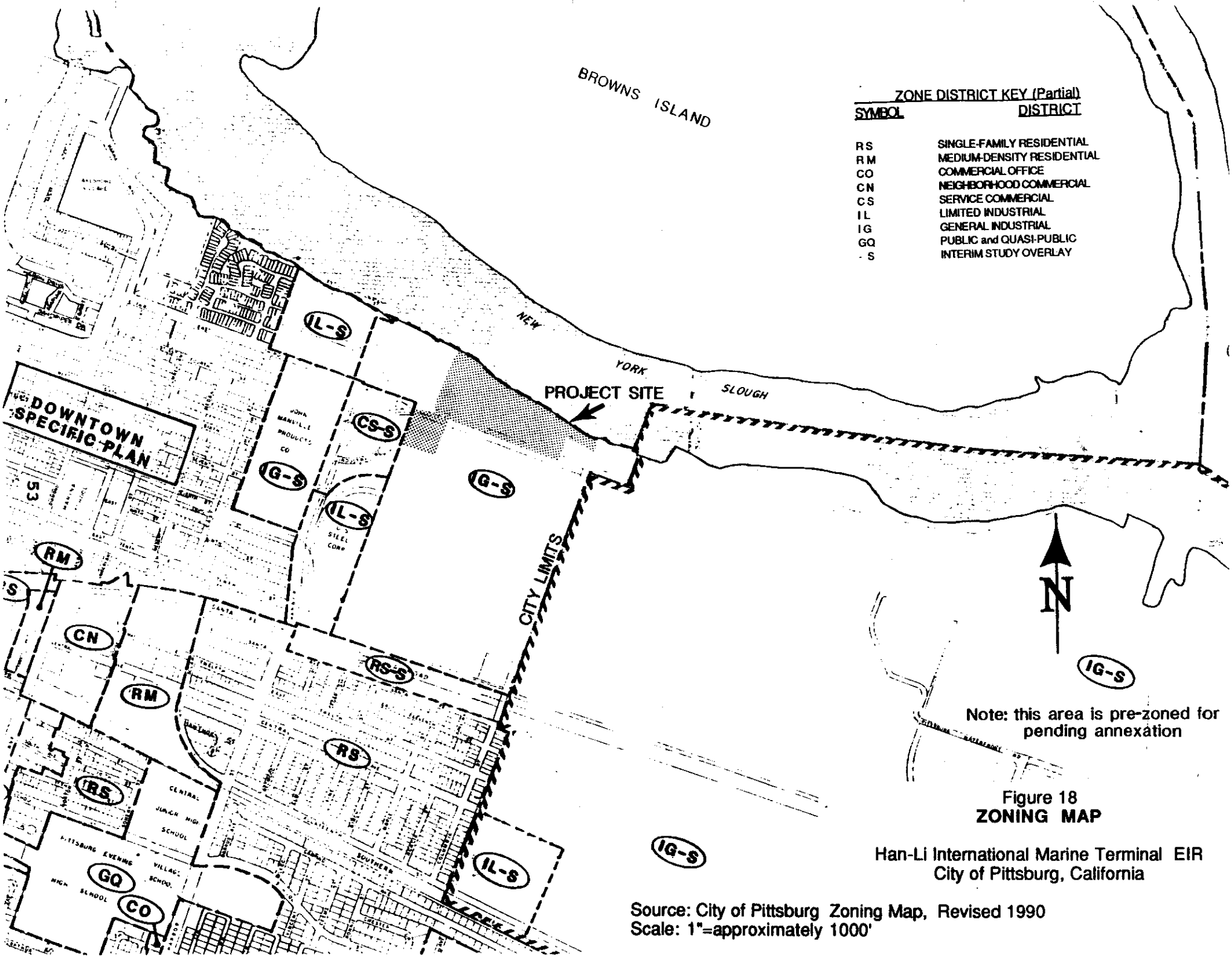


Figure 18
ZONING MAP

Han-Li International Marine Terminal EIR
City of Pittsburg, California

Source: City of Pittsburg Zoning Map, Revised 1990
Scale: 1"=approximately 1000'

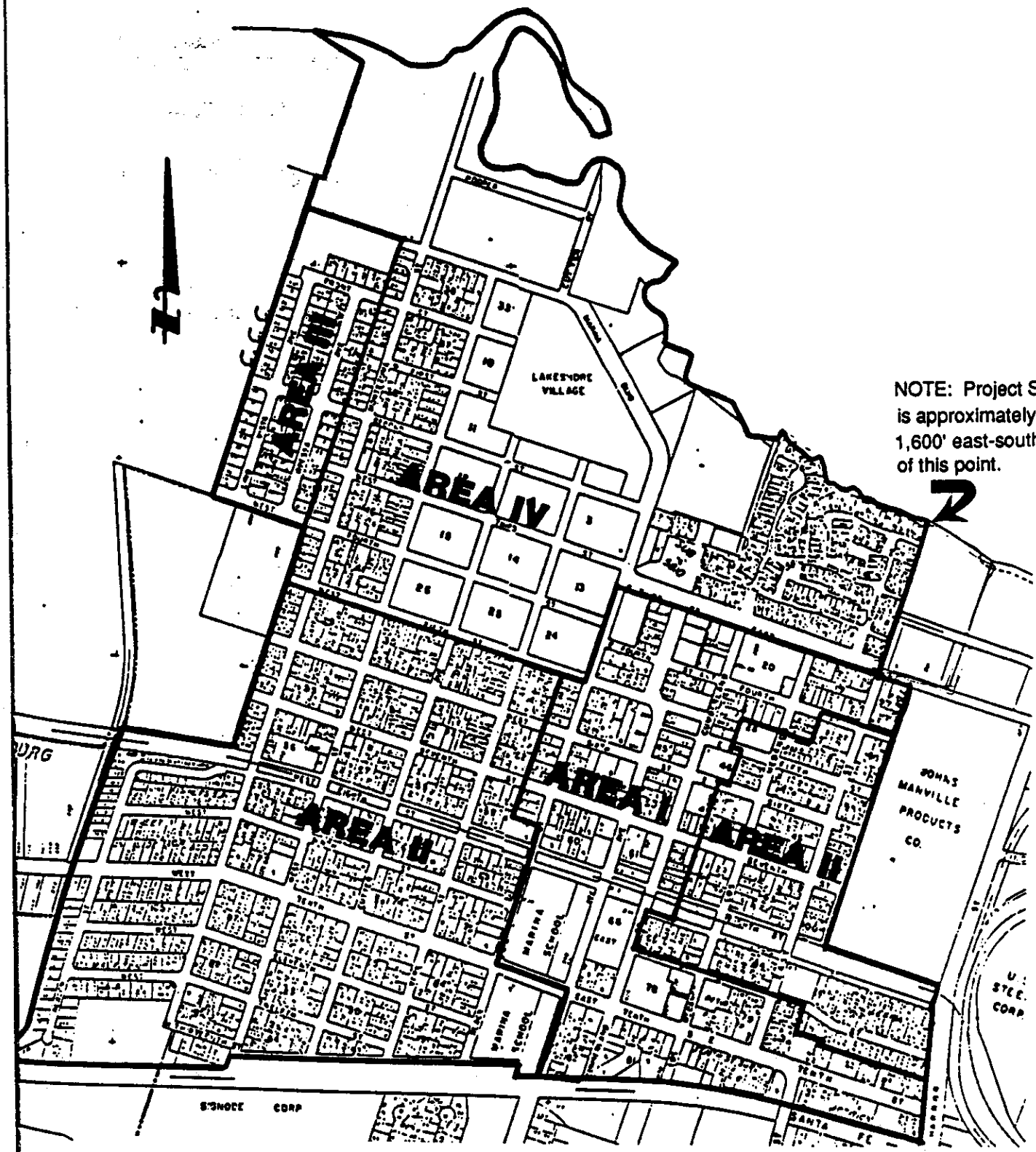


Figure 19
DOWNTOWN SPECIFIC PLAN SUB-AREA BOUNDARIES
Scale: 1"=approx. 650'
Han-Li International Marine Terminal EIR
City of Pittsburg, California

an Historical and Design Review District. A third, mostly residential neighborhood is located between Fourth and Ninth Streets, on the far side of the 20-acre Johns Manville facility from the Project site. The redevelopment of this site is discussed in section 6 below. In the commercial area south of Third Street, selected land uses, including retailing, offices, services, and upper level residential uses, are defined in specific terms as a means of achieving economic revitalization, while bars, adult services (e.g. massage parlors), and low density housing, including mobile homes, are excluded (Ref. 53, pages 16-19).

4. Pittsburg Downtown Circulation Element Study

In 1988, a Downtown Circulation Element Study was prepared, which recommended a series of improvements in circulation, parking and infrastructure. Four scenarios of differing levels of redevelopment were reviewed, and a synthesis of all alternatives resulted in a set of preferred objectives and policies. The maximum density and development foreseen in the downtown suggests a substantial increase in traffic levels, business activity and residential density. Parking structures, increased transit services and pedestrian and bicycle facilities are recommended in addition to comprehensive upgrades, widenings and extensions of local streets. The development assumptions are presented on in **Figure 20** (Ref. 54, page ii). A primary recommendation is for greater traffic capacity in north-south directions, along at least two alignments, as shown in **Figure 21**. Improvements from east to west along Eighth Street from Marine Boulevard to Harbor Street are also suggested. These improvements will accommodate substantial growth in the downtown area.

5. Pittsburg Enterprise Zone

A significant portion of the downtown area and large areas along Highway 4 are incorporated within the Pittsburg Enterprise Zone, illustrated in **Figure 22**. The Enterprise zone is intended to provide jobs and encourage new business and industrial activity, a

Figure 20
DEVELOPMENT ASSUMPTIONS
Pittsburg Downtown Circulation Element Study
Han-Li International Marine Terminal EIR
City of Pittsburg, California
Source: Ref. 25

Scenario 1:

Whitecliff Homes/Marina Phase II:
- 371 dwelling units;
- 120 private boat berths and a boat house.

Marina Phase III:
- 300 or more public boat berths.

Restaurants:
- Two quality, 3,000 square foot, restaurants.

Scenario 2:

Historical District Renovation:
- 210,000 square feet of existing structures.

Historical District Infill:
- 12,000 square feet.

Parking Structures:
- 890 spaces are required, 160 are available on-street or in unused lots;
- 730 spaces are assumed to be provided in two-story structures requiring 127,000 square feet of land area.

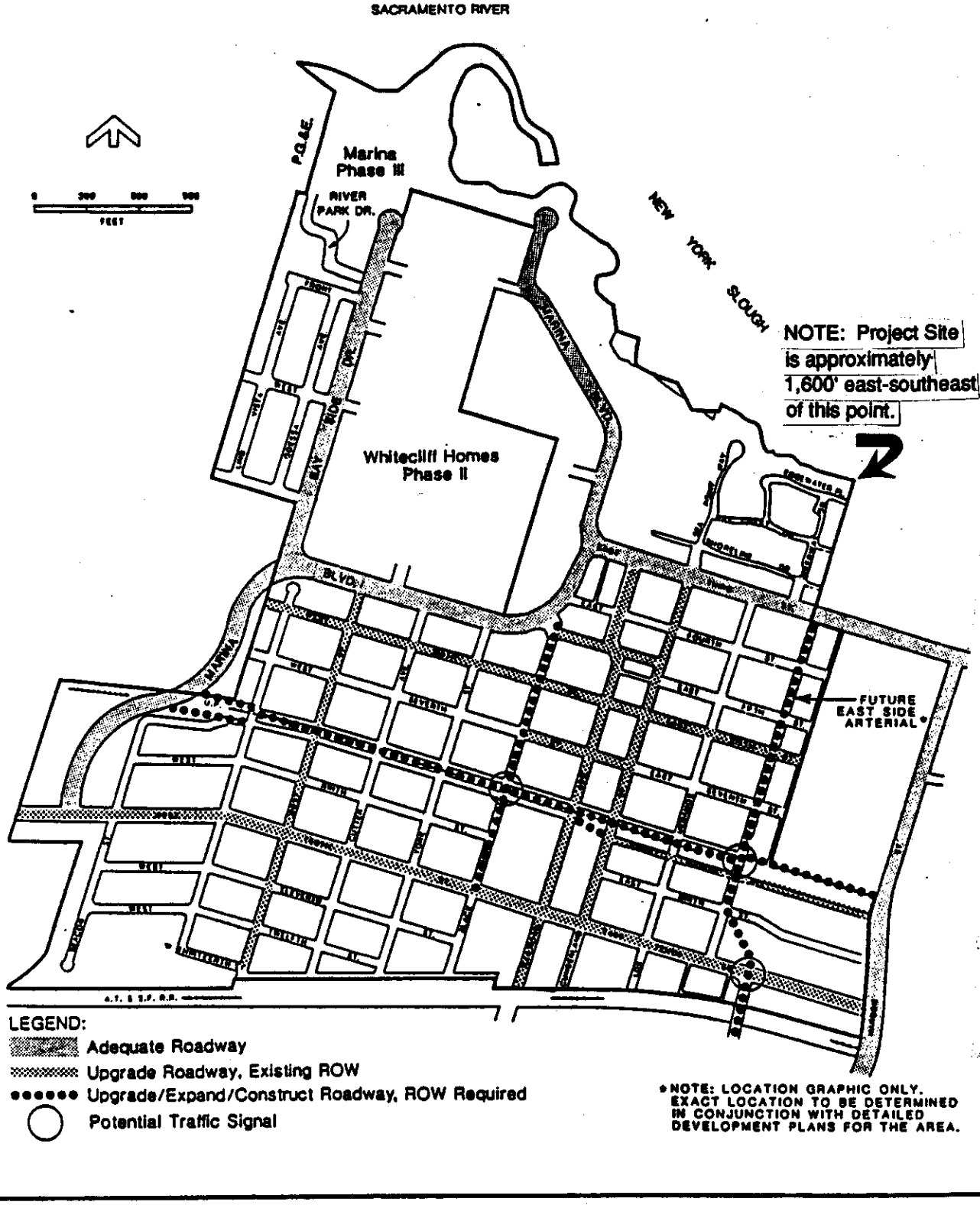
Scenario 3:

Intensification of two sections of Area II:
- 3A: Intensification of 30 percent of the medium density residential area, an increase of 134 to 206 habitable dwelling units;
- 3B: Intensification of 60 percent of the medium density residential area, an increase of 268 to 413 habitable dwelling units.

Scenario 4:

Maximum allowable development under the General Plan and Downtown Specific Plan:

	4A: 2 stories	4B: 3 stories
Area I:		
• Commercial/retail;	320,000 SF	369,000 SF
• Office;	274,000 SF	316,000 SF
• Research and development	137,000 SF	158,000 SF
• Restaurant;	46,000 SF	35,000 SF
• High density residential;	70 DU	70 DU
• Schools and public facilities	12,000 SF	9,500 SF
Area II:		
• Residential	298-694 DU	298-694 DU
Area III:		
• Residential	25-56 DU	25-56 DU
Area IV:		
• Residential	429-938 DU	429-938 DU
• Commercial/Retail/City Hall	417,000 SF	457,000 SF
• Restaurant	45,000 SF	45,000 SF
• Marina	300 Berths	300 Berths



Source: Ref 25

WSA

Figure 21
SYSTEM REDESIGN:
PITTSBURG DOWNTOWN CIRCULATION ELEMENT STUDY
Han-Li International Marine Terminal EIR
City of Pittsburg, California

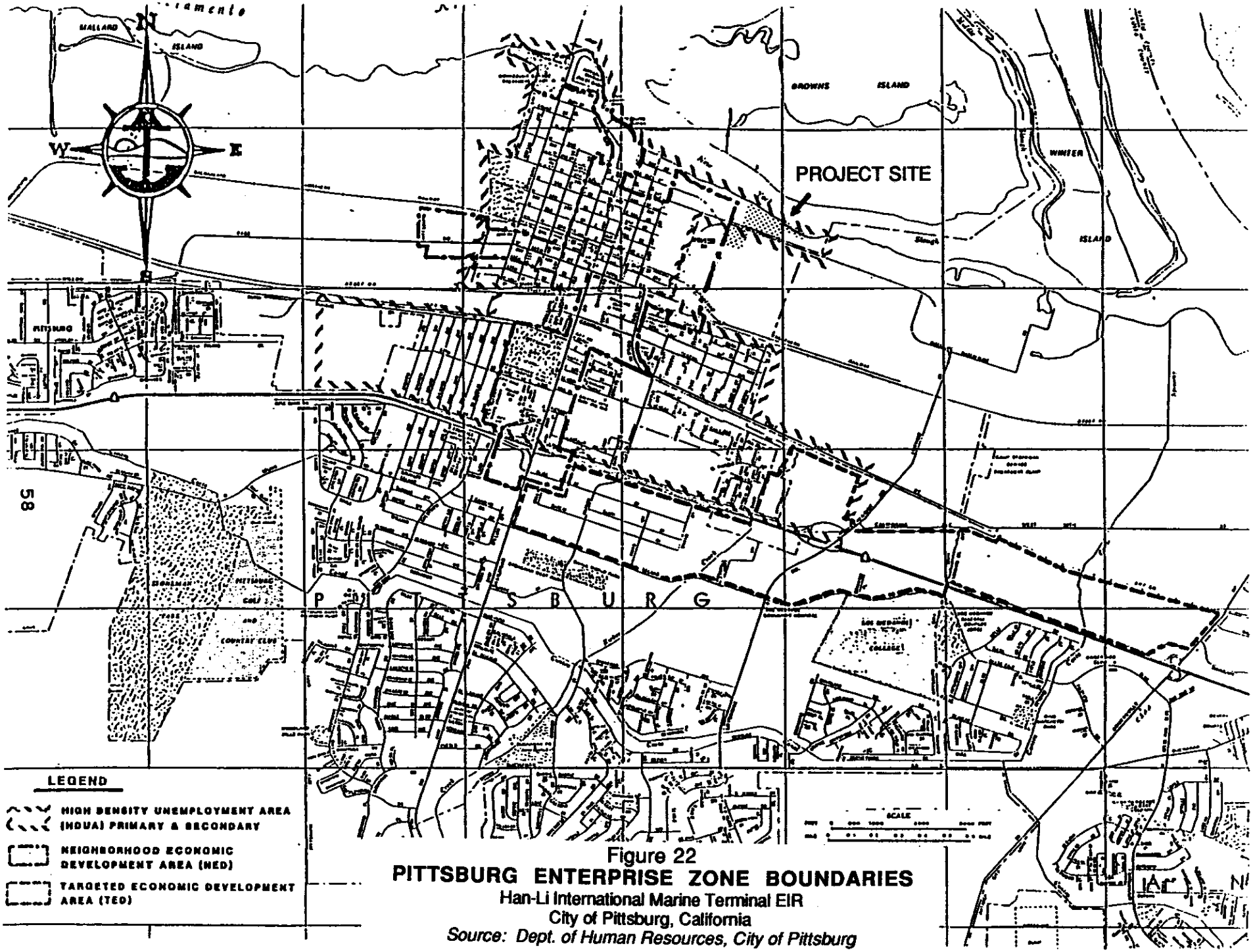


Figure 22

PITTSBURG ENTERPRISE ZONE BOUNDARIES

Han-Li International Marine Terminal EIR

City of Pittsburg, California

Source: Dept. of Human Resources, City of Pittsburg

goal which the Project site could play an important role in achieving. The northeastern edge of the "Neighborhood Economic Development" (NED) zone is adjacent to but excludes the Project site. The State of California approved the designation of this NED area under its Economic Incentive Program, to provide tax credits to qualified employers in the zone who hire local residents. Such residents must reside within the "High Density Unemployment Area," which includes the Project site, the boundaries of which are also defined in **Figure 22**. This program, as defined by the current boundaries, would have no impact on the Project. In 1988 the incentive period was extended by the State from five to 15 years, significantly raising industry interest. In addition to state tax incentives, the City waives many building rehabilitation fees and a portion of new construction fees, and provides subsidies for employee training and various other forms of assistance. The zone is expected to create over 5,000 new jobs and high levels of investment in business development over a 15-year period. The State legislature is presently considering changes in the program which would permit the City to expand the Enterprise Zone boundaries when a bordering site is to be developed with substantial employment potential (Ref. personal communication with Yvonne Sidonia, Pittsburg Human Resources Dept.). If approved, the Project site appears to be an appropriate candidate for inclusion in such an expanded area.

6. Pittsburg Redevelopment Agency

Within the Enterprise Zone and the downtown planning area, a 15-block area has been designated for acquisition by the Pittsburg Redevelopment Agency. The area, generally consisting of Area II in **Figure 19**, is one of two primarily residential areas in the Downtown, in which buildings have become severely deteriorated. Total acquisition of the area is estimated to be completed sometime in 1992, after which the residents will be relocated and the buildings will be demolished. The only exceptions will be buildings which are now designated within the historical district. Proposed redevelopment may consist of medium- to high-density

housing (personal communication with Anthony Aiello, Pittsburg Redevelopment Agency, 9/19/89).

B. IMPACTS

1. City of Pittsburg General Plan

The proposed Project land uses are consistent with the General Plan land use designation for general industrial uses. The use conforms to established surrounding land uses of bulk storage and transfer, and general raw material handling. The Project would constitute a significant, although not an enormous increase, in the general industry sector of the Pittsburg economy, employing a regular workforce of about 18 persons, and thus promotes industrial development policies intended to encourage existing industrial uses to expand. The Project does not fit the profile of the more desirable higher density employment, research and development type of use. However, the domed enclosures and pneumatic handling systems proposed to be used in storing and handling a large proportion of the materials on the site constitute a cleaner, more streamlined operation than presently exists at other such facilities. The Project site does not occupy, impinge on or reduce the extent of environmentally sensitive wetland areas, although it will eliminate native plant material along the narrow, undeveloped shoreline. The Project adds to the economic activity of Pittsburg, and would make effective use of New York Slough as an industrial transportation resource. In terms of the expectations for new industrial growth in this area expressed in the General Plan, however, it does not constitute a major contribution in terms of the extent of land development or employment.

The Project is in the general vicinity of the downtown area, but within an established industrial section, and thus does not directly relate to the commercial revitalization of the downtown area and the new residential areas existing or proposed around its periphery. Intervening industrial uses between the Project

site and the residential and commercial uses in the downtown "buffer" the site to a large extent.

The proposed Bicycle and Pedestrian Way shown on the General Plan (see Figure 15) on Third Street would not be complementary, although such an amenity may be practical for the future, now undetermined, development of the USS/POSCO property south of the Project site. A park proposal in the southwest corner of the USS/POSCO property would not be affected. The local collector street system suggested in the General Plan would not be consistent with the Project-required closure of a portion of Third Street. The bicycle, pedestrian and collector street systems are chiefly conceptual in nature, rather than established routes, which would be identified in an adopted Specific Plan for the Northeast River area.

According to the plans for the Project, all utilities would be installed underground, and water supply, wastewater and storm drainage systems would be installed in conjunction with the neighboring GWF co-generation power plant project.

Truck traffic generation from the Project presents one of the more significant impacts, and does not promote the General Plan policy of guiding heavy traffic away from residential neighborhoods. The present truck route configuration passes close to and through existing residential areas. The Project is clearly consistent with the land use designation defined in the General Plan, yet the balance between intensity of activity and present road capacity, an essential guideline of development, is likely to be disturbed without adequate mitigation measures. The land use guidelines of the General Plan do not specify limits to the intensity of general industrial land use, as they do for residential or commercial land uses. It only limits development to ensure that the City is not burdened by excessive demands for services, such as roadway improvements. This impact is discussed further in Chapter IV (Traffic and Circulation).

The Project could pose a potential threat to the natural environment of New York Slough and Brown's Island, which the General Plan specifies as areas of important fish, wildlife and botanical habitats. Normal, safe operation of the facility should not have significant impact, but potential upsets such as flooding, windstorms, fires, or a marine vessel accident, could damage these habitats. Because no fuel or other toxic materials will be stored at the site, the risk of upset is considered to be limited or remote. Mitigation of such risks is nonetheless important for the protection and preservation of the area's natural environment. Further discussion of risks of upset is provided in Chapter V, Water Quality.

The Project shoreline environment will be subject to disturbance and change in relation to the dredging operation to widen the shipping channel to accommodate ships docking at the facility, and to redress the shoreline to accommodate proposed new structures and equipment. The applicants' engineers estimate that approximately 60,000 cubic yards of material will be dredged from the Slough bottom and 500 cubic yards removed along the shoreline to accommodate the barge ramp. The majority of existing grasses and riparian vegetation and wildlife habitats within the site will be eliminated as a result of the dredging and shoreline construction required for development of the Project. However, the primary focus of the General Plan policies regarding conservation is on Brown's Island and the Northwest River Area (Planning Area 3 in the General Plan, west of the City marinas and the PG&E generating plant).

The Project requires substantial but not excessive amounts of water for dust suppression, and does not therefore conform to water conservation policies of the General Plan. The site preparations will involve depositing the dredging spoils on the site, raising it completely above the flood hazard elevation identified in the FEMA Flood Insurance Study (Ref. 65). As a new development with its own internal storm drainage system, the Project will not require additional storm drainage capacity from the City storm drain system, or mitigation measures to control storm drainage

into municipal storm drains. Specific impacts on water quality and storm drainage are discussed in Chapter V (Water Quality).

The Noise Element of the General Plan recommends compatibility of projects within their surroundings, and for design characteristics that minimize noise levels on the site and from traffic generated by projects. The proposed marine terminal Project will generate high noise volumes, but is compatible with surrounding land uses, and encloses many noise generating machines. Traffic noise will be substantial; however, there is no noise element policy which suggest prohibition of projects with high levels of traffic generation. Chapter VI, Noise Considerations, discusses the noise impacts of the Project in detail.

2. Pittsburg Zoning Ordinance

The proposed Project would require a Conditional Use Permit, due to the requirements of the "__-S" Overlay District, and in any case would be required for the docking facility. The various indoor and outdoor storage areas are generally consistent with the permitted uses of the "IG" zone district, although most activities would need to be specified in the Use Permit. The applicants intend to landscape the site to the extent required by the Zoning Ordinance. The domes exceed normal height limitations, but the distance from the nearest public street allows the increase.

3. Pittsburg Downtown Specific Plan and Circulation Element Study

The development of downtown Pittsburg as a revitalized area of retailing, offices, services, new housing and historic preservation can proceed without being affected by the Project, particularly if truck traffic is consistently prevented from intruding on to downtown streets. However, the downtown may generate substantially higher traffic levels of its own if the maximum allowable development takes place as defined in Figure 20. It is desirable, however, to segregate downtown and industrial area traffic, and tie road and street improvements to expansion in

their respective requirements for greater capacity. Operation of the Project will ordinarily have no marked effect on downtown circulation.

4. Pittsburg Enterprise Zone

The chief objective of the Enterprise Zone is to attract new commercial operations and employment to the central Pittsburg area, and to the central section of north Contra Costa County. The Project makes a moderate contribution to achieving these objectives, although it is not within the Enterprise Zone area. It presently would not benefit from the existing Enterprise Zone designation, but if pending legislation allowed it to be annexed into the Zone, then localized employment by the Project operation would be encouraged.

5. Pittsburg Redevelopment Agency

The redevelopment of the 15-block residential area directly to the west of the Johns Manville industrial plant for medium- to high-density housing will not be affected by the Project operation, providing that, as discussed above, no truck traffic is allowed to penetrate the area. The redevelopment area will be buffered to some extent from possible noise and dust emissions from the Project by the Johns Manville plant, which averages 35 feet high. High-rise apartment buildings are not under consideration for this area, and new residential structures appear unlikely to exceed three stories in height.

C. MITIGATION MEASURES

The Project is in overall conformance with the Pittsburg General Plan and the Zoning Ordinance, although certain stipulations under the Conditional Use Permit issued for the Project should be adopted in order to ensure the conformance of the Project to the intent of the General Plan, and to mitigate possible adverse impacts.

- The development by the City of Pittsburg of a Northeast River Area Assessment District for financing road improvements along Third Street between Harbor Street and the Project site, and water, sewer, telephone, power and landscaping improvements in the same vicinity is a minimum necessity. This should be coordinated with the following mitigation measure.

- Planning by the City of Pittsburg for the entire Northeast River Industrial Area, following the anticipated annexation (or its modification or rejection) of the Planning Subarea, should be conducted in the form of a Specific Plan, to address the long-term development of the USS/POSCO property, and other industrial sites in the Subarea. This is a specific recommendation of the General Plan. In coordination with the above-mentioned Assessment District, the plan should address the financing and construction of a new industrial roadway proposal bypassing residential areas. Industrial traffic in the area should be segregated from residential and general commercial traffic, and these two types of traffic should have separate access to State Highway 4. The Specific Plan should resolve the incompatibility of the proposed marine terminal Project with existing General Plan recommendations for new roadways and a bikeway.

- The requirements by the City of Pittsburg for monitoring the mitigation measures defined for the Project should be defined in detail, and should continue during Project operation, to ensure that the materials are handled in a clean and environmentally sensitive manner. New bulk material handling projects such as this Project should set an example for the region and demonstrate that heavy industrial land uses can coexist harmoniously with the environment. Strenuous efforts to guarantee the prevention of an upset such as a fire or other accident involving a marine vessel or other container, and to lessen the potential impacts of floods,

windstorms and earthquakes are vitally important in order to protect the habitats of New York Slough and Brown's Island.

- The City should develop a Water Conservation Program, which would set guidelines for water usage for dust suppression on the Project site.

- The City should continue to support legislation which would allow the City to expand its Enterprise Zone to include the Project site and possibly the GWF power plant site, in order to provide the incentive for these operations to hire a portion of their workforce from the areas of unemployment in the City.

IV. TRAFFIC AND CIRCULATION

A. SETTING

1. Project Location and Roadway Access

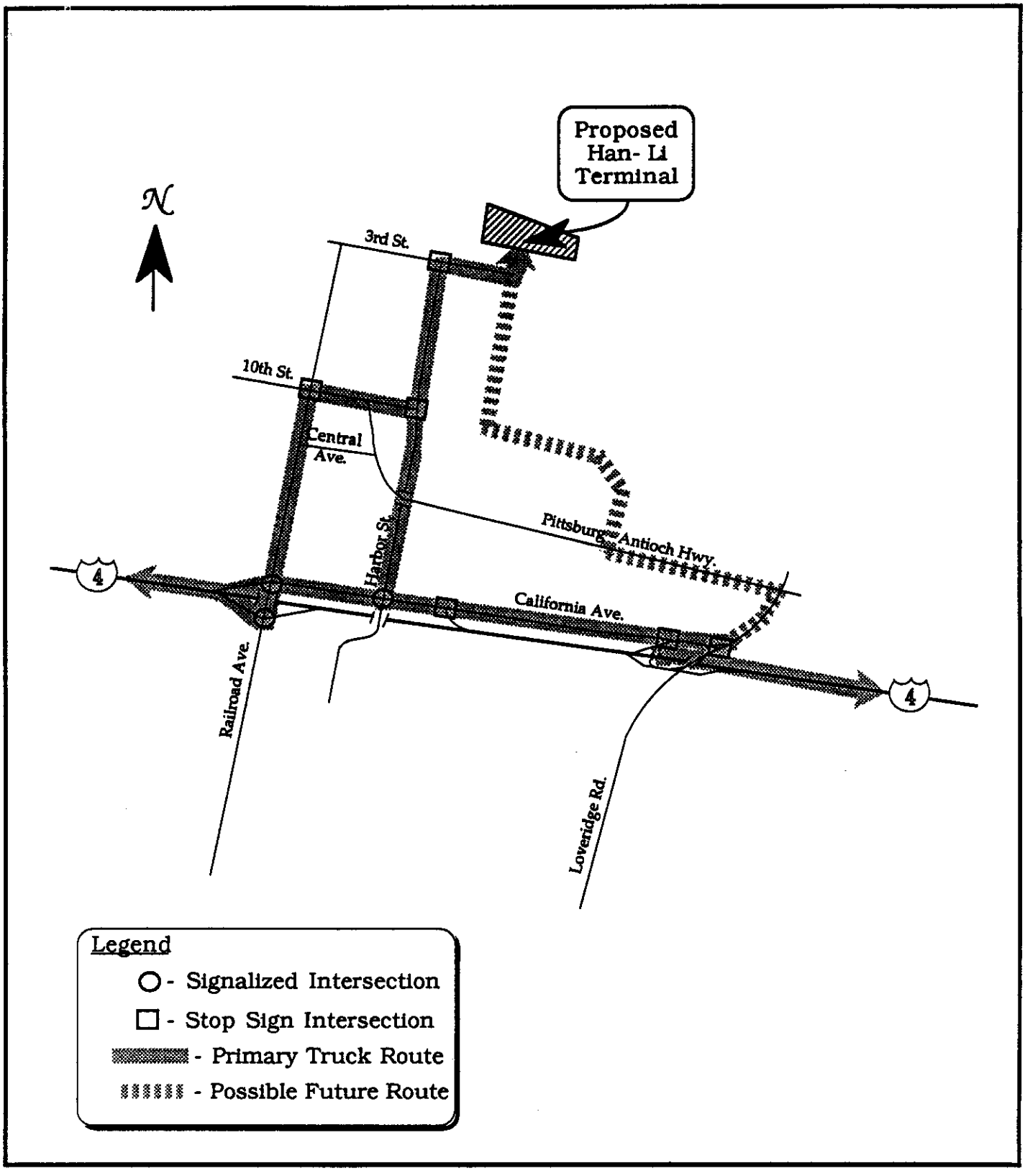
The proposed Han-Li marine terminal is located on Third Street in the northeast corner of the City of Pittsburg. This chapter constitutes the Traffic Study of the EIR. The southern boundary of the site is a private, unpaved extension of Third Street. Undeveloped industrial areas lie to the south. To the east is a cogeneration power plant under construction. The northern edge of the property is the San Joaquin River. The nearest residential areas are located about 1,600 feet to the west. **Figure 23** shows the Project location, and the roadway access system that would serve the proposed terminal. This figure also shows the existing traffic controls and the primary truck access routes to the project.

