EXHIBIT 3: Kelley Park Environmental Impact Report

RESOLUTION NO. 94-101

RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SAN JOSE FINDING A FINAL ENVIRONMENTAL IMPACT REPORT IS COMPLETE FOR A PROJECT DESCRIBED IN APPLICATION NO. **PP 91-06-162 (KELLEY PARK MASTER PLAN)** AND FINDING THAT SAID REPORT CONFORMS TO THE REQUIREMENTS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT.

BE IT RESOLVED BY THE PLANNING COMMISSION OF THE CITY OF SAN JOSE:

WHEREAS, pursuant to TITLE 21 of the San Jose Code, City of San Jose Department of Public Works hereinafter referred to as "Applicant", on **June 27, 1991** filed an application for which an Environmental Impact Report (hereinafter called "EIR") was required on the proposed **Kelley Park Master Plan** No. **PP 91-06-162** concerning that certain real property hereinafter referred to as "subject property", described in Exhibit "A" attached hereto and made a part hereof by reference as though fully set forth herein; and

WHEREAS, the Director of Planning, pursuant to and in accordance with said Article has prepared and filed with this Commission a draft EIR, File No. **PP 91-06-162**, relating to said subject property; and

WHEREAS, pursuant to and in accordance with said Title 21, the Director of Planning did send a copy of said draft report to each public agency having jurisdiction by law of said proposed project, advising such agencies to review and submit written comments, if any, to this Commission in the time and manner specified in said Title 21; and

WHEREAS, pursuant to and in accordance with said Title 21, this Commission conducted a hearing on said final report, notice of which was duly given; and

WHEREAS, at said hearing, this Commission gave all persons full opportunity to be heard and to present evidence and testimony respecting said final report; and

NOW, THEREFORE:

SECTION 1. This Commission hereby finds, determines and declares the final E.I.R. for said project is complete and conforms to the requirements of the California Environmental Quality Act and represents the independent judgment of the City.

SECTION 2. Copies of the final E.I.R. shall be transmitted by the Director of Planning to the Applicant and to the decision-making body.

ADOPTED this 17th day of October, 1994, by the following vote:

AYES: Grayson, Hoo, Lezotte, Madrid, Tanner and Williams

NOES: None

ABSENT: Garcia

Chairperson

ATTEST:

Gary J. Schoennauer, Secretary

G Edward Graf

Deputy

RESOLUT.PC/80

OFFICE COPY

FINAL
ENVIRONMENTAL IMPACT REPORT
FOR THE
Kelley Park Master Plan

SUBMITTED TO:

City of San Jose
Department of Planning and Building
San Jose, California

SUBMITTED BY:

Jones & Stokes Associates, Inc.
Sacramento, California

PP 91-06-162
SCH # 94033081

December 1994

Final

Environmental Impact Report
for the
Kelley Park
Master Plan

Lead Agency: City of San Jose
File No. PP91-06-162
SCH No. 94033081

December 1994

PREFACE TO THE FINAL ENVIRONMENTAL IMPACT REPORT

This Environmental Impact Report (EIR) was prepared to conform to the California Environmental Quality Act (CEQA) and Title 21 of the City of San Jose Municipal Code. This EIR provides environmental review for the Kelly Park Master Plan.

The Draft EIR, dated August, 1994, was circulated from August 12, 1994 to September 26, 1994 to appropriate public agencies for their review and comment. A public hearing on the EIR was held on October 17, 1994 before the City of San Jose Planning Commission. The Planning Commission certified that this EIR was complete and prepared in accordance with the requirements of CEQA.

The Final EIR incorporates all additions and deletions to the report since the Draft EIR was printed. All additions are <u>underlined</u> and all deletions are indicated with a ~~line through~~ the original text.

New sections included in this final document are as follows:

- FIRST AMENDMENT TO THE DRAFT EIR
- ADDENDUM TO THE FINAL EIR

ADDENDUM TO THE FINAL EIR

CONSISTING OF THE RECORD OF THE

PLANNING COMMISSION HEARING

AND TEXT REVISIONS

for

KELLEY PARK MASTER PLAN
PP91-06-162
SCH#94033081

CITY OF SAN JOSE
October 1994

G Edward Gray

for Gary J. Schoennauer
Director of Planning

RECORD OF THE MEETING OF THE PLANNING COMMISSION, OCTOBER 17, 1994.

A. Staff Presentation

Staff stated that an Addendum to the Final EIR will be prepared to identify the Pedestrian Bridge Crossing Alternative as the environmentally superior alternative.

Staff recommended that the Planning Commission certify the EIR as complete as amended, and in conformance with CEQA.

B. Public Testimony

There was no public testimony.

C. Discussion of the Planning Commission and Staff Responses

Commissioner Hoo asked staff to clarify the response to the Department of Fish and Games (CDFG) comment regarding salmon fisheries along the Coyote River and to give an explanation of electrofishing.

Staff responded that the statement in the EIR that no salmon spawning areas were identified in Coyote Creek near Kelly Park was based on observations made during a field survey and, as stated in the City's reply to the Department of Fish and Game, was also based on the review of available literature and discussions with knowledgeable fisheries biologist. The environmental consultant explained that electrofishing was a method to survey and identify fish species employing an electric current to shock fish that causes any fish in the area to rise to the water's surface.

D. Action of the Planning Commission

The Planning Commission stated that the EIR voted (6-0-1, Garcia absent) to find the EIR complete, as amended, and in conformance with CEQA.

GJS:LQ

CITY OF SAN JOSÉ
ADDENDUM TO AN EIR

Pursuant to Section 15164 of the CEQA Guidelines, the City of San José has prepared an Addendum to an Environmental Impact Report (EIR) because minor changes made to the project that are described below do not raise important new issues about the significant impacts on the environment.

PROJECT DESCRIPTION AND LOCATION

PP 91-06-162 EIR for the Kelley Park Master Plan for property located at the southeast corner of Senter and Story Roads to modify, upgrade and expand existing park elements and to develop the vacant eastern portion of the park, including a neighborhood park, natural science exhibit building, picnic areas and parking, on approximately 172 acres.
Applicant: City of San Jose.
Council District 7 County Assessor's Parcel Number Various

The environmental impacts of this project were addressed by a Final EIR entitled, "Kelley Park Master Plan," and certified on October 17, 1994, by Planning Commission Resolution No. 94-101. Specifically, the following impacts were reviewed and found to be adequately considered by the EIR:

Traffic & Circulation	Water Quality	Land Use
Cultural Resources	Soils and Geology	Air Quality
Urban Services	Hazardous Materials	Construction Period Impacts
Aesthetics	Biotics	Facilities and Services
Transportation	Noise	

Additional text has been incorporated into Chapter IV Alternatives to the proposed Master Plan. See text changes on following page.

Lee Quintana
Project Manager

Gary J. Schoennauer
Director of Planning

G Edward Gawf
Deputy

October 27, 1994
Date

TEXT REVISIONS TO THE EIR

The following revisions are noted to the text of the EIR. Deletions are indicated with ~~a line through the text~~ and additions are underlined.

Page 182 Revise the first paragraph as follows:

Impact Conclusion. The No-Project Alternative would create fewer adverse environmental effects at the project site than the proposed master plan would, but this alternative could potentially divert the project effects to other sites in the project vicinity. This alternative would not meet the objectives of the proposed project. The no-project alternative would be the environmentally superior alternative.

Page 187 Revise the fourth paragraph as follows:

Impact Conclusion: The Pedestrian Bridge Crossing Alternative would create less flooding and biological impacts than the proposed master plan because a major construction project in the Coyote Creek riparian area would be eliminated. This alternative would meet the objectives of the project, although pedestrian circulation would probably be less efficient than under the master plan. As required by CEQA when the no-project alternative is identified as the environmentally superior alternative the no bridge alternative has been identified as the environmentally superior alternative.

file 73A/ADDEN.kp

P.C. 10/17/94
Agenda Item No. 1.q.

FIRST AMENDMENT TO THE DRAFT EIR

Consisting of Comments,
Responses to Comments and
Text Revisions

for

Kelley Park Master Plan

PP 91-06-162

SCH #94033081

City of San Jose
October 1994

G Edward Gauf

Gary J. Schoennauer,
Director of City Planning

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SECTION I
FIRST AMENDMENT CONSISTING OF COMMENTS, RESPONSES, AND TEXT REVISIONS TO THE KELLEY PARK MASTER PLAN PROJECT ENVIRONMENTAL IMPACT REPORT

LIST OF ORGANIZATIONS AND AGENCIES COMMENTING ON THE DRAFT EIR

	Comments Received From	Date Received	Response Required
A.	County of Santa Clara Parks and Recreation Department	September 26, 1994	Yes
B.	Santa Clara Valley Water District	September 23, 1994	Yes
C.	Northwest Information Center	August 19, 1994	Yes
D.	State of California Department of Parks and Recreation, Office of Historic Preservation	September 26, 1994	Yes
	Comments Received After the Close of the Public Review Period		
E.	California Department of Fish and Game	October 3, 1994	Yes

SECTION II

COMMENTS RECEIVED ON THE DRAFT EIR

File No. PP 91-06-162 A
Page 3

County of Santa Clara

Environmental Resources Agency
Parks and Recreation Department
298 Garden Hill Drive
Los Gatos, California 95030
(408) 358-3741 FAX 358-3245
Reservations (408) 358-3751 TDD (408) 356-7146

RECEIVED
SEP 2 1994
CITY OF SAN JOSE
PLANNING DEPARTMENT

September 22, 1994

Ms. Lee Quintana
City of San Jose
Department of Planning and Building
801 North First Street, Room 400
San Jose, CA 95110-1795

Subject: Kelley Park Master Plan Draft Envirnomental Impact Report
FILE NO. PP91-06-162, SCH NO. 9403308

Dear Ms. Quintana,

1 Thank you for the opportunity to review the draft environmental impact report for Kelley Park Master Plan. We are pleased to note that the multi-use regional trail along Coyote Creek is identified as part of the master plan improvements. We are also pleased to note that the trail configuration and location appears to be in compliance with recommendations of the 1990 Long Range Land Utilization Report for the Coyote Creek Park Chain and Horizons 2000 General Plan Parks and Recreation Policy #13.

.2 Inclusion of the regional trail improvements recognize the importance that separated trails play in the development of intermodal and non-vehicular transportation (General Plan Transportation Policy #15 and #39). It is hoped that completion of this trail segment will encourage further trail development along Coyote Creek and link Kelley Park to Williams Street Park to the north and to the 15 miles of completed regional trail to the south.

We have no additional comments at this time.

Sincerely,

Elish Ryan

Elish Ryan
Park Planner

cc: David J. Pierce, Regional Park Planner
Julie Bondurant, Park Planner

File No. PP 91-06-162 B
Page 4

Santa Clara Valley Water District

5750 ALMADEN EXPRESSWAY
SAN JOSE, CA 95118-3686
TELEPHONE (408) 265-2600
FACSIMILE (408) 266-0271
AN AFFIRMATIVE ACTION EMPLOYER

RECEIVED
SEP 23 1994
CITY OF SAN JOSE
PLANNING DEPARTMENT

September 22, 1994

Mr. Lee Quintana
Department of City Planning and Building
801 North First Street
San Jose, CA 95110-1795

Dear Mr. Quintana:

Subject: Draft Environmental Impact Report (DEIR) for the Kelley Park Master Plan, File Number PP 91-06-162.

The District has reviewed the subject document and offers the following comments:

B.1. <u>Page 143 - Coyote Creek Water Quality</u> - The last sentence of the first paragraph states that streamflow and water quality conditions are regulated by the SCVWD from operations at Anderson Reservoir. It is not clear how the District's operation of the reservoir regulates water quality with the exception of incidental controls which may occur as particles settle within the reservoir prior to release of water from the reservoir outlet.

B.2. <u>Page 154 - Mixed Riparian Forest</u> - If the reference in this section to black willow is Goodding's black willow (*Salix gooddingii*), it is probably incorrect as this variety does not occur in Santa Clara Valley. The reference is likely to shining willow (*Salix lucidas ssp. lasiandra*).

B.3 <u>Page 164 - Tricolored Black Bird</u> - The text describes the nearest known nesting site as Calero Reservoir. This description is inconsistent with the table on Page 162.

B.4 <u>Page 165 - Fisheries Resources</u> - The original Standish Dam utilized by adjacent farmers on Coyote Creek is gone. Since 1991, the Water District has operated and will continue to operate any replacement structures to Standish Dam in a manner which allows fish passage at all times.

B.5 <u>Page 166 - Regulations and Policies Influencing Sensitive Biological Resources</u> - The City's tree removal ordinance only applies to trees on private parcels, however, it would be wise for the City to follow these same or more stringent standards on its own property.

B.6 The DEIR states that the Kelley Park Master Plan is technically exempt from the City's Riparian Corridor Policy Setback Guidelines as it was filed prior to May 18, 1994. As this is a City park and a master plan for future development of the park, we suggest that the City should comply with this policy regardless of the filing date. We believe that it is important to establish these setbacks without regard to the technicality of a filing date and to provide confirmation of the City's policy.

7. **Page 170 - Degradation and Loss of Riparian Forest and Shrub Vegetation** - The DEIR does not address impacts to vegetation from the proposed grading at the SJHM expansion area discussed no Page 150 nor from the grading required for the construction of the levee near Happy Hollow.

8. **Page 174 - Riparian Habitat Measures** - Oregon grape (*Berberis nervosa*) may not be a suitable riparian species at this location. In Santa Clara County, Oregon grape is usually encountered in coniferous forests of the Santa Cruz Mountains rather than in riparian forests of the valley floor.

9. **Page 175 - Fisheries Resources Measures** - Fish passage (either upstream or downstream) should not be blocked during any type of construction which may occur within the creek.

10. **Page 197 - Cumulative Impacts—Hydrology and Water Quality** - The DEIR states that flooding and water quality impacts could be reduced to less than significant levels by implementing the planned flood control improvements and the requirements of the SCVWD. We assume that the planned improvements referenced are those proposed with this project. The reference to the requirements of the SCVWD is not clear.

The cumulative impacts of development within the Coyote Creek watershed on flooding has not been adequately addressed. Several projects are currently proposed or under construction, such as the Silver Creek Valley Planned Development and the Levin property, which will increase the volume of floodwaters in Coyote Creek along with minor increases in water surface elevations. The cumulative impact of these and other proposed developments has not been adequately discussed with respect to impacts to existing flooding and the District's Coyote Creek flood control project.

11. In accordance with District Ordinance 83-2, a District permit is required for any construction adjacent to or within Coyote Creek. The District also requests the opportunity to review the hydraulic studies associated with the proposed levee construction.

We appreciate the opportunity to review this document.

Sincerely,

Marc J. Klemencic, P.E.
Division Engineer
Design Coordination Division

 C

Historical Resources File System

ALAMEDA COLUSA CONTRA COSTA DEL NORTE HUMBOLDT LAKE MARIN MENDOCINO MONTEREY NAPA SAN BENITO SAN FRANCISCO SAN MATEO SANTA CLARA SANTA CRUZ SOLANO SONOMA YOLO

Northwest Information Center
Foundation Center, Bldg. 300
Sonoma State University
Rohnert Park, California 94928-3609
(707) 664-2494 • Fax (707) 664-3947

16 August 1994

File No.: 94-SC-78E

RECEIVED
AUG 19 1994
CITY OF SAN JOSE
PLANNING DEPARTMENT

Lee Quintana
City of San Jose
Department of Planning & Building
801 North First Street, Room 400
San Jose, CA 95110

re: EIR for the Kelley Park Master Plan

Dear Mr. Quintana:

C.1. Records at this office were reviewed to determine if this project could adversely affect historical resources. The review for possible historic structures, however, was limited to references currently in our office. The Office of Historic Preservation has determined that any building or structure 45 years or older may be of historic value. Therefore, if the project area contains such properties they should be evaluated by an architectural historian prior to commencement of project activities. Please note that use of the term historical resources includes both archaeological sites and historic structures.

____ The proposed project area contains or is adjacent to the archaeological site(s) ( ). A study is recommended prior to commencement of project activities.

____ The proposed project area has the possibility of containing unrecorded archaeological site(s). A study is recommended prior to commencement of project activities.

____ The proposed project area contains a listed historic structure ( ). See recommendations in the comments section below.

____ Study # identified one or more historical resources. The recommendations from the report are attached.

____ Study # identified no historical resources. Further study for historical resources is not recommended.

____ There is a low possibility of historical resources. Further study for historical resources is not recommended.

C.2. ✓ Comments: Since archaeological site information is exempt from the freedom of information law (see attached flier), Appendix E should be removed from the EIR and any remaining copies of the Draft EIR document. In addition, specific descriptive information about site constituents (pgs. 136 -137) should be removed.

C.3. If archaeological resources are encountered during the project, work in the immediate vicinity of the finds should be halted until a qualified archaeologist evaluated the situation. If you have any questions please give us a call (707) 664-2494.

Sincerely,
Leigh Jordan
Leigh Jordan
Assistant Coordinator

Historical
Resources
File System

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Foundation Center, Bldg. 300
Sonoma State University
Rohnert Park, California 94928
(707) 664-2494 • Fax (707) 664-3947

WHY CALIFORNIA HISTORICAL RESOURCES FILE SYSTEM INFORMATION IS CONFIDENTIAL

Archaeological cultural resources are nonrenewable and easily damaged - their scientific, ethno-cultural and aesthetic values can be significantly impaired by disturbance. In order to prevent vandalism and artifact hunting, and to protect landowners from trespass, the locations of archaeological cultural resources are confidential. California Government Code Section 6254.10 exempts archaeological site information from the California Public Records Act which requires that public records be open to public inspection.

Access to site location information is usually limited to:
1) landowners; 2) historical resource consultants; 3) planners; and 4) scholarly researchers. Those granted access to the archives of the Information Centers sign an Agreement of Confidentiality whereby they agree to keep site location information confidential by not disclosing it to unauthorized individuals or including it in publicly-distributed documents.

PRCON
1/94

State of California

File No. PP 91-06-162
Page 8

D

Memorandum

Date : August 23, 1994

To : 1. Projects Coordinator
Resources Agency
Attention: Nadell Gayon
2. City of San Jose
801 North First Street
San Jose, California 95110-1795

From : Department of Parks and Recreation
Office of Historic Preservation

Subject: Kelly Park Master Plan, Draft Environmental Impact Report (DEIR), SCH 94033081.

D.1.

Thank you for the opportunity to comment on the DEIR for the Kelly Park Master Plan.

As a result of identification efforts, two cultural resources were recognized within the project area. One of the resources is the Kelly House and one is the prehistoric archaeological site KP-1 (temporary number).

D.2.

Only impacts to cultural resources that are historical resources (Public Resources Code 21084.1) need be considered under CEQA. It would be prudent to evaluate the two cultural resources identified to determine if they are historical resources. If they are historical resources under CEQA and the proposed project may result in a substantial adverse change to one or both of them, I recommend that this be addressed in the environmental impact report.

If you have any questions, please contact me at 916-653-6624.

Cherilyn E. Widell
State Historic Preservation Officer

E

STATE OF CALIFORNIA - THE RESOURCES AGENCY

PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

D

September 28, 1994

Mr. Lee Quintana
City of San Jose
801 North First Street
San Jose, California 95110-1795

Dear Mr. Quintana:

Kelley Park Master Plan
Draft Environmental Impact Report (DEIR)

Department of Fish and Game personnel have reviewed the DEIR for the Kelley Park Master Plan. The project proposes modification and expansion of a city park adjacent to Coyote Creek in downtown San Jose. We have identified the following deficiencies in the DEIR.

E.1. 1. Project documents should include a complete description of methods that will be used to control erosion, prevent siltation and deleterious materials from entering waterways. Specific measures to mitigate potential impacts caused by water quality changes due to grading, increased stormwater runoff, hydrocarbons and sediments from streets and parking lots, fertilizer, and herbicide and pesticide applications need to be included in the EIR. Potential changes in groundwater availability, changes that may occur to streamflow, and the hydrological cycle of Coyote Creek must also be specified. Reference to plans to be developed at a later date is not sufficient. Mitigation for urban runoff should be identified including sediment traps, evaporation basins, and flow reduction devices. A policy needs to be included to require installation and maintenance of oil/grease separators in the storm drain systems. If sediments or pollutants toxic to aquatic life do reach the creeks, the project will be in violation of Section 5650 of the Fish and Game Code.

E.2 2. It is stated in the DEIR that potential habitat exists for a number of sensitive species, including the burrowing owl (Athene cunicularia), California tiger salamander (Ambystoma californiense), California red-legged frog (Rana aurora draytonii), foothill yellow-legged frog (Rana boylii), western pond turtle (Clemmys marmorata), and San Francisco forktail damselfly (Ischnura gemina) on the project site. A description of survey methodology for these species is not given in the project document. Surveys for sensitive species must be completed and appropriate mitigation measures developed prior to certification of the EIR.

E.2 This Department recommends that, where suitable habitat will be impacted, surveying for burrowing owls be conducted over at least four days between April 15 and July 15. Recommended survey and mitigation guidelines can be provided by this Department. In addition, we recommend that preconstruction surveys for burrowing owls be conducted within 30 days of disturbance to preclude direct mortality of animals.

3. The DEIR states that several structures create barriers for native fish migration on Coyote Creek. Of the three barriers mentioned, only Standish Dam is located downstream of the project. It is a temporary dam that is installed after April 15 and removed by October 15 every year. Therefore, it is presumably not a barrier to anadromous fish migration up the creek.

E.3 According to the DEIR, no salmon spawning areas were identified in Coyote Creek near Kelley Park during field surveys. If these surveys were conducted in July, as was described for other survey work, spawning areas would not be expected. Survey methodology is not specified for the presence of fish or spawning substrate. Electrofishing should be done to determine fish species composition if potential impacts are to occur.

4. As proposed, construction of bridges included in the project could require instream earthwork. It is unclear whether bridge footings are planned in the creek. To protect the integrity of the drainage and prevent potential scouring and bank erosion that could be caused by the structure, we recommend that the bridges be designed so there are no footings in the creek. Specific plans for the bridge and its construction, including a more complete discussion of impact mitigation, need to be provided in the project document.

E.4

5. It is the policy of this Department that a project should cause no net loss of either wetland acreage or wetland habitat value. We recommend impacts to creeks be avoided where possible. Impacts would include, but are not limited to, road crossings, culverts, channelization and rip rap.

E.5 The Department recommends a minimum 100-foot buffer, measured outward from the top of each creekbank, be established to protect the creek and its vegetation, and provide a travel corridor for wildlife. No roads, buildings, yards, or turf should be permitted within the buffer.

Mr. Lee Quintana
September 28, 1994
Page Three

E.5 The proposed project includes pedestrian and equestrian trails along the Coyote Creek, which will "where feasible" be located outside the riparian zone. To protect the riparian corridor, all trails should be located outside of the riparian vegetation.

6. Proposed mitigation for removal of native riparian trees or shrubs is a 5:1 replacement ratio. Revegetation plans should ensure replacement of each removed tree or shrub with at least one mature plant of the same species. The DEIR needs to include information regarding the species to be removed, as well as success criterion and a remediation plan to assure that success will be achieved. Plant materials to be used for revegetation should be collected in the project vicinity.

6.

7. The project as proposed would result in an estimated loss of 1.45 acres of riparian habitat and 0.2 acre of wetland. No replacement mitigation is proposed. For impacts to wetland and riparian habitat that cannot be avoided, we recommend a minimum mitigation ratio of 3:1, based on creation of in-kind acreage of equal or better habitat value. Replacement of habitat acreage at a lower ratio may be appropriate if the replacement is completed prior to the destruction of the original habitat.

The Department has direct jurisdiction under Fish and Game Code sections 1601-03 in regard to any proposed activities that would divert or obstruct the natural flow or change the bed, channel, or bank of any stream. We recommend early consultation since modification of the proposed project may be required to avoid impacts to fish and wildlife resources. Formal notification under Fish and Game Code Section 1603 should be made after all other permits and certifications have been obtained. Work cannot be initiated until a streambed alteration agreement is executed. Unless otherwise specified in the streambed alteration agreement, any instream activities need to be avoided between October 15 and April 15.

E.7

The U. S. Army Corps of Engineers also has jurisdiction over the discharge of fill to streams and wetlands under Section 404 of the Clean Water Act. We recommend that the Corps be contacted to determine if they have jurisdiction and require a permit.

Specific measures to adequately mitigate unavoidable impacts, including cumulative ones, need to be incorporated into project design prior to certification of the EIR. A monitoring program, as required by Assembly Bill 3180, must ensure that mitigation measures are effective and must provide for corrective action if they are not effective.

Thank you for the opportunity to review and comment on this project. If you have any questions regarding our comments, please contact Martha Schauss, Wildlife Biologist, at (408) 623-4989, or Margaret Roper, Fisheries Biologist, at (408) 842-8917; or Carl Wilcox, Environmental Services Supervisor, at (707) 944-5525.

Sincerely,

for Brian Hunter
Regional Manager
Region 3

cc: Mr. Chris Nagano
U. S. Fish and Wildlife Service
2800 Cottage Way, Room E-1823
Sacramento, CA 95825-1846

Regional Water Quality Control Board
2101 Webster, Suite 500
Oakland, CA 94612

SECTION III

A. RESPONSES TO COMMENTS FROM THE COUNTY OF SANTA CLARA ENVIRONMENTAL RESOURCES AGENCY, PARKS AND RECREATION DEPARTMENT, RECEIVED SEPTEMBER 22, 1994.

1. The City of San Jose appreciates the County's comments regarding the multi-use regional trail along Coyote Creek. The Kelley Park Master Plan was designed to be consistent with the 1990 Long Range Land Utilization Report for the Coyote Creek Park Chain as well as the San Jose General Plan.

2. The City of San Jose notes the County's reference to a possible future link between the Coyote Creek trail in Kelley Park and the Williams Street Park. Although extension of the Coyote Creek trail is addressed in the 1990 Long Range Land Utilization Report for the Coyote Creek Park Chain, specific links from the Kelley Park trail portion to other parks is not specifically identified in the master plan.

B. RESPONSES TO COMMENTS FROM THE SANTA CLARA VALLEY WATER DISTRICT, RECEIVED SEPTEMBER 22, 1994.

1. The Santa Clara Valley Water District's comments regarding the regulation of water quality from operations at Anderson Reservoir are acknowledged. The text of the DEIR on page 143 has been revised to delete reference to the regulation of water quality at Anderson Reservoir by the District in Section IV of this First Amendment.

2. The Santa Clara Valley Water District's comments regarding the identification of the willows in Kelley Park are acknowledged. The text of the EIR on page 154 has been revised in Section IV of this First Amendment to reference shining willow (Salix lucidas ssp. lasiandra).

3. The Santa Clara Valley Water District's comments regarding the nearest known nesting site of the tricolor blackbird are acknowledged. The text of the EIR on page 164 has been to revised in Section IV of this First Amendment to state that the nearest known nesting site of tricolc.ed blackbird is at the Coyote Percolation Ponds.

4. The Santa Clara Valley Water District's comments are acknowledged. The text of the EIR on page 165 has been revised in Section IV of this First Amendment to state that the original Standish Dam no longer exists.

5. The District's comments regarding the applicability of the City's tree removal ordinance is noted. The Kelley Park Master Plan will be required to conform to the provisions of the City's tree removal ordinance. The project would be required to avoid the removal of trees, to obtain a tree removal permit for any ordinance size tree(s) removed and to replace any trees removed at the same replacement ratios as required of private projects.

6. The Santa Clara Valley Water District's comments regarding the Kelley Parks Master Plan's consistency with the City's Riparian Corridor Policy Setback Guidelines are noted. No revisions to the Master Plan or EIR are proposed.

7. The proposed SJHM expansion area has been designed to provide a 100 foot-wide buffer zone between expansion area facilities and the Coyote Creek riparian zone, as shown in Figure II-6 on page 36 of the Draft EIR. The proposed Happy Hollow levee and associated grading also would not affect the Coyote Creek riparian zone because the levee would be constructed outside the creek corridor approximately 200 feet west of the riparian corridor, as shown in Figure II-5 on page 34 of the DEIR. Mitigation included in the proposed project that further reduces this less-than-significant impact, has been added to EIR in Section IV of this First Amendment. This mitigation includes the restriction of construction activity and the storage of construction equipment to the western side of the levee.

8. The Santa Clara Valley Water District's comment regarding the suitability of Oregon grape (Berberis nervosa) as a replacement for riparian vegetation is acknowledged. The text of the EIR on page 174 has been revised in Section IV of this First Amendment to delete reference to Oregon grape (Berberis nervosa).

9. The District's comments regarding fish passage is noted. Fish passage both upstream and downstream would be ensured during construction in the creekbed by implementing DFG's temporary stream diversion guidelines and by complying with the requirements of DFG's Section 1601 streambed alteration agreement.

10. The District's comments regarding cumulative impacts on hydrology and water quality are noted. The Draft EIR (p. 196) states that cumulative flooding and water quality impacts allowed under the City's general plan could be reduced by jointly implementing currently planned Coyote Creek improvements, SCVWD flood control and water quality requirements, and San Jose 2020 General Plan "Community Development" and "Hazards" policies. Improvements planned for Kelley Park would be implemented as part of the master plan and would contribute to reducing cumulative flooding and water quality impacts in Coyote Creek.

    The cumulative analysis in the Draft EIR for flooding is based on the San Jose 2020 General Plan EIR analysis as allowed under CEQA Guidelines Section 15130. A copy of the San Jose 2020 General Plan and EIR are available at the City of San Jose Department of Planning and Building, 801 North First Street, San Jose, California 95110-1795.

11. The Santa Clara Valley Water District's comments are noted. Prior to any construction in or adjacent to Coyote Creek the City shall obtain a permit from the Santa Clara Valley Water District. At the time a specific construction project for the levee is proposed the District will be provided the opportunity to review the hydraulic studies for the Happy Hollow levee.

C. RESPONSES TO COMMENTS FROM NORTHWEST INFORMATION CENTER, SONOMA STATE UNIVERSITY RECEIVED AUGUST 19, 1994.

1. The Northwest Information Center's comments are noted.

2. The Northwest Information Center's comments are acknowledged. Appendix E and descriptive text on pages 136 and 137 shall be deleted from the Draft EIR.

3. The Northwest Information Center's comment is noted. The Draft EIR indicates on page 141 that "If cultural materials are encountered during construction or other activities, work would be stopped until a qualified archaeologist can evaluate the find."

D. RESPONSES TO COMMENTS FROM DEPARTMENT OF PARKS AND RECREATION OFFICE OF HISTORIC PRESERVATION RECEIVED AUGUST 23, 1994.

1. The Office of Historic Preservation's comments are acknowledged.

2. The Office of Historic Preservation's comments are noted. The Draft EIR addresses potential impacts to the Kelley House on pages 138 and 139. This impact has been determined to be significant and mitigation measures are recommended to reduce impacts (bottom of page 139, top of page 140). Similarly, the impact analysis for archaeological site KP-1 is addressed on page 139. This impact has been determined to be significant and mitigation measures are recommended to reduce impacts (bottom of page 140, top of page 141). No additional analysis in the EIR is warranted.

E. RESPONSE TO COMMENTS FROM THE DEPARTMENT OF FISH AND GAME RECEIVED OCTOBER 3, 1994.

1. Potential impacts to Coyote Creek from urban runoff and construction are addressed on pages 142- 151 of the Draft EIR. As stated on page 150, the City is required to coordinate with the Santa Clara Valley Water District on both flooding and water quality issues, to prepare specific drainage plans, and comply with NPDES stormwater runoff regulations. Compliance with the best management practices and other requirements of the NPDES permit will involve additional planning at the time a specific project is proposed. Specific drainage plans will also be developed at the time a specific project is proposed.

2. Based on the results of the March 1994 field study page 159 of the Draft EIR states that no suitable habitat exists in the study area for the California red-legged frog, the foothill yellow-legged frog or the California tiger salamander. Surveys or mitigation measures, therefore, are not necessary for these species. It appears that this conflicts with information in Table III-11 (p. 160), that states there is potential habitat in the project area for a number of sensitive species, including the burrowing owl, California tiger salamander, California red-legged frog, California yellow-legged frog, western pond turtle, and San Francisco forktail damselfly. Table III-11, which is based on the July 1992 field survey, was inadvertently not updated to incorporate information obtained during the 1994 survey. Table III-11 is revised in Section IV of this First Amendment to reflect the results of the 1994 survey.

   The western pond turtle was observed in Coyote Creek during the 1992 field survey. No mitigation measures are required because implementing the project would not substantially affect turtle habitat.

   Burrowing owls were not observed in the project area, and it is unlikely that this species would occur in the landfill area because of the low quality habitat. However, this species could move onto the site prior to the start of grading or construction. Therefore, page 173 of the Draft EIR has been revised in Section IV of this First Amendment to include a discussion of the potentially adverse affects on Burrowing Owls. Page 176 of the Draft EIR has also been revised to include mitigation measures for the burrowing owls. Prior to the start of grading or construction in the landfill, the area will be surveyed according to the DFG protocol. If burrowing owls are not found at the project site no additional mitigation is required. If burrowing owls are found during the field surveys, a burrowing owl relocation/mitigation plan subject to DFG review and approval, will be prepared and implemented.

3. See response to comment B.4. from the SCVWD regarding Standish Dam.

   The statement on page 165 of the Draft EIR regarding salmon spawning areas is based on general observations of stream sediments during a site visit in July 1994, and a review of existing information. Assumptions regarding fish species composition were developed from the available literature and discussions with knowledgeable fisheries biologists. Electrofishing is not typically performed for program level EIRs unless there is a paucity of information. Since sufficient information is available on the types of fish in Coyote Creek, electrofishing is not necessary.

4. As required under Section 15168 of the CEQA Guidelines, the Draft EIR for the Kelley Park Master Plan addresses all of the significant environmental impacts at a level of detail that is appropriate for a program-level environmental impact report. Specific design information is typically not available at the Master Plan stage of the project. It is anticipated, however, that both the northern and southern pedestrian bridges will span the creek and that the footing for these bridges will be located outside the creek bed. At the time specific projects are proposed the bridges will be designed to minimize instream earthwork.

5. DFG's comments are noted. Mitigation identified on page 174 of the Draft EIR and in Section IV of this First Amendment will reduce any impacts to the riparian corridor resulting from the implementation of the Master Plan to a less than significant impact. Also refer to response to comments B.6 and B.7.

6. The DFG comment regarding a revegetation program is acknowledged. An outline for a revegetation plan for impacts to riparian and wetland habitat has been added to page 174 of the Draft EIR in Section IV of this First Amendment.

7. Comment noted. Recommendations that DFG be consulted prior to implementation of any proposed actions and that the Corps of Engineers be notified are included in the section on Necessary Permits and Recommended Agency Mitigation.

SECTION IV

TEXT REVISIONS TO THE DRAFT EIR

The following revisions are noted to the text of the Draft EIR. Deletions are indicated with ~~a line through the text~~ and additions are underlined.

