

City of Bell Gardens GENERAL PLAN

Section 5 Conservation Element

SECTION 5: CONSERVATION ELEMENT

INTRODUCTION TO THE CONSERVATION ELEMENT

The City of Bell Gardens Conservation Element is a state-mandated general plan element, as required by Section 65302(d) of the California Government Code and the State Mining and Reclamation Act (SMARA). State law indicates:

"A conservation element [shall be required] for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. That portion of the conservation element, including waters, shall be developed in coordination with any county-wide water agency and with all district and city agencies which have developed, served, controlled or conserved water for any purpose for the county or city for which the plan is prepared."

As a result, the Conservation Element for the City of Bell Gardens focuses on four key issue areas: cultural resources, ecological resources, geological resources, and water resources.

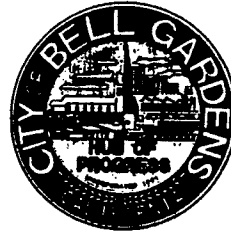
The City of Bell Gardens will continue to maintain its links to the past through the implementation of this Conservation Element which promotes the preservation of noted historical structures. The Conservation Element also underscores the City's commitment to improve environmental quality through the conservation of water and other ecological resources.

The Bell Gardens Conservation Element consists of the following sections:

■ **Conservation Element Policies and Programs.** This section indicates the issues, policies, and implementing programs that apply to both existing and future development in the City. The issues

encompass a range of issues and opportunities, including the very high risk of liquefaction for the entire City and several historic structures that are located in Bell Gardens.

■ **Conservation Element Background Report.** This section of the Conservation Element describes the existing conditions in the City relative to soils, groundwater resources, air quality, and cultural resources.



CONSERVATION ELEMENT POLICIES AND PROGRAMS

The Conservation Element focuses on the four key issue areas: cultural resources, ecological resources, geological resources, and water resources. Within each topical area is a policy and a series of supporting implementing programs.

The preservation of the City's history and environmental resources are the focus of these policies.

Issue 1: Cultural Resources

The City of Bell Gardens has a rich history that goes back to the development of the first ranchos that led to the establishment of settlements during the last century. While a number of significant sites and structures may still be found in the City, past development has led to the loss of others (such as the original Lugo Adobe). The following criteria is used for determining if state

A national designation should be pursued for significant historic resources in the City of Bell Gardens:

- The site or structure is associated with events that have made a significant contribution to the broad patterns of our history; or
- The site of structure is associated with the lives of persons significant in our past; or
- The site or structure embodies the distinctive characteristics of a type, period, method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- The site or structure has yielded, or may be likely to yield, information important in prehistory or history; or

The site or structure represents work by significant architects or architectural styles.

Ordinarily, cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years *are not considered to be eligible* for the National Register. However, structures that have been removed, altered, or constructed within the past 50 years may meet eligibility requirements if:

- A building or structure removed from its original location, but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

- A birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his productive life; or

- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, or when no other building or structure with the same association has survived; or

- A property achieving significance within the past 50 years if it is of exceptional importance.

The City of Bell Gardens has several historic structures within its boundaries which are considered as resources worthy of conservation as part of this General Plan (Exhibit 5-1).

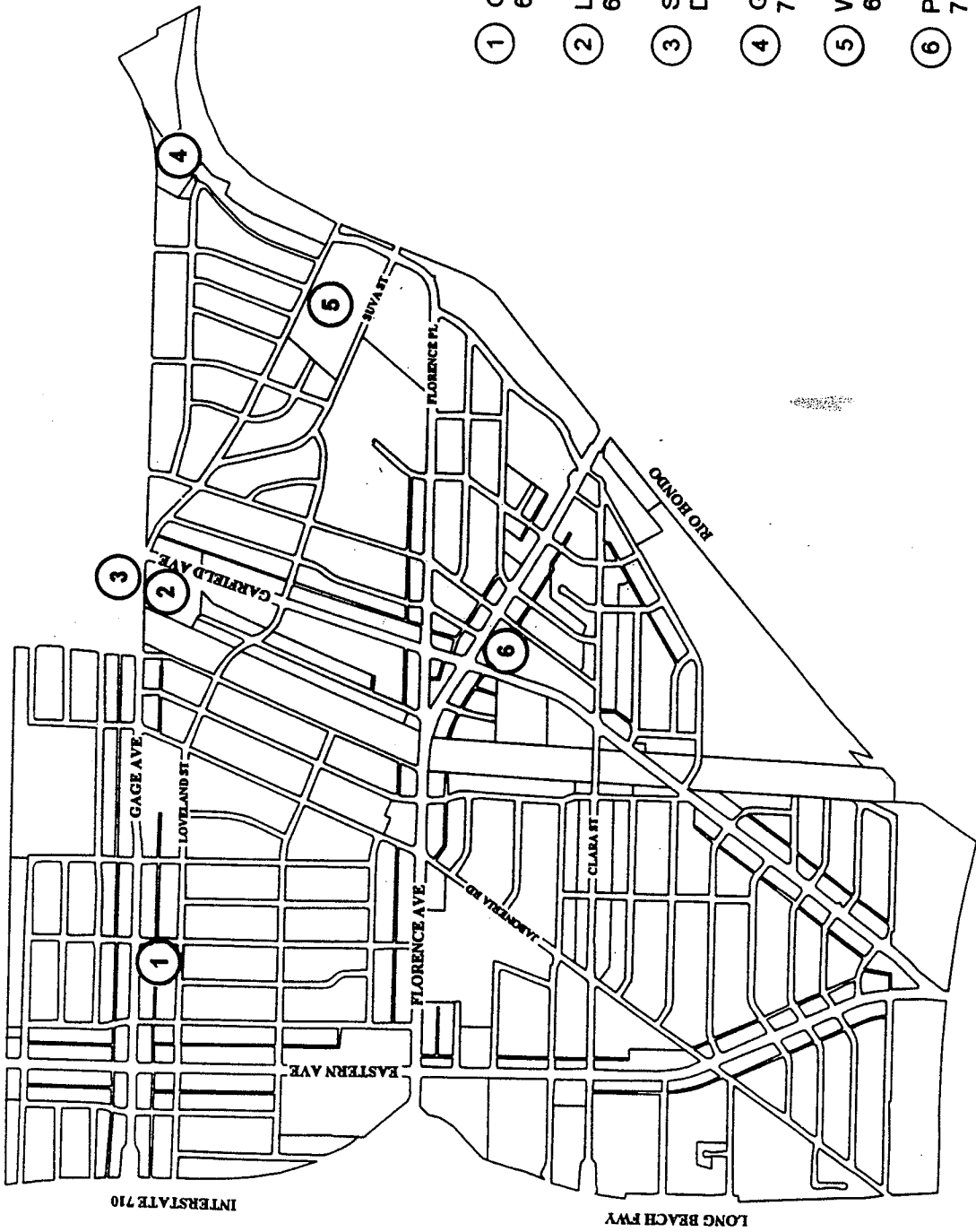
Guidelines will be prepared to outline procedures and policies for the protection of these resources.

Policy 1: *The City of Bell Gardens shall safeguard the community's heritage by identifying and preserving appropriate structures and sites which have historical significance.*

Issue 2: Ecological Resources

The soils within the City have been altered by past development. The import and export of soil that is part of excavation and fill activities during construction may have changed the soil associations in developed areas.

The City of Bell gardens does not contain significant sand and gravel resources as identified by the Department of Mines and Geology. Additionally, large pockets of natural gas and oil



- ① Old Specht Home
6410 El Selinda Avenue
- ② Lugo Ranch House
6360 East Gage Avenue
- ③ Site of the Laguna School
Demolished in 1957
- ④ Governor Gage Mansion
7000 East Gage Avenue
- ⑤ Woodworth House
6820 Foster Bridge Blvd.
- ⑥ Peterson House
7535 Perry Road

EXHIBIT 5-1
HISTORIC SITES

have been found in surrounding communities, but they are not believed to extend into Bell Gardens.

the Open Space and Recreation Element.

