

SMARA DESIGNATION  
REPORT NO.1

DESIGNATION OF SAND AND GRAVEL RESOURCES  
OF REGIONAL SIGNIFICANCE  
IN THE  
SAN FERNANDO VALLEY REGION  
LOS ANGELES COUNTY,  
CALIFORNIA

PREPARED BY  
THE CALIFORNIA DEPARTMENT OF CONSERVATION  
UNDER THE DIRECTION OF  
THE CALIFORNIA STATE MINING AND GEOLOGY BOARD



**STATE OF CALIFORNIA**  
EDMUND G. BROWN JR.  
*GOVERNOR*

**THE RESOURCES AGENCY**  
HUEY D. JOHNSON  
*SECRETARY FOR RESOURCES*

**DEPARTMENT OF CONSERVATION**  
JAN DENTON  
*DIRECTOR*

**DIVISION OF MINES AND GEOLOGY**  
JAMES F. DAVIS  
*STATE GEOLOGIST*

DESIGNATION OF SAND AND GRAVEL RESOURCES  
OF REGIONAL SIGNIFICANCE IN THE  
SAN FERNANDO VALLEY REGION  
LOS ANGELES COUNTY

January 7, 1981

BY THE STATE MINING AND GEOLOGY BOARD

Board Members

Tito Patri- Chairman  
Alcides S. Freitas-Vice Chairman  
James A. Anderson  
Raymond E. Krauss  
Robert Matthews  
Ta-Liang Teng  
Bing Yen  
Georgia Yuan

610 Bercut Drive  
Sacramento, California 95814



CONTENTS

	Page
Introduction.....	1
Actions Leading to Designation.....	2
Economic Characteristics of Sand and Gravel.....	3
Description and Use	
Economic Characteristics	
Geologic Occurrence	
Areas Designated to be of Regional Significance.....	4
Aggregate Resources of the San Fernando Valley Region	
Areas Designated	
Market Region and Estimated Future Needs	
Alternative Sources	
Lead Agency Responsibilities.....	8
Affected Local Jurisdictions	
Designation Responsibilities	
Mineral Resource Management Policies.....	8
Goals	
Mineral Resource Management Policies	
Land-Use Compatibility Categories	
List of Background Documents to Designation.....	10

ILLUSTRATIONS

Designation Map No. 81-1: Designated Sand and Gravel  
Resource Areas, San Fernando Valley  
Production-Consumption Region, Los Angeles  
County, 1981.

Figure 1. Designation Sectors A, B, and C.....	6
Figure 2. Designation Sector D.....	7



DESIGNATION OF SAND AND GRAVEL RESOURCES  
OF REGIONAL SIGNIFICANCE IN THE  
SAN FERNANDO VALLEY REGION  
LOS ANGELES COUNTY  
BY THE STATE MINING AND GEOLOGY BOARD

Introduction

Urban expansion has been a major contributing factor to the loss of significant mineral resources in past years. This has happened because land-use planning decisions have been made with little, if any, knowledge about the importance of mineral deposits in supplying the needs of the community.

To cope with this problem, as well as to assure the reclamation of mined lands, the California Legislature enacted the Surface Mining and Reclamation Act of 1975 (SMARA).

The Act's mineral resource conservation provisions involve a state/local planning process called classification-designation. According to Sections 2761 and 2790-2793 of the Act, the State Geologist classifies areas of the state according to the presence or absence of significant mineral deposits. This work is concentrated in areas subject to urban expansion or other irreversible land uses incompatible with mining. Upon receipt of this classification information, the State Mining and Geology Board consults with affected local "lead" agencies, other affected local, state, and federal agencies, industry, and other interested parties. This consultation incorporates the environmental review process of California's Environmental Quality Act.

Thereafter, the Board may designate certain areas of the state as lands containing mineral deposits of statewide or of regional significance. This information is transmitted to local government for incorporation into its general plan.

Designation is a state activity which provides geologic and mineral-economic information to local government. This activity aids local government in its management of mineral resources within the context of its general plan goals and in consideration of regional land uses.