Page Amendment

1. Revise the third and fourth bullets as follows:

   - ~~constructing a new entry area for Kelley Park;~~

   - constructing a new entry/plaza area to Happy Hollow Park and Zoo;

9. Revise the second sentence under **IMPACTS Police and Fire Protection** as follows:

   Demand for additional police and fire protection services related to expanded park facilities is considered a less-than-significant impact because the SJPD currently patrols the park area and ~~has a special unit on park grounds~~ assigns a Parks Unit to Kelley Park during peak months, and the SJFD has several stations that could provide fire protection services to the new and expanded park uses within the minimum emergency response time.

14. The first paragraph under **IMPACTS** is revised to read as follows:

   Potential Destruction or Modification of Archaeological Site KP-1. Modification or destruction of site KP-1 would be a significant impact because the site, which is potentially eligible for inclusion in the National Register would be destroyed. **(Significant Impact)**

19. Add the following after the first paragraph under **IMPACTS**:

   Low quality habitat exists on the project site for burrowing owls. (potentially significant impact)

19. Add the following opposite the about addition under MITIGTION MEASURES:

   A survey for burrowing owls will be conducted according to DFG protocol prior to grading or construction in the landfill area. If owls are found, a relocation plan will be prepared by a qualified biologist.

23. Revise the third and fourth bullets as follows:

- ~~constructing a new entry area for Kelley Park;~~

- constructing a new entry/plaza area to Happy Hollow Park and Zoo;

55. Add the following between the second and third paragraphs under **Land Use Compatibility:**

55 In addition, the implementation of the Happy Hollow Master Plan would change the views from Story and Senter Roads. Views would change from a vine covered fence to partial views of the amusement area of Happy Hollow. No sensitive receptors are located in this area.

110. The last sentence of the last paragraph is revised as follows:

Usual peak season practice is to have ~~one or two officers~~ an officer assigned to patrol Kelley Park during operating hours. (Dowdell pers. comm.)

114. Insert the following prior to the last sentence of the first paragraph:

U.S.D.A. regulations require that all runoff and drain water generated from zoo animal exhibits empty into the sanitary system.

114. Insert the following between the first and second sentence of the second paragraph as follows:

A combined storm and sanitary sewer system is required for Happy Hollow Zoo.

115. The fourth sentence of the first paragraph is revised as follows:

During all other months, Kelley Park is ~~regularly patrolled by officers on beats~~ assigned to beat officers.

115. The first sentence of the third paragraph is revised as follows:

Demand for additional police and fire protection services related to expanded park facilities is considered a less-than-significant impact because the SJPD currently patrols the park area and ~~has a special unit on park grounds~~ assigns a Parks Unit to Kelley Park during peak months, and the SJFD has several stations that could provide fire protection services to the new and expanded park uses within the minimum emergency response time.

116. Add the following as a second bullet under 3. Mitigation **Wastewater:**

Runoff and drain water for the Happy Hollow Zoo would flow into the sanitary sewer system.

136. Delete the second paragraph and replace with the following:

One archaeological site is located within the park boundaries. Seven prehistoric sites and three historic sites are found within 0.25 miles of the project boundary.

136. Delete the third paragraph.

137. Delete the first and second paragraph.

143. The last sentence of the first paragraph is revised as follows:

Streamflows ~~and water quality~~ conditions are regulated by the SCVWD from operations at Anderson Reservoir.

147. Revise the first and second sentence of the second paragraph under **Hydrology and Flooding** as follows:

The Kelley Park master plan proposes to locate a levee on the perimeter of the zoo boundary outside of the creek floodway (approximately 200 feet from the riparian zone) to protect the area from devastating floods and eliminate the need to evacuate zoo animals during floods. The levee would be approximately 800 feet long, 13 feet high and ~~72~~ 26 feet wide and would provide flood protection to key areas of the zoo.

154. The first sentence of the last paragraph is revised as follows:

Along the edge of the creek channel and lower terrace areas, box elder, Fremont cottonwood, black cottonwood (uncommon), red willow, shining ~~black~~ willow, and northern California black walnut form a dense overstory above a subcanopy of arroyo willow and box elder, sycamore and willow seedlings.

162. Revise pages 161 and 162 of Table III-11 as shown in Attachment A.

164. The third sentence of the third paragraph under "Tricolored Blackbird" is revised as follows:

The nearest known nesting site for the tricolored blackbird is at the Coyote Percolation Ponds ~~Calero Reservoir~~ (Beedy et al. 1991), approximately 6 ~~11~~ miles from Kelley Park.

165. Revise the next to last sentence of the fourth paragraph as follows:

These barriers include ~~Standish Dam (a flashboard dam design to stop tidal action for agricultural diversions upstream),~~ Singleton Road culvert (occasionally plugged by debris) and Hellyer Park bike path (can be a barrier at low flow) (California Department of Fish and Game [DFG] unpublished file data). Standish Dam is located downstream of the project site. The original Standish Dam utilized by adjacent farmers on Coyote Creek is gone. Since 1991, the SCVWD has operated, and will continue to operate, any replacement structures to Standish Dam in a manner which allows fish passage at all times (SCVWD).

170. Add the following after the second paragraph:

The proposed Happy Hollow levee would be constructed approximately 200 feet west of the riparian zone, as shown in Figure II-5 on page 34, therefore, construction activity associated with the grading and construction of the levee, such as the operation or storage of heavy construction equipment would not result in a loss or degradation of the riparian vegetation.

173. Add the following prior to **Potential Loss of Special Status Wildlife Species Habitat**:

Potential Adverse Affects on Burrowing Owls

Implementation of the project could affect burrowing owls if they move into the landfill area prior to the start of grading or construction in that area.

This impact is potentially significant because the burrowing owl is a state species of special concern and the species has declined substantially in the Bay Area. In addition, disturbing or killing nesting burrowing owls would violate the federal Migratory Bird Act and California Fish and Game Code 3503.5.

174. Revise the second line of the page as follows:

Riparian Habitat and Wetland Measures

174. Revise the third bullet as follows:

~~Replace any removed native riparian tree and shrub species with the same or similar species at a ratio of 5:1. A qualified habitat restoration specialist would decide which planting material (i.e., trees and shrubs) will be most appropriate.~~

Develop a riparian and wetland restoration plan by a qualified restoration specialist and plant ecologist incorporating, but not limited to the following: (included in the project)
Replacement ratios: Loss of mature mixed riparian forest and wetland habitat acreage will be mitigated at a 3:1 replacement ratio (in kind) to ensure riparian habitat of equal or greater value and to ensure no net loss of wetland value.

Location of mitigation areas: Riparian and wetland habitat mitigation areas will be provided on site to the extent possible. Selection of sites will focus on sites that are either heavily degraded or sites that previously supported riparian or wetland vegetation along the banks of Coyote Creek in or near the project site.

Develop planting plan: Establish baseline values for riparian and wetland habitat within the Coyote Creek corridor including, but not limited to the following: data on plant density, species composition, habitat structure and edaphic factors. Baseline data will assist in determining the composition of species to be included in the planting plan. Replace any removed native riparian tree or shrub species with the same or similar species at ratio of 5:1.

Develop performance standards against which success of wetland replacement plan is measured and develop a monitoring program and a contingency plan to assure attainment of that standard: The restoration effort will be monitored for a minimum of 5 years. Monitoring will focus on survivor counts by species. All planting will have an overall survival rate of 80% by the fall of the fifth year of monitoring. When a species fails to achieve its performance standard, replacement planting will be initiated in conformance with the contingency plan.

Consultation: Consult with DFG and other involved agencies prior to, and during the development of the plan.

174. The last sentence of the fourth bullet under **Riparian Habitat Measures** is revised as follows:

Suitable species for replacement are those riparian species found on the site, including, but not limited to, red willow, arroyo willow, Fremont cottonwood, box elder, western sycamore, mule fat, and blue elderberry~~, and Oregon Grape~~ (included in the project).

174. Add the following after the last bullet under **Riparian Habitat Measurements:**

The following mitigation would further reduce the less-than-significant impacts to the riparian zone from construction of the levee:

- o Erect high-visibility temporary fences between the levee construction and the riparian zone (included in the project);

- o Limit levee construction activities and storage of construction equipment to the west side of the levee (included in the project).

176. Add the following mitigation prior to the **Impact Conclusion**:

Special-Status Species Mitigation

- o At least one month prior to the start of grading or construction of specific projects in the landfill area, a qualified biologist would conduct a burrowing owl survey using the current California Department of Fish and Game protocol. If burrowing owls are not found at the project site then no further surveys would be necessary (included in the project).

- o If burrowing owls are located during the field surveys a qualified biologist would prepare a borrowing owl relocation and management plan, subject to review and approved by the City of San Jose Department of City Planning and Building and DFG. The plan could include, but not be limited to the following: (included in the project)

  - artificial burrow construction,
  - owl relocation
  - habitat acquisition or enhancement.
  - relocation of owls during the non-nesting season (approximately September to February)
  - applicable approval from DFG and U.S. Fish and Wildlife Service.

176. The last paragraph is revised as follows:

Impact Conclusion. Implementation of the measures included in the project for reducing impacts on riparian habitat, wetlands, Coyote Creek, ~~and~~ fisheries resources and burrowing owls would reduce these significant impacts to less-than-significant levels.

Appendix E. Delete Appendix E and replace with the following information:

Appendix E is on file at the City of San Jose Department of City Planning and Building.

ATTACHMENT A

Table III-11. Special-Status Wildlife Species That Are Known to Occur or Could Occur in the Kelley Park Area

Species	Legal Status[a] Federal/State	Distribution in California	Preferred Habitats	Potential to Occur in the Study Area
Bay checkerspot butterfly *Euphydryas editha bayensis*	T/--	Vicinity of San Francisco Bay	Native grasslands on outcrops of serpentine soil; California plantain and owl's clover are host plants	No records; no suitable habitat exists at the project site
San Francisco forktail damselfly *Ischnura gemina*	C2/--	Point Reyes peninsula, San Francisco, South Bay, East Bay to Berkeley, Suisun City	Small shallow ponds, slow streams, marshes, canals, and permanent water sources with emergent vegetation	No records; suitable habitat exists along Coyote Creek low-flow channel where cattails occur
Moestan blister beetle *Lytta moesta*	C2/--	Central Valley	Vernal pools	No records; no suitable habitat
Edgewood blind harvestman *Calicina minor*	C2/--	Santa Clara and San Mateo Counties	Moist, open serpentine grasslands	No records; nearest record is approximately 7 miles southeast of Kelley Park along Silver Creek; no suitable habitat at project site
Monarch butterfly *Danaus plexippus*	--/SSR	Overwinters in colonies along the California coast from Mendocino County in the north to San Diego County in the south	Roosts in trees, such as eucalyptus, Monterey pine, and Monterey cyprus	No records; marginal quality over-wintering habitat in the riparian vegetation along Coyote Creek; none observed
California red-legged frog *Rana aurora draytonii*	C1/SSC	West of the Sierra-Cascade crest and along the Coast Ranges, usually below 4,000 feet	Quiet pools of streams, marshes, and ponds	No records; no suitable habitat exists along Coyote Creek; none observed
Foothill yellow-legged frog *Rana boylii*	C2/SSC	Coast Ranges, western slope of the Sierra-Cascade foothills, up to 6,000 feet	Streams with sunny, sandy, or rocky banks with shallow riffles	No records; no suitable habitat exists along Coyote Creek; none observed
California tiger salamander *Ambystoma californiense*	C2/SSC	Central Valley and coastal region from Napa and Yolo Counties south to Kern County	Grasslands and open woodlands with vernal pools, ponds, and slowly flowing streams	No records; no suitable upland habitat or aquatic habitat
Southwestern pond turtle *Clemmys marmorata pallida*	C1/SSC Petitioned for federal listing	South of San Francisco Bay and west of San Joaquin Valley	Ponds, small lakes, streams, and marshes with rocks and logs for sunning	No records; one pond turtle observed in Coyote Creek; suitable habitat exists along Coyote Creek; no nesting habitat exists
Berkeley kangaroo rat *Dipodomys heermanni berkeleyensis*	--/--	Contra Costa and Santa Clara Counties	Open grassy hills tops, open spaces in chaparral, and blue oak-digger pine woodlands	No records; nearest record is approximately 14 miles north of the project site at Calaveras Reservoir; no suitable habitat

ATTACHMENT A

Table III-11 Continued

Species	Legal Status[a] Federal/State	Distribution in California	Preferred Habitats	Potential to Occur in the Study Area
San Joaquin kit fox *Vulpes macrotis mutica*	E/T	Portions of western Kern, eastern San Luis Obispo, western Tulare, Kings, western Fresno, western Merced, western Stanislaus, southwestern San Joaquin, Alameda, Contra Costa, Santa Clara, San Benito, Monterey, and northern Santa Barbara Counties	Grasslands, saltbrush, open woodlands, and alkali sink valley floor	No records within 2 miles of the project site; none observed; study area is surrounded by development; no suitable habitat
Burrowing owl *Athene cunicularia*	–/SSC	Open habitats throughout lowland California	Open, dry, and nearly level grassland or prairie habitat	No records; marginal to low-quality habitat exists in open areas east of Coyote Creek; none observed
Bank swallow *Riparia riparia*	–/T	Breeds throughout lowlands and mountain valleys of California	Steep, eroded riverbanks or coastal cliffs	No records; no suitable nesting habitat; none observed
Least Bell's vireo *Vireo bellii pusillus*	E/E	Breeds in Monterey, San Benito, Inyo, Santa Barbara, Riverside, and San Diego Counties	Willow scrub and cottonwood-willow riparian habitats	No records; nearest known breeding area is in the Salinas River Valley in Monterey and San Benito Counties; Coyote Creek is marginal-quality breeding habitat; none observed
California yellow warbler *Dendroica petechia brewsteri*	–/C2	Throughout California except the southern deserts	Riparian forest for nesting	No records; nearest record is along the Guadalupe River, approximately 3 miles to the east; potential nesting habitat exists; none observed.
Tricolored blackbird *Agelaius tricolor*	C1/SSC	Lowlands and valleys throughout California	Nests in freshwater marshes and blackberry thickets	No records; nearest known record is at least 6 miles from the project site (Coyote percolation ponds); no suitable breeding habitat; one individual observed in 1994

[a] Status explanations (see the "Definitions of Special-Status Species" section in text for citations):

Federal

E = listed as endangered under the federal Endangered Species Act.

T = listed as threatened under the federal Endangered Species Act.

C1 = Category 1 candidate for federal listing. Category 1 includes species for which USFWS has on file enough substantial information on biological vulnerability and threat to support proposals to list them.

SECTION V

DISTRIBUTION LIST OF DRAFT EIR

Copies of the Draft EIR were sent to the following agencies, organizations, and individuals:

County of Santa Clara

Planning Department
Parks and Recreation Department
Historical Heritage Commission

Regional Agencies

Bay Area Air Quality Management District
Association of Bay Area Governments
Regional Water Quality Control Board
Metropolitan Transportation

State Agencies

State Clearinghouse, Office of Planning and Research
Office of Historic Preservation
Department of Health Services
Northwest
Information Center, Sonoma State University
Department of Fish and Game
Water Resources Board
California Integrated Waste Management Board

Federal Agencies

Environmental Protection Agency
Army Corps of Engineers
Fish and Wildlife Service
Federal Highway Administration

Public Utilities

Pacific Gas and Electric
San Jose Water Company
Pacific Bell
Southern Pacific Railroad

Local Organizations

Sierra Club
Audubon Society
Native Plant Society
Preservation Action Council

Others

San Jose Main Library
Santa Teresa Library
Seven Trees Library
Elvira Borres
Larry Ameo

KP1ST.AMD/73B

Preface

This document has been prepared by the City of San Jose (City), as the Lead Agency, in conformance with the California Environmental Quality Act (CEQA). This environmental impact report (EIR) provides program-level environmental review pursuant to the State CEQA Guidelines, Section 15168, for the proposed Draft Kelley Park Master Plan.

The program EIR is intended to provide public disclosure of the environmental effects of the project and to serve as a decision-making tool for the City in its evaluation of the master plan. The general level of impact analysis included in this program EIR is adequate for the purpose of considering the proposed draft master plan as provided under Section 15146 of the State CEQA Guidelines. Project-specific environmental review will be conducted subsequently in conjunction with other required approvals.

This EIR has been prepared to meet the content requirements of CEQA (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (14 California Code of Regulations Section 15000 et seq.). CEQA requires all state and local government agencies to consider the environmental consequences of projects over which they have discretionary authority before taking action. An EIR is an informational document used in the local planning and decision-making process. It is not the purpose of the EIR to recommend either approval or denial of a project.

In accordance with CEQA, the EIR provides objective information regarding the environmental consequences of the proposed project to the decision makers for the review of a project. The following guidelines are included in CEQA to clarify the role of an EIR:

> **15146. Degree of Specificity.** The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR.
>
> (a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.
>
> (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.

15121(a). **Informational Document.** An EIR is an informational document which will inform public agency decision makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR, along with other information which may be presented to the agency.

15151. **Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision, which intelligently considers environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In Section 15126(c) of the State CEQA Guidelines, the State Resources Agency states that "the discussion of mitigation measures shall distinguish between the measures that are proposed by the project proponents to be included in the project, and other measures that are not included but could reasonably be expected to reduce adverse impacts." Therefore, this EIR identifies the mitigation measures included in the Draft Kelley Park Master Plan and additional feasible mitigation measures that should be considered at the time of future specific projects.

This EIR consists of 12 chapters. Chapters I and II summarize the environmental impacts of the project and present the project description. Chapter III presents the environmental setting, impacts, and mitigation measures associated with the project for 10 topical impact areas: land use and visual resources; transportation and circulation; air quality; noise; public services and facilities; public health and safety; geology and soils; cultural resources; hydrology and water quality; and vegetation, wildlife, and fisheries resources. Chapters IV and V address impacts of the alternatives and cumulative impacts. Chapters VI through IX present impacts associated with CEQA-required sections. Chapter X presents views of local groups regarding the proposed master plan. Chapters XI and XII identify the EIR authors and references cited in the text. The appendices present information on comments received on the notice of preparation of an EIR (Appendix A) and technical information used in preparation of the EIR analyses.

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LIST OF ACRONYMS

BMPs	best management practices
BOD	biological oxygen demand
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
City	City of San Jose
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
CSJOEC	City of San Jose Office of Environmental Compliance
CWA	Clean Water Act
dB	decibels
dBA	"A-weighted" decibel scale
DFG	California Department of Fish and Game
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FR	Federal Register
I-280	Interstate 280
Ldn	day-night average sound level
Leq	equivalent sound levels
LOS	level of service
Lx	percentile-exceeded sound level
mgd	million gallons per day
NOI	Notice of Intent
NO_x	oxides of nitrogen
NPDES	National Pollution Discharge Elimination System
NSE	natural science exhibit
NSR	New Source Review
PacBell	Pacific Bell
PG&E	Pacific Gas and Electric Company
PM10	particulate matter 10 microns in diameter or smaller
ppd	pounds per day
ppm	parts per million
RCPS	Draft Riparian Corridor Policy Study of the City of San Jose

ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SCIWMB	State of California Integrated Waste Management Board
SCVWD	Santa Clara Valley Water District
sf	square foot
SFBAAB	San Francisco Bay Area Air Basin
SIPs	State Implementation Plans
SJFD	City of San Jose Fire Department
SJHM	San Jose Historical Museum
SJHM Master Plan	1994 San Jose Historical Museum Master Plan
SJIA	San Jose International Airport
SJPD	City of San Jose Police Department
SJSU	San Jose State University
SJWC	San Jose Water Company
SWAT	Solid Waste Assessment Test
SWRCB	State Water Resources Control Board
TA	Santa Clara County Transportation Agency
tpy	tons per year
TSS	total suspended solids
U.S. 101	U.S. Highway 101
USFWS	U.S. Fish and Wildlife Service
V/C	volume-to-capacity
WDRs	waste discharge requirements

Chapter I. Kelley Park Master Plan Environmental Impact Report Summary

A. PROJECT DESCRIPTION

Kelley Park is located approximately 1.5 miles southeast of downtown San Jose along Coyote Creek at the intersection of Senter and Story Roads. The 172-acre park site is surrounded by urban land uses. The creek supports an open space and recreation corridor that bisects the central portion of the San Jose urban area in a northwestern to southeastern direction.

The Kelley Park Master Plan incorporates three main objectives for future park development: modifying, upgrading, and expanding existing park elements that are currently used in the developed, western portion of the site; integrating plans to upgrade existing park features with the future eastern expansion; and developing the vacant eastern portion of the site.

Major master plan components for the western (developed) portion of Kelley Park include:

- expanding Happy Hollow Park and Zoo use areas under a separate draft master planning process;
- constructing a levee along the northwestern portion of Coyote Creek;
- constructing two pedestrian bridges across Coyote Creek;
- ~~constructing a new entry plaza area for Kelley Park;~~
- constructing a new entry/plaza area to Happy Hollow Park and Zoo;
- reusing the Leininger Center as a conference center;
- expanding and continuing to develop the San Jose Historical Museum (SJHM) under a separate master planning process; and
- developing and upgrading a new internal pedestrian circulation system, the Coyote Creek trail, the Kelley Park Express Train, and the Historic Trolley.

Major master plan components for the undeveloped portion of Kelley Park on the eastern side of Coyote Creek include developing:

- a new parking area on the Roberts Avenue Landfill,
- a neighborhood park,
- group and individual picnic sites, and
- a natural science exhibit building.

B. PROJECT OBJECTIVES

The City's primary objectives for the proposed Kelley Park Master Plan project are to enhance existing park elements and strengthen the park's role in providing open space for the local neighborhood and entire city. The master plan will guide the continuing development of a park that fulfills these objectives and tie the diverse park elements together in a unified whole. Implementation of the draft Happy Hollow Park and Zoo Master Plan and the draft SJHM Master Plan, which are proceeding under separate processes, have been incorporated as project objectives to ensure a comprehensive planning and environmental process.

Public meetings were held in February 1991 and August 1991 to identify major master plan goals and objectives and to elicit comments on the preliminary master plan. The major goals and objectives identified in the Kelley Park Master Plan include:

- improving circulation throughout the park and on adjacent streets;

- opening the views into Coyote Creek, highlighting the creek as a major element for the park;

- conforming to the development setbacks, riparian corridor uses, and trail system as outlined in the 1990 Long-Range Land Utilization Report for the Coyote Creek Park Chain;

- attempting to accommodate the master plans and goals of each existing element in Kelley Park;

- accommodating the high demand for picnic facilities, including small and large group, reservable, and nonreservable sites;

- planning a portion of undeveloped Kelley Park for neighborhood park use;

- minimizing traffic impacts on Roberts Avenue; and

- providing additional parking onsite that will serve users of the various park elements.

Objectives identified during the master plan process are not listed in a particular order. A complete list of all of the identified objectives is presented in the master plan.

C. SUMMARY OF PROJECT IMPACTS AND MITIGATION

Table 1-1. Summary of Impacts and Mitigation

IMPACTS	MITIGATION MEASURES
Land Use and Visual Resources	
Loss of Open Space and Agricultural Lands. The conversion of 56 acres of undeveloped open space to park and recreation open space uses and the loss of 30 acres of former agricultural lands located within the city's urban service area that are planned for park use are not significant impacts. **(Less-than-significant impact)**	No mitigation measures are required.
Land Use Compatibility with Adjacent Residential Uses. Despite the potential for increased conflicts in the Roberts Avenue residential area, this impact is considered less than significant because the proposed master plan would require a fence along the eastern park boundary, a landscaped buffer, and would not allow parking on Roberts Avenue and would restrict egress to Roberts Avenue. **(Less-than-significant impact)**	No mitigation measures are required.
Change in Site Visual Resources. Because the master plan indicates that an earth berm and landscaping would be provided to buffer residents' views of the northern parking lot, parking lots are generally considered compatible with residential use, and the City architectural guidelines would be incorporated, this visual resource impact is considered less than significant. **(Less-than-significant impact)**	No mitigation measures are required. To further reduce the less-than-significant visual resource impacts, implement the following measure: • The City's final landscaping plan would incorporate standards for minimum tree size spacing and clustering of trees into northern parking facility buffer (included in the project).
Transportation and Circulation	
Degradation of the Reserve Capacity at the Senter Road/Happy Hollow Parking Lot Entrance Intersection. An increase in traffic volumes at the Senter Road/Happy Hollow parking lot entrance would result in a significant impact because the intersection LOS is unacceptable. **(Significant impact)**	Signalize the Senter Road/Happy Hollow Parking Lot Entrance Intersection. The City should signalize the Senter Road/Happy Hollow parking lot entrance intersection. Signalization of this intersection would allow the intersection to operate at LOS A (V/C=0.46). **(Less-than-significant impact with mitigation)**
Degradation of the LOS at the Senter Road/Japanese Friendship Garden Parking Lot Entrance Intersection. An increase in traffic volumes at the Senter Road/Japanese Friendship Garden parking lot entrance intersection would result in a less-than-significant impact because traffic volumes are not large enough to warrant signalization. **(Less-than-significant impact)**	No mitigation measures are required.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Addition of Project-Related Traffic to the Story Road/Remillard Court Intersection. The addition of project-related traffic to the Story Road/Remillard Court intersection would result in a less-than-significant impact because LOS C is considered acceptable. **(Less-than-significant impact)**	No mitigation measures are required.
Addition of Project-Related Traffic to the Story Road/Roberts Avenue Intersection and Phelan Avenue/Senter Road Intersection. The addition of project-related traffic to these intersections would result in less-than-significant impacts because LOS D for the Story Road/Roberts Avenue intersection and LOS A for the Phelan Avenue/Senter Road intersection are considered acceptable. **(Less-than-significant impact)**	No mitigation measures are required.
Spacing for Left-Turn Lanes at the Story Road/Remillard Court Intersection. Providing the needed length of a left-turn lane at Story Road/ Remillard Court intersection would be a less-than-significant impact because this lane could be constructed in an adequate manner within the 500 feet currently available. **(Less-than-significant impact)**	No mitigation measures are required. ?
Potential Safety Problems from the Proposed Historic Trolley Line Crossing the Parking Lot Entrances. Operation of the Historic Trolley line would result in a less-than-significant impact because trolleys would be operated at low speeds (5-10 mph) and would be equipped with warning bells and lamps. **(Less-than-significant impact)**	No mitigation measures are required.
Potential Imbalance between Parking Supply and Demand. Provision of 3,241 parking spaces when demand is expected to be 2,798 spaces would result in a less-than-significant impact. **(Less-than-significant impact)**	No mitigation measures are required.
✓ Potential Use of Neighborhood Streets for Visitor Parking. Increasing the quantity of visitors to Kelley Park may increase the number of vehicles parking on adjacent neighborhood streets, which would result in a significant impact. **(Significant impact)**	Implement the following programmatic measures to reduce increased visitor parking in neighborhoods surrounding the park (included in the project): • Prepare a traffic control plan for Kelley Park traffic and parking during special event days. • Post signs in strategic locations directing visitors to overflow lots during special events. • Hire traffic control personnel.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
	• Encourage convenient and affordable parking at onsite lots to ensure parking lots are fully used. **(Less-than-significant impact with mitigation)**
Air Quality	
Exposure of Residents to Construction Equipment Emissions. Because construction activities associated with the proposed project are assumed to result in the temporary emission of CO, ROG, NO_x, and PM10 at levels that exceed thresholds, this impact is considered significant. **(Significant impact)**	Standard construction practices to reduce dust and equipment emissions, including the following, would be employed at all construction sites (included in the project): • Sprinkle exposed areas, including soil piles left for more than 2 days, with sufficient water to control windblown dust and dirt. • Cover or water all soil transported offsite, if any, to prevent excessive dust release. • Sweep streets adjacent to the project at least daily to remove silt accumulated from construction activities. • Limit construction vehicle speeds to 15 miles per hour on unpaved surfaces. • Properly maintain all construction equipment, including exhaust systems, mufflers, cooling fans, engines and transmissions. **(Less-than-significant impact with mitigation)**
Exposure of Residents to Traffic-Related CO Emissions. Because implementing the project would result in an increase of more than 550 ppd of CO emitted by project traffic, this impact is considered to be significant. **(Significant Impact)**	No feasible mitigation measures exist that would reduce this impact to a less-than-significant level. **(Significant and unavoidable)**
Exposure of Residents to Traffic-Related Ozone Precursor and PM10 Emissions. Because project-generated traffic would result in an increase of less than 150 ppd each of ROG, NO_x, and PM10, this impact is considered to be less than significant. **(Less-than-significant impact)**	No mitigation measures are required.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Noise	
Exposure of Local Residents to Construction Noise. The potential for construction activities to substantially increase noise levels at nearby sensitive receptors is considered a significant impact because residents on Roberts Avenue, Phelan Avenue, and Story Road would be subjected to construction noise intermittently over a 20-year period. **(Significant impact)**	Implement noise-reducing construction practices at all construction sites in Kelley Park throughout the construction period to reduce noise from construction activities. **(Less-than-significant impact with mitigation)**
Increased Exposure of Local Residents to Traffic Noise. Because noise levels would not be substantially increased, this impact is considered less than significant. **(Less-than-significant impact)**	No mitigation measures are required.
Increased Exposure of Local Residents to Noise from the Express Train. Because noise levels at nearby sensitive receptors would not be substantially increased by modification and expansion of the Express Train route, this impact is considered less than significant. **(Less-than-significant impact)**	No mitigation measures are required.
Increased Exposure of Local Residents to Noise from the Historic Trolley. Because noise levels would not be substantially increased by intermittent trolley bell noise, this impact is considered less than significant. **(Less-than-significant impact)**	No mitigation measures are required.
Increased Exposure of Local Residents to Daytime Recreation-Related Noise. Because noise levels on Phelan Avenue and Roberts Avenue would not be substantially increased by recreation uses of the SJHM or eastern park, this impact is considered less than significant. **(Less-than-significant impact)**	No mitigation measures are required.
Increased Exposure of Local Residents to Nighttime Recreation-Related Noise. Because noise levels would not be substantially increased from planned nighttime use levels, this impact is considered less than significant. **(Less-than-significant impact)**	No mitigation measures are required.
Public Services and Facilities	
Water	
Need for Expansion of Water Supply Infrastructure. Extending water supply infrastructure to the eastern side of Kelley Park would result in a less-than-significant impact because extension of service is not considered substantial and because infrastructure would be extended only for the new Kelley Park uses. **(Less-than-significant impact)**	No mitigation measures are required.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Demand for Additional Water Supply. Demand for additional water to serve Kelley Park is considered a less-than-significant impact because the SJWC has a sufficient supply of water to provide the additional incremental amount necessary for new and expanded park uses. **(Less-than-significant impact)**	No mitigation measures are required.
Wastewater	
Need for New On-Site Wastewater Collection Infrastructure. Existing sewer trunk line capacity problems in Kelley Park would require either replacing the existing 8-inch main line or substantially upgrading it to increase its ability to collect the additional wastewater generated by proposed uses. This impact is considered significant. **(Significant impact)**	Upgrade or replace the 8-inch sewer trunk line currently serving the project site to provide adequate wastewater collection service for current and proposed new park facilities (included in the project). **(Less-than-significant impact with mitigation)**
Demand for Additional Wastewater Treatment Capacity. The demand generated for additional wastewater treatment by implementing the master plan is considered a less-than-significant impact because the Water Pollution Control Plant has sufficient treatment capacity to provide for incremental increases in wastewater generation associated with the new park uses. **(Less-than-significant impact)**	No mitigation measures are required.
Solid Waste	
Annual Generation of Approximately 1,000 Tons of Solid Waste from Uses at Kelley Park. Generation of approximately 1,000 tpy of solid waste is considered a less-than-significant impact because the city landfill has existing landfill capacity to accommodate the park's incremental increase. **(Less-than-significant impact)**	No mitigation measures are required.
Police and Fire Protection	
Demand for Additional Police and Fire Protection Services. Demand for additional police and fire protection services related to expanded park facilities is considered a less-than-significant impact because the SJPD currently patrols the park area and ~~has a special unit on park grounds~~ assigns a Parks Unit to Kelley Park during peak months, and the SJFD has several stations that could provide fire protection services to the new and expanded park uses within the minimum emergency response time. **(Less-than-significant impact)**	No mitigation measures are required.

IMPACTS	MITIGATION MEASURES
Gas, Electric, and Telephone Utilities	
Need for Additional Utilities Infrastructure. Expansion of utilities infrastructure to provide gas, electric, and telephone services to the new uses in the eastern expansion area is considered a less-than-significant impact because system capacity exists for those utilities, and expansion of existing utilities to the eastern portion of the site would be a routine procedure that would involve only minor modifications of the utility system. **(Less-than-significant impact)**	No mitigation measures are required.
Demand for Additional Utilities Service. The need for additional utility services in the park area is considered a less-than-significant impact because the utility companies have sufficient resources to provide for the additional utility service needs of the new and expanded park uses. **(Less-than-significant impact)**	No mitigation measures are required.
Public Health and Safety	
Increased Odor and Attraction of Vectors during Construction on the Landfill. The potential for attraction of vectors and increased odor problems during construction on the landfill is considered a less-than-significant impact because grading would involve applying additional fill to the landfill area, landfill materials would likely be exposed only for short periods, and previous geotechnical investigation indicates that exploration boreholes produced no substantial odors. **(Less-than-significant impact with mitigation)**	No mitigation measures are required.
Methane Gas Migration and Release. The potential for hazards from methane gas migration and release during construction of the landfill parking lot is considered less than significant because a methane gas recovery and venting system would be incorporated into project design. **(Less-than-significant impact)**	No mitigation measures are required.
Hazardous or Infectious Wastes Exposure. The potential for exposure of construction workers and park patrons to hazardous or infectious waste in the portion of the project site occupied by the closed Roberts Avenue Landfill is considered a less-than-significant impact because the potential for these wastes to occur at the landfill has been identified as low in previous landfill investigations and the landfill was previously a Class III facility. **(Less-than-significant impact)**	No mitigation measures are required.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Surface Water and Groundwater Contamination from Landfill Leachate. The potential for grading activities in the landfill area to contribute to surface water or groundwater contamination from increased landfill leachate entering the creek or groundwater basin is considered less than significant because: • landfill leachate is not currently affecting surface water or groundwater quality, • site grading activities are not expected to have a major effect on exposure of landfill materials and would not penetrate leachate in the landfill refuse or disturb the existing clay liner, and • impervious parking lot surfaces would reduce stormwater infiltration into the landfill. **(Less-than-significant impact)**	No mitigation measures are required.
Toxic Air Emissions. The potential for toxic air emissions from the Roberts Avenue Landfill to affect park construction workers or patrons is considered a less-than-significant impact because previous studies did not identify toxic vapors at the site, so risk of exposure is low. **(Less-than-significant impact)**	No mitigation measures are required.
Geology and Soils	
Facility Damage and Hazards from Seismic Ground Shaking. The potential for seismic ground shaking to cause damage to existing and future Kelley Park structures is considered a significant impact because damage to structures could result in substantial hazards for park patrons, considerable property damage could occur in the park, and landfill slopes could fail. **(Significant impact)**	Engineer and construct buildings and bridges associated with the master plan to account for expected earthquake-induced dynamic loads. All buildings and structures would be designed according to requirements of the Uniform Building Code to minimize damage to structures or hazards to patrons from seismic events (included in the project). **(Less-than-significant impact with mitigation)**
Liquefaction of Foundation Materials from Ground Shaking. The potential for liquefaction of foundation materials below planned buildings and parking lot areas in Kelley Park is considered a less-than- significant impact because liquefaction potential of soils on the site are low. **(Less-than-significant impact)**	No mitigation measures are required.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Differential Movement of Foundation Materials. The potential for soils with a high shrink-swell potential to cause differential movement of park building foundations is considered a less-than-significant impact because the park site appears to possess limited clayey soils that could be subject to substantial shrink-swell conditions and because site-specific geotechnical studies and site preparation for planned buildings would be required for all proposed structures. **(Less-than-significant impact)**	No mitigation measures are required.
Bearing-Capacity Failure of Foundation Materials in the Roberts Avenue Landfill. The potential for bearing-capacity failure of landfill materials to affect proposed structures is considered a significant impact because landfill materials are substantially unconsolidated and could require considerable engineering for building or structure siting. **(Significant impact)**	Site-specific geotechnical investigations will be conducted at all of the proposed buildings sites and bridges to determine the precise bearing capacity of foundation materials. Measures recommended by geotechnical studies, such as use of piles, ground improvement using dynamic compaction, or overexcavation and recompaction, will be implemented to eliminate hazards from low-bearing-capacity soils (included in the project). **(Less-than-significant impact with mitigation)**
Settlement of Uncompacted Landfill Materials. Potential damage to parking lots and structures sited on the Roberts Avenue Landfill from settlement of uncompacted landfill materials is considered a less-than-significant impact because the master plan indicates that structural foundations and utilities on the landfill will be designed to accommodate differential settlement. **(Less-than-significant impact)**	No mitigation measures are required.
Slope Failures of Landfill Materials. Hazards or facility damage resulting from slope stability problems near the landfill are considered less-than-significant impacts because the potential for slope failure in this area is low. **(Less-than-significant impact)**	No mitigation measures are required.
Stormwater-Induced Soil Erosion. The potential for increased soil erosion impacts related to an increase in stormwater runoff from development in the project area is considered a significant impact because uncontrolled runoff during storms could result in substantial erosion in the landfill area and on steep Coyote Creek banks. **(Significant impact)**	A city-approved drainage plan will be developed and implemented to control and direct stormwater runoff from parking lots, building sites, and picnic areas into lined drainage channels and storm drains. The plan will include requirements for an impermeable soil cover that complies with State of California landfill closure requirements (included in the project).

