Collinsville - Montezuma Hills Area Plan and Program

An Amendment to the Southeastern Solano County General Plan

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August 1979

Approved January 18, 1979
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TABLE OF CONTENTS

LIST OF TABLES & FIGURES

CHAPTER 1
INTRODUCTION

The Planning Area

The planning program documented herein addresses the use of the geographic area of southeast Solano County illustrated in Figure 1. The site consists of roughly 50,000 acres which are now primarily in low-intensity agricultural use and are bordered on the south and southwest by the Sacramento River from Rio Vista to the Collinsville Inlet, on the west by the Montezuma Slough, and on the north and northeast by Highway 12 and the southwest city limits of Rio Vista. Much of the area is distinguished by the gently rolling terrain of the Montezuma Hills.

The site is isolated from major Bay region urban concentrations and from the larger Solano County cities, as shown in Figures 2 and 3.

In addition to its relative remoteness, a number of other locational factors also contribute to the site's uniqueness. It is located within the Sacramento-San Joaquin Delta region and is directly opposite the convergence of the Sacramento and San Joaquin Rivers. It is adjacent to the Sacramento River Deep Water Ship Channel and is immediately upstream from the Suisun Marsh.

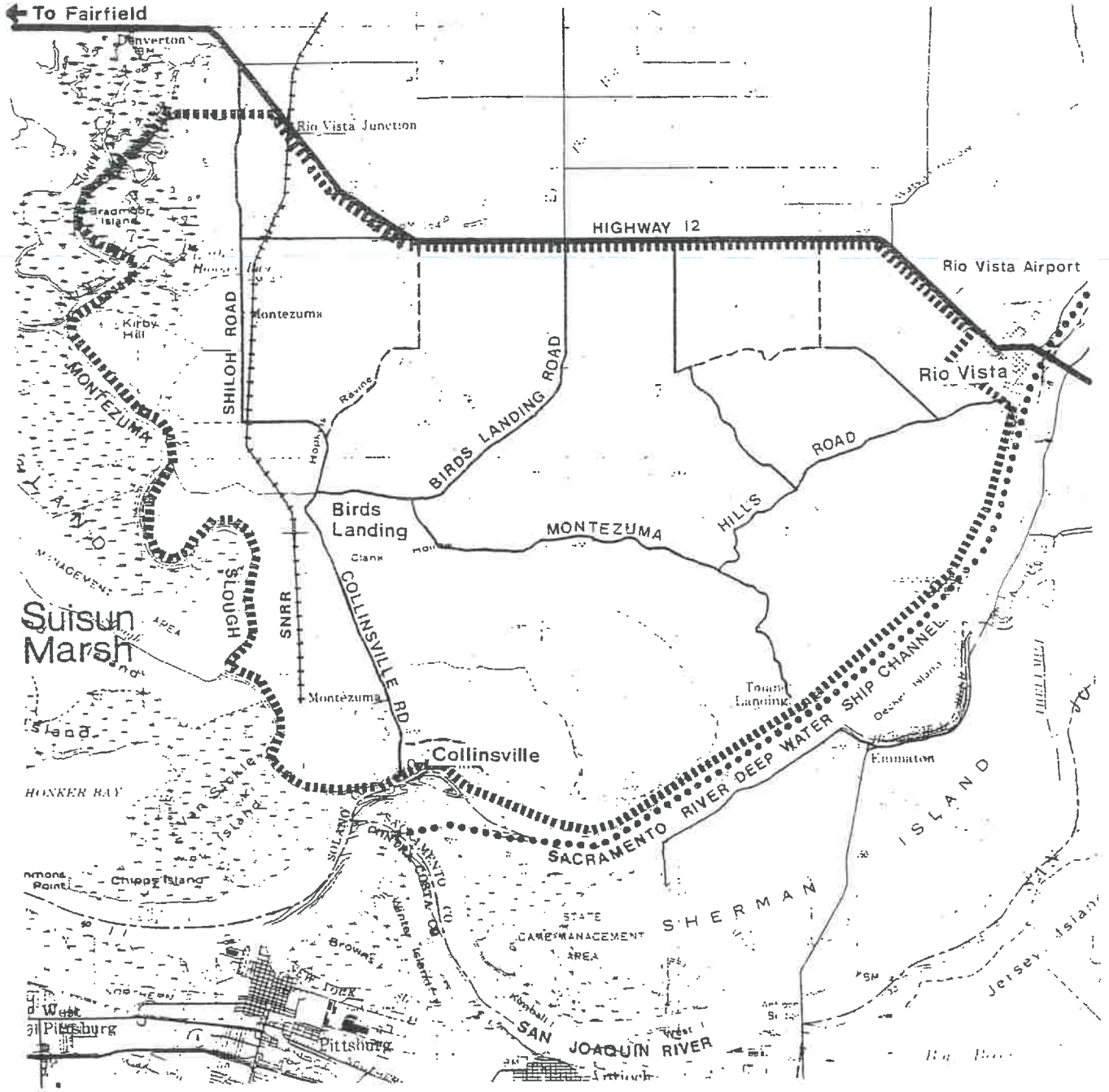


FIGURE 1
PLANNING AREA SETTING

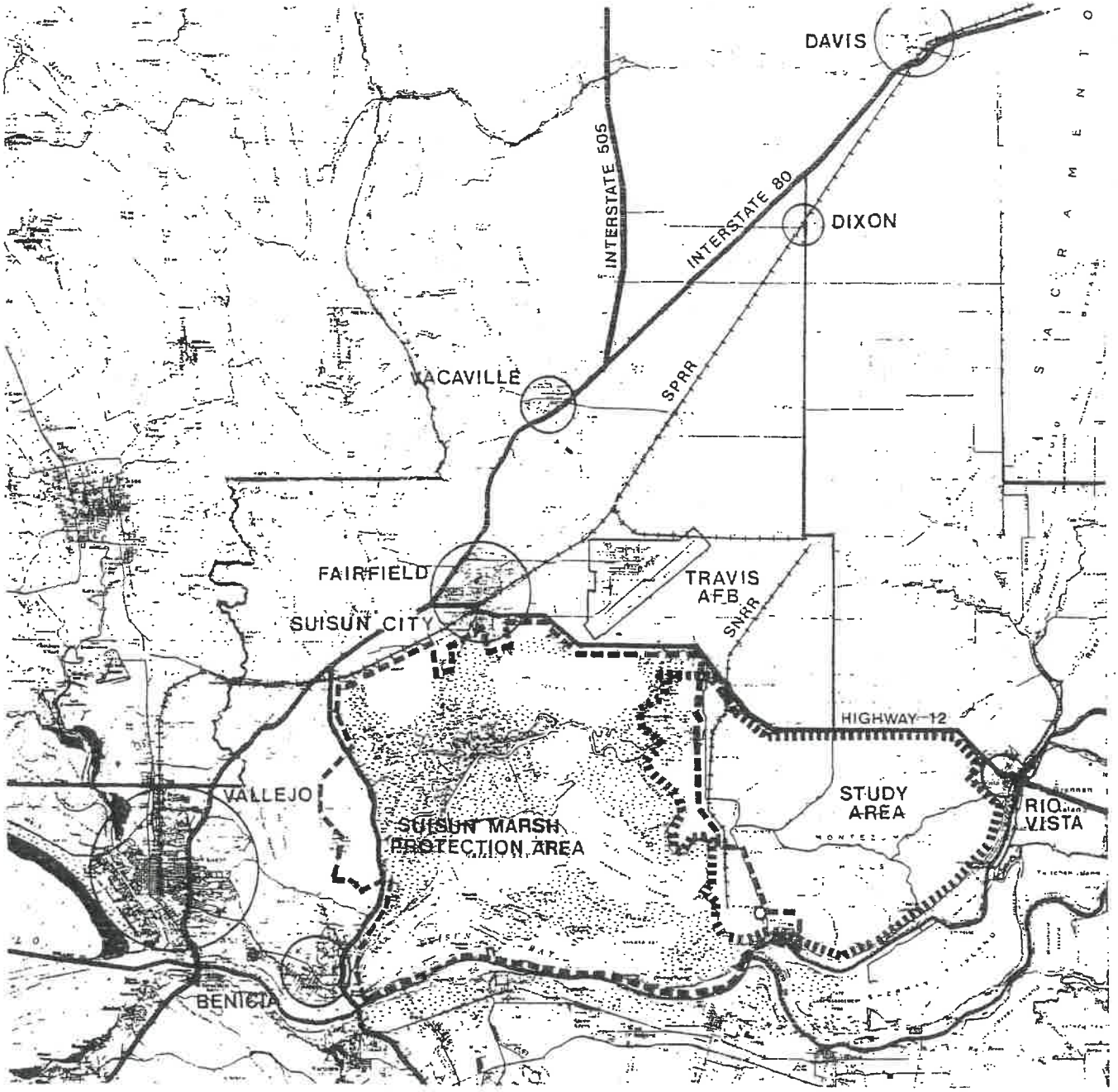


FIGURE 2

COUNTY SETTING

FIGURE 3
BAY REGION SETTING

Major Issues and Concerns

Increasing attention has been focused on the planning area in recent years as a result of two potentially conflicting factors: The site's extensive waterfront lands are seen as one of the last Bay region opportunities for the development of large-scale, water-oriented industry on a deep-draft ship channel; and the neighboring Suisun Marsh is now officially recognized as a major wetland habitat of national significance which should be protected and enhanced. A third planning area issue is the possibility of disruption or preemption of existing agricultural activities by industrial development.

A number of proposals have been made in recent years to develop large-scale industrial facilities along the planning area waterfront including plans for a steel production plant, a fossil fuel electric generating plant, and two large petrochemical complexes. Although some of these proposals have subsequently been withdrawn (the steel plant and the petrochemical facilities), an economic analysis prepared as background for this planning program indicates that demands for use of the site's waterfront for various water-dependent industrial uses are likely to be very substantial (Industrial Growth Potential for the Collinsville-Montezuma Hills Area, Gruen, Gruen + Associates, October, 1976).

The Suisun Marsh, an 85,000 acre area of tidal marsh, managed wetlands and waterways, overlaps the western boundary of the planning area and is a major wintering ground for waterfowl and an important habitat for a diversity of other wetland species. The Suisun Marsh Protection Plan prepared by the San Francisco Bay Conservation and Development Commission (BCDC) expresses special concern with the potential for adverse impacts on the integrity and continued wildlife use of the marsh as a result of the development of industrial uses immediately upstream in the planning area.

Dry farming, a rotational process of grain growing and sheep grazing which requires little or no irrigation or fertilization, is the primary land use in the area. More than 90 percent of the site is now in such "extensive" agricultural use. The likelihood of preemption of large portions of these

agricultural lands by water-oriented industrial activities is a principal concern as is the potential for adverse impacts on remaining agricultural lands such as air pollution, noise, and heavy traffic.

Policies contained within the Collinsville-Montezuma Hills Area Plan and Program seek to resolve these issues and concerns, permitting water-dependent industrial development while protecting the Suisun Marsh and existing agricultural activities. Plan policies eliminate the need for an extensive impact mitigation program, for all land use and transportation policies were formulated using a process which included comprehensive environmental impact assessment. As a result, measures to maximize positive effects and mitigate negative impacts are included in the plan as basic components of the general policy framework and specific plan policies.

Beyond the primary mitigation measures which are included in the plan, however, there are a number of additional secondary impact mitigation needs including (1) steps the County might take and (2) measures which cannot be appropriately or effectively carried out by the County in its implementation of this plan, but which can be undertaken by the industries or impacted municipalities. Such secondary mitigation measures are set forth in the Final Environmental Impact Report for the Collinsville-Montezuma Hills Area Plan and Program.

In addition to the policies set forth in this plan, the outcome of current regional air and water quality issues will also have a heavy bearing on future planning area land use.

Although local ventilation of air pollutants is quite good due to persistent winds and gentle topography, regional weather factors and contaminant emissions in other Bay Area locations cause certain ambient air quality standards to be exceeded at the site. The evolving regulatory approach of federal, state and regional air pollution control agencies with regard to the attainment and maintenance of these standards will be another major determinant of the characteristics of future planning area land use.

The Sacramento-San Joaquin Delta is considered to be the center of the state's fresh water distribution system, providing a major supply source, not only to nearby municipal and industrial uses, but also to deficient areas of Southern California. In addition, the volume and quality of Delta outflow is critical to local fish and wildlife habitats including the Suisun Marsh. Federal, state and regional agencies charged with regulating the volume and quality of Delta outflow are now

in the process of revising their standards to accommodate increasing and conflicting use demands for portions of this water supply. The new regulations which emerge are also expected to play a significant role in determining the types and levels of future water-related land use in the planning area.

Further information on the planning area can be found in two documents. Collinsville-Montezuma Hills Area Study, Land Use Potential Analysis analyses and describes planning area land characteristics, recent industrial land development proposals, current local and regional plans and programs, existing land use and access and the implications of these factors for future land use. Evaluation of Land Use Alternatives identifies a number of land use and transportation options for their environmental impact potentials and related impact mitigation requirements.

Existing Conditions

The following overview of existing conditions summarizes the findings of a detailed analysis of the land use, ownership, access, natural resource, and geotechnical characteristics of the planning area, documented and mapped as background for this plan. Entitled the Collinsville-Montezuma Hills Area Study, Land Use Potential Analysis (108 pages), the document is available for review at the offices of the Solano County Planning Department, Fairfield, California.

LAND USE AND OWNERSHIP

Agricultural land holdings dominate the planning area ownership pattern. The largest singly owned agricultural holding is 5,104 acres. The average farm size is roughly 800 acres. There are 61 agricultural land ownerships in the planning area and 16 individual holdings over 1,000 acres in area. Because the practice of dryland farming requires cultivation of large acreages to be profitable, small ownerships are often supplemented by leased land. The largest individual land holdings have river frontage. A total of ten holdings front

on the river. Four of these are owned by industrial interests and the holding nearest Rio Vista is publicly owned (see Land Use Potential Analysis, Figure 9 and Table 12, pages 58 and 62, respectively). Ownerships along State Route 12 and Collinsville Road are generally smaller agricultural holdings. Montezuma Slough is bordered by a large industry-owned site, two private duck clubs, and four agricultural land holdings.

The prevailing practice on agricultural lands involves a three year rotational cycle. Grain crops are usually sown and harvested during the first, sheep are grazed in the second, and the land is left fallow in the third. Requiring very little irrigation and fertilization, the system conserves both resources and labor. Production dropped significantly in 1976 and 1977 due to critically dry years.

The Rio Vista gas fields in the eastern portion of the site and the Kirby Hills gas fields in the northwest area comprise a second industry of importance. The gas fields were first tapped in the late 1930's and are expected to be depleted no later than the year 2000, given the average rate of gas extraction and the estimated reserves.

Recreational uses include the two privately owned duck club areas (668 and 285 acres) in the Kirby Hills vicinity on the east bank of the Montezuma Slough. These lands are not cultivated and are retained by levees on the slough. The Collinsville Marina, located on the Sacramento River east of Collinsville, is a small resort with boat launching facilities and limited space for campers and mobile homes. The Sandy Beach area immediately south of Rio Vista and the smaller beaches along the river shoreline are used for unsolicited swimming, fishing, and boat launching. A County park will be established at Sandy Beach by late 1978.

The U.S. Army Corps of Engineers, the Sacramento-San Joaquin Drainage District, and the Port of Sacramento each hold easements at various locations along the planning area shoreline for deposit of dredge spoils necessary for maintenance of the ship channel and nearby levees. Major utility easements also traverse the site for interregional transmission of electricity and gas.

The planning area includes the unincorporated settlements of Birds Landing and Collinsville. Birds Landing consists of roughly eight acres occupied by single-family houses, a small store, service station, and a surplus sales lot leased from the Rio Vista Farm Bureau Center. Collinsville at 27 acres is an exclusively single-family residential settlement

with numerous vacant lots and roughly a dozen abandoned, dilapidated houses. Elsewhere in the planning area, scattered residential uses are typically associated with farming and are often clustered with farm buildings such as barns, sheds, and granaries. A 1975 estimate of population in the Collinsville-Birds Landing area placed the number of residents at approximately 235 people.

ACCESS CHARACTERISTICS

ROADS

Regional vehicular access is provided by State Highway 12 which links the site with Interstate Highway 80 and Fairfield to the west and Rio Vista to the east. Driving distances to principal County and Bay region locations are listed in Table 1. Collinsville lies approximately 21 miles from the Highway 12 intersection with Interstate 80. From its junction with the interstate, Highway 12 is routed through downtown Fairfield and over an at-grade railroad crossing between the cities of Fairfield and Suisun City. Capacity of this portion of the route is severely constrained. Between Fairfield-Suisun City and Rio Vista it is a two lane route with pavement widths varying between 22 and 40 feet. State Highway 113 intersects Highway 12 at a point directly opposite the Birds Landing Road entrance to the planning area, and connects with Interstate Highway 80 at Dixon, 31 miles north of Collinsville. Highway 12 and, less importantly, Highway 113, are currently experiencing traffic levels which are considerably under their design capacity.

TABLE 1
DRIVING DISTANCES*

Destination	Approximate Miles
Fairfield-Suisun City	19
Vacaville	26
Pittsburg-Antioch	36
Benicia	38
Vallejo	37
Oakland	62
San Francisco	67

*Measured from Collinsville via the shortest major access route.

The planning area itself is traversed by a number of county roads as shown on Figure 1. These routes are relatively underutilized. Local road conditions are variable, ranging from paved surfaces in generally good repair (Collinsville Road between Shiloh Road, Birds Landing Road, etc.) to loose gravel or dirt surfaces (Collinsville Road north of Shiloh Road). The existing substructure of all local roads is inadequate to support substantial levels of truck traffic.

WATER

The Sacramento River Deep Water Ship Channel begins at Winter Island, opposite Collinsville, passes the planning area at distances from the shoreline varying from 1,200 yards at Collinsville to 120 yards at Toland Landing, and runs north to the Port of Sacramento. Channel depths near the site are maintained by the U.S. Army Corps of Engineers at around 30 feet below mean low water level over a channel width of approximately 300 feet. Deep-draft and shallow-draft shipping activity on the channel past the study area amounted in 1973 to about 180 vessels or 1.6 million short tons of waterborne cargo per year.

Montezuma Slough has not been developed for water transportation. Depths adjacent to the site vary between 10 and 15 feet below mean low water level and are navigable by small craft only.

RAIL

An old Sacramento Northern Railroad line also traverses the planning area. The track, which is no longer in use, begins at its connection with the Southern Pacific main line at Cannon, runs east to Dozier where it turns southwest, intersects with Highway 12 at Rio Vista Junction and continues south to Montezuma Head. The distance from Cannon to Montezuma Head is roughly 21 miles.

AIR

The nearest point of air access to the planning area is the Rio Vista Municipal Airport, a small landing strip within the Rio Vista city limits (see Figure 1.). The strip accommodates small propeller aircraft. Proposals to convert Travis Air Force Base to a joint military/civil air operations facility are continuing to be explored by Solano County.

NATURAL AND VISUAL RESOURCES

HABITAT VALUES

Significant wildlife habitats have been identified in the planning area at various lowland locations along the shoreline and in the western flatland area between Collinsville Road and Montezuma Slough. The major habitat values of the neighboring Suisun Marsh system of which western portions of the site are a part, have already been emphasized. Planning area components of the system include adjacent segments of the Sacramento River and Montezuma Slough, permanent and seasonal marsh areas, and reclaimed lowland grasslands below the ten foot contour which may be restorable to their original marsh condition.

The primary importance of these aquatic and wetland areas lie in their value to migrating fish and bird species. Montezuma Slough is a major part of the principal nursery area for striped bass in the San Francisco Bay-Delta system. The suitability of the slough as a nursery grounds is partially due to its ideal conditions for the growth of Neomysis shrimp, the main food item for striped bass.

The position of the Suisun Marsh system along the Pacific Flyway is responsible for its importance to birds migrating south. It is a wintering area for many species and an essential "layover" for others. The planning area marshes along the east side of Montezuma Slough contain active great blue heron and common egret rookeries and are resting and feeding areas for other migrating species.

AGRICULTURAL VALUES

Although the soil and land formation characteristics of the site can support only a very limited choice of crops, the climatic, topographic and drainage characteristics of most of these lands make them appropriate for dryland farming techniques. Such techniques are energy-efficient and, thus, are relevant modern agricultural processes. Current dry-farmed crop yields, based on rough estimates of planning area landowners for the seven year period 1969-1975, are as follows:

Wheat:	0.9 tons/acre/year
Barley:	0.9 tons/acre/year
Oats:	0.8 tons/acre/year
Sheep/Lambs:	0.3 animal units/acre/year*

*Equivalent to approximately one ewe with lamb.

VISUAL CHARACTERISTICS

The planning area is primarily an agricultural landscape dominated by the unusual landform of the Montezuma Hills, a series of smooth, rolling, contoured hills of similar texture and size. Vegetation is limited to pasture and grain crops with occasional riparian growth in the swales, and eucalyptus windbreaks planted on the west and southwest sides of farmsites. Clusters of farmhouses, farm buildings and equipment occur periodically throughout the hills. Points at higher elevations provide intermittent views out to the Sacramento River and Suisun Marsh. The interior roads normally follow lower contours and drainage channels; consequently, opportunities for such long-range overviews are infrequent.