The purpose of this cooperative planning process is to assure that local lead agencies have information regarding valuable mineral deposits which are located within their jurisdictions and are needed for future use by a region or the state.

Areas designated by the Mining and Geology Board on January 7, 1981, consist of about 2,500 acres of land underlain by sand and gravel deposits. These areas are located in the Tujunga Wash and Pacoima Wash of the eastern San Fernando Valley, Los Angeles County. They are divided into the following sectors:

- Sector A - Tujunga Wash east of the Hansen Dam flood-control basin and west of the 210 freeway, which consists mainly of a natural wash area,
- Sector B - the Hansen Dam area, which includes a natural wash area, a recreational park area, and a flood-control and debris basin,
- Sector C - the area southwest of Hansen Dam, which consists of an industrial area, including four active aggregate operations, and
- Sector D - Pacoima Wash north of Lopez Dam, which consists of a natural wash area and a flood control basin.

(See Figures 1 and 2 and the designation map that accompanies this report [Designation Map No. 81-1] for a more complete depiction of these sectors.)

For the purposes of SMARA, Sectors A through C and portions of D fall under the jurisdiction of the City of Los Angeles. Portions of Sector D also fall under the jurisdiction of Los Angeles County.

#### Actions Leading to Designation

Classification of mineral lands in the San Fernando Valley Region by the State Geologist was accepted by the Mining and Geology Board on May 25, 1979. (Refer to California Division of Mines and Geology's (CDMG) Special Report 143.) The classification report identifies the location of sand and gravel resources in the region. It also identifies resources not yet preempted by urbanization and which are needed to supply projected 50-year needs of the region. This second category of resource was identified as Sectors A-D in the Tujunga Wash and Pacoima Wash areas.

This is the first formal classification accepted under the Board's "Guidelines for Classification and Designation of Mineral Lands" (CDMG Special Publication 51, pp. 21-36) which were adopted in June 1978. This classification is precedent-setting both from the standpoint of its scientific methodology and from its being the first in a series of mineral land classifications now in progress in the Los Angeles and San Francisco metropolitan areas.

Following acceptance by the Board, this report was transmitted on June 29, 1979, to affected lead agencies for incorporation into their planning and decision-making process as required by SMARA. These agencies included the cities of Los Angeles, Burbank, Glendale, and San Fernando, as well as Los Angeles County and the Southern California Association of Governments.



Based on an initial environmental study for designation, the Mining and Geology Board determined that the proposed designation ultimately may have a significant effect on the environment. An Environmental Impact Report (EIR) was prepared pursuant to the California Environmental Quality Act. The draft EIR was circulated for review and comment on June 25, 1980. Comments on the draft EIR were received through August 15, 1980. A public hearing on the draft EIR was held on July 25, 1980 at the Holiday Inn, Glendale, California. The final EIR (SMARA EIR No. 1) was distributed to the public on October 24, 1980.

The Mining and Geology Board considered the final EIR on the project on December 11, 1980, and certified by Resolution 80-6 the same to be adequate and complete.

Based on the classification report, EIR and public testimony presented at the December 11, 1980, designation hearing, the Board designated Sectors B, C, and D and portions of Sector A to be of regional significance.

As required by Section 2790 of SMARA, these designated areas were included by regulation in the state's policy for Surface Mining and Reclamation. This report and its supporting documentation constitutes the designation information to be used by affected local jurisdictions.

## Economic and Geologic Characteristics of Sand and Gravel

### Description and Use

Sand, gravel, and crushed rock are included among mineral commodities classed as "construction materials." These commodities, collectively referred to as aggregates, provide bulk and strength to Portland cement concrete, asphaltic concrete, and plaster or stucco. Aggregates are also used as road base, subbase, and fill. Aggregates normally provide from 80 to 100 percent of the material volume in the above uses.