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
	A city-approved erosion control plan will be developed and implemented that includes, but is not limited to, the following construction measures (included in the project): • Install temporary and permanent plantings for exposed soils. • Install temporary drainage check dams and silt fences. • Install temporary or permanent sediment basins and traps. **(Less-than-significant impact with mitigation)**
Cultural Resources	
Modification of Historic Resources. Modification of the Kelley House would be a significant impact because it could result in alteration of architectural design, details, or materials of a property potentially eligible for inclusion in the National Register of Historic Places and the house is also potentially eligible for city landmark status. **(Significant impact)**	Before modifications are made to the Kelley House, a qualified architectural historian would conduct a complete evaluation of the building to determine whether it qualifies for the NRHP or meets city landmark status criteria. If, after the evaluation, the Kelley House is determined to be eligible for inclusion in the NRHP or city landmark status, ways to avoid, minimize, or reduce the effects of the project will be sought in consultation with the architectural historian, the State Historic Preservation Officer and the City Historic Preservation Officer. If the Kelley House is determined to be eligible for city landmark status, the public works department would initiate an application for city landmark status. If the Kelley House is identified as a city landmark, the project would require a Historic Preservation Permit from the City Department of Planning and Building (included in the project). Subsurface excavation in the vicinity of the Kelley House will be monitored to the extent determined necessary by a qualified archaeologist or historian. **(Less-than-significant impact with mitigation)**

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Potential Destruction or Modification of Archaeological Site KP-1. Modification or destruction of site KP-1 ~~from expansion of SJHM and extension of Phelan Avenue~~ would be a significant impact because the site, which is potentially eligible for inclusion in the National Register, would be destroyed. **(Significant impact)**	Conduct Subsurface Testing for Archaeological Site KP-1. Subsurface testing will be conducted before expansion of the SJHM and construction of parking facilities to adequately define the site subsurface extent and integrity and to define the cultural components at the site. If the site is determined to be eligible for listing in the NRHP, ways to avoid, minimize, or reduce the effects of the project on it will be sought in consultation with the State Historic Preservation Officer. These measures may include, but would not be limited to, avoidance, excavation, and archaeological monitoring (included in the project). Areas along Coyote Creek will be monitored to the extent determined by a qualified archaeologist (included in the project). If cultural materials are encountered during construction or other activities, work would be stopped until a qualified archaeologist can evaluate the finds. Mitigation measures will be developed for all cultural resources determined to be eligible for inclusion in the NRHP (included in the project). If subsurface excavation is required at site KP-1, the excavation will be monitored to the extent determined necessary by a qualified archaeologist (included in the project). **(Less-than-significant impact with mitigation)**
Hydrology and Water Quality	
Reduced Flooding Potential in the Happy Hollow Zoo Area from Construction of the Proposed Levee. Reducing the frequency and magnitude of flooding at the zoo and associated flood damage by constructing the proposed levee would reduce a currently significant flooding impact to a less-than-significant level. **(Less-than-significant impact).**	No mitigation measures are required.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Incremental Increase in Stormwater Runoff and Downstream Flood Elevations from New Parking Lots. The incremental increase in stormwater runoff to Coyote Creek from the new parking areas is considered a significant impact because it would contribute to downstream flood levels and possible streambank erosion and downcutting. **(Significant impact)**	Integrate best management practices (BMPs) to reduce incremental flooding from parking lot runoff into the drainage design for the proposed parking lot as required in the NPDES municipal stormwater permit. The drainage system design could incorporate both flood control and water quality goals. Incremental runoff contributions from parking lots can be reduced during storms by delaying runoff to the creek channel through use of natural swales, detention basins, or gravel percolation basins. The City would be responsible for preparing detailed drainage designs (included in the project). **(Less-than-significant impact with mitigation)**
Potential Impairment of Floodflows from Proposed Levee and Pedestrian Bridges. The incremental increase in flood elevation from the proposed zoo levee and additional increases that would likely occur associated with the southern pedestrian bridge are considered significant impacts because these structures could impair safe passage of floodwaters through the park property and exacerbate flooding problems near the park and surrounding areas. **(Significant impact)**	Coordinate with SCVWD to ensure that any potential increase in flood elevations caused by constructing the Happy Hollow levee and the southern pedestrian bridge is mitigated by grading a portion of the SJHM expansion area to accommodate additional flooding (included in the project). Park design, including landscaping, grading, and placement of buildings, would comply with FEMA standards and the City Flood Hazard Ordinance (included in the project). **(Less-than-significant impact with mitigation)**
Potential Short-Term Water Quality Impacts on Coyote Creek from Stormwater Runoff from Additional Parking Areas. The incremental increase in stormwater runoff and associated pollutants generated by the new paved parking areas is considered a significant impact because it would adversely contribute to existing poor water quality conditions in Coyote Creek. **(Significant impact)**	Integrate BMPs for stormwater pollution into its drainage system design. The municipal stormwater NPDES permit lists options and alternatives to reduce stormwater pollution from new development projects, including use of small detention basins, grassy swales, overland flow, and other measures. In addition, the City could take additional efforts to clean up and restore the segment of Coyote Creek that borders Kelley Park to enhance and improve the creek's water quality (included in the project). **(Less-than-significant)**

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Incremental Increases in Turbidity and Total Suspended Solids in Coyote Creek from Bridge, Parking Lot, and Levee Construction Activities. Incremental increases in turbidity and TSS associated with the project are considered significant impacts because they would adversely contribute to poor water quality conditions in Coyote Creek and could contribute to documented siltation problems. Construction-related siltation could also contribute to incremental reductions in the hydraulic carrying capacity of the creek and exacerbate downstream flooding. **(Significant impact)**	Prepare a stormwater pollution prevention plan and monitoring program for the construction activities associated with improvements to comply with the requirements of the NPDES general permit. The prevention plan and monitoring program will be designed to reduce soil erosion and siltation of Coyote Creek to the maximum extent practicable. The following best management practices (included in the project) are a few examples (but not a complete list) of measures that should be included in the plan (included in the project): • stabilizing denuded areas before the wet season (October 1 through May 1); • limiting construction access routes and stabilizing access points; • protecting adjacent properties with sediment barriers, dikes, or mulching; and • stabilizing and preventing erosion from temporary conveyance channels and outlets. **(Less-than-significant impact with mitigation)**
Vegetation, Wildlife, and Fisheries Resources	
Degradation and Loss of 1.45 Acres of Riparian Forest and Shrub Vegetation. Loss of 1.45 acres of riparian forest vegetation is considered a significant impact because riparian habitats are regulated by federal and state laws and policies and are considered valuable for fish and wildlife habitat. USFWS and DFG have adopted no-net-loss policies for riparian communities. **(Significant impact)**	Locate proposed trails to contour Coyote Creek, where feasible, outside the riparian zone to avoid removing high-quality riparian vegetation and to minimize disturbance of wildlife that use the riparian habitat. Locate the equestrian path so as to avoid, where feasible, native riparian trees in the Coyote Creek riparian corridor (not included in the project).

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
	~~Replace any removed native riparian tree or shrub species with the same or similar species at a ratio of 5:1. A qualified habitat restoration specialist would decide which planting material (i.e., trees and shrubs) will be most appropriate (included in the project).~~ Develop a riparian and wetland restoration plan by a qualified restoration specialist and plant ecologist incorporating, but not limited to the following (included in the project): Replacement ratios: Loss of mature mixed riparian forest and wetland habitat acreage will be mitigated at a 3:1 replacement ratio (in kind) to ensure riparian habitat of equal or greater value and to ensure no net loss of wetland value. Location of mitigation areas: Riparian and wetland habitat mitigation areas will be provided on site to the extent possible. Selection of sites will focus on sites that are either heavily degraded or sites that previously supported riparian or wetland vegetation along the banks of Coyote Creek in or near the project site. Develop planting plan: Establish baseline values for riparian and wetland habitat within the Coyote Creek corridor including, but not limited to the following: data on plant density, species composition, habitat structure, and edaphic factors. Baseline data will assist in determining the composition of species to be included in the planting plan. Replace any removed native riparian tree or shrub species with the same or similar species at ratio of 5:1.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
	Develop performance standards against which success of wetland replacement plan is measured and develop a monitoring program and a contingency plan to assure attainment of that standard: The restoration effort will be monitored for a minimum of 5 years. Monitoring will focus on survivor counts by species. All planting will have an overall survival rate of 80% by the fall of the fifth year of monitoring. When a species fails to achieve its performance standard, replacement planting will be initiated in conformance with the contingency plan.
	Consultation: Consult with DFG and other involved agencies prior to, and during the development of the plan.
	Remove invasive non-native plant species that do not provide wildlife habitat, such as giant reed, which compete with native plant species that have wildlife habitat value. Replace non-native vegetation that has been removed during construction with native trees and shrubs.
	Implement a riparian corridor maintenance plan designed by a qualified restoration specialist. This maintenance plan should include required monitoring and replacement planting actions (included in the project). **(Less-than-significant impact with mitigation)**
	Erect high-visibility temporary fences between the levee construction and the riparian zone (included in the project);
	Limit levee construction activities and storage of construction equipment to the west side of the levee (included in the project).

IMPACTS	MITIGATION MEASURES
Potential Degradation or Filling of 0.2 Acre of Wetlands. The loss of 0.2 acre of wetland is considered a significant impact because wetlands, which provide important habitat for dependent plant and wildlife species, are regulated by federal and state laws and policies, and both USFWS and DFG have adopted no-net-loss policies for wetlands. **(Significant impact)**	Minimize the area of riparian habitat affected by park improvements near Coyote Creek. Erect high-visibility temporary fences on either side of each bridge to separate the limits of riparian habitat from protected areas. Limit construction activity in the riparian corridor as much as possible. Remove all debris and excess fill material from the riparian zone and creek channel following construction activities. Remove industrial and household debris to improve creek channel wetland habitat. Consult with DFG to determine whether a streambed alteration agreement is necessary under Section 1601 of the California Fish and Game Code (included in the project). Consult with the Corps to determine whether a permit for filling of a jurisdictional wetland is necessary as a condition of constructing the bridges (included in the project). **(Less-than-significant with mitigation)**
Loss of Ordinance-Protected or Heritage Ornamental Trees outside the Riparian Forest. The loss of ordinance-protected or Heritage Trees is considered less than significant and unlikely because of the protection provided by the ordinance. **(Less-than-significant impact)**	No mitigation measures are required.
Increased Human Disturbance of Habitat along Coyote Creek. Disruption of habitat that supports riparian wildlife species is considered a significant impact because substantial numbers of wildlife could be affected in a sensitive and declining habitat (i.e., riparian forest). **(Significant impact)**	Same mitigation measures as above for loss of riparian forest and shrub vegetation. **(Less-than-significant impact with mitigation)**
Temporary Increases in Turbidity and Total Suspended Solids in Coyote Creek during Bridge Construction. These potential impacts are considered significant because sedimentation and turbidity of Coyote Creek from instream construction activities could lead to an incremental decrease in downstream spawning habitat and spawning success of both warmwater and anadromous fish. **(Significant impact)**	Instream construction activities will be avoided between November 1 and June 30. Contractors will be required to use BMPs during bridge construction, such as the following: • minimizing disruption of the creekbed at and adjacent to the construction site to the extent possible, by implementing DFG's guidelines for temporary stream diversion (California Department of Fish and Game 1992);

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
	• grading spoil sites to minimize surface erosion and siltation in the creekbed; • avoiding riparian vegetation wherever possible; • covering bare areas with mulch and revegetating all cleared areas; and • establishing a spill prevention and countermeasure plan before project construction that includes strict onsite handling rules. These measures could be required by DFG to be incorporated into the project design as conditions of a DFG Section 1601 streambed alteration agreement. **(Less-than-significant impact with mitigation)**
Potential Disturbance of Nesting Raptors. Potential disturbance of nesting raptors is considered a less-than-significant impact because project implementation would not substantially affect the species' numbers or distribution.	No mitigation measures are required.
Potential Loss of Special-Status Wildlife Species Habitat. The potential impacts on the San Francisco forktail damselfly and the southwestern pond turtle are considered less than significant because only a small portion of their aquatic habitat (the proposed bridge crossing areas) would be affected and the impacts would be temporary. Implementing the mitigation measures described for fisheries and water quality would minimize potential impacts on these two species. The impact on tricolored blackbird habitat is considered less than significant because the tricolored blackbird observed at the project site probably would not successfully nest at the project site because the habitat quality is of marginal quality. The impact on yellow warbler habitat is considered less than significant because no yellow warblers were found nesting at the project site and only a minor amount of habitat would be affected.	No mitigation measures are required.
7 Low quality habitat exists on the project site for burrowing owls. **(Potentially significant impact)**	A survey for burrowing owls will be conducted according to DFG protocol prior to grading or construction in the landfill area. If owls are found, a relocation plan will be prepared by a qualified biologist.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Cumulative Impacts	
Land Use and Visual Resources	
Cumulative land use impacts in the City of San Jose from implementation of the San Jose 2020 General Plan would result from the incompatibility of developing high-density residential uses adjacent to single-family neighborhoods in some of the intensification corridors and converted sites.	Implementation of "City Concept"; "Community Development"; and "Aesthetic, Cultural, and Recreational Resources" chapter policies. **(Less-than-significant impact with mitigation)**
Conversion of open space land allowed under the general plan update would result in a substantial loss of open space and prime agricultural land (especially in the South Almaden Valley Urban Reserve). Substantial visual resource impacts would also result from loss of open space areas. **(Significant impact)**	Cumulative land conversions impacts and visual resource effects are considered significant and unavoidable. **(Significant and unavoidable)**
Transportation and Circulation	
Operation of Story Road, Senter Road, and Phelan Avenue at LOS C or better under cumulative conditions during the p.m. peak hour would result in a less-than-significant impact. **(Less-than-significant impact)**	No mitigation measures are required.
Air Quality	
Regional air pollution emissions generated by implementation of the general plan update would be approximately 21,558 pounds of CO; 820 pounds of ROG; 2,259 pounds of NO_x; and 788 pounds of PM10 per each peak hour. The cumulative impact of all reasonably foreseeable future projects, including the proposed project, on air quality in the project area is significant because emission levels in the project area are expected to increase by a substantial amount under cumulative conditions. **(Significant impact)**	Regional air quality effects associated with CO emissions and ozone precursors would be significant unavoidable impacts. Significant particulate emissions could be reduced by implementing "Natural Resources" chapter policies of the draft San Jose 2020 General Plan. **(Significant and unavoidable)**
Noise	
Cumulative noise impacts under the general plan update, including the proposed project, would be less than significant because noise levels on roadways in the project area are expected to decrease under cumulative conditions. **(Less-than-significant impact)**	No mitigation measures are required.

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Public Services and Facilities	
Implementation of the proposed project would contribute to cumulative impacts related to the use of limited natural resources in the San Jose area. Future growth in the city would increase the demands on water supply, wastewater treatment, solid waste disposal, and police and fire protection services. Utilities, such as gas, electric, and telephone, have plentiful resources and are not expected to be substantially affected by future growth.	Implement plans and policies of the draft San Jose 2020 General Plan. **(Less-than-significant impact with mitigation)**
Cumulative public service and utility impacts from future growth in the city would result in significant impacts. **(Significant impact)**	
Public Health and Safety	
Future development allowed under the general plan update could result in potential hazardous materials impacts from siting future residential or other sensitive uses on potentially contaminated sites or in areas of future or existing industrial or commercial operations that use hazardous materials. **(Significant impact)**	Implement plans and policies in the "Hazards" chapter of the draft San Jose 2020 General Plan. **(Less-than-significant impact with mitigation)**
Geology and Soils	
Under the general plan update, hazards associated with seismic activity, weak and expansive soils, and erosion could potentially affect future development. **(Significant impact)**	Implement the "Community Development" and "Hazards" chapter policies of the draft San Jose 2020 General Plan. **(Less-than-significant impact with mitigation)**
Cultural Resources	
Development allowed under the general plan update could result in cumulative impacts on cultural resources because more than 50 historic and prehistoric sites have been identified in the city, and presently unidentified cultural resource sites could be discovered in city development areas. Development of open space areas, such as in the South Almaden Valley Urban Reserve and areas along Coyote Creek, could affect important cultural resource sites in these sensitive areas. **(Significant impact)**	Implement the "Aesthetic, Cultural, and Recreational Resources" chapter policies of the draft San Jose 2020 General Plan. **(Less-than-significant impact with mitigation)**

Table 1-1. Continued

IMPACTS	MITIGATION MEASURES
Hydrology and Water Quality	
Development allowed under the general plan update, particularly in the South Almaden Valley Urban Reserve and at development site 3 along Coyote Creek, could affect the quantity and quality of stormwater runoff to Coyote Creek by increasing impervious surfaces in undeveloped open space and agricultural areas. **(Significant impact)**	Implement planned Coyote Creek flood improvements and the requirements of the SCVWD and "Community Development" and "Hazards" chapter policies of the draft San Jose 2020 General Plan. **(Less-than-significant impact with mitigation)**
Vegetation, Wildlife, and Fisheries Resources	
Development allowed under the general plan update would increase the amount of developed land in the city, reducing natural habitats and resulting in further human encroachment on wildlife areas. Impacts on vegetation and wildlife resulting from citywide growth would include disturbance of wetland and riparian habitats, impacts on special-status species, and removal of large, ordinance-protected trees and other types of vegetation. Impacts on wetlands, riparian areas, and special-status species could occur at a number of locations in the city, including the South Almaden Valley Urban Reserve and development sites 2 and 3. **(Significant impact)**	Implement the "Natural Resources" chapter policies of the draft San Jose 2020 General Plan. **(Less-than-significant impact with mitigation)**

Chapter II. Project Description

A. PROJECT LOCATION

Kelley Park is located approximately 1.5 miles southeast of downtown San Jose along Coyote Creek at the intersection of Senter and Story Roads (Figures II-1, II-2, and II-3). The 172-acre park site is surrounded by urban land uses. The creek supports an open space and recreation corridor that bisects the central portion of the San Jose urban area in a northwestern to southeastern direction.

B. DESCRIPTION OF THE PROJECT

The Kelley Park Master Plan incorporates three main objectives for future park development: modifying, upgrading, and expanding existing park elements that are currently used in the developed, western portion of the site; integrating plans to upgrade existing park features with the future eastern expansion; and developing the vacant eastern portion of the site.

Major master plan components for the western (developed) portion of Kelley Park include:

- expanding Happy Hollow Park and Zoo use areas under a separate draft master planning process;
- constructing a levee along the northwestern portion of Coyote Creek;
- constructing two pedestrian bridges across Coyote Creek;
- ~~constructing a new entry plaza area for Kelley Park;~~
- constructing a new entry/plaza area to Happy Hollow Park and Zoo;
- reusing the Leininger Center as a conference center;
- expanding and continuing to develop the SJHM under a separate master planning process; and
- developing and upgrading a new internal pedestrian circulation system, the Coyote Creek trail, the Kelley Park Express Train, and the Historic Trolley.

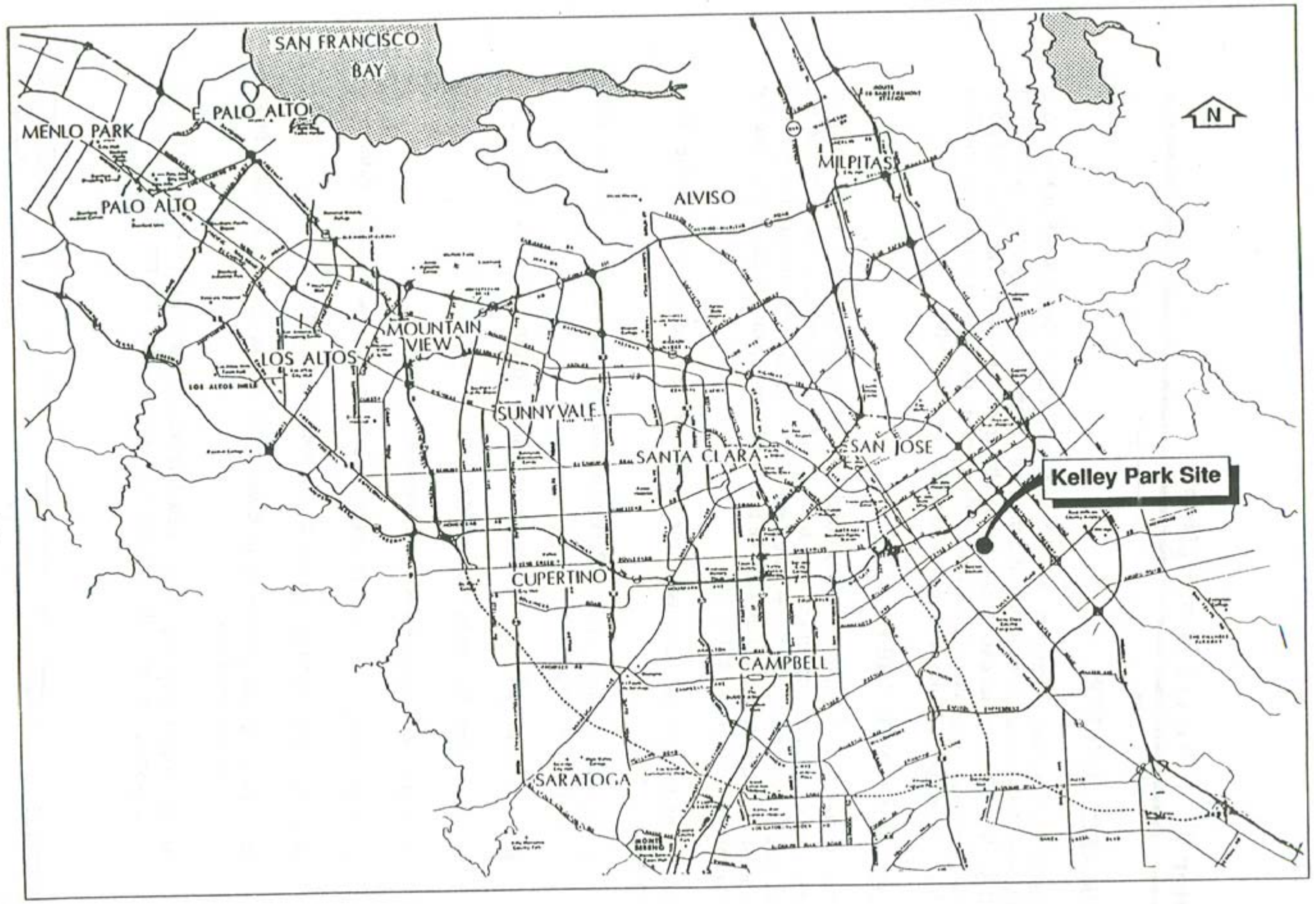


Figure II-1
Regional Location Map

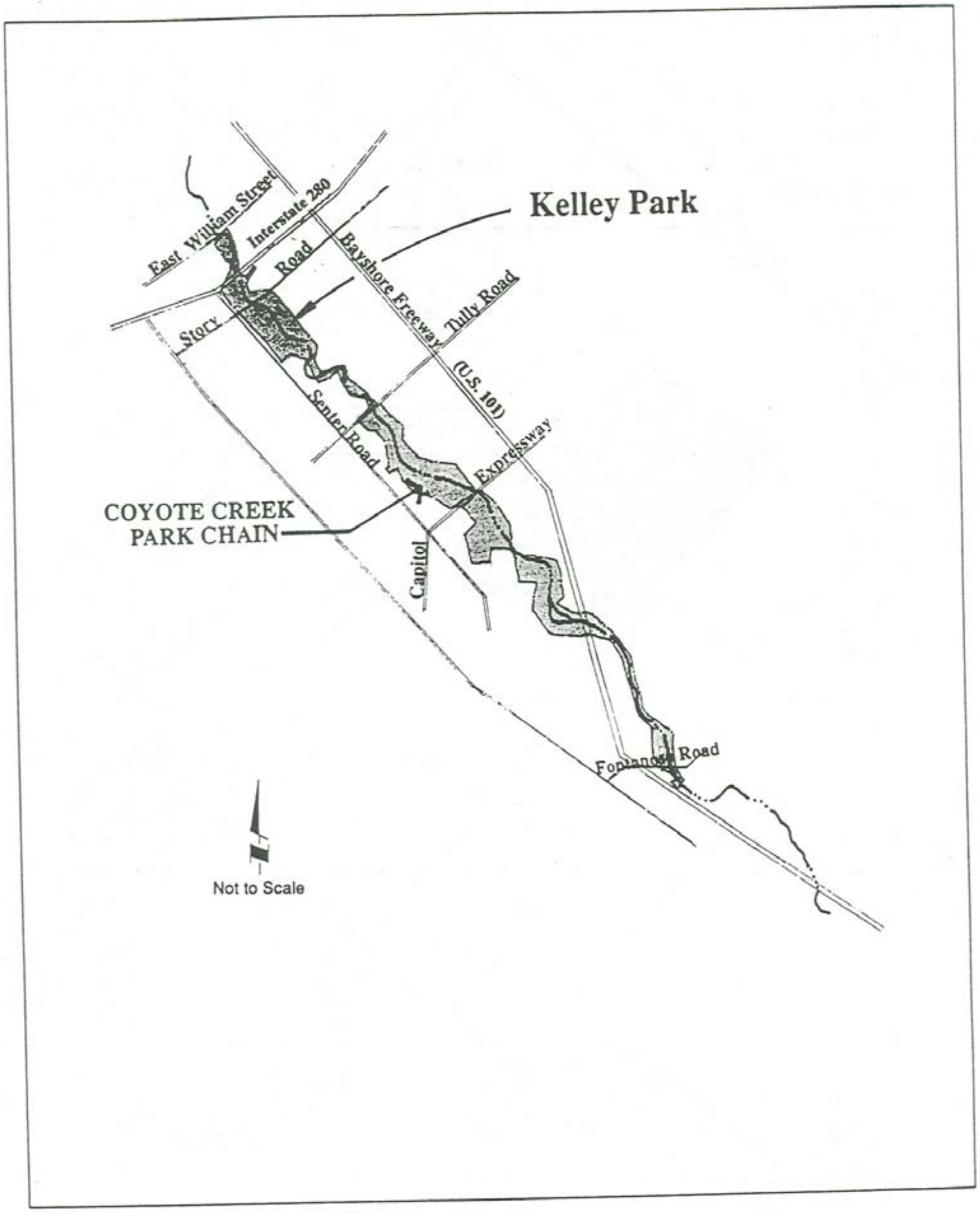


Figure II-2
Local Map

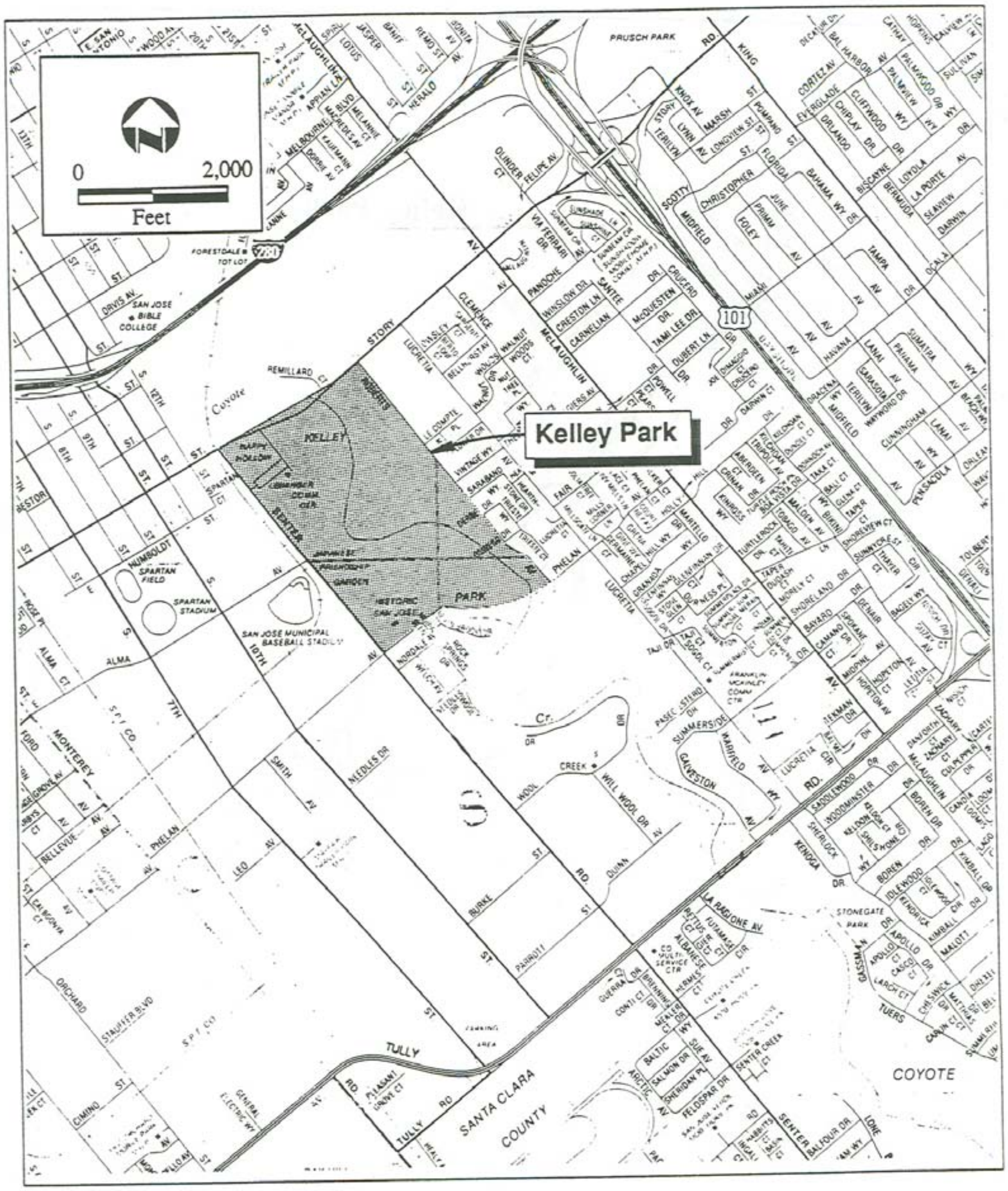


Figure II-3
Local Vicinity Map

Major master plan components for the undeveloped portion of Kelley Park on the eastern side of Coyote Creek include developing:

- a new parking area on the Roberts Avenue Landfill,
- a neighborhood park,
- group and individual picnic sites, and
- a natural science exhibit building.

PLANNING OVERVIEW

The current master plan has been developed based on earlier Kelley Park Master Plan efforts. A 1958 master plan by the City Planning Commission established the Japanese Friendship Garden, Happy Hollow Park and Zoo, and the SJHM. Later revisions to the master plan established the amphitheater, Alder and Family Circle picnic areas, and an in-house design study for location of a marine/animal park. The previous master plan effort was not completed.

Kelley Park has also been included in broader planning studies such as the Coyote Creek Park Chain Advisory Committee Report (Ribera & Sue 1971), Monterey Corridor Revitalization and Development Strategy (City of San Jose Redevelopment Agency 1985) and the 1990 Long-Range Land Utilization Report for the Coyote Creek Park Chain (City of San Jose Department of Recreation, Parks, and Community Services 1990).

The City of San Jose Public Works Department, Architectural Engineering Division, prepared the current draft Kelley Park Master Plan in 1991 to guide the continued development of Kelley Park, enhance existing park elements, and strengthen the park's role in providing open space for the neighborhood and the entire city. The master plan was developed by City staff, a design consultant, and the Kelley Park Master Plan Task Force.

The 1991 Kelley Park Master Plan incorporates by reference, separate master planning efforts for the Happy Hollow Park and Zoo unit and the SJHM. Both master plans are currently in draft form and are considered part of the overall master plan project. The master plan process consisted of a site analysis and inventory; park element programming process; carrying-capacity analysis; plan alternatives phase; and public, agency, and task force input sessions.

The following description of the master plan project provides an overview of the major existing park elements, site conditions, and offsite conditions to provide the appropriate context for the master plan project. The major master plan elements are summarized briefly based on the 1991 Draft Kelley Park Master Plan.

EXISTING PARK FACILITIES AND USES

The Kelley Park site totals 172 acres. Approximately 116 acres are currently devoted to developed (77 acres) and undeveloped (39 acres) park area on the western portion of the site and approximately 56 acres are planned for park development on undeveloped vacant land east of Coyote Creek (Figure II-3).