These hilly landforms are highly vulnerable to visual disruption of their ridge-lines. At present, only a few gas well installations and electric transmission towers occur on the hill tops. With two exceptions, existing residences and farm buildings are located in pockets at lower elevations to avoid high winds common to the area. The relatively unbroken, undulating horizon line would be visually disturbed by either grading of existing landforms or building construction.

Other major components of the landscape are the flat plains and low rolling grasslands on the western periphery of the site adjacent to the Suisun Marsh. Permanent and seasonal marsh areas are visible at these lower elevations near Montezuma Slough. Eucalyptus stands function visually here as solid barriers at rare intervals across the flat landscape. Any development on this plain would be highly visible if it were not shielded from view by trees or other foreground features.

The settlements of Birds Landing and Collinsville provide the site with interesting focal points which serve as contrasts to the dominant open space character of the planning area. In both settlements, retention of the effect of facades which contain the road and provide the sense of enclosure and concentration is desirable.

GEOTECHNICAL FACTORS

GROUND STABILITY

The most significant evidence of geotechnical constraint to problem-free development occurs in lowland areas where weak, saturated and compressible soils are present. Such soils are prone to settlement, poor seismic response and earthquake-induced liquefaction. Lands identified as having such characteristics stretch along the flat reaches west of Collinsville Road and along the Sacramento River, and comprise approximately 11 percent of the site. The thickness of these deposits is often greater than 100 feet. Development where evidence of such conditions is confirmed by detailed site investigation may require possible limitations on building weight as well as special foundation designs.

Other than these lowland soil instability factors, the planning area exhibits few significant ground constraints other than locally steep slopes with moderate erosion potential. Areas subject to severe landslide risk are confined mainly to the Kirby Hills and the hills above Mein's Landing in the western portion of the site.

SEISMIC CONDITIONS

Geologic evidence indicates that the planning area is underlain by two buried faults, the Kirby Hills fault zone to the west and the Midland zone to the east. Both faults appear to be buried at such depths that, if either were to prove active, surface rupture would be unlikely. Considerable ground shaking could result, however. Further geologic investigation would be necessary before substantial development could safely occur atop these generally located zones so that proper precautions could be taken to protect life and property against related hazards.

The planning area is, of course, also situated within a region which is seismically active. The province is crossed by major northwest-trending faults of the San Andreas system, including the main San Andreas, Calaveras, Hayward, and Concord-Green Valley faults. Historical records and geologic evidence indicate that these faults are each capable of producing and will produce earthquakes of various magnitudes which will result in general ground shaking in this region. No part of the site will be free from such seismic shaking.

FLOOD RISK

Over 6,000 acres of lowland or 12 percent of the site is subject to stormwater and tidal inundation according to USGS/HUD meteorologic, hydrologic and photographic data. These flood areas are roughly the same lands which are settlement and liquefaction prone. In the stormy season, the following site characteristics can act together to compound the risk of flooding:

- -The lands are generally low, flat and slow-draining.
- -The site is on the Sacramento River and is directly opposite the San Joaquin River outflow at Sherman Island.
- -Adjacent estuary outflows are subject to Suisun Bay tidal fluctuations of up to four feet per day.
- -Water level fluctuations are often greatly exaggerated at the site by strong off-shore winds, commonly gusting up to 40 miles per hour.
- -The Montezuma Slough is subject to overflow during heavy rainfall due to subsequent rapid runoff and low ground infiltration in the County's uplands (especially the Potrero, Kirby and Montezuma Hills).

Before safe development can occur in these lowland areas, flood risks would have to be overcome through considerable drainage, structural, and other engineering measures.

FIRE RISK

Much of the planning area is highly susceptible to grassfire due to a combination of factors including extensive grass and grazing land, high winds and the funnelling effect of hilly topography, limited road access for fire fighting equipment, lack of water service, and certain seasonal atmospheric conditions (warm, dry falls and summers with afternoon winds). The ignition potential of grasslands along

local access roads would be increased by added traffic. The creation of fire buffers along the more heavily traveled roads by thinning, mowing, discing and controlled burning can reduce wildfire risk. In fact, the present likelihood of serious conflagration has been reduced by local farmers who regularly take such fire-preventive measures along planning area roadways.

CURRENT PLANS AND POLICIES

Until commission of this planning program, County policies for planning area transportation and land use were generally set forth in the Southeastern Solano County General Plan, 1990, adopted in December of 1973. That plan schematically designates four industrial ("general manufacturing") locations in the planning area, including sites on Shiloh Road near the Kirby Hills (approximately 300 acres), on Collinsville Road near Birds Landing (300 acres), at Collinsville (1,000 acres) and on the river shoreline one mile east of the Marshall Cut (300 acres). The plan also roughly designates a narrow protected marsh transition area or buffer along the western boundary of the site, beach facilities at Sandy Beach, and extensive agricultural use of all remaining lands. In addition, the plan indicates a harbor and power plant at Collinsville. The plan includes a very brief and generalized discussion of the likely environmental and community impacts associated with its land use provisions.

The Suisun Marsh Protection Plan adopted in December of 1976 by the San Francisco Bay Conservation and Development Commission updates and details the regional agency's position regarding land use in the Suisun Marsh environs. The plan's recommendations for the portions of its jurisdiction within the planning area are shown on Figure 4. As can be seen, roughly 2,520 acres at Collinsville and along Collinsville Road are designated for ultimate use by water-related industry. The plan also specifies that such uses should conform to a set of stringent performance guidelines to prevent adverse effects on the marsh. The plan designates the remaining area between the industrial lands and the Montezuma Slough, plus lowlands to the north, as part of its "primary management area" and thus, reserved for the protection and enhancement of seasonal marsh and lowland grasslands in that area and the buffering of the Suisun Marsh from any future water-related uses in the planning area.

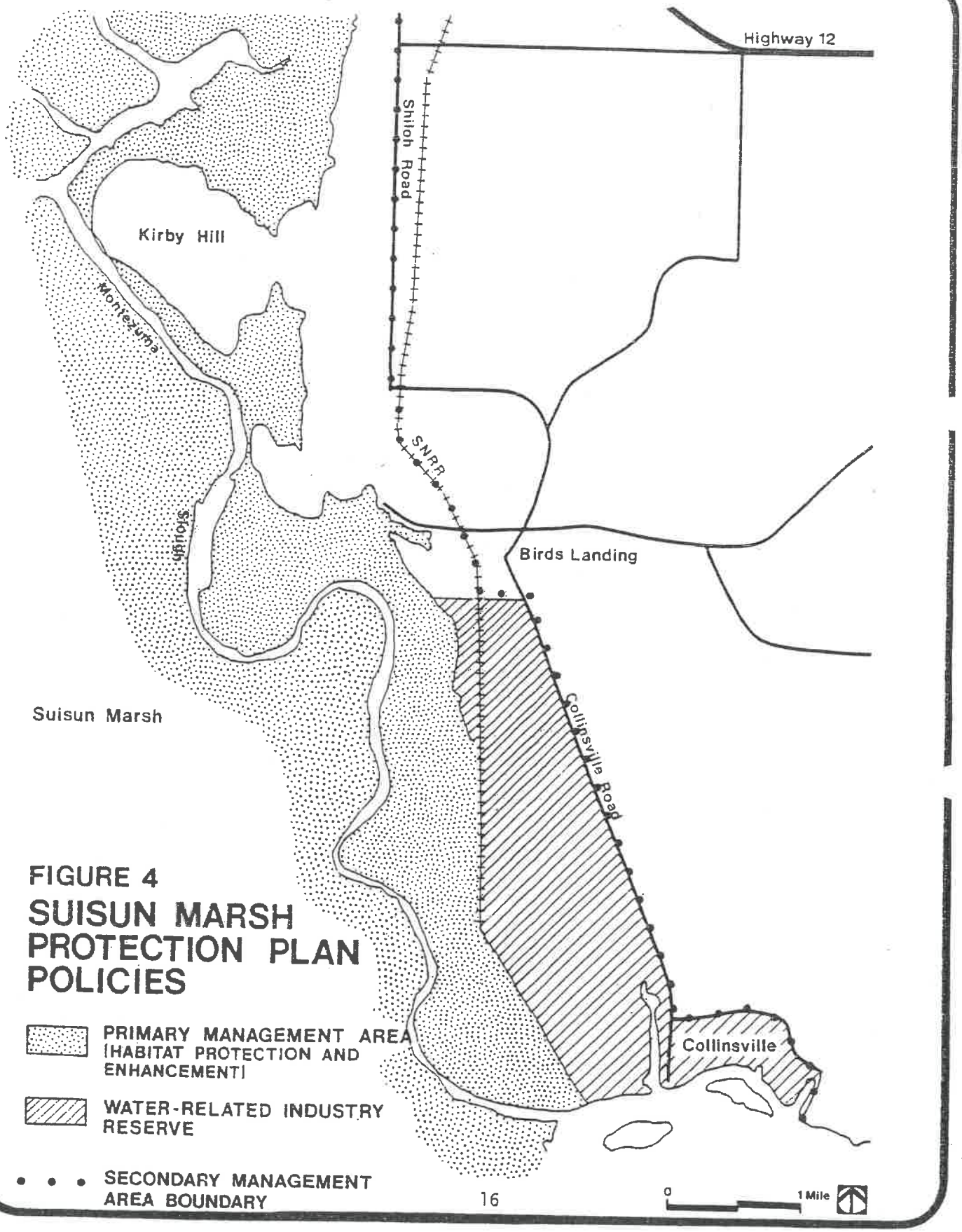


FIGURE 4

SUISUN MARSH PROTECTION PLAN POLICIES

CHAPTER II
PLAN AND PROGRAM

The primary function of this plan for the Collinsville-Montezuma Hills area is to produce a land use and transportation configuration which is responsive to the social, economic, ecological and aesthetic needs of Solano County and the Bay Region. The plan seeks a dual goal: to provide for utilization of vacant lands adjacent to an existing ship channel for the economic benefit of the region and to protect irreplaceable natural resources for the enjoyment and use of existing and future generations.

This chapter of the plan sets forth planning goals, policies and guidelines at a level of detail sufficient to provide a basis for County regulatory and capital improvement decisions and to provide property owners and prospective investors with clear advance understanding of uses permitted and the conditions under which uses will be allowed. The plan's provisions are specified to the degree necessary for coordination of the public and private actions which will be essential for the protection and enhancement of natural and economic values. The provisions are also structured to allow sufficient flexibility to permit adaption to future prospects which might not be apparent today and to provide maximum feasible latitude for private investment and development where such actions will not be in conflict with overriding public needs. The plan thus serves as a framework within which conservation and development objectives can be balanced and subsequent actions coordinated.

The plan's policy and program provisions are set forth in three sections: (1) a statement of the Basic Goals which

form the framework of the Plan; (2) a description of the Areawide Land Use and Transportation Policies sought by the plan; and (3) a description of the specific Subarea Land Use and Transportation Policies and related development criteria necessary to achieve the plan's functional, economic, environmental, aesthetic and safety objectives. In implementing this plan, public and private decision makers should view the third section as an integral element which is articulated on a separate, subarea basis solely for purposes of specificity and clarity, rather than as a series of independent aspects which can be varied without regard to one another.

Chapter III, which follows these three sections addresses the implementation of the plan policies, i.e., the regulatory, financial and governmental means of carrying out the plan, plus the issues of scheduling and coordination of required and permitted actions. Policies and programs contained in this plan have been formulated to mitigate the impacts of plan implementation. Further, or secondary, impact mitigation measures which might be undertaken by the County, industry or impacted municipalities are outlined in the Final Environmental Impact Report.

Basic Goals

During the course of this study, analyses were made of those factors which should be determinants of the most appropriate uses of the Collinsville-Montezuma Hills area. These analyses included consideration of economic demand for water-related industries, potentials for additional demand for uses auxiliary or complementary to water-related industries, wildlife habitat values, agricultural values, geotechnical conditions, other hazards, transportation access, existing or likely availability of public facilities and services, recreation demands, and recreational, scenic, and mineral resources.

Based upon these analyses and related input from local agencies, interest groups, citizenry, property owners, and regional, state, and federal agencies, the following basic goals have been formulated. These serve as a framework for the general land use and transportation scheme and, more specific, sub-area policies and criteria sections which follow, as well as for the subsequent implementation program chapter.

1. LAND NOW SERVED OR POTENTIALLY SERVED BY DEEP WATER CHANNELS SHOULD BE RESERVED TO MEET THE REGION'S NEED FOR LARGE-SCALE WATER-DEPENDENT INDUSTRIAL SITES. PREEMPTION OF THESE LANDS BY USES WHICH ARE NOT WATER-DEPENDENT SHOULD NOT BE PERMITTED.

2. THE AGRICULTURAL VALUES AND FUNCTIONS OF THE AREA SHOULD BE PROTECTED BY LIMITING PREEMPTION BY OTHER USES, AND BY PROTECTING AGAINST INTERFERENCE AND DEGRADATION DUE TO NOISE, TRAFFIC MOVEMENT AND AIR POLLUTION.

3. WILDLIFE VALUES OF THE PLANNING AREA SHOULD BE SAFEGUARDED.

4. PUBLIC ACCESS SUFFICIENT FOR ENJOYMENT OF SHORELINE AREAS SHOULD BE PROVIDED.

5. ADEQUATE SAFEGUARDS SHOULD BE PROVIDED FOR THE SAFE TRANSPORT, TRANSFER, AND EMISSION OF SUBSTANCES POTENTIALLY HAZARDOUS TO HEALTH, LIFE, OR PROPERTY.

6. DEVELOPMENT SHOULD MINIMIZE ALTERATIONS OF THE AREA'S NATURAL FEATURES AND SEEK A COMPATIBLE VISUAL RELATIONSHIP WITH NEIGHBORING LANDSCAPES AND PARTICULARLY WILDLIFE AND RECREATION AREAS.

7. SAFEGUARDS SHOULD BE PROVIDED TO ENSURE THAT PLANNING AREA-GENERATED DIRECT AND INDIRECT IMPACTS WILL NOT DETRACT FROM THE LIVING QUALITY OF NEARBY COMMUNITIES.

8. PERMITTED LAND USES AND RELATED PUBLIC SERVICE FACILITIES SHOULD BE DEVELOPED AND FINANCED IN A MANNER WHICH PRODUCES SUFFICIENT TAX REVENUES TO HELP FINANCE NEEDED IMPROVEMENTS IN OTHER PUBLIC SERVICES AND FACILITIES THROUGHOUT THE COUNTY AND AVOIDS ADVERSE FISCAL IMPACTS ON THOSE COMMUNITIES WHICH PROVIDE HOUSING FOR PERSONS EMPLOYED IN THE PLANNING AREA.

9. PLANNING AREA DEVELOPMENT SHOULD AVOID WASTEFUL, INEFFICIENT OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES.

Areawide Land Use and Transportation Policies

The preceding section identified general policies of a broad nature to provide a framework for more specific land use and transportation policies. Attainment of the objectives represented by that general policy framework will require certain tradeoffs among the agricultural, environmental, recreational, and industrial values of the Collinsville-Montezuma Hills Area. This section, and the following section dealing with specific subareas, will translate these overall policies into site-specific provisions and will designate where such tradeoffs are to occur.

The areawide system of land use and transportation is shown in Figure 5. The land use provisions shown there provide for protection of significant wetland habitat areas and preservation of a major portion of the site in agricultural use, but with preemption of a portion of the site presently in agricultural use for permitted water-dependent industrial uses. New residential uses, other than those related to agricultural activities, are prohibited as are commercial, industrial, and other uses which cannot demonstrate direct water-dependency. The plan thus recognizes the wildlife and agricultural significance of the area, the regional economic importance of the lands served by the Sacramento Ship Channel, and the recreational values which are derived from the area's land and water features.

LAND USE

The planning area is comprised of a number of geographic components distinguished by their particular land characteristics. These components include the following: (1) extensive lowland areas of highly valued wetland habitat along the western boundary of the site, (2) a large band of waterfront lands with existing and potential deep water and rail access, (3) a smaller area of sandy shoreline and hilly backdrop with high potential for development of water-related recreation, and (4) a large interior area of lands which should remain

in their current agricultural use. The areawide land use policies which are set forth in this section have been formulated in response to the specific values, opportunities and constraints represented by each of these four component areas.

WETLAND HABITAT

Lands designated as Wetland Habitat in Figure 5 are to be reserved for wetland habitat preservation and restoration. Encompassed are all lands below the 10 foot contour line as it continues west of the present Sacramento Northern Railroad track from Little Honker Bay Road south to its intersection with the track right-of-way, plus all land west of a southern extension of this line to the bench mark at Montezuma Head, and then from that bench mark to a point on the shoreline 3,200 feet west of Bench Mark 3, which is located on the east side of the Collinsville Inlet. The area included amounts to roughly 3,270 acres. The designation is consistent with the configuration of the Bay Conservation and Development Commission's Suisun Marsh Protection Plan Primary Management Area and is comprised of permanent and seasonal marshes and lowland grasslands below the 10 foot contour, all of which are critical to marsh wildlife. Moreover, much of the non-marsh lowland grassland has potential for restoration to higher value marshland by removing dikes and reintroducing tidal action or by conversion to managed wetland status.

WATER-DEPENDENT INDUSTRIAL

This major land use designation consists of a waterfront band along the Sacramento River which is within a feasible distance from the ship channel for future provision of channel access. The band extends back from the shoreline at varying distances from 10,000 to 15,000 feet and is designated for use by water-dependent industries. The total area included within Water-Dependent Industrial designations is roughly 7,440 acres or approximately 12 square miles. In response to topographic conditions, this area is divided into two subareas. The first subarea consists of those lands with slopes less than 5 percent which lie between the designated Wetland Habitat area along the western edge of the planning area and Collinsville Road. This subarea is designated in Figure 5 as Water Dependent Industrial (0-5% Slope). The second subarea is comprised of rolling hill lands with slopes ranging from 5 to 30 percent, extends approximately five miles along the river front, and is designated in Figure 5 as Water-Dependent Industrial (5-30% Slope).

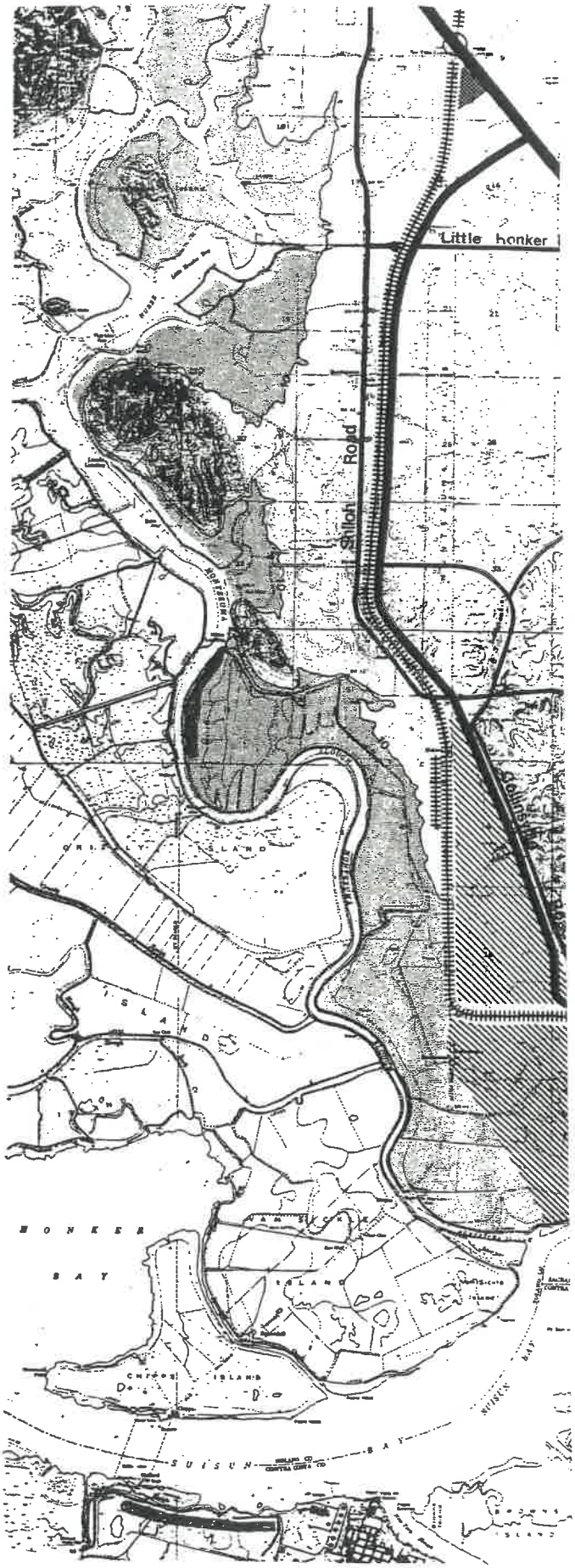


FIGURE 5

LAND USE AND TRANSPORTATION PLAN MAP

LAND USE

- WETLAND HABITAT
- AGRICULTURE
- WATER-DEPENDENT INDUSTRIAL (0-5% SLOPE)
- WATER-DEPENDENT INDUSTRIAL (5-30% SLOPE)
- SHORELINE RECREATION
- COMMERCIAL RECREATION
- WATER-DEPENDENT INDUSTRIAL RESERVE

TRANSPORTATION

- INDUSTRIAL ROADWAY
- FARM SERVICE ROAD
- RAIL BRANCH LINE TRACK
- RAIL YARD
- ▲[a] MARINA LOCATION ALTERNATIVE

COLLINSVILLE-MONTEZUMA HILLS AREA PLAN
SOLANO COUNTY

0 1000 2000

The level lands (0-5% Slope) designated for industrial use are specifically reserved for water-dependent industries requiring large level sites to accommodate their transportation, processing or manufacturing operations. Hill lands (5-30% Slope) designated for industrial uses are reserved for those water-dependent industrial firms whose processes can be sustained by ship to shore transfer of materials by pipeline or conveyer and whose facilities can be accommodated on a terrace or series of terraces at elevations of 40 feet or more above the dock facilities.