Because of the low average wind speeds in the summer and a persistent daytime temperature inversion, emission of hydrocarbons and oxides of nitrogen have an opportunity to combine with sunlight to produce smog. Although air quality in the South Coast Air Basin has improved in recent years, the area still recorded the greatest number of days exceeding the federal ozone and carbon monoxide standards.

Policy 2: *The City of Bell Gardens shall, to the extent possible, protect remaining ecological resources and enhance those resources through programs in the Open Space and Recreation Element and the Circulation and Transportation Element.*

Issue 3: Water Resources

The Central Basin Pressure Area provides an underground water basin utilized to serve a portion of the City's domestic water needs. Water recharge areas are provided by a combination of permeable areas including yards, parks, utility rights-of-way, and water recharge areas within the Rio Hondo and Los Angeles Rivers rights-of-way. Water in the City is derived from local groundwater wells and pumping depends on the actual demand for water. The groundwater quality in the City is considered to be good and does not require treatment. Replenishment of the underground water basin is essential and should be assured through the provision of adequate open spaces throughout the City.

Policy 3: *The City of Bell Gardens shall protect the quality of water in the underground water basin by optimizing open space areas with programs adopted as part of*

Programs

The following programs implement the above three policies and support the City of Bell Gardens vision of "Pride in the Community/Orgullo en la Comunidad." The programs are identified with their corresponding policies in Table 5-1, following this section.

Air Quality Management Plan Implementation.

The City will comply with regional AQMP regulations (as described in the background report).

Timing: Immediate
Agency: Community Development, City Manager, and Public Works
Funding: General Fund

Archaeological and Paleontological Resources.

The City shall stipulate in all major project approvals, that should archaeological or paleontological resources be uncovered during excavation and grading activities, all work would cease until appropriate salvage measures are established. Appendix K of the CEQA Guidelines shall be followed for excavation monitoring and salvage work that may be necessary.

Timing: 1998
Agency: Building Department
Funding: General Fund

City Water Conservation. In addition to the City's 1993 Water Conservation Ordinance, the City shall develop water conservation programs for City facilities (Civic Center, City parks, maintenance yards, etc.) This may include the retrofit of City facilities for water-efficient plumbing fixtures; the use of drought tolerant and/or xeriscape landscaping in City parks; and the posting of water conservation practices at all City facilities.

Timing: 1997
Agency: Building Department
Funding: General Fund

County Coordination. The City Bell Gardens shall cooperate with Los Angeles County concerning the implementation of programs for water conservation, stormwater discharge, solid waste management, and flood control. This will include projects and programs for the maintenance and use of the Los Angeles and Rio Hondo Rivers.

Timing: 1997
Agency: Public Works Development
Funding: General Fund

Cultural Awareness. The City of Bell Gardens shall develop programs for increasing cultural awareness in the community. The City shall coordinate the promotion of cultural awareness among area residents and shall acquire additional books and documents concerning local historical and cultural topics. It shall also develop programs to inform local residents of cultural resources that have been preserved in the area.

Timing: 1997
Agency: Recreation Department
Funding: General Fund

Water/Landscape Conservation Ordinance. The City shall promote the use of drought-tolerant

and/or xeriscape landscaping in private developments through the continued implementation of its Water/Landscaping Conservation Ordinance. This will include measures to reduce irrigation requirements for yards (drip irrigation, tree wells, mulch, etc.) and recommended plant species which have low irrigation requirements. While this may have small and short term benefits, continued land recycling activities will create cumulative advantages in the long term.

Timing: Ongoing
Agency: Community Development
Funding: General Fund

Energy Conservation Guidelines. The City shall enforce the energy conservation standards in Title 24 of the California Administrative Code, the Uniform Building Code, and other state laws on energy conservation design, insulation and appliances. Energy needs shall be evaluated and conservation measures incorporated into new development in accordance with Appendix F of the State CEQA Guidelines and Appendix J of the City CEQA Guidelines. Also, the City shall promote the use of new technologies on energy conservation in new development, as may be appropriate. Other measures that would reduce energy consumption during construction and operation of the structures shall be encouraged.

Timing: Ongoing
Agency: Community Development's Building Department's
Funding: General Fund

Environmental Review. The City shall continue to evaluate the environmental impacts of new development and provide mitigation measures prior to development approval, as required by the California Environmental Quality Act (CEQA).

Section 5: Conservation Element (continued)

Adequate environmental review shall be provided for major projects and those that will have a potential to adversely impact the environment. Issue areas that will be addressed in the environmental review of development proposals include: earth and geology, air quality, water and hydrology, plant life, animal life, noise, light and glare, land use, natural resources, risk of upset, population, housing, traffic and circulation, public services, energy, utilities, human health, aesthetics, recreation, and cultural resources. In compliance with CEQA, the City shall also assign responsibilities for the verification of the implementation of mitigation measures.

Timing: Ongoing
Agency: Community Development
Funding: General Fund

Historical Building Code. The City will adopt alternate building code standards for historic structures, as authorized by the State Historical Building Code.

Timing: 1995
Agency: Community Development's Building Department's
Funding: General Fund

Historical Preservation District. The City will revise, as necessary, the Zoning Ordinance section regarding the existing Historical Prevention District. The City shall also review the existing boundaries of the S-HPD and revise as necessary.

Timing: Ongoing
Agency: Community Development
Funding: General Fund

Public Awareness. The City shall develop a public awareness program to encourage residents to practice conservation measures and to discourage carelessness in activities that affect the environment. The program shall include articles on various environmental issues (air, water, hazardous materials, land, energy, etc.) and programs in "Bell Gardens Now"; free water conservation tips, brochures and kits; advertisement of energy conservation alternatives and rebate programs; and the hazards of disposing household hazardous wastes with municipal wastes.

Timing: 1999
Agency: City Manager
Funding: General Fund

| TABLE 5-1 CONSERVATION ELEMENT POLICIES AND PROGRAMS MATRIX | |
|---|---|
| Policies | Programs |
| <i>Policy 1: The City of Bell Gardens shall safeguard the community's heritage by identifying and preserving appropriate structures and sites which have historical significance.</i> | Archaeological and Paleontological Resources Cultural Awareness Environmental Review Historical Building Codes Historical Preservation District |

Section 5: Conservation Element (continued)

**TABLE 5-1
CONSERVATION ELEMENT POLICIES AND PROGRAMS MATRIX**

| Policies | Programs |
|---|---|
| <i>Policy 2: The City of Bell Gardens shall, to the extent possible, protect remaining ecological resources and enhance those resources through programs in the Open Space and Recreation Element and the Circulation and Transportation Element.</i> | City Energy Conservation County Coordination Drought Tolerant Landscaping Energy Conservation Guidelines Environmental Review |
| <i>Policy 3: The City of Bell Gardens shall protect the quality of water in the underground water basin by optimizing open space areas with programs adopted as part of the Open Space and Recreation Element.</i> | Water/Landscape Conservation Ordinance County Coordination Drought Tolerant Landscaping Environmental Review |

Source: David Evans and Associates, Inc., March 1994.

CONSERVATION ELEMENT BACKGROUND REPORT

The Conservation Element Background Report provides an overview of the City's existing environmental resources (which include biological, groundwater, mineral, cultural, archaeological, and historical resources). This Background Report also includes an analysis of local air quality. Environmental resources are typically nonrenewable or limited and need to be preserved and managed in order to be available for future generations. This Report also provides a needs assessment and an overview of opportunities for construction.

Environmental Setting

The City of Bell Gardens is located within the north central section of the coastal plain of Los Angeles County. The coastal plain is bounded by: the Santa Monica Mountains on the north; the Elysian, Repetto, Merced and Puente Hills on the northeast; the Los Angeles-Orange County line on the southeast; and the Pacific Ocean on the south

and west. The plain slopes gently from the north and northeast highlands, south towards the ocean.