The park currently provides a number of popular recreation facilities and other related facilities (Figure II-4) including:

- the 12-acre Happy Hollow Park and Zoo,
- the 5,600-square-foot Kelley House,
- the 15,000-square-foot Leininger Center,
- the 6-acre Japanese Friendship Garden,
- the 16-acre SJHM,
- reservable/group and individual picnic sites,
- restrooms and public parking,
- vehicular and pedestrian access,
- the Kelley Park Express Train, and
- the Historic Trolley.

Access to the developed park area is provided on Senter Road at the northern Happy Hollow Park and Zoo/Leininger Center parking lot and at the southern SJHM parking lot.

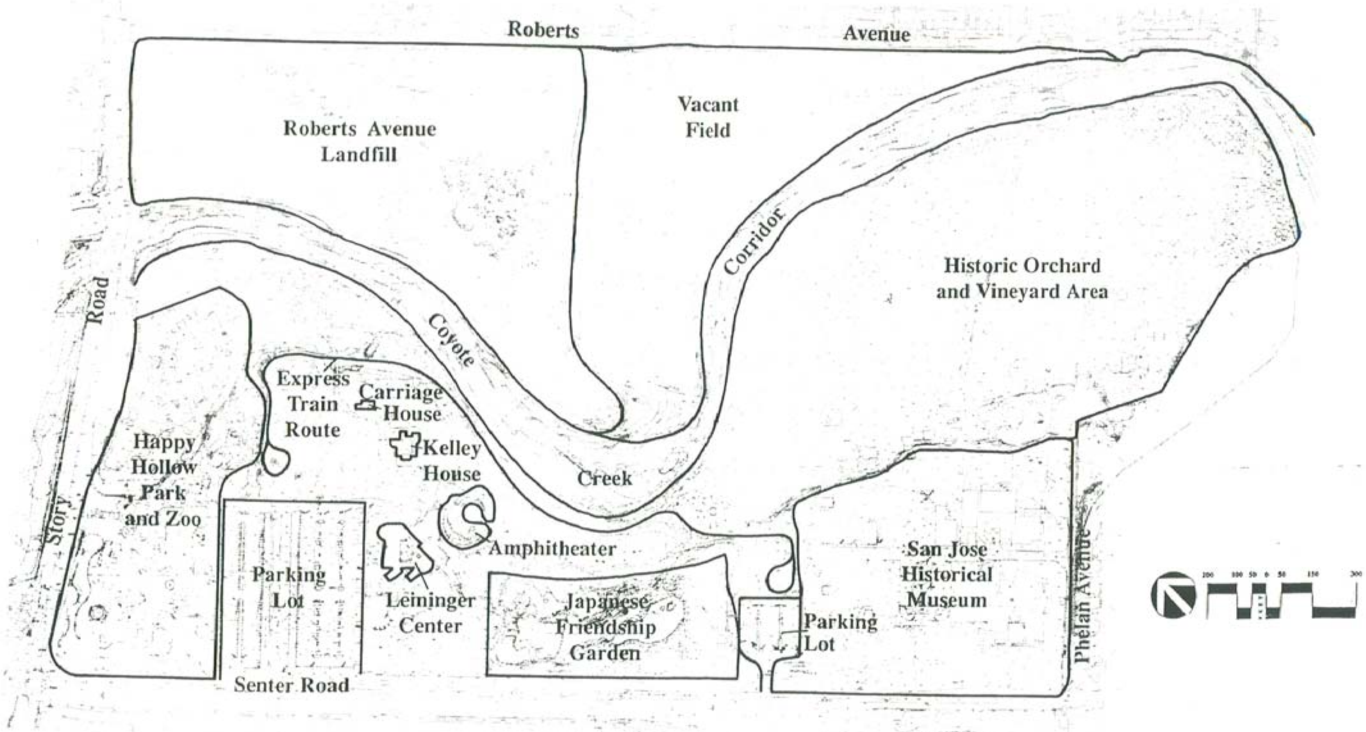
Happy Hollow Park and Zoo

The 12-acre Happy Hollow Park and Zoo, located in the northwestern portion of the site, is the dominant park facility in the project site, featuring children's rides, play areas, and a small zoo. The park and zoo are bordered to the north by Story Road and the west by Senter Road. The zoo is adjacent to the Coyote Creek corridor and is within the 100-year floodplain. This portion of the park is visually contained by vine-covered fencing and includes areas of dense vegetation.

Kelley House

The Kelley House is a 5,600 square-foot house (located east of the Leininger Center) built by the Kelley family in 1912. The structure has deteriorated and would require extensive structural work to meet building and earthquake requirements. The structure is currently used as a storeroom for the City Department of Recreation, Parks, and Community Services. An old arbor is located on the east side of the house. The nearby Carriage House is used as a park visitor center.

Figure II-4
Existing Project Site Facilities and Features



Leininger Center

The Leininger Center is a 15,000-square-foot (sf) building located south of the main parking lot. The building has been used in the past as a community center, for recreation programs and classes, and for private community use. The building is now used for city office space and community uses.

Japanese Friendship Garden

The Japanese Friendship Garden is a popular 6-acre cultural garden located on the southwestern portion of the site south of the Leininger Center. The garden features well-maintained Koi fish ponds, bridges and paths, ornate gateways, mature plantings, and a tea house in a topographically diverse setting. The garden is surrounded by vine-covered fencing that visually defines the space and enhances the garden experience.

San Jose Historical Museum

The 16-acre SJHM site is located in the southwestern portion of Kelley Park adjacent to Senter Road and Phelan Avenue. The museum entrance is normally from the north with patrons using the small parking lot north of the site. On some weekdays and during special events, access is also provided from Phelan Avenue with patrons using an informal overflow parking area east of the museum site.

The SJHM features relocated or reconstructed Santa Clara Valley historical structures, including the Historic Trolley Barn, trolley route, O'Briens Ice Cream and Candy Store, stables, a hotel replica, various period examples of houses, a light tower, city plaza, and the San Fernando Street right-of-way and loop road.

Group and Individual Picnic Sites

Reservable group picnic sites for 25 to 150 people consist of the Manuel Briar, Alder Circle, Family Circle, Kelley House Arbor, and Twin Oaks sites. Many of the sites are heavily used and many of the picnic amenities are in a state of disrepair.

A corporate picnic area that can accommodate very large groups of up to 2,000 people is located in the western portion of the SJHM site adjacent to Senter Road. Site features include a permanent barbecue grill and sink, portable aluminum tables, and trash receptacles. The site is fenced. This picnic site would be relocated to the eastern portion of the park on implementation of the master plan.

Kelley Park also features numerous other individual picnic sites scattered throughout the western portion of the park. These sites can accommodate 20-50 people and are heavily used on weekends.

Pedestrian Trails

Formal pedestrian access routes are provided on the western side of Coyote Creek. This portion of the park is bisected by an elaborate system of walkways that connect the park features and provide access via the parking lots and adjacent Senter Road sidewalks. Access along the creek is not formally encouraged. An informal trail within the riparian corridor extends north of the project site 0.5 mile to Olinder Park. Pedestrian access to the site is also discouraged along Story Road by the fence surrounding the Happy Hollow Park and Zoo and by the location of the Roberts Avenue Landfill. No pedestrian access across Coyote Creek is provided to the eastern, undeveloped portion of the site. Access from Roberts Avenue is discouraged by a low fence along the eastern boundary.

Kelley Park Express Train

The Kelley Park Express Train is a propane-powered, nonscale, narrow gauge train designed as an amusement ride. The train route begins at the Happy Hollow entrance where it winds down the slope toward Coyote Creek enroute to its terminus and turnaround point at the northern entrance of the historical museum.

Historic Trolley

Historic Trolley cars are restored in the Trolley Barn located on Phelan Avenue in the SJHM grounds. The trolleys run on a small section of the historic museum grounds, from the Trolley Barn north on San Fernando Street near the northern entrance and for a short distance on Phelan Avenue. The trolley line also includes a northern loop road, described as Santa Clara Street, that connects with Market Street at the light tower intersection. Future expansion of the trolley track, for which environmental clearance has been approved, includes extending track from the Trolley Barn south along Phelan Avenue across the southwest corner of SJHM grounds and north along Senter Road to a temporary terminus south of the Happy Hollow/Leininger Center parking lot (Lot A). Refer to the discussion of the proposed trolley expansion discussed below under "Proposed Master Plan Elements".

Parking Lots

Onsite parking consists of a 445-space parking lot between the Happy Hollow Park and Zoo and the Leininger Center. Access to this main lot is from Senter Road. South of the main lot and the Japanese Friendship Garden, a 72-space parking lot is provided. An informal, unpaved parking area south of the SJHM along Phelan Avenue provides parking for approximately 100 vehicles. An offsite 203-space parking lot is provided west of the park at 12th and Keyes Streets. During special events, an unpaved area east of the SJHM and the closed Beech-Nut plant (City Central Services Yard) parking lot is used for overflow parking.

EASTERN AREA SITE CONDITIONS

The 56-acre portion of Kelley Park that is currently undeveloped (Figure II-3) will accommodate most of the new park features. Currently this area consists of the closed Roberts Avenue Landfill and a vacant field.

The Roberts Avenue Landfill is located in the northeastern portion of the park site encompassing approximately 15% (26 acres) of the total site acreage. The landfill is closed and has an adequate landfill cap. The landfill topography consists of a 30-foot-high mound that is graded for positive drainage, with slopes varying from 2% to 20%. The landfill mound creates an elevated 30- to 40-foot-high slope along the northeastern bank of Coyote Creek and a 20- to 25-foot-high slope at the southern landfill boundary.

The landfill is covered by 1-8 feet of moderately compacted soil. Subsurface refuse consists of wood and plant debris, metal, plastic, rubber, and construction and demolition debris.

OFFSITE CONDITIONS

Kelley Park is part of the Coyote Creek Park Chain, a major regional attraction, and will serve as an anchor or destination for users of the Coyote Creek trail system.

North of the park site and Story Road, the Coyote Creek Park Chain extends beyond Interstate 280 (I-280) with a variety of commercial and public or quasi-public uses, including closed landfill sites, north of Story Road. West of the site, land uses consist of the Union Pacific railroad corridor, residential units, a parking lot, San Jose State University (SJSU) play fields, the San Jose municipal baseball stadium, and the City Central Services Yard. South and east of the park, land uses consist of high-density residential units, public buildings, and medium-density residential units along Roberts Avenue.

PROPOSED MASTER PLAN ELEMENTS

Western Park

Major master plan elements for the western (developed) portion of Kelley Park include the following. Refer to Figure II-5 for a summary of proposed Kelley Park elements.

Happy Hollow Park and Zoo. The Happy Hollow Park and Zoo Master Plan is in draft form. The expansion would increase existing facilities by approximately 4 acres south of the current park and zoo facilities. The expansion would allow facilities to be reoriented, provide an at-grade transfer point between the Kelley Park Express Train and the planned Historic Trolley extension (refer to the discussion below). The expansion would also incorporate a new Happy Hollow Park and Zoo entry at the southwest edge of the Happy Hollow expansion area that will be physically and visually linked to the northern pedestrian bridge and east side circulation path. The draft Happy Hollow Master Plan describes the details of the expansion and entry area in greater detail.

The Happy Hollow expansion would also include developing a levee along the western creek floodplain to eliminate flooding in the zoo. The levee would be constructed along the floodplain from Story Road south to the approximate location of the northern bridge crossing. The levee would be 13 feet high, 26 feet wide at the top, and would accommodate the new Kelley Park Express Train tracks.

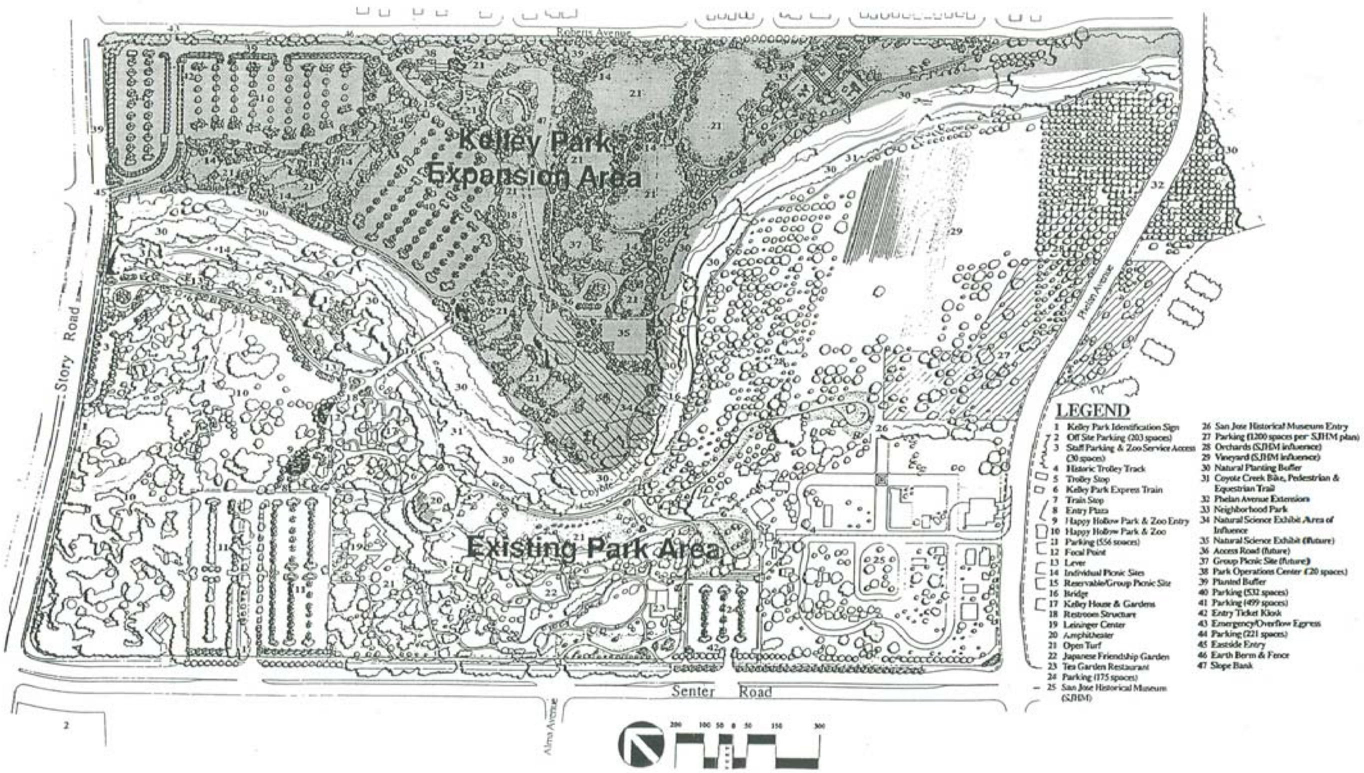
The draft Happy Hollow Master Plan has been prepared to be consistent with the proposed expansion identified in the Draft Kelley Park Master Plan. The predominant theme or vision for the future development of Happy Hollow Park and zoo is that it evolve as a family-oriented destination characterized by four areas. The existing 12 acres will be expanded to 16 acres where four major thematic planning areas are envisioned for the total site: an entry area, an amusement/rides area, a zoo area, and a special events area. These areas would be dedicated to interactive educational experiences that illustrate and illuminate biodiversity within the animal kingdom and the natural phenomena of the physical world. The program reflects a strong commitment to the health and welfare of the resident animals, and it also promotes an economic philosophy of self-sufficient cost recovery. Visitor amenities will provide comfortable elements for its patrons, such as restrooms with diaper-changing rooms, benches, drinking fountains, first aid stations, food services, souvenirs and gifts, picnic areas, and rest areas.

Kelley House. The master plan proposes renovation of the Kelley House and formal gardens for possible use as a visitor center, restaurant, or special events facility.

Leininger Center. The Leininger Center would be expanded to accommodate conference use and continued office space for the park manager, support staff, and operations staff. Expansion of the building would likely occur in a westerly direction. The adjacent amphitheater would become an integral outdoor element for day use conference facilities.

Japanese Friendship Garden. The master plan recommends addition of a new restaurant in the southern portion of the garden. Parking for the restaurant would be accommodated at the reconfigured parking lot south of the garden.

Figure II-5
1991 Kelley Park Master Plan



Coyote Creek Trail. The portion of the Coyote Creek trail in the project area would parallel the creek on the western bank. The trail would connect to a regional trail system at the northern and southern site boundaries. A separate equestrian path would parallel the creek on the west side. An east side trail paralleling the creek would also be extended along the creek. These trails would be connected to the two proposed Coyote Creek bridge crossings.

Pedestrian Bridges and Internal Paths. Two bridge crossings are proposed. The primary bridge would span the creek above the 100-year flood elevation and would connect the western park near Happy Hollow Park and Zoo with the eastern park south of the main parking area. A second southern bridge is proposed to be constructed in the floodway and would be designed to withstand 100-year flood flows.

The internal path system would connect the east and west side park via the proposed bridges and would provide dual public and maintenance/patrol access. Pathways would be paved and would allow access for physically challenged users. Primary pathways would be 8 to 10 feet wide and secondary paths would be 4 to 6 feet wide.

Express Train. The Kelley Park Express Train would be upgraded and used to transport people between northern use areas and the SJHM. The existing track alignment would be extended and modified as shown in Figure II-5.

Group and Individual Picnic Sites. The master plan proposes relocating existing group picnic areas to the eastern park south of the new parking area (refer to the description under "Eastern Park" below).

West Side Parking. The master plan indicates that the northern Happy Hollow parking lot will be reconfigured and expanded to accommodate 556 spaces, an increase of 111 spaces from current conditions. The southern SJHM parking lot would be expanded to accommodate 175 parking spaces, an increase of 103 spaces.

San Jose Historical Museum. The 1994 San Jose Historical Museum Master Plan (SJHM Master Plan) will guide the future museum site development and ensure that the museum "is a living-working museum whose purpose is to interpret and promote the broad spectrum of history of San Jose and the Santa Clara Valley" (San Jose Historical Museum Association 1994).

The SJHM Master Plan will modify the existing museum features and expand the 16-acre site, by approximately 25 acres, east into the Coyote Creek flood plain (Figure II-6). The SJHM Master Plan has been designed to be consistent with the Draft Kelley Park Master Plan and would eventually encompass approximately 41 acres that would be divided into 26 zones. Fifteen of the zones are located in the Historic District and 11 zones are located in the Agricultural Area (Figure II-6).

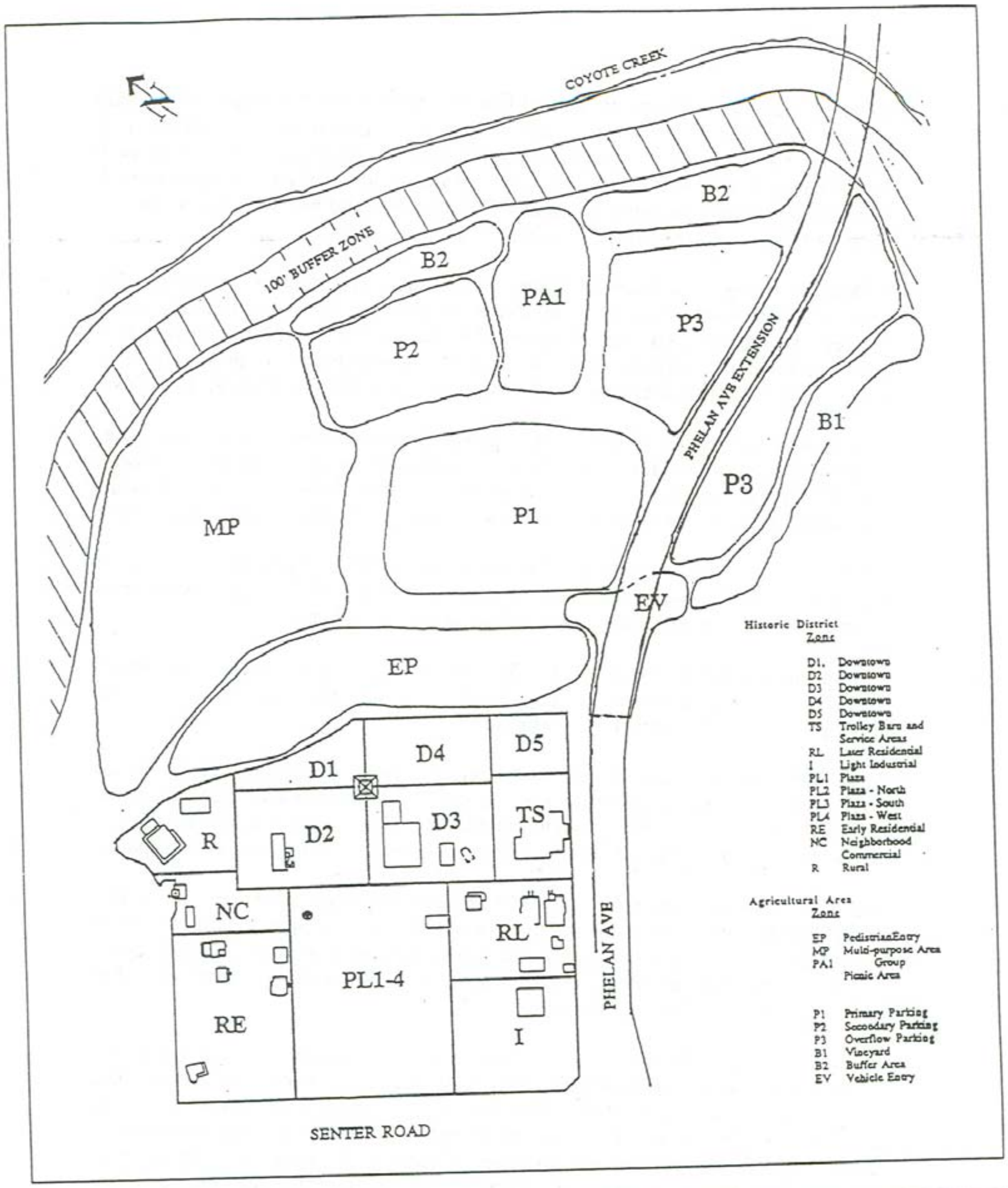


Figure II-6
San Jose Historical Museum Master Plan Zone Map

Historic District zones set aside areas for downtown development (zones D1 through D5), the Trolley Barn and service areas (TS), early and later residential (RE and RL), light industrial (I), plaza (PL1 through PL4), neighborhood commercial (NC) and rural (R). Agricultural Area zones provide areas for a new pedestrian entry (EP); multi-purpose area (MP); small and large group picnic areas (PA1 and PA2); primary, secondary, and overflow parking (P1, P2, and P3); vineyard buffer area (B1); creek buffer area (B2); and Phelan Avenue vehicle entry area (EV) (Figure II-6).

Major features of the SJHM Master Plan include:

- a pedestrian entry plaza,
- a visitors' center,
- a school group entrance,
- plaza and plaza structures,
- a hotel/restaurant and theater area,
- a service and employee/volunteer entrance,
- additional parking,
- a multipurpose area, and
- improved and informal picnic areas.

The 3-acre pedestrian entry plaza has been conceived as a large, inviting outdoor space accommodating a variety of activities. This area (located on the eastern boundary of existing facilities in the Agricultural Area) features a visitor drop-off area for the Historic Trolley, cars, and buses. The plaza would accommodate the main entrance to the SJHM, a visitors center, amphitheater, and a separate entrance for school-age groups.

The plaza and plaza structures area (in the Historic District zone) will be a recreation of the original downtown San Jose Plaza. The plaza focal point will be the recreation of City Hall at its west end. The City Hall structure will face the main plaza with views to the east toward the light tower.

The hotel, restaurant, and theater area would be located in the eastern portion of the Historic District zone (D4 and D5) adjacent to the new entry plaza. These structures would provide areas for businesses that serve SJHM patrons. The service and employee/volunteer entrance would be provided off Phelan Avenue at the southern extent of the Historic District. This area would feature a formal shipping and receiving area and a delivery and drop-off area, and would be screened from Phelan Avenue views.

Additional parking would be provided at a paved and striped 2.41-acre primary parking area (280 spaces), a paved and striped 1.62-acre secondary parking area (125 spaces), and an unpaved 4.9-acre overflow parking area in a historic orchard setting (600 spaces) (Figure II-6).

The 9.41-acre multi-purpose zone would consist of recreated historic orchards and meadows. Use of this zone could be for a variety of activities, including historic enactments and seasonal exhibits. No permanent structures would be sited in this area.

Picnic areas would include an improved area (1.52 acres) and an informal picnic area (1.48 acres) that features portable picnic facilities, barbecues, and restrooms in a landscaped setting. The improved picnic area would also provide water and electricity.

Historic Trolley. The Historic Trolley is included in the master plan as a means of transporting visitors from parking areas to various elements in the park. The trolley lines would extend from the Trolley Barn in the SJHM west on Phelan Avenue across the southwestern corner of the SJHM and north along Senter Road across the two existing parking lot entrances to Story Road. The trolley would turn east along Story Road and cross Coyote Creek over a separate trestle that is parallel to Story Road and ends at the eastern parking area departure/loading point (Figure II-5). Most of the trolley line would be located entirely within SJHM and Kelley Park grounds and would be separated from the Senter Road and Story Road right-of-ways. The planned trolley extension also would be extended east into the Phelan Avenue right-of-way and then north to the planned SJHM entry plaza. If Phelan Avenue is extended in the future, the trolley line would be relocated out of the Phelan Avenue right-of-way.

Eastern Park

Major master plan components for the undeveloped portion of Kelley Park on the eastern side of Coyote Creek include developing:

- a new parking area on the Roberts Avenue Landfill,
- a neighborhood park,
- group and individual picnic sites,
- a natural science exhibit building, and
- a park operations center.

East Side Parking. The master plan proposes three new parking lots on the east side of Coyote Creek that would provide approximately 1,252 parking spaces (Figure II-4). New parking is intended primarily to serve new picnic and turf areas planned for the eastern expansion area, but would also provide additional parking for the Happy Hollow Park and Zoo. The parking lot entrance would be on Story Road immediately east of the Coyote Creek corridor. A controlled/overflow egress would be situated on Roberts Avenue. This exit would be used only for emergency vehicles or at times of high park demand (e.g., during park closure or at the end of a special event).

Neighborhood Park. The master plan proposes a 5-acre neighborhood park located in the southeast portion of the site adjacent to Roberts Avenue. The neighborhood park could feature youth and tot play areas, open turf area, exercise course facilities, hard-court areas, shade structures, bench seating, fountains, and landscaping. The neighborhood park is proposed to relieve an identified neighborhood park deficiency within the 3/4-mile-radius service area. No picnic facilities, restrooms, or parking areas are recommended for the neighborhood park.

Group and Individual Picnic Areas. Reservable group picnic areas would be available south of the east side parking area. Three new group picnic areas are proposed east of Coyote Creek and one is proposed on the western side. Group picnic areas would be designed to accommodate 25 to 250 people and would feature food preparation areas, water, electricity, barbecue grills, tables, and counter space. All four picnic areas are adjacent to large turf open space areas. Individual picnic sites would be scattered throughout the east and west park areas.

Natural Science Exhibit. A natural science exhibit (NSE) building would be sited on a 5-acre site south of the new parking area near the creek and riparian corridor. The NSE would include an educational center with exhibit, classroom, and workshop space. Outdoor exhibit areas would be located adjacent to the educational center, as well as along the creek bank near the center.

Operations Center. The park operations center is proposed to be located east of Coyote Creek immediately south of the parking area and adjacent to Roberts Avenue. The complex would serve as the central maintenance facility and park ranger headquarters.

EXISTING AND PROJECTED USE LEVELS

Annual park attendance at all Kelley Park facilities in 1990 was approximately 350,000 visitors. Existing daily carrying capacity of Kelley Park (without the SJHM) is estimated at approximately 7,800 people at one time. Demand for picnic areas currently exceeds supply of picnic facilities available in the park. The SJHM currently accommodates the demand for facilities on a typical weekend.

Projected carrying capacity of the park under the proposed master plan, excluding the SJHM, would be approximately 9,300 people at one time. Daily attendance could be greater than the capacity because some visitors would not use park facilities for a full day. The master plan would expand picnic facilities to meet projected demand.

Park uses and facilities that generate substantial park attendance include picnicking, the Happy Hollow Park and Zoo, the Japanese Friendship Garden, and the SJHM. Kelley Park is the location of special events each year that draw large crowds (i.e., Living History Days, Spring Celebration, and a snowman building contest). Attendance is particularly high during the SJHM Living History Days, which attracts 15,000 visitors for a 2-day period with up to approximately 10,000 people in attendance at one peak time.

C. PROJECT OBJECTIVES

The City's primary objectives for the proposed Kelley Park Master Plan project are to enhance existing park elements and strengthen the park's role in providing open space for the local neighborhood and entire city. The master plan will guide the continuing development of a park that fulfills these objectives and tie the diverse park elements together in a unified whole. The draft Happy Hollow Park and Zoo Master Plan and the SJHM Master Plan, which are proceeding under separate processes, have been incorporated as project objectives to ensure a comprehensive planning and environmental process.

Public meetings were held in February 1991 and August 1991 to identify major Kelley Park Master Plan goals and objectives and to elicit comments on the preliminary master plan. The major goals and objectives identified in the master plan include:

- improving circulation throughout the park and on adjacent streets;
- opening the views into Coyote Creek, highlighting the creek as a major element for the park;
- conforming to the development setbacks, riparian corridor uses, and trail system as outlined in the 1990 Long-Range Land Utilization Report for the Coyote Creek Park Chain;
- attempting to accommodate the master plans and goals of each existing element in Kelley Park;
- accommodating the high demand for picnic facilities, including small and large group, reservable, and nonreservable sites;
- accommodating consistent design of the SJHM and Happy Hollow Master Plans;
- planning a portion of undeveloped Kelley Park for neighborhood park use;
- minimizing traffic impacts on Roberts Avenue;

- providing additional parking on site that will serve users of the various park elements.

A complete list of all of the identified objectives is presented in the master plan.

D. USES OF THE EIR

The City of San Jose is the Lead Agency under CEQA and requires environmental review prior to initiating its discretionary approvals for the proposed Kelley Park Master Plan. This EIR is a public disclosure document that is used during the City's environmental review process to inform decision makers and the public of the environmental impacts that would be associated with implementation of the master plan project.

This environmental document is a program EIR as defined in Section 15196 of the State CEQA Guidelines.

The City of San Jose will use this EIR during the project approval process to meet the City's environmental review requirements for the following discretionary approvals:

- adoption of the 1991 Kelley Park Master Plan,
- adoption of the Happy Hollow Park and Zoo Master Plan, and
- adoption of the San Jose Historical Museum Master Plan.

E. CONSISTENCY WITH LOCAL PLANS, GOALS, AND POLICIES

HORIZON 2000 GENERAL PLAN

Land Use/Transportation Diagram

The park uses proposed in the Draft Kelley Park Master Plan are consistent with the Horizon 2000 Land Use/Transportation Diagram, which designates the 172-acre site for public park/open space use. No general plan amendments would be required to implement the project.

General Plan Policies

Neighborhood Identity Policy #4. Neighborhoods should include places for interaction among residents such as parks, community centers, schools, commercial areas, churches, and other gathering points. **Consistency:** The master plan would be consistent with this policy because it would provide new opportunities for park and open space uses and would meet the need for additional neighborhood park space that serves local residents.

Urban Design Policy #6. Proposed structures adjacent to existing residential areas should be architecturally designed and sited to protect the privacy of the existing residences. **Consistency:** The master plan would be consistent with this policy because an earth berm and planted buffer would be provided on the eastern park boundary adjacent to the Roberts Avenue boundary.

Urban Design Policy #17. Development adjacent to creekside areas should incorporate compatible design and landscaping. **Consistency:** The master plan would be consistent with this policy because it incorporates the riparian corridor and development setbacks recommended in the 1990 Long Range Land Utilization Report for the Coyote Creek Park Chain (City of San Jose Department of Recreation, Parks, and Community Services 1990). The master plan also proposes two bridges and a trolley line trestle that would cross the Coyote Creek riparian corridor in a manner consistent with the 1990 Long-Range Land Utilization Report for the Coyote Creek Park Chain and draft Riparian Policy Report.

Transportation Policy #15. Pedestrian travel should be encourage as a viable mode of movement throughout the City by providing safe and convenient pedestrian facilities in new and existing areas, particularly the Downtown Core Area and neighborhood business districts. **Consistency:** The master plan is consistent with this policy because it incorporates extension of a Coyote Creek regional trail system and provides opportunities for intermodal pedestrian transportation in the form of pedestrian trails, the Historic Trolley, and the Express Train.

Transportation Policy #23. Adequate off-street parking should be required in conjunction with all future developments. The adequacy and appropriateness of parking requirements in the Zoning Code should be periodically re-evaluated. **Consistency:** The master plan would be consistent with this policy because it provides 3,038 onsite parking spaces (including 1,005 parking spaces at the SJHM) to accommodate typical weekday and weekend park use. Additional offsite parking would also be available at the 203-space Keyes parking lot, the closed Beech-Nut plant parking lot, and the municipal stadium parking lot during special park events.

Transportation Policy #39. A bikeway system should be developed to promote the use of the bicycle as an alternative mode of transportation for commuting as well as for recreation purposes. **Consistency:** The master plan is consistent with this policy because it includes development of an internal bicycle path system and extension of the Coyote Creek regional trail system.

Historic, Archeological, and Cultural Resources Policy #6. The City should foster the rehabilitation of individual buildings and districts of historic significance and should utilize a variety of techniques and measures to serve as incentives toward achieving that end. **Consistency:** The master plan is consistent with this policy because it recommends that the Kelley House be restored and preserved as a historic asset and used as a visitor center, restaurant, or special events building.

Historic, Archeological, and Cultural Resources Policy #8. For proposed development sites which have been identified as archaeologically sensitive, the City should require investigation during the planning process in order to determine whether archeological remains may be affected by the project and should also require that appropriate mitigation measures be incorporated into the project design. **Consistency:** The master plan is consistent with this policy because this EIR evaluates the potential for the master plan to affect sensitive archeological resources and recommends mitigation measures to reduce impacts. Refer to Chapter III, Section H, "Cultural Resources", for a description of cultural resource impacts and mitigation measures.

Park and Recreation Policy #1. The City should consider as an objective the provision of neighborhood or community park within reasonable walking distance of each resident. That portion of a City wide or regional park which provides recreational accessibility for nearby residents in the same manner as a neighborhood or community park should be considered as meeting this objective. **Consistency:** The master plan is consistent with this policy because a neighborhood park is proposed to serve Roberts Avenue residents and is within reasonable walking distance.

Park and Recreation Policy #6. In the design and maintenance of parks, consideration should be given to impacts on wildlife. In particular, it should be recognized that native plan species may be best suited for providing wildlife cover and food sources and that herbicides, pesticides, and fungicides may be damaging to native plants and wildlife. **Consistency:** The master plan is consistent with this policy because it incorporates development setbacks along the Coyote Creek riparian corridor and generally encourages native plant restoration.