Three factors - long-range market demand, geophysical suitability, and the cost of transporting materials from dock to plant site - were considered in setting the area and distance from shoreline of these designated industrial lands. Long-term land use demand analyses undertaken in the preliminary stages of this planning program by Gruen, Gruen + Associates indicate that the acreage set aside for water-dependent industries and reserve areas exceeds the land supply likely to be needed by the year 2000.

Along the northern boundary of the industrial lands east of Collinsville Road, beginning at Talbert Lane, topographical conditions dictate an alignment for rail and road which is approximately 10,000 to 12,000 feet back from the shoreline. This rail/road alignment is described in detail later in this section under TRANSPORTATION. Other alignments considered would either be more costly due to the need for more extensive grading, would intrude upon and interfere with agricultural use of interior lands, or would create serious functional and safety problems for future industrial development. The Talbert Lane alignment results in a property depth from the shoreline to potential plant sites which is reasonable in terms of the cost of transporting materials from the dock to the plant site and also allows an ample site area to permit flexibility in siting plant facilities. (This distance and rail alignment is also compatible with the tentative facility site plans set forth by industrial interests who have proposed to locate here.)

A 2,690 acre hillsite area extending east of the industrially designated uplands has been designated in Figure 5 as Water-Dependent Industrial Reserve. It is the intent that this area continue in its current agricultural use in the near and intermediate future. Provisions, however, are made so that the siting and design of road and rail facilities do not foreclose longer-term future use of this reserve land for water-dependent industrial use if the need arises after the primary industrial lands are properly absorbed. Conditions under which these lands may be converted to Water-Dependent Industrial are described on Page 28.

Permitted Uses

All uses to be permitted within the three water-dependent industrial designations must comply with the general land use criteria set forth in this section and with the more specific land use, transportation and development requirements set forth in the subsequent section on Subarea Land Use and Transportation Policies. Industrial uses to be permitted must also fit the County's definition of a water-dependent use. Additionally, those lands within the area designated as Water-Related Industry Reserve Area within the Suisun Marsh Protection Plan may be limited by the provisions of that plan and the San Francisco Bay Plan.

Before a construction permit will be issued for an industrial use, a finding must be made by the county of (1) water-dependency and (2) compliance with relevant Subarea Land Use and Transportation Policies. The county's determination of water-dependency will be based upon whether or not each of the various components of the proposed industrial development meet any one of the following descriptive criteria:

Acceptable Water-Dependent Use Categories For Designated Water-Dependent Industrial Areas:

1. Waterfront storage facility. Ship cargo storage handling facilities immediately contiguous and with a functional relationship to a berthing facility. Such facilities may be necessary based on the impracticality of transporting cargo directly between ship and the cargo's land mode of conveyance. Such a need would occur when existing modes of conveyance could not adequately provide the volume of cargo capacity necessary for efficient loading and unloading of vessels. Examples of such facilities could include storage tanks, silos, sheds and holding areas for the short term storage of raw materials including ores, semi-finished materials including fabricated metals and chemical products, fuels and other manufactured products.

2. Waterfront manufacturing or processing facility. Manufacturing or processing operations which require frontage on navigable waters to receive raw materials and/or to distribute processed materials by ship.

3. Water-using facilities. Power plants and

desalination plants requiring large quantities of water would qualify as water-using facilities. Other industrial uses requiring large quantities of water for intake and waste assimilation may qualify. Three criteria for determining qualification would be:

-Energy consumption factors. Are energy savings produced by a water-front location, as compared with alternative inland locations sufficient to justify approval?

-Conveyance costs. Would the cost of conveying water to or from an inland site constitute a substantial increase in the cost of the product produced?

-Water quality requirements. Can the facility make use of water of lower quality than available at the proposed waterfront site?

It should be noted that the source of water (riparian, appropriative) utilized by these facilities may affect their possible location and design characteristics.

4. Support facilities. Uses in addition to those mentioned above (2,3) which are required to support the operation of a permitted waterfront use. These generally would be maintenance or ancillary types of operations.

5. Associated manufacturing or processing uses. Those uses which must be in proximity to a demonstrated water-dependent manufacturing or processing use. Since the linkage would be purely transportation related, i.e., materials, energy, personnel, the determination of water-dependency would be based on one of the following conditions:

-The transportation of either raw material inputs or finished product outputs to an inland site would constitute a substantial enough increase in product cost to make its production economically infeasible.

-The transport of materials from a berth to or from an inland site would produce major increases in hazardous conditions due either to security problems, road or rail congestion, or the spillage or explosion of hazardous materials.

A berthing facility (wharves, piers, berths, docks, launching facilities) is also permissible with any proposed industrial use which has been accepted by the county under one of the above water-dependent use categories. Berthing provisions must meet any specific shoreline requirements set forth in the subsequent section on Subarea Land Use and Transportation Policies. For navigation hazardous cargo handling, and environmental protection purposes which are further explained in this section under TRANSPORTATION, Deep Draft Commercial Berths and Hazardous Cargo Transport, construction of berthing facilities and related cargo conveyance provisions to serve waterfront industrial uses should be located at a limited number of shoreline locations.

Conversion of Industrial Reserve to Water-Dependent Industrial Use

It is the purpose of the Water-Dependent Industrial Reserve designation to bring a degree of development phasing to the area, to preserve agricultural lands from premature industrialization and to provide a policy basis to measure and evaluate whether a proposed development will have greater value to the community than will continued agricultural use.

Development Review Process

Through the procedures described in the Development Review Process section of this plan, the Planning Commission and Board of Supervisors shall determine whether a portion of the Reserve Area should be designated for Water-Dependent Industry on the Plan map.

Mandatory Findings Required

In considering final approval of any development proposal in the Water-Dependent Industrial Reserve Area, the following conditions shall be fulfilled:

-That the establishment, maintenance, or operation of the use applied for is in conformity to the General Plan with regard to water-dependency, traffic circulation, and/or other aspects of the General Plan considered to be pertinent.

-That adequate utilities, access roads, drainage, and/or other necessary facilities have been or will be provided and that adequate planning has been made by the applicant to insure the timely availability of all public services required by the development.

-That, where appropriate, the development plan for the proposed industrial use is consistent with the orderly growth of the industrial reserve lands from west to east.

-That the development is consistent with the orderly growth of the Eastern (hilly) Industrial Sub-Area from west to east taking into account such considerations as the extent and location of existing water-dependent industry and the availability of undeveloped lands within the industrial area. Development of the reserve area should not be precluded by monopolistic land tenure patterns which prevent prospective industries from acquiring sites in the industrial area.

-That, taking into consideration all aspects of the development that may be brought to the attention of the legislative body, the benefits of the proposed industrial use outweigh the benefits provided by continued agricultural use.

COMMERCIAL RECREATION

Approximately 120 waterfront acres at Collinsville have been designated for Commercial Recreation land uses, as shown in Figure 5. Construction of a marina and the development of complementary, water-related commercial facilities are permissible within this designation. Care must be taken to ensure that such uses are compatible with the primary activity of the waterfront - water-dependent industry. The feasibility of commercial recreation uses will significantly increase with the introduction of improved access provisions as proposed to serve waterfront industrial development. This area should provide a focus for public access to the water while preserving the Collinsville townsite.

SHORELINE RECREATION

At the easternmost end of the planning area shoreline, approximately 450 acres are designated for Shoreline Recreation uses. Expansion of the Sandy Beach recreation area is recommended here to provide for the development of more varied recreational accommodations and experiences to serve increasing regional demands. An expanded shoreline park should be provided which includes a large beach area for swimming and fishing, day-use picnic facilities (paved road access, parking, restrooms, etc.). Present Solano County Parks Department development plans for the area should be modified and expanded in land area to allow for adequate separation of picnic and camping activity from the existing sewage treatment plant. All campground and picnic facilities should be provided with good shoreline access and wherever possible, with river views.

On the western edge of the planning area, in the Kirby Hills west of Shiloh Road and south of the Little Honker Bay Road, the opportunity exists for certain marsh oriented passive recreational activities. Although the dominant use of this area is intended to be agriculture, there are limited opportunities for upgraded boat launching facilities, wildlife observation accommodations, as well as other passive recreational facilities. These uses should not conflict with the agricultural uses of the area, nor should they introduce human activities of such intensity so as to adversely affect marsh wildlife habitat.

AGRICULTURE

The major interior portion of the planning area, approximately 35,700 acres, is designated for permanent Agriculture to allow for the continuation of the viable and energy-efficient dry farming activities practiced here since the last half of the 19th century. The designation also provides for agricultural preservation of those lands in the northeastern portion of the site with more gradual slopes, the agricultural intensity and value of which may be increased by proposals to irrigate with imported reclaimed wastewater.

TABLE 2.

SUMMARY OF LAND USE AREA ALLOCATIONS

Land Use Designations	Gross Acreages
Wetland Protection	3,270
Water-Dependent Industrial (Level)	1,970
Water-Dependent Industrial (Hilly)	5,470
Water-Dependent Industrial Reserve	(2,690)*
Commercial Recreation	120
Shoreline Recreation	450
Agriculture (Permanent)	35,670
Agriculture (Interim)	2,690
TOTAL	49,640

*Area overlays agriculture (interim) subarea.

TRANSPORTATION

Transportation provisions for the area should address the need to accommodate the industrial, agricultural, and recreation uses permitted in the Collinsville-Montezuma Hills area with an integrated transport system incorporating vehicular, rail, air, pedestrian, and ship facilities. The general policies set forth below serve as guidelines for the development of future transportation facilities in the planning area. These are further simplified in subsequent discussion of specific transportation modes.

GENERAL TRANSPORTATION POLICIES

1. Develop roadways both within the area and along major approach routes, at sufficient capacity to accommodate the level of industrialization permitted by the plan. Industrialization within the planning area should be coordinated with route improvements planned for Highway 12 where it passes through Fairfield to minimize the impacts on circulation along this off-site approach route.

2. Provide for sufficient deep draft commercial berthing facilities to serve future industrial needs. Construct these facilities as parallel berths or, at the discretion of the developer, as common berths at a limited number of locations in order to minimize conflict with shoreline habitat and recreation values, to reduce the need for dredging and channel maintenance, to increase navigational safety on the ship channel, and to minimize other adverse environmental and fiscal effects associated with ship navigation and berthing activity.

3. Provide for future pedestrian and bicycle trail access points to major shoreline recreational resources where not in conflict with industrial use.

4. Accommodate recreational boating by providing for harbor, berth and boat launching facilities where not in conflict with industrial use.

5. Wherever possible, provide for separated road networks for agricultural and industrial uses so as to minimize disruption of agricultural lands by heavy traffic and to eliminate safety problems which would result from the combination of commercial truck traffic and slow moving farm traffic on the same roadway.

6. Provide grade separated intersections wherever it may be necessary for the rail branch line track to cross the industrial roadway loop. This provision is necessary to help reduce hazards associated with the transport of industrial materials, to provide for motorist safety and to promote unconstrained ingress and egress to destinations within the planning area.

7. Route rail and major roadways in a manner which protects the site's natural resource values and avoids fragmentation of industrial lands into inadequately sized or shore-separated parcels.

8. Promote methods which reduce the use of private vehicles in order to reduce traffic, conserve energy, lower air emmissions, and minimize the total land area allocated to parking.

9. Locate power transmission overhead lines and ground pipelines so as to minimize the interference with

wildlife and avoid substantial alteration of the planning area's natural landscape.

10. Numerous dredge disposal sites for the Sacramento Deep Water Ship Channel currently exist along the planning area shoreline. As long as spoils disposal does not conflict with the protection of existing wetland habitat, such sites should be reserved to insure the continued maintenance of the channel.

INDUSTRIAL ROADWAYS

Figure 5 designates the industrial roadway route which will best balance safe, adequate transportation needs of water-dependent industries with the need to protect the site's existing natural resources. It consists of a 21 mile loop beginning at a point on Highway 12 midway between Shiloh and Collinsville Roads and ending at Highway 12 at a point 2,000 feet east of Church Street near Rio Vista. Provision of this roadway will require reconstruction of certain existing roadway segments, acquisition of new rights-of-way, and new road construction. From the loop's western intersection with Highway 12 continuing south to Birds Landing, the new road will parallel the existing Sacramento Northern Railroad tracks. Advantages of this route as the major western access road over the other principal option, an improved Shiloh Road, are: (a) avoidance of the need for a grade-separated railroad crossing near Birds Landing and (b) separation of industry-related traffic activity from local agriculture and recreation related traffic which can continue to use the existing Shiloh Road. Cost differences between these two routes are not significant since improvement of Shiloh Road will require an additional 1.5 miles of new right-of-way and road construction to avoid the circuitous Shiloh Road alignment north of Birds Landing which is 1.5 miles longer than the recommended new route.

The recommended loop road route will continue from Birds Landing south to Talbert Lane on an alignment paralleling Collinsville Road and curving into Talbert Lane allowing for appropriate design speeds. The alignment of this segment was selected in preference to construction of an upgraded Collinsville Road or a more westerly roadway paralleling the railroad right-of-way to a point above Montezuma Head for five major reasons: (1) the recommended route retains the existing farm service road south of Birds Landing; (2) it is three-quarters of a mile shorter than a western alignment; (3) it does not intrude upon wetland habitat areas in the Clank Hollow drainage; (4) it eliminates the need for any future on-grade

crossing of rail and vehicular traffic in the industrial designated areas west of Collinsville Road, and (5) it avoids fragmenting the industrial designated lands west of Collinsville Road.

The upgrading of Collinsville Road from Talbert Lane to Collinsville is also proposed. The remaining portion of the new industrial loop road, from Talbert Lane to the eastern intersection of Highway 12 near Rio Vista, will involve acquisition of a new right-of-way along the entire route. The routing at the Rio Vista end of the loop is designed to discourage site-related auto and truck traffic from passing through or near and disrupting residential areas of Rio Vista and to avoid future conflicts with residential growth which may take place along the city's edge. Approximately one-half of this 11½ mile segment of the loop would be constructed in conjunction with the new railroad line serving the upland industrial properties.

A two-lane, forty-foot wide road is specified for all portions of the industrial road network except for the southernmost improved portions of Collinsville Road (Talbert Lane to Collinsville) where a narrower roadway is recommended. This width allows sufficient space for emergency stops by trucks and thus safeguards against collision of vehicles carrying hazardous cargos and obstruction of traffic during peak travel times. Much of the industrial road is routed through hilly terrain which inevitably will slow down trucks on long steep grades. A good profile and alignment, as well as periodic truck passing lanes, will do much to reduce travel time for passenger cars, improve safety and increase road capacity.

Industrial Road Intersection with Highway 12 Near Rio Vista Junction

Special measures will be necessary to accommodate a new road connection at Rio Vista Junction to avoid disruption of California Railroad Museum activities.

As shown in Figure 6, the proposed connection of the industrial loop road with Highway 12 at this location will intersect a proposed extension of the museum's track linking the existing museum facility with a second parcel being considered for acquisition abutting Little Honker Bay Road. Museum plans to connect these two parcels with a new track which would parallel the existing Sacramento Northern right-of-way are preempted by the proposed industrial road alignment.

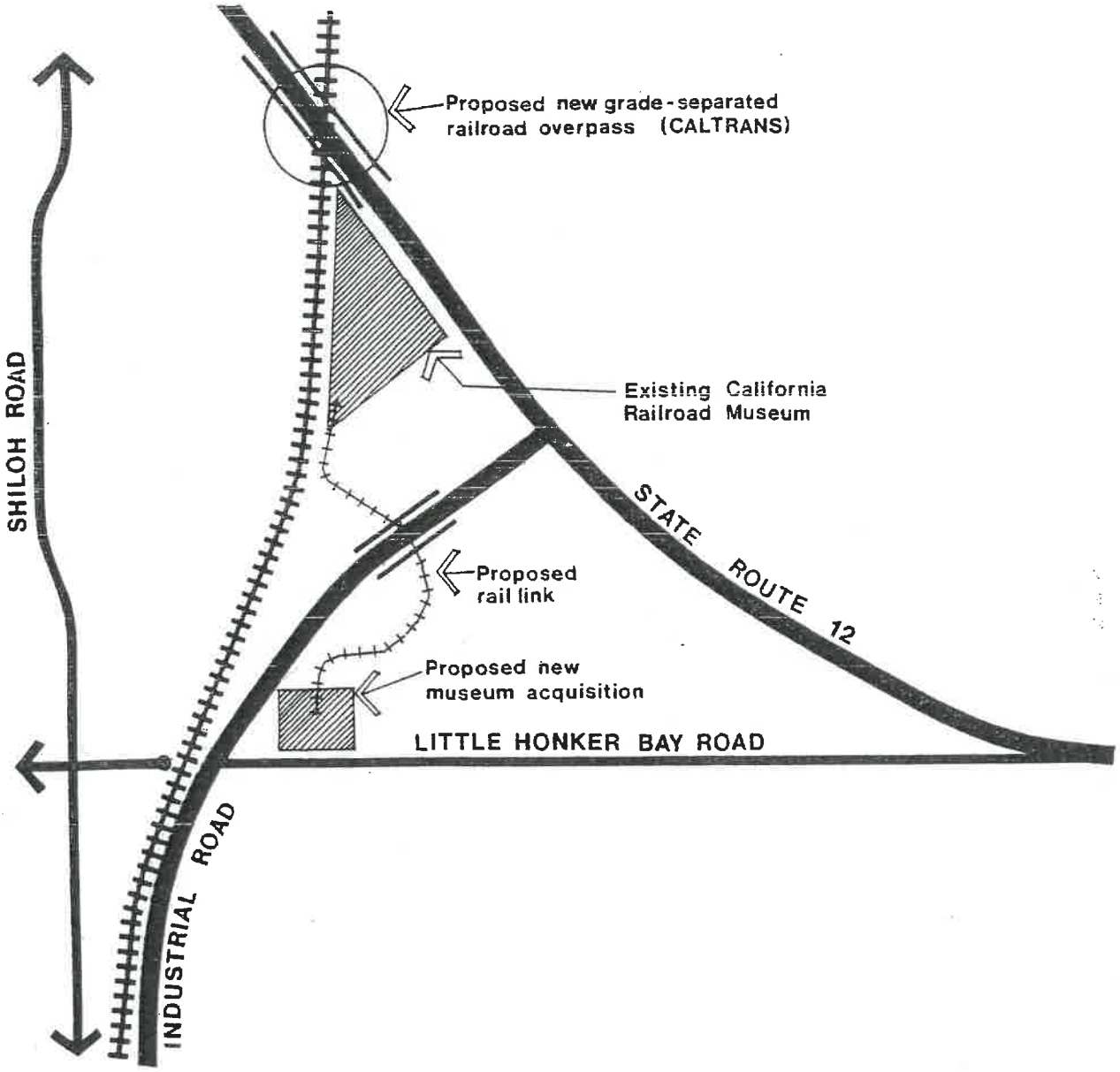


FIGURE 6

INDUSTRIAL ROAD/STATE ROUTE 12 INTERSECTION AT RIO VISTA JUNCTION

The road connection has been specified on the museum side of the Sacramento Northern Railroad track to maintain a required 3,000 foot separation from proposed Caltrans improvements to the Highway 12 railroad overpass to the northwest (Rio Vista Junction). This distance is necessary so that all widening for the improved Highway 12-industrial road intersection can take place after vehicles have left the Caltrans rail overpass grade change.

Figure 6 indicates a proposed resolution to the conflict with railroad museum expansion plans. As shown, existing topography facilitates the provision of an industrial road/rail overpass. Although railroad right-of-way acquisition for this track routing is likely to be more difficult and costly than a route paralleling the existing rail line, the overpass and circuitous nature of the alternative alignment would provide a more interesting route for museum use.

Figure 7 indicates possible road improvments which may be necessary at this western industrial road intersection with Highway 12. (The detail also applies to the eastern end of the industrial loop near Rio Vista.) Signalization may be necessary at this section of Highway 12. "Signal ahead" or "prepare to stop" flashers interconnected with the signal should be installed as advance warning devices.

Figure 8 details the intersection of the industrial road and Birds Landing Road just to the west of the settlement of Birds Landing.