### Economic Characteristics

Aggregate sells for an average of about two dollars per yard at the plant site after washing, sizing, and stockpiling. However, the plant-site cost of aggregate constitutes only part of the value of final Portland cement concrete when delivered to the consumer. The remainder is the cost of handling, haulage charges, mixing, and profit. Of these, haulage distance is the basic factor determining the cost of final product at the delivery point. Therefore, it is economically advantageous to maintain nearby sources of aggregate.

The significance and value of aggregate as basic construction materials have multiplier effects. Aggregate is an essential part of the construction industry. Developers, building and freeway/road contractors, cement manufacturers, asphalt producers, carpenters,

electricians, truck drivers, and mechanics, to name a few, depend directly or indirectly on a ready supply of aggregate. Therefore, the availability of aggregate deposits and their proximity to the markets are critical factors in the strength of the economy. Hence, the aggregate industry has a disproportionately strong influence on the general economy of the greater Los Angeles metropolitan area.

#### Geologic Occurrence

The San Fernando Valley basin contains sand and gravel deposited in a broad system of coalescing, alluvial fans that have filled the valley floor. Alluvial fan deposits are formed when mountain streams carrying large volumes of sand and gravel enter a valley or plain. The abrupt change in slope causes a sudden decrease in the transporting energy of the stream and deposition of sand and gravel occurs. Alluvial fan deposits suitable as a source of aggregate are confined to the eastern portion of the valley.

Sand and gravel deposits in the eastern San Fernando Valley are derived from granitic and metamorphic rock from the San Gabriel Mountains.

#### Areas Designated to be of Regional Significance

##### Aggregate Resources of the San Fernando Valley Region

The Division of Mines and Geology's classification report on aggregate resources of the San Fernando Valley Region (Special Report 143, Parts I and II), shows extensive areas underlain by sand and gravel deposits. These areas were classified as MRZ-2.

MRZ-2 (Mineral Resource Zone 2) denotes areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists. This zone is applied to known mineral deposits or where well developed lines of reasoning, based upon economic geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high.

However, most of these deposits are not available for mining because of preemption by urbanization. Those MRZ-2 areas not preempted were identified as Sectors A-D and recommended for designation consideration.

##### Areas Designated

On January 7, 1981, following a December 11, 1980 public hearing, the Mining and Geology Board designated Sectors A, B, C, and D of the Tujunga and Pacoima Wash areas to be of regional significance. These sectors contain a valuable source of sand and gravel, the continued mining of which will ensure a supply of construction aggregate to consumers in the region for the next 50 years. These areas are located in eastern San Fernando Valley of Los Angeles County. The boundaries of these sectors are depicted on Designation Map No. 81-1.

In general, these sectors are described as follows: Sector A - Tujunga Valley east of the Hansen Dam flood control basin and west of the 210 freeway (Figure 1), excluding identified archaeological sites; Sector B - the Hansen Dam area (Figure 1); Sector C - an area southwest of Hansen Dam (Figure 1); Sector D - Pacoima Wash north of Lopez Dam (Figure 2).

Sectors A, B, C, and D contain a total of 635 million tons of sand and gravel resources according to estimates by the California Division of Mines and Geology. Resource estimates, on a sector by sector basis, are:

Sector A - 165 million tons

Sector B - 300 million tons

Sector C - 140 million tons

Sector D - 30 million tons

#### Market Region and Estimated Future Needs

The San Fernando Valley Region encompasses an area extending southwesterly from the base of the San Gabriel Mountains, eastern San Fernando Valley, to the coast between Malibu Beach and Redondo Beach. The boundaries of this region for the purposes of analyzing sand and gravel resources were based on a comparison of haul rates from existing producers to delivery points in the Los Angeles Basin. These haul rates are established by the Public Utilities Commission (PUC). Region boundaries were further modified to reflect captive customers served from sources not subject to the PUC rate schedule.

About 4.5 million tons of aggregate are consumed annually in the region. These materials are supplied from deposits mined and processed in the Sun Valley area of eastern San Fernando Valley.