Park and Recreation Policy #13. Bikeways, hiking trails, equestrian trails, rest areas and picnicking accommodations should be provided, wherever feasible, within parks and trails corridors designated on the Scenic Routes and Trails Diagram, to access the hillsides, ridgelines, baylands, and other scenic areas. **Consistency:** The master plan is consistent with this policy because it provides for hiking, biking, and equestrian use on the Coyote Creek regional trail.

Trails and Pathways Policy #3. Design, construction, and management of trails and pathways should be carefully executed in order to minimize environmental disturbance. **Consistency:** The master plan is consistent with this policy because it incorporates development setbacks along the Coyote Creek riparian corridor and generally encourages native plant restoration.

Marinelife and Wildlife Policy #5. Significant creeks and natural riparian corridors within the Urban Service Area should be preserved whenever possible. When disturbances cannot be avoided, appropriate measures should be required to restore or compensate for damage to the creeks and riparian corridors. **Consistency:** The master plan is consistent with this policy because it incorporates development setbacks along the Coyote Creek riparian corridor and generally encourages native plant restoration.

Hazards Policy #1. Development should only be permitted in those areas where potential danger to the health, safety, and welfare of the residents of the community can be mitigated to an acceptable level. **Consistency.** The proposed master plan would be consistent with this policy because development of the master plan area would subject patrons to no significant public health and safety hazards.

Hazardous Materials Policy #3. The City should incorporate soil and groundwater contamination analysis within the environmental review process for development proposals. When contamination is present on a site, the City should report this information to the appropriate agencies that regulate the cleanup of toxic contamination. **Consistency.** Implementation of the Kelley Park Master Plan would be consistent with the requirement to incorporate groundwater analysis into this environmental review process. No groundwater contamination has been found on the site.

Flooding Hazard Policy #1. New development should be designed to provide protection from potential impacts of flooding during the "1%" or "100-year" flood. **Consistency.** The master plan would be consistent with this policy because the Happy Hollow levee would protect the zoo area from flooding, and the southern Coyote Creek floodplain would be graded to accommodate additional floodflows that could result from developing the southern pedestrian bridge.

DRAFT SAN JOSE 2020 GENERAL PLAN

The Draft San Jose 2020 General Plan proposes amendments to the adopted Horizon 2000 General Plan in a number of intensification corridor sites. None of these intensification corridor sites would change the general plan designation for Kelley Park.

The draft plan also proposes revisions and clarification of text and policies contained in the adopted general plan under Urban Services, Economic Development, Jobs/Housing Balance, Open Space, Air Quality, Transportation/Congestion Management, Housing, Water Quality, Land Use, and Natural Resources. A general review of the proposed policies as they are presented in the San Jose 2020 General Plan Draft Environmental Impact Report indicates that the Draft Kelley Park Master Plan would be substantially consistent with proposed policies. The master plan would be partially consistent with natural resource policies intended to protect the Coyote Creek riparian corridor, but full consistency would be accomplished by incorporating mitigation measures proposed in this EIR into the master plan.

DRAFT RIPARIAN CORRIDOR POLICY REPORT

The Draft Riparian Corridor Policy Study of the City of San Jose (RCPS) (City of San Jose 1993) recommends that the City adopt the following additional policies:

- The City should preserve, protect, and restore all riparian corridors for the protection of vegetation, wildlife, and aquatic habitat values.

- Trails along natural channels should be set back from riparian corridors where there are opportunities for such setbacks (e.g., city and county parks).

Riparian corridor development guidelines are given in the RCPS. One of these (Guideline 6G: Trails) states that trails should be set back from the riparian edge whenever possible. The RCPS also outlines guidelines for riparian revegetation plans and designs for trails in and adjacent to riparian corridors and stream systems in the City of San Jose. The master plan is consistent with this policy because development in the riparian corridor and creek would be designed to protect and enhance the creek environment and because the master plan, having been submitted before May 1994, is exempt from strict adherence to this policy (May 25, 1994 memorandum: "Riparian Corridor: City Council Direction"). (Schoennauer pers. comm.)

Chapter III. Environmental Setting, Impacts, and Mitigation

A. LAND USE AND VISUAL RESOURCES

1. Setting

Overview of the Project Area

Kelley Park is located approximately 1.5 miles southeast of downtown San Jose along Coyote Creek. The creek supports an open space and recreation corridor that bisects the central portion of the San Jose urban area in a northwestern to southeastern direction.

Existing Site Land Uses and Designations

The 172-acre Kelley Park site is bisected by Coyote Creek and its riparian corridor. The portion of the site west of the creek channel is highly developed with existing park facilities. The major park facilities are the Happy Hollow Park and Zoo; the Leininger Center; the Japanese Friendship Garden; the Kelley House; the San Jose Historical Museum; the Kelley Park Express Train and Historic Trolley; and various picnic sites, pedestrian trails, and parking facilities (Figure II-4). The expansion area consists of the Roberts Avenue Landfill to the northeast and vacant grasslands on the rest of the site. The entire Kelley Park site is designated as Public Park/Open Space on the City of San Jose Horizon 2000 General Plan Land Use/Transportation Diagram.

Existing Surrounding Land Uses and General Plan Designations

Kelley Park is generally surrounded by urban land uses. North of the park site and Story Road, the Coyote Creek Park Chain extends beyond I-280 with a variety of commercial and public/quasi-public uses abutting the northern side of Story Road. The area between Story Road and I-280 is designated Industrial Park (east) and Public Park/Open Space (west). West of the project site and Senter Road, land uses consist of the Union Pacific railroad tracks, a parking lot, SJSU athletic fields, the San Jose municipal baseball stadium, and the City Central Services Yard. This area is designated General Commercial, Public/Quasi-Public, Medium High-Density Residential (8-16 du/ac) (north) and Heavy Industrial (south). South of the park, uses include the park chain, high-density residential units, and public and quasi-public buildings. The land use designations in this area are Very High-Density Residential (25-40 du/ac) (west), Industrial Park (southwest), Public Park/Open Space (south) and Public/Quasi-Public (east). East of the site and Roberts Avenue, the land use is residential with a land use designation of Medium-Density Residential (8 du/ac) and Medium High-Density Residential (8-16 du/ac). Figures III-1 and III-2 illustrate the existing land uses and land use designations of the areas adjacent to the project site.

Visual Resources

Approach

A visual resources inventory was conducted to identify the general visual opportunities, including views of the project site from outside the project boundaries and views from within the project area of project site boundaries and adjacent land uses. Figure III-3, photographs 1 and 2, show important views of the eastern project site from the adjacent residential areas. Figure III-4, photograph 3 and Figure III-5, photographs 4 and 5, show important views from within the eastern project site to the project boundary and beyond. Because the western park is currently developed, this visual inventory focuses on the new eastern park expansion areas. Vacant portions of the site that would be developed have the greatest potential for producing substantial visual resource changes.

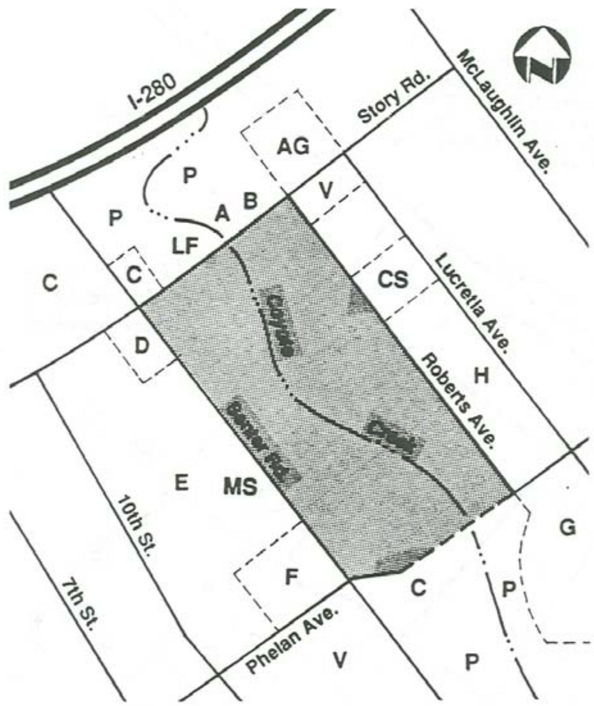
Visual Resources Inventory

The visual resources inventory conducted for the project site highlights a number of visual opportunities and constraints. Observations reached in this inventory include the following:

- The Coyote Creek riparian corridor is the dominant visual feature separating developed portions of the park and the proposed expansion areas east of the creek. Views from most of the existing western park facilities toward the eastern side of the creek are completely blocked by the dense Coyote Creek riparian corridor.

- The general character of offsite views to the western portion of the site from use areas along Senter Road and onsite views to adjacent uses on Senter Road will not likely change substantially from current conditions.

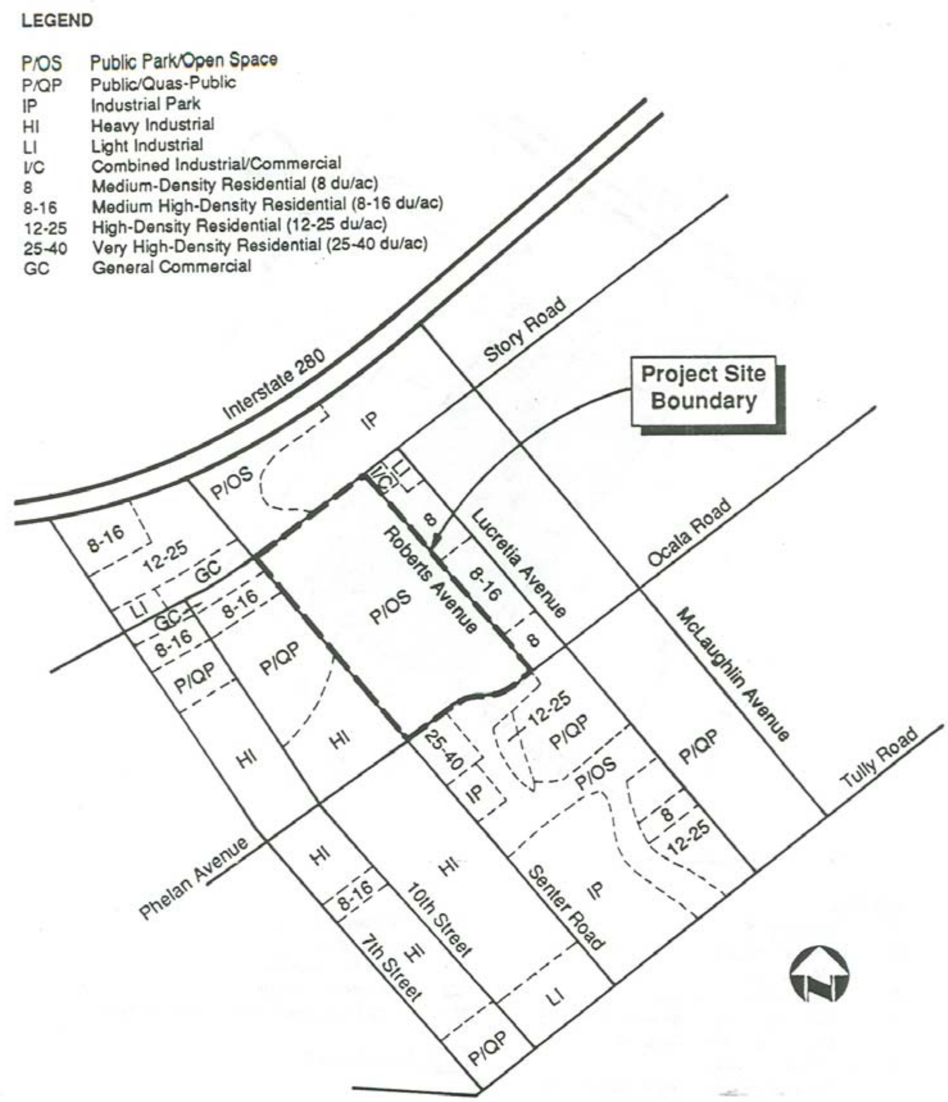
- The eastern portion of the site is highly visible from adjacent residential areas on Roberts Avenue. Proposed parking facilities that would be located in the northeastern portion of the site could create substantial visual changes.



LEGEND

A	Luggage Shop
B	Historic House
C	Residential
D	Keyes Street Parking
E	San Jose State University Facilities
F	Beech-Nut Plant (Closed)
G	Public Buildings
H	Roberts Avenue Single-Family and Multifamily Residential Area
P	Coyote Creek Park Chain
V	Vacant Lot
AG	Agriculture
LF	Closed Landfills
CS	Children's Shelter
MS	City Municipal Stadium and Ice Rink
	Project Site

Figure III-1
Existing Project Area Land Uses



Source: Draft San Jose 2020 General Plan.

Figure III-2
General Plan Land Use/Transportation Diagram Designations

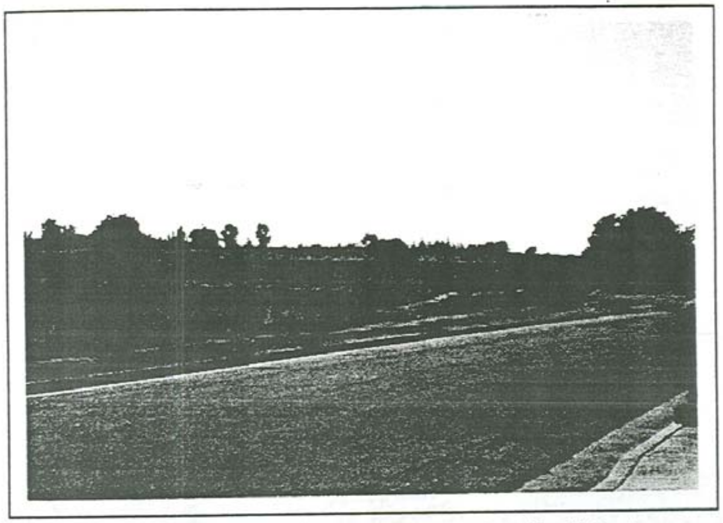


Photo 1. View of east corner of the project site from neareby residential development

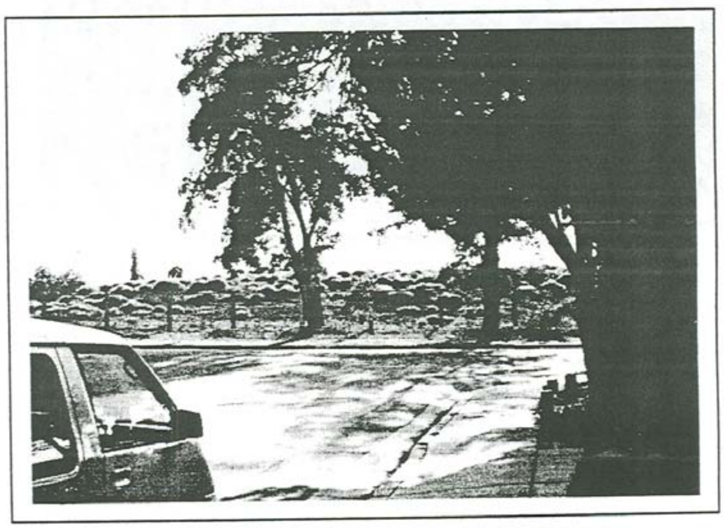


Photo 2. View of landfill from nearby residential development

Figure III-3

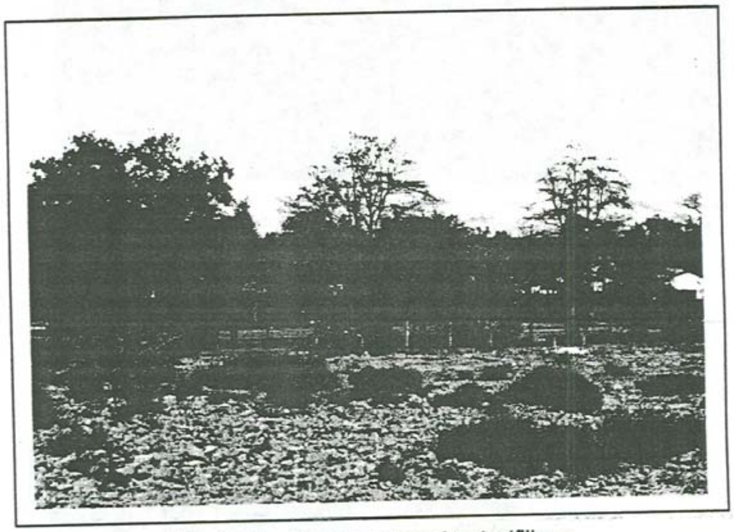


Photo 3. View of Roberts Avenue from landfill area

Figure III-4

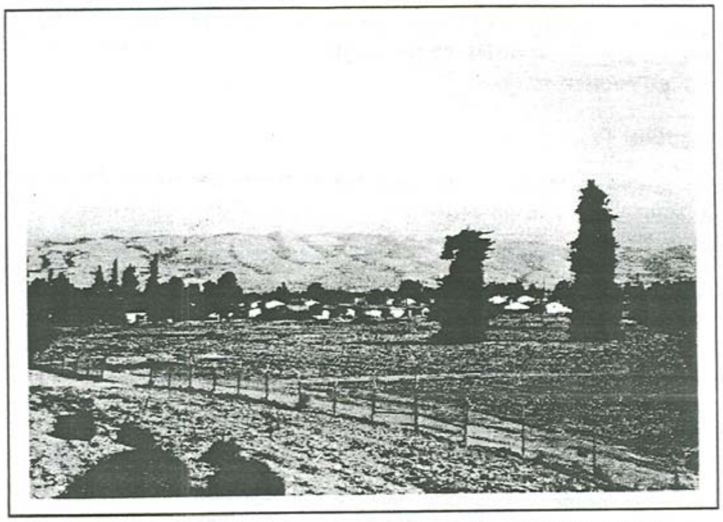


Photo 4. View of eastern project site and adjacent residential area from landfill

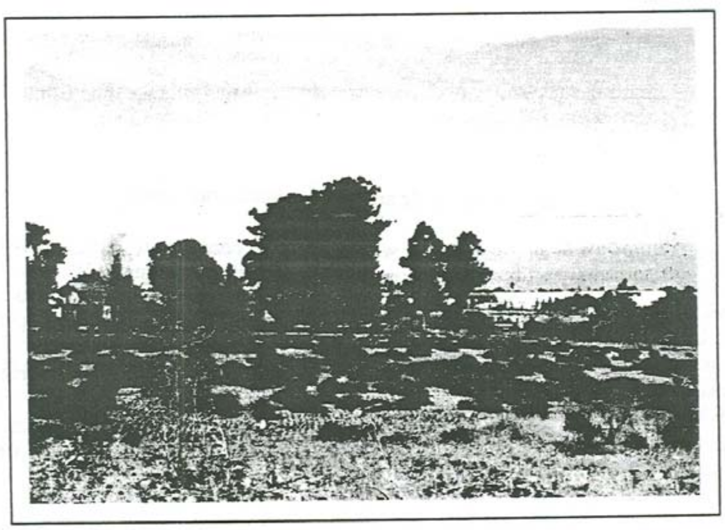


Photo 5. View of northern project site and intersection of Roberts Avenue and Story Road from landfill

Figure III-5

- Current views from the Roberts Avenue Landfill toward existing park facilities are greatly obscured by the middleground occurrence of the dense Coyote Creek riparian corridor.

2. Impacts

Significance Criteria. This section uses the following criteria for determining the level of significance of an environmental impact. An impact is considered significant if the project would:

- conflict with adopted environmental plans and goals of the community where it is located;
- disrupt or divide the physical arrangement of an established community;
- conflict with established recreational, educational, religious, or scientific uses of the area;
- convert prime agricultural land to nonagricultural use or impair the agricultural productivity of prime agricultural land;
- result in the conversion of valuable or large amounts of open space to urban uses;
- conflict with existing general plan designations; and
- create a substantial and demonstratable visual change that could adversely affect sensitive receptors.

Loss of Open Space and Agricultural Lands

Implementation of the master plan would result in conversion of approximately 96 acres of undeveloped open space to park and recreational open space uses. Fifty-six acres of the undeveloped open space is located on the eastern side of Coyote Creek and includes the former municipal landfill, an adjacent vacant field and open space adjacent to Coyote Creek. The remaining 40 acres of undeveloped open space consists of a former orchard and agricultural lands located east of the SJHM. The SJHM master plan incorporates approximately 10 acres of former agricultural lands into the SJHM as reconstructed historic orchards, meadows, and vineyards. These agricultural lands are located in the city's urban service area and have previously been planned for park uses.

The conversion of 56 acres of undeveloped open space to park and recreation open space uses and the loss of 30 acres of former agricultural lands located within the

city's urban service area planned for park use are not considered significant impacts No mitigation measures are required.

Land Use Compatibility

Operation of the expanded park facilities could create land use compatibility issues associated with adjacent residential areas on Roberts and Phelan Avenues. In general, however, residential and park uses are considered compatible with each other. The proposed parking lots and park expansion would increase facility capacity for recreationists. Increasing the number of recreationists and reducing the distance of recreation use areas from residential units may increase complaints about park noise and trespassing from residences along Roberts Avenue. Other compatibility problems may include increased traffic noise and incremental changes in air quality from increased traffic congestion on Roberts Avenue and possibly on Phelan Avenue if it is extended through the project area (please refer to Sections B, C, and D).

Although it is difficult to predict the precise magnitude of land use compatibility effects on nearby residents, the potential for increased conflicts could be noticeable at times because, under the master plan, park use areas would be immediately adjacent to residents on Roberts Avenue. Currently, all park uses are buffered from the Roberts Avenue residential area by the Coyote Creek riparian corridor and an unused 900- to 1,600-foot-wide open space area. Given the new master plan conditions, land use conflicts in the Roberts Avenue area could increase from current conditions.

In addition, the implementation of the Happy Hollow Master Plan would change the views from Story and Senter Roads. Views would change from a vine covered fence to partial views of the amusement area of Happy Hollow. No sensitive receptors are located in this area.

Despite the potential for increased conflicts in the Roberts Avenue residential area, this impact is considered less than significant because the proposed master plan would require a fence along the eastern park boundary, a landscaped buffer, and would not allow parking on Roberts Avenue. The City also would control egress from the eastern parking lot and restrict egress on Roberts Avenue to left-hand turns. No mitigation measures are required.

Change in Site Visual Resources

Implementation of the Kelley Park Master Plan would result in a change in views toward the eastern portion of the site from residences on Roberts Avenue. Views in this area would change from foreground and middleground views of vacant fields to a landscaped parking lot on the landfill and open playfields and picnic areas south of the parking area. New structures that would contribute to the change in views include the park operations center, natural science exhibit building, and neighborhood park facilities. Development of these features would change views from Roberts Avenue toward the Coyote Creek riparian corridor. The parking lot would also face a planned commercial area on Story Road, but no sensitive receptors are located in this area.

The parking lot development would create the greatest visual change that could affect Roberts Avenue residents. The parking area would be sited in a visually dominant area on top of the closed landfill. Parking facilities in this area would be 6-10 feet above the Roberts Avenue grade. Residential views of this area would change from open space to a large paved parking area with light structures and landscape features.

Because the master plan indicates that an earth berm and landscaping would be provided to buffer residents' views of the parking lot, parking lots are considered generally compatible with residential use, and city architectural guidelines would be incorporated into the planned improvements, this visual resources impact is considered less than significant.

Consistency with Horizon 2000 and San Jose 2020 General Plans

Implementation of the proposed project would result in the expansion of Kelley Park into the undeveloped portion of the park site to the east. This area has been designated as public park/open space by the Horizon 2000 and Draft San Jose 2020 General Plans, which allows for the development of park and recreation facilities on the site.

The proposed Kelley Park Master Plan is substantially consistent with relevant policies of the Horizon 2000 and Draft San Jose 2020 General Plans because the master plan proposes a use that has been planned for the site and incorporates design features that would reduce conflicts with surrounding uses and environmental effects in the Coyote Creek corridor. Refer to the policy consistency evaluation in Chapter II, "Project Description".

The Kelley Park Master Plan is consistent with the Draft San Jose 2020 General Plan Trails and Pathways Policies 1 through 9 because the City would develop a portion of the Coyote Creek Trail in a manner that would minimize environmental disturbance and that would meet trail standards established by the San Jose Department of Public Works.

Impact Summary: The Implementation of the Kelley Park Master Plan would result in less-than-significant land use impacts associated with loss of open space and

agricultural land, compatibility with adjacent land uses, and changes in visual resources. The master plan is also considered to be consistent with adopted and proposed city general plans. No mitigation measures are required.

3. <u>Mitigation</u>

Mitigation Measures to Be Considered Before Development of the Final Landscaping Plan

Visual Resources

The following mitigation would further reduce less-than-significant visual resource impacts:

- The City's final landscaping plan would incorporate standards for minimum tree size, spacing, and clustering of trees including but not limited to the following (included in the project):
  - planting a minimum size of 15-gallon trees,
  - clustering trees to approximate natural groupings and to minimize rowlike appearance,
  - offsetting tree clusters and alternating groups of different tree species, and
  - spacing trees in the landscaping buffer for the Roberts Avenue parking lot (northern) to maximize screening and spacing trees farther apart in the landscaping buffer along Roberts Avenue for park and recreation use and in the neighborhood park to provide a more parklike atmosphere.

For the landscaping buffers of the park and recreation uses and neighborhood park from Roberts Avenue, trees should be spaced farther apart to provide a more park-like

B. TRANSPORTATION AND CIRCULATION

1. Setting

Development Conditions Analyzed

This study assesses traffic under three conditions, existing, existing-plus-project, and cumulative.

Existing conditions represent traffic conditions on a typical Sunday afternoon. Sunday afternoon was chosen because for recreational land uses, the travel peak tends to occur during this time. Under this condition, the operation of existing park entrances and the adequacy of existing parking lots are assessed. In addition, transit, pedestrian, and bicycle facilities in the vicinity of Kelley Park are described.

The existing-plus-project condition represents full buildout of the Kelley Park Master Plan under existing conditions. The additional traffic projected to result from the park improvements is added to existing traffic volumes. Under this condition, operation of existing and proposed park entrances is examined; the adequacy of projected parking supply and demand is analyzed; parking lot circulation is assessed; impacts on transit, pedestrian, and bicycle facilities are examined; and the safety of trolley crossings at park entrances is assessed.

The cumulative condition represents traffic conditions in 2010. For this condition, traffic volumes on the four streets surrounding the park are analyzed under weekday conditions.

Analysis Methods

Level of Service

Signalized Intersections - Planning Method. For signalized intersections, the Transportation Research Circular 212 analysis procedures consider the sum of the critical lane volumes on all approaches. The resulting critical movement volume-to-capacity (V/C) ratios are assigned to all approaches of the evaluated intersection. Some individual traffic movements within the signalized intersection may have better conditions than indicated by the overall intersection level of service (LOS).

Transportation Research Circular 212 procedures assume that signalized intersections with different phasing have different critical movement capacities. Table III-1 shows the V/C ratios associated with each LOS. Table III-2 shows the ranges of critical movement volumes that define LOS ranges for signals having two, three, and four or more phases.

Table III-1. Level of Service Definitions for Signalized and Unsignalized Intersections

	Signalized Intersection		Unsignalized Intersection	
Level of Service	Volume/ Capacity Ratio[a]	Description	Reserve Capacity	Description
A	≤ 0.60	Free-flow conditions; no signal phases fully utilized; no congestion	>400	Little or no delays
B	0.61-0.70	Nearly free flow with occasional flow restrictions within groups of vehicles; occasional signal phases fully utilized; little or not congestion	300-399	Short delays
C	0.71-0.80	Stable operation, drivers may feel restricted within groups of vehicles; some signal phases fully utilized, and some vehicles may have to wait through more than one signal phase; moderate congestion	200-299	Average delays
D	0.81-0.90	Approaching unstable flow with dense groups of vehicles; most signal phases fully utilized and some delays may be substantial; heavy congestion	100-199	Long delays
E	0.91-1.00	Unstable flow with nearly all signal phases fully utilized and substantial delays; long queues of vehicles may develop; very heavy congestion	0-99	Very long delays
F	>1.00	Jammed, forced-flow conditions; all signal phases fully utilized, substantial delays, long queues; actual volumes handled may be less than 100% of capacity because of jams	<0	Failure, extreme congestion

[a] The actual range of V/C ratios associated with each LOS for signalized intersections varies slightly depending on the number of phases per cycle for the signal. These ranges should therefore be taken as general guidelines.

Source: Transportation Research Board 1985, Highway Research Board 1965.

Table III-2. Level of Service Ranges for Signalized Intersections, Planning-Level Analysis (Maximum Vehicles per Hour)

Level of Service	Number of Signal Phases		
	Two	Three	Four+
A	900	855	825
B	1,050	1,000	965
C	1,200	1,140	1,100
D	1,350	1,275	1,225
E	1,500	1,425	1,375
F	N/A	N/A	N/A

Note: N/A = not applicable.

Source: Transportation Research Board 1980.

Signalized Intersections - Operational Method. Where more detailed information regarding the operation of an intersection was needed, the "operational" method of analysis was used. This method is described in the 1985 Highway Capacity Manual (Transportation Research Board 1985). The operational analysis method determines the capacity and LOS for each lane group or approach, as well as the LOS for the intersection as a whole. The operational analysis method estimates an average vehicle delay to characterize the LOS at a signalized intersection.

The operational analysis method involves calculating LOS based on factors including:

- traffic volumes by turning movement,
- number of lanes for each movement,
- width of each lane,
- quality of traffic progression,
- signal cycle length, and
- green ratio for each lane group.

Table III-3 shows the ranges of vehicle delay and the characteristics of an intersection associated with each LOS category in the operational analysis method.

Unsignalized Intersections. For one-way or two-way stop unsignalized intersections, the 1985 Highway Capacity Manual analysis procedures assess the conflicts between turning movements to and from the legs of the intersection with stop signs (minor streets) and those on the legs without stop signs (major streets). These procedures analyze the probability and frequency of gaps occurring in the major street flows that would allow minor street traffic to proceed. The quantitative measure of LOS at unsignalized intersections is not the V/C ratio, but an estimate of the remaining "reserve" capacity at the intersection. Reserve capacity represents the extent to which cars on the minor street approaches can proceed through the intersection and generally decreases as the volume of through-traffic on the major street increases. A reserve capacity less than 0 indicates an intersection operating at LOS F.

The ranges of reserve capacities associated with each LOS are shown in Table III-1. The overall intersection LOS is determined by the turning movement with the worst reserve capacity. Therefore, some movements may have better conditions than indicated by the overall intersection LOS.

Length of Left-Turn Lanes. The recommended storage length of left-turn lanes at signalized intersections was calculated using procedures described in the Highway Design Manual (California Department of Transportation 1978). The Caltrans procedures involve determining the average number of vehicles that would arrive during a signal cycle, multiplying this value by an average vehicle length, and including an additional length to account for variable vehicle arrival patterns. The results of operational analysis are used as inputs to this calculation.

Table III-3. Level of Service Ranges for Operational Analysis

Level of Service	Stopped Delay per Vehicle in Seconds	Characteristics of Service
A	< 5.1	Intersection operates with very low delay. Progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to low delay.
B	5.1 to 15.0	Intersection generally operates with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher average delay.
C	15.1 to 25.0	Intersection operates with fair progression and/or longer cycle lengths. Individual cycle failures begin to appear. The number of vehicles stopping is significant, although many vehicles do not stop at all.
D	25.1 to 40.0	Congestion becomes more noticeable. Longer delays result from unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop. Individual cycle failures are noticeable.
E	40.1 to 60.0	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.
F	> 60.0	Considered to be unacceptable to most drivers. Oversaturation occurs, with arrival flow rates exceeding the capacity of the intersection. Poor progression and long cycle lengths may contribute to such delay levels.

Source: Transportation Research Board 1985.

The Caltrans Highway Design Manual recommends that the storage length of left-turn lanes at signalized intersections be 1.5 to 2.0 times the length of cars that would arrive during an average signal cycle.

In addition to the storage length, a left-turn lane must include a "bay taper" area. The bay taper is where vehicles move from the main flow of the street to the left-turn lane storage area. According to the Highway Design Manual, bay taper areas are typically 60 to 90 feet long in urban areas. The more conservative end of this range (90 feet) will be used in this draft EIR to determine the significance of impacts.

For unsignalized intersections, the Caltrans Design Manual (California Department of Transportation 1978) states, "At unsignalized intersections, storage length may be based on the number of turning vehicles likely to arrive in an average 2-minute period during the peak hour." Alternatively, the length of the left-turn lane could be calculated for the intersection when it is signalized. Because this method requires knowledge of the signal cycle length, which is not yet known, the unsignalized method was chosen.

Arterial Segments. The capacity of arterial segments was calculated for the cumulative analysis. A simplified version of the method used in the City of San Jose General Plan was used (Belden pers. comm.). The capacity of an urban arterial roadway is assumed to be controlled by the capacity of its intersections. In the case of the study roadways, each is considered a major arterial, and each is assumed to have a mainline capacity of 1,800 vehicles per hour per lane. It is further assumed that when major arterials intersect, they share the capacity of the intersection equally, resulting in a capacity of 900 vehicles per hour per lane.

By dividing the projected volume on each roadway segment by its capacity, the V/C is calculated. These V/C ratios were converted to LOS using the data in Table III-4.

Methods for Determining Whether Traffic Signals Are Warranted

A signal warrant analysis was conducted on each unsignalized intersection. This analysis was based on established guidelines that assist in determining the need for traffic signal control (California Department of Transportation 1985).

The signal warrant guidelines specify the following 11 criteria that indicate the need for traffic signal installation:

1. minimum vehicular volume,
2. interruption of continuous traffic,
3. minimum pedestrian volume,
4. presence of school crossing,
5. progressive movement,

Table III-4. Roadway Segment Level of Service Definitions

Level of Service	Description	V/C Ratio
A	A condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver choice, speed limits, and physical road conditions.	Less than 0.60
B	A condition of stable flow, with operating speeds beginning to be restricted by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation.	0.60-0.69
C	A condition of stable flow, but speed and maneuverability are more adversely affected by higher traffic volumes. Most drivers are restricted in their freedom to select their speed, change lanes, or pass.	0.70-0.79
D	Conditions approach unstable flow, with tolerable operating speeds being maintained although considerably affected by changes in operating conditions. Fluctuation in volume and temporary restrictions may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.	0.80-0.89
E	Represents operation at speeds lower than in level D, with volumes at or near the capacity of the highway.	0.90-0.99
F	Represents forced-flow operations at low speeds, where volumes exceed capacity. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of the downstream congestion. In the extreme, both speed and volume can drop to zero.	1.00 and greater

6. occurrence of accidents at the intersection,
7. overall intersection operation,
8. combination of signal warrants,
9. 4-hour volumes,
10. peak-hour delay, and
11. peak-hour volume.

Exceeding any one or a combination of these criteria may indicate that signal control is needed. The guidelines emphasize that the criteria should be considered only as a guide in determining the need for traffic signal control and only in conjunction with other project-specific factors. A comprehensive investigation of traffic conditions and physical characteristics of the intersection in question is required to determine the necessity for a signal and to furnish necessary data for the proper design and operation of a signal that is found to be warranted. Such data are listed in the Manual on Uniform Traffic Control Devices (U.S. Department of Transportation 1988).