The coastal plain was formed from recent (Holocene) alluvial deposition. The alluvial fans of the Los Angeles, Rio Hondo, and San Gabriel Rivers resulted in the formation of a gently sloping plain through stream deposition. Bell Gardens is situated on the low lying plain with very limited differences in topography. The Los Angeles, Rio Hondo and San Gabriel Rivers are the main river channels bisecting the coastal plain. The Los Angeles River drains the San Fernando Valley on the north and flows across the plain past the City of Bell Gardens, into the Pacific Ocean at San Pedro Bay. The Rio Hondo River flows southwest across the plain and connects to the Los Angeles River one and a half miles south of Bell Gardens. The San Gabriel River flows south on the eastern section of the plain, generally parallel to the Los Angeles River.

The Los Angeles Basin's climate is mediterranean and characterized by mild, sunny winters with occasional rain and warm, dry summers. The Pacific Ocean keeps the climate temperate and the coastal mountain ranges on the north and east of

the Basin act as buffers against the extreme heat and winter cold of the desert and plateau regions. Rain occurs between December and March with an average rainfall of 14 inches per year. Winter lows range from 40°F to 50°F and summer highs rarely exceed 100°F. Humidity averages 64 percent in February and 74 percent in August with a yearly average of 71 percent. Northeasterly winds and sea-land breezes are prevalent with the Santa Ana Winds blowing intermittently from October to March.

The geology of Bell Gardens and the surrounding area is characterized by a top layer of undivided successions of nonmarine sand and gravel of Quaternary age and marine sandstone and siltstone of Pleistocene and late Pliocene age. This layer is approximately 11,600 feet deep. The more recent sedimentary deposits are believed to have been caused by the weathering and erosion of rocks, granites, schists, shale, and sandstones from the surrounding mountains.

Under the upper layer are rocks of the Repetto Formation. This layer is 6,400 feet deep of marine fine to coarse grained sandstone with minor interbedded siltstone. Underlying the Repetto Formation are undivided upper Miocene rocks. The Miocene rocks are at least 5,200 feet deep of probably marine sandstone with interbedded sandstone and shale. Undivided Lower Tertiary and Upper Cretaceous rocks underlie the Miocene rocks which are probably marine clastic sedimentary rocks with extrusive igneous rocks near the top. The lowest known layer are granitoid intrusive rocks of the Jurassic to early Late Cretaceous Age.

Soil Resources

A soil association is a group of soils that have the same profile, arrangement, sequence of layers, or other characteristics. The City of Bell Gardens is overlain by two soil associations. The Tujunga-

Soboba Association covers approximately 20 percent of the western and eastern sections of the City. The Hanford Association covers the majority of the City at the central sections. Tujunga soils have high infiltration rates when thoroughly wetted, resulting in low runoff potential. Hanford soils have moderate infiltration rates when thoroughly wetted. Both Tujunga-Soboba and Hanford Associations have low shrink-swell behavior, low corrosivity, and slight septic tank limitations. The Tujunga-Soboba Association is limited by its ability to withstand pressure from building foundations. It is not suitable for use as a water retention structure and is a good source of sand. The Hanford Association has moderate capacity to withstand soil pressure and has severe to moderate limitation as a water retention structure.

The soils within the City have been altered by past development. The import and export of soil that is part of excavation and fill activities during construction may have changed the soil associations in developed areas. With most of the City developed, surface soils may no longer reflect the soil associations shown.

The City of Bell Gardens does not contain significant sand and gravel resources as identified by the Department of Mines and Geology. The aggregate resource classification map shows that Bell Gardens is in an area where adequate information indicates no significant mineral deposits are present. While the City is located beside the Los Angeles River, which is considered a fair to good source of sand, concrete channels now line the river bed. This precludes mining activity from occurring in the City. Land under the City does not contain the amount of rock required to make mining profitable. Also, there are no open areas remaining for mining. Large pockets of natural gas and oil have been found in surrounding communities, but they are not believed to extend into Bell Gardens.

There are essentially three primary factors that govern an area's susceptibility to liquefaction: (1) age and type of sedimentary (alluvial) deposit; (2) penetration resistance and liquefaction susceptibility; and (3) depth to ground water. Virtually all of the City of Bell Gardens is underlain by recent late Holocene alluvium consisting of silt, gravel, sand, and clay and is characterized by soils that were flooded historically (less than 1,000 years ago) and undifferentiated late Pleistocene alluvium consisting of well consolidated gravel, sand, silt, and clay. These soils are susceptible to the effects of liquefaction. In addition, the groundwater is at relatively shallow depths, ranging from 30 to 50 feet. In a comprehensive detailed study of the earthquake risk in Southern California, virtually all of the City was found to be in an area of very high risk for liquefaction.

Groundwater Resources

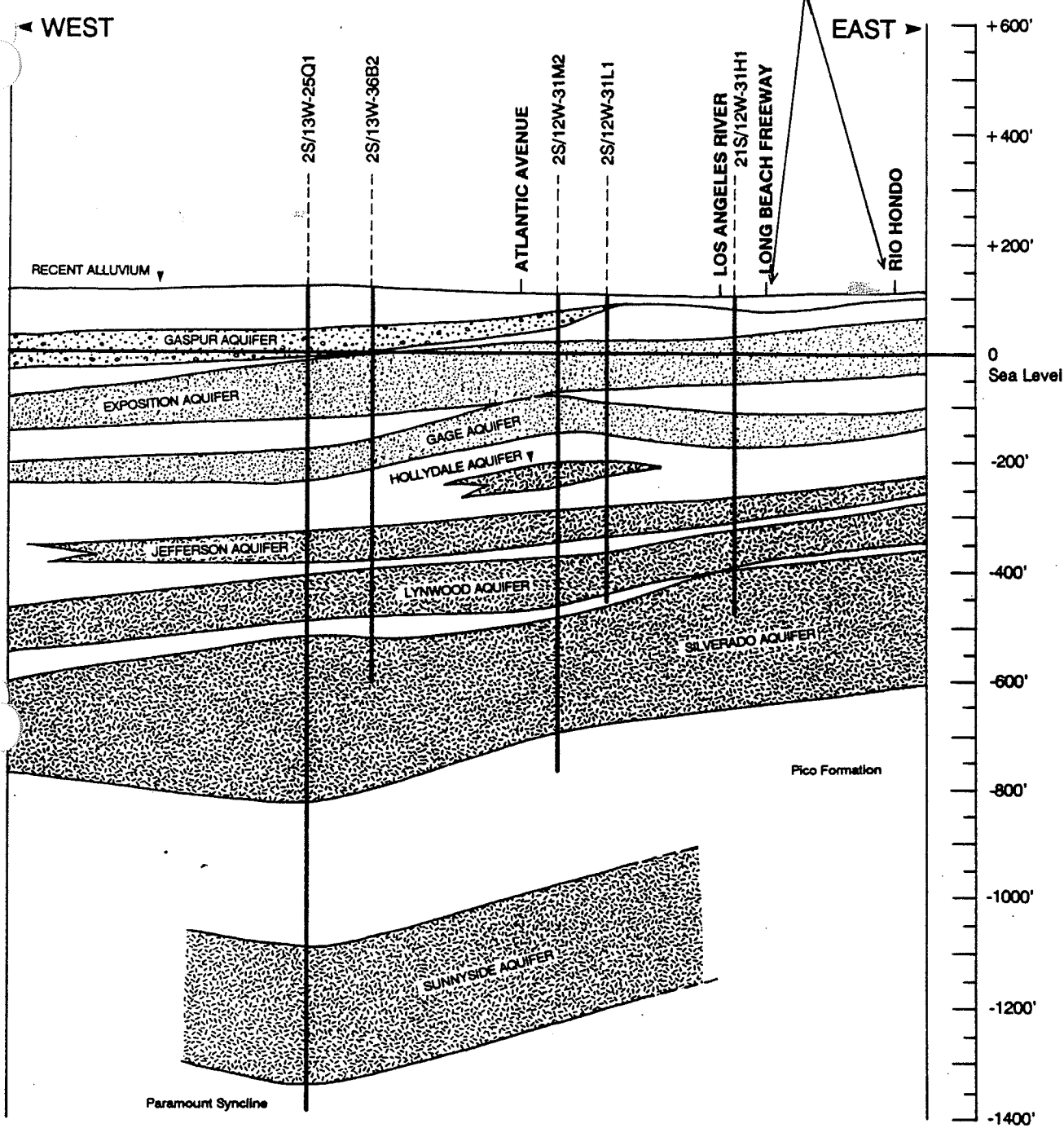
The City of Bell Gardens is underlain by the complex groundwater system of the Los Angeles coastal plain. There are four groundwater basins in the coastal plain: the West Coast, Santa Monica, Hollywood and Central Basins. The City is within the Central Basin which is bounded on the north and northeast by the Elysian, Repetto, Merced and Puente Hills; on the east by the County line and on the south and west by the Rosecrans, Signal and Bixby Ranch Hills. Groundwater resources in the Central Basin generally consists of an upper layer of shallow, unconfined and semi-perched water; a principal body of fresh water underneath; and salt water under the freshwater resources. Water movement is generally from points of recharge (percolation areas, spreading grounds, streams) to points of discharge (groundwater wells, ocean, springs), due to differences in pressure between these points. The major recharge area in the coastal plain is the Whittier Narrows area.