Based upon the Division's estimates, between 230 and 460 million tons of aggregate will be required within the next 50 years to supply this demand. This estimate is based on per capita consumption rates which range from 1.6 to 3.2 tons per person per year.

#### Alternative Sources

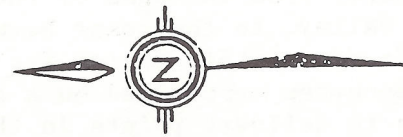
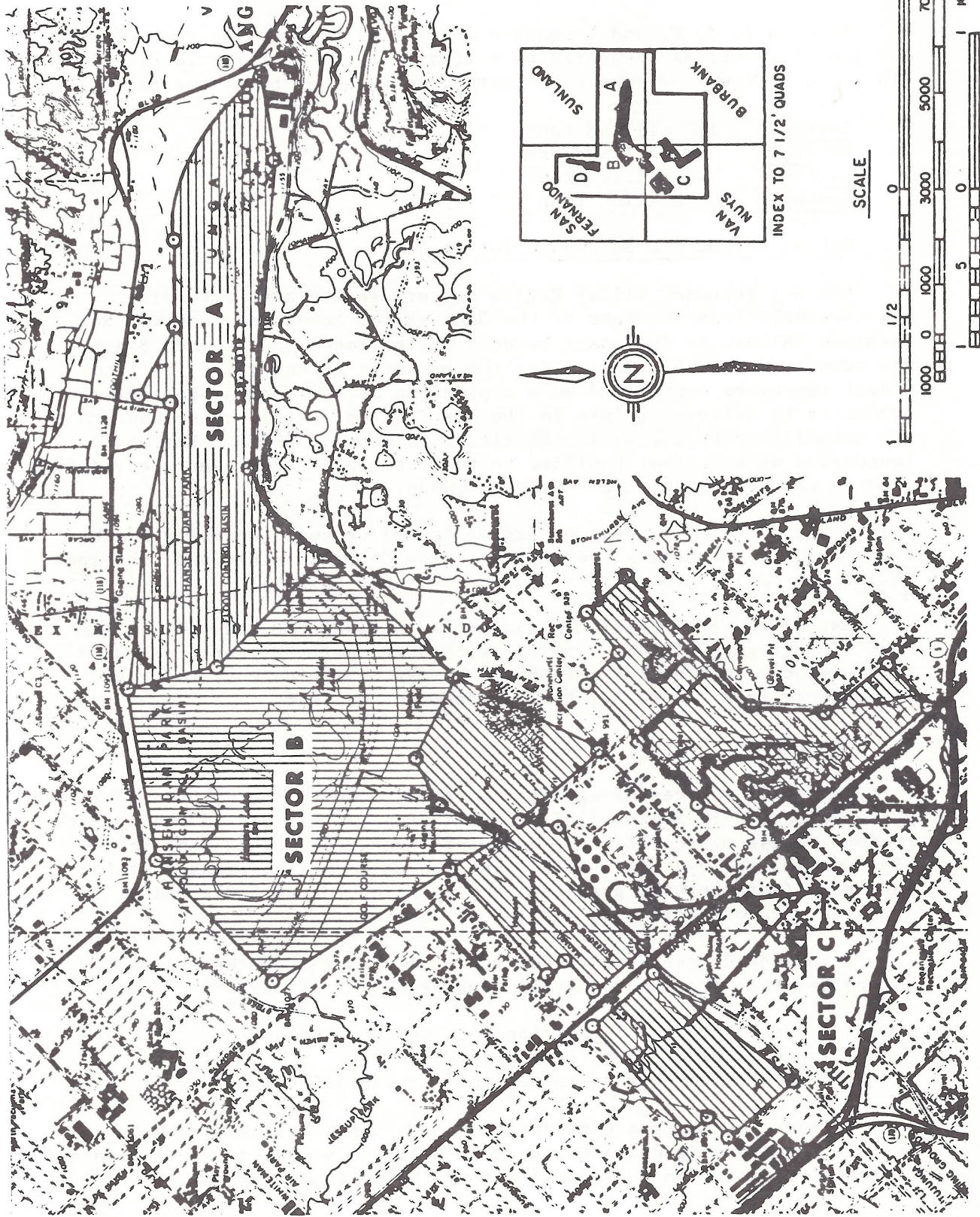
Potential sources of aggregate, in addition to the alluvial sand and gravel deposits in Sectors A-D occur in areas within and adjacent to the region. These sources include aggregate resources in adjacent regions (San Gabriel Valley, Simi Valley, and Saugus-Newhall), areas containing hard rock (metamorphic, granitic and volcanic), older sedimentary deposits, and offshore sand and gravel deposits.