Intersection of Industrial Road and Railroad at Talbert Lane

As shown in Figure 9, the geometrics of the loop road have been developed so that the heavier movement of traffic from Highway 12 toward the industrial areas would constitute the through movement. Traffic toward Collinsville and recreation areas to be developed along the river would be required to make a turn from the loop road onto the extension of Collinsville Road. A free-flow right turn lane for eastbound to southbound traffic is included in the design since this is expected to be the heavier of the two-way Collinsville-generated movements. Outbound traffic from Collinsville would face a stop sign at the loop road. The radius of the loop road at the curve should be designed to meet a 55 mph design speed.

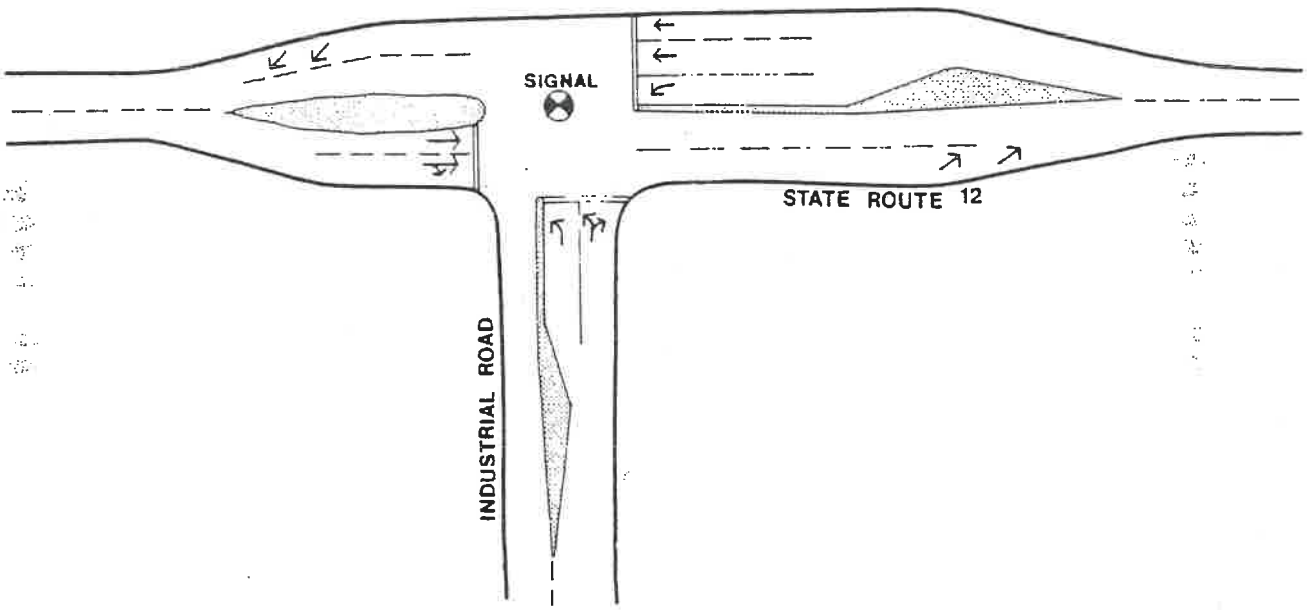


FIGURE 7

INTERSECTION OF INDUSTRIAL ROAD AND STATE HIGHWAY 12

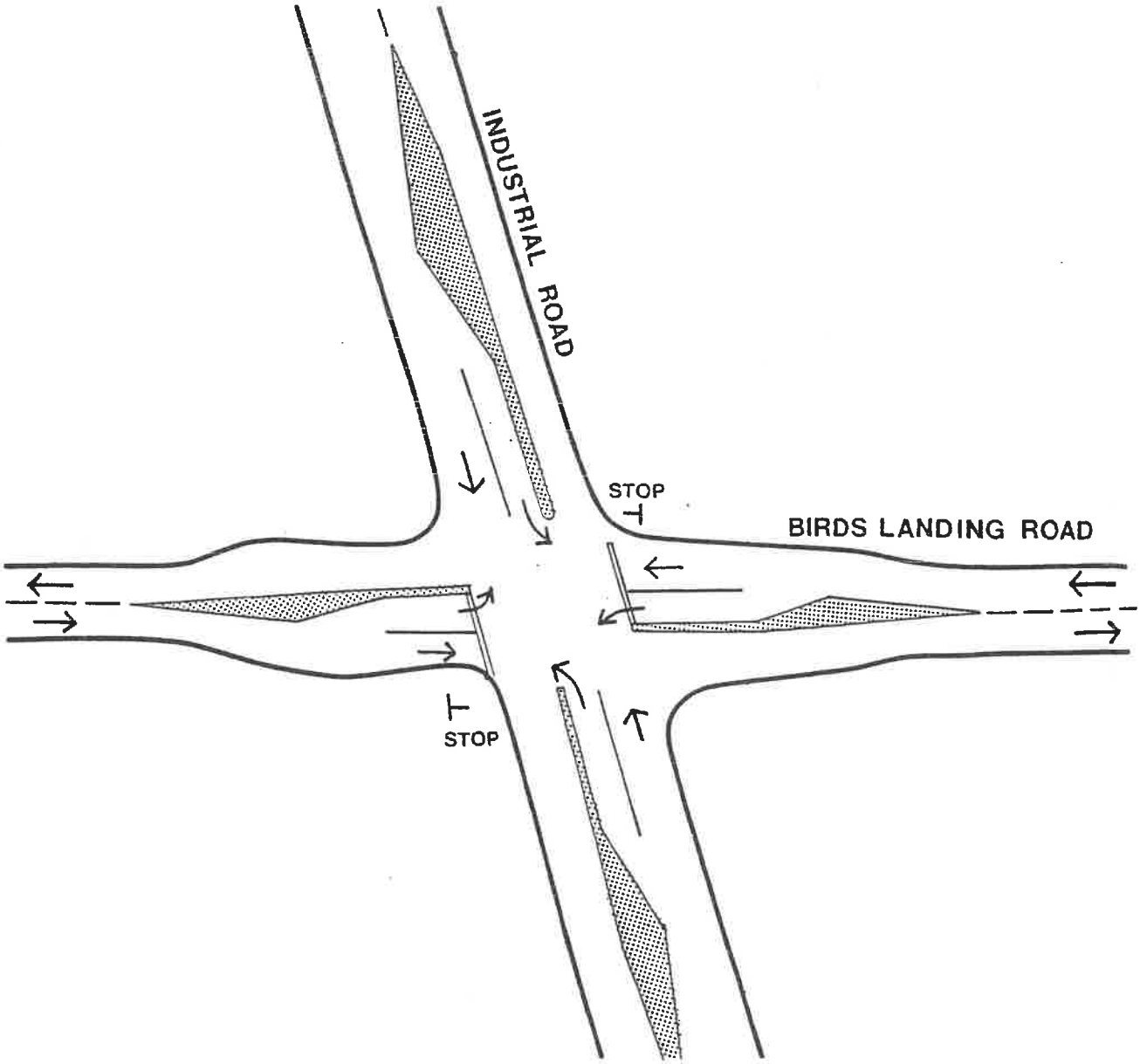


FIGURE 8

INTERSECTION OF INDUSTRIAL ROAD AND BIRDS LANDING ROAD

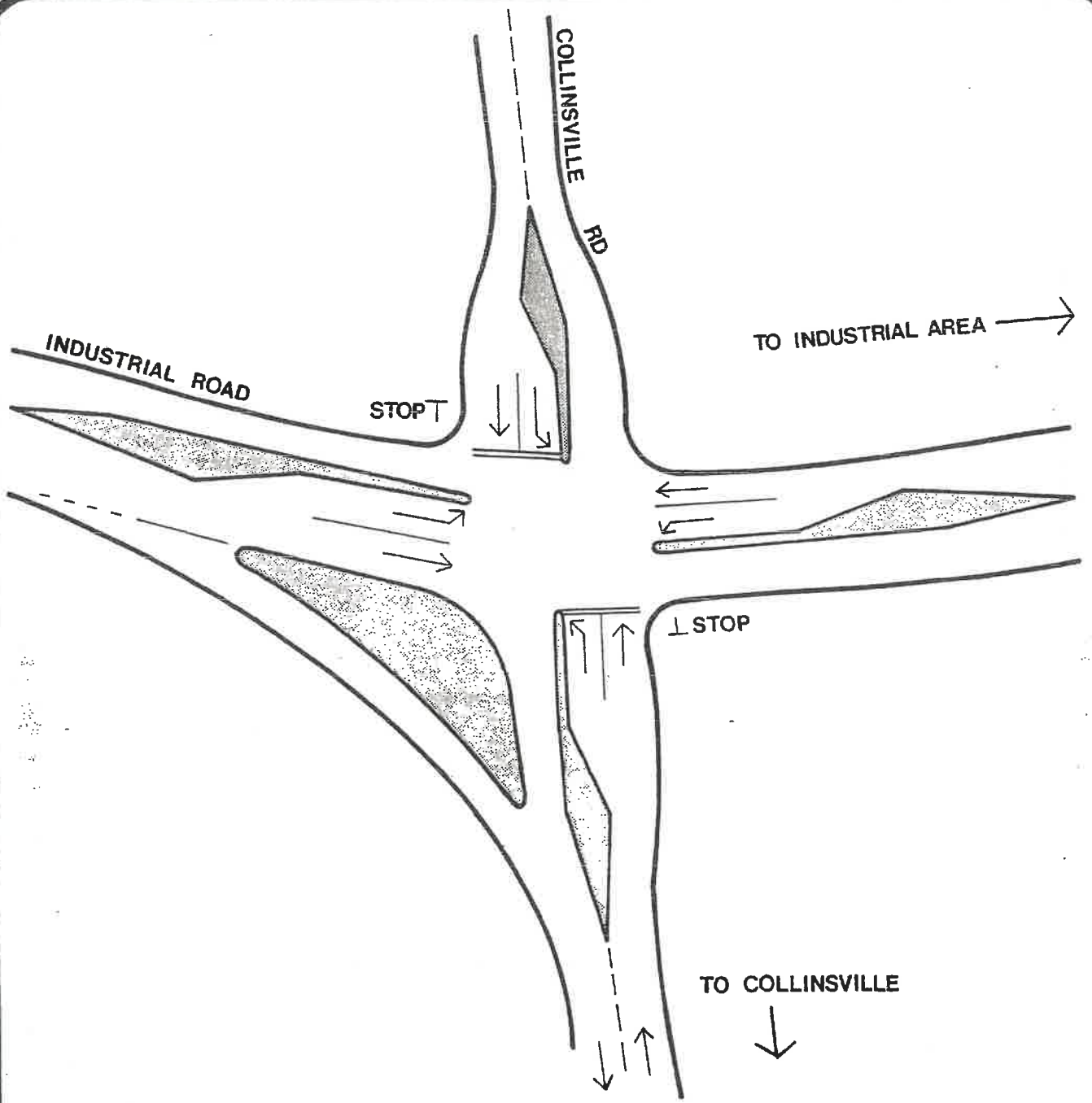


FIGURE 9
INTERSECTION OF INDUSTRIAL ROAD AND COLLINSVILLE ROAD

FARM SERVICE ROADS

Existing local roads are designated to remain and be maintained as farm service roads. These secondary routes are intended for local agriculture-related uses. Opportunities for use of this farm-service road system for detour purposes by industry-related traffic are prevented in the scheme by the elimination of good cross connections.

Where necessary for maintaining existing farm access, farm service routes would also be provided as frontage roads parallel to but separate from certain segments of the industrial loop. Such a provision would only be made at a location where the industrial loop road has terminated the existing network of farm service roads.

As shown in Figure 5, at-grade intersections between industrial and farm service roads are specified at the following four points: (1) at the Birds Landing Road connection near the settlement of Birds Landing; (2) at Shiloh Road immediately north of Birds Landing; (3) at the Collinsville Road connection at Talbert Lane; and (4) at either Montezuma Hills Road or Emigh Road where it meets the new industrial road west of Rio Vista. At all other locations where farm service roads reach a point of potential connection with the industrial loop road, direct access will not be permitted in order to prevent use of farm roads by industrial traffic. Connection provisions at these points will be limited to those which might be necessary for emergency routing and emergency vehicular access, i.e., unpaved road connections sealed by emergency gates.

RAILROAD BRANCH LINE TRACK

Figure 5 also designates the general rail branch line track routing which will best balance safe provision for the future rail cargo needs of a number of waterfront upland industries with the need to minimize land alteration and limit disruption of the planning area's natural resource values (habitat, agricultural and visual). A "branch line" track is one which branches off of a main rail line to serve a number of private spur tracks. A branch line track must be kept clear at all times for the safe movement of rail traffic.

Alignment

As shown on Figure 5, the proposed branch line track route follows the existing Sacramento-Northern right-of-way from

its connection with the Southern Pacific main line at Cannon to a point due west of the existing intersection of Talbert Lane and Collinsville Road, where the track would then turn 90 degrees to the east and follow the Talbert Lane corridor to a point at the eastern end of the designated waterfront upland area. Provision of this branch line track will require continuous new rail construction from Cannon to the proposed end point, a distance of approximately 25 miles. Roughly 4.4 of those miles would also require the acquisition of new rights-of-way (Talbert Lane branch). The easternmost alignment of this rail route allows for future extension of rail spur service to designated industrial reserve lands.

Advantages of this Talbert Lane route over a second option, a Clank Hollow alignment, include the following:

-Fragmentation and disruption of agricultural use is decreased.

-Pressures for incompatible industrial development on either side of the track in designated agricultural areas are reduced.

-Spur track access possibilities occur at a number of points along the entire Talbert Lane route, providing much more design flexibility for the provision of rail service to the numerous ownerships within the industrial use designation.

Advantages of the Talbert Lane rail route over a third option, a shoreline alignment, include the following:

-The shoreline route would result in greater fragmentation, and thus reduced use potentials for level waterfront industrial lands immediately surrounding Collinsville.

-Basic functional conflicts between the provision of rail access and the conveyance of marine cargo are inherent in the shoreline route option.

-Topographic opportunities for grade separation between road and rail are greater on the Talbert Lane route.

-The shoreline route would traverse potentially compressible and liquefaction-prone soils.

Construction

Where the proposed rail route bisects wetland areas east of Collinsville Road opposite the Clank Hollow drainage, the track should be constructed in a manner which allows for the natural movement of water and wildlife beneath the alignment. Conversely, rail construction between Montezuma and Collinsville should be constructed atop a levee or impervious barrier to protect wetlands and wildlife against adverse industrial impacts and to protect industrial development from flooding. Further construction requirements will be reviewed at the time of proposed development. However, the following general guidelines for branch line track construction may also be considered in reviewing rail operations needs:

-Track grades should not generally exceed 1½ percent.

-The radius of a track curve usually should not be less than 350 feet.

-Widths of rights-of-way generally should not be less than 30 feet.

-Vertical clearances between overhead obstructions and top-of-rail should not be less than 23 feet where possible.

-In general, horizontal clearances between the track centerline and trackside obstruction should not be less than 15 feet.

GRADE SEPARATED INTERSECTIONS

Grade separated intersections are required wherever it may be necessary for the rail branch line track to cross industrial roads, as well as at the proposed Caltrans grade-separated Highway 12 intersection at Rio Vista Junction. Consideration will be given to requiring grade separations on other planning area roads at the time of project design. As further development occurs within the planning area, further grade separation may be necessary to provide for motorist safety, reduce hazards associated with the transport of industrial materials, and to maintain unconstrained ingress and egress to destinations within the planning area. Due to the nature of the planning area topography, many areas exist which offer the opportunity for relatively inexpensive grade separations. In any evaluation of possible locations for grade separations it is important to give consideration to the

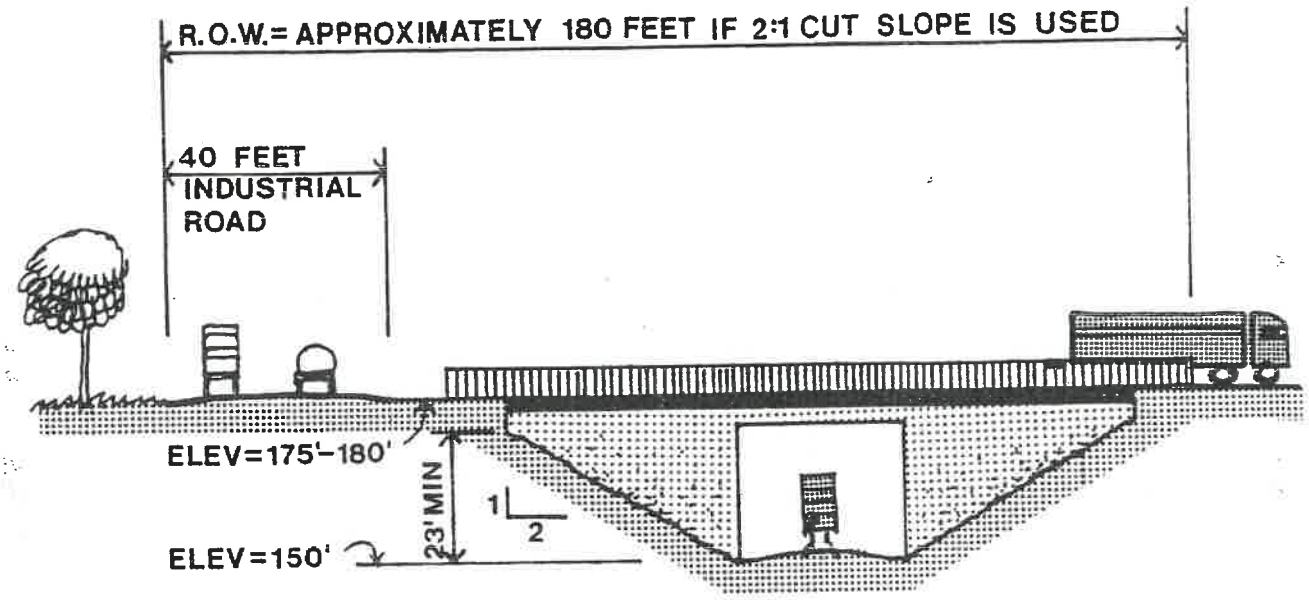


FIGURE 10

TYPICAL SECTION AT GRADE-SEPARATED INTERSECTION OF INDUSTRIAL ROAD & RAIL

relative costs of construction, potential traffic flows, and to the hazardous nature of materials being proposed for transport.

RAILROAD YARD

A level land area, is designated alongside the branch line track west of Collinsville Road at Molina for a rail yard. The yard may be necessary to facilitate planning area rail operations, and might include support trackage and a yardmaster station for use in making up trains, classifying and storing loaded and empty cars, passing, engine runaround, and for other related rail yard needs which may arise as specific proposals occur.

DEEP DRAFT COMMERCIAL BERTHS

Deep draft commercial berthing facilities should be limited in number and in no case should exceed a maximum of six general shoreline locations. The first of these locations, immediately west of the Collinsville Inlet allows for construction of a long wharf which could accommodate two ships simultaneously. This wharf would serve as a specialty terminal for the adjoining level industrial lands. Dredging of an access channel, berthing area and turning basin would be necessary here. The physical characteristics of the area indicate that wave action (natural or vessel induced) would not be a significant factor in terminal layout or operation.

In order to minimize conflict with wildlife and recreation values and to reduce the extent of dredging, berth facilities for hill area industrial lands east of Collinsville should be clustered within consolidated turning basin areas. Berth facilities here may require minimal dredging since most of the hill area industrial lands immediately adjoin the 30 foot deep Sacramento Deep Water Ship Channel. The largest portion of necessary dredging will be for provision of a turning basin at each location. Marine cargo input and output accommodated here should be limited to materials conveyed by either pipeline or closed conveyor system. Dredging and berth facilities require review by the State Department of Fish and Game and U.S. Fish and Wildlife Service and approval by U.S. Army Corps of Engineers and State Lands Commission. Berthing needs of subsequent industries could be accommodated at existing facilities or through the construction of separate facilities at a nearby location within the consolidated turning basin area. Where such berthing facilities are consolidated it would be

extremely important to provide necessary right-of-way or easements across or along the shoreline zone for pipeline or conveyor connections to contiguous industrial sites. In addition to the environmental advantages mentioned above, a number of navigational and other safety benefits will be realized with berth clustering. These additional advantages are further discussed below under Hazardous Cargo Transport.

HAZARDOUS CARGO TRANSPORT

Although transportation of hazardous cargo is governed by a number of State and Federal agencies it is important that the County be cognizant of such potential hazards due to the planning areas proximity to the Suisun Marsh. Specific procedures which will minimize or eliminate potentials for harm to natural resource values or human life and property from accidental spills of damaging industrial materials must be developed and demonstrated to those responsible agencies by an industry which proposes to transport such a cargo to and from the planning area. All permit applications by industrial owners must include specific evidence of compliance with the U.S. Department of Transportation, Code of Federal Regulations Title 49 and such State, County and Municipal regulations which may be in effect at the time of application. Spill prevention procedures must place special emphasis on protecting the Suisun Marsh from exposure to spill-contaminated waters and on protecting urban areas (Rio Vista, Suisun City, Fairfield, etc.) from spill-related hazards associated with land transport.

The planning area transportation system (roads, rail, berths, pipelines) must be constructed in a manner which minimizes the likelihood of mishaps involving hazardous cargoes. Design measures for road and rail safety should include limitations on grades, curves, and intersectional conflicts, visibility characteristics, surface conditions, and speed.