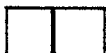
Aquifers underlying the coastal plain resulted from the historical development of the topography for over 100 million years (Exhibit 5-2). The deposition of sand, gravel, silt, clay and rock has resulted in a highly complex geologic and groundwater structure. Water-bearing deposits are unconsolidated and semi-consolidated alluvial sediments from Recent times (15,000 years ago). These deposits, which hold water and allow water to pass through, are referred to as aquifers. Non-water-bearing deposits are consolidated rocks and ground layers which provide limited water, forming the boundaries between aquifers.

The main aquifers in the area are the Hollydale, Jefferson, Lynwood, Silverado and Sunnyside Aquifers. They are the principal aquifers used for domestic water in the Los Angeles area. The Hollydale Aquifer is a discontinuous aquifer beneath the Gage-Gardena Aquifer. It consists of yellow sands and gravel in the northeastern sections and grey, blue and black sand with mud, and clay and marine shells near the Newport-Inglewood fault. Its boundary is irregular and sinuous, suggesting it was formed by stream deposition, but only shallow marine deposits are found. It is approximately 250 feet deep at the area north of the Bell Gardens city limits. Its lowest point is 500 feet below sea level at an area 2 miles east of Compton. Its lack of continuity and the presence of fine-grained materials do not allow it to store large amounts of water.

The Jefferson Aquifer is found only in the Central Basin of the coastal plain. It generally has fine-grained sediments with gravel in the Whittier Narrows area and a few scattered areas. The aquifer is made up of sand with gravel and clay layers and has a maximum thickness of 145 feet. Within the City of Bell Gardens, it is approximately 20 feet thick with a base 300 feet below sea level. It merges with overlying and

City of Bell Gardens



-  Aquicludes and Deeper undifferentiated formations
-  Aquifers in Recent Alluvium (Includes Gaspur and Ballona Aquifers)
-  Aquifers in Lakewood Formation (Includes the Artesia, Exposition, Gage and Gardena Aquifers)
-  Aquifers in San Pedro Formation (Includes the Hollydale, Jefferson, Lynwood, Silverado and Sunnyside Aquifers)
-  Water Wells

SOURCE: State of California Department of Water Resources, Southern California District

EXHIBIT 5-2
IDEALIZED GEOLOGIC SECTION

Underlying aquifers near the hillsides to the north of the plain. Very few wells tap the Jefferson Aquifer.

The Lynwood Aquifer is made up of yellow, brown, and red coarse gravel, sand, silts and clay. It has a thickness of 50 to 1,000 feet. The Rio Hondo and Pico faults have caused offsets on the Lynwood Aquifer in the Pico Rivera area. It is a major producer of water with a yield ranging from 200 to 2,100 gallons per minute.

The Silverado Aquifer has yellow to brown coarse to fine sands and gravel interbedded with yellow to brown silts and clays. It has a maximum thickness of 500 feet and a maximum depth of 1,200 feet below sea level. It has also been considerably offset by all faults in the region. It is a major water producer with a maximum yield of 4,700 gallons per minute.

The Sunnyside Aquifer has coarse deposits of sand and gravel with interlayers of sandy clay and silt. Well logs show marine shells and marine type clays and shales are present within the aquifer. It has a maximum thickness of 300 feet and has a maximum yield of 1,500 gallons per minute. It is also offset by many faults in the region.

Aquifers beyond the Pleistocene age are not known because of limited well log data. They are also too deep to be economically tapped by groundwater wells.

Water in the City is derived from local groundwater wells and pumping depends on the actual demand for water. Groundwater quality is generally good and does not require treatment. Estimates of groundwater storage in the central basin are 17.6 million acre-feet, with 31.7 million acre-feet in the entire coastal plain. Water pumping rights are controlled by the Central Water Basin Replenishment District. The Central

Water Basin Replenishment District levies an assessment on all parties pumping groundwater in the Central Basin. Collected funds are used to purchase surplus water from the Colorado River Aqueduct or the State Water Project through the Metropolitan Water District (MWD). Imported water is spread and injected into the ground to replenish underground water supply resources. Groundwater recharge also includes natural runoff, reclaimed water, and underflow from the San Gabriel Valley. When a water company needs more water than it is allotted, it is allowed to buy or lease additional water rights. The MWD has historically purchased water from the Colorado River. However, in 1974, the MWD started to buy water from the State Water Project.

Vegetation and Wildlife

Trees and lush vegetation used to be found along the rivers surrounding the City of Bell Gardens. Urbanization and the channelization of the Rio Hondo and Los Angeles Rivers have destroyed native vegetation and brought in non-native lawn grass, hedges and trees. The Los Angeles River is lined and concrete dikes have been built on both sides of the channel. This resulted in the loss of natural riparian habitats.

Without the natural environment, native plants and animal communities are not expected to be present. Only small birds and an occasional migratory flock are spotted in the area. There are many endangered, rare and threatened animals and plants in the region but studies and surveys have not identified the presence of such plants or animals in Bell Gardens. A records search at the Natural Diversity Data Base of the Department of Fish and Game showed that the nearest recorded occurrence of a special animal is approximately 4 miles from the City. The San Diego Horned Lizard (*Phrynosoma Coronatum Blainvillii*) was found in the City of Compton at Rosecrans

Avenue and the Southern Pacific Railroad, and in Long Beach one mile west of the Los Angeles River near 68th Street. The San Diego Horned Lizard is listed as Category 2 on the federal List (information may warrant listing, but substantial data is lacking) and S2S3 on the California List (Species of Special Concern). It is considered rare and endangered by the Department of Fish and Game.

Air Quality

The City of Bell Gardens is located in the South Coast Air Basin (SCAB) which includes Los Angeles County and portions of Orange, Riverside, and San Bernardino Counties. The 6,000 square mile SCAB is bounded by the Pacific Ocean on the west, the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east, and the Transverse Ranges to the west.

The topography and climate of Southern California combine to make the SCAB an area of high air pollution potential. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cup over the cool marine layer, thereby preventing pollutants from dispersing upward and allowing them to accumulate within the lower layer. In addition, light winds during the summer further limit ventilation.