In assessing the need to designate Sectors A-D in the region, it was determined that these alternative sources of supply were:

- 1) inadequate in composition for use in construction,
- 2) preempted by urban land uses, or
- 3) need further study to determine their suitability.

Reliance on sources outside the San Fernando Valley Region to fulfill required aggregate needs would involve increased travel time and distance resulting in additional costs. Three important associated

Figure 1. Designation Sectors A, B, and C in the San Fernando Valley Region, Los Angeles County. From State Mining and Geology Board Designation Map No. 81-1.



SCALE

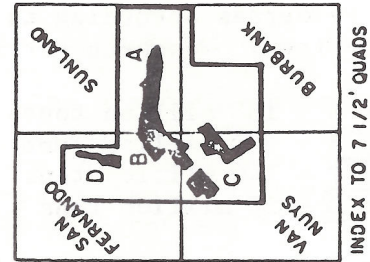
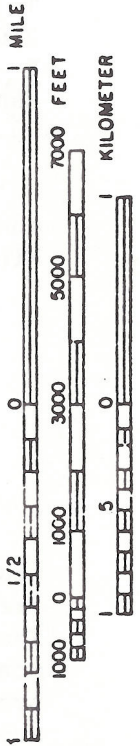
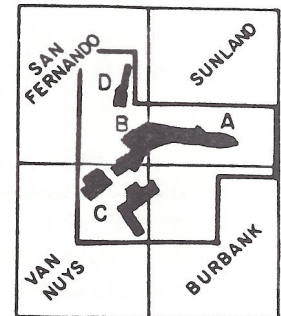
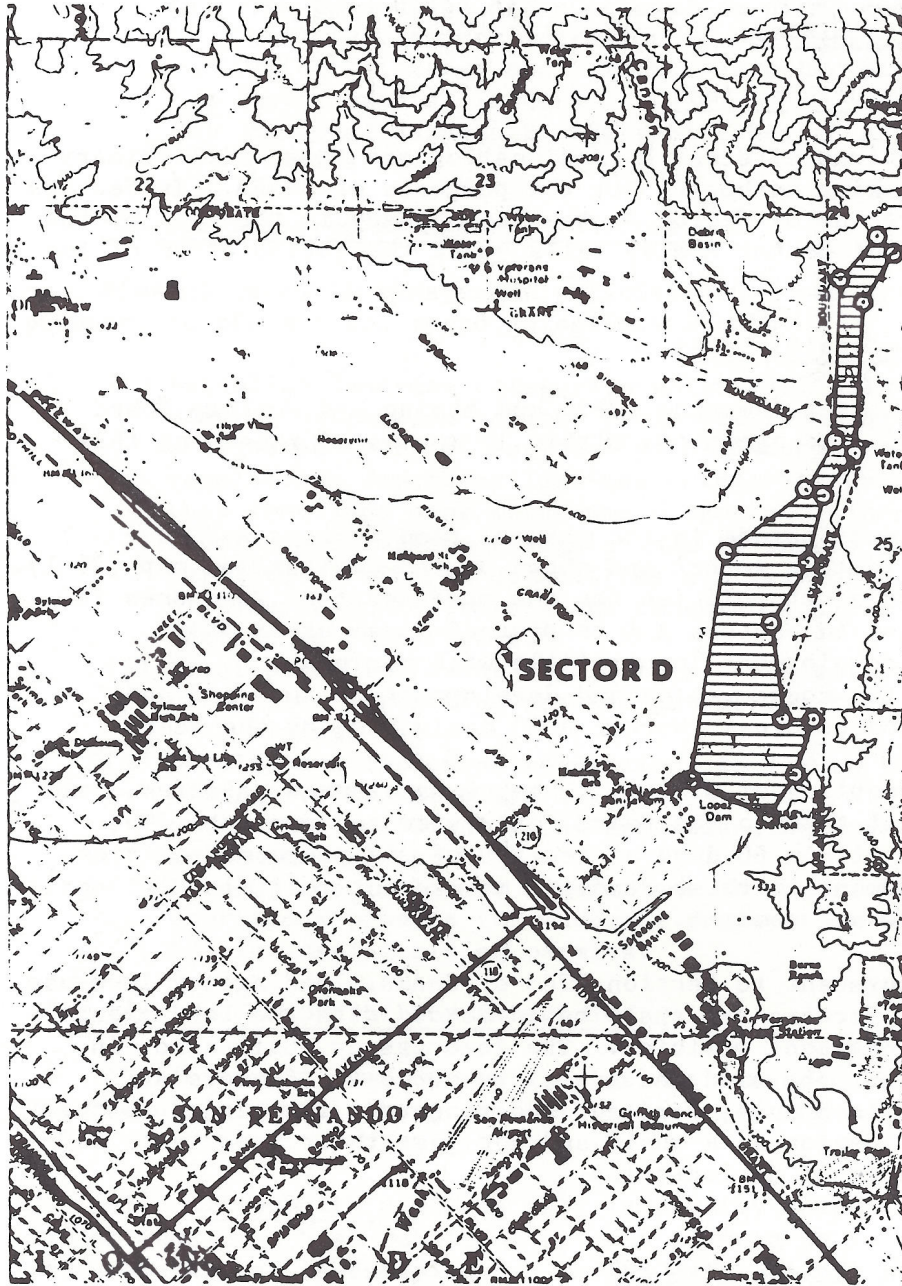
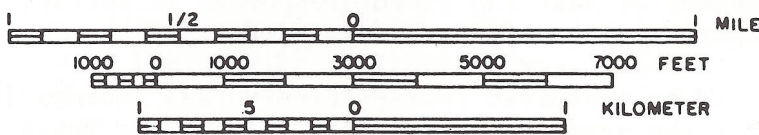