2. Existing Street System

The streets that are assumed to be used for access to the Han-Li terminal are Third Street, Harbor Street, and California Avenue. The traffic would then use California Street either east or west to travel to Highway 4.

East Third Street, east of Harbor Street, is a two-lane industrial collector street that serves the industrial properties adjacent to the Project site. It is presently in very poor condition, with loose gravel and pot holes. West of Harbor Street, the average daily traffic (ADT, total of both directions) is 3,200 vehicles per day. The intersection of Harbor Street and Third Street is substandard, and needs improvement to accommodate truck movements.

Harbor Street is a north-south four-lane arterial, with turn lanes, between Third Street and Central Avenue. It narrows down to one lane in each direction at the East 14th Street/Southern



Han - Li Terminal City of Pittsburg EIR Traffic Impact Study	Figure 23 **Project Location and Primary Truck Routes** Abrams Associates

Pacific Railroad underpass, and widens again to two lanes in each direction between School Street and California Avenue. There is an at-grade railroad crossing near Eighth Street (Santa Fe), and a grade separation with the SPRR and East 14th Street. Harbor Street is a designated truck route, and presently carries a combined total of approximately 4,200 daily vehicles in both directions north of East Tenth Street, and about 13,700 between Tenth Street and California Avenue. The posted speed limit is 35 miles per hour.

California Avenue is a two and three-lane east-west collector, with turn lanes, that runs parallel to the SR 4 freeway between Loveridge Road and Railroad Avenue. It is a designated truck route and provides heavy vehicle access to and from the freeway and the industrial area. There are a large number of buses in the area serving various schools on Harbor Street. It presently carries about 8,000 daily vehicles between Railroad Avenue and Harbor Street, and about 14,800 vehicles between Harbor Street and the Highway 4 westbound off-ramp. In the vicinity of Loveridge Road, California Avenue has a daily traffic volume of 6,700 vehicles per day and the offramp from. The posted speed limits are 35 and 40 miles per hour.

Railroad Avenue, between Tenth Street and SR 4, is a four-lane arterial, with turn lanes, which serves as the primary access to the downtown and civic center areas, and the marina. It currently carries about 13,800 vehicles daily, north of California Avenue, and 21,500 vehicles per day to the south of Highway 4.

Highway 4 (State Route 4) is a main corridor route between the East County (Pittsburg, Antioch, Brentwood, Oakley) and the Walnut Creek-Concord Central County area. Highway 4 has two travel lanes in each direction through the East County area. From Antioch to the west side of Pittsburg, the road continues as a four-lane freeway. Highway 4 passes over a steep grade between West Pittsburg and Concord. In recent years, the road has been widened and improvements have been made to the eastbound direction between the Port Chicago Highway interchange and the summit, and

the westbound direction. During peak commute hours, there are queuing problems and long delays over the summit (westbound in the AM, and eastbound in the PM). Improvements are planned for the westbound direction in 1990/1991. In the longer term, in five to ten years, there are plans to widen Highway 4 to a six-lane, or possibly an eight-lane freeway through Pittsburg and Antioch, possibly tied to an extension of the Bay Area Rapid Transit (BART) line to these communities.

3. Existing Capacity Conditions

Traffic operations on Third and Harbor are currently at very acceptable levels. The signalized intersection at Harbor Street and California Avenue operates at service level "A" during the PM peak hour, which indicates very good traffic operation. The intersection of Loveridge Road and the Pittsburg-Antioch Highway is also at Level of Service "A". The signalized intersections of Railroad Avenue with SR 4 eastbound and westbound ramps operate at a level of service "D", which is the minimum acceptable condition in Pittsburg. Definitions of levels of service for signalized intersections are provided in Figure 24.

Intersections with a one-way stop-sign control usually have a lower level of service which results from significant delays for the minor street traffic due to a limited number of gaps in the traffic on the major street. The SR 4 freeway off-ramps at Harbor Street and Loveridge Road, both with stop sign control, have very poor levels of service.

Railroad tracks cross the intersections of Loveridge Road at California Avenue and at the freeway on- and off-ramps. Railroad traffic can affect levels of service; however, there is only minimal railroad movement in the area and no major traffic flow disruption was caused by the railroad when the counts were made.

Figure 24

LEVELS OF SERVICE AND VOLUME-TO-CAPACITY RATIOS FOR SIGNALIZED INTERSECTIONS

Han-Li International Marine Terminal EIR
City of Pittsburg, California

Levels of Service	Description	V/C Ratio
A	Free flow (relatively). If signalized, conditions are such that no approach phase is fully utilized by traffic and no vehicle waits through more than one red indication. Very slight or no delay.	0.00-0.60
B	Stable flow. If signalized, an occasional approach phase is fully utilized; vehicle platoons are formed. This level is suitable operation for rural design purpose. Slight delay.	0.61-0.70
C	Stable flow or operation. If signalized, drivers occasionally may have to wait through more than one red indication. This level is suitable operation for urban design purposes. Acceptable delay.	0.71-0.80
D	Approaching unstable flow or operation; queues develop but quickly clear. Tolerable delay.	0.81-0.90
E	Unstable flow or operation; the intersection has reached ultimate capacity; this condition is not uncommon in peak hours. Congestion and intolerable delay.	0.91-1.00
F	Forced flow or operation. Intersection operates below capacity. Jammed.	1.00+

Source: Transportation Research Circular 212 - Interim Materials on Highway Capacity Analysis - Highway Research Board, January 1980.

B. IMPACTS

1. Trip Generation

The trip generation of this Project is a function of the truck traffic as well as the employees and visitors that travel to the site. The amount of truck traffic and other traffic has been estimated based on the Project description provided by the applicant. These forecasts are based on the full buildout of the facility, and reflect the maximum truck flow conditions that would occur in a worst-case scenario rather than with the average level of activity. The following section describes the traffic flow that would result from this Project.

The Han-Li facility would handle about ten different types of dry bulk materials, most of which would arrive by ship, which would be transported from the site by rail and truck. Cement will arrive by ship and depart by sealed hopper-type trailer trucks. Sulphur comes to the site in sealed trucks and is exported by ship. Scrap metal from the nearby steel mill will be delivered by use of a short, private road to the site for direct loading from trucks to barges. Grain will arrive by train to be directly loaded to ships. Lumber comes by barge to be delivered by trains and trucks. Figure 25 provides a summary of this truck data.

The activity at the terminal is not projected to grow to its peak level of activity until the fifth year or later. The projected growth of activity and truck traffic is described in Appendix B (page B-13). For the purposes of this traffic study, the traffic at full buildout, as shown in Figure 25, has been used to analyze the Project impacts.

The Han-Li Project is a somewhat unusual land use, and there are no comparable previous studies by ITE (Trip Generation Manual) or by Caltrans that can be used as a basis for predicting future traffic volumes. The traffic forecasts in this EIR have been based on the Han-Li estimates of shipping activity. Abrams Associates has taken these forecasts and applied factors on hourly

Figure 25

HAN-LI TERMINAL
ANALYSIS OF TRUCK TRIPS AT THE TERMINAL
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Product	Estimated Tons/Year	Mode of Delivery	Mode of Shipment	Estimated No. of Trucks Per Year
Cement	1,000,000	Ship	Truck	38,500
Sulphur	150,000	Truck	Ship	6,000
Bauxite, Gypsum	420,000	Ship	Truck (or Rail)	4,200
Aggregate (Sand and Gravel)	240,000	Barge	Truck (or Rail)	4,800
Lumber	115,000	Barge	Truck (or Rail)	2,900
Scrap Metal	60,000	Truck*	Barge	---
		Total Trucks Per Year		**56,400**

Total Trucks Per Day (Assumes 260 days of operation, five days per week)		217
Design Daily Volume (25% Peaking Factor)		271
Total Truck Trips Per Day		
	Inbound	271
	Outbound	271
	TOTAL:	**542**

* Private ½-mile local road.

distribution, peak hour travel, employee/visitor trips and peaking characteristics from other studies of industrial areas in Contra Costa County.

Based on these forecasts, the maximum condition that would occur at full buildout of the Han-Li facility would generate 271 total truck trips per day and 542 total roundtrips. This would only occur at the time that all components of the facility are in operation. It also takes into account that the truck traffic is not evenly distributed on all days but will have certain time periods when trucking activities are the most intense. A 25 percent peaking factor has been assumed to account for this condition. Based on studies of other industrial areas, a peaking factor of 25 percent above an average day is an appropriate condition to use for traffic design, and will account for all but the top three to five days per year when traffic is the highest.

2. Hourly Distribution

Figure 26 provides an estimate of the hourly distribution of truck and visitor traffic originating from the Han-Li terminal. The data are shown for both truck traffic and traffic generated by employees and visitors. The results are that the Project will have peak hour traffic of 79 vehicles per hour between 9:00 AM and 10:00 AM. During the typical commute peak hours in Pittsburg, which generally occur during 7:30 to 8:30 AM, and 4:30 to 5:30 PM, the traffic generated by the Project will be much less, and will amount to about 65 vehicle trips in the morning commute hour, and 45 trips in the evening commute hour.

3. Traffic Volume Impacts

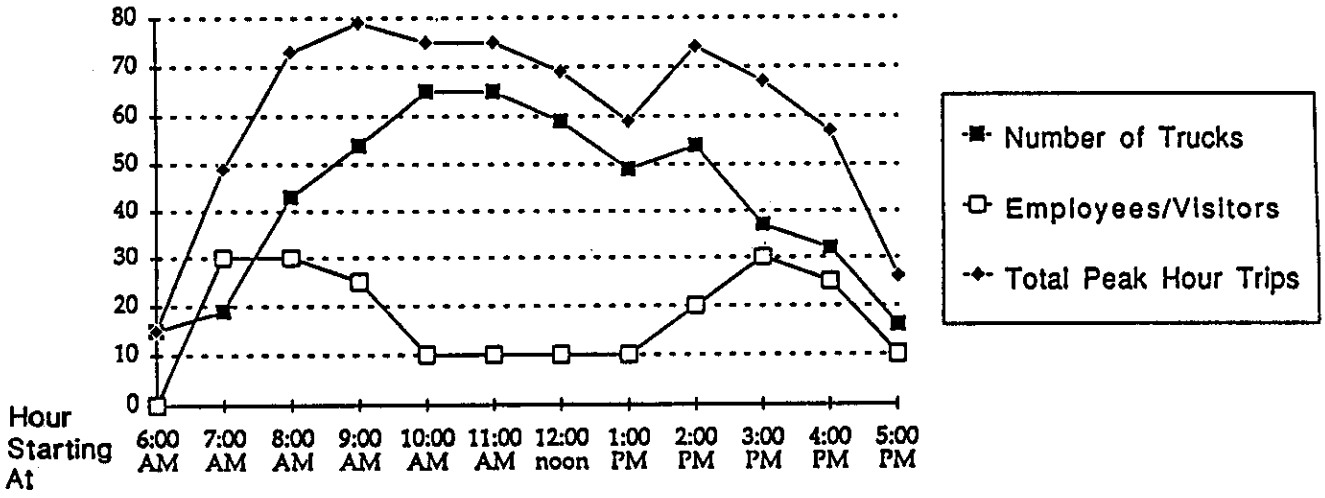
Figure 27 shows the relative impact of the Project on the various streets in the vicinity of the Project site. These data assume that Harbor Street and California Avenue will be the principal truck route used for the Project. These data show that the Project would increase overall traffic by 20 percent and would double the truck volumes on Harbor Avenue at Third Street, although

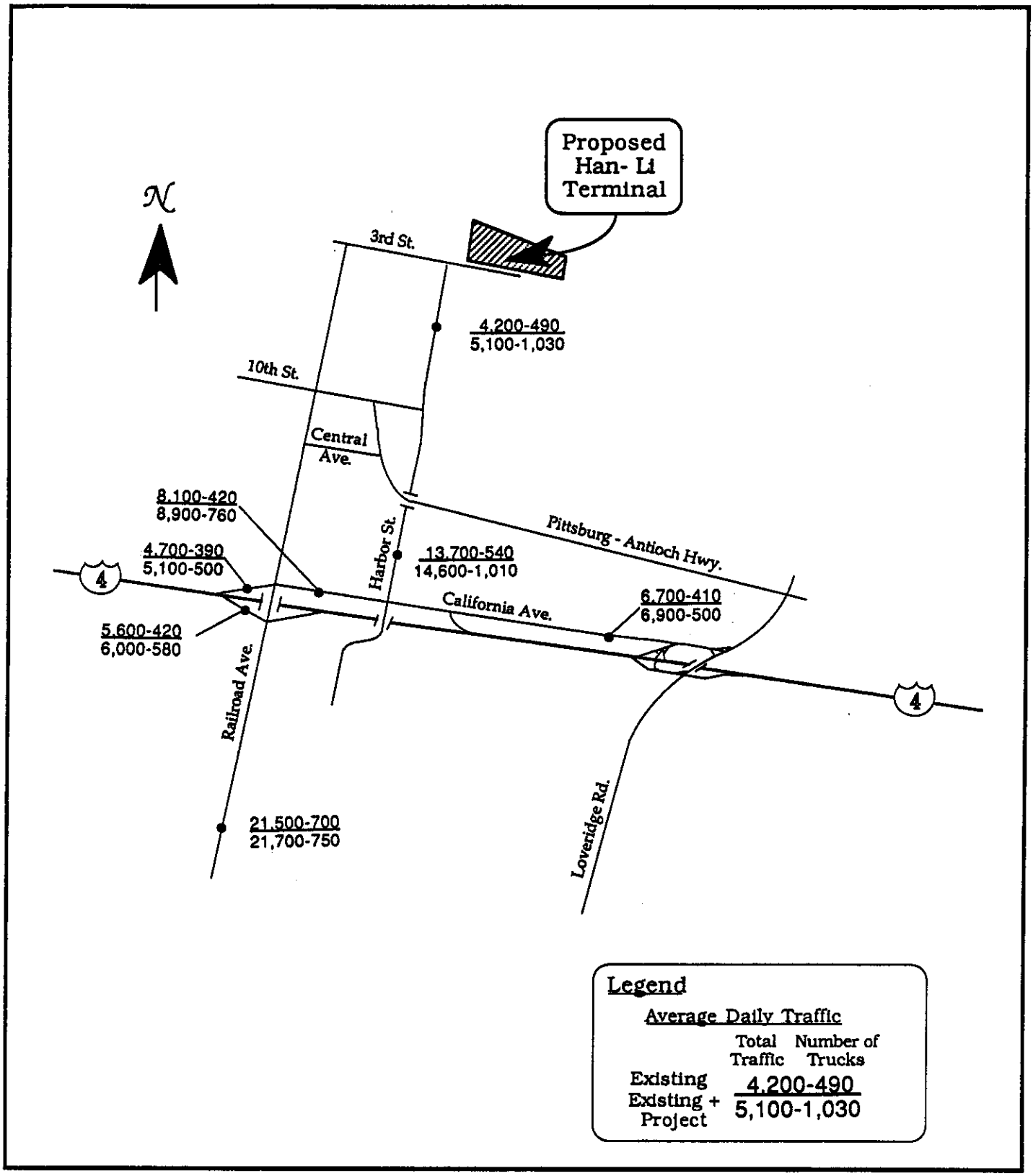
Figure 26

HAN-LI TERMINAL
ESTIMATED HOURLY DISTRIBUTION OF VEHICULAR TRAFFIC
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Hour Starting At	Total Truck Trips % Distrib.	Total Truck Trips # Trips	Employees/ Visitors	Total Peak Hour Trips
6 AM	3	16	0	16
7 AM	3	16	30	46
8 AM	8	43	30	73
9 AM	10	54	25	79
10 AM	12	65	10	75
11 AM	12	65	10	75
12 NOON	11	60	10	70
1 PM	9	49	10	59
2 PM	10	54	20	74
3 PM	7	38	30	68
4 PM	6	33	25	58
5 PM	3	16	10	26
TOTALS:	94	509	210	719
REMAINDER OF THE DAY:	6	33	65	98
TOTALS:	100	542	275	817

Han-Li Terminal Estimated Hourly Distribution of Traffic





Han - Li Terminal City of Pittsburg EIR Traffic Impact Study	Figure 27 **Traffic Volume Impacts** Abrams Associates

there would still be remaining capacity. The Project would also add significantly to the truck traffic at California Avenue and Railroad Avenue. The freeway ramps at Railroad and Harbor would each experience an increase of 160 truck trips per day. Traffic volumes generated by the Project, especially truck traffic, would also add to the current congestion on Highway 4 in the area between Pittsburg and the Willow Pass Grade.

4. Pavement Deterioration Impacts

The roadway section that is required to handle this level of truck traffic is commonly based on calculations of the traffic index, which evaluates a ten-year pavement design life (Ref. 18). The traffic index (TI) is a logarithmically-based scale which indicates the ability of the pavement structure to support repetitive wheel and axle-loads of large trucks, given a sound structural sub-base. TI ratings of 7.0 or greater are utilized on streets which are not expected to carry appreciable amounts of truck traffic. Higher values of up to 9.0 or 9.5 are used on major arterial streets with heavy truck traffic. These values would be applicable to routes used by Han-Li traffic.

The design TI for all existing pavements on the access routes are not known, but it is likely that many would be inadequate for heavy repetitive truck loads such as the proposed Han-Li terminal Project would generate. With the exception of sections of Railroad Avenue and Harbor Avenue, the major access routes to the Han-Li Project would required reconstruction to achieve a TI of 9.5.

5. Intersection and Roadway Capacity

The intersection capacity conditions at each affected location were calculated using turning movement counts conducted by Abrams Associates as a base, and adding to this the Project traffic, and the estimated traffic from cumulative projects. These calculations were based on the PM peak hour conditions from 4:30 to 5:30 PM. Figure 28 presents these data for each of these critical

Figure 28

INTERSECTION CAPACITY FORECASTS
LEVEL OF SERVICE - V/C RATIO*
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Intersection	Traffic Control	Existing Conditions	Existing plus Full Project	Cumulative, including Project
Harbor Street - East Third Street	Stop Signs	A	B	B
Harbor Street - East Tenth Street	Stop Signs	B	C	C
Harbor Street - California Avenue	Signal	0.60/A	0.75/C	0.83/D
Railroad Avenue - California Street	Signal	0.82/D	0.91/E	0.98/E
Railroad Avenue - Hwy 4 EB Ramps	Signal	0.85/D	0.89/D	0.96/E
California Avenue - Hwy 4 Harbor Street Off-ramp	Stop Signs	F	F	F
Loveridge Road - Hwy 4 Off-ramps	Stop Signs	D	D	E
California Avenue - Loveridge Road	Stop Signs	C	D	D

* Calculated for PM peak hour - 4:30 to 5:30 PM.

locations. These traffic volumes and the lane configurations at these intersections are shown in Appendix C.

The impacts of the Project traffic have been calculated by using a truck equivalency factor of 3. The results clearly show the dramatic influence of the truck traffic on capacity and congestion.

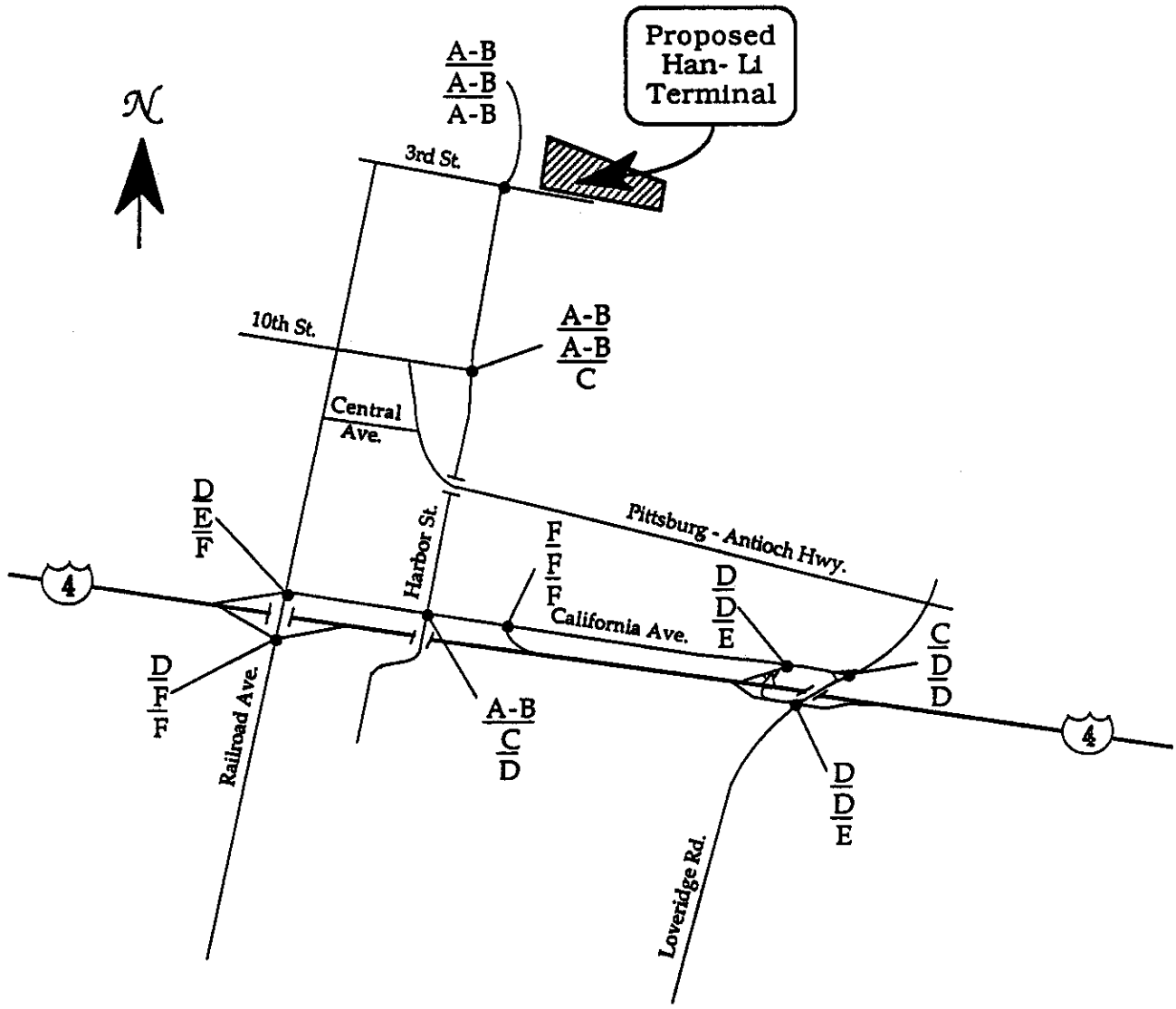
Figure 29 shows graphically the results of the capacity calculations for the critical intersections in the area for 1) the existing traffic conditions, 2) the existing plus Project conditions, and 3) for future forecasts. The data reflect conditions during the PM peak hour. The results show clearly the traffic congestion problems at the Highway 4 intersections. The freeway ramps at Railroad Avenue, the off-ramp at Harbor Boulevard, and the ramps at the Loveridge Road intersection are all at or near capacity. It should be noted, however, that many of these impacts currently exist, and are predicted to occur regardless of the implementation of the Project. The addition of the Project will worsen these conditions.

6. Intersection Turning Designs

At several intersections, most notably at Harbor Street and California Avenue and at Railroad Avenue, the corner radius are inadequate to handle the truck turning movements. This is an existing problem at these intersections, which will be worsened as a result of the Project implementation.

7. Traffic Impacts on Adjacent Land Uses

The Project would cause potential impacts to the adjacent land uses on the access route to the site. These impacts would result from the visibility of the trucks on these streets, the potential for accidents, and the possible noise of the truck traffic. This impact is also discussed in the land use section of this report.



Han - Li Terminal City of Pittsburg EIR Traffic Impact Study	Figure 29 **Level of Service/Intersection Capacity** Abrams Associates

The land uses that would be affected by the truck traffic would depend on the truck route chosen. However, the likely truck route would impact the commercial and residential development on Harbor Street, in the 0.8-mile segment between California Avenue and 10th street. There is residential frontage on this street, several schools, and some retail-commercial development. The truck traffic to the terminal would add a very visible element to the traffic flow on the access roads to the terminal.

8. Impacts on Pedestrian and Bicycle Routes

This impact would depend on the travel route that is selected for the trucks. Additional truck traffic could have a significant impact on pedestrian and bicycle safety on Harbor Street in the area between School Street and California Avenue. This area has a high volume of school trip crossings by pedestrians and bicyclists. There are on-street bicycle paths in several areas. This impact would not be significant on other routes.

C. MITIGATION MEASURES

At full buildout and operation, the Han-Li Terminal will have several significant traffic impacts. The extent of these impacts will be in direct proportion to the rate of growth at the terminal that is shown in Appendix B on page B-13. These impacts would not be very noticeable during the first year, but would become more significant in the third and following years of operation if this growth rate occurs as expected. These impacts will occur on Highway 4 and at the freeway ramp intersections. They will also occur on Harbor Street, California Avenue, and Railroad Avenue. The principal mitigation measure is the implementation of a truck bypass route from the Third Street area to Highway 4. This is necessary to reduce the impacts on the local streets that would be used for truck access. With this measure, most of the traffic impacts of this Project can be mitigated.

Prior to construction of a new truck bypass route, the general mitigation measures should include the following:

- Spreading the truck traffic among several routes, including Harbor Street and Tenth Street/Railroad Avenue; and having some of the truck traffic use the Loveridge Road interchange, rather than Railroad Avenue.

- Scheduling the truck traffic to avoid the weekday commute hours, and to avoid the congested freeway ramp intersections. For example, directing trucks away from the Harbor Street westbound off-ramp should be considered.

- Limiting the number of truck trips that could be generated by the Project. For example, the City should set a ceiling of 80 truck trips per day, or some agreed upon figure, until an alternative route is in place.

Other mitigation measures relate to the following issues:

- Pavement Deterioration - The Project applicant should be required to participate in the cost of upgrading and improving the pavement sections on the roads impacted by truck traffic. Upon determination of the specific truck routes to be used, and the distribution of truck traffic on those routes, a study should be undertaken to determine the extent of the pavement improvements. This study would identify the current pavement conditions and the type of reconstruction that would be required to improve the pavement section to a TI of 9.5. Based on the study, for those routes where improvements were needed, the applicant would be required to contribute to the cost of the repaving project. The amount of this contribution should be related to the relative impact of the Han-Li Project and other potential development projects in the area.

- Intersection Corner Radius - The Project applicant should also be required to share in the cost of improving the

corner curb radii at those intersections where this is a problem. The northwest corner of California and Harbor is one location where this problem is in evidence.

- Traffic Capacity and Congestion Impacts - The City is contemplating the possibility of a Master Plan study for the waterfront industrial area, which would include the alternative truck route. The Master Plan would also include the creation of an Assessment District for the areas. Funding for the Master Plan and the Assessment District studies, as well as for the planning, design and construction management of the improvements, would come from an equitable share of the cost by the existing and proposed facilities in the area. The applicant should be required to participate in any future assessment districts related to the area.

As noted above, many of the traffic and land use impacts could be mitigated by the development of a truck route between the terminal area and the Highway 4 freeway. Among these alternatives is the construction of a new roadway from East Third Street to East 14th Street that would remove truck traffic from Harbor Street. The City of Pittsburg will conduct a Master Plan study of the waterfront industrial area to include consideration of an alternative truck route and the possible creation of an assessment district to fund these improvements. It is recommended, as a condition of approval, that the Project applicants be required to participate in this improvement. This planning, traffic and associated impacts of the bypass route are discussed in Chapter XI as Alternative "C". The truck route would constitute a major project and would require additional environmental documentation.

As noted earlier, as a further mitigation, it could be specified that the truck route will need to be completed before the Han-Li Terminal is permitted to expand beyond a certain level of activity. For example, the Han-Li Project could be limited to a maximum of 80 truck trips per day, until such time as an alternate truck route becomes available.

- Highway 4 impacts - The truck traffic to Han-Li must use Highway 4 for the majority of the trip to the terminal, as there are no other reasonable alternate routes. To mitigate this impact on peak Highway 4 traffic, the travel patterns for the trucks could be managed to avoid truck trips to the terminal during the peak hours, especially the AM peak. It is recommended that schedules be developed to limit trips leaving the terminal between 6:30 and 8:30 AM. Similarly, trips travelling to the terminal should be minimized between 4:00 and 6:00 PM. This measure would be sufficient to mitigate the impact on Highway 4 to a less than significant level.

  This impact would also be mitigated to some extent by the implementation of several highway projects that will widen and improve Highway 4. Some of these projects are currently under construction and should be completed before the operation of the proposed marine terminal Project is initiated. Additional long-range Highway 4 improvements are being studied.

V. WATER QUALITY

A. SETTING

The site of the proposed Han-Li Dry Bulk Marine Terminal is located on the south side of the New York Slough. Between 30 and 50 percent of the total flow of the San Joaquin River "shortcuts" through the New York Slough to the Sacramento River.

Beneficial uses of the New York Slough as identified by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) are: municipal and industrial water supply; irrigation; navigation; contact and non-contact recreation; warm-water and cold-water fish migration; warm water fish spawning and wildlife habitat.

Of particular significance, from a water quality standpoint, is the fact that the Contra Costa Water District has a municipal water supply inlet in the Mallard Slough which is located approximately 3/4 mile downstream to the west.

Major point source discharges into the New York Slough upstream of the Project include within a distance of two miles: the Contra Costa Sanitation District #7A (CCSD) sewage treatment plant; United States Steel Corporation; Dow Chemical USA; and Union Carbide. All of these discharges are regulated by the National Pollutant Discharge Elimination System (NPDES).

The CCSD treatment plant discharges about 13.0 million gallons per day (mgd) of secondary treated effluent through a 37-feet deep outfall into New York Slough.