Due to the low average wind speeds in the summer and a persistent daytime temperature inversion, emissions of hydrocarbons and oxides of nitrogen have an opportunity to combine with

sunlight in a complex series of reactions producing photochemical oxidant (smog). The smog potential is increased in the SCAB, because

the region experiences more days of sunlight than any other major urban area, except for Phoenix.

Although air quality in the SCAB has improved in recent years, the area still recorded the greatest number of days exceeding the federal ozone standards and carbon monoxide standards. Air quality data for 1985 through 1989 provided by the South Coast Air Quality Management District (SCAQMD) for the Los Angeles station area indicates that high ozone and carbon monoxide concentrations are continuing problems in the SCAB.

The nearest monitoring station to the City of Bell Gardens is located in the City of Lynwood (Exhibit 5-3). According to data compiled by the SCAQMD, the Lynwood station recorded the highest concentrations of carbon monoxide (CO) of all the stations monitoring CO. CO is a colorless toxic gas produced by the burning of carbon-based fuels. Automobiles are the primary source of CO emissions, though some industrial processes also contribute to carbon monoxide production. CO passes through the lungs directly into the bloodstream and interferes with the transfer of fresh oxygen to the blood, thus depriving sensitive tissues of blood. School and health warnings and alerts related to CO generally occur in the winter months.

Air Pollution Control Efforts

Both the federal and state governments have set health-based ambient air quality standards for the following six pollutants: sulfur dioxide, lead, ozone, nitrogen dioxide, carbon monoxide, and fine particulate matter (PM₁₀). Table 5-2 outlines current federal and state ambient air quality standards and Exhibit 5-4 and 5-5 illustrate the number of days that federal and state standards were exceeded from 1986 through 1990.

Section 5: Conservation Element (continued)

**TABLE 5-2
AMBIENT AIR QUALITY STANDARDS**

| California | | National | |
|---|---|---|---|
| Air Pollutant | Concentration | Primary | Secondary |
| Ozone | >0.09 ppm, 1-hr avg. ^a | >0.12 ppm, 1-hr avg. | 0.12 ppm, 1-hr avg. |
| Carbon Monoxide | >9.0 ppm, 8-hr. avg. >20 ppm, 1-hr. avg. | ≥9.5 ppm, 8-hr. avg. >35 ppm, 1-hr avg. | ≥9.5 ppm, 8-hr. avg. ^b >35 ppm, 1-hr. avg. |
| Nitrogen Dioxide | >0.25 ppm, 1-hr avg. | 0.053 ppm, annual avg. | 0.053 ppm, annual avg. ^c |
| Sulfur Dioxide | ≥0.05 ppm, 24-hr avg. with ≥0.10 ozone or with 24-hr TSP ≥100 ug/m ³ | 0.03 ppm, annual avg. >0.14 ppm, 24-hr avg. | >0.50 ppm, 3-hr. avg. |
| Suspended Particulate Matter (PM ₁₀) | >30 ug/m ³ annual geometric mean >50 ug/m ³ , 24-hr. avg. | >150 ug/m ³ , 24-hr avg.; >50 ug/m ³ annual arithmetic mean | >150 ug/m ³ , 24-hr avg.; >50 ug/m ³ annual arithmetic mean |
| Sulfates | ≥25 ug/m ³ , 24-hr avg. ^d | | |
| Lead | ≥1.5 ug/m ³ , 30-hr. avg. | ≥1.5 ug/m ³ , calendar quarter | >1.5 ug/m ³ |
| Hydrogen Sulfide | ≥0.03 ppm, 1-hr avg. | | |
| Vinyl Chloride | ≥0.010 ppm, 24-hr. avg. | | |
| Visibility-Reducing Particles | In sufficient amount to reduce prevailing visibility to less than 10 miles at relative humidity less than 70%, 1 observation. | | |
| <p>^a) Effective 3/9/87. The standard was previously ≥0.10 ppm, 1-hr. avg. ^b) Effective 9/13/85. The standard changed from ≥9.3 ppm to ≥9.5 ppm. ^c) Effective 7/1/85, standard changed from >.0532 ppm to >.0534 ppm. ^d) Effective 3/1/87, standard changed from ≥25 ppm to >25 ppm. ^e) Effective 7/1/87. The standards were previously: Primary: Annual geometric mean TSP >75 ug/m³ and 24-hr avg. TSP >260 ug/m³ Secondary: Annual geometric mean TSP >60 ug/m³ and 24-hr avg. TSP >150 ug/m³</p> | | | |
| <p>ppm = parts per million by volume ug/m³ = micrograms per cubic meter > = greater than ≥ = greater than or equal to</p> | | | |
| Source: South Coast Air Quality Management District, 1991. | | | |