Figure 2. Designation Sector D in the San Fernando Valley Region, Los Angeles County. From State Mining and Geology Board Designation Map No. 81-1.



INDEX TO 7 1/2' QUADS

SCALE



impacts of such reliance are the increased costs of construction which would be passed on to the consumer, increased energy use and costs, and increased traffic hazard. In addition, utilization of outside sources will tend to accelerate depletion of limited reserves in adjacent regions.

## Lead Agency Responsibilities

### Affected Local Jurisdictions

Local jurisdictions affected by designation are those with primary land-use decision making authority for the purposes of SMARA. In Sectors B, C, and D and portions of Sector A, the lead agency is the City of Los Angeles. A portion of Sector A also falls under the jurisdiction of Los Angeles County.

### Designation Responsibilities

According to the Act (Section 2762) and Mining and Geology Board guidelines, affected lead agencies, within 12 months of receiving this designation shall:

- (1) Recognize and include in its general plan Sectors A-D as described in this report and shown on the designation map (81-1).
- (2) Develop and adopt policies for the management of land uses in and adjacent to Sectors A-D to protect these areas from premature development incompatible with mining.
- (3) Emphasize the conservation and development of the sand and gravel resource areas (Sector A-D) designated by the Board.

Prior to the adoption of mineral resource management policies, lead agencies shall submit them to the Board for review and comment. The Board shall comment within 60 days of receipt of the proposed policies. Any subsequent amendment to these resource management policies also shall require Board review and comment.