The following measures should be considered by the County in determining the adequacy of proposed programs to prevent hazardous cargo mishaps:

- Berth facility designs must include systems for routine booming during loading and off-loading of volatile or toxic liquid cargoes, and equipment for effective containment and recovery of spilled materials. Containment and recovery systems must be capable of (a) performing effectively in up to

five-foot wave heights and in two-river currents, and (b) containing and recovering or clearing all types of cargoes of a harmful nature which will be loaded or off-loaded in significant quantities.

-All loading and off-loading systems must also be equipped with both automatic and manual emergency shut-off valves at the berth and on the shore.

-Berth facilities must include navigational aids and dock or berth safety provisions to reduce the likelihood of accident and damage, including radar reflectors, special lighting, fire protection systems, and adequate security provisions.

-The most effective design measure for berth construction is the concentration of ship loading activity into clustered, parallel berth facility areas, as recommended in this plan. Berth concentration effectively achieves the following:

- Reduces the number of points of navigational conflict along the Sacramento River Ship Channel and allows installation of more elaborate and effective ship traffic navigation systems than would be possible for individual berth locations dispersed along the 6 mile shoreline for each water-related industry.

- Allows for more efficient and effective control by the U.S. Coast Guard of vessel traffic movements, traffic monitoring and supervision of the handling and stowage of harmful cargoes; and

- Allows for installation of more elaborate permanent spill containment and cleanup systems.

-Prior to the approval of new pipelines for the conveyance of hazardous liquids or gases which cross suspected fault zones, liquefaction-prone lands, or other potential ground failure areas, specific site investigation by a qualified engineering geologist must determine that (a) no ground failure potential exists, or (b) no reasonable alternative routes are available. In the latter case, the pipeline design must include

valves, switches and other equipment appropriate to ensure rapid emergency repairs to minimize the potential for mishaps.

-It should also be required that spill contingency plans contain non-design measures which address all modes of hazardous cargo transport including both water and land systems (road, rail, and pipeline modes) in order to prevent hazardous cargo mishaps.

RECREATIONAL ACCESS

In light of the considerable length of the area designated in this plan for water-dependent industrial and commercial recreation uses, development of these areas should be designed and constructed in a manner which ensures the maintenance of public access to the shoreline. The State's desire to ensure that public access to such estuarine waters will always be attainable was recently established in California Constitution, 1977-78 (ARTICLE 8, Sec. 4, new section adopted June 8, 1976):

> No individual, partnership, or corporation, claiming or possessing the frontage or tidal lands of a harbor, bay inlet, estuary, or other navigable water in this State, shall be permitted to exclude the right-of-way to such water whenever it is required for any public purpose, nor to destroy or obstruct the free navigation of such water; and the Legislature shall enact such laws as will give the most liberal construction to this provision, so that access to the navigable waters of this State shall be always attainable for the people.

In carrying out the requirements of the California Constitution and to accommodate the increased recreational activity needs generated by projected regional growth, maximum public access and recreational activities should be provided for, consistent with public safety and needs and the desire to protect wetland habitat values. Allowable land uses along the shoreline of designated water-dependent industrial, commercial recreation and shoreline recreation areas, with the exception of water-dependent industrial designations west of the Collinsville Inlet, may be required to provide adequate public access.

For each shoreline development proposal within the water-dependent industrial area, provision for shoreline accessways

should be considered before or at the time of development and may be required by the County for public access points along the river front. Public access to and along the waterfront should be provided wherever feasible, unless it will result in interference with industrial activities or hazards to the public.

MARINA

The planning area's location on the Sacramento River and certain of its shoreline characteristics, together with the improved road access provisions recommended in this plan, are factors which are expected to create strong demands for the development of a new small craft berthing facility on the shoreline near Collinsville. Although specific demand data is sparse for the Delta area, there does seem to be justification for an additional berthing facility between Benicia and Rio Vista based upon regional population growth projections and expressed interest in the site by private marina developers. A new marina here would offset projected boat facility deficiencies in a growing Solano County and surrounding region, would take advantage of the good water sport opportunities of this immediate area (fishing, waterskiing, duck hunting, etc.), and would provide harbor refuge and related accommodations for stopover boaters who would need toilet, shower, electrical hookup, sewage, and boat repair provisions.

Since the costs of marina development and operation can be high (dredging, dock and breakwater construction and maintenance), the economic feasibility of a privately owned and operated facility supported wholly by passive revenues from membership fees and berth rentals is questionable at this planning stage. It is possible that improved regional access to the Collinsville area provided by the plan's new primary arterial (Collinsville Road route) would significantly increase marina feasibility. The likelihood of a successful marina operation would also increase markedly if the development occurred on a portion of waterfront industrial land provided for public use by the owner. Setting aside such a portion of its waterfront site for marina development could represent a positive step by an industry in optimizing the industrial and recreational values of its waterfront site. The viability of a marina might also be adequately reinforced if the facility is developed jointly with a complementary use such as a restaurant or supportive commercial recreation facility.

Phased Development

Marina development on the planning area shoreline would have to be phased to properly reflect the regional market for boating provisions at this location. In addition, the use of annual lease agreements and/or membership fees for berth accommodations would offset the effect of seasonal use patterns which are often detrimental to marina viability in the Delta.

Alternative Locations

Three locational alternatives have been set forth in the plan for a new marina development. As shown in Figure 5, they are:

-Collinsville Inlet. Location of berths within the Collinsville Inlet and served from the Collinsville (east) side would have the dual advantage of berthing which is well sheltered from estuarine wave action and is adjacent to the designated recreational commercial area at Collinsville. Access to this marina site would be significantly improved when nearby industrial road improvements were completed. More detailed investigations would be necessary to determine if such a use of the inlet could be accommodated in a manner which is compatible with the designated industrial use of lands on the opposite side of the inlet and to determine development and operational costs necessary to provide and maintain adequate channel geometry (initial and maintenance dredging for proper depth and widths).

-Collinsville Point. Location of berths on the southern shoreline of the designated Collinsville commercial recreation area would also benefit from the unimproved industrial road, and would present less potential for conflict with industrial shipping. More detailed investigation is necessary, however, to determine whether this site is adequately protected by Chain Island and Montezuma Island from estuarine wave action and to determine whether the development and operational costs necessary to provide and maintain such a facility are feasible and competitive with the other sites.

-Area between Montezuma Island and planning area shoreline (present site of Collinsville Resort).

This site appears to be suitable from physical and cost standpoints, but may not be compatible with adjacent land use designations to the north.

This site is well protected from estuarine wave action by Montezuma Island. The most protected area includes the easterly reach from about the midpoint of Montezuma Island to the Marshall Cut. Approximately 350 berths could be accommodated in this area along with berths parallel to the shore. Initial dredging to 8 feet would be minimal (about 60,000 cubic yards for entire area). Maintenance dredging should be minimal also, considering existing depths here. Berths would be better located on the landside, away from Montezuma Island, since charts indicate better scouring action at this location.

The site's location, 3/5 of a mile east of Collinsville, constitutes a disadvantage since it separates the marina from complementary recreational commercial land use designations at Collinsville and may require a public access route through a designated water-dependent industrial use.

Dredged material from any one of the three site alternatives could be pumped ashore for use in site preparation for industrial uses. Maintenance dredge spoils could be disposed of on an inland site reserved for such use, pumped to the National Steel or Southern Pacific property for fill purposes, or barged to a Carquinez disposal site, if feasible.

TRANSIT SERVICE

A number of basic locational and employment characteristics associated with the land use configuration recommended in this plan would be quite compatible with the provision of transit service as an effective alternative to private auto use during commute hours. The isolation of the designated industrial lands in the planning area from existing communities in the region, and the mutual land use policy of the County and cities to restrict future residential growth to already incorporated areas, produces a regional land use transportation pattern which will facilitate the provision of public transit service. Two major transit corridors can

serve the site, one from the west and a second from the east. The first, along Highway 12, would link Fairfield and Suisun City with the site and would also permit routings from the Vacaville, Cordelia, and/or Vallejo areas. The second corridor, consisting of Highways 12 and 160, links the Antioch-Pittsburg area with the site and would also serve Rio Vista.

Transit feasibility is further enhanced by the fact that most industrial plants locating in the planning area are likely to operate on three work shifts per day. This arrangement would allow transit vehicles to run at three peak times per day with full use in both directions, thereby reducing the size of the bus fleet required and related operating costs.

Three types of transit service should be considered: (1) bus van service operated by employees ("van pooling") and financed either by the industries or a special transit district; (2) bus service linking park-and-ride facilities located in the nearby communities with the planning area; and (3) fixed bus routes from nearby communities. It is likely that a stepped program of transit service starting with bus van service and leading eventually to a fixed route system will be necessary. The level of feasible transit development, however, will depend upon the timing and scale of industrial construction and the housing location decisions made by the new employees. During peak construction periods it may also be necessary to provide temporary transit provisions such as possible busing of construction workers and use of a ferry service between Contra Costa County and the site. The need for service to the site could be especially critical if several major industrial plants undertake construction at the same time, producing traffic volumes greater than when the entire industrial area is fully developed and operational. It is also likely that the industrial road system would not be complete at the time of peak construction employment levels.

EMPLOYMENT CHANGES

Short-term positive effects of new permanent planning area jobs on local unemployment can be reinforced or increased through a program voluntarily undertaken by planning area industries which emphasizes hiring from the local unemployed labor force and includes subsequent training to provide necessary technical skills. (Some industries considering planning area sites have indicated plans for such hiring and training programs.)

UTILITIES

TRANSMISSION LINES

In general, all new planning area utility alignments should be routed and constructed in a manner which will not introduce significant adverse effects on wildlife habitat values and on current agricultural activities. Wherever possible, new overhead electric transmission lines and towers proposed for the planning area should be accommodated within or adjacent to existing electric transmission line rights-of-way in order to minimize interference (obstructions and noise) with Pacific Flyway waterfowl movement and further disruption of visual values. Such joint or parallel right-of-way arrangements will also reduce the land consumption necessary for rights-of-way procurement and for related access provisions for emergency and maintenance purposes.

WATER SUPPLIES

Before any water-using planning area land use proposal is approved, reasonable assurance should be provided that adequate water supplies are available to meet requirements for manufacturing processes, fire protection, and domestic uses. Water system looping should be encouraged to ensure continuous service and fire fighting reliability in the event of a main break.

Under the Delta Protection Act and the Watershed Protection Act, water from the State Water Project is available to lands in the Collinsville-Montezuma Hills area. This is not an appropriative or riparian right, but rather one which is guaranteed by statute upon payment of the Delta water charge as defined in water supply contracts with the State.

In order to provide water to potential industrial users in the area there appear to be three alternatives: a) The Solano County Flood Control and Water Conservation District could consent to the provision of water service by the State, b) the Conservation District could sell water to an intermediary district, which in turn would sell water to industrial users, or c) the act which created the Conservation District, could be amended to allow the District to provide direct service to public utilities in the same manner as direct service can be provided to agencies of the State of California and of the United States. In the second alternative above, it would be necessary to either create a district or County service

area which has the ability to sell water or to annex the area to an existing district which has such capability. The creation of a district or the annexation of territory to an existing district would require action by the Local Agency Formation Commission, as well as the Board of Supervisors or the governing board of an existing district.

GAS WELLS

After individual gas wells in the Rio Vista and Kirby Hills gas fields are depleted, the possibility should be investigated of using the naturally occurring underground geologic reservoir formations for long-term storage of natural gas by and for planning area industries. Stored gas could be conveyed by underground pipeline to industrial users during periods of high demand and limited supply.

This method of storage has been in use in the Kirby Hills since 1964. Stored gas is drawn from the field and transported by pipeline to industrial users at Pittsburg during periods of maximum demand. Most planning area gas fields were developed in the 1930's and are expected to be depleted no later than the year 2000, given the present rate of extraction and estimated total reserves.

Subarea Land Use and Transportation Policies

An effective planning program for an area of such size must address itself to specific site conditions and establish guidelines for land use, transportation and site and building design which are responsive to localized factors. For this reason, the planning area has been separated into five subareas. Although individualized treatment is given to each, most of these subareas are highly interrelated. Thus, all subarea policies and criteria are complementary to, and fit within, the area-wide policy framework in the preceding section. The order in which subareas are discussed reflects degrees of importance and interrelatedness.

Each of the subarea discussions includes an introductory description of existing conditions followed by statements of land use policy, transportation policy, and specific development requirements.

WETLAND PROTECTION SUBAREA

The wetland protection subarea is designated on Figure 5 as Wetland Habitat. The designation includes roughly 3,270 acres of low-lying, flat wetlands. Wildlife habitats within these wetland areas are highly valued for their biotic significance and are characterized by a low endurance to disruption by development. The designation includes existing permanent marsh (35 percent of the area), seasonal marsh (20 percent), and lowland grasslands below the ten foot contour which may be restorable to a marsh condition (45 percent).

This subarea is adjacent to the Montezuma Slough and is included within the Primary Management Area of the Suisun Marsh system as designated in the Suisun Marsh Protection Plan by BCDC. Since adoption of the BCDC plan by the State legislature, allowable uses within this area are limited to existing activities which are consistent with protection of the marsh. For example, extensive agricultural uses now predominant in

the area will be allowed to continue on dry lands since these uses can provide extended habitat areas for wetland-dependent wildlife.

The wildlife protection subarea is currently held in twelve ownerships. All are privately owned and two are held by industrial interests, including a segment of the Sacramento Northern right-of-way and the largest portion of the subarea (roughly 50 percent) which is owned by National Steel/Southern Pacific.

Increasing pressures to develop these wetlands for industrial uses may be created by their proximity to the Sacramento River Deep Water Ship Channel, by their level topography, by adjacent waterfront industrial use designations of this plan, by the transportation infrastructure which has been specified to support these designated industrial areas, and by the fact that the Bay region inventory of undeveloped land next to deep water ship channel is dwindling.

LAND USE POLICIES

All lands within this subarea must be managed to protect and enhance the quality and diversity of wildife habitats. Specific land uses within the designation must be limited to those which do not interfere with the protection and enhancement of wetland wildlife habitats. Agricultural activities which now occur, such as dry farming of grain and sheep, should continue, provided that such activities do not exceed sound wetland management practices.

Where feasible, historic marshlands below the current ten foot contour which in the past have been diked off from tidal action for agricultural purposes should either be returned to their original wetland status or converted to managed wetlands by removing portions of levees and reintroducing tidal action.

The protection of this wetland area will provide a needed buffer between the Suisun Marsh and planning area industrial development.

TRANSPORTATION POLICIES

Where the existing railroad right-of-way separates the wildlife protection subarea from the Clank Hollow drainage area east of the tracks, new railroad improvements which have been specified in this plan (see Figure 5) should include structural

solutions which allow for free movement of water and wildlife between the two sides of track, such as an open trestle or culverts.

WESTERN INDUSTRIAL SUBAREA

The Western Industrial Subarea, as shown in Figure 11, includes approximately 1,970 acres of predominantly level waterfront lowlands. Current surface elevations in the area range from zero to 65 feet above sea level. Slopes on most of these lands are less than five percent in slope and virtually all of the subarea is below 15 percent slope. The depth of the area from the Sacramento River shoreline varies between 12,500 and 14,000 feet (2.4 to 2.7 miles); the width from 1,300 to 6,000 feet.

The subarea shoreline is approximately two-thirds of a mile from the Sacramento River Deep Water Ship Channel. Rail service could be easily provided since the site is served by the existing Sacramento Northern Railroad right-of-way.

The subarea includes all or portions of four ownerships. Three of these holdings are small, privately-owned parcels of less than one acre to 18 acres in area. The remaining 1,945 acres (99 percent of the subarea) are held by one industrial interest (National Steel/Southern Pacific) and include the river frontage. None of these holdings are currently in agricultural preserve (Williamson Act) status.

Although approximately 3,286 acres of land west of Collinsville Road are currently zoned MG-3, general manufacturing on parcels of three acres or larger, more than half of those lands (2,010 acres) are within the primary management area of the Suisun Marsh Protection Plan, a designation which will not allow industrial use. The remaining 1,270 acres currently zoned MG-3 and an additional 700 acres currently zoned for agriculture comprise the 1,970 acre Western Industrial Subarea as designated in this plan. Use of this area by the County for water-related industry was reaffirmed under the provisions of the Suisun Marsh Protection Plan.

Flat Lowlands

Large portions of this subarea, indicated in Figure 11 as "flat lowlands", are characterized by relatively unstable

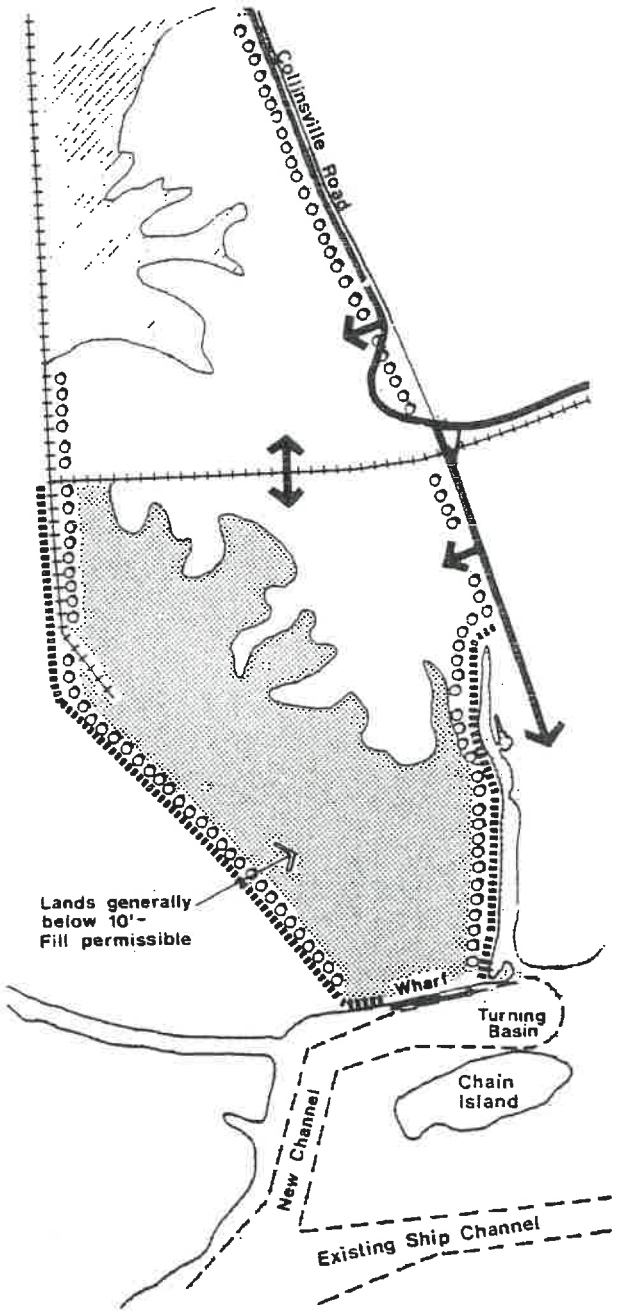


FIGURE 11
WESTERN INDUSTRIAL SUBAREA

Clank Hollow Drainage

Continous Dike

Flat Lowlands

Tree Rows

soils, high habitat value, and flood risk. Evidence indicates that these low-lying flatlands are underlain by soils which are generally loose, saturated, and soft. These conditions have been caused by natural river deposits and by past land reclamation activity which involved diking off of these flat, wetland areas from tidal action to create additional agricultural lands. These wet soil types vary in thickness from a few feet to 100 feet and generally are highly compressible, very low in shear strength, and tend to amplify earthquake ground motion. Thus, liquefaction of these soils may occur during an earthquake, resulting in differential settlement and tilting of structures.

Development atop much of the lowland portions of this subarea would require special foundation design and landfill to mitigate soil instability and flood risks, and would disrupt or preempt wetland habitats.

Most of this flat lowland portion of the subarea is also subject to periodic flooding due to a combination of storm-water runoff and tidal action. The area is within the expected inundation area of a 100-year flood event.

Clank Hollow Drainage

The Western Industrial Subarea also includes a portion of land identified in Figure 11 as the Clank Hollow Drainage, where a major planning area drainage joins with the wetlands to the west of the railroad right-of-way. This small drainage area is a seasonal marsh and is defined by the ten foot contour. Planning area seasonal runoff water from Clank Hollow drainage collects here in ponds. Under normal conditions, the area usually remains damp nine months of the year.

LAND USE POLICY

The primary intent is to reserve this subarea for large-scale water-dependent industrial facilities which involve horizontal processes requiring large areas of level land (processing of raw materials, fabrication and assembly, etc.) which meet the water-dependent criteria established in this plan and which require one of the following:

- Ship-to-shore or shore-to-ship transfer of materials which cannot be accommodated by pipeline or conveyor;

- A large level dock area immediately adjoining the berth; or

- A large level backup area for either storage, processing, or manufacturing in close proximity to the berth.

If the area is developed for more than one use, or if a single use planned for the area occupies less than 60 percent of the total area, a planned development application must be made prior to any division of the land. The site-specific plan must provide for parcelization and siting of roads and rail lines in a manner which ensures that all portions of the site are provided with rail and road access, and that all portions of the area within one mile of the berths are provided with direct access to the berth and adjoining dock area by means of either road, rail line, dock crane, or conveyor. Lands beyond one mile from the dock need not have direct transport access to berths if they are used by secondary industries requiring locations immediately adjoining water-dependent uses.