United States Steel Corporation operates a steel finishing plant immediately to the east of the Han-Li Project site. An average of 18.9 mgd of combined process wastes, water softener brines, non-contact cooling water, and storm runoff are treated and discharged via an open channel into the New York Slough. Effluent concen-

trations of heavy metals including chromium, lead, nickel and zinc are monitored in accordance with SFBRWQCB requirements.

Dow Chemical USA discharges an average of 0.9 mgd of wastewater which is a combination of water treatment wastes, fire protection test and washdown water, chlor-alkali cellroom washdown and sulfate reject streams, storm water runoff and occasional discharges of power plant boiler blowdown and cooling tower blowdown. This waste is clarified and neutralized in a pond prior to discharge into the New York Slough at a point approximately 100 feet offshore at a depth of 25 feet.

Union Carbide Corporation currently discharges approximately 20,000 gallons per day of wastewater into Kirker Creek, which is a tributary to the New York Slough. This wastewater consists of backwash water from pressure filters, cooling water blowdown, and condensation water. Effluent concentrations of heavy metals, including copper, zinc, chromium, arsenic, cadmium and silver are monitored in accordance with SFBRWQCB requirements.

Existing non-point sources of pollution in the area include surface runoff which carries petroleum related compounds and heavy metals from streets, parking lots and industrial areas.

Streamflow currents in the New York Slough are relatively fast and uniform. Pollutants discharged into the Slough are rapidly dispersed and diluted at the confluence with the Sacramento River.

B. IMPACTS

Possible water quality impacts of the Project can be categorized as follows: (1) those resulting from the proposed dredging and construction work; and (2) those occurring from the on-going handling and storage of the bulk materials.

1. Dredging & Construction

Han-Li proposes to dredge the docking area (about 150- to 200-feet wide along the entire shoreline) to a depth of 40 feet (refer to Figure 11 on page 27). Approximately 50,000 to 60,000 cubic yards of dredge material is to be removed. This material will be deposited on the Project site, raising it to an average of 12 feet above the water.

A U.S. Army Corps of Engineers Letter of Permission (dated July 11, 1988) with Letter of Modification (dated February 13, 1989) has been issued for the construction of the docking facilities. This includes provisions for the dredging of 500-cubic yards of material to accommodate the vertical movement of the gantry-controlled steel loading ramp with the tide. A permit must still be obtained for the major dredging for ship traffic.

During dredging and construction operations water quality degradation could possibly occur in the following ways:

- from the disturbance of sediment directly impacting the water quality in the New York Slough; and,

- by decanted water and/or runoff from the material deposited on the Project site either being discharged into the New York Slough or seeping down to the groundwater.

To evaluate the potential for adverse water quality impacts, extensive testing of sediment core samples was conducted on behalf of the applicant by Harding Lawson Associates of Concord, California. The work was performed to comply with the requirements of Public Notice 87-1 (Ref. 65). This document, issued jointly by: the U.S. Army Corps of Engineers; the U.S. Environmental Protection Agency; and the SFBRWQCB, specifies the interim testing procedures for evaluating dredged material suitability for disposal in the San Francisco Bay. Testing requirements are based on a three-tiered system which can be roughly summarized as follows:

- Tier 1: applies to sites where no sediment/contamination is expected.

- Tier 2: applies to sites where the possibility of sediment contamination exists.

- Tier 3: applies to sites where additional testing is required based on the results of the Tier 2 analysis.

Because of the proximity of the Project to possible sources of pollution, Tier 2 testing was required by the SFBRWQCB (see letter, 1/24/90, in Appendix D). The Tier 2 testing requirements are listed in Figure D-1 of Appendix D. Since the dredged material is to be deposited on the Project site, rather than disposed of in the San Francisco Bay, the bioassay test requirement was waived by the SFBRWQCB.

In accordance with the specified sampling procedure for the proposed volume of dredged material (i.e., 50,000 to 60,000 cubic yards), two borings, B-1 and B-2 (see Figure D-2, Appendix D) were made in the central portion of the dredging area. B-1 was drilled on February 13, 1990 to a depth of 15.0 feet below the mud line. B-2 was drilled on February 22, 1990 to 20.5 feet below the mud line. For each boring, one composite sample was made of sediment from three depths as follows: 0.5, 7.5 and 15.0 feet in B-1; 0.5, 10.0 and 19.5 feet in B-2. This corresponds to the approximate proposed depth of dredging.

Analysis of the two samples was done by Enseco Incorporated of West Sacramento, California (a State-certified laboratory). All of the tests listed in Figure D-1 were conducted by Enseco, including the bioassay test.

Results of the metals and non-metals analyses are given in Figure D-1, along with the Soluble Threshold Limit Concentration (STLC) and the Total Threshold Limit Concentration (TTLC) for each substance. The STLC and the TTLC are two of the criteria used in California to classify a waste material as potentially hazardous.

Within the detection limits used, no detectable concentrations were recorded of any of the substances listed under "Pesticides and Organics" in Figure D-1.

The bioassay analyses indicate that elutriate prepared using sediment from B-1 and B-2 caused no significant abnormal development of the bivalve larvae used as the test population.

However, the following deficiencies in the testing procedures need to be pointed out:

- the 17-day time lapse between the collection and the preparation of the B-1 sample for pesticides, PCBs and cyanide analyses exceeded the EPA holding time limit of 14 days;

- the detection limits used for the majority of the analyses are significantly higher than the detection limits specified in Public Notice 87-1 (Ref. 65). A comparison of the required and actual detection limits is given in Figure D-1;

- As of March 26, 1990 the results of the Total Sulfide and Butyltin Compounds have not been received.

Nevertheless, the analyses are sufficiently adequate to conclude that there is no significant or gross contamination of the sediment by organic substances. As indicated in Figure D-1, the measured concentrations of the metals and non-metals are well below the Total Threshold Limit Concentration. Only nickel exceeds the Soluble Threshold Limit Concentration. A Waste Extraction Test (WET) would have given indication of the concentration of nickel that could be expected to go into solution, however, this test was not performed. The recorded concentrations of all the metals (nickel included) and non-metals are very low, however, and are of the order of magnitude commonly found in non-contaminated soils.

Thus it can be concluded that there will not be any significant water quality impacts resulting from the actual dredging and construction operations, other than the inevitable temporary increases in turbidity associated with such disturbances. The degree of disturbance could be considerably reduced by suction dredging instead of clamshell dredging. However, given the evident lack of potential sediment contamination, the fast current through the New York Slough and the substantial dispersion and dilution at the confluence with the Sacramento River, suction dredging is not considered to be necessary.

To eliminate the possibility of decanted water or runoff from the deposited dredge material being discharged into the New York Slough, a temporary diked area is to be constructed on the Project site to contain the entire volume of dredged material. The contained material will be allowed to dry by evaporation, with power equipment being used to turn the material to speed-up the drying process. The "drying" area will cover about 5.5 acres and will be enclosed on all sides by a compacted earth dike approximately six feet high (see **Figure D-2**). This provides a capacity of approximately 53,000 cubic yards of dredge material. The dried sediment is to be used as subgrade material in the subsequent construction. Where possible, the dredged material will be located in areas that eventually will be covered by impervious surfaces to minimize exposure to rainfall.

No groundwater contamination is likely to occur as a result of depositing the dredged material on the Project site. Metal concentrations which are initially low, will be further attenuated during percolation through the soil by absorption and precipitation.

The dredging operations will directly modify the channel of the New York Slough. It is expected that siltation will occur to gradually replace the dredged material. Thus periodic dredging will be required. No other, more far-reaching, changes in deposition or erosion patterns are anticipated.

2. Materials Handling and Storage

An inventory of the materials to be handled and stored at the site is given in Figure 6 on page 17. Of these materials the following could potentially cause significant water quality degradation of the New York Slough:

- Cement: Because of its lime content cement results in increased pH, and is toxic to aquatic life at high concentrations.

- Sulphur: Elemental sulphur is not soluble in water; however, in sufficiently high concentrations, colloidal sulphur in suspension can be toxic to aquatic life.

- Gypsum: Gypsum (calcium sulphate) is soluble in cold water up to a concentration of about 2,500 mg/l. Although nontoxic, it could cause significant aesthetic water quality degradation.

- Bauxite: Bauxite (hydrous aluminum oxide) could affect water pH, and impurities within the ore could adversely impact water quality.

The cement is to be transferred from the ships to the sealed domes by a pneumatic vacuum system. The delivery pipe from the dock to the dome is to be installed underground. As an added safety feature, in the event of a pipeline break, the vacuum pumps automatically shut down. The cement is to be shipped out in sealed trucks, which are to be loaded from sealed overhead silo-hoppers. These features will keep dust and spillage to a minimum and reduce the possibility of water contamination.

Sulphur is to be trucked to the facility in semi-molten form and will be discharged into a sealed "priller", where it will be converted to granular form. The granular sulphur is to be stored in a sealed dome and will be transferred to the ships by a conveyor system, which will be enclosed to minimize spillage.

Gypsum and bauxite will be transferred from ships to a conveyor system by ship-mounted clamshell bucket cranes. The conveyor will deliver the material to a large crescent-shaped open storage area, which will also contain limestone, gravel and sand. These materials present little risk of water quality degradation. Water sprays for dust control are to be provided at the loading hoppers, along the conveyors, and at the radial stacker. Of concern here is the quality of the runoff from the base of the storage pile following rainfall or dust control spraying. Water trickling slowly down through the gypsum and bauxite is likely to become significantly contaminated; and if this water is allowed to enter New York Slough, it would be considered a discharge of waste, and as such may require a NPDES permit. An application will need to be submitted to the SFBRWQCB, who will determine if a permit is necessary.

No fueling facilities will be provided at the site, nor will there be any provision for waste disposal from ships docked at the facility. The potential for water contamination from these two sources will not exist.

Concern has been expressed by the East Bay Regional Park District about the possibility of explosions associated with grain storage, and resulting effects on water quality. Because the grain is not to be stored at the site but is to be transferred directly from rail cars to ships, the possibility of on-site explosions is considered to be remote.

The soil absorption rates and the surface runoff rates will be affected by the deposition of the dredged material on the Project site and by the addition of impervious surfaces, i.e., the storage domes and the paved roadways. However, in this location, the extent of these changes will not have any significant adverse impact. The Project site will be graded so that all surface runoff from the site will drain to the western end of the property and will ultimately be discharged through a storm drain into the New York Slough. Since the Project site is relatively flat and there

are no watercourses running through it, water erosion of soils should not be a problem. By diverting all the drainage to one discharge point, water quality monitoring will be facilitated and possible non-point sources of contamination will be eliminated.

C. MITIGATION MEASURES

Because of the possibility of discharge of contaminated runoff from the site, it is recommended that a retention/neutralization basin be installed. The site should be graded so that all runoff from the lot will drain into the retention basin. This will eliminate non-point sources of contamination and facilitate monitoring of runoff quality. Overflow from the basin would drain into the New York Slough, probably through the 18-inch diameter storm drain at the western edge of the site. The basin should be sized so that it is capable of containing runoff from a 25-year storm with a duration of 24 hours.

The retention basin would allow contaminant materials to settle out and will provide the opportunity for pH monitoring and control before water is released for discharge. As an additional contingency measure, it will provide emergency storage capacity in the event of a major spill.

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VI. AIR QUALITY

A. SETTING

1. Climate

The Project site is located on the southern shore of the San Joaquin River east of the Carquinez Straits. Its location between the greater Bay Area and the Central Valley has a great influence on the climate and air quality of the area.

Wind records from sites in Pittsburg show a strong predominance of westerly winds. Average wind speed is relatively high, over 10 MPH and the frequency of calms is quite low (Ref. 19). The Pittsburg area has a relatively low potential for air pollution, given the persistent and strong winds typical of the area. These winds dilute pollutants and transport them away from the area. However, Pittsburg's location downwind from the greater Bay Area means that pollutants from other areas are transported to Pittsburg.

2. Current Air Quality

The Clean Air Act of 1967 as amended established air quality standards for several pollutants. These standards are divided into primary standards, designed to protect the public health, and secondary standards, intended to protect the public welfare from effects such as visibility reduction, soiling, nuisance and other forms of damage. Additionally, the State of California has adopted its own standards. These standards are described in Appendix E.

The closest permanent air quality monitoring site is located in Pittsburg on West Tenth Street. A summary of air quality data for gaseous pollutants from the Pittsburg monitoring site is shown in Figure 30. Data are shown for the years 1986-1988. Figure 30 shows that the Pittsburg area is in compliance with the applicable standards for all gaseous air pollutants except ozone.

Figure 30

SUMMARY OF AIR QUALITY DATA FOR PITTSBURG: 1985-1987
Han-Li International Dry Bulk Marine Terminal EIR
City of Pittsburg, California

Pollutant	Standard	Days Exceeding Ambient Standards 1986	1987	1988
Ozone	Federal 1-Hour	0	2	0
	State 1-Hour	1	14	8
Carbon Monoxide	Federal 8-Hour	0	0	0
	State 8-Hour	0	0	0
Nitrogen Dioxide	State 1-Hour	0	0	0
Sulphur Dioxide	Federal 24-Hour	0	0	0
	State 24-Hour	0	0	0

Source: Ref. 5

Ozone is not released directly by any sources, but is formed in the atmosphere. Two common pollutants, hydrocarbons and oxides of nitrogen, react in the atmosphere in the presence of sunlight to form photochemical oxidants, primarily ozone. The reactions take several hours to occur, so that ozone levels in the project area are to a large extent the result of emissions occurring upwind in the greater Bay Area.

Suspended particulate matter is not monitored at Pittsburg. The closest particulate monitoring sites are in Concord and Bethel Island. At both of these monitoring sites measured levels of particulate matter meet the federal 24-hour and annual standards. Violations of the more stringent state 24-hour standard have occasionally been recorded, however.

There are currently no emissions from the existing site. A facility to the west of the site is currently being used for unload-

ing, storage and loading of coke. This operation has been the subject of complaints due to dust (personal communication with Scott Hansen, BAAQMD, March 9, 1989).

The San Francisco Bay Area has been designated as a region where three national ambient air quality standards are being exceeded. Under the 1977 Clean Air Act, the Association of Bay Area Governments (ABAG) was empowered to prepare a non-attainment plan to develop a strategy to reach the national ambient air quality standards by the end of 1987. Despite considerable improvement in air quality, the Bay Area did not meet the 1987 deadline for attainment of the federal air quality standards.

Subsequently, the U.S. Environmental Protection Agency has adopted interim policies regarding post-1987 non-attainment areas. These policies give non-attainment areas until the end of 1990 to revise the State Implementation Plan (SIP) to establish means of attainment and maintenance of the standards. After submittal of the revised SIP the EPA would classify non-attainment areas as near-term (three to five years) or long-term (more than five years). For near-term non-attainment areas pollutant reductions of three percent per year would have to occur until standards are attained, and maintenance of the standard for a period of 10 years would have to be demonstrated.

Although the State of California has had its own ambient air quality standards for many years, until recently there was no requirement that these standards be attained by any date. The California Clean Air Act was signed into law on January 2, 1989. This legislation requires areas that exceed the California ambient air quality standards to plan for the eventual attainment of the standards. The time given to various areas for attainment of standards would depend on the severity of air quality problems. Areas classified as "moderate" would have until 1994 to attain the state standards, while "serious" and "severe" areas would have until 1997 and beyond, respectively.

B. IMPACTS

1. Construction Impacts

Construction of the proposed Project would create temporary air quality impacts. Sources of pollutants would be construction equipment and vehicles, the evaporation of hydrocarbons from curing asphalt and drying paint, solvents and adhesives, and fugitive dust.

Of the above construction sources fugitive dust is the most significant and has the greatest nuisance potential. Fugitive dust is emitted both during construction activity and as a result of wind erosion over exposed earth surfaces. The effects of construction activities would be increased dustfall and locally elevated levels of suspended particulates.

Construction dust impacts would occur downwind of the site, or to the east. There are no sensitive land uses east of the Project site, so that the potential for construction dust nuisance is minimal.

2. Local Impacts

The local impacts of the proposed Project would be due to particulate matter released from the site and increased vehicle emissions along roads accessing the site.

Particulate emissions would occur from many operations proposed for the site. These emissions can be classified into two types: process emissions and fugitive emissions. Process sources are those generated by equipment such as hoppers, conveyers, etc. Each of these emissions occur at a specific point, and are amenable to capture by pollution control equipment. Fugitive dust sources generally involve the re-entrainment (re-dispersal) of settled dust by wind or equipment movement.

No noticeable wind-erosion of the ground is likely to occur, due to the cemented roadways, use of the dust suppressant sprays, and compaction of the site surface as part of construction and ongoing vehicular activity.

Emissions from the various operations and activities that would occur on the site have been predicted using projected annual tonnages and predictive equations or emission factors developed by the U.S. Environmental Protection Agency, the Bay Area Air Quality Management District and other agencies. In addition to annual emissions, maximum daily emissions have been predicted based on the maximum daily activity levels. It should be noted that these daily emission totals are conservative (i.e. worst case) in that they assumed maximum activity levels occurring simultaneously at all areas of the site, which may not be physically possible.

Figure 31 shows annual and daily maximum on-site particulate emissions for the various activities occurring on the site. These emissions are based on peak activity at the site, which would not occur until five years after Project completion. Assumed levels of control have been based on the current Project design, and are described in detail in Appendix E. Fabric filtering is assumed for control of emissions from the cement and grain handling equipment. Water sprays are assumed for control of emissions from sand, gravel, bauxite, gypsum and limestone loading, unloading and storage.

The sulphur prilling, lumber and scrap metal operations on the site are not anticipated to generate significant particulate emissions. The sulphur will be delivered in a molten state, which has the potential for causing a 'rotten egg' odor (hydrogen sulfide gas). The sulphur is handled in a sealed system of enclosed trucks, sealed pumps, the dome structure and enclosed conveyor systems. When the sulphur is exposed to the open during transfer to ships; it will have reached a cooled state which will be odorless. No other materials on the site will have a noticeable odor.

Figure 31

ANNUAL AND MAXIMUM DAILY ON-SITE PARTICULATE EMISSIONS,
WITH PROJECT MITIGATION MEASURES
Han-Li International Dry Bulk Marine Terminal EIR
City of Pittsburg, California

Source	Control Measures	Annual Emission* TSP	Annual Emission* PM-10	Maximum Daily Emission* TSP	Maximum Daily Emission* PM-10
Cement Handling	Fabric Filter	32,905	32,905	194.4	194.4
Grain Handling	Fabric Filter	1,150	140	4.6	0.6
Bauxite Handling	Water Spray	435	189	8.1	4.0
Sand/Gravel Handling	Water Spray	17,880	4,032	205.0	36.0
Storage Losses	Water Spray	350	350	1.0	1.0
Total		52,720	37,616	413.1	236.6

* in pounds

TSP = Total Suspended Particulate

PM-10 = Particulate Matter, 10 Micron

Emissions in **Figure 31** are given for Total Suspended Particulate (TSP) and Suspended Particulate Matter (PM-10). TSP is defined as particles with an aerodynamic diameter of 30 microns or less. PM-10 is defined as particles with an aerodynamic diameter of 10 microns or less. TSP emissions include larger particles that are associated with visible plumes and dust nuisance. PM-10 emissions represent respirable particles capable of affecting human health. Where the available predictive equations and emission factors that were used in estimating particulate emissions did not differentiate between TSP and PM-10, the two were assumed to be equivalent.

Conservative screening model techniques were applied to the Project emissions to estimate worst-case Project impacts on surrounding land uses. The incremental increase in annual average concentrations of PM-10 were estimated. To simplify the calculation of annual impacts, all emissions were assumed to occur at a ground-level point source centered within the storage facility. Annual average concentrations resulting from this point source were calculated using annual wind rose data from the Pittsburg power plant (Ref. 19). Details of this modelling are included in Appendix E.

Figure 32 shows the resulting estimated distribution of annual average PM-10 concentrations in the vicinity of the site. Predicted concentrations at the nearest residential areas are less than one microgram per cubic meter, an amount that is not considered significant. A small portion of Browns Island, located across New York Slough from the proposed site, would experience an increase in PM-10 concentrations of one to five micrograms per cubic meter, an amount that is not considered significant.

The particulate matter emitted from the Project site would consist of minerals, Portland cement and grain dust. None of these materials are toxic, except to aquatic life in high concentrations as described in Chapter V, Water Quality.

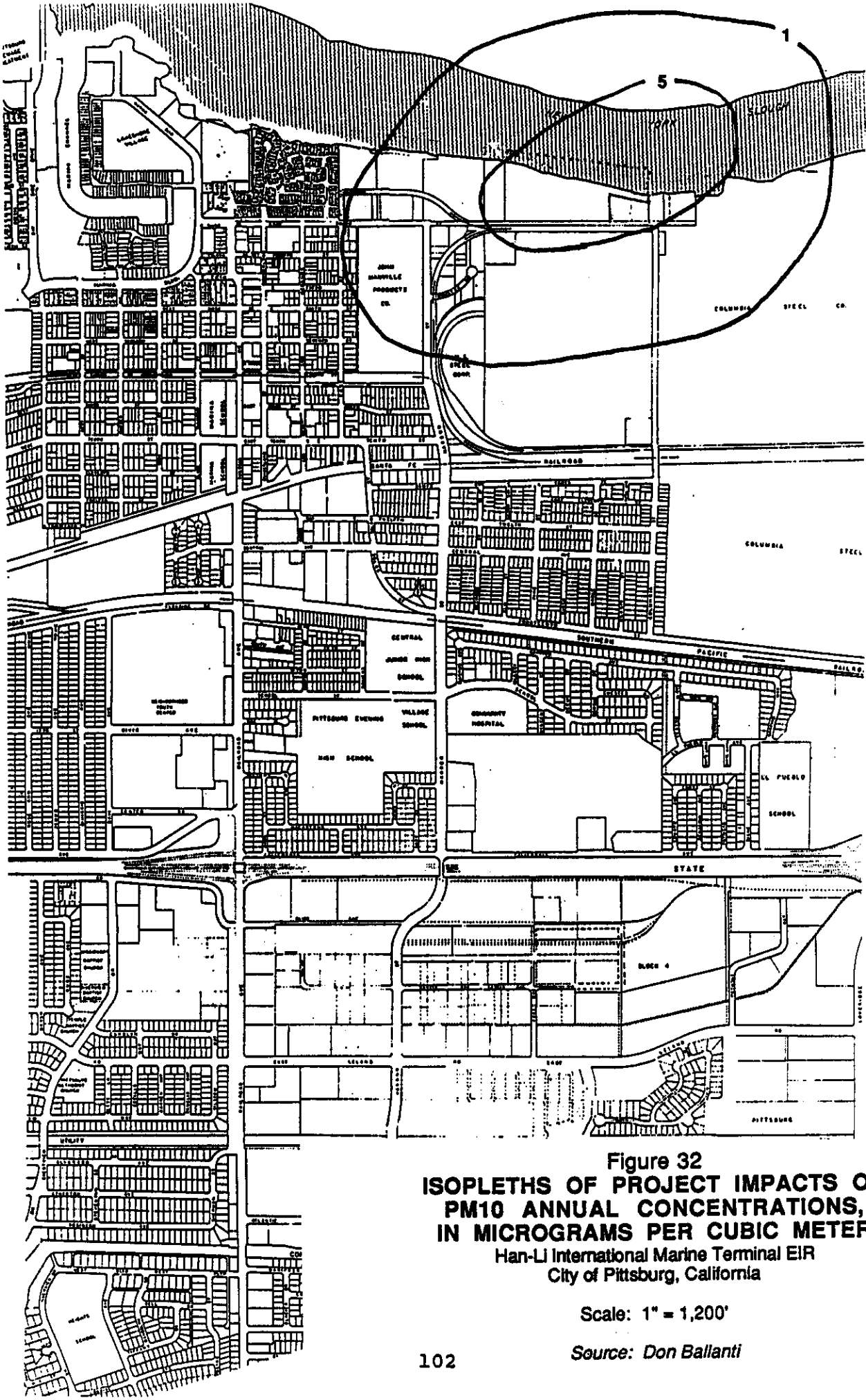

Figure 32
ISOPLETHS OF PROJECT IMPACTS ON PM10 ANNUAL CONCENTRATIONS, IN MICROGRAMS PER CUBIC METER
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Scale: 1" = 1,200'

Source: Don Ballanti

The proposed Project would generate auto and truck traffic that would affect local levels of carbon monoxide along roadways. The location of maximum impact would be Harbor Street south of Third Street. Harbor Street abuts residential areas which are considered sensitive receptors for carbon monoxide.

Curbside concentrations of carbon monoxide with and without the proposed Project have been predicted using a method developed by the Bay Area Air Quality Management District (Ref. 3).

The vehicular traffic generated by the Project would increase estimated carbon monoxide levels in the peak hour along Harbor Street by 0.3 parts per million (PPM) from 7.2 to 7.5 PPM. Carbon monoxide concentrations in the peak eight-hour period would increase by 0.2 PPM from 5.0 to 5.2 PPM. These impacts represent about a four percent increase above existing concentrations. These concentrations are all well below the federal and state one-hour standards of 35 and 20 PPM, respectively, and the federal and state eight-hour standard of 9 PPM.

3. Regional Effects

The Project would affect regional air quality through the emissions from on-site activity and Project-generated transportation emissions. The Project would generate truck, ship, barge and train trips that would release pollutants within the regional air basin. Emissions from these sources, and on-site particulate sources, are shown in Figure 33. The calculation of these emissions is described in Appendix E.

The emissions shown in Figure 33 represent all emissions associated with the proposed Project. Not all of these emissions would represent an increase in regional emissions. For construction materials such as cement, sand and gravel, the Project would be replacing materials currently supplied by existing distributions systems. Reductions in emissions from these existing distribution systems would partially offset the increases due to the Project. The extent of this offset can not be determined, and, as a worst-case assumption, all Project emissions are considered new emissions.

Figure 33

DAILY REGIONAL EMISSIONS INCREASES,
WITH PROJECT MITIGATION MEASURES, POUNDS/DAY
Han-Li International Dry Bulk Marine Terminal EIR
City of Pittsburg, California

Source	CO	HC	NOX	PM
Truck	118.6	44.9	184.5	24.5
Train	13.7	4.0	103.0	5.0
Ship	212.8	122.8	1373.2	74.8
Barge	67.0	38.6	432.0	23.6
Site	---	---	---	234.6
Total generated by Project	412.9	210.3	1959.7	357.6
Existing County-Wide levels	812,000	230,000	248,000	190,000

CO = Carbon Monoxide
HC = Hydrocarbons
NOX = Oxides of Nitrogen
PM = Particulate Matter

Guidelines for the evaluation of project impacts issued by the Bay Area Air Quality Management District consider emission increases of ozone precursors to be significant if they exceed 150 pounds per day (550 pounds per day for carbon monoxide) (Ref. 3). Based upon this criterion, the proposed Project alone would result in a significant increase in regional emissions of hydrocarbons, oxides of nitrogen and particulate matter.

District guidelines suggest a second threshold of significance for regional emissions equal to one percent of the county-wide emissions. The proposed Project would not exceed this second threshold of significance.

Of the pollutants shown in Figure 33 hydrocarbons and oxides of nitrogen are the most important as they are ozone precursors.

Project regional emissions would contribute to the continuing ozone problem in the Bay Area.

Because ozone is a photochemical pollutant that is formed over a period of hours the effect of Project emissions on ozone levels would be felt east of the Project site, and could affect ozone concentrations as far away as Sacramento.

The Bay Area did not meet the national ambient air quality standards by the end of 1987 as specified in the Clean Air Act. Reductions in emissions of ozone precursors to levels below current levels will be needed to attain the ozone standards. The growth in emissions generated by this Project and cumulative growth in the area would have to be partially offset to attain and maintain the standards in the future. Additional controls on stationary, mobile and area sources on a regional basis may be required to offset the additional emissions resulting from the Project and cumulative development in the area.

C. MITIGATION MEASURES

All construction contracts should require contractors to reduce dust generation. Construction dust impacts can be reduced by the following measures:

- Provide equipment and manpower for watering of all exposed or disturbed soil surfaces, including weekends and holidays.
- Cover stockpiles of debris, soil, sand or other materials that can be blown by the wind.
- Sweep construction area and adjacent streets of all mud and dust daily.

The Project as currently designed contains several air quality mitigation measures. The pneumatic unloading system and enclosed cement storage facility would minimize the release of particu-

lates when unloading cement from ships. The exhaust from the pneumatic system, the vent from the storage structure, and vent from air displaced during truck loading would all have fabric filters with a collection efficiency of over 99.9 percent. Cement would be loaded on to sealed trucks.

The sulphur prilling operations would occur within an enclosure. Prilled sulphur contains very little sulphur powder, and is normally wet, so that the potential for emission of sulphur would be quite low.

The grain unloading hopper would include a shrouding system that seals the unloading operation from the atmosphere. The air within this enclosure would be exhausted through a fabric filter with a collection efficiency of over 99.9 percent.

The conveyor system for grain and prilled sulphur would be enclosed to reduce emissions from these sources.

Equipment for controlling emissions from the unloading and loading of sand, gravel, bauxite, gypsum and limestone would utilize water sprays at entry points and transfer points. Wetting the material with water sprays would remove particulates already in the air, and cause remaining fine material to adhere to the larger pieces of material. A permanent spray would keep material storage piles wet. The use of water sprays has been assumed to be 75 percent efficient in reducing particulate emissions from these sources.

The path for trucks loading cement and sulphur would be paved. Trucks loading from the storage pile, portable hoppers, or directly from barges would travel on unpaved areas. As part of the Project operation these areas would be treated with chemical stabilizers (lignin sulfonate, a commonly used dust suppressant), which would reduce emissions by 90-95 percent. A truck 'grizzly' (grate) would be located adjacent to the scales to remove any mud or dirt on truck tires. This would greatly reduce carry-out of

material on to the streets, where it could dry, be pulverized by traffic, and become airborne.

The Project would be required to obtain an Authority to Construct and a Permit to Operate from the Bay Area Air Quality Management District. The BAAQMD would not issue a permit for the Project until it can be shown than the requirements of Regulation 2, Rule 2 have been met. This regulation contains Prevention of Significant Deterioration (PSD) provisions, which are maximum allowable increases in pollution concentrations. Emission offsets may also be required.

In addition to permit requirements, the Project must meet the particulate concentration and mass loading requirements of BAAQMD Regulation 6, Particulate Emissions and Visible Emissions.

The actual requirements to be imposed upon the Project would be decided after an application for permits has been submitted to the BAAQMD. Additional analysis and modeling beyond those conducted for this report may be required as part of the permit application. It is apparent that the Project would exceed the 150 pound/day threshold for Best Available Control Technology (BACT). The current Project does incorporate air pollution controls for portions of the Project that would probably be considered BACT. However, the use of water sprays for control during unloading of sand, gravel, bauxite, gypsum and limestone is probably not considered BACT. Should a different control system be required, actual emissions would be reduced below those shown in the impacts analysis, and local and regional impacts would be reduced.

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VII. NOISE CONSIDERATIONS

A. SETTING

1. Project Location and Roadway Access

The Project site is in an industrially zoned area. All adjacent lands are zoned industrial. The nearest residential areas are the Bay Harbor Park Condominium Development, 1,600 feet to the west, and a single-family neighborhood 2,500 feet to the south. There are also a few single-family homes along Tenth Street west of Harbor, about 2,000 feet to the southwest. In addition, there are homes along Harbor Street and California Avenue, the proposed truck routes. Figure 34 shows the study area.

a. Criteria:

The Noise Element of the Pittsburg General Plan contains noise and land use compatibility guidelines. These guidelines indicate that residential land use is considered "normally acceptable" when exposed to a Day/Night Average Level (DNL or Ldn) of 60 dB or less. The DNL is a 24-hour average noise level with a penalty during nighttime hours to account for people's increased sensitivity to noise during these hours. A DNL between 60 and 70 dB is considered to be "conditionally acceptable" for residential development.