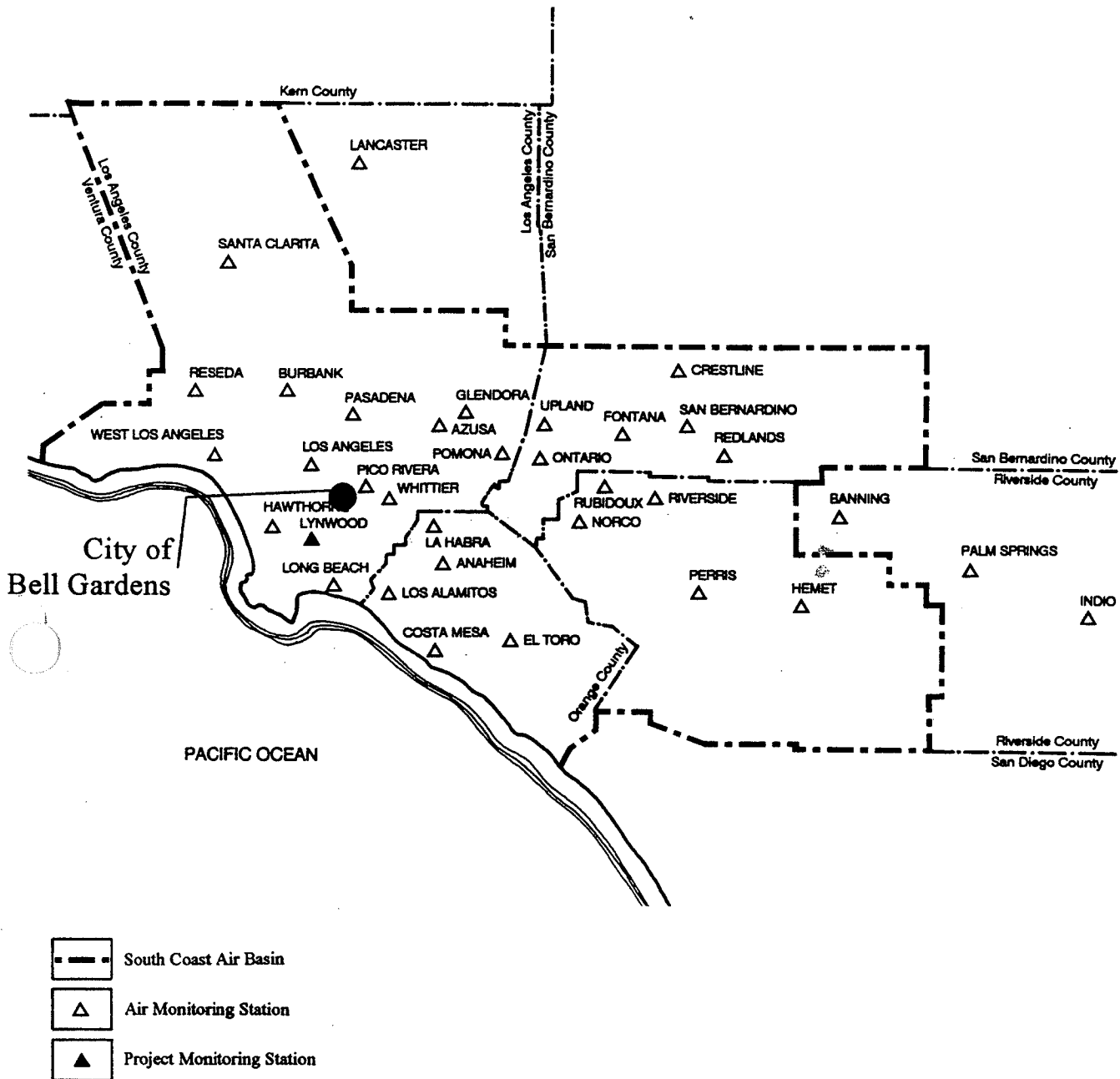


EXHIBIT 5-3
 SCAQMD AIR QUALITY MONITORING STATIONS

No. of Days Federal Standard Exceeded

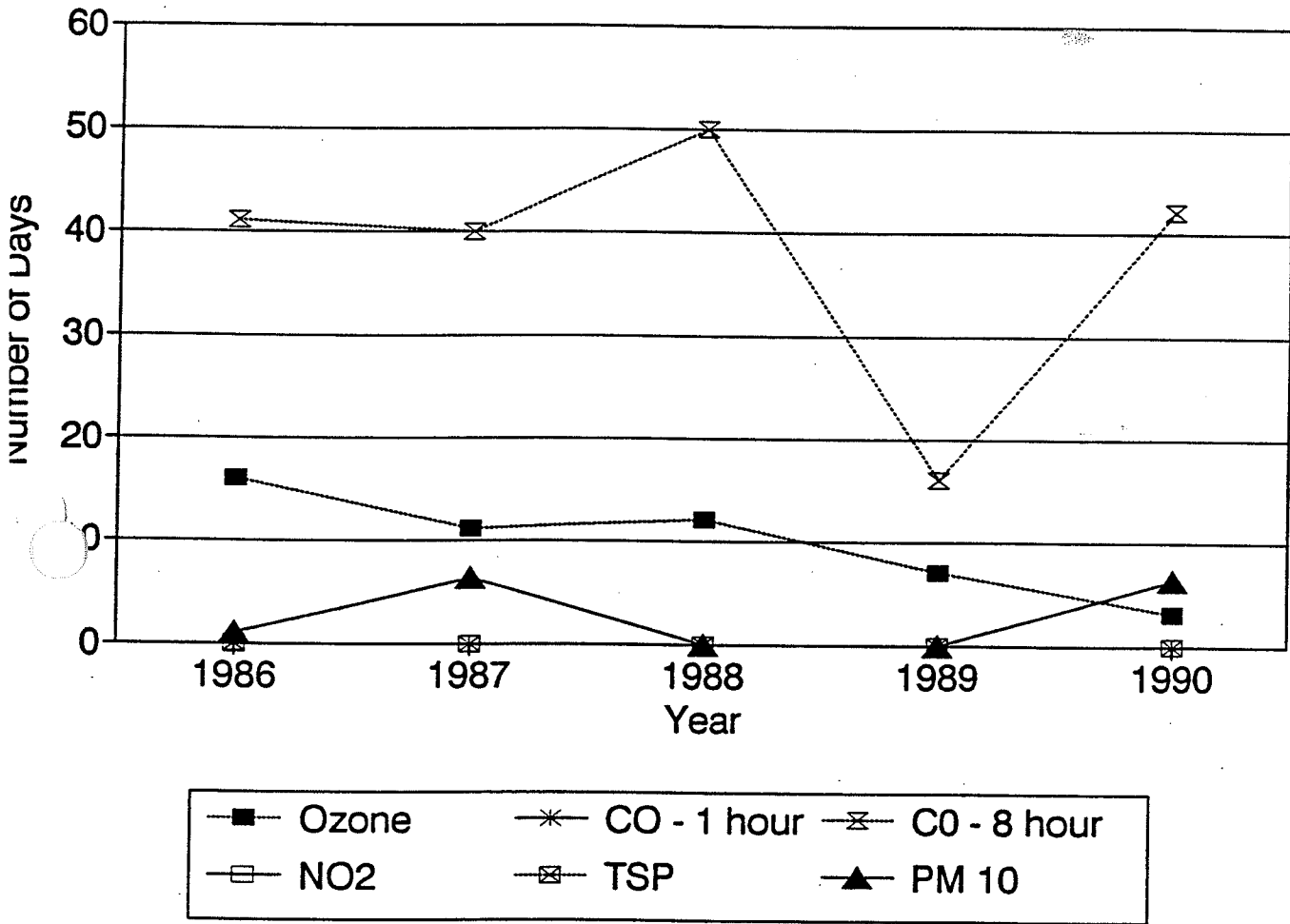


EXHIBIT 5-4
AIR QUALITY TRENDS AT LYNWOOD STATION
FEDERAL

No. of Days State Standard Exceeded

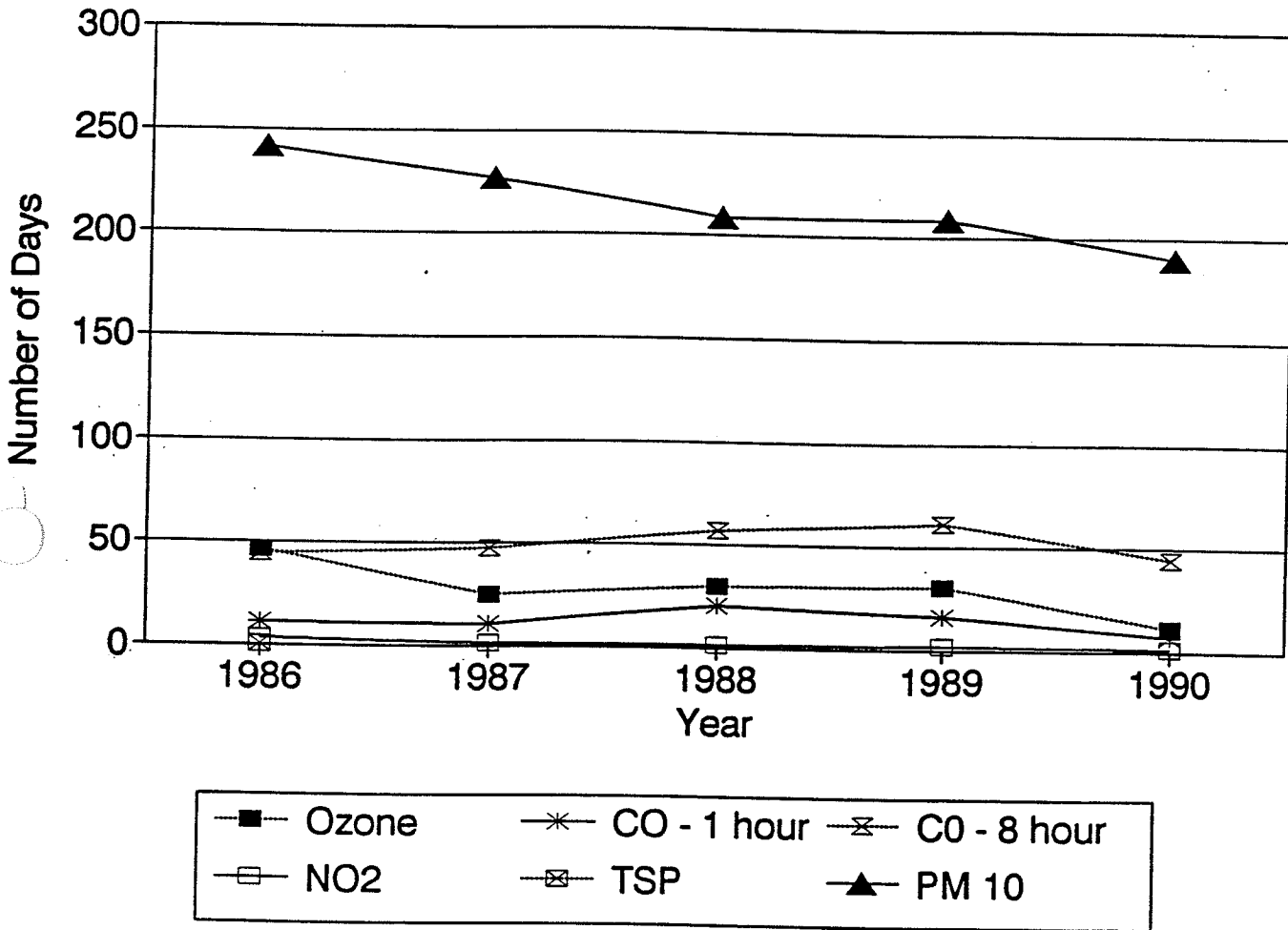


EXHIBIT 5-5
AIR QUALITY TRENDS AT LYNWOOD STATION
STATE

Despite the SCAQMD's establishment of many strict controls, the SCAB still fails to meet the federal air quality standards for four of the six criteria pollutants, including ozone, nitrogen dioxide, carbon monoxide, and PM₁₀. Nearly all control programs developed to date have relied on development and application of cleaner technology and add-on emission control devices to vehicular and industrial sources. Only recently have efforts been directed at how emission sources are used: the Inspection and Maintenance Program, High Occupancy Vehicle (HOV) lanes, and mandatory maintenance procedures on industrial sources. Although the magnitude of the problem depends heavily on the weather conditions in a given year and improvements can only be compared for the same air monitoring stations, ozone levels have declined by almost half over the past 30 years. However, they remain at or near the top of all pollution concentrations in the country.

In 1989, the SCAQMD and SCAG adopted an Air Quality Management Plan (AQMP) designed to achieve National Ambient Air Quality Standards. Utilizing a three-tiered format, the plan proposed a comprehensive set of control measures that included the use of less-polluting solvents, more efficient application methods in a variety of operations and the use of alternative fuels.

In 1990, the California Legislature passed the California Clean Air Act (CCAA), which required all nonattainment air basins in the state (including the SCAB) to develop new attainment plans to meet federal and state air quality standards.

The 1991 AQMP Revision sets forth programs which require the cooperation of all levels of government - local, regional, state, and federal. Each level is represented in the AQMP by the appropriate agency/jurisdiction that has the authority over specific emission sources. The 1991 AQMP Revision has also developed

emissions control strategies for stationary and mobile sources. This strategy is built on the attainment strategy contained in the 1989 AQMP. Local governments are responsible for implementing the transportation and land use measures in the AQMP.

Truck restriction and parking management, including policies to revise parking codes, are the only measures required by the 1991 AQMP for inclusion in an air quality element for a city without a large special event center. Bicycle routes which facilitate home/work commuting are required in a general plan, although not necessarily in an air quality element. Other measures can be implemented through adoption of ordinances at least as stringent as model ordinances to be developed by the SCAQMD.

The 1991 AQMP requires local governments to adopt ordinances for the following strategies:

- Person Work Trip Reduction
- Non-motorized Transportation
- Employer Rideshare and Transit Incentives
- Auto Use Restrictions
- Parking Management
- Merchant Transportation Incentives
- Auto Use Restrictions
- Truck Dispatching, Rescheduling and Rerouting

The SCAQMD declared its intent to adopt backstop rules that would be imposed in any city where implementation ordinances are determined by the SCAQMD to be inadequate. Additional local government measures, including control of emissions associated with new construction and reducing emissions from energy use, are also suggested in the AQMP. Measures for which the SCAQMD intends to adopt model ordinances are described below and summarized in Table 5-3.