Parcels less than 200 acres in area shall not be permitted unless they accommodate uses which are directly auxiliary to allowable industrial uses on adjoining larger sites or it can be demonstrated that sites of this size are not available for this use in other parts of the Bay region.

TRANSPORTATION POLICIES

Berth, rail and road access provisions associated with uses allowed in this subarea should meet the following requirements:

1. The structure of the railroad which bisects this subarea should be constructed in a manner which permits unobstructed industrial road access between the two portions of the site south and north of the railroad.

2. The rail branch line track route should follow the western edge of this subarea as shown in Figure 11, and industrial loop road access should follow the eastern edge to maintain a safe and functional separation between rail and vehicular movements.

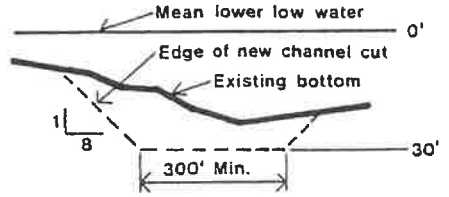
3. Connections between roads within the area and the main industrial road should be kept

at a safe distance north and south of the road and rail crossing.

4. Unless detailed site and engineering studies suggest other design approaches which would adequately accommodate a similar level of cargo handling, the following deep draft commercial berth provisions should be included in development proposals for this subarea:

   -A 600 to 1,200 foot long by 50 to 90 foot wide wharf. The longer wharf could accommodate two ships (at 600 feet long). Mooring dolphins could be constructed at roughly 100 feet from the ends of the wharf to secure long ships. The layout illustrated in Figure 11 follows the natural scouring path and thus would minimize initial and maintenance dredging.

   -Dredging of a new channel, connecting the site to the Sacramento River Ship Channel, and a new 900-foot diameter turning basin, as shown in Figure 11. For safe navigation, a depth of 30 feet below mean lower low water is recommended with maximum side slopes of 1:8 (probable minimum to prevent side collapse). Figure 12 illustrates a typical cross-section of the proposed channel.



Not to scale

FIGURE 12. NEW CHANNEL CROSS-SECTION

(Capital costs for such a facility are estimated at $5,830,000 to $10,880,000. The lower range is based on disposal of dredge materials on the adjoining lands and the higher range on disposal at the authorized Carquinez Strait aquatic disposal site).

DEVELOPMENT REQUIREMENTS

Industrial development which is allowable under the land use policies of this subarea should conform to the following development criteria:

1. Filling of low-lying lands designated in Figure 11 as "flat lowlands" is permissible for purposes of leveling and improvement of soil stability and site drainage. Disposal of dredge spoils from new ship channel construction to this site should be allowed here in order to make the site usable for industrial purposes and to reduce the cost of providing ship access to the site. Spoils deposits should be properly engineered to avoid problems with settlement and liquefaction.

2. An impervious dike should be constructed around the entire industrial area as indicated by Figure 11 to protect adjacent habitats from contamination and to protect the industrial use from flooding. All surface runoff (drainage) from the diked area should be retained and treated to acceptable federal, state and regional standards prior to discharge into either the Collinsville Inlet, surrounding marshes, or the Sacramento River.

3. Landscaping in the industrial area should be determined by the character of industry and the layout of the development. In certain cases, attempts to screen the main industrial structures from view will be inappropriate. The intent instead should be to emphasize the strong rectilinear forms of the industrial structures, letting these contrast with the surrounding land forms. In other cases it may be appropriate to fit and blend industrial structures into the surrounding landscape with

appropriate landscaping, such as groupings of columnar deciduous trees. Along the Collinsville inlet and the dikes adjoining the wetland areas, rows of columnar, deciduous trees such as Lombardy poplar may be planted as a visual screen to provide a transition in scale and demarcation from adjoining wetland habitat and commercial recreation areas.

4. The introduction of a noise-emitting industrial land use shall include noise mitigation measures which result in the following noise emissions maximums:

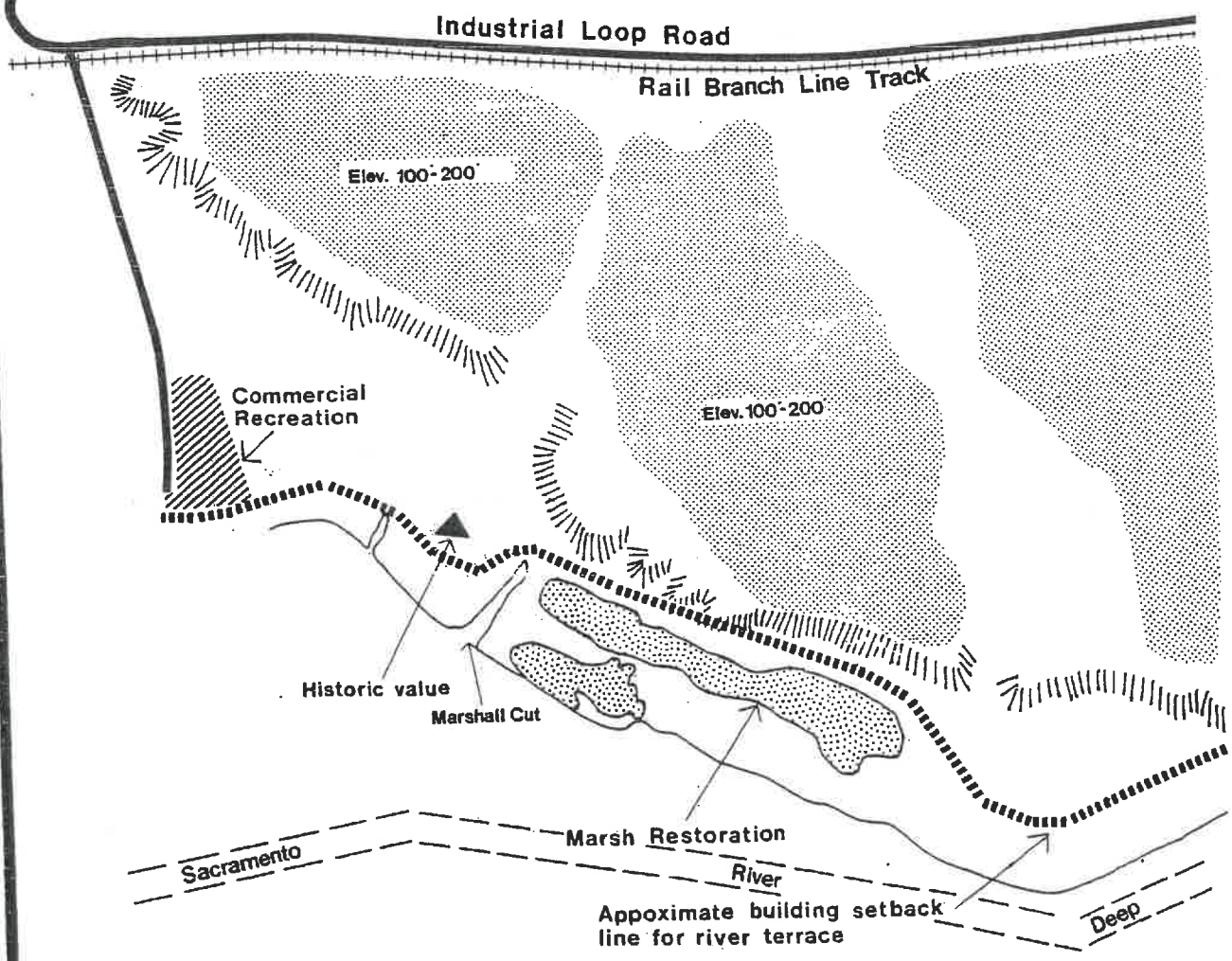
   -60 dBA (A-weighted) as measured at the western boundary of the industrial property.

   -60 dBA (A-weighted) as measured at the boundary of the nearby Collinsville commercial recreation area.

EASTERN INDUSTRIAL SUBAREA

The Eastern Industrial Subarea, as shown in Figure 13, includes the 5,470 acre area designated as water-dependent industrial (5-30% slope) and the 2,690 acre area designated as water-dependent industrial reserve. This makes a total of approximately 8,160 acres of waterfront uplands having potential for water-dependent industrial use. These lands are distinguished from those in the flat Western Industrial Subarea by their terrain and their closer proximity to the ship channel. The topography is dominated by the gently rolling grasslands of the Montezuma Hills. The depth from the shoreline ranges from 7,500 to 12,000 feet. Forty-seven percent of the area is in the 0-15 percent slope category, and 49 percent in the 16-30 percent category. Only four percent of the lands have slopes steeper than 30 percent. The shoreline is separated from the ship channel by distances varying from 100 to 220 feet.

The hilly areas are underlain by geology which has a relatively low incidence of slope failure. A few landslides are present within the hills and along the shoreline, but appear to have occurred in response to oversteepening of slopes by streams (in the hills) or by Sacramento River undercutting (on the shoreline), rather than by ground instability.


Industrial Loop Road
Rail Branch Line Track
Elev. 100'-200'
Commercial Recreation
Elev. 100'-200'
Historic value
Marshall Cut
Marsh Restoration
Sacramento
River
Deep
Appoximate building setback line for river terrace

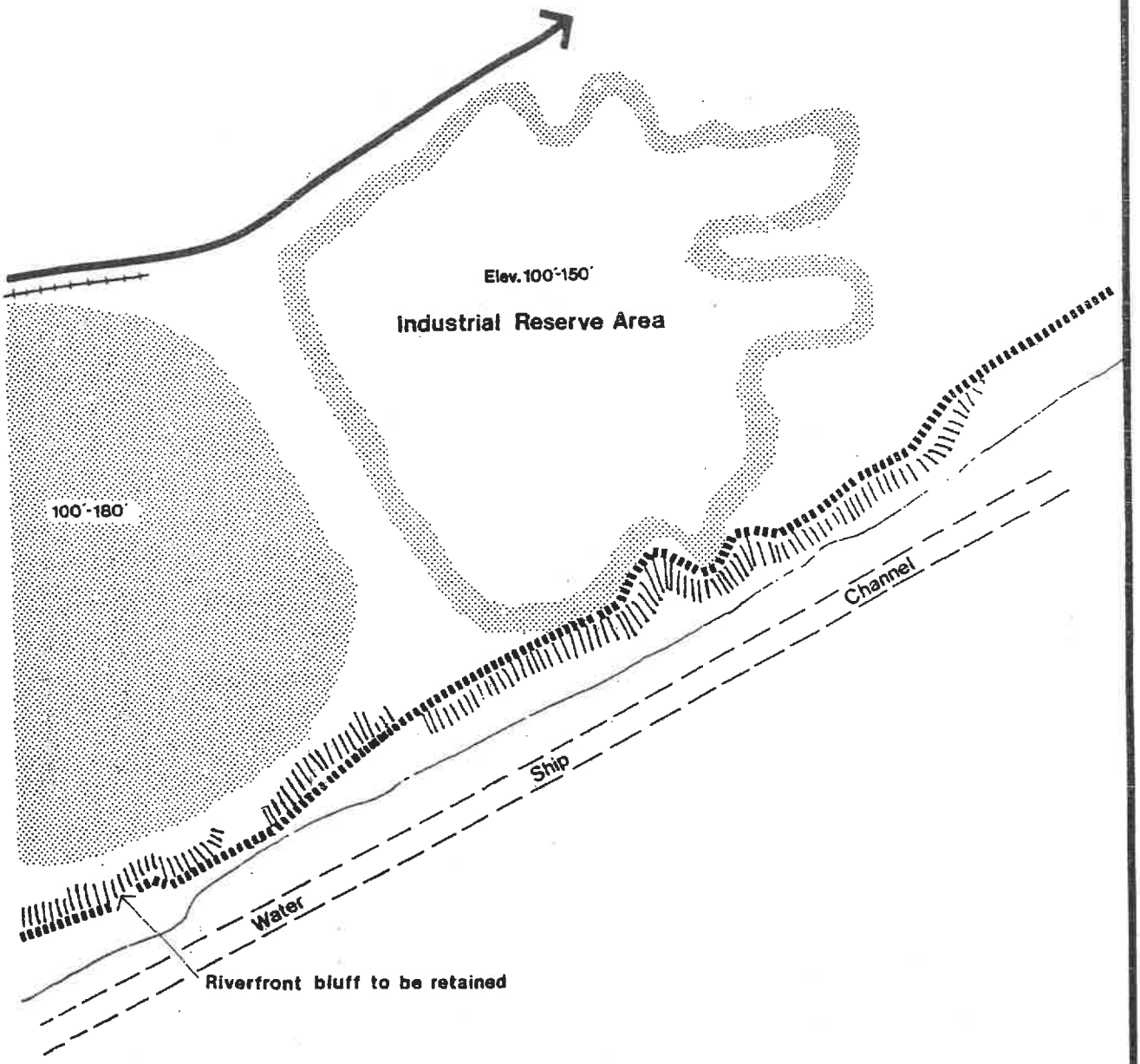


FIGURE 13
EASTERN INDUSTRIAL SUBAREA

Suggested terraced areas

Approximate building setback line

Unlike the hilly areas, the terraces and lower valleys near the shoreline of this subarea are characterized by problems of soil instability and flooding, and by pockets of wetland habitat. Roughly 1,420 acres or 17 percent of the area consists of these nearly level lowlands including river terraces and lower valleys, underlain by weak soils which have the same structural characteristics as described for similar lowland soils in the Western Industrial Subarea. In addition to the natural river deposits which account for these conditions, much of these flat lowlands are also scattered with uncompacted dredge spoils of sand and clay from the river and its tributary sloughs. These natural and fill soils have the same thickness characteristics as in the Western Industrial Subarea, and are prone to settlement and liquefaction. Much of these lowland areas are also subject to flooding with roughly 1,200 acres (15 percent) within the expected inundation area of a 100-year flood event.

The shoreline terrace is also interspersed with areas of permanent marsh, seasonal marsh, lowland grassland and delta riparian vegetation which provide habitat extensions for the Suisun Marsh system. Roughly 670 acres (8 percent) of this subarea is comprised of such wetland habitats.

The subarea includes all or portions of seven ownerships ranging in area of 479 to 2,766 acres within the designated boundary. Of the five holdings with river frontage, three are owned by industrial interests (PG&E, One Market Street Properties, Dow Chemical). In area, industrial interests own roughly 4,880 acres (59 percent) of this subarea.

Three thousand eight hundred ninety acres (47 percent) of the area are held in agricultural preserve under the terms of the California Land Conservation Act of 1965 (Williamson Act). Such agricultural preserve lands, under ten-year contracts with the County, must be devoted to agricultural and compatible uses until the owner files a notice of non-renewal or the Board of Supervisors cancels the contract under the guidelines of the act. In return, the owner benefits from reduced tax assessments based on the continuing agricultural use of his land.

LAND USE POLICIES

The primary land use designations in this subarea are water-dependent industry and water-dependent industrial reserve. As with the Western Industrial Subarea, the primary intent

is to reserve these lands for large-scale water-dependent industrial facilities. More specifically, this Eastern Industrial Subarea is reserved for those types of manufacturing or storage activities which meet related water-dependency criteria established in this plan.

The same planned unit development application requirements, road and rail siting and access criteria, parcelization limitations, and agricultural interim use provisions set forth for the Western Industrial Subarea should apply in this Eastern Industrial Subarea.

TRANSPORTATION POLICIES

All berth construction, marine cargo conveyance, railroad, road, and utility provisions associated with industrial use in this subarea should meet the following criteria:

1. The rail branch line track route along the northern boundary of this subarea should extend to the easternmost portion of the water-dependent industrial land use designation, as shown in Figure 5, to provide for service to long-range future development in adjoining industrial reserve lands to the east.

2. Rail branch line track access from the existing Sacramento Northern right-of-way to the westernmost portion of this subarea must come from the upper northwest side to avoid the disruption of industrial activity in the Collinsville area which would be associated with a shoreline branch line track.

3. Where private access roads to individual waterfront industries are connected to the loop road, crossing of the parallel rail route will be necessary. At all such crossings, a grade separation between road and rail should be provided when determined appropriate.

4. Berth facility construction should be limited to five shoreline locations. Under these consolidated berth arrangements, allowances must be made for the future addition of berths parallel to the shoreline to ensure that the ultimate development level of waterfront industrial designations can be served by ship

or barge. Provisions should include easements for pipeline or conveyor linkage from specified berth locations to adjoining upstream or downstream properties which are not directly contiguous to the designated berth areas.

5. Shoreline provisions may also include provision of public accessways (as described earlier in the Plan, under Areawide Land Use and Transportation Policies, Recreational Access) to ensure that future provision of public access is not preempted by industrial development.

DEVELOPMENT REQUIREMENTS

Industrial uses which are allowable under the land use policies of this subarea should conform to the following development criteria:

1. Site excavation for terracing and related road and rail construction should be done in a curvilinear manner which fits harmoniously into the existing land form. Transitions in topography should be smoothly made. Erosion impacts during construction should be minimized.

2. All permanent and seasonal marsh areas east of the Marshall Cut should be protected against adverse effects on their habitat value. Preemption of wetland areas west of the Marshall Cut may be permitted, provided that this habitat loss will be offset by maintenance of existing lowland areas east of the Marshall Cut or restoration of other wetlands.

3. A recommended "building setback line" is indicated in Figure 13. Its alignment is governed by identified shoreline habitat values and vulnerabilities. Additional exceptions to this habitat-protecting limitation may be made where necessary to maintain riparian rights.

4. Development in lowland areas (terraces and lowland valleys) will require site-specific engineering studies to determine foundation conditions and project feasibility. Where

heavy structures are proposed atop saturated soils, liquefaction potentials should be specifically addressed.

5. All surface runoff (drainage) from a developed industrial holding should be diverted, retained, and adequately treated to mitigate any industry related contamination, before being discharged into the Sacramento River.

6. The same design criteria for industrial structures set forth for the Western Industrial Subarea should also apply in this subarea.

COLLINSVILLE COMMERCIAL RECREATION SUBAREA

As shown in Figure 14, the Collinsville subarea encompasses roughly 120 acres of lowland grassland and includes the Collinsville Inlet and the old settlement of Collinsville. The Collinsville Inlet was used to serve a dockside sugar beet refinery and cattle stock yard with river barge access. These operations are now defunct. The settlement of Collinsville forms the terminal focus of Collinsville Road. Once a small fishing community, it is now exclusively single family residential with a number of vacant, dilapidated old homes which are remarkable for being built on piers several feet off the ground to avoid flooding waters. These structures are interspersed with vacant lots. Approximately 43 of these parcels are included in an area of less than 30 acres.

Shoreline portions of the Collinsville subarea, including the existing settlement of Collinsville, are interspersed with isolated pockets of permanent and seasonal marsh. These lowland shore areas are noted for their habitat values, susceptibility to flooding, and poor soil stability. On the other hand, all interior lands of the subarea are underlain by stable soils and are not in the flood plain (see Figure 2 and 3 of the Land Use Potential Analysis).

The Collinsville subarea has unique potentials for water-related recreational use due to its proximity to the Montezuma Slough and the convergence of the Sacramento and San Joaquin Rivers, and to the sheltering effects of Chain and Montezuma Islands from estuarine wave action. With the introduction of a primary loop road near the site for industrial purposes, regional access will be greatly improved, creating increased demands for water-oriented commercial recreation uses at this location.