In addition to these Noise Element criteria, we have compared Project-generated noise levels with the existing noise levels measured in the residential areas. From this comparison we can assess the impact of Project-generated noise in these residential areas.

Refer to Appendix F for a discussion of the fundamental concepts of environmental acoustics.

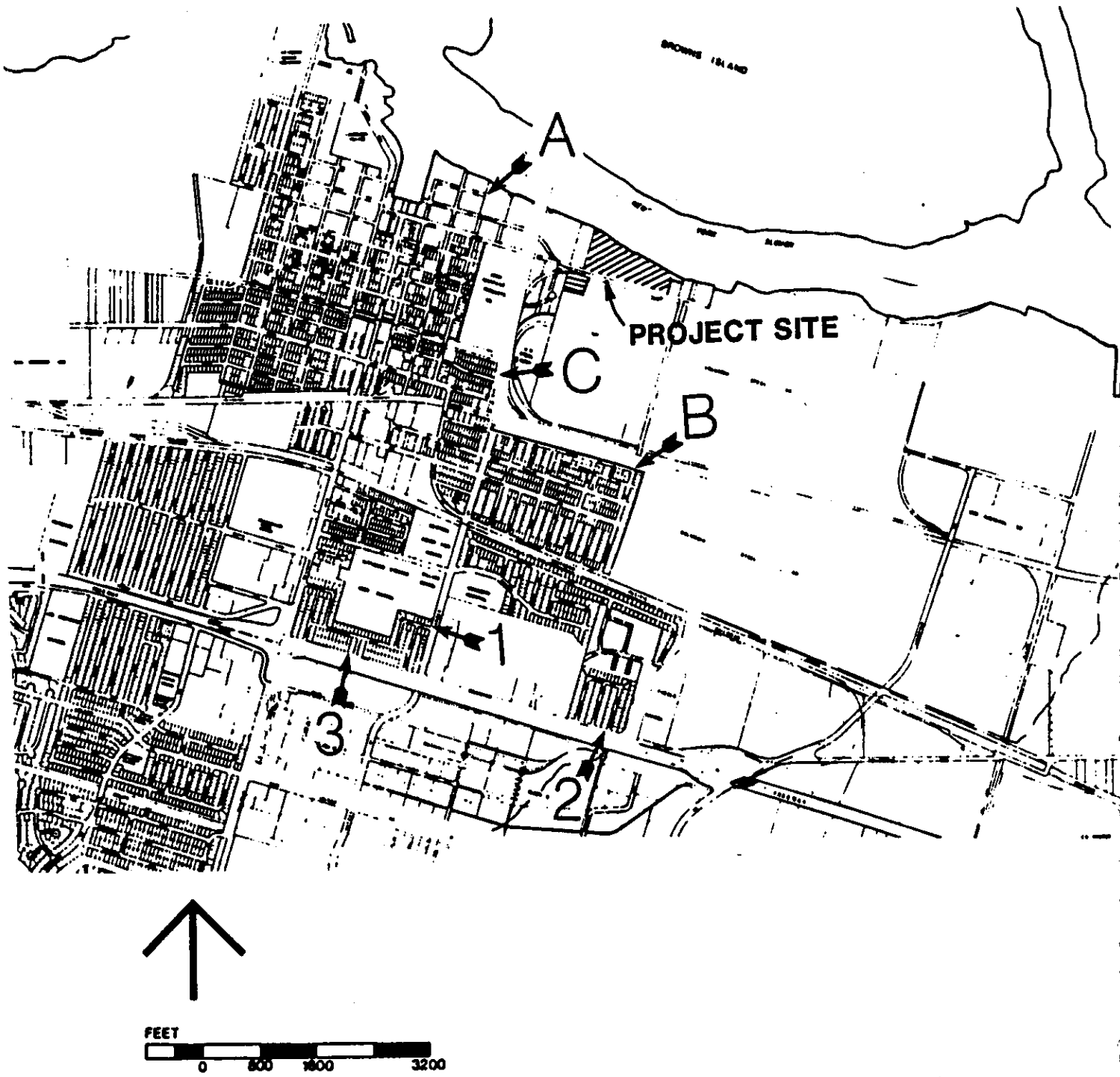

Figure 34
VICINITY MAP AND NOISE MEASUREMENT LOCATIONS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

b. Existing Noise Environment:

Major noise sources in the study area include existing industrial facilities; auto and truck traffic on local roads (most significantly East Third Street, Harbor Street, and California Street; and railroad activity.

To quantify the existing noise exposure in the study area, continuous overnight noise measurements were made at the Bay Harbor Park Condominiums to the west, the homes south of the site, and the homes along Harbor Street. The noise monitor records the average noise levels and the statistical descriptors for each hour. The long-term measurement along Harbor Street to quantify the variation in truck traffic along this route lasted four days. Figure 35 shows the variation in measured noise levels at this location. Short-term noise measurements were also performed at residential areas on California Avenue and on Harbor Street. Figure 34 shows the locations at which noise measurements were made.

The results of the long-term measurements are summarized in Figure 36. For each measurement location in this table, the daytime results represent typical daytime noise, while the nighttime results represent the noise during the quietest nighttime hour.

The results of the short-term noise measurements are shown in Figure 37. The noise environment at location "1" along Harbor Street is similar to that of the long-term measurement location on Harbor Street. The major noise sources are trucks and autos on Harbor Street. The noise level at the residential areas along California Avenue vary due to both the volume of traffic on California Avenue and the contribution of noise from traffic on State Route 4. At location "2," east of Harbor Street, there is a higher volume of traffic and State Route 4 is elevated. At location "3," west of Harbor Street, the traffic volume on California Avenue is less, and State Route 4 is depressed. The depressed roadway results in an acoustical shielding between traffic on State Highway 4 and the adjacent residences and thus in a lower noise level.

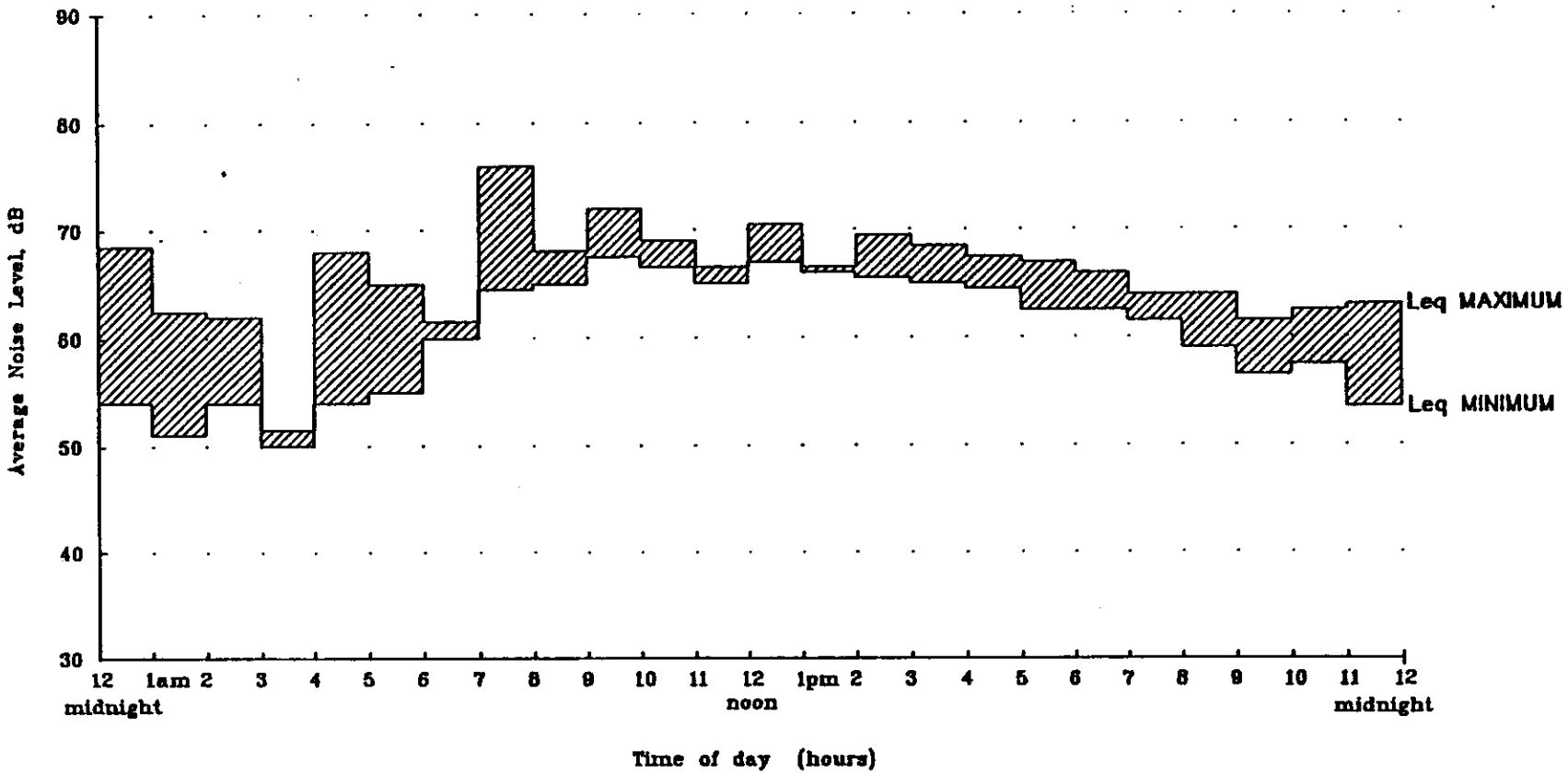

Figure 35
RANGE OF AVERAGE NOISE LEVELS (Leq) MEASURED OVER FOUR DAYS AT HOME ON HARBOR STREET AND NINTH STREET
September 21-22, and October 2-4, 1989
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Figure 36

LONG-TERM NOISE MEASUREMENT RESULTS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Location	Date/Time	A-weighted Noise Level, dB Leq	L10	L50	L90
A. Bay Harbor Park Condominiums to west of site, east end of Edgewater Place.	April 21, 1988 4:00 PM - 5:00 PM	60	64	56	52
	April 22, 1988 3:00 AM - 4:00 AM	51	53	49	46
B. Single-family homes to south of site, Columbia Street and Santa Fe Avenue.	March 15, 1989 11:00 AM - NOON	66	66	62	60
	March 15, 1989 3:00 AM - 4:00 AM	51	50	43	40
C. Single-family homes along Harbor Street, 54 feet from centerline of Road (at Ninth Street).	September 21, 1989 3:00 PM - 4:00 PM	65	69	59	51
	October 4, 1989 3:00 PM - 4:00 AM	50	50	48	45

Figure 37

SHORT-TERM MEASUREMENT RESULTS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Location	Date/Time	A-weighted Noise Level, dB Leq	L10	L50	L90
1. Harbor Street, north of Army Street. 65 feet from centerline of Harbor Street.	4:15 PM - 4:30 PM	68	70	64	58
2. California Avenue, west of Patricia Avenue. 50 feet from centerline of California Avenue. Approx. 120 feet from Highway 4 right-of-way.	4:45 PM - 5:00 PM	69	72	68	64
3. California Avenue, east of Clyde Street. 48 feet from centerline of California Avenue.	5:06 PM - 5:21 PM	64	68	61	54

B. IMPACTS

Noise sources associated with the Project fall into one of three categories: on-site, off-site, and construction. On-site Project noise sources include the conveyor/hopper system, front-end loaders, railroad car and truck loading and unloading. These noise sources could potentially affect Harbor Park Condominiums to the west and single family homes to the south. Off-site noise sources include ships, trucks, and trains. Ships will access the site via the New York Slough. Trucks will use the proposed truck routes along Harbor Street and California Avenue. Trains will access the site via Santa Fe Railroad lines. Noise sources during construction will include grading equipment and truck activity.

1. On-Site Noise Sources

a. Conveyor/Hopper System:

Noise from the conveyor/collection system is generated by both the electric motors which drive the conveyor belt and at the collection hoppers where the material is dumped into large sheet metal "funnels" for feeding to the conveyor belt.

There are nine motors ranging from 20 to 45 horsepower for the aggregates/bauxite/gypsum conveyor system, and there are five motors ranging from 25 to 40 horsepower for the sulphur/grain conveyor system There is one collection hopper for the aggregates/bauxite conveyor system. For the sulphur/grain conveyor system, there are two receiving hoppers and one intermediate hopper. There is also one portable hopper for loading trucks. The conveyors will operate during the daytime for all materials, and at nighttime only for grain, sulphur, and bauxite. Since both the conveyor systems serve the same ship docking site, only one system will operate at a time.

b. Front-end Loaders:

The Project will use two diesel front-end loaders (8 cubic-yard capacity). The front-end loaders will be used to load bauxite on to railroad cars, unload the sand and gravel barge, and load the sand and gravel on to trucks. Noise from front-end loaders is generated by the diesel engines. All front-end loader activities will be daytime operations.

c. Railroad Car and Truck Loading:

Noise from these operations will be due to the impact of the material (bauxite, sand, and gravel) on the metal of the truck or railroad car. This noise source is very similar to the collection hoppers. Approximately 511 20-car trains per year will be loaded. A maximum of 290 trucks per day will be loaded with sulfur, bauxite, sand and gravel. All truck and train loading activities will occur during daytime hours.

d. On-Site Train Operations:

In addition to loading material into railroad cars, noise will also be generated by the movement of trains on the site. This noise is generally associated with three activities; switching movements or steady pulling at low speeds, idling of the locomotive engines, and the impact noise of cars linking together. Noise from these activities is predicted using methods described by Wyle Laboratories (Ref. 70). The highest instantaneous noise levels will be generated by the impacts of railroad cars. This activity will generate an A-weighted maximum noise level of 57 dB at the nearest residences, the condominiums to the west. The low-speed engine movements on the site will generate an average A-weighted noise level of 52 dB at the nearest residences, and idling engines will generate 40 dB at the nearest residences.

e. Cement Unloading:

Cement will be removed from ships and stored in concrete buildings by a pumping device called "docksider." The docksider's large electric vacuum pump will transport cement at a load of 800 tons per hour. The noise-generating components, motors, fans and compressors will be located within an enclosure.

To characterize and quantify the noise associated with the docksider, noise measurements were performed at the Calmat facility in Wilmington, California of February 24, 1990 (Ref. Jim Hurt, Vice President of California Sales). This facility uses two smaller docksiders manufactured by Kovako Company. Each unit is rated at 250 tons per hour, and was therefore smaller than the single-unit proposed for the Project. Each unit generated an A-weighted sound level of approximately 85 dB at a distance of 50 feet. The docksider noise was very tonal (i.e., the sound was dominated by one or more pure tones and had a whining characteristic).

According to a manufacturer's representative for Kovako, the 800 ton per hour unit proposed for the Project would generate a sound level of 65 dB at a distance of 100 feet. This is significantly less sound output than was measured at Calmat. This difference may occur if the unit is larger and operates at lower speeds or is silenced differently. However, for the purpose of this analysis, we have used our noise measurement results to provide a worst case analysis.

f. Residential Noise Levels:

Noise levels from on-site activity were predicted using methods described by the Edison Electric Institute (Ref. 32). This document describes methods for prediction of noise from coal handling facilities which use similar technology as the subject project. The residential noise level predictions account for the attenuation due to 1) the distance between the Project site and the res-

idential area, and 2) the acoustical shielding provided by intervening structures and terrain.

The condominiums are closer to the site than the single-family homes. Normally the noise level at the condominiums would be greater; however, there is more acoustical shielding between the Project site and the condominiums than between the Project site and the single-family homes. For these reasons, the Project-generated noise levels at both residential areas are expected to be similar.

Figure 38 summarizes these predicted residential noise levels for the continuous noise sources during both the daytime and the nighttime. Also shown is the combined level for these noise sources. The DNL due to these combined levels is approximately 56 dB. Not shown in this figure are intermittent noise sources such as train switching which do not have a significant effect on average noise levels and the DNL.

Figure 38

PROJECT-GENERATED NOISE AT NEAREST RESIDENTIAL RECEIVERS
Han-Li International Dry Bulk Marine Terminal EIR
City of Pittsburg, California

Equipment/Activity	Average A-Weighted Noise Levels, dB	
	Daytime	Nighttime
Collection Hoppers	45	43
Conveyor Motors	37	37
Docksider	48	48
Front-End Loaders	43	--
Truck Loading	40	--
Train Loading	40	--
Train Engine Idling	40	--
Combined Level	52	49

The noise levels in the figure above are average noise levels; therefore, the instantaneous noise level at the residential areas

would be at times greater than this level and at times less than this level. A comparison of the Project-generated noise levels with the existing noise levels shows that the Project-generated average noise levels will be less than the average noise levels measured at both residential areas during both the daytime and nighttime.

Project-generated daytime average noise levels will be comparable to the daytime background noise levels at both residential areas. During the nighttime, the Project-generated average noise levels will be 3 dB greater than the background noise level at the condominiums to the west and 9 decibels greater than the background noise level at the single-family homes to the south.

Based upon this analysis, we find that on-site Project-generated noise may sometimes be audible at the residential areas, but, since the Project-generated noise would not be significantly louder than other noise sources in the community, the Project would not significantly affect the overall residential noise environment.

2. Off-Site Noise Sources

a. Ships and Barges:

Ships and barges will use the New York Slough to access the Project site. The Bay Harbor Park Condominiums are located along the shore of the Slough. The major noise sources in ships are the engines which are below the water line. Ships produce appreciable wayside noise levels when under full power which occurs only when the vessels are out at sea. In ports, ships rarely exceed five knots, so wayside noise from the engines is negligible (Ref. 65). Approximately 84 ships per year are expected to transport materials to and from the Project site. Because of the low wayside noise levels and infrequent occurrences, ship noise is not expected to generate a significant noise impact at the condominiums.

b. Trucks:

The Project will generate an average of approximately 475 truck trips per day. (Each trip is either inbound or outbound; therefore, one truck travelling to and from the site is considered two trips.) The Project operators will accept trucks during working hours, 8 AM to 6 PM; thus, most Project-generated truck trips will occur during these hours. The hourly distribution of truck traffic use for predicting noise levels is based on information contained in the Circulation section (Chapter IV) of this EIR. Truck noise levels are calculated using the Federal Highway Administration traffic noise prediction model (FHWA-RD-77-108). Noise levels were calculated at the setback of homes along Harbor Street, 55 to 65 feet from the centerline. Figure 39 shows predicted hourly Leqs due to Project-generated trucks and the typical measured hourly Leqs at location "C," the yard of a home on Harbor Street at Ninth Street. This figure shows that the Project truck-generated noise is equal to or below the existing measured noise levels.

The existing measured noise levels shown in Figure 39 represent a Day/Night Average Sound Level (DNL) of 67 dB. The Project truck-generated DNL is 64 dB. Combining these two noise levels results in a future DNL of 69 dB, an increase of 2 dB over the existing condition.

Comparing the Project truck-generated noise to the City of Pittsburg's noise and land use compatibility guidelines, the Project truck-generated DNL of 64 dB exceeds the City's standards for normal acceptable residential land use. However, the existing DNL along Harbor Street already exceeds the City's standards, and the future DNL, with the Project trucks, would be only 2 dB greater. An increase in traffic noise of 2 dB is below the threshold for a just noticeable difference of 3 dB.

A similar analysis can be applied to the homes along California Avenue. The existing noise at these residences exceed the City's standards and Project-generated truck noise would be about 3 dB

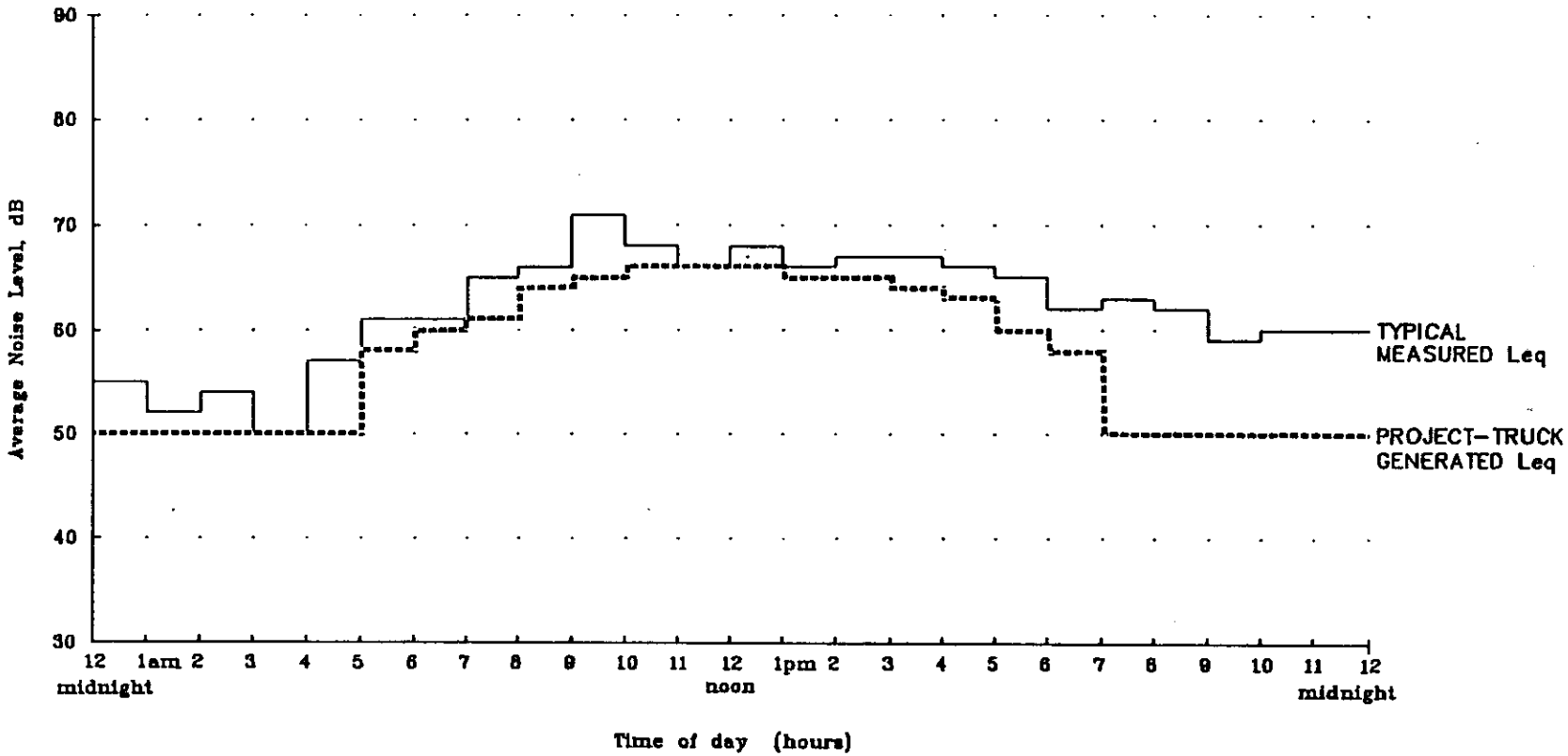

Figure 39
COMPARISON OF TYPICAL MEASURED Leq AND PROJECT TRUCK GENERATED Leq AT HOME ON HARBOR STREET AND NINTH STREET
Han-Li International Marine Terminal EIR
City of Pittsburg, California

less than on Harbor Street because the volume would be split east and west of Harbor Street.

c. Trains:

The Project will typically generate two to three 20-car trains per day. Grain operations will generate the highest number of trains per day. These operations will occur only during the summer months. The 20-car trains will link up with larger trains from the Santa Fe lines to the south of the Project site. The main Santa Fe lines through Pittsburg currently handle 20 to 30 trains per day. Project-generated trains will not cause this number to increase. The Santa Fe spur that extends up to the Project site (East Third Street) along Harbor Street has about one train per day which serves Johns-Manville (Ref. Larry Hartman, Yard Master, Santa Fe Railway Company). This activity would not significantly change during most of the year; however, during the summer months, significantly more trains will be using this railroad spur. This would be noticeable for the homes along Harbor Street, but would not be expected to significantly increase the average noise levels at these homes due to the predominance of noise from vehicular traffic on Harbor Street.

3. Construction Noise

Noise generated by typical construction activities is expected to be similar to noise generated by the operation of the Project. For example, noise from grading equipment will be similar to the front-end loaders which were discussed in the "On-Site Noise" section. Noise from concrete pumping equipment will be similar to noise generated by conveyor motors and the Docksiders. Construction on the Project will also generate trucks which will access the site via the truck route discussed above. The volume of trucks required for construction of the Project is expected to be significantly less than those required during operation of the Project. The only construction noise source which will be significantly louder than Project noise sources will be pile driving.

Pile driving is required for construction of the Project, and it will be clearly audible at the nearest residential areas.

C. MITIGATION MEASURES

1. On-Site Noise

Our analysis indicates that on-site Project-generated noise will be below the City's residential noise standard at the nearest residential uses. Therefore, the on-site equipment and activities would not generate a significant noise impact. However, noise from certain activities and equipment may be noticeable at times at the residential areas.

Monitoring Project-generated noise levels in the residential areas will require a method for distinguishing the Project noise from non-Project noise. Simultaneous noise measurements made in the residential areas and near the Project site where Project-generated noise is dominant will help achieve this.

If the results of the monitoring exceed the expected noise levels or a significant number of complaints are received, extra noise mitigation for these activities should be required. Appropriate mitigation measures for collection hoppers and truck and train loading include sound-absorptive barriers or earth berms near the equipment and loading areas. Noise from loading hoppers can be reduced with the use of damping material in the hopper construction. The mitigation measures should be developed with the help of an acoustical engineer to ensure adequacy of the design.

Mitigation of noise from the "docksider" cement unloading equipment should be in the form of silencers at the air outlets, or as an "active" noise control system. The silencers should be of the reactive or "tuned" type, to reduce the tonal components of the docksider noise. Active noise control is a new technique for reducing the low-frequency tones. The method involves sensing the acoustic output of the fans and applying equal and opposite sound

pressures created by loudspeakers mounted to exhaust ducts, thereby "cancelling" the offensive sound.

2. Off-Site Noise

Although Project trucks will not generate a significant increase in traffic noise levels along Harbor Street and California Avenue, traffic noise levels at homes along these truck routes already exceed the City's standard for normal acceptable residential land use. Noise barriers can be used to reduce noise at homes which do not have driveway access from the truck routes. To be acoustically effective, barriers must be continuous and openings for driveways would significantly compromise barrier effectiveness. Construction of a new alternative truck route serving the Project site and other industrial operations in the vicinity to the east away from the existing residential areas is discussed in other Chapters (IV and VI), and would constitute the most effective method for achieving full compliance with the City's noise compatibility standards.

To minimize the potential for sleep disturbance, train operations on the Santa Fe spur along Harbor Street should be limited to daytime hours (7:00 AM to 10:00 PM).

a. Construction Noise:

Impacts from construction noise can be minimized by restricting construction activities to between 7:00 AM and 5:00 PM on Monday through Friday.

Other methods for reducing on-site noise and truck-generated noise are discussed as alternatives to the Project.

VIII. VISUAL AND OTHER CONSIDERATIONS

A. VISUAL CONSIDERATIONS

1. Setting

The Project site is located at the northern edge of Pittsburg on the shore line of New York Slough, a branch of the San Joaquin River running between the northern shoreline of Pittsburg and Brown's Island. There are no prominent (i.e. elevated) natural visual features on or near the site, although the site provides a close view of Brown's Island, and the surrounding hills are highly visible from the site's open lands. There are no nearby buildings or trees which obscure the views available from this section of Third Street of either Brown's Island or the southern hills. The General Plan Parks and Recreation Element contains a proposal for developing a park site nearby, tentatively called Marina East, which would provide, among other amenities, scenic views of Brown's Island. The Project site itself is not considered a valuable scenic resource, and is visible only from the end of the public portion of East Third Street, east of Harbor, where the character of its fencing, debris, fill materials, and scattered pieces of industrial equipment give it a very poor site appearance. The site conditions are pictured in Figures 40 through 43. The riverside vegetation averages eight feet above the water and consists of shrubs and undergrowth.