Section 5: Conservation Element (continued)

| TABLE 5-3 LOCAL ACTIONS REQUIRED OR RECOMMENDED BY 1991 AQMP | | | |
|--|-----------|----------|--------------|
| AQMP Strategy | Ordinance | | General Plan |
| | Required | Optional | |
| Alternative work weeks, telecommuting by government employees | X | | |
| Alternative work weeks, telecommuting, trip reduction by local employers | X | | |
| Telecommuting centers for new developments | X | | |
| Set-aside local resident space for employers with multiple facilities | X | | |
| Zoning and licensing to allow telecommuting and home employment | X | | |
| Non-work trip reduction programs for special event centers | X | | |
| Bicycle routes that support job and non-work trips | | | X |
| Parking for bicycles, showers and locker facilities for new commercial and industrial facilities | X | | |
| Trip reduction plans for employers of 100 and buildings housing 100 | X | | |
| Support for Transportation Management Association formation | | X | |
| Parking management practices | | | X |
| Revised parking codes | | | X |
| Clean Streets Program | X | | |
| Auto-free zones for special event centers (where applicable) | | | X |
| Customer mode-shift incentives for large retail establishments | X | | |
| Improved truck routing, delivery scheduling and shipping and receiving plans | X | | X |
| Supplemental development standards | X | | |

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Section 5: Conservation Element (continued)

| TABLE 5-3 LOCAL ACTIONS REQUIRED OR RECOMMENDED BY 1991 AQMP (continued) | | | |
|---|-----------|----------|--------------|
| AQMP Strategy | Ordinance | | General Plan |
| | Required | Optional | |
| Actions to facilitate transit for regional shopping centers | X | | |
| Local implementation of Regulation XV | | X | |

Source: South Coast Air Quality Management District. 1991 AQMP Appendices IV-C and IV-E.

Air Quality Characteristics

Tables 5-4 and 5-5 summarize historical concentrations of selected pollutants for the

Lynwood monitoring station and the number of days emissions exceeded both federal and state standards from 1985 to 1990.

| TABLE 5-4 NUMBER OF DAYS FEDERAL EMISSION STANDARDS EXCEEDED LYNWOOD MONITORING STATION | | | | | | | | |
|---|--|-------|---|-------|--|-------|---|-------|
| Year | Carbon Monoxide/1 Maximum Concentration in PPM | | Ozone/1 Maximum Concentration in PPM | | Sulfur Dioxide/3 Maximum Concentration in PPM | | Suspended Particulates/4 Maximum Concentration in ug/m3 | |
| | 1-hour | Days* | 1-hour | Days* | 1-hour | Days* | 24-hours | Days* |
| 1985 | 19 | 0 | 0.31 | 79 | 0.07 | 0 | NM | NM |
| 1986 | 14 | 0 | 0.24 | 79 | 0.03 | 0 | NM | NM |
| 1987 | 12 | 0 | 0.28 | 63 | 0.09 | 0 | NM | NM |
| 1988 | 14 | 0 | 0.30 | 67 | 0.05 | 0 | NM | NM |
| 1989 | 13 | 0 | 0.26 | 61 | 0.04 | 0 | NM | NM |
| 1990 | 13 | 0 | 0.19 | 43 | 0.04 | 0 | NM | NM |

* Number of days standard was exceeded.
 /1 Federal Standard for Carbon Monoxide: 35 ppm 1-hour; 9.5 ppm 8-hours
 /2 Federal Standard for Ozone: 0.12 ppm 1-hour
 /3 Federal Standard for Sulfur Dioxide: 0.14 ppm 24-hours
 /4 Federal Standard for Suspended Particulates (PM₁₀): > 50 ug/m3 24 hours
 Number of samples for suspended particulates varies annually.
 NM Pollutant not monitored

Source: South Coast Air Quality Management District, "Air Quality Data," 1985-1990.