The analysis conducted for this study is preliminary because only limited data are available. The preliminary signal warrant analysis focuses on peak-hour volumes.

Parking Lot Analysis

Parking data were collected at Kelley Park on Sunday, August 9, 1992. Three separate data collection efforts were conducted at the two operating parking lots: a license plate survey, a vehicle occupancy survey, and a direction of approach survey. Details of the methodologies used in this study and results obtained are available in Preliminary Research and Data Collection Report for the Kelley Park Master Plan Environmental Impact Report and shown in Appendix B. A summary of the results is presented below.

After choosing the survey date, it was discovered that the SJHM was closed for renovation and would not be reopened until September 1. Because the SJHM is considered one of the principal attractions of the park, this closure was expected to greatly affect parking demand in Lot B (southern Senter Road lot) (see Figure III-6 for parking lot locations). However, it was not expected to have as large an effect on Lot A (northern Senter Road lot). It was also discovered that Phelan Avenue was closed due to adjacent construction. This closure prevented any parking in Lot D on the southern edge of the SJHM. Because the Keyes Street lot was not used on the day of the survey and Lot D was not usable, data were collected only for Lots A and B.

To account for trips to the San Jose Historical Museum, a subsequent count was taken at the Phelan Avenue/Senter Road intersection, which serves as the entrance

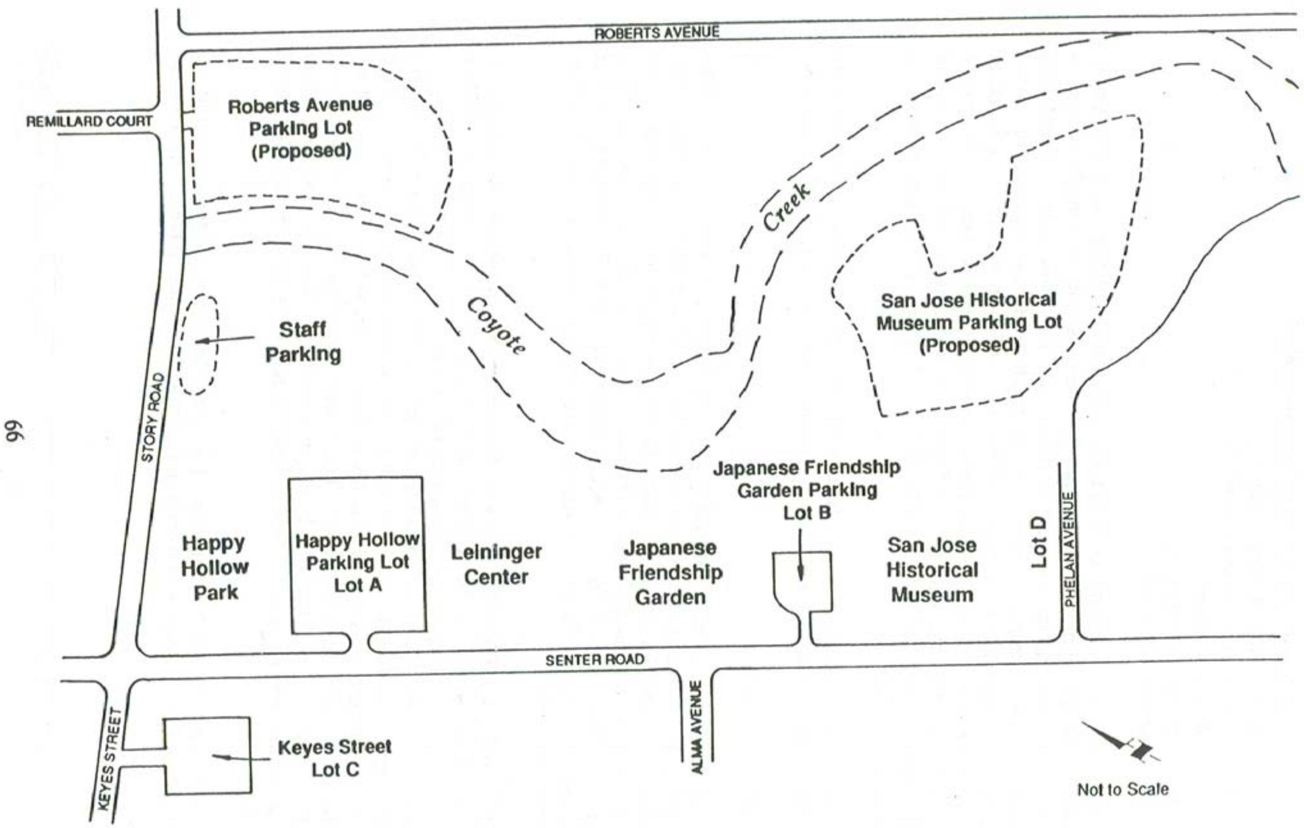


Figure III-6
Existing and Proposed Location of Parking Lots

to the Phelan Avenue parking area. These counts were taken on Sunday, July 17, 1994, a day when the historical museum was open. Trips to and from the Phelan Avenue leg of the intersection were then distributed to the rest of the roadway network to simulate the effects of the SJHM on the rest of the project entrances. Because not all traffic on Phelan Avenue is generated by Kelley Park, this method is considered a conservative approach.

Description of Existing Transportation Facilities

Roadways in the Project Vicinity

The proposed project is located southwest of downtown San Jose. The park site is bounded by Story Road, Senter Road, Roberts Avenue, and Phelan Avenue, situated along an axis askew from due north. For the purposes of this analysis, however, Story Road and Phelan Avenue will be described as running east-west, Senter Road and Roberts Avenue as running north-south.

Story Road. Story Road is an east-west arterial forming the northern boundary of the project site. It has four lanes in the vicinity of the project site. East of the project site, it widens to five lanes (three eastbound and two westbound lanes), ultimately connecting to Highway 101. West of Senter Road, Story Road becomes Keyes Road, ultimately connecting to Highway 82.

In the vicinity of the project, Story Road is bordered on both sides by parkland. East and west of the project, principally commercial uses abut Story Road. The speed limit on this roadway is 45 miles per hour.

Senter Road. Senter Road is a six-lane north-south arterial roadway forming the western boundary of the project site. It terminates at Story Road to the north, connecting with Tully Road and the Capital Expressway south of the project site.

In the vicinity of the project, Senter Road is bordered to the east by Kelley Park and to the west by industrial uses and the San Jose Municipal Stadium. The speed limit on this roadway is 45 miles per hour.

Roberts Avenue. Roberts Avenue is a unstriped two-lane residential road, forming the eastern boundary of the project site. It terminates at Story Road to the north, connecting with Phelan Avenue to the south.

Roberts Avenue is bordered by Kelley Park to the west and by residences to the east. The speed limit on Roberts Avenue is 25 miles per hour.

Phelan Avenue. Phelan Avenue is a two-lane discontinuous collector roadway. West of project site, Phelan Avenue runs from the Monterey Highway to just east of Senter Road. East of the project site, it runs from Roberts Avenue to McLaughlin Avenue.

Phelan Avenue is bordered by industrial uses west of the project site, by park and residential uses between Senter Road and Roberts Avenue, and by residential uses east of the park. The speed limit on Phelan Avenue is 25 miles per hour.

Descriptions and Configurations of Parking Lots

Four parking lots serve parking demand at Kelley Park. These are shown in Figure III-6. The largest lot is located between Happy Hollow Park and Zoo and the Leininger Center. It has a capacity of 462 vehicles and is accessed from Senter Road. Parking fees are normally collected at this lot; for the purposes of this study it will be known as Lot A.

A smaller parking lot is located between the Japanese Friendship Garden and the SJHM. It has a capacity of 76 spaces and is accessed from Senter Road. Parking fees are normally collected at this lot, which will be known as Lot B.

An overflow parking lot is located on the southwest corner of the Keyes Street/Senter Road intersection. This lot has a capacity of approximately 203 spaces and is used only during special events when additional parking is needed; it will be known as Lot C.

Informal, unpaved parking spaces along Phelan Avenue are used mainly by historical museum visitors. The capacity of the area is approximately 100 spaces. Parking fees are not collected at this lot, which will be known as Lot D.

Parking Lot Operations

Duration of Parking Stay. The majority of people using these lots park for 3 hours or less. In Lot A, more than 60% of vehicles park for 3 hours or less, and nearly 78% park for 4 hours or less. This contradicts the idea that most people use this lot to park for all-day picnic trips. At Lot B, nearly 68% of vehicles park for 3 hours or less and 85% of all vehicles park for 4 hours or less. The average duration of stay in Lot A is 3.4 hours, in Lot B it is 3.5 hours, and combined it is 3.4 hours.

Turnover Rate. Turnover at a parking lot measures the average number of vehicles occupying each space in a lot during the course of a day. If a lot has a high turnover, then more total vehicles can use the lot each day because each individual vehicle uses the lot for a short time.

Lot A has a capacity of approximately 462 vehicles. On the survey day, 1,096 vehicles parked in the lot, so the turnover rate for that lot is approximately 2.4. Lot B has a capacity of 76 vehicles. On the survey day, 164 vehicles parked in Lot B, so the turnover rate for that lot is approximately 2.2.

Lot Occupancy. Occupancy is calculated as the percentage of lot capacity used at any point in time. Contrary to expectations, the maximum occupancy of Lot A occurred between the hours of 2:00 and 5:00 p.m. and peaked at just under 90% occupancy. Lot B occupancy was highest between 3:00 and 6:00 p.m. and peaked at nearly 98% occupancy. In both cases, occupancy during the morning hours was quite low, never reaching above 30%.

Vehicle Occupancy. Average vehicle occupancy was calculated by dividing the total number of persons in all cars by the number of cars counted. For Lot A the average vehicle occupancy was 2.7 persons per vehicle, and for Lot B the average was 3.2 persons per vehicle. For both lots the average was 2.8 persons per vehicle.

Direction of Approach. For Lot A, approximately 45% of the vehicles entering the lot approached from northbound Senter Road and 55% approached from southbound Senter Road. For Lot B, the distribution was quite different, with 26% approaching from northbound Senter Road and 74% approaching from southbound Senter Road.

Parking Lot Entrances. The entrance to Lot A forms an unsignalized intersection with Senter Road. The configuration of this intersection is shown in Figure III-7. Existing volumes at this intersection are shown in Figure III-8. At present, this intersection operates at LOS F during the Sunday peak hour for turns from the parking lot to Senter Road. This is not considered acceptable by the City of San Jose. It meets preliminary signal warrants, based on the nearly 200 left and right turns occurring during the Sunday peak hour. Signalization of this intersection would allow operation at LOS A.

The entrance to Lot B also forms an unsignalized intersection with Senter Road. The configuration of this intersection is shown in Figure III-7 and existing volumes are shown in Figure III-8. At present, this intersection operates at LOS D during the Sunday peak hour for turns from the parking lot to Senter Road. This is considered acceptable by the City, and the intersection does not meet preliminary signal warrants.

The Story Road/Roberts Avenue intersection is a three-legged unsignalized intersection. Roberts Avenue is the south leg of this intersection and is controlled by a stop sign. The Story Road legs are not controlled. The existing configuration of this intersection is shown in Figure III-7, and existing volumes are shown in Figure III-8. The Roberts Avenue leg of this intersection operates at LOS D, but the intersection does not meet signal warrants.

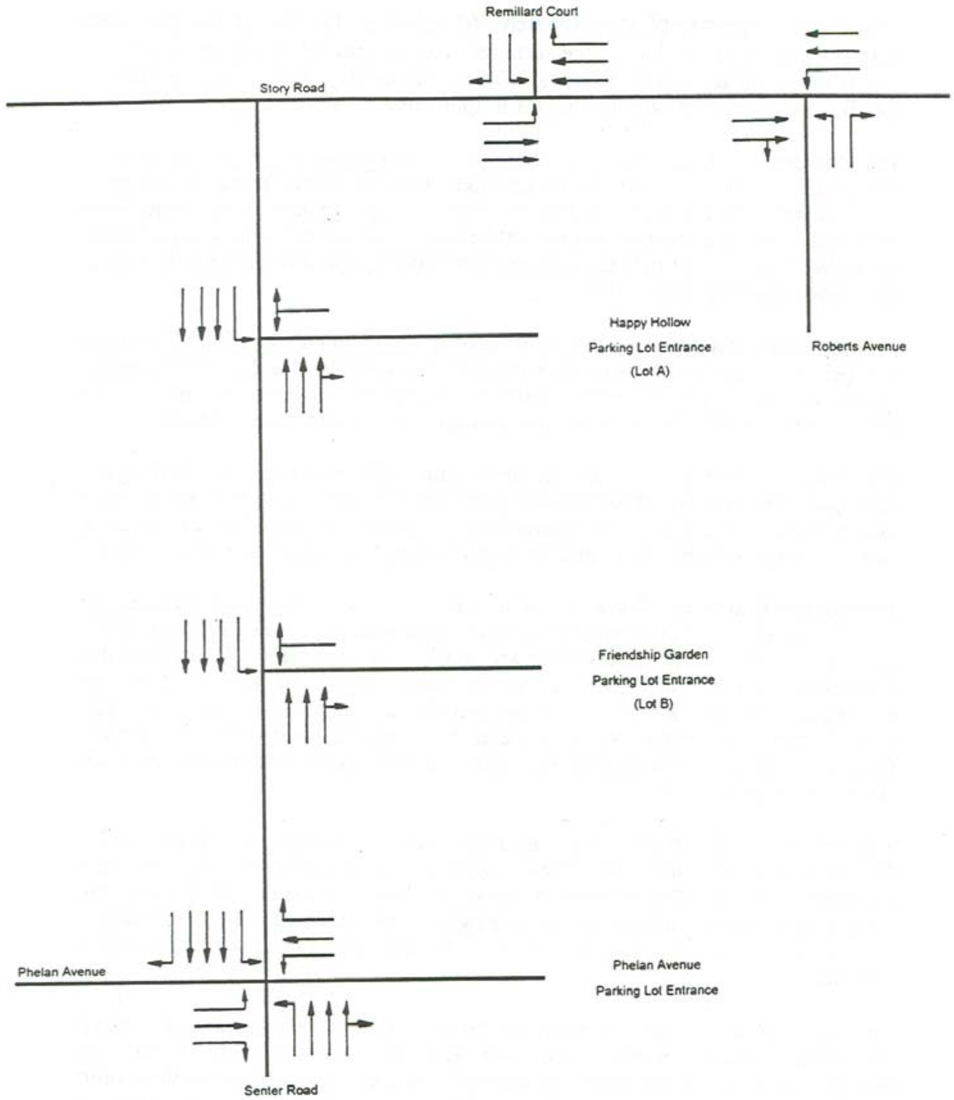


Figure III-7
Lane Configurations at Parking Lot Entrances under Existing Conditions

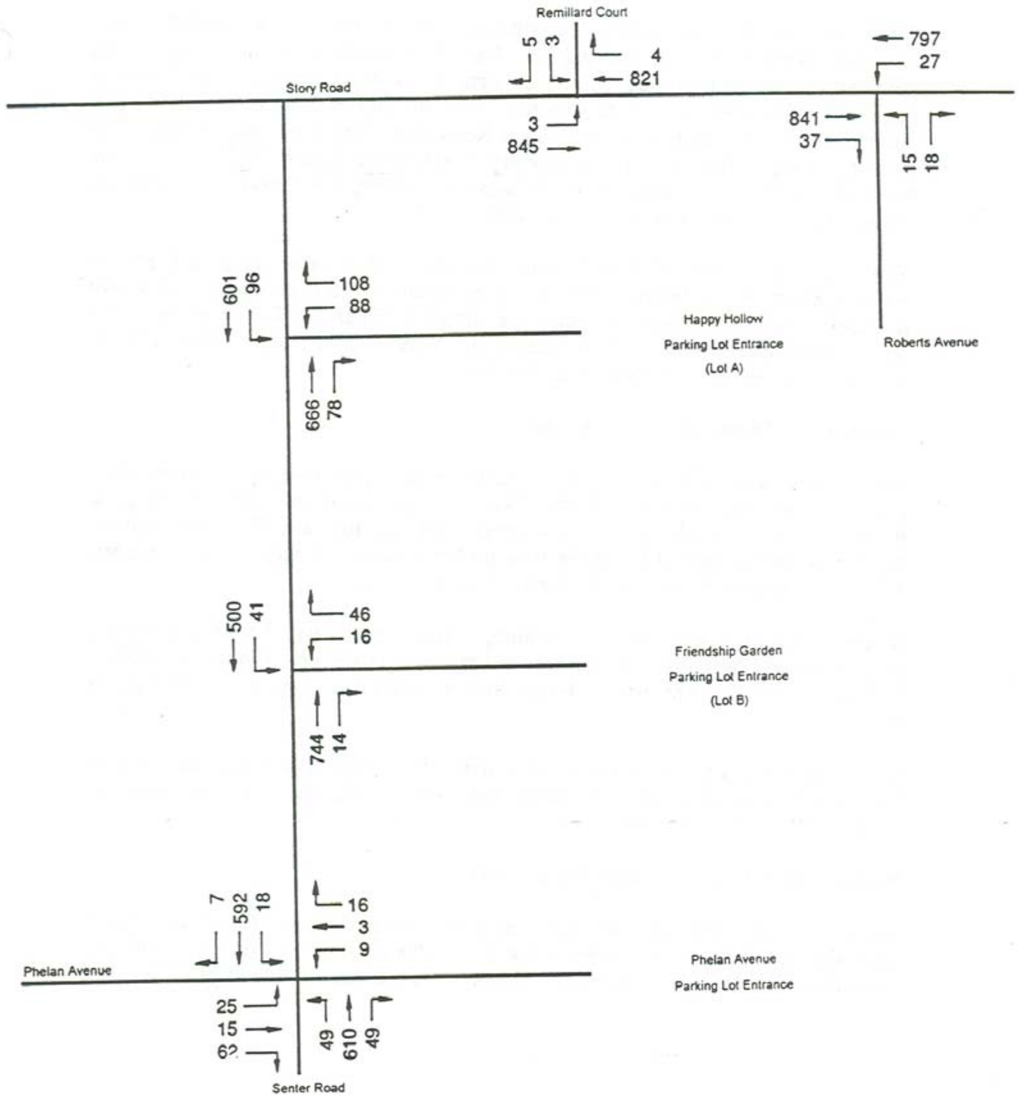


Figure III-8
Turning Movement Volumes under Existing Conditions

There is currently a three-legged unsignalized intersection at the location of the proposed Roberts Avenue parking lot. Remillard Court is the north leg of this intersection and is controlled with a stop sign. Story Road forms the east and west legs and these operate without control. For the purposes of this analysis, this intersection will be referred to as the Story Road/Remillard Court intersection. The existing configuration of this intersection is shown in Figure III-7 and existing volumes are shown in Figure III-8. Because of the very low weekend volumes on Remillard Court, this intersection operates at LOS C.

The entrance to the Phelan Avenue parking area is the signalized Phelan Avenue/Senter Road intersection. The configuration of this intersection is shown in Figure III-7, and existing volumes are shown in Figure III-8. At present, this intersection operates at LOS A during the Sunday peak hour. This LOS is considered acceptable by the City of San Jose.

Description of Existing Transit Service

Public transit service in the vicinity of Kelley Park is provided by the Santa Clara County Transportation Agency (TA). Two routes provide direct service to the park. Route 25 travels roughly east-west between east San Jose and De Anza College, passing by the northern edge of the park on Story Road. Service is provided every 30 minutes from 6:30 a.m. to 10:30 p.m., 7 days a week.

Route 73 travels roughly north-south along Senter Road, passing along the western edge of Kelley Park. Service is provided approximately every 30 minutes between 5:30 a.m. and 7:30 p.m. on weekdays, and between 6:30 a.m. and 8:30 p.m. on weekends.

Service to Kelley Park is available from many other parts of San Jose via transfers from the light rail line or many other bus routes to Route 73 at the downtown transit mall.

Description of Pedestrian and Bicycle Facilities

There are sidewalks on both sides of Story Road. Senter Road also has a sidewalk/bike path on both sides of the road. Phelan Avenue within the park has sidewalks only along the south side. Roberts Avenue has no sidewalks.

2. <u>Impacts</u>

Methodology

Significance Criteria

LOS Standard: The LOS standard for all study intersections is LOS D. Therefore, operation of an intersection at LOS A, B, C, or D is considered acceptable. Operation at LOS E or F is considered unacceptable. Impacts on intersections will be considered significant if:

- a signalized intersection is currently operating at an acceptable LOS and the project degrades operations to an unacceptable LOS;
- an unsignalized intersection is currently operating at an acceptable LOS and the project degrades operations to an unacceptable LOS, if the project-related trips cause the intersection to meet signal warrants, or if the addition of project traffic causes a more than 1% increase in the critical volume of traffic of an intersection previously operating at LOS E or F;
- an unsignalized intersection is currently operating at an unacceptable LOS and the project-related trips cause the intersection to meet signal warrants or if the addition of project traffic causes a more than 1% increase in the critical volume of traffic of an intersection previously operating at LOS E or F.

Parking Lot Supply and Demand: In the analysis of parking lot supply and demand, an impact is considered significant if an adequate amount of parking is not available to serve projected summer weekend traffic.

Left-Turn Lane Length: In this analysis, conditions that result in an inadequate total left-turn lane length (storage area plus bay taper area) will be considered to have a significant impact.

Projecting Project-Related Traffic Volumes

Project-related traffic volumes at each of the four principal parking lot entrances were calculated based on measures of existing parking lot occupancy and the proposed size of these parking lots after expansion. The occupancy of each existing parking lot was measured during the peak hour on a Sunday. This value was then applied to the proposed parking lot size to project total volumes at each entrance. Measurements of entrances versus exits and of direction of approach (i.e., north versus south) were also applied to the existing-plus-project condition. For the Phelan Avenue/Senter Road intersection, assumed lot occupancy for the proposed SJHM parking lot was based on the measured occupancy of Lot A. The direction-of-approach assumptions were based on the actual turning movement counts taken at that intersection. This methodology was based on the following assumptions:

- attendance will be regulated by the availability of onsite parking;
- on a normal summer weekend, overflow parking lots at Story Road and Keyes Street or elsewhere would not be needed or used; and
- existing automobile occupancy (the number of persons per car) and the proportion of transit usage will remain the same.

Figure III-9 shows the location of all existing and projected onsite parking lots under existing-plus-project conditions. Turning movement volumes at each parking lot entrance intersection under existing-plus-project conditions are shown in Figure III-10.

Projecting 2010 Traffic Volumes

Projections of weekday p.m. peak-hour volumes on the roadways surrounding Kelley Park were obtained from the City traffic model (Belden pers. comm.). These volumes were from a model run of the year 2010 conducted for the update of the City of San Jose General Plan. The 2010 analysis examines only the capacity and volumes on the roadways surrounding Kelley Park. Projections were made for Story Road, Senter Road, and Phelan Avenue. No projections were available for Roberts Avenue because it is not a large enough street to be included in the model network. However, because it is a residential street serving an existing neighborhood, no significant increase in traffic is expected.

No analysis of intersections in 2010 was conducted. The operation of intersections under future-year conditions was analyzed in the general plan process, and improvements were adopted to allow acceptable operations. Because the park is not expected to generate a significant number of weekday peak-hour trips, it is not expected to create the need for any additional improvements

Planned Improvements

The analysis of project conditions assumes that a new south leg to the Story Road/Remillard Court intersection would be constructed. This south leg would be the driveway to the parking lot proposed for the east side of Kelley Park. A new signal at the Story Road/Remillard Court intersection is proposed as part of the Kelley Park project and is assumed in this analysis. Although the possibility exists for a future signal to be installed at the Story Road/Roberts Avenue intersection, that signalization is not associated with the Kelley Park Master Plan and is not assumed in this analysis. Because a new signal at this location could change traffic conditions in this area, future environmental review may be needed for this action.

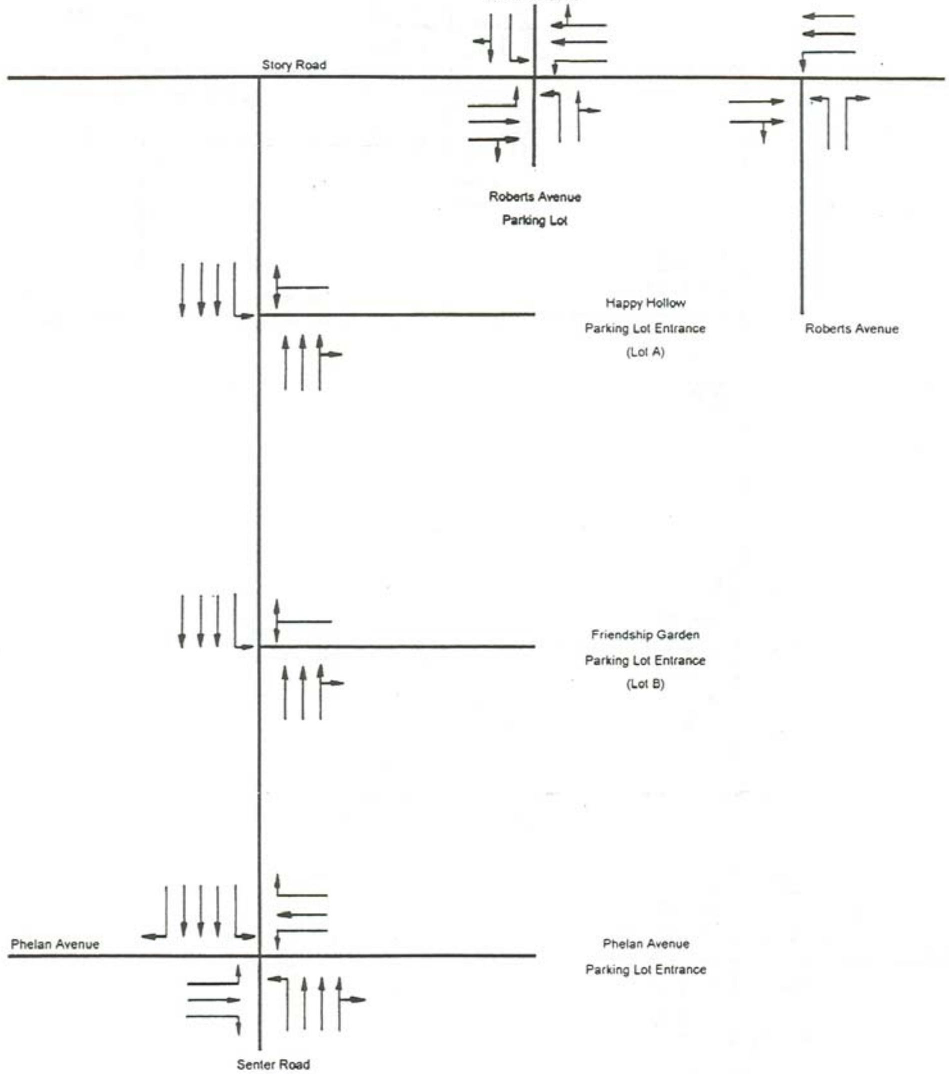


Figure III-9
Lane Configurations at Parking Lot Entrances under Existing-Plus-Project Conditions

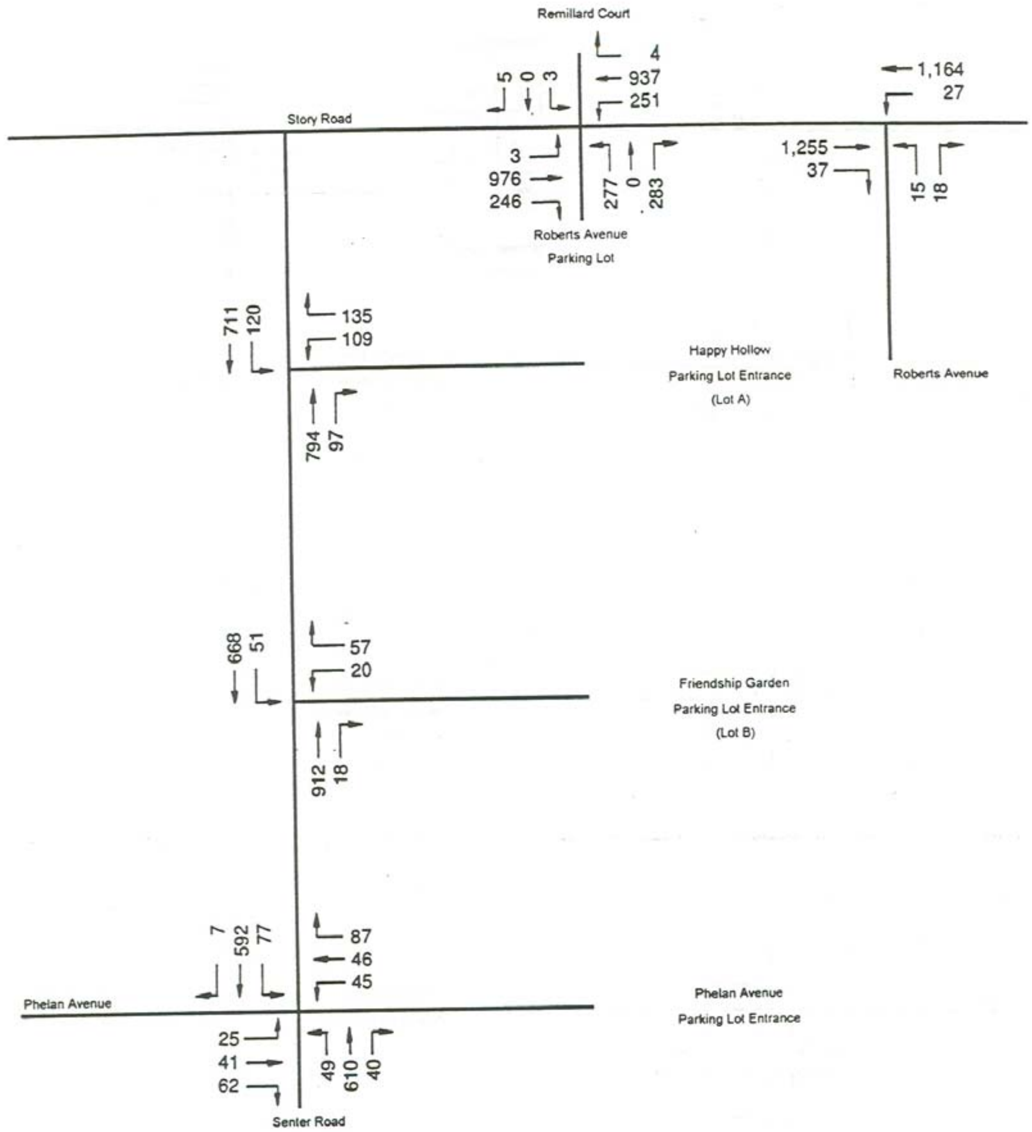


Figure III-10
Turning Movement Volumes under Existing-Plus-Project Conditions

In the past, the City has considered a new north leg to the Story Road/Roberts Avenue intersection. This north leg would provide access to the vacant property north of Story Road across from Roberts Avenue. Access to this vacant property is neither a part of the proposed project nor an assumed change in background conditions. Therefore, the analysis presented in this EIR section does not assume a north leg to this intersection.

When the LOS at the Story Road/Remillard Court intersection was calculated, this intersection was assumed to be part of the existing signal control system immediately to the east of the project site. This existing control system operates the signals along Story Road from Lucretia Avenue to McLaughlin Avenue. The signal cycle length used by this control system during Sundays is 125 seconds.

No other improvements to intersections or roadway segments were assumed.

Degradation of the Reserve Capacity at Existing and Proposed Kelley Park Entrances

Increased traffic volumes through the Senter Road/Happy Hollow parking lot intersection would degrade the reserve capacity from -106 to -203. The LOS would remain at F; however, there would be a more than 1% increase in the critical volumes, which is not considered acceptable by the City. This intersection, which meets preliminary signal warrants without the project, meets them more strongly with the additional project trips.

At the Senter Road/Happy Hollow parking lot entrance intersection, 120 left turns are projected to occur during the Sunday peak hour, compared to 96 under existing conditions. This increase translates into an average of two vehicles per minute, or four vehicles during a 2-minute period. At 25 feet per vehicle, a storage length of 100 feet is required. In addition, a bay taper of 90 feet is recommended, giving a total length of 190 feet. The existing left-turn pocket is 200 feet long and would accommodate the increased left-turn volumes.

An increase in traffic volumes at the Senter Road/Happy Hollow parking lot entrance intersection would result in a significant impact because the intersection LOS is unacceptable.

Increased traffic volumes through the Senter Road/Japanese Friendship Garden parking lot entrance intersection would degrade the LOS from D to E; however, the turning volumes from the parking lot entrance are not large enough to meet signal warrants.

At the Senter Road/Friendship Garden parking lot entrance intersection, 51 left turns are projected to occur during the Sunday peak hour. This translates into an average of 0.85 vehicle per minute, or 1.7 vehicles during a 2-minute period. At 25 feet per vehicle, a storage length of 42 feet is suggested. However, a minimum length of 75 feet is recommended for storage areas. Adding 90 feet for the bay taper brings the length to 165 feet. The existing left-turn pocket is 190 feet long and would accommodate the increased left-turn volumes.

An increase in traffic volumes at the Senter Road/Friendship Garden parking lot entrance intersection would result in a less-than-significant impact because traffic volumes are not large enough to warrant signalization. No mitigation measures are required.

Under existing-plus-project conditions, the Story Road/Remillard Court intersection would operate with an average intersection delay of 22.92 seconds and a resulting average intersection LOS of C. The worst approach would be for southbound vehicles; this approach would operate with a delay of 40.97 seconds and a resulting LOS of E. This would be due to the small number of vehicles on this approach, the resulting short green cycle for this approach, and the relatively long overall cycle length. This LOS is comparable to operation of the intersection at LOS C (as an unsignalized intersection) under existing conditions.

The addition of project-related traffic to the Story Road/Remillard Court intersection would result in a less-than-significant impact because LOS C is considered acceptable. No mitigation measures are required.

Addition of Project-Related Traffic to the Story Road/Roberts Avenue Intersection and Phelan Avenue/Senter Road Intersection

Under existing-plus-project conditions, the Story Road/Roberts Avenue intersection would operate at LOS D for the Roberts Avenue leg. The reserve capacity for this leg is estimated to be 112. This LOS is comparable to operation at LOS D with a reserve capacity of 125 under existing conditions. LOS D is considered acceptable by the City of San Jose, and the volumes on Roberts Avenue are not sufficient to warrant signalization of this intersection.

Increased traffic volumes through the Phelan Avenue/Senter Road intersection would degrade the volume-to-capacity ratio from 0.23 to 0.29, and the intersection LOS would remain at A. This increase in traffic volumes would not adversely affect intersection conditions because LOS A is considered acceptable by the City of San Jose. No mitigation measures are required.

The addition of project-related traffic to the Story Road/Roberts Avenue intersection and Phelan Avenue/Senter Road intersection would result in less-than-significant impacts because the Story Road/Roberts Avenue intersection and the Phelan

Avenue/Senter Road intersection are projected to operate at an acceptable LOS. No mitigation measures are required.