2. Impacts

The level parcel of ground comprising the marine terminal site is not generally visible to the community, but the structures as proposed for the Project would be prominent and visible from other areas of the City. The proposed domes would constitute the tallest enclosed buildings within the City limits, although there are a number of taller buildings and structures within the City's Sphere of Influence. The regular docking of ocean-going ships, passing by the Pittsburg Marina and downtown area, would present a striking visual feature resulting from the operation of the fa-

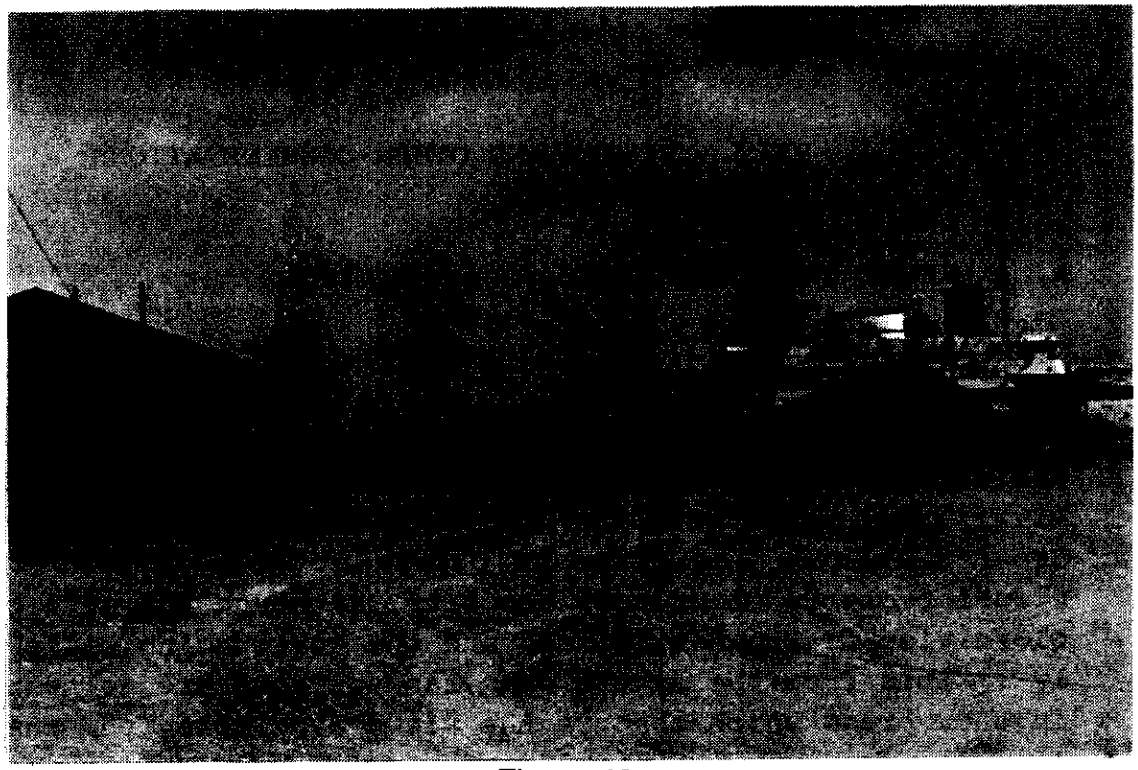

Figure 40
SITE PHOTOGRAPH:
FROM PUBLIC TERMINUS OF EAST THIRD STREET
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Figure 41
SITE PHOTOGRAPH:
PRIVATE EXTENSION OF EAST THIRD STREET
Han-Li International Marine Terminal EIR
City of Pittsburg, California

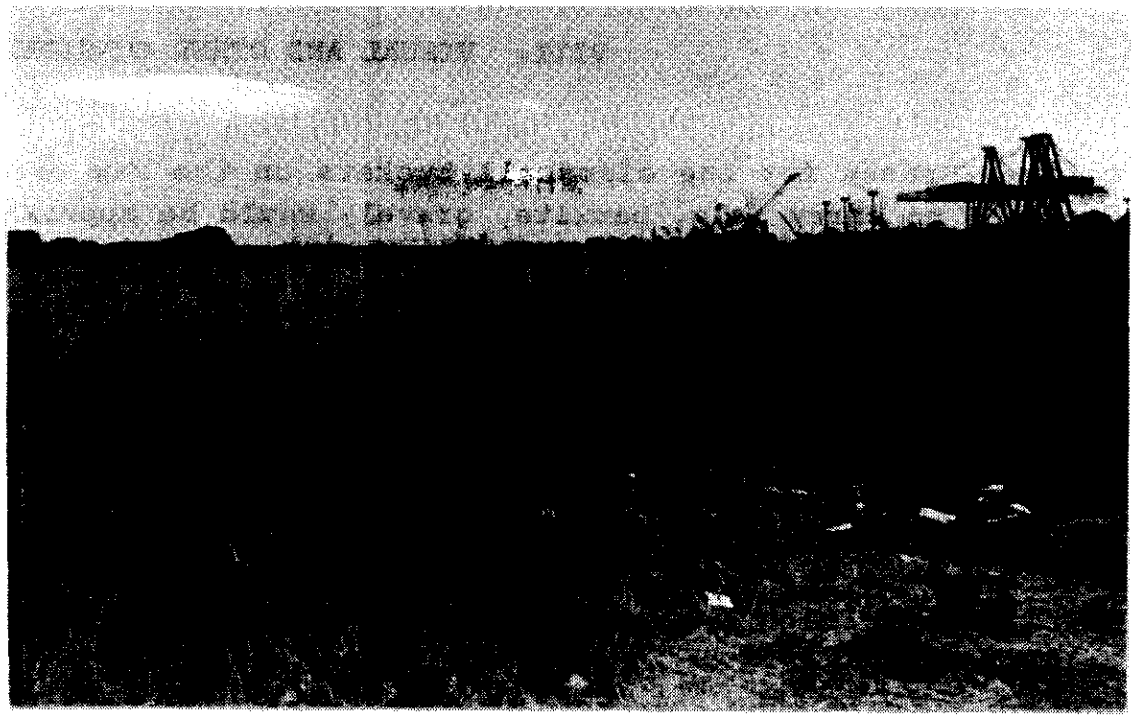

Figure 42
SITE PHOTOGRAPH: SHORELINE AREA, CENTRAL PORTION OF SITE, LOOKING EASTWARD
Han-Li International Marine Terminal EIR
City of Pittsburg, California

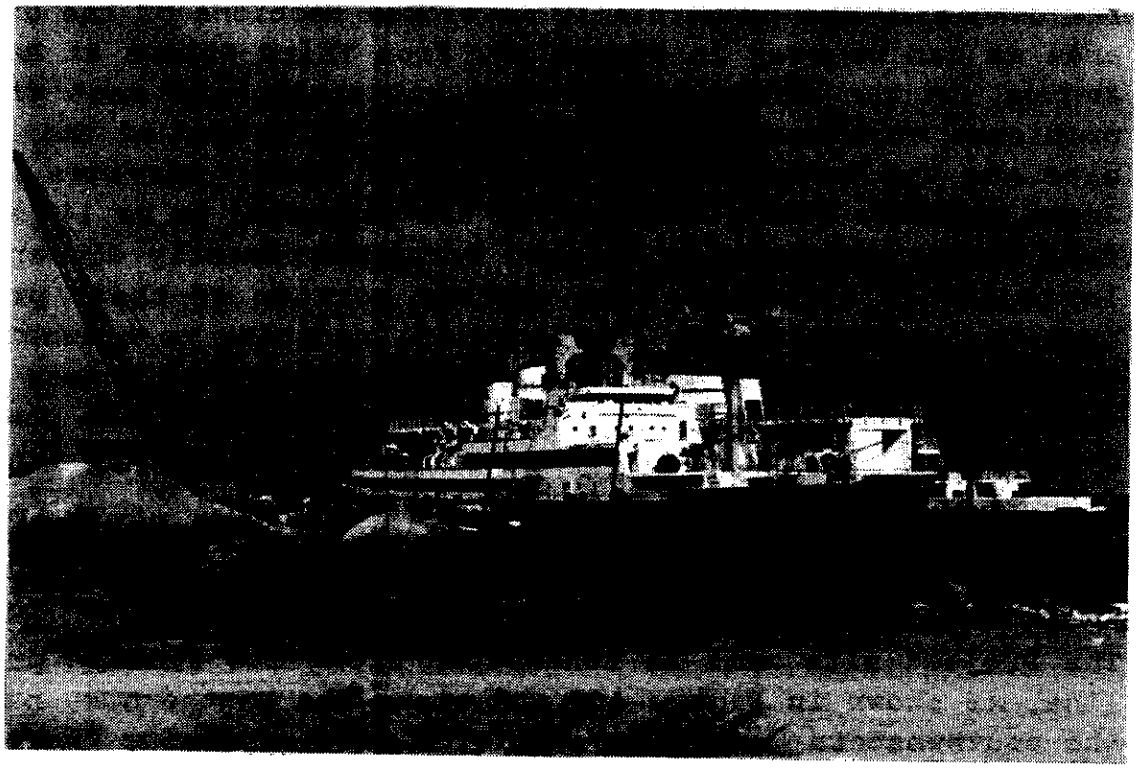

Figure 43
SITE PHOTOGRAPH: SHORELINE AREA, FROM SITE CENTER, LOOKING WESTWARD
Han-Li International Marine Terminal EIR
City of Pittsburg, California

cility. Cranes for the clamshell buckets on the raw ore ships designed to carry (e.g. bauxite, gravel) would be approximately 80 feet high, about the same height as the proposed domes. The storage dome structures (three or possibly four in number) proposed on the site will be visible from the intersection of Harbor and Third Streets, from Harbor Street (south to the Tenth Street Railroad underpass), and from Santa Fe Avenue between Harbor and Columbia Streets. The existing view from East and Third Streets towards the site is presented in **Figure 44**. The ship seen in Figure 43 is visible in the center of **Figure 44**. **Figure 45** shows the view from the Bay Harbor Park Townhouse Condominiums, north of Third Street, which are dominated by the Diablo Services conveyor belt tower.

Due to the massing and size of the plant buildings and structures on the Johns Manville and the Diablo Services sites, the storage domes, ships and other elevated structures (e.g. materials, handling equipment) on the Project site will be largely obscured as viewed from Third Street west of Harbor, particularly from the residentially and commercially developed sections of the downtown area as can be seen in **Figure 44**. From Third Street at Railroad Avenue, in the center of downtown Pittsburg, the most visually prominent structures to the east in the direction of the Project site are the conveyor belt gantries of Diablo Services and the Johns Manville water tower, which are estimated to be 140 and 156 feet tall, respectively. Diablo Services recently dismantled a large gantry structure in a western portion of their property (not the structure seen in **Figure 45**) reducing to a substantial degree the harshness of the view of the industrial area to the east as seen from the downtown area. Residents of the townhouse development will be able to see no more than the top ten or 20 feet of the storage dome structures.

3. Mitigation Measures

The Project site will be landscaped along its western property line, as shown in **Figure 46**, and along the southern boundary of the southwestern portion of the site. The screening provided by

Figure 44
SITE VICINITY PHOTOGRAPH:
LOOKING EASTWARD FROM EAST AND THIRD STREETS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

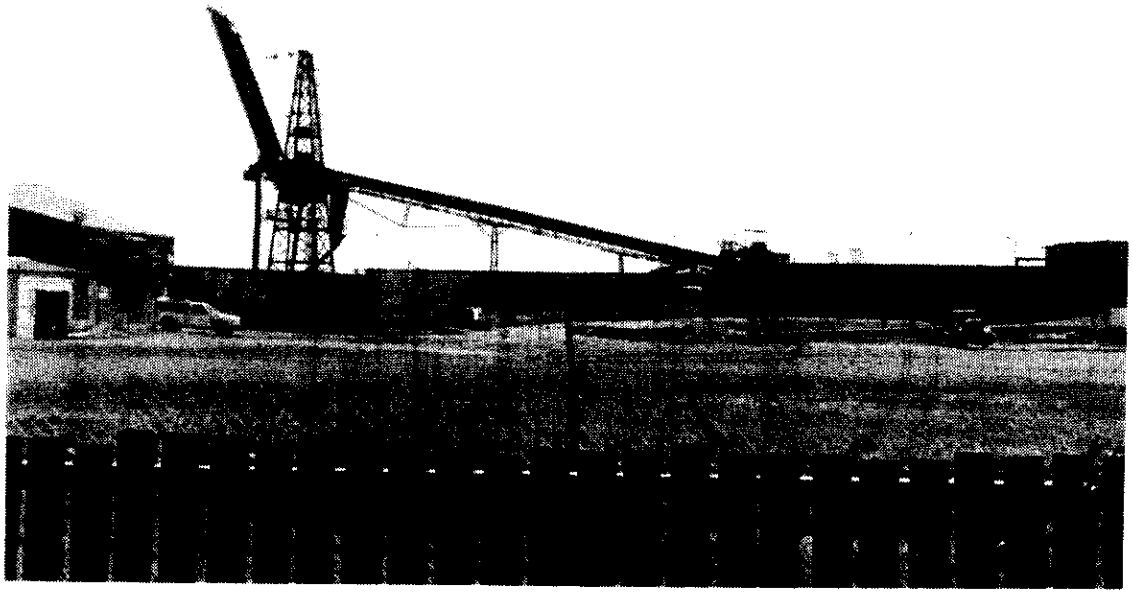

Figure 45
SITE VICINITY PHOTOGRAPH:
FROM TOWNHOME CONDOMINIUMS
Han-Li International Marine Terminal EIR
City of Pittsburg, California

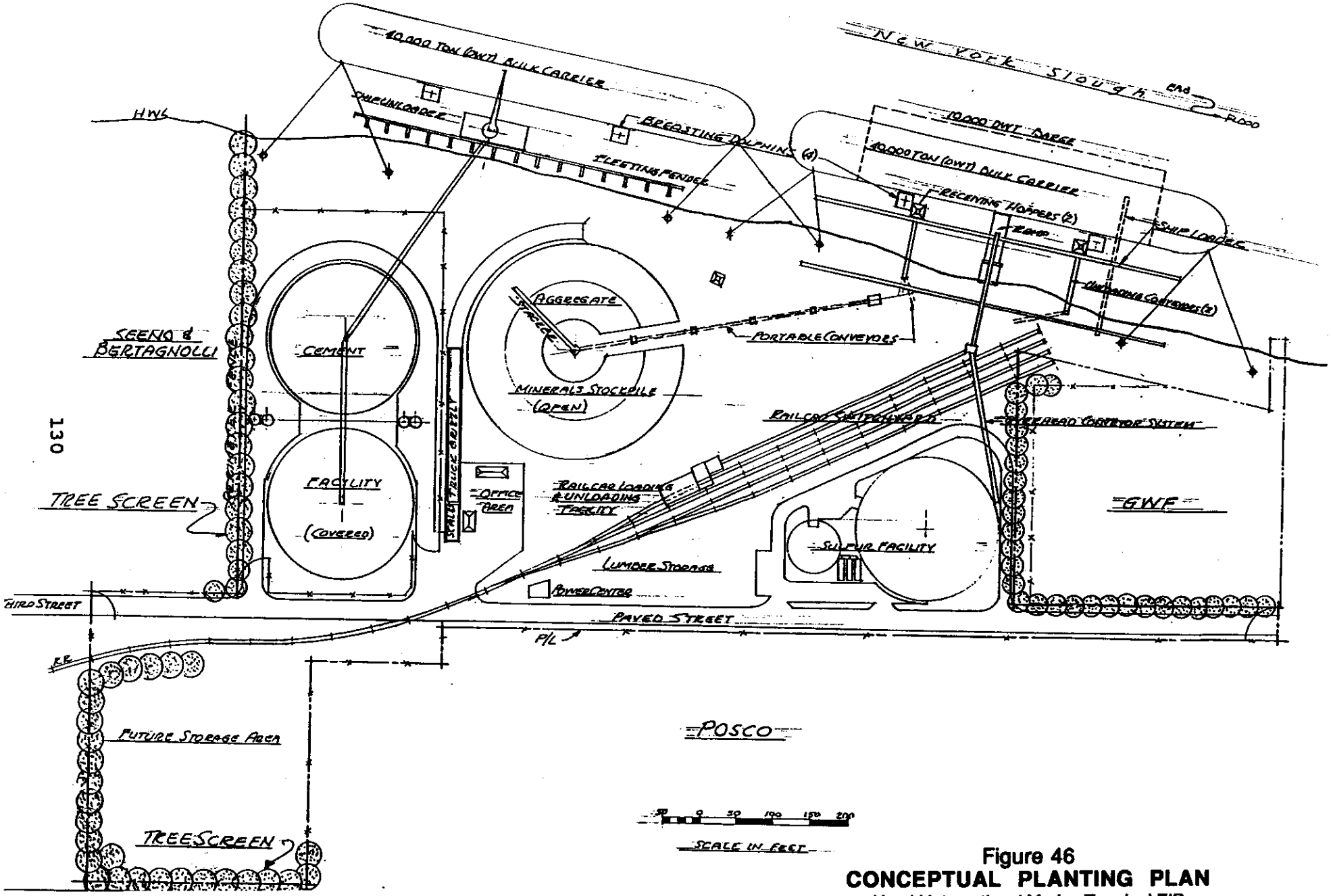

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Figure 46
CONCEPTUAL PLANTING PLAN
Han-Li International Marine Terminal EIR
City of Pittsburg, California
Source: Thomas B. Coull & Associates

the proposed tree and landscape areas will to some degree obscure the ground level views of the storage and transfer operations, although they will not provide full visual shielding of the elevated equipment, such as conveyor belts, radial stacker, gantries, etc. The trees, from a viewpoint at Third and Harbor Streets, may soften and obscure to some extent the stark, mechanical, heavy industrial appearance of the Project structures and equipment. There are no additional screening or mitigation measures which appear to be practical to lessen the visual impacts of the Project as proposed.

B. LIGHT AND GLARE

1. Setting

The Project site is presently undeveloped and as such no operational lighting is used at this time, although the private extension of Third Street along the southern boundary of the main site area does have street lighting. When it is completed and operating, the GWF co-generation power plant to the east of the Project site will utilize high intensity lighting throughout the nighttime hours for safety and security purposes. High intensity lighting is also used at the USS/POSCO steel plant.

The Project will require operational lighting of 5.0 candle power intensity floodlights for the ship and barge unloading and loading areas, as well as for the railroad car loading area. The balance of the area will be illuminated with a lower intensity light, providing 0.2 to 0.5 candle power, which is mainly proposed to serve security functions. This lighting system would operate during nighttime hours and would use standard street light luminaries. Operational lighting for ships, barges and railroad cars would be used only during actual nighttime work periods. It is proposed that only ship operations would be carried out on a 24-hour basis during their three-day unloading cycle. However, it may be necessary to use 5.0 candle lighting for the other opera-

tions during the winter time on an occasional basis when the periods of available daylight are shorter.

2. Impacts

The nearest residential areas are at a distance of a quarter-mile, and would not be adversely affected by the glare, although the site illumination would be visible. The flood lights operating at nighttime during ship unloading may be somewhat more visible from the residential area south of Santa Fe Avenue, half a mile away, because of the absence of intervening structures or vegetation.

3. Mitigation Measures

- Floodlights should be designed to direct light on to the areas of the Project site requiring such illumination so as to keep "spillage" to a minimum, while maintaining the objective of nighttime work safety and efficiency.

IX. BIOTIC RESOURCES

The Project site encompasses approximately 15.5 acres along East Third Street, just east of Harbor Street. New York Slough forms the northern boundary of the site for a distance of approximately 1,400 feet. The proposed facility would serve as a marine terminal for loading and unloading of several different types of dry bulk materials, including cement, bauxite, limestone, gypsum, sand, gravel, lumber, sulphur, scrap metal, and grain. This assessment describes the existing biotic resources in the vicinity of the proposed facility, the potential impacts of Project implementation, and measures recommended to mitigate adverse impacts on identified resources.

Identification of the biotic resources occurring within the study area involved: a preliminary literature review, a record search and consultation with representatives of the California Natural Diversity Data Base (CNDDB), and an on-site field survey. Prior to conducting the field survey, available literature was reviewed to provide information on the distribution and habitat requirements of special-status taxa which have been recorded from east Contra Costa County and the Delta.

A. SETTING

1. Vegetation

Existing vegetation on the Project site is generally sparse, eliminated by previous industrial activities and channel modifications along New York Slough. Paved surfaces, structures, piles of sand and gravel, and debris cover most of the site, reflecting the degree of past disturbance. Ruderal or "weedy" plant species form the predominant cover where vegetation is present.

Due to previous filling and bank stabilization efforts, native riparian species occur only sporadically along New York Slough, and do not form a continuous cover of riparian or marsh vegeta-

tion at any point along the steep, actively eroding channel bank. Native species occurring as individual plants along the channel bank include willow (Salix sp.), sedge (Carex sp.) rush (Juncus sp.), and gum plant (Grindelia paludosa). These species occur intermittently with ruderal vegetation such as fennel (Foeniculum vulgare), plantain (Plantago sp.), dock (Rumex sp.), and several introduced annual grasses. Fennel forms a dense thicket with other ruderal species and an occasional willow along a narrow, relatively inaccessible portion of the site, located between the slough and the adjacent, fenced G.W.F. property. Water hyacinth (Eichhornia crassipes) forms floating mats of aquatic vegetation on New York Slough, and several plants were lodged in debris along the shoreline of the site.

A small area of annual grassland vegetation, occupying less than one acre, occurs on the Project parcel located to the south of East Third Street. Much of the annual grassland cover on the site and other adjacent vacant land was removed by recent grading activities, exposing barren soil. Where plant cover remains, the grassland vegetation is generally composed of introduced annuals, such as slender wild oat (Avena barbata), ripgut grass (Bromus diandrus), soft chess (Bromus mollis), foxtail barley (Hordeum leporinum) field mustard (Brassica campestris), red-stemmed filaree (Erodium circutarium), and burclover (Medicago polymorpha). Ruderal plant species are also present in the grassland, including yellow star thistle (Centaurea solstitialis), dock, plantain and fennel.

Browns Island is located on the opposite side of New York Slough from the Project site, approximately 800 feet to the north at its closest point. The island is approximately one square mile in area, of which 595 acres is owned by the East Bay Regional Parks District and managed as a regional preserve. The island is largely a wetland, with well-developed coastal brackish marsh vegetation, dominated by cat-tail (Typha spp.), bulrush (Scirpus spp.), tule (Scirpus acutus), and willow (Salix spp.). The island supports populations of several special-status plant taxa, and pro-

vides important nesting and foraging habitat for numerous species of birds.

2. Wildlife

The vacant, upland portions of the site are of little habitat value to wildlife. Wildlife species which occur on or frequent the Project vicinity are generally associated with urban areas, although birds and mammals traveling along New York Slough may occasionally use the site for resting or perching substrate. Species which most likely inhabit the site and vicinity include Norway rat (Rattus norvegicus), black rat (Rattus rattus), house mouse (Mus musculus), house sparrow (Passer domesticus), and house finch (Carpodacus mexicanus). The narrow thicket of fennel along the shoreline of New York Slough provides the only dense vegetative cover for wildlife on the site.

The small area of grassland vegetation on site provides only poor to marginal habitat for wildlife due to the absence of adequate cover and the extent of surrounding industrial development, which has been further reduced by recent grading activities. Wildlife species which may occur in or frequent the areas with grassland cover include: white-crowned sparrow (Zonotrichia leucophrys), California vole (Microtus californicus), pocket gopher (Thomomys bottae), black-tailed jackrabbit (Lepus californicus), gopher snake (Pituophis melanoleucus), and western fence lizard (Sceloporus occidentalis). Several species of raptors may occasionally forage in the grassland habitat, including red-tailed hawk (Buteo jamaicensis), American kestrel (Falco sparverius), turkey vulture (Cathartes aura), and black shouldered kite (Elanus caeruleus).

New York Slough is of regional importance to wildlife in the area, providing habitat for aquatic plant and animal species, open water habitat for birds, and serving as an important wildlife movement corridor through the southwestern fringe of the Delta. Birds of the Delta encompass several large categories of both resident and migratory species, including waterfowl, shore-

birds, wading birds, songbirds, and raptors. Although data on the invertebrate fauna of the Suisun Bay-Delta areas is sparse, assemblages in the vicinity of New York Slough most likely include amphipods, polychaetes, bivalves, and other crustaceans. Phytoplankton and zooplankton are an important food source to several fish species, with opossum shrimp (Neomysis awatschensis) considered the major zooplankton species in the Suisun Bay-Delta area. Phytoplankton and detritis are consumed by zooplankton and benthic organisms, which are food for benthic feeding fish, filter feeding fish, larger crustaceans, waterfowl and shorebirds.

The Delta waters support populations of both anadromous and resident fish species. Resident fishes include game fish, such as largemouth bass, catfish, and sunfish, as well as many species of nongame and forage fish. Anadromous species include chinook salmon (Oncorhynchus tshawytscha), steelhead trout (Salmo gairdnerii), striped bass (Morone saxatilis), white sturgeon (Acipenser transmontanus), and American shad (Alosa sapidissima). The adult salmon has three distinct migrations from the Pacific Ocean into the San Francisco Bay-Delta area; during the fall (largest run), winter, and spring (smallest run). Migration of juvenile salmon to the ocean usually peaks in April, May, and June (Ref. 10). American shad begin migration in fall and pass through the Delta during April, May, and June (Ref. 9), with juvenile shad migrating from the Delta through San Pablo Bay from September to November (Ref. 33). Sturgeon tend to spawn between March and June, although a small portion of the population may migrate to the Delta prior to the major spawning run. Steelhead trout migrate all year, with the bulk of spawning fish moving upstream in the fall and winter (Ref. 11).

3. Special-Status Taxa

A record search conducted by the California Natural Diversity Data Base (1989) together with other relevant information (Ref. 20, 21, 48 and various environmental documents), indicates that historical occurrences of several plant and animal taxa with special status have been recorded from eastern Contra Costa County

and Delta area. Special-status taxa include: officially designated (rare, threatened, or endangered) and candidate species for listing by the California Department of Fish and Game (CDFG); officially designated (threatened or endangered) and candidate species for listing by U.S. Fish and Wildlife Service (USFWS); and other taxa considered to be rare or endangered under the conditions of Section 15380 of the California Environmental Quality Act (CEQA) Guidelines (State of California, 1986), such as those identified in the Inventory of Rare and Endangered Vascular Plants of California (Ref. 20). A field survey of the Project vicinity was conducted on 15 January 1990 to determine whether plant and animal taxa of concern occur in the area.

Based on recorded geographic range and the presence of suitable grassland and wetland habitat, 11 plant taxa with special status were considered as potentially occurring in the vicinity of the proposed Project. These taxa include Suisun marsh aster, Suisun thistle, soft bird's-beak, diamond-petaled California poppy, stinkbells, great valley gumweed, California hibiscus, Contra Costa goldfield, delta tule pea, Mason's lilaeopsis, and caper-fruited tropidocarpum. Information on each of these taxa, including specific name, status, suitable habitat characteristics and distribution, is presented in **Figure 47**. None of these taxa were encountered during the field survey of the site, and the degree of past disturbance on the property and shoreline of New York Slough limits the likelihood of occurrence of any of these taxa on the site.

Several animal taxa recognized as "special animals" by CNDDB have been recorded from the eastern Contra Costa County and Delta area. "Special animals" is a broad term referring to those animal species with legal status, or considered significant because of restricted distribution, declining habitat and other factors. Animal taxa recognized as special animals and known from the surrounding area include: California black rail (Laterallus jamaicensis coturniculus), California least tern (Sterna antillarum browni), salt marsh harvest mouse (Reithrodontomys raviventris), and Suisun song sparrow (Melospiza melodia maxillaris). None of

Figure 47
SPECIAL STATUS PLANT TAXA
POTENTIAL OCCURRENCE IN PROJECT SITE VICINITY
Han-Li International Marine Terminal EIR
City of Pittsburg, California

TAXA NAME	STATUS (Fed/State/CNPS)	HABITAT CHARACTERISTICS (Munz & Keck 1973; CNDDB, 1989)	DISTRIBUTION (Munz & Keck 1973; CNPS 1988) (Presumed Extirpated)	FLOWERING PERIOD (Munz & Keck 1973)
Aster chilensis var. lentus Suisun marsh aster	C2/-/1B	Brackish water marshes and swamps	Contra Costa, Napa, Sacramento, Solano	May-October
Cirsium hydrophilum var. hydrophilum Suisun thistle	C1/-/1B	Freshwater marshes and swamps known from one occurrence in Suisun marsh	Solano	July-Sept.
Cordylanthus mollis ssp. mollis Soft bird's-beak	C1/R/1B	Coastal salt marsh	Contra Costa, Marin, Napa, Solano,	July-Nov.
Eschscholzia rhombipetala Diamond-petaled California poppy	C2/-/1B	Open dry areas in grassland or rocky areas	Contra Costa, San Joaquin, San Luis Obispo, (Alameda, Colusa, Stanislaus)	March-April
Fritillaria agrestis Stinkbells	C2/-/4	Heavy clay soils in low-lying areas	Alameda, Contra Costa, Kern, Mendocino, Monterey, San Benito, San Luis Obispo, Stanislaus	March-April
Grindelia camporum var. parviflora Great valley gumweed	-/-/4	Dry grassy slopes	Alameda, Contra Costa, Marin, Riverside, San Benito, San Francisco, San Mateo	May-October
Hibiscus californicus California hibiscus	C2/-/1B	Freshwater marshes and channel banks	Butte, Contra Costa, Colusa, Glenn, Sacramento, San Joaquin, Solano, Sutter	Aug.-Sept.
Lasthenia conjugens Contra Costa goldfield	C2/-/1B	Low flats and borders of vernal pools	Napa, Solano, (Alameda, Contra Costa, Mendocino, Santa Barbara, Santa Clara)	April-May
Lathyrus jepsonii ssp. jepsonii Delta tule pea	C2/-/1B	Brackish water marshes and swamps	Alameda, Contra Costa, Fresno, Napa, San Benito, Santa Clara, San Joaquin, Solano	May-June
Lilaeopsis masonii Mason's lilaeopsis	C2/R/1B	Brackish water marshes and swamps	Contra Costa, Napa, Sacramento, San Joaquin, Solano	June-August
Tropidocarpum capparideum Caper-fruited tropidocarpum	C2/-/1B	Grassy alkaline slopes below 500 feet	(Alameda, Contra Costa, Glenn, Monterey, San Joaquin, Santa Clara)	March-April

STATUS DESIGNATIONS:

Federal (USFWS, 1989 and 1989a):

E = Listed as "endangered" under the federal Endangered Species Act.

C1 = A "candidate" species under review for federal listing. Includes taxa for which the USFWS has sufficient biological information to support listing as endangered or threatened species.

C2 = A "candidate" species under review for federal listing. Includes taxa for which the USFWS currently has some information indicating that "proposing to list them as endangered or threatened species is possibly appropriate", but for which further biological research and field study is usually needed to determine biological vulnerability and threats.

State (CDFG, 1988, 1988a, and 1989):

E = An "endangered" species. Serious danger of becoming extinct throughout all or significant portion of range due to varing factors (Section 2062 of Fish and Game Code).

R = A "rare" species. Although not presently threatened with extinction, may become endangered if present environmental factors worsen (Section 1901 of Fish and Game Code).

CNPS (CNPS, 1988):

1B = Plants of highest priority; plants rare and endangered in California and elsewhere.

4 = Plants of limited distribution.

these taxa were encountered during the field survey of the site, and the occurrence of populations of any of these taxa on the site is highly unlikely due to the degree of past disturbance and absence of suitable habitat.

4. Wetlands

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted for life in saturated soil. The California Department of Fish and Game (CDFG) and U.S. Army Corps of Engineers (Corps) have jurisdiction over modifications to river channels and other wetland features. Section 1603 of the State Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the department, incorporating necessary mitigation, and obtaining a Stream Bed Alteration agreement with the Department. The Wetlands Resources Policy of the CDFG states that the Fish and Game Commission will "strongly discourage development in or conversion of wetlands... unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage". Jurisdiction of the Corps is established through the provisions of Section 404 of the Clean Water Act, which prohibits the discharge of dredged or fill material into waters in the United States without a permit (individual or nationwide permit) from the Corps, and Section 10 of the Rivers and Harbors Act which is intended to regulate development on historically navigable waters. Although extensively modified by past filling and dredging operations, the shoreline of New York Slough falls under the jurisdiction of the Corps and CDFG and any proposed modification would be subject to review and permit approval by these two agencies.

B. IMPACTS

1. Vegetation

As currently proposed, existing ruderal, grassland, and riparian vegetation on the site would be removed with implementation of the Project. Although the small area of grassland vegetation located to the south of East Third Street would most likely be eliminated from the site, replaced with a future storage area, ruderal vegetation would eventually become re-established along fence lines and areas that are only infrequently utilized by proposed facilities. The Conceptual Planting Plan (see Figure 46) for the Project indicates that trees would be planted around the perimeter of the site to serve as screening, although no landscape improvements are indicated along the shoreline of New York Slough.

2. Wildlife

The site would most likely continue to be frequented by wildlife common to the area, although the increase in human activity may discourage use. Wildlife which reside on the site may be temporarily displaced to adjacent areas during construction activities. Although composed of primarily ruderal plant species, improvements along the shoreline of New York Slough would eliminate the dense thicket of fennel in the northeastern portion of the site, which currently provides cover for wildlife.

3. Special-Status Taxa

No special-status taxa were encountered during the field survey of the project vicinity, and no significant adverse impacts on identified taxa of concern are anticipated.

4. Wetlands

As currently proposed, the entire length of shoreline on the site would be altered by the Project, modifying approximately 1,400

linear feet of the southern bank of New York Slough. The channel bank would be recontoured (slope of 1 1/2 to 1 or flatter) and covered with engineers rock to prevent erosion. The toe of the channel bank and the channel bottom would be dredged to a depth of 40 feet to accommodate ships and barges using the facility. Approximately 60,000 cubic yards of dredge material would be deposited on the site. Modifications to the channel bank and bottom of New York Slough would be subject to review and approval by the CDFG and the Corps of Engineers.

In general, adverse impacts associated with dredging activities typically include: interference with zooplankton, phytoplankton, and algal populations due to increased turbidity; physical disruption or elimination of bottom- dwelling life where sediments are removed; smothering of bottom-dwelling organisms through deposition of silt or spoil; and possible toxic effects due to resuspension of heavy metals and petrochemicals contained in bottom sediments. In addition, suspended particles may clog the filter-feeding mechanisms of benthic invertebrates and become an irritant to fish gill epithelium. However, effects attributable to dredging tend to be temporary, with the length of impact dependent on water currents flushing the area, sediment type being dredged, and the duration and season during which dredging is performed. As indicated by samples taken from New York Slough (Ref. 37) dredging activities associated with the project would not result in the resuspention of adverse levels of heavy metals or organic compounds contained in bottom sediments. Previous filling and dredging activities limit the habitat value of the channel bank and bottom of the slough adjacent the Project site, and no significant adverse impacts on aquatic wildlife are anticipated.

C. MITIGATION MEASURES

- Preparation of plans for the proposed channel bank and bottom modifications should be coordinated with representatives of the CDFG and Corps to ensure that the concerns and pos-

sible requirements of both agencies can be easily incorporated into the proposed plans. Jurisdictional determinations and possibly appropriate mitigation will be required subject to the provisions of Section 404 of the Clean Water Act and Section 1603 of the CDFG Code.

- Where feasible, landscaping with native plant species should be provided along the modified channel of New York Slough to provide cover and resting areas for wildlife. Landscaping along the channel bank should at minimum include provisions for intermittent plantings of local willow (Salix spp.) on proposed engineers rock, and a mosaic of dense to open vegetation along the top of the bank, designed to minimize encroachment on marine terminal activities.