In addition, pursuant to Section 2763 of SMARA, lead agency land-use decisions involving Sectors A-D shall be in accord with the lead agency's mineral resource management policies. The lead agency shall also, in balancing the value of the sand and gravel resources in Sectors A-D against alternative land uses, consider the resources importance to the San Fernando Valley Region as a whole and not just their importance to the lead agency's area of jurisdiction.

## Mineral Resources Management Policies

### Goals

To aid in the management of sand and gravel resources in Sectors A-D the following resource management goals are recommended:

- (1) Sectors A-D should be protected from preclusive and incompatible land uses so that the sand and gravel resources within these areas are available when needed.

- (2) Surface mining within these designated areas should be controlled to assure that:
  - (a) Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses.
  - (b) The production and conservation of minerals are encouraged, while giving consideration to recreation, watershed, wildlife, range and forage, aesthetic enjoyment, and other environmental factors.
  - (c) Residual hazards to the public health and safety are eliminated.

#### Mineral Resource Management Policies

Mineral resource management policies developed by local government pursuant to the Act and Board guidelines should:

- (1) Establish land-use categories which will allow for timely mineral extraction to meet projected regional demand in areas designated to be of regional significance, and establish regulations for these land-use categories which will protect them from land uses which would preclude mineral extraction.
- (2) Develop and implement regulations to insure that adequate supplies of mineral commodities are developed under a diversity of ownerships to protect the consumer against the effects of restricted competition.
- (3) Develop and implement regulations which will buffer land-use categories permitting mineral extraction from uses incompatible with mining.
- (4) Develop and implement regulations to insure that after mitigative measures are taken, a proposed mining operation will not create any significant nuisances, hazards, or adverse environmental impacts.
- (5) Develop and implement regulations to insure that all mining operations provide for adequate reclamation of mined lands before issuing mining permits.

#### Land-Use Compatibility Categories

The following land-use categories are provided as a guide to local government in establishing compatible land uses on or adjacent to Sectors A-D:

1. Incompatible - Land uses inherently incompatible with mining and/or require a high public or private investment in structures, land improvements and landscaping and which would prevent mining because of the higher economic value of the land and its improvements.

Examples of such uses include:

- High density residential
- Low density residential with  
high unit value
- Public facilities
- Intensive industrial
- Commercial

2. Compatible - Land uses inherently compatible with mining and/or require a low public or private investment in structures, land improvements and landscaping, and which would allow mining because of the low economic value of the land and its improvements.

Examples of such uses include:

Very low density residential  
(for example: 1 unit per 10 acres)  
Extensive industrial  
Recreation (public/commercial)  
Agricultural  
Silvicultural  
Grazing  
Open space

(a) Interim - Land uses which require structures, land improvements and landscaping of a limited useful life and from an economic and political standpoint can be converted to mining at the end of that limited life. The period of interim use should be compatible with the orderly and timely production of mineral resources and the useful life of the improvements.

(b) Buffer - Land uses which provide sufficient distance and/or barriers between mining and incompatible land uses, to mitigate noise, dust vibration and visual impacts of mining, and to protect public safety.

#### Background Documents to Designation

California Division of Mines and Geology Special Publication 51:  
"California Surface Mining and Reclamation Policies and Procedures,  
First Revision" (June 1979).

California Division of Mines and Geology Special Report 143, Parts I and II (of seven parts): "Mineral Land Classification of the Greater Los Angeles Area"; Part I: "Description of the Mineral Land Classification Project of the Greater Los Angeles Area; Part II: "Classification of Sand and Gravel Resource Areas, San Fernando Valley Production-Consumption Region" (1979).

SMARA EIR No. 1; "Final EIR for Designation of Sand and Gravel Resource Areas, San Fernando Valley Aggregate Production-Consumption Region, Los Angeles County, California" (October 1980).

State Mining and Geology Board Resolution No. 80-6 (December 11, 1980 certification of adequacy and completeness of SMARA EIR No. 1).