Spacing for Left-Turn Lanes at the Story Road/ Remillard Court Intersection

Based on procedures described in the Highway Design Manual (California Department of Transportation 1978), the length of the storage area for the westbound to southbound left turn at the Story Road/Remillard Court intersection would need to be 327-436 feet. Adding a bay taper length of 90 feet would result in a total left-turn lane length of 417-526 feet.

Under existing-plus-project conditions, the curb-to-curb distance between Remillard Court and Roberts Avenue along Story Road would be approximately 500 feet. (This length is approximate; the actual distance is unknown at this time because detailed design of improvements at these two intersections has not occurred.) Therefore, the distance between these two intersections would fall within the range of an adequate left-turn lane.

Providing the needed length of a left-turn lane at the Story Road/Remillard Court intersection would result in a less-than-significant impact because this lane could be constructed in an adequate manner within the 500 feet currently available. No mitigation measures are required.

Potential Safety Problems from the Proposed Historic Trolley Line Crossing the Parking Lot Entrances

Operation of the Historic Trolley along the perimeter of Kelley Park could present potential safety problems where the trolley would conflict with pedestrian and automobile traffic. Conflicts with automobiles would occur where the trolley would cross the two Senter Road parking lot entrances. Pedestrian conflicts could occur anywhere along the length of the line.

Vehicles exiting the parking lot could conflict with the trolley, though these vehicles would be traveling at a relatively slow speed and would have a good field of view of the tracks. Of greatest concern are safety problems from vehicles making right turns into the parking lot. They will be traveling at a relatively high speed, will have a short distance after turning before approaching the tracks, and do not have a separate lane for waiting out of the traffic flow for passing trolleys. Safety problems from vehicles turning left into the lots are of some concern, but drivers have a better view of approaching trolleys and a storage lane to wait in for trolleys to pass.

Operation of the Historic Trolley line would result in a less-than-significant pedestrian and vehicle hazard because trolleys would be operated at low speeds (5-10 mph) and would be equipped with warning bells and head lamps. No mitigation measures are required.

Potential Imbalance between Parking Supply and Demand

Table III-5 shows the projected capacity of existing and proposed parking lots for Kelley Park. It shows that 3,241 parking spaces would be provided on site and adjacent to the park, including the 1,005 spaces proposed in the SJHM Master Plan (City of San Jose Department of Building and Planning 1994).

In addition, the City has negotiated an agreement to allow use of the municipal stadium parking lot, located across Senter Road from Kelley Park, for overflow parking during special events. The City intends to provide shuttle service between this lot and Kelley Park to avoid safety problems for pedestrians crossing the railroad tracks and Senter Road. The municipal stadium parking lot has 988 spaces.

The demand for parking generated by Kelley Park after implementing the master plan is projected to be 2,393 spaces (City of San Jose Department of Building and Planning 1991). The demand for parking generated by the SJHM has not been estimated by the City. If typical weekend parking demand for the SJHM is assumed to be equal to 405 paved spaces planned in the SJHM master plan, then total parking demand is estimated to be 2,798. This amount of parking is well within the total parking supply proposed. Also, the 988 spaces at the municipal stadium parking lot and parking spaces at the City Central Services Yard would provide additional overflow parking supply during special events.

Parking supply impacts associated with the master plan are considered less than significant because adequate onsite parking would be provided to meet the expected weekend parking demand. No mitigation measures are required.

Potential Use of Neighborhood Streets for Visitor Parking

Implementation of the Kelley Park Master Plan would increase the number of people using Kelley Park and has the potential to increase visitor parking along adjacent neighborhood streets, particularly during special events. The tendency for park visitors to use neighborhood streets is influenced by the following factors:

- the availability of parking in sanctioned lots,
- the price of parking in lots,
- limited egress from parking lots,
- prohibited right-hand turns from the parking lot onto adjacent streets,

Table III-5. Summary of Proposed Master Plan

Lot	Projected Capacity
Happy Hollow	556
Friendship Garden	175
12th/Keyes	203
Roberts Avenue	1,272
SJHM	1,005
Staff	30
Total	3,241

- fencing that discourages access to the park,
- the presence of clear signage directing people to appropriate lots, and
- the perceived penalty for parking on neighborhood streets.

Increasing the quantity of visitors to Kelley Park may increase the number of vehicles parking on adjacent neighborhood streets, which would result in a significant impact.

Impact Summary. Implementation of the master plan would result in a significant traffic impact on the Senter Road/Happy Hollow parking lot entrance and less-than-significant traffic impacts on the Senter Road/Japanese Friendship Garden entrance and the proposed northern entrance at the Story Road/Remillard Court intersection. Implementation of the master plan would result in less-than-significant traffic impacts on the Story Road/Roberts Avenue and Phelan Avenue/Senter Road intersections and from safety concerns associated with operation of the Historic Trolley. Implementing the master plan could significantly increase visitor parking on neighborhood streets. The master plan would adequately provide for onsite parking to meet typical weekend parking demand.

Cumulative Increase in Traffic Volumes on Arterial Roadways in Project Vicinity

Table III-6 shows the traffic volumes projected by the City of San Jose traffic model for Story Road, Senter Road, and Phelan Avenue. This table also shows the capacity and volume-to-capacity ratios and the LOS for these three facilities. No facility is projected to operate at an unacceptable LOS.

Operation of Story Road, Senter Road, and Phelan Avenue at LOS C or better during the p.m. peak hour would result in a less-than-significant impact. No mitigation measures are required.

3. Mitigation

- Signalize the Senter Road/Happy Hollow parking lot entrance intersection. Signalization of this intersection would allow the intersection to operate at LOS A (V/C=0.46) (included in the project).

Trolley Safety

The following measures could be incorporated into future project design or trolley operation procedures to further reduce less-than-significant trolley safety effects (not currently in the project):

- Ring the bell at parking lot entrances before crossing them.

- Control traffic during trolley crossings, if necessary.

Table III-6. 2010 Traffic Volumes and Level of Service

Roadway Segment	Direction	Number of Lanes	Peak-Hour Capacity	2010 P.M. Peak Volume	Volume-to-Capacity Ratio	LOS
Story Road	Westbound	2	1,800	415	0.23	A
	Eastbound	2	1,800	355	0.20	A
Senter Road	Northbound	3	2,700	586	0.22	A
	Southbound	3	2,700	2,134	0.79	C
Phelan Avenue	Westbound	2	1,800	200	0.11	A
	Eastbound	2	1,800	536	0.30	A

- Install right-turn bays for northbound Senter Road and eastbound Story Road to allow turning vehicles to wait outside the traffic flow for passing trolleys.

- Locate the tracks far enough back from the street at the parking lot entrances to allow storage of one or two vehicles out of the traffic flow.

Visitor Parking on Neighborhood Streets

Implement the following programmatic measures to reduce impacts associated with increased vehicle parking in neighborhoods surrounding the park:

- Prepare a traffic control plan for Kelley Park traffic and parking for special event days. This plan should include placement of signs to direct visitors to the appropriate parking lot, and adequate parking lot attendants and traffic control personnel. Communication between the parking lot attendants and the traffic control personnel will allow traffic to be directed to onsite lots until they are filled, then into overflow lots. Establishment of a neighborhood parking permit program would be the next step if these measures do not work. More details regarding a neighborhood parking permit can be found in the May 1992 ITE Journal (Institute of Transportation Engineers 1992).

- Post signs in strategic locations directing visitors to overflow lots during special events when overflow lots are used.

- Hire traffic control personnel to manage parking lot operations.

- Encourage convenient and affordable parking at onsite lots to ensure that parking lots are fully used. The City should avoid large increases in parking fees, which could discourage patrons from using parking lots and should design new parking areas to be within easy walking distance of park facilities.

Additional Traffic Analysis at Project Stage

- Because the development of the park will be phased over 20 years and because current plans for the Story Road/Remillard Court intersection are preliminary, near-term traffic analysis would be required when more specific plans are developed for the project (included in the project).

Impact Conclusion. Implementation of the Senter Road/Happy Hollow parking lot entrance signal would reduce significant traffic impacts on this intersection to a less-than-significant level. The impact of potential use of Roberts Avenue for visitor parking could be reduced to a less-than-significant level by incorporating design measures already included in the master plan and by implementing a traffic control plan that employs standard traffic control measures. All other impacts associated

with park entrances, intersection operation, parking, and trolley safety are considered less than significant.

C. AIR QUALITY

1. Setting

This section describes the existing regulatory and air quality conditions in the project area. Pollutants discussed in this report include carbon monoxide (CO), reactive organic gases (ROG), oxides of nitrogen (NO_x), and particulate matter greater than 10 microns in diameter (PM10). These pollutants are considered to be of concern because of the potential health risks they pose. These health risks are described below under "Federal and State Air Quality Standards".

Regional Topography and Climate

The project site is located approximately 1.5 miles south of downtown San Jose along Coyote Creek at the intersection of Senter and Story Roads.

The City of San Jose is located in the southern portion of the San Francisco Bay Area Air Basin of California, an area encompassing all of Napa, Marin, Contra Costa, Alameda, San Francisco, San Mateo, and Santa Clara Counties, the southeastern portion of Sonoma County, and the southwestern portion of Solano County. The basin is characterized by complex terrain consisting of coastal mountain ranges, inland valleys, and bays. It is bounded on the west by the Pacific Ocean, on the north by the Coast Ranges, and on the east and south by the Diablo Range.

The strength and location of semipermanent, subtropical high-pressure cell over the northeastern Pacific Ocean primarily controls the climate of the basin. Climate is also affected by the moderating effects of the nearby oceanic heat reservoir. Warm summers, cool winters, moderate rainfall, daytime onshore breezes, and moderate humidities characterize regional climatic conditions.

The project area experiences moderate temperatures and humidities. Rainfall in the San Jose area averages 14 inches annually and occurs mostly between November and April. Summers are warm and relatively dry, and winters are mild and rainy. Winds typically prevail from the northwest, except during winter when air flow is calm and from the southeast. Long-term wind data recorded in San Jose indicate that daily winds average 10 mph.

Federal and State Air Quality Standards

Carbon Monoxide

CO is a public health concern because it combines readily with hemoglobin, which reduces the amount of oxygen transported in the bloodstream. CO binds to hemoglobin 200-250 times more strongly than does oxygen. Thus, relatively low concentrations of CO can significantly affect the amount of oxygen in the bloodstream. The cardiovascular and central nervous systems can be affected when 2.5-4.0% of the hemoglobin in the bloodstream is bound to CO rather than to oxygen. State and federal ambient air quality standards have been set at levels to keep CO from combining with more than 1.5% of the blood's hemoglobin (U.S. Environmental Protection Agency 1979, California Air Resources Board 1982). CO is of concern primarily during winter, when vehicle-related emissions are greatest and atmospheric stability allows the buildup of high concentrations.

State and federal CO standards have been set for both 1-hour and 8-hour averaging times. These standards require that the average CO level measured over any 1-hour period must not exceed the 1-hour standards, and the average CO level measured over any 8-hour period must not exceed the 8-hour standards. The state 1-hour CO standard is 20 parts per million (ppm), while the federal 1-hour standard is 35 ppm. The state and federal 8-hour standards are both 9 ppm. State CO standards are phrased as values not to be exceeded. Federal CO standards are phrased as values not to be exceeded more than once per year.

Ozone

Ozone is a public health concern because it is a respiratory irritant that increases human susceptibility to respiratory infections. Ozone can cause significant damage to leaf tissues of crops and natural vegetation and can damage many materials by acting as a chemical oxidizing agent. Ozone is of concern primarily during summer when high temperatures, the presence of sunlight, and an atmospheric inversion layer induce photochemical reactions. Photochemical reactions convert ozone precursor emissions (ROG and NO_x) into ozone.

State and federal standards for ozone have been set for a 1-hour averaging time. These standards require that the average ozone level measured over any 1-hour period must not exceed the standards. The state 1-hour ozone standard is 0.09 ppm, not to be exceeded. The federal 1-hour ozone standard is 0.12 ppm, not to be exceeded more than three times in any 3-year period.

PM10

Health concerns associated with suspended particles focus on those particles small enough to reach the lungs when inhaled. Few particles larger than 10 microns (1 micron is about 0.00004 inch) in diameter reach the lungs. Consequently, the federal and state air quality standards for particulate matter have been revised to apply only to these small particles (generally designated as PM10).

State and federal standards for inhalable particulate matter have been set for two periods: a 24-hour average and an annual geometric mean of the 24-hour values.

Until recently, the federal and state particulate matter standards applied to a broad range of particle sizes. The high-volume samplers used at most monitoring stations were most effective in collecting particles smaller than 30 microns in diameter (Powell 1980).

The state PM10 standards are 50 micrograms per cubic meter ($\mu g/m^3$) as a 24-hour average and 30 $\mu g/m^3$ as an annual geometric mean. The federal PM10 standards are 150 $\mu g/m^3$ as a 24-hour average and 50 $\mu g/m^3$ as an annual arithmetic mean.

Attainment Status

The California Air Resources Board is required to designate areas of California as attainment, nonattainment, or unclassified for all state pollutant standards. The U.S. Environmental Protection Agency is required to do the same for all federal pollutant standards. The entire San Francisco Bay Area Air Basin (SFBAAB), in which the City of San Jose is located, is designated as a nonattainment area for state and federal ozone standards. The urban areas of the basin are nonattainment areas for the federal CO standards; the state has assigned a CO nonattainment designation to the urban area of Santa Clara County, including San Jose. The entire SFBAAB is designated as a nonattainment area for state PM10 standards and is unclassified for federal standards.

Existing Sensitive Land Uses

Sensitive land uses in the project area include single-family residences along Roberts Avenue and multifamily dwelling units located along Phelan Avenue. A registered historical landmark located along Story Road across the street from the proposed expansion area appears to be in use as a residence (Quintana pers. comm.). Sensitive recreational and open space land uses take place at the park. Surrounding the project area are industrial and commercial businesses that are not considered to be sensitive land uses.

Existing Air Quality Conditions

Regional air flow patterns have an effect on air quality patterns by directing pollutants downwind of sources. Localized meteorological conditions and topographical features can create areas of high pollutant concentrations by hindering dispersal. When a warm layer of air traps cooler air close to the ground, an inversion layer is produced. Such temperature inversions especially hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground. During summer mornings and afternoons, such inversions are present over the Bay Area 90% of the time.

Because of its long formation time in the atmosphere, ozone is most affected by transport patterns. The most frequent ozone transport route is from source areas in the populated rim of the San Francisco Bay Area to inland receptor areas downwind to the south. On the rare days with offshore flows, ozone transport is more limited, and highest concentrations occur in the western portion of the basin. In the winter, temperature inversions dominate during the night and early morning hours but frequently dissipate by afternoon. At this time, the greatest pollution problems are from CO. High CO concentrations occur on winter days with strong surface inversions and light winds. CO transport is extremely limited. Highest concentrations are associated with areas of highest traffic density.

Baseline air quality in the study area can be inferred from ambient air quality measurements conducted by the BAAQMD at the San Jose/4th Street and San Jose/West San Carlos monitoring stations. These two monitoring stations record all pollutants and are representative of the air quality situation in the City of San Jose. Table III-7 summarizes the last 4 years of published data from these monitoring stations. As indicated in Table III-7, over the past 4 years San Jose has exceeded state and federal ozone, PM10, and CO standards.

Air Quality Management Plans

State

The California Clean Air Act requires an air quality attainment plan to be prepared for areas that violate air quality standards for CO, sulfur dioxide, NO_x, or ozone. No locally prepared attainment plans are required for areas that violate state PM10 standards. PM10 attainment issues are being addressed by the California Air Resources Board. The air quality attainment plan requirements established by the California Clean Air Act are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts.

The BAAQMD prepared an approved Clean Air Plan in 1991 and will submit an update of its air quality attainment plan in late 1994 (Marshall pers. comm.).

Federal

The federal Clean Air Act mandated the establishment of ambient air quality standards and requires areas that violate these standards to prepare and implement plans to achieve the standards. These plans are called State Implementation Plans (SIPs). A separate SIP must be prepared for each non-attainment pollutant. The

Table III-7. Air Quality Data for San Jose, 1989-1992

Pollutant	State/Federal Standard	Number of Days with Exceedances			
		1989	1990	1991	1992
Ozone	Federal 1 hour	1	0	0	0
	State 1 hour	9	4	6	3
PM10[a]	Federal 24 hour	0	0	1	0
	State 24 hour	15	9	10	13
Carbon monoxide	Federal and State 8 hour	6	2	4	0

[a] Samples of suspended particulates are taken every sixth day. The data shown is the number of samples exceeding the federal or state 24-hour standard for PM10.

Source: California Air Resources Board 1989-1992.

BAAQMD has completed SIPs for ozone and CO and has submitted plans for redesignation of the SFBAAB as a federal ozone and CO attainment area (Marshall pers. comm.).

2. Impacts

Significance Criteria. The BAAQMD's New Source Review (NSR) threshold quantities are used to determine significance.

NSR thresholds represent the amount of a pollutant that a new source is allowed to emit. In the BAAQMD, the established thresholds of significance are 550 pounds per day of CO, 150 pounds per day of ROG, 150 pounds per day of NO_x, and 150 pounds per day of PM10 (Bay Area Air Quality Management District 1985).

This section uses the following criteria for determining the level of significance of an air quality impact. An impact is considered significant if the project would:

- result in the release of more than 550 pounds per day of CO, 150 pounds per day of ROG, 150 pounds per day of NO_x, or 150 pounds per day of PM10 during construction or
- result in a net increase over existing conditions of more than 550 pounds per day of CO, 150 pounds per day of ROG, 150 pounds per day of NO_x, or 150 pounds per day of PM10 during operation.

Approach and Methodology. Construction-related emissions were evaluated qualitatively. Operation-related emissions were evaluated by multiplying trip generation estimates for existing and existing-plus-project conditions by emission rates generated by EMFACSCF and EMFAC7F. EMFAC7F is the most recent version of the California Air Resources Board emission rate program. However, EMFAC7F does not accurately calculate NO_x emissions, so a previous version, EMFACSCF, was used to estimate NO_x emission rates. Emissions of CO were estimated assuming winter conditions and a temperature of 40°F. Ozone precursor and PM10 emissions were assessed assuming summer conditions and a temperature of 75°F. Trip generation for existing conditions was based on a parking lot survey performed at Kelley Park. A parking turnover rate observed during this survey was applied to the number of parking spaces proposed under existing-plus-project conditions to determine existing-plus-project trip generation.

Exposure of Residents to Construction Equipment Emissions

Constructing the project would result in generation of an unknown quantity of CO, ROG, NO_x, and PM10 by construction. PM10 would also be transmitted from the ground into the air by construction vehicles and activities, such as site scraping and grading.

Because construction of facilities proposed under the master plan could occur over a 20-year period, construction-related air quality impacts at any one location on the 172-acre site would be temporary and less than what would be expected if all construction activities were to occur at once. However, residents along Roberts Avenue could be exposed to considerable construction emissions during the development of the neighborhood park, parking lots, operations center, and picnic areas in the eastern portion of the park expansion. Phelan Avenue residents could also be exposed to considerable construction emissions during construction of SJHM facilities in the expansion area. Residents of the historic house on Story Road could be exposed to emissions during construction of the eastern parking lot.

Specific data needed to quantitatively assess construction-related air quality emissions were not available at the time this analysis was performed because of the preliminary nature of current planning. Therefore, a conservative approach was taken that assumed that during construction emissions could temporarily exceed threshold levels.

Because construction activities associated with the proposed project are assumed to result in the temporary emission of CO, ROG, NO_x, and PM10 at levels that exceed thresholds, this impact is considered to be significant.

Exposure of Residents to Traffic-Related CO, Ozone Precursor, and PM10 Emissions

Implementation of the project, under existing-plus-project conditions, would result in vehicles traveling to and from Kelley Park emitting approximately 1,106 more pounds per day (ppd) of CO than under existing conditions (Table III-8). These project-related vehicle emissions exceed the BAAQMD's CO threshold of 550 ppd by 556 ppd; therefore, the impact is considered significant.

Implementation of the project, under existing-plus-project conditions, would result in increased vehicle emissions of approximately 17 ppd of ROG, 28 ppd of NO_x, and 1.5 ppd of PM10 than under existing conditions. These project-generated emissions do not exceed the BAAQMD's ROG, NO_x, and PM10 thresholds of 150 ppd and are considered to be less-than-significant impacts. No mitigation measures are required.

Because implementing the project would result in an increase of more than 550 ppd of CO emitted by project traffic, this impact is considered to be significant. Because project-generated traffic would result in an increase of less than 150 ppd each of ROG, NO_x, and PM10, this impact is considered to be less than significant.

Table III-8. Emissions Generated by Vehicles Traveling to and from Kelley Park (in pounds per day)

Condition	CO	ROG	NO_x	PM10
Existing-Plus-Project Condition	1,523	23	39	2.0
Existing Condition	417	6	11	0.5
Project-Related Increase	1,106	17	28	1.5

Notes: CO = carbon monoxide
ROG = reactive organic gases
NO_x = nitrogen oxides
PM10 = particulate matter smaller than 10 microns in diameter
Emission rates are from EMFACSCF and EMFAC7F.

Average round-trip length is assumed to be 10 miles.

Trip generation estimates are based on parking lot counts, observed turnover rate, and proposed number of spaces.

Impact Summary. Implementation of the Kelley Park Master Plan would result in significant construction emission impacts, less-than-significant traffic-related ozone precursor and PM10 emission impacts, and significant traffic-related CO emission impacts.

3. Mitigation

Construction Impacts

Standard construction practices to reduce dust and equipment emissions, including the following, would be employed at all construction sites in Kelley Park throughout the construction period to reduce pollutant emissions generated during construction activities:

- Sprinkle exposed areas, including soil piles left for more than 2 days, with sufficient water to control windblown dust and dirt. Watering shall be conducted once during the morning work hours and once during afternoon work hours. The frequency of watering shall be increased to control dust if wind speeds exceed 15 miles per hour.

- Cover or water all soil transported offsite, if any, to prevent excessive dust release.

- Sweep streets adjacent to the project at least daily to remove silt accumulated from construction activities.

- Limit construction vehicle speeds to 15 miles per hour on unpaved surfaces.

- Properly maintain all construction equipment, including exhaust systems, mufflers, cooling fans, engines and transmissions. This measure also would help to reduce noise impacts.

Impact Conclusion. Implementation of this mitigation measure would reduce construction-related air quality impacts to a less-than-significant level because it would reduce the overall amount of CO, ROG, NO_x, and PM10 emitted during construction of the project to acceptable levels. No feasible mitigation measures exist that would reduce the CO impact to a less-than-significant level; therefore, this impact is considered significant and unavoidable.

D. NOISE

1. Setting

Background Information on Environmental Acoustics and State, Federal, and Local Noise Regulations

Background information on environmental acoustics and state and federal noise regulations is provided in Appendix B.

The City of San Jose's Horizon 2000 General Plan contains goals and policies addressing noise issues. The noise guidelines included in the plan are expressed using the Ldn noise metric. The Ldn noise metric is an average of A-weighted decibels (dBA) measured over a 24-hour period with a 10-dBA penalty added to sound levels measured between 10 p.m. and 7 a.m. (see Appendix B for a detailed description of noise terminology).

The City has established a range of acceptable noise levels for various land uses, as shown in Figure III-11. Outside the San Jose International Airport (SJIA) noise zone (defined by the 65-dBA community noise equivalent level [CNEL] contour), the Horizon 2000 General Plan establishes both long- and short-range exterior noise goals. For purposes of this analysis, short-range noise goals are assumed to apply. The City recognizes that these goals will not be achieved within the airport noise zone.

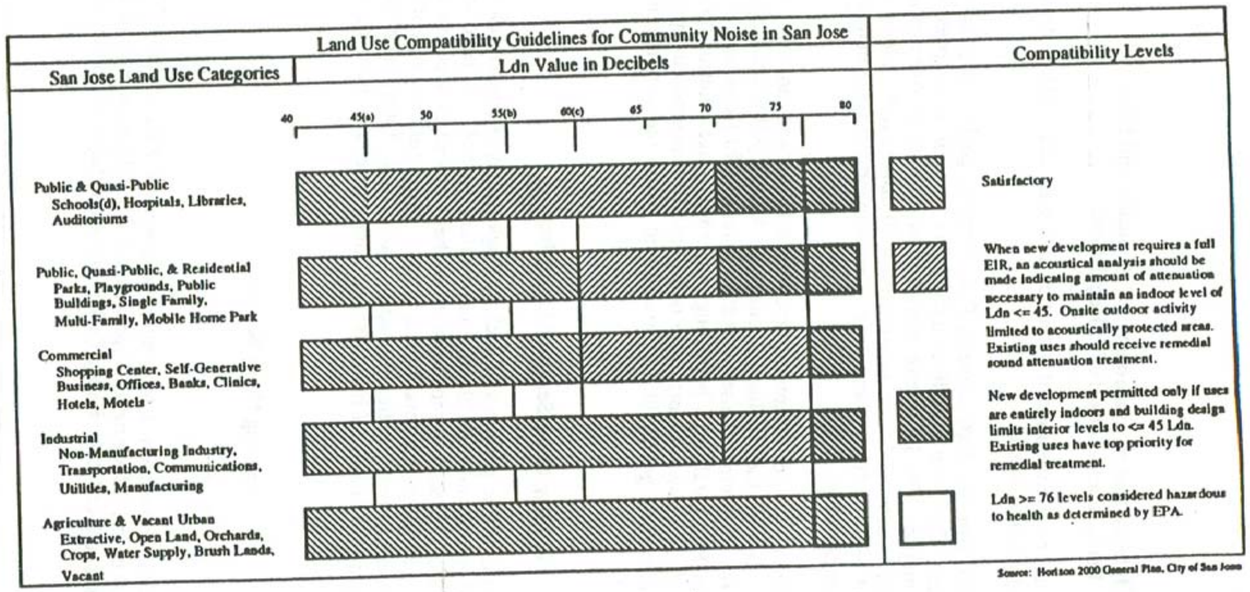
Existing Noise-Sensitive Land Uses

Noise-sensitive land uses in the project area include single-family residences along Roberts Avenue and multifamily dwellings along Phelan Avenue. A historical landmark located on Story Road across the street from the proposed expansion area appears to be used as a residence (Quintana pers. comm.). Noise-sensitive receptors in the park include recreational facilities and open space areas. Other land uses surrounding the project area consist of industrial and commercial uses that are not considered sensitive.

Existing Noise Sources

Aircraft

The SJIA is situated approximately 3 to 4 miles northwest of Kelley Park. The 65-dBA noise contour of the SJIA extends approximately 2.5 miles southeast of the runway to a point just south of I-280. Kelley Park is approximately 1 to 2 miles east



a. Interior Noise Quality Level

b. Long-Range Exterior Noise Quality Level

c. Short-Range Exterior Noise Quality Level

d. Leq value of Leq(3) = is used for the evaluation of school impact by the airport

Figure III-11
City of San Jose Noise Compatibility Guidelines

of this contour. Aircraft noise may be more noticeable in the interior of the park than in outer areas of the park because of lower traffic noise in the park interior.

Traffic

Roadway traffic is the main source of noise in the project area. Kelley Park is located near U.S. Highway 101 (U.S. 101) and I-280 and is immediately adjacent to Story Road, which is a major roadway. Other roads surrounding the project site are Senter Road, Phelan Avenue, and Roberts Avenue (Figure III-12). Phelan Road ends in a cul-de-sac just east of its intersection of Senter Road and is a minor source of traffic noise in the project area.

Express Train and Historic Trolley

The Express Train is a small propane-powered passenger train originally designed as an amusement ride. The train travels through Kelley Park from its origin at the entrance of Happy Hollow toward Coyote Creek and then south to its terminus at the entrance to the SJHM (Figure III-12).

The train operates daily during the summer from 10:30 a.m. to 5:00 p.m., Monday through Saturday, and 11:30 a.m. to 6:00 p.m. on Sunday; during the remainder of the year the train operates on weekends from 10:30 a.m. to 5:00 p.m. on Saturday and 11:30 a.m. to 6:00 p.m. on Sunday. The train also operates on holidays (on single holidays and during periods such as spring break). The train runs continuously during its hours of operation and has a bell and whistle that are sounded at pedestrian crossings for safety purposes. Residents near Kelley Park have not complained about the noise from the train or noise from any other aspect of park operation (Coats pers. comm.). Considering the location of the Express Train route, the bell and whistle are not likely to be audible at any residences in the project area.

Historic Trolleys are restored in the Trolley Barn on the SJHM grounds. These trolleys are electrically powered and run on a small section of track that exits the barn, runs the length of the main street of the SJHM grounds, and ends before reaching the north museum entrance (Figure III-12).

The trolley runs on weekends throughout the year from 12:00 p.m. to 4:00 p.m. and on holidays from 10:00 a.m. to 4:00 p.m. The trolley also operates when special events are held at the SJHM, from approximately 10:00 a.m. to 5:00 p.m. The trolley runs continuously during its hours of operation and each trolley has either a bell or whistle that is sounded at pedestrian crossings for safety purposes.

Activities that are much louder than the trolley bells, such as cannon blasts and simulated gunfights, occur occasionally at the SJHM during special events. However, no noise complaints have been made by residents near Kelley Park regarding the trolleys, special events, or any other aspect of SJHM operation (Gibson pers. comm.).

Recreation

Kelley Park recreational activities consist primarily of picnicking in the open-space areas located in the central portion of the park. Picnic facilities are Kelley Park's most heavily used areas. Groups from 25 to 150 people can be accommodated at each of the main picnic sites. A large corporate picnic area is adjacent to Senter Road in the SJHM grounds that can accommodate up to 2,000 people (City of San Jose 1991).

The Happy Hollow Park and Zoo and SJHM facilities also attract substantial numbers of Kelley Park patrons. Crowd noise is generally contained within the grounds of these use areas.

Existing Noise Conditions

Noise Monitoring

Noise monitoring was conducted in and around Kelley Park using three Larson-Davis Laboratories model 700 sound-level meters. These instruments fully comply with the American National Standards Institute standard for general purpose instruments. The standard microphone for this instrument provides a measurement range of 35-145 dBA. Instrument calibration was verified with a Larson-Davis acoustic calibrator before monitoring was performed. At each monitoring position the meter was held with a tripod that placed the meter approximately 5 feet above the ground and approximately 50 feet from the roadway edge.

Short-term noise monitoring was conducted at four locations in the project vicinity on Wednesday, March 30, 1994, between 10:30 a.m. and 1:00 p.m. Each measurement episode lasted approximately 15 minutes. Noise monitoring was performed in areas adjacent to Kelley Park and the expansion area primarily to determine traffic-generated noise levels in and around the park. Noise monitoring was performed along Senter Road, Phelan Avenue, and Roberts Avenue, and Story Road. Short-term monitoring results are summarized in Table III-9.

Senter Road. A noise measurement was taken approximately 50 feet from the edge of Senter Road between Alma Avenue and Phelan Avenue, just outside the Japanese Friendship Garden (site #1 in Figure III-12). An Ldn of 67 dBA was calculated based on the equivalent sound levels (Leq) measured at this site and 24-hour traffic patterns in the project area.

Land uses along Senter Road immediately across from Kelley Park include a parking lot, San Jose State University play fields, and the San Jose municipal stadium. These land uses are consistent with the City's Public/Quasi-Public/Residential land use category, which includes parks, playgrounds, public buildings, and residential land

Figure III-12
Existing and Proposed Express Train and Historic Trolley Routes and Noise Monitoring Sites

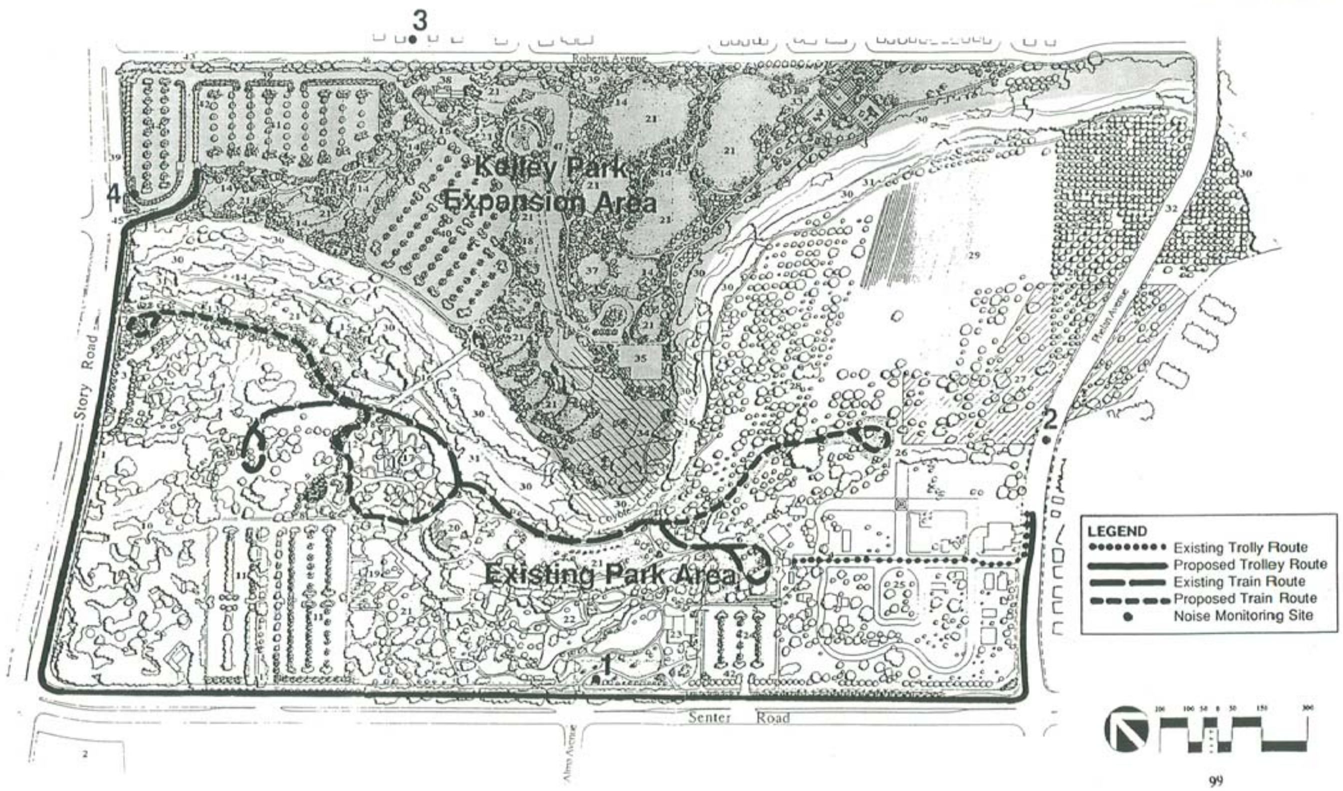


Table III-9. Summary of Short-Term Monitoring Results

Receptor	Start Time	Duration	Leq	Lmax	Lmin	L90	Ldn
#1	10:45 a.m.	15 minutes	64.5 dBA	77.0 dBA	51.5 dBA	57.5 dBA	67 dBA
#2	11:15 a.m.	15 minutes	50.9 dBA	59.0 dBA	47.0 dBA	48.0 dBA	53 dBA
#3	12:00 p.m.	15 minutes	54.8 dBA	62.0 dBA	50.5 dBA	52.5 dBA	56 dBA
#4	12:30 p.m.	15 minutes	66.3 dBA	75.0 dBA	53.5 dBA	57.5 dBA	67 dBA

Notes: Refer to Appendix B for definition of noise metrics.
Noise monitoring methods are described in text.

uses. Less than 60 dBA is the recommended guideline for sound levels in this land use category; however, sound levels from 60 to 70 dBA fall into an acceptable category.