- Dredging and other activities which may effect the waters of New York Slough should be performed at times other than peak runs of anandromous fishes (mid-December to mid-February).

- A detailed stormwater runoff and monitoring plan should be prepared and implemented to minimize the possibility of contaminated discharge into New York Slough, as recommended in the Water Quality section of this report.

X. OVERVIEW OF EVALUATION

In this Chapter, the effects of the Project are examined under five general categories from which the overall salient conclusions of the evaluation can be derived.

A. IRREVERSIBLE ENVIRONMENTAL CHANGES

The following changes appear to be irreversible if the Project, as identified in this document, is implemented. Each effect has its own varying degree of impact. These assessments of impacts assume that identified feasible mitigation measures under the control of the Project applicants will be implemented. Other measures that would further mitigate these effects have been identified as being within the jurisdiction of the City of Pittsburg, or other public and private entities, and are therefore not within the direct control of the developer.

- The construction of an industrial use on the presently undeveloped site will confirm the long-term use of the Pittsburg waterfront area east of the downtown area as an industrial district, and its continuity with the heavy industrial activities in the area to the east.

- Alteration of the configuration of the river bottom of New York Slough as a result of dredging.

- Consumption of energy, water and other resources.

- The alteration of the visual character of the site from open land to an area with large domed structures and material handling equipment of substantial height and proportion.

B. UNAVOIDABLE ADVERSE EFFECTS

The implementation of the proposed Project, with the mitigation measures recommended in this EIR, will result in adverse effects which are unavoidable for the foreseeable future. These effects may in the future be reduced to a less significant level by the addition of presently undetermined mitigation measures.

- The development of a bulk loading facility in the City of Pittsburg will significantly add to the truck traffic operating on City streets and roads including the new route endorsed in this EIR.

- Increased particulate emissions to the atmosphere will result from materials handled on the Project site.

- Increases in vehicular emissions will result from truck travel generated by the Project.

- A slight increase in noise levels will be produced in the nearest residential neighborhoods.

C. SHORT-TERM VERSUS LONG-TERM PRODUCTIVITY

The Project site presently provides only limited value as a temporary location for ship mooring, a parking lot, a landfill site, and limited equipment storage. Implementation of the Project will not eliminate or reduce by measureable amounts any of the existing uses or activities, most of which are not uniquely suited to the site and can be conducted (if necessary) in other locations in the City of Pittsburg. Long-term environmental changes that may occur have been described in the preceding Section ("Irreversible Environmental Changes").

It is possible that alternative uses of the site would result in fewer long-term effects on some aspects of the environment (see Chapter X, "Alternatives to the Project"). Utilization of the

site in terms of the access it can provide to the New York Slough shipping channel may be considered the highest and best use of the site in economic terms. The Project does not make intensive use of labor or material processing equipment which could be viewed as a higher and better use of an important industrial site, if considered in isolation from the unique character of its river access. The City of Pittsburg has adopted goals in its General Plan favoring high-technology, labor-intensive industrial development which in general the Project does not serve to achieve. The potential of the site for "clean", or high-technology industry which has minimal environmental impact, is speculative, and probably remote, due to the heavy industrial character of both the surrounding waterfront areas and the adjoining land uses. Under the circumstances, the largely undeveloped USS/POSCO property directly to the south of the Project site might be viewed as having a potential for development as an industrial or office park were it not for the toxic wastes and residues on that site. Development of intensive industrial park uses on the USS/POSCO property, or on other industrial properties surrounding the Project site, appear to be such a distant prospect that the benefit of reserving the Project site for such a future eventuality would be outweighed by the loss of productive use of the Project site in the interim.

The Project will contribute to the industrial tax-base of the City of Pittsburg, and provide economic benefits to a wide range of commercial interests in Contra Costa County. The multiplier effect throughout material-handling and -consuming businesses could be potentially significant. It also has the potential of further contributing to the international business reputation of Pittsburg.

D. GROWTH-INDUCING IMPACTS

The proposed Project may result in a moderate increase in the rate of growth of commercial activity. It will have minimal effect on growth of residential land uses, due to the limited

employment levels required by the Project. The facility will provide raw materials for construction and manufacturing activities, and will expand international trade in these and other materials. New land development within the Pittsburg City limits or Sphere of Influence is not likely to result from implementation of the Project, although some new commercial activities to handle the materials connected with the Project may be initiated or expanded in the larger San Francisco and Central Valley regions of California. The downtown Pittsburg redevelopment efforts will not receive noticeable benefit, or disruption, from the Project's implementation.

E. CUMULATIVE IMPACTS

Cumulative impacts are defined as two or more separate impacts which, when considered together, are considerable, or which compound or increase other environmental impacts occurring elsewhere (California State CEQA Guidelines, Section 15355). Cumulative impacts can result from individually minor but collectively significant projects taking place over time in different but spatially related locations.

The following effects of the Project could combine with presently approved projects and existing conditions to create collectively significant environmental impacts:

- The increased truck traffic generated by the Project would be combined with traffic generated by existing industries bordering on Harbor and Third Streets, and the proposed GWF co-generation power plant, to produce increased volumes and possible congestion on existing roadways, wear and tear on these roads, and risks of traffic accidents and conflicts.

- Airborne particulates generated by the Project may combine with existing sources of similar materials, such as Diablo Services, to further degrade the air quality of the region, including the areas to the east.

- GWF Power Systems Company has recently been given approval to construct a coke-burning power plant on a site abutting the Project site to the east. Due to their proximity, emissions released from the power plant and the Project could interact. The effects of the two projects are unlikely to be additive, however, because:

  - the GWF project is primarily a source of gaseous pollutants such as carbon monoxide, nitrogen oxides and hydrocarbons, while the Project's on-site emissions consist almost entirely of particulates;

  - the GWF project releases a heated plume of gases through a stack elevated 75 feet from the ground, while the proposed Project is essentially an area source at ground level; and

  - the GWF project would release various amounts of toxic air pollutants, while the proposed Project would release no toxic materials.

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XI. ALTERNATIVES TO THE PROJECT

CEQA Guidelines (Section 15126(d)) require that an EIR "describe a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, and evaluate the comparative merits of the alternatives." Furthermore, the alternatives are to be "capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance, even if these alternatives would impede to some degree the attainment of the project objectives, or could be more costly" (Section 15126(3)(3)). Among the alternatives to be discussed is that of "no project" (Section 15126(d)(2)), which is addressed herein as "Alternative A". This alternative discussion considers the potential for other uses of the site as provided for by the General Plan and the existing zoning provisions. Two alternative development scenarios are discussed, of a reduced volume of materials handled by the facility ("Alternative B"), and of a revised truck access route ("Alternative C"). An Alternative site discussion serves as the fourth scenario ("Alternative D").

The purpose of this chapter is to provide decision-makers with a broader basis for evaluating the environmentally superior alternatives and identify the possible effects of development under differing conditions or circumstances, some of which may be determined by the decision-makers. It should be recognized that there is an almost infinite number of possible alternatives that could be postulated and that the limited number of types evaluated are generally representative of this array of options. The CEQA guidelines indicate that "only those alternatives necessary to permit a reasoned choice" need to be addressed, and that it is not appropriate to "consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" (Section 15126(d)(5)).

Recent State Court of Appeal decisions have broadened requirements for discussion of alternative sites (Citizens of Goleta Valley vs. Board of Supervisors of the County of Santa Barbara

(1988) and "Goleta II" an "addendum" judgment regarding the same project, following the response to "Goleta I"). The "rule of reason" in the CEQA guidelines (Section 15126(d)(5)) stands firm, by which the range of alternatives may be limited and no automatic requirement of a discussion of an alternative site emerged from the Court in either case. However, a reasonable discussion of why alternative sites were not considered feasible was determined to be in the public interest, even when the sites are not owned by the project applicant ("Goleta I") or in the jurisdiction of the agency with approval or denial responsibility for the project ("Goleta II" Ref. 24 at 11924). The CEQA guidelines indicate that alternatives which would have environmental impacts greater than the project as proposed, the significant impacts of the alternative should be discussed, but in less detail then that given to the proposed project (Section 15126(d)(4)). In "Goleta II" the Court determined that when a proposed project has significant environmental impacts, reasonably feasible alternative sites which may be capable of eliminating adverse effects must be discussed. "Goleta II" also states that where the nature of the project "would permit its location at many sites over a large region... some deference in limiting the number of sites to be thoroughly studied [is allowed]" providing the reasoning for doing so is stated (Ref. 24 at 11923).

A discussion of several alternative sites is provided under "Alternative D", with limited analyses of the environmental impacts associated with each. The discussion seeks to balance the numerous demands of the CEQA guidelines and the "Goleta" decisions, under the umbrella objective of informing the public and the decision-makers.

A. ALTERNATIVE "A" - NO PROJECT

1. Planning and Policy Context

Alternative "A" reflects a "No-Project" option defined by existing planning and policy conditions, in terms of General Plan

designation and zoning district classification of the site. Completion of the adjoining co-generation power plant as approved is also accepted. The No-Project Alternative assumes a status quo of undeveloped land on the Project site in the immediate future, with eventual development of warehousing, a distribution center, manufacturing, or a combination of these types of activities. The General Plan designation, General Industry, and the zoning classification, "IG-S" District, currently applicable to the site, indicate that these are the most probable uses that would develop on the site. Alternative "A" assumes that no special permits, such as the Corps of Engineers approval of the dredging operation, would be incorporated into the eventual use of the site. However, it is recognized that the heavy industrial uses that the General Plan suggests for the area typically require special permits of some kind.

Other general commercial uses permitted on the Project site, such as retailing, offices or restaurants, appear inappropriate uses for the site, due to the existing heavy industrial land uses on adjacent sites in the area. Alternative "A" is hypothetical in character, due to the absence of detailed land use designations of the type that the proposed Northeast River Area Specific Plan would provide at some future date.

A manufacturing facility or assembly plant which would emit minimal fumes, noise or odor, would be consistent with the General Plan expectations for light industry.

2. Circulation

Truck and train car loading would be permissible forms of transportation serving this site, but ship or barge docking would not be allowed. The completion of improvements on Harbor and Third Streets proposed by the City would improve access to the site and rehabilitation of Third Street east of Harbor Street would occur as a result of the construction of the co-generation power plant. Further improvements to roadways serving as truck routes would not be necessary if the facility generated less than 50 trucks

per day, about one-tenth of the proposed Project's truck activity. In coordination with a Northeast River Area Specific Plan, as called for in the General Plan, establishment of additional roadways would occur, establishing Third and Columbia Streets (presently private service roads), and possibly a third north-south route, as public, collector-type streets. The access to the general area that such roads would provide would help to encourage development of more intensive land uses than presently exist in the vicinity of the Project site. Under Alternative "A", a bikeway might also be introduced into the area (as proposed in the General Plan) which appears untenable within the context of the Project as proposed.

The General Plan also proposes an east-west arterial north of the AT & SF railroad tracks, equivalent to an extension of Tenth Street east to Loveridge Road, which would have an overpass crossing the railroad tracks at Columbia Street. The completion of these roadway improvements would enable development on the Project site to generate higher volumes of traffic without adverse effects. These roads would serve as truck routes for the majority of the Northeast River Area, allowing it to develop more intensively than the currently available truck routes generally allow due to their intrusion into, and conflicts with, residential areas. The total volume of traffic generated by the industrial area on these roads, however, cannot be determined prior to establishment of specific development guidelines of the type to be defined in a future Specific Plan for the Northeast River Area. Truck traffic volumes that could be accommodated acceptably on SR 4 with increased development would also be addressed in the Specific Plan. While the Project as proposed would contribute to congestion on SR 4, ultimate development of the overall industrial area, including the No-Project Alternative might generate very comparable volumes of truck traffic. Because the Project would be likely to result in indefinite postponement of the conversion of Third Street to a public street, development of the overall area could, in fact, be slower than the General or Specific Plan would anticipate.

3. Water Quality

The No-Project Alternative would reduce or eliminate the contamination of runoff due to the handling and open storage of dry bulk materials. Should the site be used for warehousing or light industry, material handling and storage would be expected to be performed in an enclosed building. The increase in impervious surfaces associated with the development of the site for warehousing or light industry is likely to be similar to that for the proposed Project, and runoff rates could therefore be potentially similar.

4. Air Quality

The No-Project Alternative assumes alternate industrial development of the site could contain manufacturing uses with potentially significant emission levels. The primary difference would be a reduction in suspended particulates due to enclosed handling of materials, with a potential increase in gaseous, odorous, toxic, or chemical emissions. A cumulative effect of industrial chemical emissions from the site, with the GWF power plant directly downwind to the east, could be potentially more important than site emissions alone.

Assuming a higher concentration of personnel employed on the site, commuter traffic could be increased substantially under the No-Project Alternative. However, the vehicular emissions in this scenario are generally much less than the proposed Project would generate. Emissions associated with industrial development of the site could vary greatly depending on the specific materials and processes on the site. The types and amounts of emissions from alternative industrial development is not predictable, and could only be determined when a specific industrial use is proposed.

5. Noise

Under the No-Project Alternative, the industrial development that is anticipated to occur is likely to present significantly less potential for noise impacts on existing or redeveloping residential neighborhoods. Processing of materials would be conducted primarily in enclosed structures, and truck and train traffic movements would be at lower levels.

An alternative industrial use of the Project site would, however, involve activities or equipment having the potential for community noise impact. Manufacturing processes enclosed within a large building could require mechanical equipment such as compressors, motors, and cooling towers which might be located outside the building. A large manufacturing building would also require ventilation equipment with the potential for noise generation.

The Han-Li Project would generate trucks primarily during daytime hours. Another use of the Project site such as grocery distribution or bakery production may require trucking during nighttime and early morning hours. This nighttime trucking could significantly influence the noise levels along the truck routes. Due to the nighttime noise penalty applied with the day/night average sound level (DNL) descriptor, one nighttime truck operation is equivalent to ten daytime operations.

6. Biotic Resources

Under the No-Project Alternative, the site would continue to provide habitat for wildlife commonly found in urban areas. Ruderal vegetation and the small area of grassland vegetation to the south of East Third Street would not be eliminated. Modifications to New York Slough, including dredging of the channel bottom, bank recontouring, and placement of engineers rock would not occur, and shoreline and benthic organisms would not be affected by proposed project improvements.

Other industrial-related development may occur on the site under this alternative, possibly eliminating the existing ruderal and introduced vegetation, and the associated wildlife habitat. Future development of the site could still possibly affect the water quality of New York Slough and the aquatic habitat it provides unless measures were taken to prevent contaminated discharge from the site. Unless alternative future uses on the site were marine-related and improvements to New York Slough were necessary, disturbance to the shoreline habitat would most likely be minimal and opportunities for enhancement through establishment of dense riparian vegetation may be possible.

B. ALTERNATIVE "B" - REDUCED INTENSITY

The Reduced Intensity Alternative assumes that the tonnage of materials being handled on the Project site would be substantially reduced, equivalent to 50 percent of currently proposed levels. Restrictions on operating hours to a maximum of two eight-hour shifts per day (7 AM to 11 PM, for example) would also be established. These restrictions, however, would not apply to ship and barge loading, due to their high operating expense. Alternative "B" would require a Conditional Use Permit for the construction of one cement dome or two domes equivalent in capacity to one of the cement storage domes proposed by the Project applicants. The sulphur dome would be reduced to one-half its originally proposed size, and the aggregate and bauxite open storage area would be reduced by restricting the area permitted for such storage. Lumber and scrap metal handling would be reduced similarly. Only two rail spurs would be approved in the CUP, which would limit the amount of material the facility could handle. Dredging as proposed would be carried out, and the construction of on- and offshore moorings, "fenders," hoppers and conveyor belt structures, and the barge ramp, would be permitted as previously defined in the currently proposed Project. Other improvements, such as the office, sulphur "prilling" dome, truck grate, truck scale and parking would be permitted as proposed by the Project applicants.

1. Planning and Policy Impacts

The development of the site for material handling under Alternative "B" would conform to the General Plan policies intended to maintain the heavy industrial uses presently operating in the Northeast River Area. Protection of the natural environment of New York Slough and Brown's Island, as provided in the Pittsburg General Plan might still be affected by operation of a reduced-intensity storage and transfer facility, although at a somewhat decreased level of risk in comparison with the proposed Project. A recreational bikeway along Third Street alongside the southern edge of the Project, proposed in the General Plan, would be deferred or eliminated in common with the proposed Project. Alternative "B" would conflict to some extent with the General Plan Circulation Element policies discouraging development of land uses which generate heavy volumes of truck traffic and affecting residential neighborhoods. However, such a policy impact would be at a lower level than would be created by the proposed Project, because of reduced truck volumes, and limited operating hours.

Alternative "B" would have a lesser effect on the development and redevelopment of the downtown Pittsburg area as guided by the Downtown Specific Plan, Enterprise Zone designation, and the Redevelopment Agency. Effects would be primarily limited to noise and truck traffic impacts.

2. Circulation

The effects on circulation and traffic of Alternative "B" would be reduced from the proposed Project estimated 470 round-trips per day to approximately 235 round-trips, which represents a substantial decrease. The traffic generated by Alternative "B" would still be likely to have a significant impact on existing traffic and is still likely to require the construction of an alternate truck route. Such a truck route would connect the site and the surrounding industrial area more directly with Loveridge Road, and substantially reduce the intrusion of truck traffic into existing residential areas. Other mitigation measures similar to

those prescribed in Chapter IV would be necessary for the Project as proposed by the applicant.

3. Water Quality

Alternative "B" would have a potential impact on the water quality of New York Slough. The impacts of construction and dredging would be identical in significance and magnitude to those of the proposed Project. The reduction in the quantities of material to be handled and stored on the site would lessen the potential for contamination of the New York Slough. However, the drainage of stormwater and dust control sprays from the open storage area would still have the potential to cause water quality degradation. A detention pond, as recommended for the Project, is considered equally appropriate for this Alternative. The reduction in the number and size of storage structures, and in the area to be used for open storage, as assumed in Alternative "B", would diminish the area of impervious surfaces and, as a result, would decrease the volume of runoff from the site. The size of the detention basin could be reduced accordingly.

4. Air Quality

The Reduced Intensity Alternative would reduce the quantity of particulate matter by an amount roughly proportionate to the decrease in the volume of materials handled on the site, which is estimated at half to two-thirds of the levels of emissions anticipated for the proposed Project. The open storage of materials would still cause releases of materials to the atmosphere at proportionately lower levels than would be likely to result from the Project. The amount of vehicular emissions can be projected to be roughly one half of the estimated emissions of the Project proposal, because the number of trips required would be effectively halved under Alternative "B". Carbon monoxide impacts due to truck traffic along Harbor Street would also be halved.

5. Noise

A 50 percent reduction in activity, both on-site and for trucking, corresponds to a reduction in Project-generated DNL of 3 dB. This reduction will have a measurable effect on average noise levels only along the truck routes. The Project truck-generated DNL at residences along Harbor Street would be 61 dB. This would increase the existing DNL by 1 dB to 68 dB. As with the Project alternative, this increase is below the threshold for a just noticeable difference of 3 dB.

6. Biotic Resources

The reduction in activity represented by Alternative "B" would have generally the same, limited impact on the natural vegetation and animal life as the Project as proposed.

C. ALTERNATIVE "C" - REVISED ACCESS

The alternative discussed in this section is based on expectations that an alternate truck route would be constructed between the Project site and the Pittsburg-Antioch Highway, passing only through non-residential areas. This might be achieved either as a component of the proposed Assessment District improvement program, or as a provision of a future Northeast River Area Specific Plan. A potential routing of this roadway is presented in Figure 48. Alternative "C" assumes buildout of the Project as proposed, with 2.235 million tons per year of material handled on the site. A Conditional Use Permit similar to the CUP required for the proposed Project would be required, although it would specify the use of the newly constructed route for all truck traffic. The site improvements would be implemented in the same form in which they are currently proposed, although specific operations and routes could be reconfigured to accommodate the revised access provisions, as necessary.

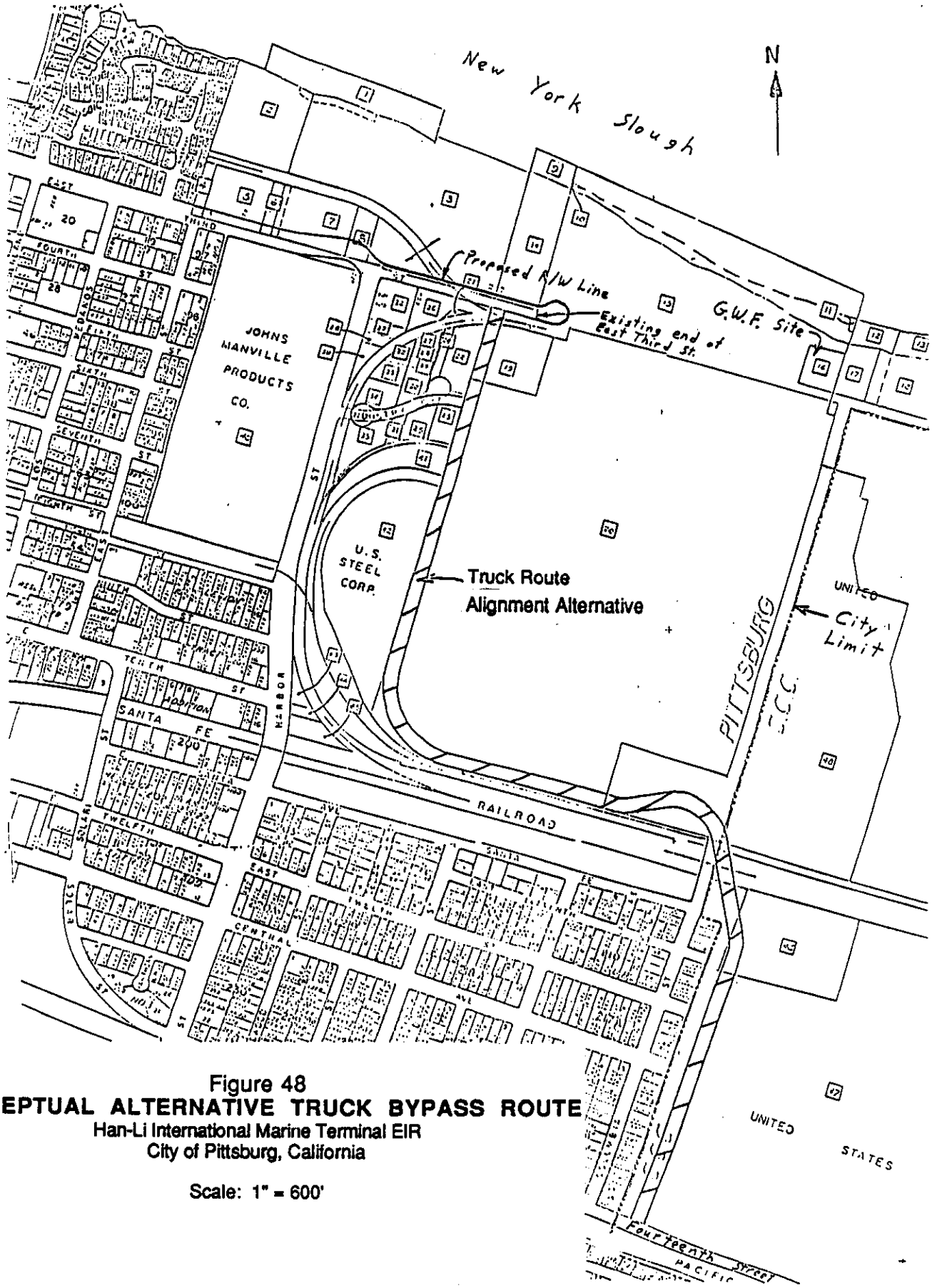

Figure 48
CONCEPTUAL ALTERNATIVE TRUCK BYPASS ROUTE
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Scale: 1" = 600'

1. Planning and Policy Context

The chief purpose of the proposal to construct the alternate truck route is to meet the General Plan objective of directing heavy truck traffic away from residential areas. The proposed roadway would serve to achieve that goal. Alternative "C" would require the establishment of an Assessment District with substantial financial resources, to construct the roadway with grade separation at the railroad tracks. Alternative "C" would be consistent with the General Plan and zoning designations of the Project site and vicinity for heavy industrial uses, as well as with the proposed industrial collector street serving the Northeast River Area defined in the Circulation Element. Alternative "C" would pose the same risk of water quality degradation in New York Slough as the proposed Project, and the recreational bikeway along Third and Columbia Streets would be unsuitable in much the same way as under the Project proposal. The efforts to develop and redevelop the downtown area through the Downtown Specific Plan and related programs (e.g. the Enterprise Zone), would benefit from Alternative "C" by the elimination of the majority of industrially-related truck traffic in and around the downtown area's street system.

2. Circulation

Alternative "C" would result in substantially different traffic impacts than would occur with Project development using the existing truck routes. Truck traffic, and a small portion of general use vehicles, would be directed east and south to the Pittsburg-Antioch Highway, along the alignment depicted in Figure 48. The realignment of the intersection of Third and Harbor Streets would be retained directing most downtown-related trips to Harbor Street and Third Street west of Harbor. Truck traffic generated by Diablo Services, Johns Manville, GWF, and the truck-related businesses along Industry Road, as well as the Han-Li marine terminal operation, would be directed to use this route as a primary truck route for obtaining access to State Highway 4 at Loveridge

Road, or to the Pittsburg-Antioch Highway. The roadway would conform to industrial collector road standards set by the City Engineering Department, and include an overpass at the present intersection of Columbia Street and the AT&SF railroad. Between Third Street and the Pittsburg-Antioch Highway the only intersections would be with a new Industry Road extension to the route (controlled by a stop sign) and with the private access extension of Columbia Street north of Santa Fe Avenue.

The revised routing would eliminate most Project-related traffic impacts on the freeway ramps of Highway 4 at Railroad Avenue. The intersections that will be affected are Pittsburg-Antioch Highway at Loveridge Road, and the freeway ramp intersections on Loveridge Road. This truck route is a major roadway project for the City of Pittsburg, and this project will require additional environmental studies to determine it's impacts.

Figure 49 shows the traffic conditions in the Loveridge area if the truck route is implemented, and the additional Han-Li traffic that would use this route. While this traffic volume would be considerable, there would not be a significant capacity impact on Pittsburg-Antioch Highway or Loveridge Road north of the interchange. There will be significant impacts at the interchange.*

There will be other improvements to this interchange in conjunction with the Highway 4 widening, and the BART extension. There

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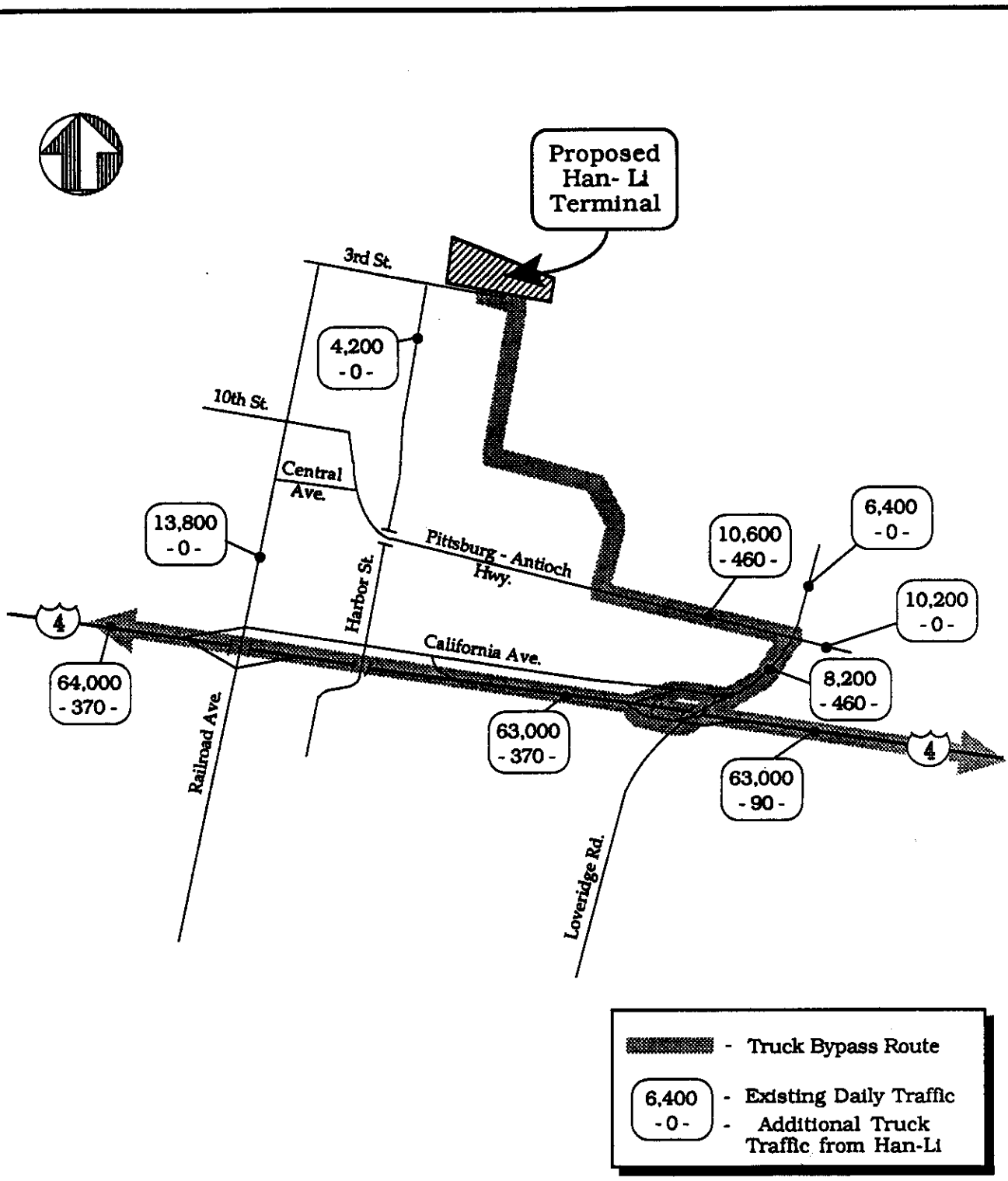
* This area in the vicinity of the interchange has very recently been the subject of new commercial development proposals at the intersection of Loveridge Road and California Avenue. A new shopping center with a large WalMart store is planned on Loveridge Road south of Highway 4 and other projects are under consideration north of Highway 4. The traffic from these projects will create the need for improvements to the interchange, and to California Avenue in the vicinity of the interchange. Many of these projects are currently planned by the City of Pittsburg, including widening of California Avenue, and traffic signalization.



Han - Li Terminal City of Pittsburg EIR Traffic Impact Study	Figure 49 **TRAFFIC VOLUME IMPACTS WITH ALTERNATIVE "C" TRUCK BYPASS ROUTE** Han-Li International Marine Terminal EIR City of Pittsburg, California Abrams Associates

is also a new interchange planned for Century Boulevard/James Donlan Boulevard to the east of Loveridge Road. These projects are not likely to occur until after the year 1995. Additional planning and traffic forecasts are needed to evaluate the full impact of all of the cumulative projects in this area, and the traffic distribution with this new roadway network.

A potential conflict that may result from Alternative "C", concerns traffic that the Project would generate at the grade crossing close to the Third Street intersection. The estimate of two trains per day and more on periodic occasions may cause regular queuing of trucks along Third Street between the route and Harbor Street.

3. Water Quality

The impact of Alternative "C" on the drainage of the Project site into New York Slough is identical to the potential impacts of the Project as proposed by the applicants.

4. Air Quality

Regional and local air quality under the Revised Access Alternative would remain generally identical to the proposed Project. Vehicular emissions would be shifted to the east of the residential areas of Pittsburg, reducing the impacts of truck traffic on carbon monoxide levels near homes along Harbor Street and shifting them to the City's truck routes. The reduction in the number of intersecting streets affecting this new truck route would be likely to result in more even truck speeds and movement, with some small commensurate reduction in engine emissions.