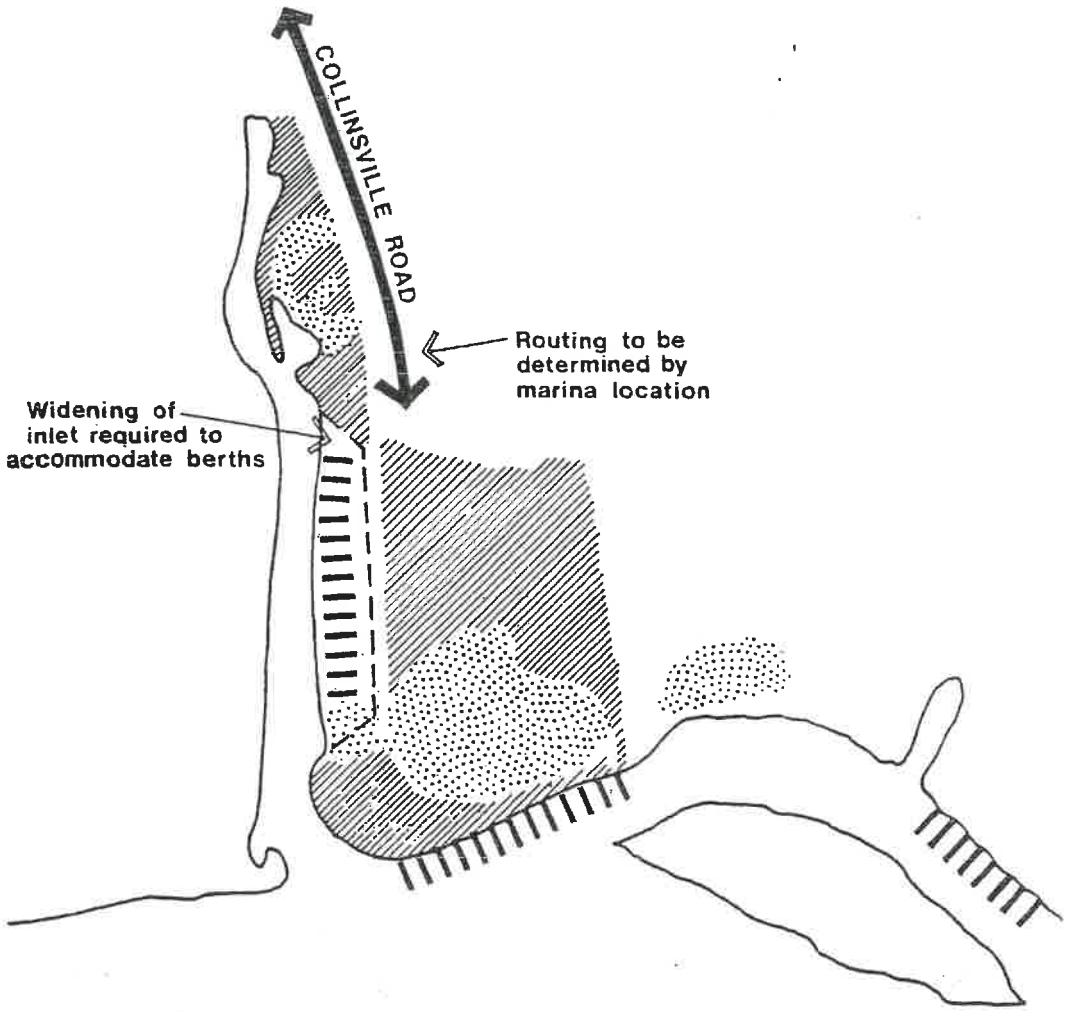


FIGURE 14
COLLINSVILLE SUBAREA

WETLANDS

COMMERCIAL RECREATION

ALTERNATIVE MARINA SITE

0 500' 1000'

Two of three possible alternative sites discussed in this plan for marina development are within the Collinsville commercial recreation subarea, and a third site at Collinsville Resort is one quarter mile to the east.

LAND USE POLICIES

Lands comprising the existing settlement of Collinsville should be designated to accommodate commercial recreation land uses. Increasing demands for such uses will focus here when construction of improved access roads is complete and if development of one of the possible marina sites becomes feasible. Water-oriented commercial recreation development and a nearby marina would be highly complementary land uses.

The area designated in Figure 14 for commercial recreation land uses should be reserved for small-scale, water-oriented development. In addition to a marina, specific uses permitted should include restaurants, commercial lodging, retail shops to serve recreational uses of the area, boat sales, a boat launching ramp, and facilities for boat construction and repair. Residential uses on previously platted parcels should be permissible, however, residential development should not foreclose potential commercial recreation uses and marina development.

TRANSPORTATION POLICIES

Of the three designated alternative marina locations, the preferred location, if it is found to be feasible in terms of dredging and channel maintenance costs, is the Collinsville Inlet. Advantages of this site include more direct road access, fewer conflicts with wetlands, good storm protection for boats, less land access interference with industrial activities, and closer proximity to complementary commercial recreation development.

Precise routing of necessary Collinsville Road improvements should await resolution of marina development plans.

Dedication provisions may be required in commercial shoreline development proposals to ensure the possibility of future public accessways to the waterfront.

DEVELOPMENT REQUIREMENTS

To the extent possible, existing pockets of wetland should be preserved through use of pile or pole types of construction. Such techniques will also promote continuation of the present and rather unique character of the settlement of Collinsville. Where elimination of wetland pockets is necessary to accommodate demands for commercial recreation uses, mitigation should be provided by the developer through assistance in the restoration of tidal action to lands in the Wetland Habitat Subarea which can become a more significant, integrated part of the Suisun Marsh system. Such offset marsh restoration could be done directly or by means of an in-lieu payment.

Small-scale, water-oriented commercial recreation development can be introduced here in a manner which is compatible with the character of the Collinsville settlement, with its vista of the Sacramento River, its residential uses, and the few abandoned structures that exist there. Retention and proliferation of the roadside facades which provide the focusing effect of Collinsville as an approach and gateway to the river should be encouraged.

AGRICULTURAL SUBAREA

As shown in Figure 5 and Table 2, lands designated for agricultural use comprise the major portion of the planning area and include 35,670 acres of existing agricultural use. Agricultural yields here represent an important segment of Solano County's total grain production. Nearly one third of the County's total field and vegetable crop acreage is in small grains. The lands specified herein for continued agricultural use constitute one of three major grain growing areas in the County. Since production processes in the planning area require relatively little upgrading of the ground, the site compares well with the County's other grain-growing areas on a yield per resource and dollar expended basis. (By 1980, because of energy costs and inflation, water prices are expected to quadruple from the present $20 per acre foot to more than $80 per acre foot.)

The area is also uniquely suitable for sheep raising, another resource-efficient process. Sheep do not require feed lotting and they produce both fiber and meat. Furthermore, the site is relatively free of the predators which elsewhere have contributed significantly to declines in U.S. sheep production.

In addition to production values, the existing character of these Montezuma Hills area dry-farmed lands represents a unique and important visual, open space, and historical asset to the Solano County landscape. The visual quality of these interior agricultural lands, i.e., their distinctly smooth, rolling grassland terrain, is highly vulnerable to disruption by development. The ridgelines of this landscape are particularly vulnerable to visual disruption by any land modification or construction.

LAND USE POLICIES

Current "extensive" agricultural uses of this area should be continued, protected, and fostered to ensure their long-term retention. Such protection is considered to be especially essential to those lands directly to the north of the industrial properties. Construction of road and rail facilities directly adjacent to agricultural lands may generate considerable pressure for development of such land; therefore, it must be recognized as an important responsibility of the County to ensure that industrial uses and assessments will not encroach upon designated long-term agricultural lands. Another important responsibility of the County and other permitting authorities will be to ensure that pollution from industrial sources is not allowed to harm the agricultural uses which take place in this area.

New construction of residences and other structures should be limited to those which are subordinate to an allowable agricultural use. Exceptions to this limitation would be appropriate for small parcels which are already platted at Birds Landing. Separate residential and commercial uses should be allowed on these clustered parcels on a conditional basis. Commercial uses should be limited to those serving either the agricultural or recreational needs of the area.

In order to ensure the continued economic viability of extensive agriculture practices, future land subdivision should be controlled to retain large parcel sizes. Current "A-160" zoning of the majority of the agricultural subarea is appropriate for existing dryland farming techniques and should be retained and supported.

Certain passive recreational activities are permissible in the northwest portion of the designated agricultural area west of Shiloh Road and south of Little Honker Bay Road. A number of open space recreational values are localized

here including wetland habitats and opportunities for Suisun Marsh overlooks and Montezuma Slough oriented activities (boat launching, etc.). Recreational improvements should be encouraged but should be limited to wildlife observation/ interpretation activities, boat launching facilities and necessary off-road parking. Lands within this area should be managed by landowners and used in a manner which is compatible with the concurrent continuation of their existing agricultural use.

The principal riparian habitats of the agricultural area should be protected against adverse effects associated with farming activities. In particular, adverse water quality and habitat impacts on the Sacramento River, Montezuma Slough, and Suisun Marsh must be avoided. Special attention should be given to the prevention of contamination of the Clank Hollow, Lucol Hollow, Hopkins Ravine, Toland Lane and other similar drainages. These drainages must be protected from runoff contamination by pesticides, fertilizers, and other agricultural materials and the resulting damage to downstream wetland habitats. Thus, no intensive agricultural uses should be permitted in these drainages unless measures are taken which will ensure against such contamination.

TRANSPORTATION POLICIES

All designated farm service roads in the area should be maintained at a standard sufficient to adequately accommodate agricultural uses. Where an existing local road is disrupted by specified new railroad or industrial road alignments, provision should be made as necessary for maintaining existing farm access, such as paved or unpaved frontage roads. (Farm service road standards and frontage road provisions are further described in the preceeding section entitled, Areawide Land Use And Transportation Policies.)

Along industrial roads, farm service roads, and the railroad branch line track, there is a high risk of traffic-related grassfire ignition, particularly in the dry, warm and windy fall and summer months. Thus, fire preventive buffers should be maintained along all such routes by discing and plowing, particularly during the fire season. Similarly, farm residences and associated structures should be protected against grassfire damage by the maintenance of cultivated fuel breaks around such buildings and farm compounds during high fire risk periods.

CHAPTER III
IMPLEMENTATION

Achieving the Plan's threefold objectives of providing for the region's water-dependent industrial needs, protecting the area's valuable wetlands, and safeguarding agricultural lands, requires an innovative and aggressive implementation program utilizing a broad range of available powers and resources. It also demands a high degree of cooperation and coordination among public agencies. Outlined below are the programs necessary for carrying out the Plan.

Planning and Regulatory Steps

GENERAL PLAN AMENDMENTS

Following acceptance of the Collinsville-Montezuma Hills Plan, the County General Plan should be amended to incorporate its policies and provisions. For simplicity, it is recommended that the entire Collinsville-Montezuma Hills Area Plan be included in the general plan by reference. A brief summation of major policies can be incorporated into the text description of the various general plan elements, such as open space, conservation and land use. The general plan maps should be revised to reflect shifts in land allocation contained in this area plan.

REZONING

At present, the Collinsville-Montezuma Hills are zoned in two classifications. The majority of the area is zoned A-160, which permits agricultural parcels of 160 acres or more in area. An additional 3,584 acres are zoned General Manufacturing (MG-3), which permits division of the land into industrial parcels as small as 3 acres in size and allows virtually any type of industrial use. Areas zoned in this classification are the National Steel/Southern Pacific property along the western portion of the area (3,286 acres), and the PG&E property near Marshall Cut (298 acres). This area of allowable industrial use is reduced considerably, however, by the Suisun Marsh Protection Plan which designates 2,010 acres of the current National Steel/Southern Pacific MG-3 properties for primary wetland protection. Thus, approximately 1,574 acres of allowable industrial use (MG-3) currently remains.

To bring zoning into consistency with this Collinsville-Montezuma area General Plan Amendment as required by State planning law, the following zoning action should be undertaken:

1. Establish a new water-dependent industrial zone and apply it to industrially designated areas. The zone provisions should incorporate the definitions of water-dependency, related plan provisions including minimum parcel size, and requirements for use of the planned development application procedures. The zone should also provide for setback requirements along the boundary of the industrial area to serve as a buffer between agricultural lands and industrial development.

2. Establish a new waterfront commercial recreation zone and apply it to the commercially designated lands at Collinsville. This zone should allow the uses specified in the plan and provide additional floor space, siting and parking standards.

DEDICATION REQUIREMENTS

Before or at the time of development of land for industrial

purposes, dedication of property rights should be required in the following situations:

1. As a condition of approval for construction of berth facilities along the riverfront, dedication of easements should be required for constructing pipeline or conveyer connections to shoreline industrial properties that are not contiguous to the designated berth locations.

2. Dedication of a public accessway easement shall be considered before or at the time of development and may be required by the County for access to the riverfront.

3. If a property owner so desires, wetland areas designated for preservation may be dedicated to an appropriate party to assure proper management of these areas in conjunction with the adjoining Suisun Marsh.

4. Land should be provided near each deep-draft berthing area to contain material dredged during initial construction and during future maintenance of the berthing areas.

Staging of Improvements

The major public improvement required to make development of water-dependent industry feasible is construction of the industrial road system described in the plan. (The provision of improved rail access would be undertaken as a private venture by the railroads and the industrial developers.) The remoteness of the site from major highways necessitates construction of 21 miles of industrial loop road at an estimated cost of $7,600,000 to serve the industrially designated lands. Due to the size and weight of construction equipment required for development of industrial facilities, that portion of the road network required by each facility must be provided prior to its initial construction period.

No attempt has been made to establish a site-specific sequence for private development actions in order to avoid creating a monopolistic land situation. Nevertheless, the sequencing and financing arrangements set forth in the following section tend to favor development taking place initially in the more accessible western portion.

Figure 15 identifies major road segments. Segments A-B and B-C must be provided as a condition for any industrial development in the area. If marina development occurs prior to industrial development, construction of segments A-B and B-C would not be required until the development includes 100 berths plus related motel and restaurant facilities or 200 berths without additional commercial uses. Construction of segments C-D, D-E, E-F, F-G, and G-H, the connecting links between the Collinsville Road and Highway 12 near Rio Vista would be required as a condition for development of industrial land served by segment D-E or when the permanent work force in the planning area reaches 2,000 employees or approximately 1,600 vehicle trips per day. Required construction of segment C-I depends solely on the construction of a marina and other commercial recreation facilities at Collinsville.

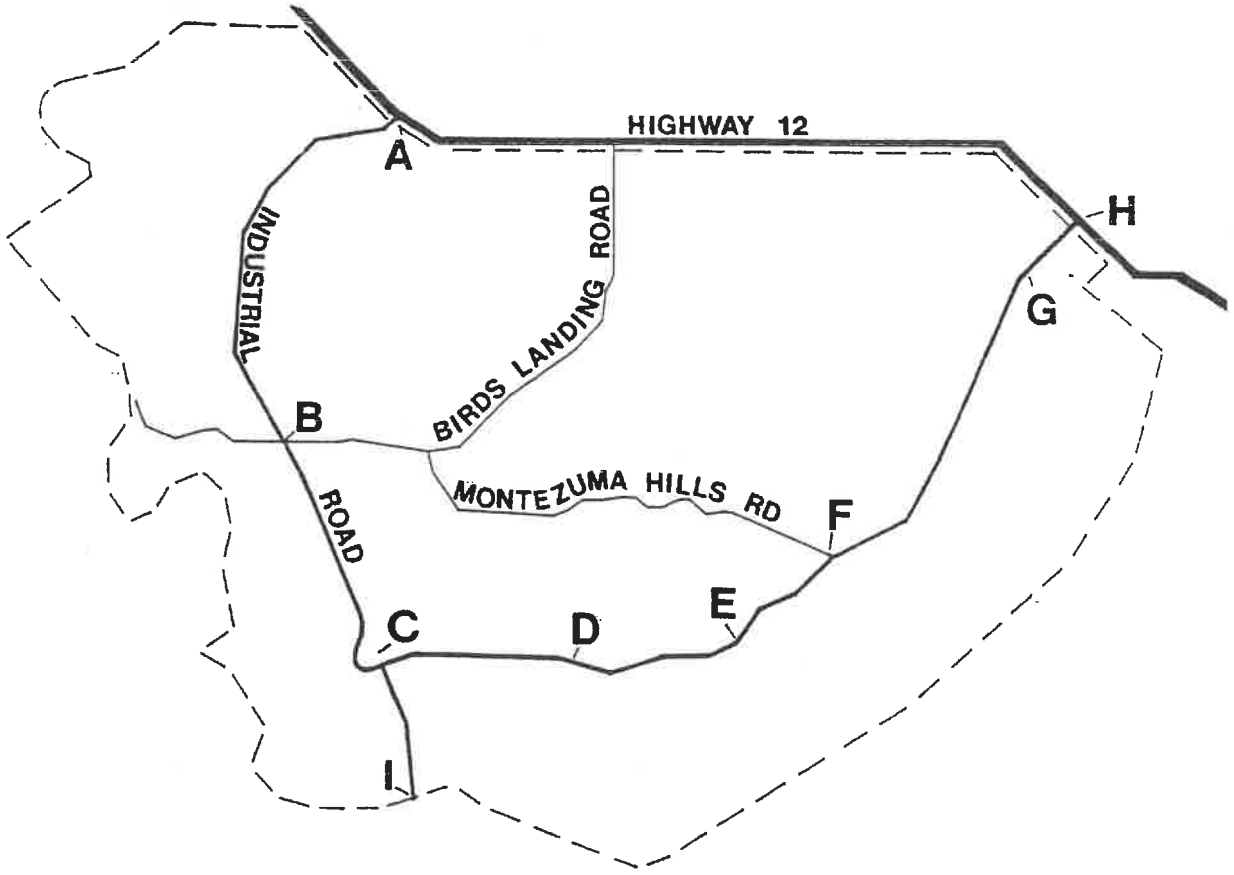


FIGURE 15

ROAD SYSTEM COMPONENTS

Financing Programs

ROAD CONSTRUCTION

Two alternative approaches can be taken to financing major road improvements. The first alternative would use, either directly or indirectly, tax revenues produced by industrial development within the planning area to partially or totally finance road improvement costs. The second alternative would require that all costs be paid by developments within the planning area directly benefited by the road improvements. Table 3 shows approximate costs for the roadway segments and intersections identified in Figure 15. The Board of Supervisors will need to determine which policy is more in the public interest.

Arguments favoring total financing by future industrial developers are: (a) the tax benefits produced should be used to improve public facilities and services throughout the County while also reducing property taxes throughout the County, and (b) the intent is not to promote industrial use, but rather to allow it if necessary for the region's economic benefit. The counter arguments favoring shared public/private responsibility for road improvement costs are: (a) it is in the region's economic interest to attract water-dependent industries that might locate in other regions or states, and (b) the percent of tax revenues allocated to this purpose would represent only a small percent of the total tax revenues produced by the new industries. For example, estimated capital investment by industries in the area ranges from $250 million for a single plant up to $4 billion for full development of the designated industrial sites.

Major methods for financing the road improvements are summarized below.

1. Advance payments of property taxes. Under this approach, the industry would advance sufficient monies to the County to finance construction of the required roads. (Similar

TABLE 3

COST ESTIMATES FOR PROPOSED ROAD IMPROVEMENTS

Roadway Section or Intersection	Length in Feet	Cross Section (Ft)		Constr. Cost ($)	R.O.W. Cost ($)	TOTAL ($)
		R.O.W.	Roadway			
A-B	26,400	80	40	1,530,000	32,000	1,562,000
B-C	15,400	80	40	962,500	42,500	1,005,000
C-D	12,000	225	40	574,000	102,000*	676,000
D-E	12,000	225	40	794,000	124,000*	918,000
E-F	7,400	225	40	490,000	57,000**	547,000
F-G	29,000	80	40	1,818,000	32,000	1,850,000
G-H	8,500	66	40	400,000	0	400,000
A	--	--	--	300,000	--	300,000
B	--	--	--	50,000	--	50,000
C	--	--	--	50,000	--	50,000
H	--	--	--	250,000	--	250,000
TOTALS	110,700			7,218,500	389,500	7,608,000

* includes $70,000 in R.O.W. to be dedicated to rail corridor.
** includes $43,000 in R.O.W. to be dedicated to rail corridor.

payments could also be made to other affected local agencies such as school districts which might experience short-term fiscal problems during the construction phase.) All or a portion of these monies would then be repaid from future tax revenues. In some cases, such an approach may require legislation to allow this type of pre-payment of tax monies.

If a portion of the construction costs is assigned to the industrial developer, equity problems could be created if the initial developer has to bear costs associated with the entire road system. Conversely, this could provide an incentive for an industrialist to initiate development in the more accessible western portion to avoid additional road costs.

2. County service district. Use of the County service district mechanism would permit the entire road construction cost to be allocated to industrial developers. Under this approach the site of the initial development would be designated as a County service district, and an assessment would be made on land and improvements to finance the required road construction. Subsequent industrial developers would be required to annex to the service district and pay an annexation fee sufficient to pay their fair share of the construction costs.

3. Reimbursement district. Under Articles 5 and 6 of the Subdivision Map Act, as amended January 1, 1977, fees can be collected to cover the cost of public improvements including roads, bridges, drainage facilities and sanitary sewer facilities. Under these provisions the County could enter into an agreement with the initial developer to reimburse him for that portion of the road improvement costs equal to the difference between the amount it would have cost the developer to install improvements to serve his property only and the actual cost of such improvements. The County would then reimburse the developer by levying a charge on real property also benefited or by establishing and maintaining a local benefit district to levy and collect

charges or costs from other benefited properties. It appears possible under this approach to defer payment of the charges or costs by other benefited properties until the property is developed.

None of these approaches would discourage interim agricultural use of other industrially designated lands because under the advance payment approach no charges would be levied and under the County service district and reimbursement district, the levies could be deferred until the actual time of industrial development. (See later section on property taxation for further discussion of problems of interim agricultural use in areas designated for industrial development.)

To encourage development of more accessible portions of the industrially designated lands, and also to avoid premature disruption of agricultural uses in the eastern portion financing incentives might be provided. Under this approach, the County would agree to share a portion of the road construction cost if development takes place initially in the western portion of the planning area. The initial industrial developers would benefit in two ways: the total road system required would be less, and this cost would be shared with the County. Conversely, a developer electing to develop initially in the eastern portion would need to provide the complete road system and would not received County funding assistance.

TRANSIT SERVICE

The plan calls for provision of transit services, developed in a staged program of improved service corresponding with increases in the concentration of new employment. Two financing approaches should be considered. The first consists of forming a transit service district comprised solely of industrially and commercially designated properties in the planning area. The district would have the responsibility of providing transit service for employees either by van or bus service. The local district would have the possible advantage of better service at lower cost than if each industry provided these services independently.

The second approach consists of establishing a County-wide transit district. It could take advantage of the increased tax base of the area's industrial and commercial properties.