Section 5: Conservation Element (continued)

**TABLE 5-5
NUMBER OF DAYS STATE EMISSION STANDARDS EXCEEDED
LYNWOOD MONITORING STATION**

| Year | Carbon Monoxide/1 Maximum Concentration in PPM | | Ozone/1 Maximum Concentration in PPM | | Nitrogen Dioxide/3 Maximum Concentration in PPM | | Sulfur Dioxide/4 Maximum Concentration in PPM | |
|------|---|-------|--|-------|---|-------|---|-------|
| | 1-hour | Days* | 1-hour | Days* | 1-hour | Days* | 1-hour | Days* |
| 1985 | 19 | 0 | 0.31 | 4 | 0.07 | 4 | 0.07 | 0 |
| 1986 | 14 | 0 | 0.21 | 1 | 0.03 | 1 | 0.03 | 0 |
| 1987 | 12 | 0 | 0.28 | 0 | 0.09 | 0 | 0.09 | 0 |
| 1988 | 14 | 0 | 0.30 | 0 | 0.05 | 0 | 0.05 | 0 |
| 1989 | 13 | 0 | 0.26 | 61 | 0.04 | 0 | NM | NM |
| 1990 | 13 | 0 | 0.19 | 2 | 0.04 | 2 | 0.04 | 0 |

* Number of days standard was exceeded.

/1 State Standard for Carbon Monoxide: 20 ppm 1-hour; 9.0 ppm 8-hours

/2 State Standard for Ozone: 0.10 ppm 1-hour

/3 State Standard for Nitrogen Dioxide: 0.25 ppm 1-hour

/4 State Standard for Sulfur Dioxide: 0.05 ppm 24-hours

Source: South Coast Air Quality Management District, "Air Quality Data," 1985-1990.

Effects of Pollution

High concentrations of pollutants pose health problems for the general population, particularly young children playing outdoors, the elderly, and the sick. Thus, areas where these people congregate are considered sensitive receptor areas and include schools, parks, hospitals,

convalescent homes and nursing homes. Typical health problems attributed to smog include respirator ailments, eye and throat irritations, headaches, coughing, and chest discomfort. The sources and health effects of the major air pollution constituents are summarized in Table 5-6.

**TABLE 5-6
AIR POLLUTION EFFECTS**

| Pollutant Type | Description | Effects | Sources |
|----------------------|---|--|----------------------------------|
| Carbon Monoxide (CO) | Colorless, odorless, toxic gas produced by incomplete combustion of carbon-containing substances. | Passes through lungs into bloodstream. Deprives sensitive tissue of oxygen. Not known to have adverse effects on vegetation, visibility or material objects. | Gasoline-powered motor vehicles. |

Section 5: Conservation Element (continued)

TABLE 5-6
AIR POLLUTION EFFECTS (continued)

| Pollutant Type | Description | Effects | Sources |
|---------------------------------------|---|--|---|
| Oxides of Nitrogen (NO _x) | Two types, Nitric Oxide (NO), and Nitrogen Dioxide (NO ₂). NO is a colorless, odorless gas formed when combustion takes place under high pressure and/or temperature. NO ₂ forms by combustion of NO and oxygen. Participants in photochemical smog reactions. | Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. | Motor vehicles primary source. Other sources: Petroleum refining operations, industrial sources, ships, railroads, aircraft. |
| Sulfur Oxides (SO _x) | Colorless, pungent gas formed by combustion of sulfur-containing fossil fuels. | Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron and steel. Limits visibility and reduces sunlight. | Fuel combustion primary source. Other sources: chemical plants, sulfur recovery plants, and metal processing. |
| Photochemical Oxidant | Consists primarily of ozone. Created in atmosphere, not emitted directly, during photochemical process. Ozone is a pungent, colorless toxic gas. | Common effects are damage to vegetation and cracking of untreated rubber. High concentrations can directly affect lungs, causing irritation. | Motor vehicles major source of emission of oxidants of nitrogen and reactive hydrocarbons, which are ozone precursors. |
| Particulates | Made up of finely-divided solids or liquids such as soot, dust, aerosols, fumes, and mists. | May irritate eyes and respiratory tract. Absorbs sunlight, reducing amount of solar energy reaching the earth. Produces haze and limits visibility. Can damage materials. | Dust and fume-producing industrial and agricultural operations, construction, combustion products including exhaust, atmospheric photo-chemical reactions. Natural activities such as wind-raised dust and ocean spray. |
| Hydrocarbons and Other Organic Gases | Includes the many compounds consisting of hydrogen and carbon, found especially in fossil fuels. Some highly photochemically reactive. | Not known to cause adverse effects in humans. May damage plants. | Motor vehicles major source. Other sources: petroleum refining, petroleum marking operations, and evaporation of organic solvents. |

Source: South Coast Air Quality Management District, "Air Quality handbook for Preparing Environmental Impacts Reports: Revised April, 1987."

Cultural Resources

Historical Resources

The Los Angeles Basin, including parts of the San Gabriel Mountains, and the San Clemente, San Nicholas and Santa Catalina Islands were pre-historically occupied by the Gabrieliño Indians. The Gabrieliños migrated into the Los Angeles coastal areas in 500 B.C. They lived in small

villages near streams and along sheltered portions of the coast. They did not have permanent dwellings and survived on hunting, gathering, and fishing.

The Spaniards established missions in the area in the 1770's and the Gabrieliño Indian population started to decline. The Spaniards brought agriculture and cattle into Los Angeles and the missions became the population centers in the

region. The City of Bell Gardens was once part of the 29,500 acre Rancho San Antonio which was granted to Antonio Maria Lugo, a Spanish soldier, in 1810. Lugo established a ranch near the fork of the Rio Hondo and Los Angeles Rivers. In 1822, the Mexican government took control of the area and large land holdings were divided into ranches. After the depression, O.C. Beck, a land developer, offered the land for \$20 down and \$10 per month. As a result, the Lugo Ranch was divided into many small farms and ranch homes. The early twentieth century marked the industrial growth of the area as commerce, industry, and a migrant population came to Los Angeles.

Bell Gardens has several historic structures within its boundaries which may be considered as resources worthy of preservation. A number of important structures are called out in the City's General Plan as historically significant. These include the following:

■ **Old Specht Home - 6410 El Selinda Avenue.**

This home was built in 1894 and was moved to its present site from Gage Avenue, because it was replaced by a large house in the 1930's. The newer house has given way to school property and now sits at 5815 Loveland Street. Both are private residences.

■ **Site of the Laguna School - North Side of Gage Avenue.** The Laguna School was the first public school facility available to Bell Gardens' residents and was located in the City of Bell Gardens on Gage Avenue. Although it was demolished in 1957, the historic significance of the site remains.

■ **Governor Gage Mansion - 7000 East Gage Avenue.** This home was built in 1810 by Antonio Lugo with adobe walls covered with redwood siding. It was also the family home of Henry Tiffit Gage, the 20th Governor of California.

Today the house is a private residence and is being restored.

■ **Woodworth House - 6820 Foster Bridge Boulevard.** This structure was built in 1924 in an earlier style to accommodate fixtures from an earlier structure which was being demolished. The house is owned by the City and is open to the public.

■ **Peterson House - 7535 Perry Road.** The Peterson House was built in 1906 as a farm house. The windmill and well house (no longer in use) and former solar heating system attest to the builder's independence. It is now a private residence still in the Peterson family.

Other important structures and sites in the City include the Barberino House (1913) at the northeast corner of Priory and Jaboneria and the Clara Street Water Company (1920) at Priory Street.

Paleontological Resources

With the City nearly builtout, the discovery of paleontological resources is unlikely. Records of known sites do not indicate the presence of resources in the City or the surrounding area. The Los Angeles County Museum of Natural History has indicated that the entire City of Bell Gardens has a low potential and sensitivity for paleontological resources.

Archaeological Resources

A record search at the UCLA Archaeology Center showed that no prehistoric or historic sites were identified within the City. No archaeological surveys were done in the City, thus, no sensitive sites have been found. A low potential for archaeological resource discovery is expected in the area. However, the Nehemiah West multi-family development (located on the old Lugo

Section 5: Conservation Element (continued)

Mansion site at 6360 East Gage Avenue) revealed over thirty artifacts buried there. These artifacts are currently being cleaned

for display and will be returned to the City. The site was once the headquarters house for the El Rancho San Antonio, constructed by Antonio Lugo.