5. Noise

This alternative would only affect noise generated off-site by trucks. On-site generated noise and railroad noise would be unaffected. The new truck route would reduce the noise exposure at residential areas along Harbor Street and California Avenue. If

only the Project-generated trucks use this access road, noise levels along the existing truck routes would not be reduced significantly. If all trucks in the study area used the truck route, a significant reduction in residential noise levels along Harbor Street and California Avenue would be achieved.

Rerouting the trucks would generate the potential for noise impact at residential areas near the proposed truck route. The noise generation capability of the proposed truck route is great enough to require significant setbacks and or noise barriers (walls and berms) to maintain "normally acceptable" noise levels within residential areas. The route could generate noise at residential areas, such as the homes along Columbia Street, which are not presently exposed to significant traffic noise levels. This would create a potential for community response due to increases in noise levels even though the guidelines in the Noise Element are satisfied. The alignment and implementation of an alternative truck route requires a full noise impact analysis.

6. Biotic Resources

The impact of Alternative "C" on the biological environment of the Project site and New York Slough is identical to the impacts of the proposed Project as defined by the applicants.

D. ALTERNATIVE "D" - ALTERNATE SITE

The possibility that an alternative and more suitable site for the bulk loading facility could be identified has been considered. Among the chief criteria for meeting the objectives of the facility are a location along the north-central Contra Costa County water front area, ready access to deep water river channels, direct railroad access, regional truck route access, and an adequate land parcel size. Within the existing Pittsburg city limits there are no other available sites along the riverfront. In the Pittsburg Sphere of Influence, there are undeveloped riverfront lands to the east and west of the city limits but

these lands are prohibited from development by their designation in the Pittsburg General Plan as prime wetlands (Ref. 28, page 63).

On a wider, San Francisco Bay regional basis, the facility could conceivably be located in any number of locations, where the impacts of the facility could potentially be mitigated, and reduced to an insignificant level. Elaborate investigations of the planning, traffic, water quality and other environmental constraints of these many sites is not viable, because they constitute alternatives for which implementation is truly remote and speculative.

A thorough investigation of industrial development areas along the shoreline of north-central Contra Costa County, from West Pittsburg to the Antioch Bridge revealed one potential alternative site north and east of the city limits of Antioch. Domtar Gypsum Inc. operates a drywall/gypsum board manufacturing plant on a portion of a 37-acre site at 801 Minnaker Drive, north of Wilbur Avenue, as shown in **Figure 50**. Approximately 12 acres are currently in use as a storage area for waste material. The company is in a process of removing the waste material, and has considered the development of the area for a bulk loading facility, possibly similar to the proposed Project, either as an in-house development or as a joint venture with another company (Ref. personal communication with Joe Mecklenburg, Business Development Manager, Domtar Gympsum Inc., Ann Arbor, Michigan office, March 1, 1990).

The U.S. Fish and Wildlife Service manages the Antioch Dunes National Wildlife Refuge, which is divided into two parcels to the east and west of the manufacturing plant. The larger portion is immediately west of the plant, while the second parcel is situated to the east, between two PG&E properties utilized for transmission line towers. The Fish and Wildlife Service manages the PG&E properties together with the Wildlife Refuge. Three endangered species are protected on the Refuge, whose common names are: 1) Lange's Metal Mark Butterfly; 2) the Antioch Dunes Evening Primrose; and 3) the Contra Costa Wallflower. Several other

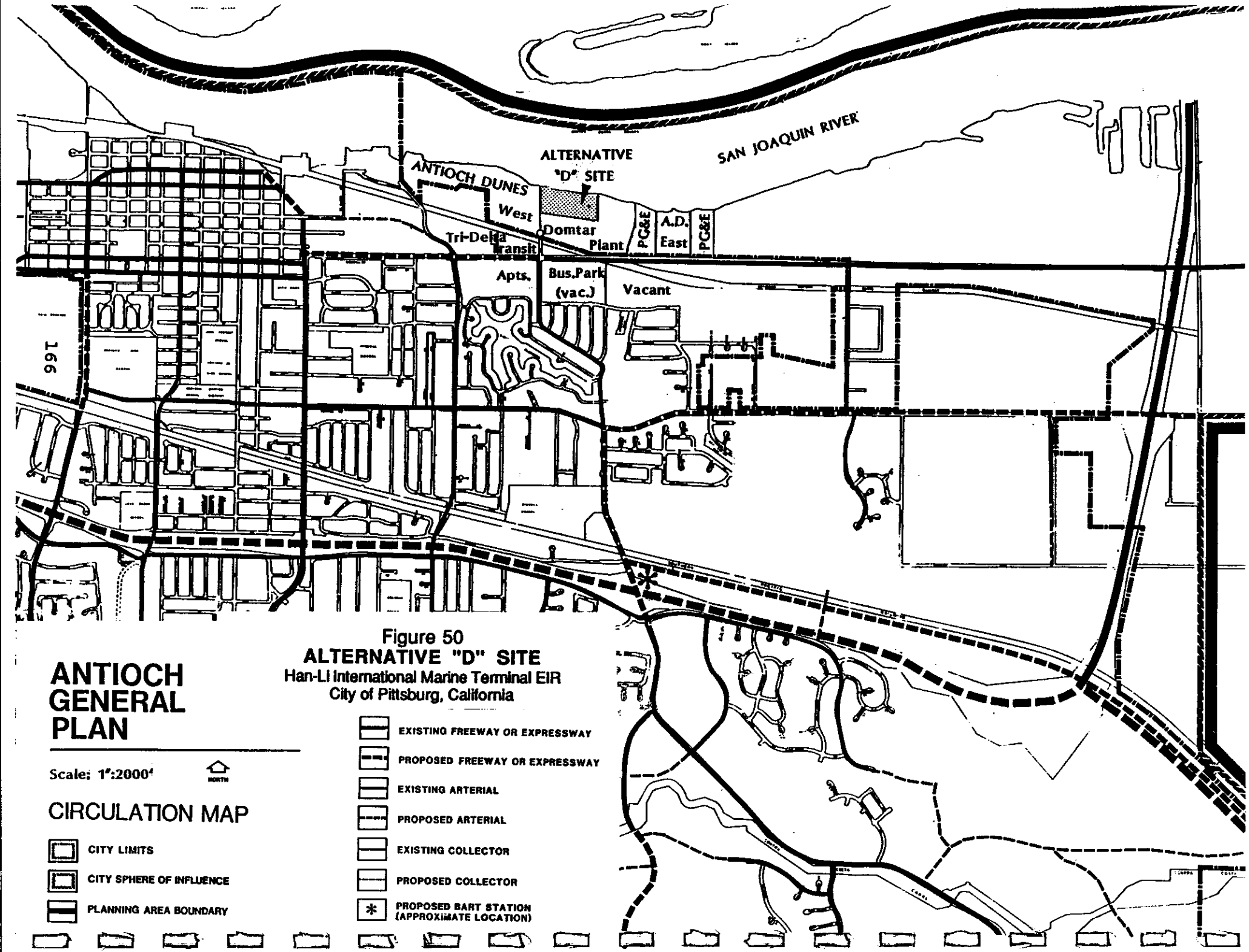


Figure 50
ALTERNATIVE "D" SITE
Han-Li International Marine Terminal EIR
City of Pittsburg, California

Figure 51

SPECIAL STATUS PLANT AND ANIMAL TAXA RECORDED OCCURRENCE FROM ANTIOCH DUNES VICINITY, ADJACENT TO ALTERNATIVE "D" SITE

Han-Li International Marine Terminal EIR
City of Pittsburg, California

TAXA NAME (Common Name)	STATUS (Fed/State/CNPS)
PLANTS:	
Aster chilenis var. lentus (Suisun marsh aster)	C2/-/1B
Erysimum capitatum var. angustatum (Contra Costa wallflower)	E/E/1B
Eschscholzia rhombipetila (Diamond-petaled California poppy)	C2/-/1B
Lasthenia conjugens (Contra Costa goldfields)	C2/-/1B
Oenothera deltoides ssp howellii (Antioch dunes evening primrose)	E/E/1B
INSECTS:	
Anthicus antiochensis (Antioch dunes anthicid beetle)	C2/-
Apodemia mormo langei (Lange's metal mark butterfly)	E/-
Coelus gracilis (San Joaquin dune beetle)	C2/-
Cophura hurdi (Antioch cophuran robberfly)	C2/-
Efferia antiochi (Antioch efferian robberfly)	C2/-
Eucerceris ruficeps (Redheaded sphecid wasp)	C2/-
Idiostatus middlekaufi (Middlekaufs shieldback katydid)	C2/-

Figure 51 (continued)

SPECIAL-STATUS PLANT AND ANIMAL TAXA
RECORDED OCCURRENCE FROM ANTIOCH DUNES VICINITY

TAXA NAME (Common Name)	STATUS (Fed/State/CNPS)
INSECTS (Continued):	
Mymosula pacifica (Antioch mutillid wasp)	C2/-
Perdita hirticeps luteocincta (Yellow banded andrendid bee)	C2/-
Perdita scirtuta antiochensis (Antioch andrenid bee)	C2/-
Philanthus nasilis (Antioch sphecid wasp)	C2/-

STATUS DESIGNATIONS:

Federal (USFWS, 1989 and 1989a):

E = Listed as "endangered" under the federal Endangered Species Act.

C2 = A "candidate" species under review for federal listing. Includes taxa for which the USFWS currently has some information indicating that "proposing to list them as endangered or threatened species is possibly appropriate", but for which further biological research and field study is usually needed to determine biological vulnerability and threats.

State (CDFG, 1988, 1988a, and 1989):

E = An "endangered" species. Serious danger of becoming extinct throughout all or significant portion of range due to varing factors (Section 2062 of Fish and Game Code).

CNPS (CNPS, 1988):

1B = Plants of highest priority; plants rare and endangered in California and elsewhere.

species of special-status plants and insects have been observed in the Antioch Dunes vicinity, as shown in Figure 51. At present, gypsum dust from the manufacturing plant becomes windborne and settles in noticeable quantities on the PG&E property between the plant and the eastern portion of the Refuge, coating the buckwheat grass plant that is an important factor in the Butterfly's viability (Ref. personal conversation with Joy Albertson, Biological Technician, U.S. Fish and Wildlife, March 4, 1990).

The manufacturing plant property is also bordered on the south by the AT&SF railroad tracks, and an auto storage operation and two residences are between the railroad tracks and Wilbur Avenue. A vacant business park site and other vacant land are south of the property across Wilbur Avenue, and Tri-Delta Transit operates a storage lot and garage to the southwest of the property.

A number of homes line Minnaker Drive south of Wilbur Avenue, beginning about 400 feet south of the plant entrance, and a new apartment complex is about 500 feet southwest of the entrance. The Alternative "D" site would be approximately 300 feet north of the plant entrance, and would extend eastwards along the San Joaquin River, that forms the northern boundary of the site. It is significant that residential land uses are closer to the Alternative "D" site than to the proposed Project site.

A single docking pier, parallel to the shoreline, is in the eastern half of the shore area. The Alternative "D" site has about 1,000 feet of shoreline, slightly less than the proposed Project site. An additional 700 feet of shoreline, which includes the existing pier, could be shared with established material handling operations. A storage dome for gypsum occupying the northeasternmost corner of the Domtar plant property is the only building within 500 feet of the shoreline. It is this area which is utilized for raw and waste material storage, and which could potentially be developed as a bulk loading marine terminal. The pier area has been dredged to accommodate ocean-going ships which deliver raw materials to the plant, averaging 25,000 tons per shipload on an average of once every 12.5 days. On an annual

basis, 600,000 to 650,000 tons of gypsum are brought to the plant by ship (Ref. personal conversation with Bob Duncan, Domtar Gypsum Inc., March 6, 1990). The AT&SF railroad tracks include a spur which extends partly into the property, and which could be extended farther, to accommodate the type of railcar shipping involved in the proposed Project.

The advantages of Alternative "D" appear to be as follows:

- adequate land area with existing infrastructure and established industrial land use;
- direct access to a railroad line (AT&SF), and to Wilbur Avenue, a designated arterial truck route, which connects to State Highway 4 about two miles to the east, through a non-residential area.

The evident disadvantages of the Alternative "D" site appear to be:

- the site is closer to residential land uses than the proposed Project site, which would be highly sensitive to noise and fugitive dust generated by the facility;
- the site is immediately adjacent to a National Wildlife Refuge, which would also be highly sensitive to the noise and fugitive dust generated by the facility, which could be cumulative with the impacts of the existing manufacturing plant;
- total removal of existing waste material would be required;
- deposition of dredge spoils on the site would not be compatible with existing building elevations, due to drainage from the resulting elevated site;
- a separate site would have to be established, or an appropriate facility identified, for depositing the dredge spoils;

- the existing pier would require complete removal and replacement with a pier system which would serve both the existing material handling operation and the new operation;

- trucks bound for or arriving from points to the west would have to travel out of their way (about an additional five miles per single trip) in order to avoid residential areas, using only Wilbur Avenue and Highway 4;

- trucks would be required to cross the high-volume AT&SF (used for AMTRAK) railroad track, which could restrict the operating efficiency of the proposed facility;

- the scrap metal operation of the original Project would presumably not be viable, as it depends primarily on the steel plant adjacent to the Project site;

- the smaller site area would prevent later expansion of the facility, which the proposed Project site would enable; and

- coordination with existing on-site material handling operations, which employ ships, trucks and trains, could restrict the potential operating capacity of the facility as proposed on the original Project site.

On the basis of the above comparison, it appears reasonable to determine that a comprehensive evaluation of specific traffic, water quality, air quality, noise and wildlife impacts of the Alternative "D" site is not justified. The foregoing provides an adequate basis for evaluating the fundamental merits and weaknesses of the alternative location. This analysis can not in any case provide a sufficiently detailed evaluation of the potential environmental impacts of the alternative site selected for comparative consideration which would be adequate for approval of an actual proposal to relocate the facility to the Alternative "D" site.

XI. ALTERNATIVES TO THE PROJECT

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This Environmental Impact Report was prepared for the City of Pittsburg by the firm of **Duncan & Jones**, Urban and Environmental Planning Consultants, in affiliation with Abrams Associates, Traffic and Transportation Consultants; Questa Engineering Corporation, Civil/Environmental/Agricultural Engineers; Charles M. Salter Associates, Inc., Consultants in Acoustics; and Donald Ballanti, Certified Consulting Meteorologist.

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58. _____, Wastewater Collection System Plan, 1981.

59. _____, Water Master Plan, 1987 update, prepared by John Carollo Engineers.

60. _____, Zoning Ordinance, revised 1990.

61. Stebbins, R.C., A Field Guide to Western Reptiles and Amphibians. 2nd Edition. Houghton Mifflin Co., Boston MA, 1985.

62. U.S. Army Corps of Engineers, San Francisco District; U.S. Environmental Protection Agency, Region 9; California Regional Water Quality Control Board, San Francisco Bay Region; Public Notice 87-1, Interim Testing Procedures for Evaluating Dredged Material; Suitability for Disposal in San Francisco Bay, 1987.

63. U.S. Environmental Protection Agency, East/Central Contra Costa County Wastewater Management Plan, Draft Environmental Impact Report. Prepared by Arthur D. Little, Inc. and Thomas Reid Associates, 1976.

64. _____, East/Central Contra Costa County Wastewater Management Plan, Acute Impact of Discharge at Alternative Outfall Locations. Prepared by Arthur D. Little, Inc. and Thomas Reid Associates, 1976.

65. _____, Transportation Noise, and Noise From Equipment Powered by Internal Combustion Engines, 1971.

66. U.S. Department of Agriculture, Soil Conservation Service, Vegetation Survey of the Marsh-Kellogg Project Area, Wainwright, T.C., 1983.

67. U.S. Department of the Interior, Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered of Threatened Species, 50FR 39526 (9/27/85).

68. U.S. Federal Emergency Management Agency, Flood Insurance Study, City of Pittsburg, California, February 1980, Revised December 1984.

69. USS/POSCO Industries, Results of Soil Investigation, USS/POSCO Industries, BARE 1 Site, prepared by Harding Lawson Associates, June 1989.

70. Wyle Laboratories, Noise Environments Around Railroad Operations, 1973.

(This page has been purposely left blank.)

APPENDIX A

MATERIALS FROM THE CITY OF PITTSBURG

NOTICE OF PREPARATION

CITY OF PITTSBURG
COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION
CIVIC CENTER, P.O. BOX 1518
PITTSBURG, CA 94565

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report

The City of Pittsburg will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the probable environmental effects are contained in the attached materials. A copy of the Initial Study X is, ___ is not, attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Dean Parsons at the address shown above. We will need the name for a contact person in your agency.

Project Title: Han-Li International Marine Terminal (U-88-36)

Project Applicant, if any: Han-Li International Group

* *

DATE 8/18/89

Signature [signature]

Title Assistant Planner

Telephone (415) 439-4920

Reference: California Administrative Code, Title 14, Sections 15082(a), 15103, 15375.

Project Description

The applicant, Han-Li International Group, is requesting a use permit to operate a marine terminal for the transfer and storage of sand, gravel, bauxite, gypsum, lumber, wood chips and scrap metal. Total annual tonnage of these products will be approximately 660,000 tons.

The marine terminal will also be used for the storage and handling of agricultural products such as wheat, barley, rice and other grains; potash, urea and prill sulfur; and cementitious materials such as cement, fly-ash, gypsum and limestone. No products are to be processed on the site. Products being transported on and off ships and barges, and into storage silos will be done pneumatically or by sealed conveyor belts. Storage buildings are to be sealed, domed silos.

Materials will arrive and depart from the site by barge, ship and rail. About 240,000 tons of material is to be shipped from the site by truck.

Major environmental concerns are noise, air quality, traffic, visual impacts and impacts on water quality from materials stored on the site. Some on-site surface runoff will drain into New York Slough and into the City storm drain system.

DP/LY
NOP

CITY OF PITTSBURG

COMMUNITY DEVELOPMENT DEPARTMENT

INITIAL STUDY CHECKLIST

I. **Background**

1. Name of Proponent Han Li International Group
2. Address and Phone Number of Proponent 333 Hegenberger Rd. Suite 810 Oakland, Ca. 94621
3. Date of Checklist Submitted 8-25-88
4. Agency Requiring Checklist City of Pittsburg
5. Name of Proposal, if applicable Han Li Marina Terminal
6. File Number: U-88-36

II. **Environmental Impacts**

(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	Yes	Maybe	No
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?			X
b. Disruptions, displacements, compaction or overcovering of the soil?		X	
c. Change in topography or ground surface relief features?			X
d. The destruction, covering or modification of any unique geologic or physical features?			X
e. Any increase in wind or water erosion of soils, either on or off the site?		X	
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	X		
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?			X

	Yes	Maybe	No
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?	—	X	—
b. The creation of objectionable odors?	—	X	—
c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?	—	—	X
3. Water. Will the proposal result in:			
a. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?	—	—	X
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	—	X	—
c. Alterations to the course or low of flood waters?	—	—	X
d. Change in the amount of surface water in any water body?	—	—	X
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	—	X	—
f. Alteration of the direction or rate of flow of ground waters?	—	—	X
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	—	—	X
h. Substantial reduction in the amount of water otherwise available for public water supplies?	—	—	X
i. Exposure of people or property to water related hazards such as flooding or tidal waves?	—	—	X
4. Plant Life. Will the proposal result in:	—	—	—
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	—	—	X

	Yes	Maybe	No
b. Reduction of the numbers of any unique, rare or endangered species of plants?	—	—	X
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	—	—	X
d. Reduction in acreage of any agricultural crop?	—	—	X
5. **Animal Life.** Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?	—	—	X
b. Reduction of the numbers of any unique, rare or endangered species of animals?	—	X	—
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	—	—	X
d. Deterioration to existing fish or wildlife habitat?	—	X	—
6. **Noise.** Will the proposal result in:			
a. Increases in existing noise levels?	X	—	—
b. Exposure of people to severe noise levels?	—	X	—
7. **Light and Glare.** Will the proposal produce new light or glare?	—	X	—
8. **Land Use.** Will the proposal result in a substantial alteration of the present or planned land use of an area?	—	—	X
9. **Natural Resources.** Will the proposal result in:			
a. Increase in the rate of use of any natural resources?	—	—	X
10. **Risk of Upset.** Will the proposal involve:			
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	—	X	—

	Yes	Maybe	No
b. Possible interference with an emergency response plan or an emergency evacuation plan?	—	—	X
11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	—	—	X
12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?	—	—	X
13. Transportation/Circulation. Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	X	—	—
b. Effects on existing parking facilities, or demand for new parking?	—	—	X
c. Substantial impact upon existing transportation systems?	X	—	—
d. Alterations to present patterns of circulation or movement of people and/or goods?	—	X	—
e. Alterations to waterborne, rail or air traffic?	X	—	—
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	—	X	—
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?	—	—	X
b. Police protection?	—	—	X
c. Schools?	—	—	X
d. Parks or other recreational facilities?	—	—	X
e. Maintenance of public facilities, including roads?	X	—	—
f. Other governmental services?	—	—	—
15. Energy. Will the proposal result in:			
a. Use of substantial amounts of fuel or energy?	—	—	X

	Yes	Maybe	No
b. Substantial increase in demand upon existing sources or energy, or require the development of new sources of energy?	—	—	X
16. **Utilities.** Will the proposal result in a need for new systems, or substantial alterations to the following utilities:	X	—	—
17. **Human Health.** Will the proposal result in:			
a. Creation of any health hazard or potential health hazard (excluding mental health)?	—	—	X
b. Exposure of people to potential health hazards?	—	—	X
18. **Aesthetics.** Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?	—	—	X
19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?	—	—	X
20. Cultural Resources.			
a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site?	—	—	X
b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?	—	—	X
c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?	—	—	X
d. Will the proposal restrict existing religious or sacred uses within the potential impact area?	—	—	X
21. **Mandatory Findings of Significance.**			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate			

	Yes	Maybe	No
important examples of the major periods of California history or prehistory?	___	X	___
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)	___	X	___
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	___	X	___
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	___	X	___

III. Discussion of Environmental Evaluation

See attched sheets for narrative of all "yes" and "maybe" answers.

IV. Determination

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED.

I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☒

EVALUATED BY:

Signature: [signature] Date: 6/16/89

Name: Dixon Lawsons

Title: Assistant Planner

CHECKED BY:

Signature: [signature] Date: 6/16/89

Name: RANDY JEROME

Title: Senior Planner

1.b. The site will be graded and there will be dredging, bank redressing and storage of bulk materials and aggregates on the site.

e. There may be an increase in wind erosion of soils on-site after grading. Truck traffic could also create dust emissions on the site.

f. With Army Corps of Engineers approval, the applicant intends to dredge the river, and redress banks of the river.

2.a. There will be substantial air emissions resulting from ships and tugboats importing and exporting bulk materials. There will also be air emissions resulting from loading rail cars, unloading aggregate materials from ships to conveyor belts, and loaders used to transport materials on-site. On-site truck traffic could also create dust emissions.

b. Objectionable odors may be created from exhaust fumes of ships, tugs, and loaders used on or at the site.

3.b. Piles of stored aggregates on the site may alter drainage patterns and the absorption rate, and also increase the rate of surface runoff.

e. Water drainage off the site will pick up particulates from stored materials which will discharge into the river.

5.b. There may be a deterioration to existing fish habitat in the river due to increased activity at the site and additional runoff.

6.a. There will be an increase in existing noise levels due to the loading and unloading of materials, conveyor belts, loaders, truck traffic and rail traffic, some of which may operate 24 hours per day.

6.b. Without noise mitigations, residents of nearby neighborhoods could be exposed to noise levels that exceed limitations designated in the General Plan.

7. The project could generate new light and glare from lighting needed for work occuring during night hours.

10.a. In the event of an accident, ships or tugs docked at the site could release fuel or oil into the river.

13.a. The proposal will increase the amount of truck traffic making deliveries of materials stored on the site. Some deliveries will be by train.

13.c. There may be a substantial impact on existing roadways due to delivery truck traffic. It is estimated that there will be approximately 80 truck trips per day to and from the site.

13.d. Additional truck traffic on East Third Street and Harbor Street increases the need for an alternative truck route that would serve the Downtown Industrial Area.

14.e. Paving on East Third Street is currently in very poor condition. This project will necessitate the improvement of East Third Street, a public street, and will require increased maintenance.

16. The project will require new sewer and water service.

DP/jt
PLNG/279

SCOPE OF WORK FOR MASTER PLAN STUDY

The approximate study area is shown on the enclosed map. It generally consists of the industrial area bounded by East Street on the west, by Eighth Street, Santa Fe Avenue and East 14th Street on the south, by the waterfront on the north, and by the eastern city limit on the east. However, south of the Santa Fe Railroad the Truck Route would be east of the city limit.

The study shall do the following:

1. Prepare conceptual alternative plans for providing the new public facilities which are necessary to serve the development of this industrial area. The study includes an analysis of the advantages and disadvantages of the alternatives, including preliminary cost comparisons. The preliminary cost comparisions for the alternative plans shall have sections and subtotals for each of the following:

    A. East Third Street
    B. The Truck Route
    C. Industry Road

    Note that public facilities includes streets, storm drains, sewers, water lines, undergrounding of utilities, street lighting, sound walls, landscaping and irrigation, etc. which would be in a public right-of-way or a public easement.

2. Prepare conceptual alternative plans for the private facilities (which includes a 10" water line, sewer, storm drain, street lighting, etc.) which are necessary for a private street from the proposed cul-de-sac on East Third Street to the GWF site. This work includes an analysis of the advantages and disadvantages of the alternatives, including preliminary cost comparisons.

3. Identify the assessor's parcels that would benefit from the needed improvements for each alternative.

4. Identify and evaluate the environmental and other impacts of the alternatives on the existing development. For example:

    A. Widening Third Street to the north as envisioned would require relocation of the scale and gates at Diablo Services.

    B. Placing the new road behind the homes on Columbia Street would probably require a sound wall.

5. Identify and evaluate the extent of other studies that would be needed based on the reports and studies which have been previously done for the City. Lists of these studies are attached to this RFP. Note that the necessary hydrology and hydraulic studies are to be done as part of this master plan study.

6. Provide a critical path diagram which indicates the steps from this master plan to the award of a contract for construction of the truck route.

7. Identify new easements and right-of-way that would be required for the alternative plans.

8. Perform assessment district studies and provide the information necessary for setting up an assessment district. (This work would be done after the City has selected one of the alternative plans.)

The study shall include the existing and proposed street system, storm drainage, sewerage, undergrounding of utilities, street lighting, sound walls, landscaping and irrigation.

For the street system the City envisions a new truck route (public street) connecting Third Street with East Fourteenth Street as schematically indicated on the map. The study shall evaluate alignment alternatives. The new truck route and Third Street east of Harbor Street are planned to be two lane streets which have a curb to curb width of 44 feet and a 64 foot right-of-way width. See Standard Detail T-617 sheet 2 of 2. The existing right of way width of Third Street is forty feet. It is anticipated that 24 feet of right of way would be acquired on the north side of the street. It is anticipated that enough right-of-way for a cul- de-sac will be obtained at the eastern end of the public portion of East Third Street. From the cul-de-sac to the GWF site a street will be constructed by the developer's of that site. The master plan shall evaluate connecting Industry Road to the new Truck Route and providing a cul-de-sac on Industry Road at Harbor Street.

For the storm drainage system a new outfall line to the Bay will apparently be required. The study should verify this conclusion and indicate the alternate locations for a new easement and outfall line. The study also includes the sizing of pipes, ditches, etc., that are needed for the alternative plans. The attached maps show the existing storm drainage system in the study area.

A study of the water system is not required. The water system master plan indicates that an eighteen inch water main should be constructed from the intersection of Third Street and Harbor Street along Third Street to the Truck Route and then along the Truck Route to East Fourteenth Street. A ten inch main

will be required from the intersection of the Truck Route with East Third Street to the G.W.F. site. The cost analyses shall include these needed facilities.

There is currently a 6" sewer main in Third Street west of East Street. The John Manville Company is served by a private pump station and force main which discharges to a manhole at Cumberland and East Third Street. An existing 18" sewer which is about 200 feet north of the intersection of East Street and East Third Street will be extended to East Third Street and then to Harbor Street in the future. It will be connected on Harbor Street to an existing 15" sewer. The 15" sewer was installed when Harbor Street was reconstructed and hasn't been used yet. The attached sewer maps show these sewers and other sewers which are near the study site. The study shall provide designs for sewers in East Third Street east of Harbor Street, in the Truck Route, in Industry Road, and in the private street to the GWF site.

The limits of the master plan study are as follows:

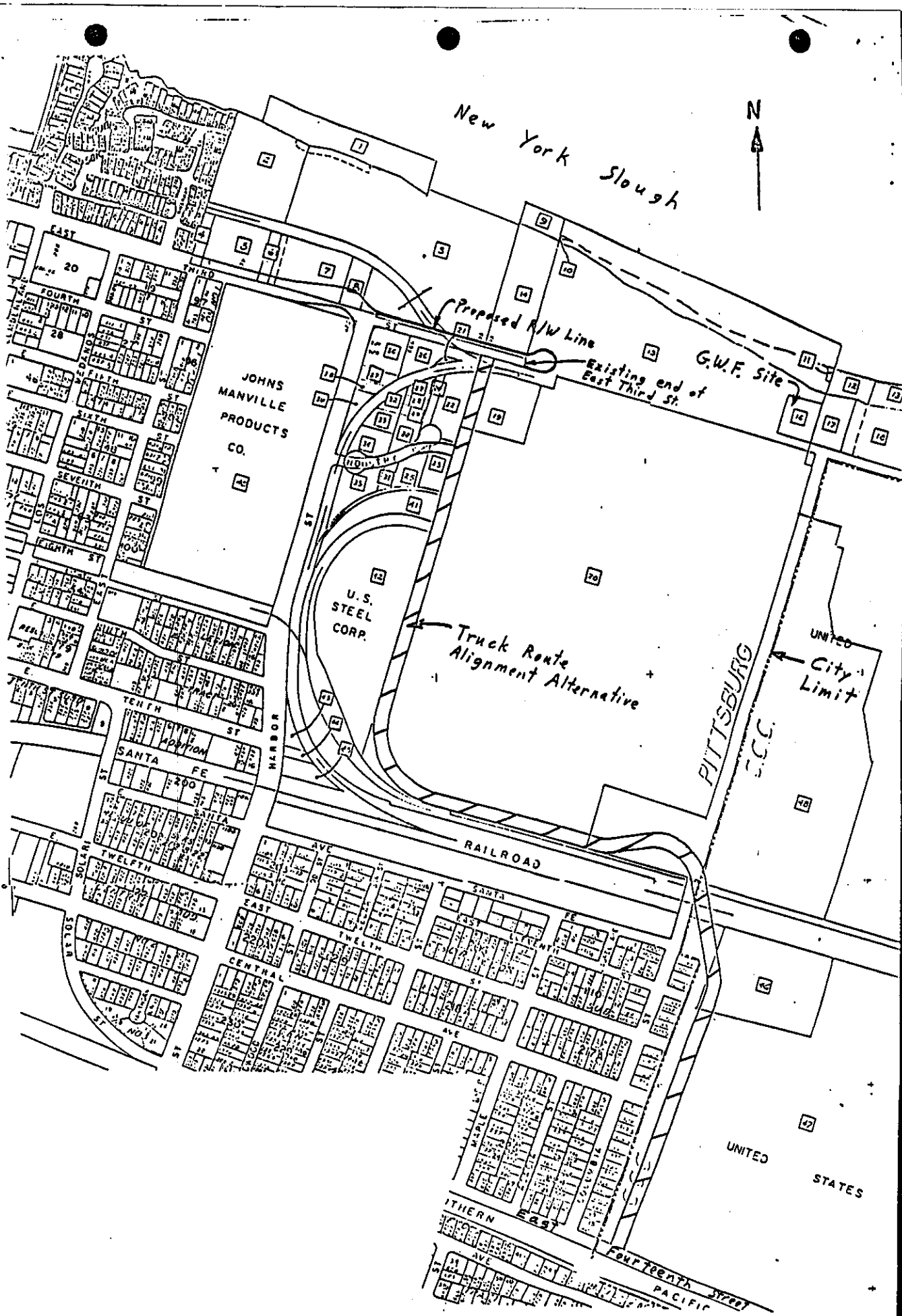
Items	Limits
Streets Sewers Street Lighting Landscaping Irrigation	1. East Third Street from Harbor Street to a proposed cul-de-sac just beyond the existing end of the public right-of-way. 2. Private street from the proposed East Third Street cul-de-sac to the G.W.F. site. 3. The Truck Route (from East Third Street to East Fourteenth Street) 4. Industry Road
Storm Drainage	1. The Truck Route (from East Third Street to East Fourteenth Street) 2. East Third Street from Harbor Street to the proposed cul-de-sac 3. Private street from the proposed East Third Street cul-de-sac to the G.W.F. site. 4. Industry Road 5. Outfall line from East Third Street to New York Slough

Items	Limits
Undergrounding	1. East Third Street from Harbor Street to the proposed cul-de-sac 2. Private street from the proposed East Third Street cul-de-sac to the eastern city limit. 3. Industry Road area

The City is presently obtaining aerial photos and contour mapping of the Truck Route site. These items will be provided for the study.