The advantages of this option are provision of more comprehensive and coordinated service, improvement of transit service for all urbanized portions of the County, and a favorable ratio of tax to service produced for residential property owners because the industrial properties would contribute a major share of the needed tax revenues. All County jurisdictions would benefit from this approach.

Property Taxation

Two property tax problems are created by industrial development in the Collinsville-Montezuma Hills area. The first affects present property owners of industrially designated property who wish to continue to use their land for agricultural purposes. The second affects communities that will provide public services for the population generated by industrial development. Both of these problems are discussed and possible remedies are presented.

PROPERTY TAX ASSESSMENT PROGRAM

Within the area, the value of land not subject to the Williamson Act can be expected to increase substantially upon its designation for industrial use. Landowners not subject to a contract will be under pressure to convert their land to more intensive use or to enter into a Williamson Act contract. This may cause farmers to sell their land and get out of agriculture sooner than they would have. It will cause a cash flow burden for any landowner who is waiting for a suitable water-related development project to be proposed and approved.

In the past, the Williamson Act has sometimes been used as the solution for this situation. However, use of the Williamson Act presents some serious problems. Among them are:

- -The cancellation fee may not (and usually does not) have any relation to the benefit received by the landowner. The landowner may receive a substantial windfall at the expense of the general public.

- -The use of the Williamson Act in this situation destroys public confidence in the ability of the Act to protect agricultural land and undermines the Act's effectiveness.

-The reduction in tax revenue may be more than the local government can afford to absorb.

-The use of the Act in this way jeopardizes the continued funding for open space subventions to cities and counties because the State claims that State money is being spent in ways that do not achieve the objectives of the Act.

-The need for the local government to make findings for cancellation and the possibility that those findings will be challenged causes uncertainty for the landowner. Nonrenewal of the contract is usually not an appropriate approach because of the need to nonrenew nine years before development can occur.

In order to remedy this problem, a new property tax assessment program could be developed for the land in question. The justification for this program is the public's interest in retaining agricultural and open space values, as long as possible, but also ensuring reservation of lands for use in industrial development critical to the region's long-term economic future. In general, the new program would permit the County to designate areas where it would be willing to enter into development contracts that would result in reduced tax assessments for the landowner until an industrial development is approved for the land. At that time, the landowner would pay a development fee that is related to the tax benefits received while subject to the development contract. State enabling legislation would be required.

This program could be restricted to the area in question or could be made available to other areas within the State. Careful drafting of the legislation is necessary to insure that the program would not be abused.

The program would have the following objectives:

-Permit interim agricultural and open space use of the land.

-Permit agricultural owner-operators to retain their land until development which is in the public interest takes place.

-Encourage orderly and efficient development of the land.

-Permit the Williamson Act to be used as an agricultural lands preservation bill as intended.

Program Outline

The details of such a program would have to be refined. However, the following outline is presented for discussion:

-The land must be on a development plan map approved by ABAG or OPR as land of regional industrial significance.

-A development contract would be issued by the local government but would require approval by OPR.

-Termination of the contract would be approved by the local government subject to findings that the proposed development is consistent with the adopted development plan.

-The land under contract may be used only for future industrial uses.

-The land would be placed in a zone that permits agricultural uses but that is reserved for future industrial uses. Upon termination of the contract, the land may be used for industrial uses.

-The contract would not be available on SCS Class I or Class II soils unless approved by the Secretary of the Resources Agency.

-A contract would not be available on parcels of less than 20 acres.

-The local government would set the assessment formula in the contract. The assessment would be based on the use value of the land. The land would be assessed at no less than 115% of the value determined pursuant to Section 423 of the Revenue and Taxation Code and no more than fair market value.

-Upon termination of the contract, the landowner would pay a development fee based upon the length of time under contract and the tax benefit.

-The State would provide no open space subventions.

-The development fee would go to the local government except for that portion which is required to reimburse the State for any extra payments made to school districts as a result of the existence of the development contract.

-Land eligible for a development contract would not be eligible for a Williamson Act contract.

Development Review Process

An important intent of the Collinsville-Montezuma Hills Plan is to reserve the few remaining larger scale vacant sites in the Bay Region with deep water access and use them when appropriate for region-benefiting industrial development. This feature makes it quite unlike most other local government plans. The plan has therefore, been drafted to make clear Solano County's policy regarding industrial use within the Collinsville-Montezuma Hills area and to provide guidance under which such development may be permitted.

Before development can take place, however, there are numerous other approvals which must be granted by other public agencies, due to both the nature of the proposed industries and the site's unique characteristics. For example, approval of berth facilities falls within the jurisdiction of the U.S. Army Corps of Engineers and the State Lands Commission and also involves review by the State Department of Fish and Game and the U.S. Fish and Wildlife Service. Use of the river for water intake or discharge purposes can require review or approvals by the U.S. Army Corps of Engineers, the State Water Resources Board, the Regional Water Quality Control Board, State Department of Fish and Game, and the U.S. Department of Fish and Wildlife. Other agencies involved in possible review procedures or approvals may include the San Francisco Bay Conservation and Development Commission, the State Energy Commission, and a number of other State and Federal agencies. It is imperative then, that an orderly and expeditious process be established for considering future development applications.

To promote an expeditious and efficient approach, a seven-step review process is suggested. The purposes of this process are: (a) to ensure the integration of the planning and environmental assessment process; (b) to provide for input and review by concerned agencies at appropriate points in the development planning process; (c) to reduce both private and public cost by expediting the planning and review process and by establishing a series of check points during the review process; and (d) to clarify and integrate the decision-making role of involved public agencies.

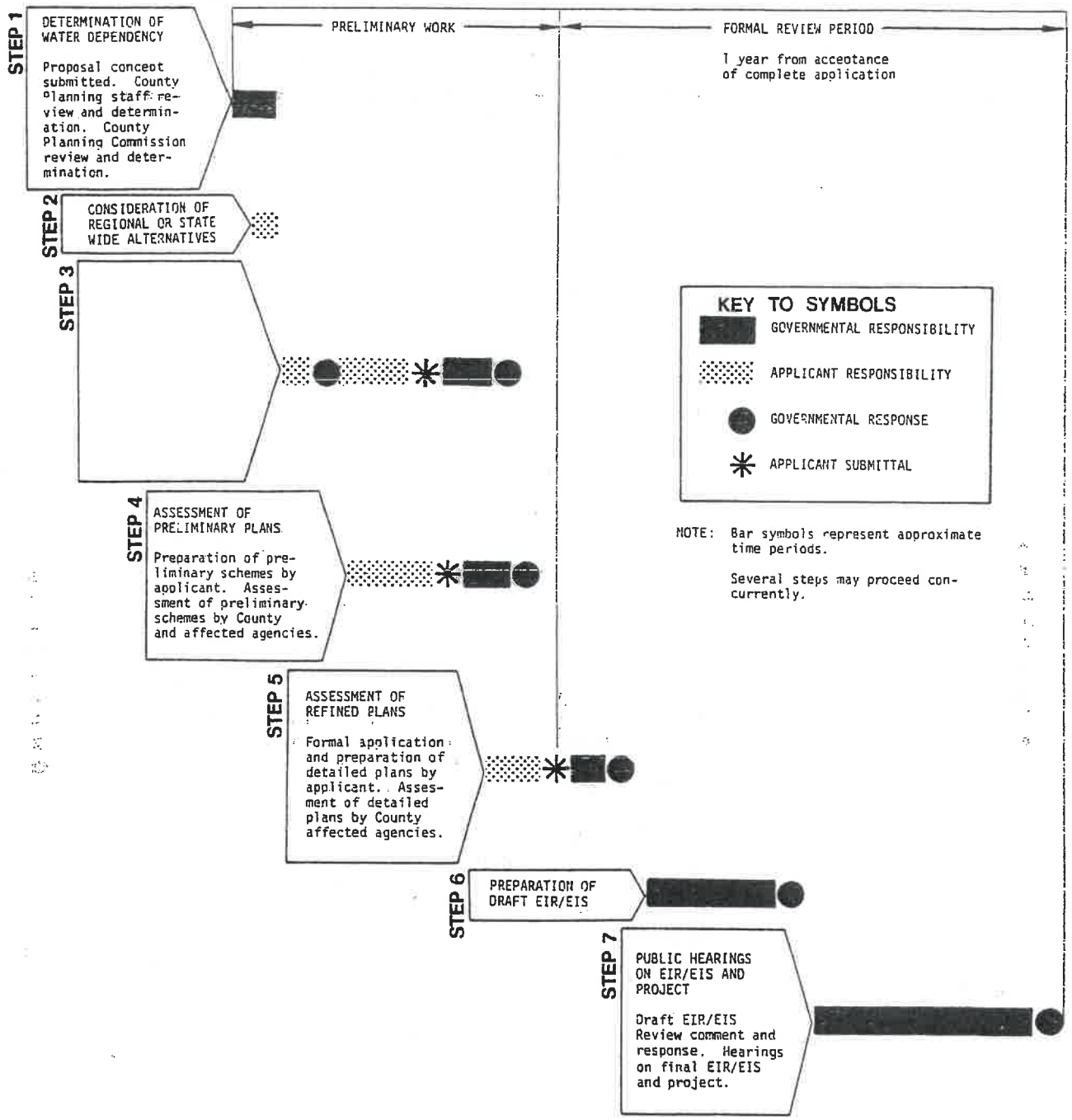
The recommended process integrates the requirements of the California Environmental Quality Act (EIR) and the National Environmental Protection Act (EIS) into the planning process. It provides that review activities are coordinated by the Lead Agency. It is also consistent with the recent state legislative efforts to correct deficiencies in the review of major industrial projects as provided in Title 7, Division 1, Chapter 4.5 Review and Approval of Development Projects (AB 884).

The seven steps as outlined on Figure 16 are: (1) determination of water-dependency; (2) consideration of regional or statewide alternatives; (3) preparation of existing conditions data; (4) assessment of preliminary facility plans; (5) assessment of refined facility plans; (6) preparation of the draft EIR/EIS; and (7) public hearings on EIR/EIS and project.

This review process offers a number of advantages over the present system. First, it starts the review process in tandem with the applicant's planning and design process, helping to reduce the overall duration of the process. Second, by providing for successive submittal and review steps, early communication is established among all the involved parties, thus promoting a collaborative rather than adversary working relationship. Third, the applicant is protected from over-committing resources to a project that might not be acceptable by including a series of decision check points in the review process at which he is fully informed of the project's status. Fourth, the process provides for interim responses by the reviewing or permitting agencies at several points, thereby identifying and focusing efforts on remaining critical issues. This also has the advantage of breaking down the decision-making process into more easily identifiable parts and allows for improved public understanding and participation.

No specific timing recommendations are included in the suggested review process. However, it is anticipated that guidelines set forth under state law will be met. Under these provisions local and state agencies must render a decision on the project within one year of acceptance of the formal application as complete. Under the suggested review process, it is anticipated that the formal application will be made during Step 5, Assessment of Refined Facility Plan. Some of the suggested procedures rely upon the good faith efforts of affected agencies in order to make the process work. It must be recognized also that a number of unforeseen events can occur in any review process. Therefore, the recommended procedure must be viewed as advisory and not as a procedure which must be adhered to by all participants.

FIG. 16 DEVELOPMENT REVIEW PROCESS



The seven suggested review procedure steps are as follow:

Step 1. Determination of Water-Dependency. Prior to preparation of preliminary plans and collection of environmental data, a prospective developer would submit a letter of intent to the County including a description of the intended project and a documentation of its water-dependences. The County Planning Commission, using the water-dependencies criteria set forth in the Collinsville-Montezuma Hills Plan, would review the applicant's materials and make a determination whether the use meets the water-dependency requirements. A public hearing would be necessary at this point and a decision required following submittal of the County staff findings. The staff may determine within several weeks following application that the applicant's supporting information is not sufficient to make a finding and request specific additional information. A finding would then be made by the Planning Commission based upon the applicant's submittal of supplementary material.

Step 2. Consideration of Regional or Statewide Alternatives. A project found to meet the water-dependency criteria would be referred to the appropriate regional and state agencies to determine if there are reasonable alternative sites. This step would help provide for the consideration of alternatives required by state and federal environmental assessment legislation by assigning the task of identifying alternatives to the governmental entities whose geographical jurisdictions enable such an analysis. It would then be the requirement of the applicant to undertake, where appropriate, analysis of these alternative sites. Findings that alternative sites exist elsewhere which might be more in the public interest, could also be taken into consideration by other permitting agencies in subsequent steps.

Step 3. Preparation of Existing Conditions Data. Both state and federal environmental assessment procedures require the documentation of existing conditions to provide a baseline against which to compare the effects of the proposed action. It is important that this step be undertaken prior to the preparation of preliminary facility plans so that environmental constraints can be considered in the siting and facility design process. It is recommended, therefore, that upon a formal request by the applicant, agencies involved in the review and permitting process would provide the applicant with the following materials:

- -A list of the types of impacts that must be considered. In the case of the County, the environmental impact report prepared for the Collinsville-Montezuma Hills Plan would serve as a master EIR and its findings on growth inducement, off-site traffic, housing, public service, and fiscal impacts need not be re-analyzed unless the project is expected to produce a level of employment, traffic or capital investment varying substantially from that assumed in the Plan EIR or unless other major changes have occurred in off-site conditions since the preparation of the Plan EIR.

- -The types and level of baseline data required to meet EIR and EIS requirements or to provide a sufficient basis for subsequent permit decisions.

- -The type and level of siting and facility design information needed in Steps 4 and 5.

- -A bibliography of relevant data sources.

The County would have the responsibility of notifying and coordinating the responses from local, regional, state and federal agencies.

Following compilation of existing data by the applicant, the materials would be submitted to the County which, in turn, would submit these materials to local, regional, state and federal agencies. A concurrent review would be undertaken to determine the completeness and accuracy of the submitted materials. The applicant would be notified if the baseline data is or is not adequate and in conformity with the initial request. When the information submitted is found to be either incomplete or inaccurate, the reviewing agency would provide the applicant with a specific description of the inadequacies.

The applicant would have the option of completing the compilation of existing conditions data and requesting a review by affected agencies before proceeding to the next step or could elect to undertake these efforts concurrently with Step 4 studies.

Step 4. Preparation and Assessment of the Preliminary Facility Plans. The applicant would prepare a preliminary facility plan in sufficient detail to allow for assessment of siting and overall facility design. The intent of Step 4 is to permit resolution of site-related issues such as preemption of natural resources areas, road and other utility siting and design, provision of easements, and location of facilities within publicly-owned land or water areas, or analysis of off-site issues such as traffic generation and transport of hazardous cargoes.

The applicant would have the option of preparing and submitting the types of more refined impact information required in Step 5 if he or she wishes to obtain earlier resolution of a particular issue such as air pollution effects.

The impact analysis would be undertaken concurrently by the County and appropriate state agencies. Agencies can elect to have the impact assessment or portions

thereof undertaken by an independent party or to rely upon the staff expertise of the responsible agencies. At this point in the process, the applicant would be informed of the assessment findings by the various agencies. This communication would not constitute either approval or disapproval of the applicant's plans, but would state whether major problems exist and set forth mitigation actions to be considered.

It is the intent that impact issues relating to facility siting and transportation could be resolved at this point. For example, there should be sufficient information for assessment of impacts of concern to such agencies as the State Department of Fish and Game, the U.S. Fish and Wildlife Service, the State Lands Commission, Caltrans, U.S. Coast Guard and the U.S. Army Corps of Engineers.

In this way, the applicant would be informally appraised of the project's status and thus, in turn, would know what issues had been resolved and could then focus subsequent analysis on the remaining critical issues.

Step 5. Assessment of Refined Facility Plans. Following Step 4, the applicant would refine the facility plan incorporating changes determined to be necessary in the initial impact assessment and submit a formal application for entitlements. This action would commence the one year review period pursuant to AB 884. The plan would now be refined enough for the final impact assessment. For example, the applicant might be required to submit engineering specifications for plant equipment and related air emission control provisions. As in Step 4, the analysis could be undertaken by an independent party under contract to the affected agencies or by staff. It is likely that some combination of these two would be necessary. Agencies having responsibility for approval of required

permits or with review powers should be requested to have their final staff finding ready at this time.

Step 6. Preparation of Draft EIR/EIS. The information gathered in the previous steps would be compiled by the County into a format complying with the State EIR and federal EIS requirements.

Step 7. Public Hearings on EIR/EIS and Project. Following release of the EIR/EIS the normal review, response and decision procedures would be followed. Comments would be received on the draft; further refinements might be made to the facility plan as a result of these comments; and responses to comments received would be prepared and distributed. Hearings on the final EIR/EIS would be held along with hearings on the project and a decision would be reached.

Required hearings for regional, state and federal permits would be handled most efficiently in a joint hearing with the Office of Planning and Research serving as the coordinating agency.

APPENDIX A
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APPENDIX B
COLLINSVILLE-MONTEZUMA HILLS AREA PLAN ADVISORY COMMITTEE

Clayne E. Munk, Project Director
Tom Cooke, Consultant, Sedway/Cooke

LOCAL AGENCIES

Solano County

Larry Asera, Board of Supervisors
Richard Brann, Board of Supervisors
Thomas Hannigan, Board of Supervisors
Stan Anderson, Planning Commissioner
Jan Stewart, Planning Commissioner
Bob Biffel, Transportation Council
Albert Cardoza, Sheriff
David Hubbell, Plannning Department
Dean Kastens, Parks Department
Eugene Knapp, Public Works Department
Richard Lawley, Agricultural Commissioner
Norm Repanich, Industrial Development Agency
Gil Richardson, Fire Warden
Albert T. Vervais, Environmental Health

Cities

Bob Bounds, City of Suisun City
John Brann, Rio Vista Ad Hoc Planning Committee
Don Foster, City of Vacaville
Ben Huber, Councilman, City of Fairfield
Jack Meline, City of Dixon
Milt Wallace, Mayor, City of Rio Vista

Other Local Agencies

William Coon, Suisun Resource Conservation District
Neil Hamilton, River Delta Unified School District
Percy Haugen, Fairfield-Suisun Unified School District
Embree Mezger, Solano County Mosquito Abatement District
Mary K. Robinson, Contra Costa County Planning Department
Stan Simi, Montezuma Fire District

REGIONAL AGENCIES

John T. Christian, Sacramento-Yolo Port District
Corrine Goodrich, Metropolitan Transportation Commission
Bruce E. Jones, Sacramento Regional Area Planning Commission
James A. Koslow, Yolo-Solano Air Pollution Control District
Ralph Mead, Bay Area Air Pollution Control District

STATE AGENCIES

Dick Atlee, Lands Commission
Dr. W. James Barry, Department of Parks and Recreation
Jeffry Blanchfield, San Francisco Bay Conservation and Development Commission
Susan Brown, Office of Planning and Research
Bill Felts, Department of Navigation and Ocean Development
Don Finlayson, Department of Water Resources, Central Division
John Gibson, Air Resources Board
Frank Goodson, Resources Agency
Dennis Heiman, Water Resources Control Board
Griffith Johnston, Regional Water Quality Control Board, San Francisco Bay Region
Harry Krade, Department of Food and Agriculture
Steve Macauley, Regional Water Quality Control Board, Central Valley Region

John Parrish, Department of Fish and Game
Laine Sevy, CALTRANS, District 10

FEDERAL AGENCIES

Ronald D. Edwards, Soil Conservation Service
E. R. Schleiger, Army Corps of Engineers

INTEREST GROUPS

Calvin Anderson, Solano County Farm Bureau
Dan Chapin, California Waterfowl Association
Adey May Dunnell, Citizens for Open Space
John Gehan, Solano County Taxpayers Association
C. Thomas Hosley, Vallejo Yacht Club
Cynthia Kay, Sierra Club
Cheryl Kleinschmidt, League of Women Voters for South Solano County
Gary Lazdowski, Rio Vista Chamber of Commerce
Robert H. Rice, Davis Audubon Society
Angelo J. Siracusa, The Bay Area Council, Inc.
Ray Van Arnam, Save San Francisco Bay Association

LOCAL CITIZENRY AND PROPERTY OWNERS

Clare Anderson, Landowner
Mr. and Mrs. Ed Anderson, Landowners
Irwin Anderson, Landowner
William Blacklock, Landowner
D. T. Daggett, Southern Pacific Industrial Development Company
Mr. and Mrs. Clifford Dana, Landowners
Robert Dozier, Landower
Richard Emigh, Landower
William Emmington, Landowner
Alan Freese, Landowner
Thomas R. Gillet, Western Pacific Railroad Company
Virginia Hale, Landowner
Hamilton Brothers, Landowners
Herb Kandel, ARCO Chemical Company
Leutholz Brothers, Landowners

Frank Marianno, Landowner
Dexter Mayhood, Landowner
D. H. McCormack, Landowner
Wallace McCormack, Landowner
Larry McLaughlin, Pacific Gas and Electric Company
Ted Nilsen, National Steel Corporation
Mel Paolini, Landowner
R. E. Perry, Dow Chemical U.S.A.
Mrs. Theron Robinson, Landowner
Tom Stewart, Landowner
Joseph Vitalie, Landowner
Wells Fargo Bank, Landowner

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BARTON-ASCHMAN ASSOCIATES, INC., Transportation Planning

MADRONE ASSOCIATES, Biologists

EARTH SCIENCE ASSOCIATES, Geologists