Your proposal should discuss your procedure for doing this study and the time and cost that you anticipate. Written proposals should be returned to us no later than July 21, 1989.

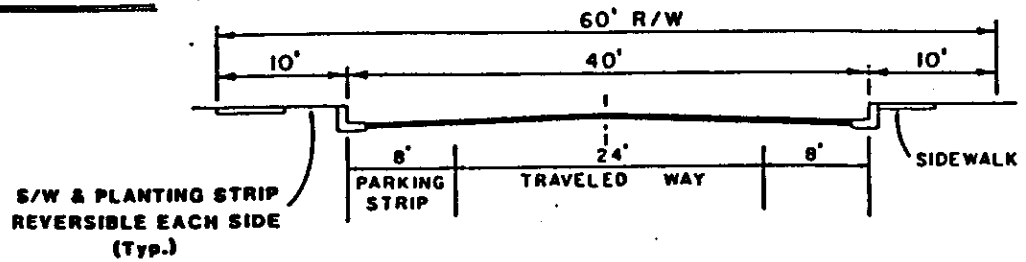
RJZ/NS/DM/fb
43E


New York Slough
N
Proposed R/W Line
Existing end of East Third St.
G.W.F. Site
JOHNS MANVILLE PRODUCTS CO.
U.S. STEEL CORP.
Truck Route Alignment Alternative
PITTSBURG
City Limit
UNITED
STATES
RAILROAD
SANTA FE
HARBOR
EAST
THIRD
FOURTH
FIFTH
SIXTH
SEVENTH
EIGHTH
TENTH
TWELFTH
CENTRAL
Fourteenth Street
PACIFIC

MINIMUM 3" AC

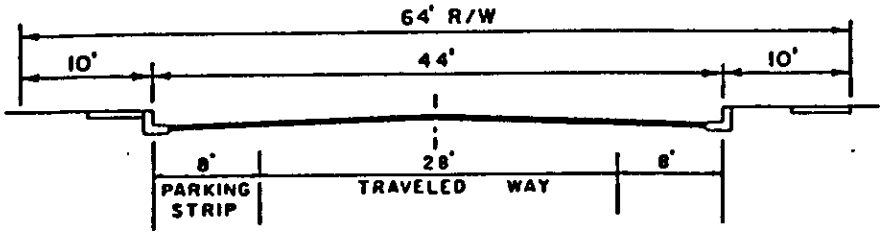
LOCAL - COMMERCIAL / INDUSTRIAL

MIN. T. I. 7.0



COLLECTOR - COMMERCIAL / INDUSTRIAL

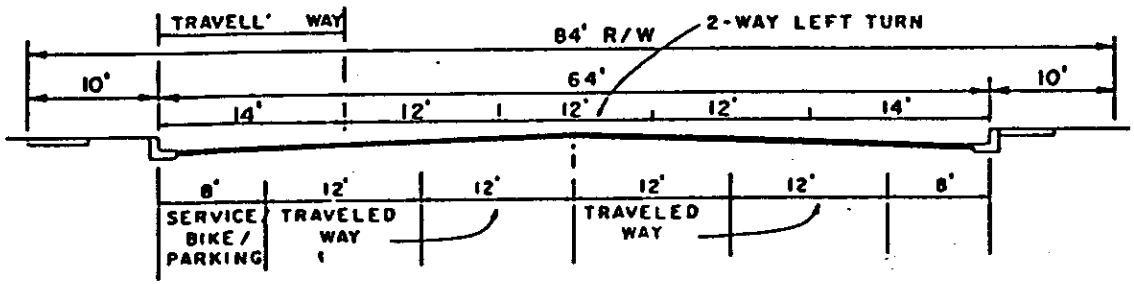
MIN. T. I. 8.0



MINOR ARTERIAL

NON-RESIDENTIAL (SOUND WALLS USED WHEN PASSING THROUGH RESIDENTIAL AREAS). SERVES 500 TO 1,000 HOMES AND CARRIES AN AVERAGE OF BETWEEN 5,000 AND 10,000 CARS PER DAY.

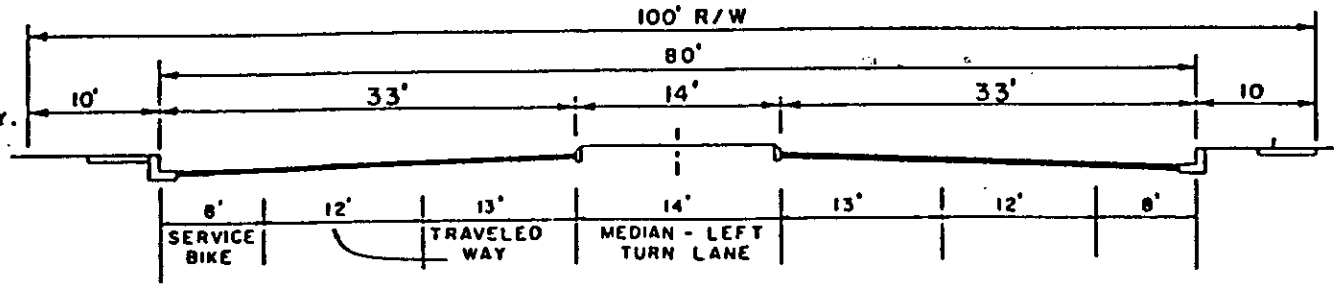
MIN. T. I. 9.0



MAJOR ARTERIAL

NON-RESIDENTIAL (SOUND WALLS USED WHEN PASSING THROUGH RESIDENTIAL AREAS). CARRIES IN EXCESS OF 10,000 CARS PER DAY.

MIN. T. I. 9.5



ADOPTED RESO. NO. 3718 5-28-62
AMENDED RESO. NO. 6345 9-5-78

APPROVED CITY ENGINEER A.C.E. NO. 22390 10-27-82 DATE

STANDARD DETAIL SHT. 2 OF 2

STREET WIDTH NON-RESIDENTIAL T-617

DRAWN BY: J.V.
CHECKED BY:
DATE: 7-19-81
SCALE: 1" = 10'

NO	DATE	REVISION
1	6-16-84	MINIMUM T. I.

City of Pittsburg

ENVIRONMENTAL IMPACT REPORT
DISTRIBUTION LIST
September 12, 1988

Rev. 8/89

State Agencies

Send 10 copies to:

STATE OF CALIFORNIA
OFFICE OF PLANNING
& RESEARCH
94509
1400 TENTH STREET
SACRAMENTO, CA 95814

or send remaining 7 copies to agencies listed below:

AIR RESOURCES BOARD
PLANNING DIVISION
P. O. BOX 2851
SACRAMENTO, CA 95812

CAL-TRANS DIST. 04
DEPT. OF TRANSPORTATION
ATTN: DON STIGER
P.O. BOX 7310
SAN FRANCISCO, CA 94120

REGIONAL WATER QUALITY
CONTROL BOARD
1111 JACKSON ST.
OAKLAND, CA 94607
94509

STATE OF CALIFORNIA
DEPT. OF FISH & GAME
P. O. BOX 47
YOUNTVILLE, CA 94599

RESOURCES AGENCY
1416 9TH STREET
SACRAMENTO, CA 95814

County

CONTRA COSTA COUNTY
ASSESSOR'S OFFICE
834 COURT STREET

MARTINEZ, CA 94553

CONTRA COSTA COUNTY
ENVIRONMENTAL HEALTH
2355 STANWELL CIRCLE
CONCORD, CA 94520

CONTRA COSTA COUNTY
FLOOD CONTROL DIST.
255 GLACIER DRIVE
MARTINEZ, CA 94553

CONTRA COSTA COUNTY
OFFICER
1111 WARD STREET
MARTINEZ, CA 94553

CONTRA COSTA COUNTY
LIBRARY SYSTEM-
80 POWER AVENUE
PITTSBURG, CA 94565

CONTRA COSTA COUNTY
COMMUNITY DEV. DEPT.
P. O. BOX 951
MARTAINEZ, CA 94553

CONTRA COSTA COUNTY
PUBLIC WORKS DEPT.
651 PINE ST., 6TH FLOOR
MARTINEZ, CA 94553

Local Agencies

CITY OF ANTIOCH
P. O. BOX 130
ANTIOCH, CA

RIVERVIEW FIRE
PROTECTION
1500 W. 4TH ST.
ANTIOCH, CA
94509

TRI-DELTA TRANSIT
801 WILBUR AVENUE
ANTIOCH, CA
94509

PITTSBURG CHAMBER
COMMERCE
2010 RAILROAD
AVENUE
PITTSBURG, CA

PITTSBURG POST
DISPATCH
1700 CAVALLO ROAD
ANTIOCH, CA

LOS MEDANOS
HOSPITAL
2311 LOVERIDGE
PITTSBURG, CA

CONTRA COSTA
CONSERVATION
6552 CLAYTON ROAD
CONCORD, CA 94521

ENVIRONMENTAL IMPACT REPORT
DISTRIBUTION LIST
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Federal Agencies

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
211 MAIN STREET
SAN FRANCISCO, CA 94105

PITTSBURG POST OFFICE
835 RAILROAD AVENUE
PITTSBURG, CA 94565

U S FISH & WILDLIFE
RIVER BASIN
2800 COTTAGE WAY
SACRAMENTO, CA 95825

Schools

PITTSBURG UNIFIED
SCHOOL DISTRICT
2000 RAILROAD AVENUE
PITTSBURG, CA 94565

MT. DIABLO UNIFIED
SCHOOL DIST.
1936 CARLOTTA DRIVE
CONCORD, CA 94521

Regional Agencies

ASSOCIATION OF BAY AREA
GOVERNMENTS
P. O. BOX 2050
OAKLAND, CA 94604

BAY REA RAPID TRANSIT
DISTRICT
800 MADISON STREET
OAKLAND, CA 94607

METROPOLITAN TRANS. CO.
101 8TH STREET
OAKLAND, CA 94607

BAY AREA AIR QUALITY
MAINTENANCE DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CA 94109

EAST BAY REIONAL PARK
DISTRICT
11500 SKYLINE BOULEVARD
OAKLAND, CA 94619

AMERICAN INDIAN
HISTORICAL SOCIETY
1493 MASONIC AVENUE

Utilities

DELTA DIABLO
SANITATION DIST.
P. O. BOX 929
ANTIOCH, CA
94509

CONTRA COSTA
WATER DIST.
P. O. BOX H20
CONCORD, CA 94524

PACIFIC GAS &
ELECTRIC
3001 DELTA FAIR
ANTIOCH, CA

VIACOM DIV. OF
CABLEVISION
550 GARCIA
PITTSBURG, CA

PACIFIC BELL
ENGINEERS
401 LENNON LANE
RM. 508
WALNUT CREEK,
CA 94598

ENVIRONMENTAL IMPACT REPORT
DISTRIBUTION LIST
September 12, 1988

Rev. 8/89

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2700 EAST LELAND ROAD
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STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF TRANSPORTATION
BOX 7310
SAN FRANCISCO, CA 94120
(415) 923-4444

SEP 15

September 13, 1989

CC-004-PM-33.05
SCH# 89082209
CC004203

Dean Parsons
City of Pittsburg
P.O. Box 1518
Pittsburg, CA 94565

RE: Notice of Preparation: Han-Li Marine Terminal

Dear Mr. Parsons:

The proposed project has potential for significant traffic impacts on Route 4. A traffic study should be done to assess traffic impacts including, but not limited to:

a) Trip generation, distribution and assignment. Include the method used to develop these percentages;

b) ADT, AM, PM peak hour trip rates for State Route 4, and for all significantly affected streets, highways, freeway ramps, and controlling intersections in the project vicinity. Scenarios should include both build and no build cases for existing and future traffic.

c) Analyze future conditions with project traffic, and with cumulative traffic generated by all planned and approved developments in the area. Coverage should include all traffic that would effect the facilities evaluated, and should not be limited to projects under the jurisdiction of the lead agency.

d) Mitigations that consider highway and non-highway improvements and services. Special attention should be given to the development of alternative solutions to circulation problems which do not rely on increased highway construction. For example, include method of Traffic Demand Management, Public Transit, and Traffic Reduction Programs. Project sponsored shuttle service to transfer points such as B.A.R.T. Stations, Amtrak, and Tri Delta Transit should be considered.

e) All mitigation proposed should be fully discussed in the environmental document. Those discussion should include, but not be limited to the following areas:

financing,
scheduling considerations,
implementation responsibilities,
monitoring responsibilities.

We look forward to reviewing the DEIR. We expect to receive a copy from the State Clearinghouse. However, to expedite the review process, you may send two copies in advance to the undersigned contact person for this agency at the following address:

GARY F. ADAMS
District CEQA Coordinator
Caltrans District 4
P.O. Box 7310
San Francisco, CA 94120

Should you have any questions regarding these comments, please contact Don Steiger of my staff at (415) 557-9298.

Sincerely yours,

BURCH C. BACHTOLD
District Director

by

GARY F. ADAMS
District CEQA Coordinator

cc: Loreen McMahon, State Clearinghouse
Susan Pultz, MTC
Sally Germain, ABAG

CONTRA COSTA
WATER DISTRICT

1331 Concord Avenue
P.O. Box H20
Concord, CA 94524
(415) 674-8000 FAX (415) 674-8122

(415) 439-9169 Toll Free from
Eastern Contra Costa County

September 15, 1989

Mr. Dean Parsons
Community Development Dept.
Planning Division
City of Pittsburg
P. O. Box 1518
Pittsburg, CA 94565

Subject: Han-Li International Marine Terminal (U-88-36)

Dear Mr. Parsons:

Thank you for your Notice of Preparation of August 18, 1989, on the Han-Li International Marine Terminal. As you know, the Contra Costa Water District supplies water to nearly 400,000 people in Contra Costa County, including the cities of Antioch, Pittsburg, Concord, Martinez and portions of Pleasant Hill and Walnut Creek. The mission of the Contra Costa Water District is to provide its customers with the highest available drinking water quality at the lowest possible cost.

As is noted in your Notice of Preparation, the water quality of runoff from the project area may degrade water quality in the vicinity of New York Slough. One of our water supply intakes is located at Mallard Slough. The project could directly affect the water quality of our supply. The project must identify the potential for the degradation of our water supply in terms of the likely concentration and mass of any discharges, and it must provide the means to protect our supply from degradation. Note that the requirements of the Central Valley Regional Water Quality Control Board Basin Plan, and the proposed regulations in the State Water Resources Control Board's Pollutant Policy Document for the San Francisco Bay-Delta Estuary and the Statewide Water Quality Control Plans for Inland Surface Waters and Enclosed Bays and Estuaries, may govern discharges from your project.

Please keep the Contra Costa Water District informed of the progress of the project. The District staff should be sent notices of public hearings and we would be happy to provide you with information that you may require.

For further information, please contact Austin Nelson, 415-674-8073.

Kindest regards,
CONTRA COSTA WATER DISTRICT

Ed Seegmiller
General Manager

ES:ps

East Bay
Regional Park District

11500 SKYLINE BOULEVARD, OAKLAND, CA 94619-2443 TELEPHONE (415) 531-9300 FAX: (415) 531-3239

SEP 18 198[illegible]

September 14, 1989

Mr. Dean Parsons
Pittsburg Community Development Department
P.O. Box 1518
Pittsburg, CA. 94565

Subject: Han-Li International Marine Terminal

Dear Mr. Parsons:

The EBRPD has received the Notice of Preparation for an EIR on the subject project and offers the following comments:

The EBRPD owns Brown's Island Regional Shoreline located across New York Slough from the project site. The District asks that the EIR specifically address what, if any, effects the project-related dredging and bank dressing would have on Brown's Island.

The City's Initial Study recognizes the possibility of explosions (e.g., grain elevator explosions) and of spills (e.g., fuel oil spills). The EBRPD asks that the EIR consider that these events may be related. For example, an explosion could result in the deposition of water soluble products (e.g., potash, urea and prill sulfur) into the New York Slough. The EIR should evaluate the water quality implications of such an event. Specifically, the EBRPD is concerned about the adverse impacts of water which was polluted by such a spill upon the emergent vegetation of Brown's Island. This is of special concern since that emergent vegetation includes plants which are protected or are candidates for protection under the California Native Plant Protection Act. Specifically, these include the Mason's lilaeopsis (Lilaeopsis masonii) which is protected as threatened, as well as the Delta tule pea (Lathyrus jepsonii), and the Suisun marsh aster (Aster chilensis lentus), both of which are candidates for protection. Additionally, Brown's Island supports two plants which are protected as endangered under both State and Federal law viz. the Antioch dunes evening primrose (Oenothera deltoides howellii) and the Contra Costa wallflower (Erysimum capitatum angustatum).

The contact person for this EIR will be the undersigned, who may be reached at 530-9650.

Very truly yours,

T. H. Lindenmeyer
Environmental Specialist

THL:gc

cc: P. O'Brien
T. Mikkelsen
M. Terner
K. Shea
EBRPD Board of Directors

tl914893

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

SEP 22 1989

September 20, 1989

City of Pittsburg
Community Development Department
Planning Division
Civic Center, P.O. Box 1518
Pittsburg, CA 94565

Attention: Dean Parsons
Assistant Planner

Dear Mr. Parsons:

We have received the Notice of Preparation (NOP) of a Draft EIR for the Han Li International Marine Terminal. The NOP indicates that the proposed project consists of a marine terminal for the transfer and storage of approximately 660,000 tons per year of sand, gravel, bauxite, gypsum, lumber, wood chips, and scrap metal. The proposed terminal would also be used for the storage and handling of wheat, barley, rice, potash, urea, prill sulfur, cement, flyash, gypsum, and limestone. The NOP does not indicate the quantities of the latter materials that may be handled at the facility. Materials will arrive and depart from the facility by ship, barge, rail, and truck.

We recommend that the DEIR clearly explain applicable Bay Area Air Quality Management District regulations and permit requirements. Applicable regulations may include--but not necessarily be limited to--Regulation 6, Particulate and Visible Emissions, Regulation 7, Odorous Substances, and Regulation 9, Inorganic Gaseous Pollutants (Rule 2 - Hydrogen Sulfide). Please note that we have received a permit application for this project and that the permit application proposes a more limited range of materials, and in lower quantities, than is indicated in the NOP. The DEIR should explain in detail the types and quantities of materials that the applicant proposes to handle at the facility. If the project description included with the NOP is indeed the most current information about the proposed project, we strongly recommend that a representative of Han Li International Group contact our Permit Services Division as soon as possible in order to correct inconsistencies between the permit application and CEQA materials.

We recommend that the DEIR include an air quality impact analysis and commitment to appropriate mitigation measures if air quality problems are indicated. Analysis should take into account impacts of the project itself

939 ELLIS STREET • SAN FRANCISCO, CALIFORNIA 94109 • (415) 771-6000

and, where relevant, cumulative impacts of all predictable development in the vicinity of the project. At a minimum, the analysis should include the following elements:

1. Estimate emissions of fine particulate matter (PM_{10}) resulting from unloading and handling of materials at the facility. The estimates should include worst-day emissions and maximum annual emissions.

2. Describe in detail the measures proposed to control PM_{10} emissions and estimate their effectiveness. Indicate whether the proposed control measures are considered to be Best Available Control Technology.

3. Estimate emissions of criteria air pollutants associated with ships, barges, and trucks traveling to and from the facility. Describe any measures that could be implemented to reduce these emissions. If a significant number of truck trips are anticipated, we suggest that worst-case carbon monoxide concentrations be estimated at the most heavily traveled intersections affected by project-generated traffic.

4. Discuss nuisance concerns, such as dust and odors, that may be associated with the project. This discussion should indicate where the closest receptors to the site are located and the frequency with which winds might carry emissions to these receptors. Measures to mitigate potential nuisance problems should be described.

If you have any questions regarding BAAQMD regulations and permit requirements, please contact Bob Nishamura of our Permit Services Division at (415) 771-6000, extension 249. All other questions should be directed to Henry Hilken, Planner, at extension 112.

Sincerely,

Milton Feldstein
Air Pollution Control Officer

MF:HH:lm

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, Gover

CALIFORNIA WASTE MANAGEMENT BOARD
1020 NINTH STREET, SUITE 300
SACRAMENTO, CALIFORNIA 95814

OCT 2

SEP 25 1989

Mr. Dean Parsons
City of Pittsburg
P.O. Box 1518
Pittsburg, CA 94565

Subject: SCH# 89082209 Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for Han-Li: International Marine Terminal (U-88-36).

Dear Mr. Parsons:

California Waste Management Board (CWMB) staff have reviewed the NOP for the above project. Han-Li International Group is requesting a use permit to operate a marine terminal for the transfer and storage of sand, gravel, bauxite, gypsum, lumber, wood chips, cementious materials and scrap metal. Approximately 660,000 tons of material would be processed at the proposed terminal.

The marine terminal will also be used for the storage and handling of agricultural products, such as grains, and fertilizers.

Board staff that the following information be included in the preparation of the DEIR:

Identification of types and quantities of waste produced in constructing and operating this facility, including international wastes produced on incoming vessels;

Identification of treatment process of international wastes;

A description of waste storage facilities, and their maintenance;

Identification of international waste handlers and haulers;

Identification of disposal methods, and final disposal site;

A discussion of the impact of implementation of this project on remaining landfill disposal capacity.

The adoption of Annex V of MARPOL 73/78 prohibits the discharge of plastics from any vessel anywhere in the marine environment, and greatly restricts the disposal of other garbage within specified distances from shore and mandates that ports and terminals have reception facilities capable of receiving garbage from vessels.

To facilitate compliance with the new regulation, CWMB staff offer the following suggestions:

1. Become familiar with the discharge provisions of Annex V of MARPOL 73/78;

2. Separate plastics from other garbage;

3. To avoid more stringent disposal requirements imposed by U.S.D.A. Animal and Plant Health Inspection Service, putrescible and waste exposed to putrescibles should be separated from other wastes;

4. Reduce the amount of plastics used on board vessels.

Thank you for the opportunity to respond to this NOP. Please circulate the DEIR through the State Clearinghouse for agency review and comment. If you have any questions concerning these comments, please contact Jeannie Blakeslee of the Board's Local Planning Division at (916) 327-0454.

Sincerely,

for John D. Smith

George H. Larson, Manager
Resource Conservation and Local Planning Divisions

(This page has been purposely left blank.)

APPENDIX B

MATERIALS FROM THE APPLICANT, HAN-LI INTERNATIONAL GROUP

HAN-LI INTERNATIONAL GROUP

333 Hegenberger Road, Suite 615
Oakland, California 94621
Phone: (415) 562-6868
Telex No. 6503362350 MCI • Fax No. (415) 638-0591

PRODUCT HANDLING

A. CEMENT

Brought in by ship. Maximum size 40,000 DWT (38,000 DWT average). Total input by ship : 1,000,000 TPYR, or 26 ships per year. Unload by Kovako "Docksider" rated at 800 TPH. Use a net of 12,000 tons per 24 hours.

Time to unload: $\frac{38{,}000\ T}{12{,}000\ T} = 3.17$ days

Use dock stay period of four (4) days to take care of docking and undocking. Stored in two Monolithic Structures Inc. concrete domes, each 234 ft in diameter x 80 ft high. Storage capacity is 40,000 MT each. Cement is transported pneumatically from the "Docksider" to the storage comes through large-size sealed hoses and pipes. "Docksider" is barge-mounted and "fleeted" back and forth against a steel-piled fender system to accommodate the various holds in the vessels.

Shipped out by sealed cement hopper trucks similar to Beall Pneumatic. (26 ton capacity.)

Number of Trucks per year: $\frac{1{,}000{,}000\ T}{26\ T} = 38{,}500$ RT/yr (approx)

Number of Trucks per day: $\frac{38{,}500}{260} = 148$ RT

Cement loaded to trucks by sealed overhead silo-hoppers. Silo-hoppers charged by sealed conveyor belt or pneumatic pipe. Conveyor belt charged by rotating sweep system which pushes material into floor level "grizzlies". Rotating sweep system is manufactured by ORBA Corporation.

B. GRAIN

Brought in by sealed bottom-dump rail cars similar to "Rail-Tex" covered hopper cars. Capacity: 2900 cu.ft. avg. Total input: 250,000 tons/year. Number of trains required (grain: 35 pcf. avg):

$$1 \text{ car} = \frac{2900 \text{ cu ft} \times 35 \text{lbs}}{2000 \text{ lbs}} = 50 \text{ tons}$$

$$\text{Trains} = \frac{250{,}000\ T}{50\ T \times 20 \text{ cars}} = 250 \text{ trains per year.}$$

Allow four (4) months delivery time: $\frac{250}{4}$ = 63 twenty-car trains per month

Unloading time:

Hopper cars to belt conveyor @ 15 min per car = $\frac{15 \text{ mins} \times 20 \text{ cars}}{60 \text{ mins}}$ = 5 hrs/train.

Grain is not stored on site. It is loaded directly from train to ship, thereby eliminating the necessity of silo storage.

Ship loading is accomplished through the use of an overhead travelling belt conveyor, discharge trunk, and "ship-ballaster". The travelling belt conveyor is fed by a series of inclined and horizontal belt conveyors leading from the rail car unloading hopper. Part of this conveyor system is shared by the sulfur loading system.

Again, all conveyors, hoppers, and electric motor drives are sealed.

Belt conveyor capacity: 300 TPH x 24 hrs x 65% efficiency = 200 TPH

Daily capacity: 200 TPH x 24 hrs = 4,800 TPD

Trains required to match: $\frac{4,800 \text{ T}}{1,000 \text{ T}}$ = 4.8 trains/day

Train unloading time: 5 hrs x 4.8 trains = 24 hrs/day

Ship Capacity: 30,000 tons **

Number of ships required: $\frac{250,000 \text{ T}}{30,000 \text{ T}}$ = 8.33/year

Ship load time: $\frac{30,000 \text{ T}}{4,800 \text{ TPD}}$ = 6.25 days each

Total dock time: 8.33 ships x 6.25 days = 52 days

**: Grain weighs 35 pcf compared with 90 pcf for cement. If same class ship is used, more bulk volume is available for grain. This reduces the effect of the lighter weight of the wheat. An arbitrary reduction of 8,000 tons is taken for the total net difference.

C. SULFUR

Brought in molten state from local refineries in sealed tank trucks or truck-and-trailer units. (Assume 20 ton capacity.) Total input: 150,000 tons/year. Trucks required: $\frac{150{,}000\ T}{20\ T}$ = 7500 trucks/year

= 600 trucks/month

Trucks discharge molten sulfur into a "priller" which convert the molten sulfur into prill, a granulated substance about the size of "B.B." pellets.(Similar to granulated fertilizer.) Inclined belt conveyors transport the sulfur to the shiploading conveyor system from which the sulfur is deposited into the holds of the ship. (Similar to handling grain.)

Number of ships required: $\frac{150{,}000\ T}{30{,}000\ T}$ = 5 ships/year

Time to load ship: $\frac{30{,}000\ T}{300}$ = 100 hours = 4 days

Dock time (allow 4 + 1 = 5 days) 5 days/ship x 5 = 25 days/year

Sulfur is stored in one 190 ft. diameter x 80 ft. Monolithic concrete dome. Loading from dome to ship is accomplished by a rotating sweep similar to that used in the cement handling system, loading a sealed belt conveyor which is discharged into ships'holds by a travelling belt conveyor.

D. BAUXITE, LIMESTONE & GYPSUM

Size: 3"- diameter
Products brought in by ship--similar to cement ships.
Total input: 420,000 tons/year
Unloaded with ship's gear by 5 to 6 cu. yd. clamshells to receiving hoppers. Material transported by covered belt conveyor to shore, thence to portable hoppers by portable belt conveyors loading to trucks under hoppers or to storage area by portable conveyors to material storage area. (40,000 ton capacity)

Product shipment will be by rail (open gondolas) or by truck. Rail cars will be loaded at the car-loading hopper using 8 cu.yd. front-end loaders to carry material from storage area to the hopper. Trucks will be loaded by overhead hoppers charged with product by portable conveyor or front-end loaders.

As a rule, these materials are brought in to order and will be shipped out within a few days of their arrival. Because of this, storage requirements will held to a minimum and the total amount exposure time will be reduced.

Number of ships required: $\frac{420{,}000\ T}{30{,}000\ T} = 14$ ships/year

Assume 75% shipped out by rail: .75 x 420,000 = 315,000 T
Assume 25% shipped out by truck: .25 x 420,000 = 105,000 T

Trains required (100 ton cars): $\frac{315{,}000\ T}{20 \times 100T} = 160$ twenty-car trains/year
= 14 trains/month

Trucks required (25T trucks): $\frac{105{,}000\ T}{25\ T} =$ 4200 trucks/yr
= 20 +/- trucks/day

Dock time: $\frac{420{,}000\ T}{12{,}000\ TPD} = 35$ days (Belt cap: 500TPH)
+ 14 days (dock-undock)
49 days (3.5 days/ship)

E. SAND AND GRAVEL

Brought in by barge (10,000 MT capacity, 100' x 400') towed in pairs to site by ocean-going tugs. Off-loaded by front-end loaders accessing the barge over gantry-supported ramp from shore to barge. Front-end loaders discharge to hopper-fed conveyor belts leading to storage area or directly to trucks or rail cars in manners previously described.

Total input: 240,000 tons
Tows required (2 barges per tow): $\frac{240{,}000\ T}{20{,}000\ T} = 12$ tows/year
= 1 tow/month
Shipment (roughly 50% by truck, 50% by R.R. car):

Trucks: $\frac{240{,}000\ T \times .5}{25T}$ = 4800 T/year
= 400 T/month
= 20 T/day

Rail: $\frac{240{,}000\ T \times .5}{2000\ T}$ = 60 trains/year (20 car)
= 5 trains/month

Dock time required: $\frac{240{,}000\ T}{400\ TPH}$ = 600 hours

$\frac{600\ hrs}{10\ hr\ days}$ = 60 days

$\frac{60\ days}{24}$ = 2.5 days/barge

F. SCRAP METAL

This material is generated on adjoining property and will be brought in by dump trucks over private property. Length of haul will approximately 1/2 mile round-trip.
Total Input: 60,000 tons/year
Material will not be stored on site--will dump directly aboard barge.

Number of trucks required: $\frac{60{,}000\ T}{25}$ = 2400 trucks/year

Trucks per barge: $\frac{10{,}000\ T}{25}$ = 400 each

Barge tows required: $\frac{60{,}000\ T}{10{,}000\ T}$ 6= tows/year (single-barge tows)