Phelan Avenue. A noise measurement was taken approximately 50 feet from the edge of the terminus of Phelan Avenue east of Senter Road at the edge of the orchard area adjacent to multifamily dwelling units (site #2 in Figure III-12). This site is just east of the SJHM grounds. An Ldn of 53 dBA was calculated for this site.

Land uses along Phelan Avenue immediately across from Kelley Park are primarily residential. No noise-related impact exists in this area.

Roberts Avenue. A noise measurement was taken approximately 500 feet from the edge of Roberts Avenue east of Story Road (site #3 in Figure III-12). An Ldn of 56 dBA was calculated for this site.

Land use along Roberts Avenue immediately across from the Kelley Park expansion area is primarily residential. No noise-related impact exists in this area.

Story Road. A noise measurement was taken approximately 50 feet from the edge of Story Road between Senter Road and Roberts Avenue, just outside the landfill fence adjacent to the expansion area (site #4 in Figure III-12). An Ldn of 67 dBA was calculated for this site.

Land uses along Story Road immediately across from existing Kelley Park and the Kelley Park expansion area are primarily commercial and industrial. Existing noise levels on Story Road are considered acceptable. No existing noise-related impact exists in this area.

Noise Modeling

Noise modeling was performed to estimate the existing level of traffic noise generated on streets surrounding Kelley Park, including Senter Road, Roberts Avenue, and Story Road. No modeling was performed for Phelan Avenue because it is not a through street and traffic volumes along it are low.

Approach and Methodology. Traffic noise levels at Kelley Park were evaluated through use of the Federal Highway Administration (FHWA) traffic noise prediction model (FHWA-RD-77-108 1978). This model estimates average noise levels at fixed distances from the roadway centerline based on roadway geometrics; traffic volumes for automobiles and medium- and heavy-duty trucks; vehicle speeds; and a noise drop-off rate. Shielding effects from topographical features, buildings, and other barriers are not included in the modeling. This can result in a conservative estimate of traffic-generated noise levels.

Additional information used in the noise analysis includes existing patterns for the distribution of daily traffic by time of day, and available data regarding the amount of medium-duty and heavy-duty truck traffic. The number of lanes on each roadway was determined during field observations. Where specific data were not available, Jones & Stokes Associates estimates were used. Existing traffic volumes were based on counts taken by Jones & Stokes Associates and the City. Project-related trip generation is shown in Section B, "Transportation and Circulation", of this chapter.

The FHWA model was programmed by Jones & Stokes Associates to evaluate noise levels over a 24-hour traffic cycle. Hourly traffic speeds were computed from hourly traffic volumes, hourly roadway capacity values, and free-flow speed estimates. The resulting hourly average noise levels at the modeled receptor locations were then summarized to determine 24-hour Ldn values under existing and existing-plus-project conditions. A comparison of existing and existing-plus-project conditions was performed to determine the incremental change in traffic noise levels attributable to the project.

Senter Road. As shown in Table III-10, the Ldn along Senter Road between Story Road and the northern Happy Hollow Park and Zoo entrance was estimated to be approximately 65 dBA, 50 feet from the edge of the roadway. No monitoring was performed along this segment. The modeled Ldn along this segment of Senter Road does not indicate an existing land use compatibility criteria conflict because no sensitive receptors are nearby.

As shown in Table III-10, the Ldn along Senter Road between the Happy Hollow Park and Zoo entrance and Phelan Avenue was estimated to be approximately 63 dBA, 50 feet from the edge of the roadway. This modeled value is less than the Ldn value calculated from short-term monitoring data. The difference between these values is attributed to noise monitoring that was performed during the week and noise modeling that uses weekend traffic data. As with the monitored Ldn, the modeled Ldn along this segment of Senter Road does not indicate an existing land use compatibility criteria conflict because no sensitive receptors are nearby.

Roberts Avenue. As shown in Table III-10, the Ldn along Roberts Avenue between Story Road and Phelan Avenue was estimated to be approximately 52 dBA, 50 feet from the edge of the roadway. This modeled value is less than the Ldn value calculated based on the short-term monitoring performed on this segment. This difference is attributed to noise monitoring that was performed during the week and noise modeling that was performed using weekend traffic data. As with the monitored Ldn, the modeled Ldn along this segment of Roberts Avenue does not indicate an existing land use compatibility criteria conflict.

Story Road. As shown in Table III-10, the Ldn along Story Road Between Senter Road and Roberts Avenue was estimated to be approximately 65 dBA, 50 feet from the edge of the roadway. This modeled value is slightly less than, but consistent with,

Table III-10. Summary of Noise Modeling Results for Kelley Park Master Plan

Roadway	Segment	Existing Ldn 50 Feet from Edge of Roadway	Existing-Plus-Project Ldn 50 Feet from Edge of Roadway	Difference between Existing and Existing-Plus-Project Ldn 50 Feet from Edge of Roadway
Senter Road	Between Story Road and Happy Hollow Entrance	65	64	-1
	Between Happy Hollow Entrance and Phelan Avenue	63	64	1
Roberts Avenue	Between Story Road and Phelan Avenue	46	46	0
Story Road	Between Senter Road and Roberts Avenue	62	64	1

Note: Methods used to estimate noise levels are described in text.

the Ldn value calculated based on the short-term monitoring performed on this segment. As with the monitored Ldn, the modeled Ldn along this segment of Story Road does not indicate an existing noise impact.

2. Impacts

This section of the noise chapter describes noise impacts associated with implementation of the park master plan.

Significance Criteria. According to CEQA guidelines, a project will normally have a significant effect on the environment if it will:

- substantially increase the ambient noise levels for adjoining areas or
- expose people to severe noise levels.

In practice, more specific standards have been developed to implement the intent of the CEQA guidelines. These standards state that a noise impact is considered significant if it will:

- generate noise that would conflict with local planning criteria or ordinances,
- substantially increase noise levels at noise-sensitive receptors, or
- propose land uses that are incompatible with existing baseline noise levels or with local planning criteria.

The City's goals and policies regarding noise are contained in the Noise Element of the General Plan. The City's goal is to minimize the impact of noise on people through noise reduction and suppression techniques and through appropriate land use policies.

Exposure of Local Residents to Construction Noise

Implementation of the Kelley Park master plan is expected to occur over a 20-year period, and project development would be phased at the site. Because all of the proposed master plan features would not be constructed at once, construction-related noise effects on local residents would occur incrementally. Residents along Roberts Avenue would experience construction-related noise during site grading and development of the operations center, neighborhood park, parking lot, and picnic area in the eastern portion of the park. Phelan Avenue residents would also experience construction-related noise during implementation of the SJHM master plan. Residents inhabiting the historic house on Story Road could experience construction-related noise during parking lot development.

Construction equipment that would be used for this project could generate noise levels in the range of 80-90 dBA at a distance of 50 feet from the construction site (U.S. Environmental Protection Agency 1971, Toth 1979, Gharabegian et al. 1985). If a bulldozer, backhoe, grader, and front-end loader were operating simultaneously in the same area, peak construction-period noise could be as loud as 94 dBA at a distance of 50 feet from the construction site. At a distance of approximately 740 feet from the construction site, construction-related noise levels would be around 70 dBA under the same scenario. Approximately 1,900 feet from the site, construction-related noise levels would be around 60 dBA.

The potential for construction activities to substantially increase noise levels at nearby sensitive receptors is considered a significant impact because residents on Roberts Avenue, Phelan Avenue, and Story Road and park users would be subjected to construction noise intermittently over a 20-year period.

Increased Exposure of Local Residents to Traffic Noise

Table III-10 shows that traffic-related noise levels of 65 dBA along Senter Road between Story Road and the northern park entrance would be reduced by about 1 dBA upon implementation of the project. The reduction in traffic noise at this location is a result of the new park entrance and parking lot on Story Road. The new park entrance would redistribute traffic from the existing park entrance to the new Story Road entrance. As shown in Table III-10, the project contribution to local traffic noise levels would be about 1 dBA on Senter Road between the northern (Happy Hollow) entrance and Phelan Avenue and on Story Road between Senter Road and Roberts Avenue. This minor noise-level change from project-related traffic would not be audible and is not expected to adversely affect sensitive noise receptors.

Because noise levels would not be substantially increased, this impact is considered less than significant. No mitigation measures are required.

Increased Exposure of Local Residents to Noise from the Express Train

The proposed route for the Express Train is shown in Figure III-12. Currently, the Express Train runs from Happy Hollow Park and Zoo to the SJHM daily during the summer and on weekends during the remainder of the year. This route is entirely within the park. Noise generated by the train is buffered on all sides by the surrounding parklands. No specific schedule for expanded operation of the train has been determined, but it is assumed that the train would run at least as frequently as it does now.

The existing propane-powered Express Train is prone to frequent breakdowns. Park management plans to purchase a similarly sized, steam-powered train to replace the existing train. A second steam-powered train could also be purchased and both would operate simultaneously. The noise level associated with the steam-powered train is anticipated to be comparable to that of the propane-powered train.

The proposed Express Train route would involve expanding the existing tracks west to Story Road and realigning the portion of track that currently passes the Kelley House to the east to pass to the west. Most of the route would still be encompassed by parklands, except the leg leading to Story Road. However, traffic noise generated on Story Road is likely to be louder than noise generated by the train. As explained in Appendix B, two sound sources producing equal sound levels at a given location will produce a composite sound level that is 3 dBA greater than either sound alone, which is barely perceptible to the human ear.

Because noise levels would not be substantially increased by modification and expansion of the Express Train route, this impact is considered less than significant. No mitigation measures are required.

Increased Exposure of Local Residents to Noise from the Historic Trolley

The existing and proposed routes for the Historic Trolley are shown in Figure III-12. Currently, the Historic Trolley operates on the SJHM grounds during weekends, holidays, and special events. No proposed schedule for expanded operation of the trolleys has been determined, but it is assumed that they would run at least as frequently as they do now.

The proposed Historic Trolley route would originate at the SJHM grounds and follow Phelan Avenue west to Senter Road, follow Senter Road north to Story Road, then follow Story Road east to the proposed parking lot located in the northeast corner of the expanded park.

Traffic noise generated on Senter and Story Roads would be louder than noise generated by the trolley, because the trolley is electrically powered and relatively quiet. Residents along Phelan Avenue may be able to hear the intermittent trolley bells; but because there have been no previous complaints, it is not expected to be a problem during future use of the trolley system.

Because noise levels would not be substantially increased by intermittent trolley bell noise, this impact is considered less than significant. No mitigation measures are required.

Increased Exposure of Local Residents to Daytime Recreation-Related Noise

Existing recreational uses at Kelley Park consist primarily of picnicking and visiting park facilities such as the Happy Hollow Park and Zoo, the SJHM, and the Japanese Friendship Garden. Residents in the Phelan Avenue vicinity are unlikely to experience noticeable amounts of noise generated by people using the SJHM grounds, because residences do not face Phelan Avenue. Residents in the vicinity of Roberts Avenue and Story Road do not currently experience any noise generated by recreational activities occurring in Kelley Park.

Expanding the SJHM complex would draw larger crowds to the facility and would increase vehicular traffic to new parking areas, but would not substantially increase noise for Phelan Avenue residents because the SJHM Mater Plan incorporates buffer areas for the expansion area and because most of the new development would occur below the Phelan Avenue grade in the Coyote Creek floodplain.

The Kelley Park eastern expansion includes a neighborhood park in the vicinity of Roberts Avenue residences. People using this park could contribute to elevated daytime noise levels in areas of the neighborhood nearest the park, but it is unlikely that they would substantially elevate overall noise levels because parking would not be allowed on Roberts Avenue or at the neighborhood park, and a planted buffer would be developed along Roberts Avenue.

Picnic and open turf areas would also be developed adjacent to Roberts Avenue residences. These use areas would be separated from local residences by landscaped buffer areas. Because these use areas would be buffered and would not generate noise-intensive uses, substantial noise increases are not expected.

Because noise levels on Phelan Avenue and Roberts Avenue would not be substantially increased by recreation uses of the SJHM or eastern park, this impact is considered less than significant. No mitigation measures are required.

Increased Exposure of Local Residents to Nighttime Recreation-Related Noise

Facilities expected to be open for nighttime use as part of the proposed project include Happy Hollow Park and Zoo, the SJHM theater and restaurant, and the Japanese Friendship Garden restaurant. Because the expanded Happy Hollow Park and Zoo is not located near noise-sensitive receptors, it is not expected to create noise conflicts. Nighttime use of the SJHM and the garden would involve only indoor activities that are not expected to generate noise increases that would disturb Phelan Avenue residents. No formal nighttime recreational activities are proposed for the expansion area in the vicinity of Roberts Avenue residences, although evening picnics could occur nearby during evening daylight hours. Evening picnics are not expected to generate substantial noise levels.

Because noise levels would not be substantially increased from planned nighttime use levels, this impact is considered less than significant. No mitigation measures are required.

Impact Summary. Implementation of the Kelley Park Master Plan would result in significant construction-related noise impacts and less-than-significant traffic, express train, Historic Trolley, recreation-related, and nighttime noise impacts.

3. Mitigation

Construction Noise

The City and construction contractor shall implement noise-reducing practices at all construction sites in Kelley Park throughout the construction period to reduce noise from construction activities.

- Restrict construction within 2,000 feet of residences to the period between 7:00 a.m. and 6:00 p.m. on weekdays. No construction shall be performed within 2,000 feet of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 6:00 p.m. and 7:00 a.m. on other days.

- Perform routine maintenance, including oil changes and tune-ups, of all construction vehicles and equipment according to manufacturer's specifications.

- Supply all equipment with sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.

- If noise complaints are received regarding construction activities, the contractor shall, as directed by the City, implement appropriate additional noise mitigation measures including, but not limited to, changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources.

Impact Conclusion. Implementation of this mitigation measure would reduce construction-related noise impacts to a less-than-significant level because it would reduce the overall amount of noise generated during construction and it would also ensure that construction noise would not be generated during nighttime or early morning periods when residents may be disturbed.

E. PUBLIC SERVICES AND FACILITIES

1. Setting

Water

The San Jose Water Company (SJWC) provides water service to the project area. Water is supplied to the existing uses in the western portion of the park by an 18-inch water line under Story Road and Senter Road. A six-inch water line under Roberts Avenue provides water service to the residences along Roberts Avenue and would have sufficient capacity to provide service to proposed uses in the eastern expansion area of the park. The water line under Story and Senter Roads would have sufficient capacity to deliver additional water supplies to those expanded uses in the western area. The SJWC has a sufficient supply of water for the proposed new and expanded uses at Kelley Park. (Baiocco pers. comm.)

Wastewater

The City of San Jose Public Works Department provides wastewater service to the project area. The onsite wastewater collection system consists of three separate systems that collect wastewater generated by the park uses. These systems ultimately connect to an 8-inch sanitary sewer trunk line extending from Story Road in an abandoned right-of-way in the Happy Hollow Park and Zoo. In several instances, excessive wastewater flows into this trunk line have been too great, resulting in wastewater backup problems. This trunk line terminates at the Kelley House and connects to a 30-inch line under Story Road. Wastewater is treated at the Water Pollution Control Plant located at 700 Los Esteros Road. (Kwok pers. comm.)

This wastewater treatment facility has a capacity of 167 million gallons per day (mgd). The local water board may limit the facility's discharge of treated effluent into the San Francisco Bay to a maximum of 120 mgd if the City is unable to implement the South Bay Action Plan. The facility is currently treating 115 mgd of wastewater and is in the process of developing a water reclamation plan that would eventually reclaim up to 47 mgd of wastewater. This plan would enable the facility to stay within its discharge limit of 120 mgd, while providing treatment capacity for future growth. Within 2 to 3 years, the first phases of this new reclamation plan will be in place, reclaiming approximately 10 mgd. Wastewater generated by the proposed park expansion would not substantially affect the current and overall capacity of the treatment plant. (Kwok pers. comm.)

The master plan proposes uses that would increase wastewater flows and require sewer collection infrastructure to be extended to new eastern site facilities. The existing collection system would also need to be upgraded or replaced to handle the increased wastewater flows from the expansion of existing uses in the western area.

The public works department has sufficient wastewater collection and treatment capabilities to provide wastewater service to the new and expanded Kelley Park uses. (Matsui pers. comm.)

Solid Waste

Solid waste collection and disposal services for Kelley Park are provided by the City of San Jose Streets and Parks Department. Currently, the City and Waste Management Incorporated, a private waste collection and disposal company, are discussing Waste Management Incorporated providing collection and disposal of solid waste at all city facilities under a city commercial garbage franchise agreement. These talks are in the preliminary stages, and no further information is available. (Lacaze pers. comm.)

Solid waste collected at Kelley Park is disposed of in the Newby Island Landfill on Dixon Landing Road in northern San Jose. The City has a commercial garbage contract with the landfill for disposal of solid wastes generated at city facilities. The contract allows the City to dispose of up to 79,400 tons per year (tpy) at the landfill. The City currently disposes of approximately 25,000 to 35,000 tpy, or approximately 40% of their total allocation of landfill capacity. The City has estimated uses at Kelley Park would generate approximately 1,000 tpy, well within the City's landfill capacity allocation. The City's contract with Newby Island extends through 2016. The City has no plans for solid waste disposal beyond 2016. (Lacaze pers. comm.)

Police and Fire Protection

Police and fire protection services to the project area are provided by the City of San Jose.

Police Protection

Police protection is provided by the City of San Jose Police Department (SJPD). The SJPD has one station, located at 201 West Mission, that provides all police protection services to the city. Police protection services are provided by dispatching officers in patrol units by shifts on certain beats (i.e., service areas). The project area is part of a specific beat in south San Jose, and any calls for services would be responded to by the officers on shift patrolling the Kelley Park beat. During peak season, spring and summer, the SJPD has a parks unit that patrols the city parks. Usual peak season practice is to have ~~one or two officers~~ an officer assigned to patrol Kelley Park during operating hours. (Dowdell pers. comm.)

Implementation of the master plan is not expected to create a substantial increase in service calls that would require additional officers or patrol vehicles. (Dowdell pers. comm.)

Fire Protection

Fire protection services are provided by the City of San Jose Fire Department (SJFD) from 30 stations in the city. The project area is located within the service area of four stations: Station 3, located at 98 Martha Street; Station 16, located at 2001 South King Road; Station 8, located at 802 East Santa Clara Street; and Station 26, located at 528 Tully Road. Stations 3 and 26 would have responsibility for the first response to an incident at Kelley Park (Stunkel pers. comm.).

SJFD standards require that for a first alarm, two engine companies and one truck company respond to the call. Station 3 has a four-person engine company (first response: water, hoses, pumps) and a six-person truck company (hook and ladder and emergency rescue vehicle). Station 26 has a four-person engine company. A battalion chief from Station 1, located at 201 North Market Street in downtown San Jose, would also respond. Stations 8 and 16 would respond to a second alarm if required. Station 8 has a four-person engine company, and Station 16 has a four-person engine company and a five-person truck company. (Fujack pers. comm.)

SJFD standards require that the first engine to a scene respond within 4 minutes and the second engine and first truck respond within 6 minutes. SJFD does not have a standard emergency response time for the battalion chief. Emergency response to the project area is approximately 3.5 minutes for Station 3, 4 minutes for Station 26, and 4.5 minutes for Stations 8 and 16. The battalion chief would respond within 6 minutes. The SJFD would have adequate personnel and equipment to respond to any fire protection needs at the park. (Fujack pers. comm.)

Gas, Electric, and Telephone Utilities

Gas

Gas service to the project site is provided by Pacific Gas and Electric (PG&E). Gas service is provided by a 4-inch line under Senter Road, an 8-inch line under Story Road, and a 2-inch line under a portion of Roberts Avenue. The eastern expansion area includes a natural science exhibit building and the park operations center, both of which may require gas service from a Roberts Avenue line. The expanded uses on the western developed portion of the park may also require additional gas services. These uses include the Happy Hollow Zoo, SJHM, and the Leininger Center. These two uses already have gas service and would only require an additional amount of natural gas for the expanded uses, which could easily be obtained from existing Senter Road lines. (Harris pers. comm.)

Electricity

Electric service to the project site is provided by PG&E, primarily by overhead wire connections; however, some wires have been placed underground for service to the Happy Hollow Park and Zoo and the Leininger Center. The eastern expansion area includes several uses that would require electric service. These include lighting for the parking lots and restroom facilities and electric service for the natural science exhibit building and the park operations center. Electric service lines are located on Roberts Avenue. These lines have capacity to provide service to the uses in the expansion area. Expanded uses on the western developed portion of the park could require additional electric services. These uses include the Happy Hollow Zoo, SJHM, and the Leininger Center. These park features already receive electric service and would require only the additional amount of electricity for the expanded uses. (Harris pers. comm.)

Telephone

Telephone service to the project site is provided by Pacific Bell (PacBell), primarily by overhead wire connections; however, some wires have been placed underground for service to the Happy Hollow Park and Zoo and the Leininger Center. The eastern expansion includes two uses that would require telephone service: the natural science exhibit building and the park operations center. Telephone lines are located on Roberts Avenue. These lines have capacity to provide service to the buildings if required by extending the lines from Roberts Avenue into the expansion area.

2. Impacts

Significance Criteria. This section uses the following criteria for determining the level of significance of an environmental impact. An impact is considered significant if the project would:

- encourage activities that result in the use of large amounts of fuel, water, or energy;
- use fuel, water, or energy in a wasteful manner;
- extend a sewer trunk line with capacity to serve new development;
- interfere with emergency response plans or emergency evacuation plans;
- require the substantial expansion or alteration of an existing system; or
- result in a substantial disruption of existing service.

Water

Need for Expansion of Water Supply Infrastructure

Implementation of the master plan would result in a need to expand the existing water supply infrastructure at Kelley Park. The master plan proposes several uses that would require a water supply. In the eastern area, these uses include restroom facilities, the natural science exhibit building, park operations center, and irrigation for park grounds. In the western area, the master plan proposes several expansions of existing uses. Existing water supply infrastructure in the Kelley Park area would be sufficient to deliver the additional amount of water supply needed to provide water to the new and expanded uses; however, the eastern expansion area would require that infrastructure be expanded to service this area. Water lines with sufficient capacity to provide for the needs of the expanded eastern area are located in Roberts Avenue, and infrastructure would be extended from these lines.

Extending water supply infrastructure to the eastern side of Kelley Park would result in a less-than-significant impact because extension of service is not considered substantial and because infrastructure would be extended only for the new Kelley Park uses. No mitigation measures are required.

Demand for Additional Water Supply

Implementation of the master plan would result in demand for additional water supplies to serve new and expanded uses at Kelley Park. The master plan proposes several uses that would require an incremental increase in water supply. In the eastern area, these uses include restroom facilities, the natural science exhibit building, park operations center, and irrigation for park grounds. In the western area, the master plan proposes several expansions of existing uses that would require an additional amount of water supply. The SJWC has a sufficient water supply to serve these uses without compromising any other users or committed supplies (Balocco pers. comm.).

Demand for additional water to serve Kelley Park is considered a less-than-significant impact because the SJWC has a sufficient supply of water to provide the additional incremental amount necessary for new and expanded park uses. No mitigation measures are required.

Wastewater

Need for New On-Site Wastewater Collection Infrastructure

Implementation of the master plan would result in an increase in wastewater generation at Kelley Park. The master plan proposes several new uses and several expanded uses that would generate increased wastewater flows. The existing wastewater collection system is in good condition; however, the 8-inch main trunk line has had some reported capacity problems, including several occurrences of overflows and backups in Happy Hollow Park (Nakagawara pers. comm.). Implementation of the master plan would require that the existing collection system be assessed to determine overall ability to provide additional wastewater collection. The collection system would also need to be expanded to provide collection service to the new areas of the park. U.S.D.A. regulations require that all runoff and drain water generated from zoo animal exhibits empty into the sanitary system. The reported problems with the 8-inch main trunk line, however, suggest that this portion of the collection system would either need to be replaced or substantially upgraded to increase its ability to collect wastewater generated by the new and expanded park uses, as well as the current uses.

Existing sewer trunk line capacity problems in Kelley Park would require either replacing the existing 8-inch main line or substantially upgrading it to increase its ability to collect the additional wastewater generated by proposed uses. A combined storm and sanitary sewer system is required for Happy Hollow Zoo. This impact is considered significant.

Demand for Additional Wastewater Treatment Capacity

Implementation of the master plan would result in uses that would generate increased wastewater flows. This wastewater would be collected and treated at the Water Pollution Control Plant. The Water Pollution Control Plant has sufficient capacity to treat the additional wastewater generated by the new and expanded uses on the 172-acre Kelley Park site without compromising existing capacity allocations.

The demand generated for additional wastewater treatment by implementing the master plan is considered a less-than-significant impact because the Water Pollution Control Plant has sufficient treatment capacity to provide for incremental increases in wastewater generation associated with the new park uses. No mitigation measures are required.

Solid Waste

Annual Generation of Approximately 1,000 Tons of Solid Waste from Uses at Kelley Park

Implementation of the master plan would result in generation of approximately 1,000 tpy of solid waste at Kelley Park. The City is currently using approximately 40% of their total annual landfill capacity of 79,400 tpy. The solid waste generated by uses at Kelley Park would require approximately 1.3% of all city landfill capacity annually.

Generation of approximately 1,000 tpy of solid waste is considered a less-than-significant impact because the city landfill has existing landfill capacity to accommodate the park's incremental increase. No mitigation measures are required.

Police and Fire Protection

Demand for Additional Police and Fire Protection Services

Implementation of the master plan would result in expanding Kelley Park. This expansion would provide more capacity and attract more people into the area. This would result in a potential need for additional police and fire protection services. The SJPD operates a park unit which assigns officers to Kelley Park during peak season months. During all other months, Kelley Park is ~~regularly patrolled by officers on beats~~ assigned to beat officers. The increased size of the park and the additional capacity for more people would not require any changes to the SJPD's service to the area, nor compromise their services elsewhere in the city.

The SJFD has several fire stations within the minimum 4-minute emergency response area. These stations would be able to provide any fire protection services that the park may need. The increased size of the park and the additional capacity for more people would not require any changes to the SJFD's service to the area, nor compromise their services elsewhere in the city.

Demand for additional police and fire protection services related to expanded park facilities is considered a less-than-significant impact because the SJPD currently patrols the park area and ~~has a special unit on park grounds~~ assigns a Parks Unit to Kelley Park during peak months, and the SJFD has several stations that could provide fire protection services to the new and expanded park uses within the minimum emergency response time. Expansion of the park would create no adverse impacts on the SJPD or SJFD's ability to provide adequate police and fire protection services to the park or adjacent areas. No mitigation measures are required.

Gas, Electric, and Telephone Utilities

Need for Additional Utilities Infrastructure

Implementation of the master plan would result in an increased demand for utility services, including gas, electric, and telephone services. Implementation of the master plan would require that the existing infrastructure be expanded to provide utility service to the new and expanded uses where there is currently no infrastructure. The existing utility lines adjacent to both the eastern and western parts of the park would have capacity to provide the required services.

Expansion of utilities infrastructure to provide gas, electric, and telephone services to the new uses in the eastern expansion area is considered a less-than-significant impact because system capacity exists for those utilities, and expansion of existing utilities to the eastern portion of the site would be a routine procedure that would involve only minor modifications of the utility system. No mitigation measures are required.

Demand for Additional Utilities Service

Implementation of the master plan will result in a demand for additional utilities services, including gas, electric, and telephone services. Implementation of the master plan would require that these services be expanded and increased to provide utility service to the new and expanded uses. The existing utility lines adjacent to both the eastern and western parts of the park would have capacity to provide the required services, and the utility companies have sufficient resources to provide any needed increase in gas, electrical, or telephone services.

The need for additional utility services in the park area is considered a less-than-significant impact because the utility companies have sufficient resources to provide for the additional utility service needs of the new and expanded park uses. No mitigation measures are required.

Impact Summary. Implementation of the Kelley Park Master Plan would result in less-than-significant impacts related to incremental increases in infrastructure and services for water; solid waste; police and fire protection; and gas, electric, and telephone utilities. The master plan would result in a need to upgrade onsite wastewater collection infrastructure that is considered significant.

3. <u>Mitigation</u>

Wastewater

- Upgrade or replace the 8-inch sewer trunk line currently serving the project site to provide adequate wastewater collection service for current and proposed new park facilities (included in the project).

- <u>Runoff and drain water for the Happy Hollow Zoo would flow into the sanitary sewer system.</u>

Impact Conclusion. Implementation of this mitigation measure would reduce wastewater collection impacts to a less-than-significant level because an upgraded or larger capacity trunk line would have sufficient collection capacity to provide for the increased wastewater flows from new facilities proposed in the master plan.

F. PUBLIC HEALTH AND SAFETY

1. Setting

Landfill History

The former Roberts Avenue Landfill site has served as a clay borrow pit for manufacturing brick and clay pipe since 1868. Clay mining operations most likely involved excavating until groundwater was encountered. The duration of the clay mining operation is unknown.

The site was operated as a public landfill from 1930 to 1964 by San Jose Rubbish (Bissell & Karn, Inc. 1987). They operated the landfill as a Class III dump site. The remains of the natural clay borrow pit served as an impermeable clay liner. Solid waste consisting of household rubbish, yard waste, construction and demolition debris, and wet garbage appears to have been spread over the site (Cooper 1985). Waste is reported to have been occasionally mixed with soil and covered daily with a soil cap. The landfill operation had problems associated with debris and paper blowing into the surrounding neighborhoods because of insufficient daily cover. The site was closed to public waste disposal in 1964.

Typical waste consisted of tree trimmings, grass cuttings, and other vegetation. Most of these types of materials were observed in exploratory borings in a large area near the southeastern end of the site. The site has remained open space since 1979 (Bissell & Karn, Inc. 1987).

Existing Landfill Conditions

Cooper Engineers (1985) describes the existing refuse area as an irregular area bounded by Story Road on the northwest, Roberts Avenue on the northeast, Coyote Creek on the west, and an open field to the southeast, with a small panhandle in the southern corner. The landfill encompasses an area of approximately 25 acres and contains an estimated 400,000 cubic yards of wastes ranging in thickness from 8 feet to 40 feet (Cooper Engineers 1985) (Figure II-4). Landfill slopes range from 25% to 40%. The landfill is bordered to the south by an area designated as floodplain, which is currently vacant open space.

The Solid Waste Assessment Test (SWAT) report (Terratech 1989) for the Roberts Avenue Landfill indicated that:

- methane concentrations at and near the surface of the landfill were negligible;
- methane concentrations at depth in the landfill were negligible, but up to 22% in localized pockets;

- hazardous and infectious materials are not known to exist within the landfill refuse, based on previous investigations; and

- existing landfill conditions do not pose a danger to public health and safety.

Applicable Laws, Regulations, and Policies

Applicable laws, regulations, and policies for the Kelley Park project with regard to the Roberts Street Landfill were determined from discussions with the State of California Integrated Waste Management Board (SCIWMB), the San Francisco Bay Regional Water Quality Control Board (RWQCB), the Santa Clara Valley Water District (SCVWD), and the City of San Jose Environmental Services Department (ESD). Based on these discussions, the primary regulatory issues involve project activities that will disturb existing landfill conditions. The results of these discussions are summarized below.

The former Roberts Avenue Landfill was closed by the City of San Jose in compliance with SCIWMB regulations (Nordstrom pers. comm.). The approved closure plan included the placement of an adequate landfill cap, a methane gas monitoring program, and a groundwater monitoring program. The methane gas monitoring wells are routinely sampled.

The Kelley Park Master Plan would involve construction of paved parking lots over the landfill area, and picnic grounds and an access road across existing landfill banks. The planned administration building and science exhibit hall appear to be located on native soils. Because the project would not involve extensive disturbance of landfill materials, the regulatory requirements to be met are limited to obtaining letters of approval from the SCIWMB, RWQCB, SCVWD, and ESD (Nordstrom, Fergenson, and Lynch, pers. comms.). The project site is exempt from Bay Area Air Quality Management District regulations because the landfill contains less than 1,000,000 cubic yards of refuse, and methane exhaust stacks are not planned.

The regulatory review and approval process involves submitting project plans to the above-mentioned agencies. The submittals should include, at a minimum, site grading plans, slope stability analyses, facility design drawings, plans for a methane gas monitoring program, plans for a groundwater monitoring program, and plans for pre- and post-construction erosion control. Technical support studies may be required to address issues that arise from the agency review process and to address measures to mitigate any significant adverse impacts. The type of technical support studies will be specified during regulatory plan review by each agency. Project permits will be in the form of letters of approval from the agencies.

2. Impacts

Significance Criteria. This section uses the following criteria for determining the level of significance of public health and safety impacts associated with the Roberts Avenue Landfill. An impact is considered significant if the project would result in disturbance of the landfill cap that would:

- create conditions that increase the potential for the presence of vectors or odors,
- result in the migration or release of methane gas at the project site,
- result in exposure of hazardous or infectious waste materials,
- result in the contamination of groundwater,
- result in toxic air emissions, and
- create an increase in leachate in the landfill materials.

The existing landfill cap is a relatively low-permeability gravelly silt and clay material with a thickness ranging from 2 to 4 feet. Implementation of the master plan would involve grading the landfill and constructing open-air parking lots that will cover approximately one-third of the landfill area. Because the potential exists that grading could involve overexcavating landfill cap material and placing engineered fill, some portion of the landfill refuse may be exposed at the ground surface during construction. If refuse is exposed during construction it may:

- attract vectors and cause odor problems,
- result in the migration and release of methane gas,
- contain hazardous or infectious waste,
- provide a pathway for infiltration of stormwater into the landfill,
- contain toxic vapors or materials, or
- increase water content in the landfill creating leachate, which may migrate into the groundwater or Coyote Creek.

The significance of each of these potential impacts is discussed below.

Potential Impacts during Construction on the Landfill

Increased Odor and Attraction of Vectors

Site grading activities are not expected to create a food source or habitat for vectors because grading activities would be limited to adding 2-4 feet of fill in turf, landscaping, and parking areas and because any exposure of refuse would likely occur for only short periods. No existing vector problems have been reported in the landfill area. Release of odors related to exposure of landfill materials also is not expected to be substantial, based on previous geotechnical findings by Cooper Engineers (1985) that odors from exploration boreholes were insignificant.

However, because the precise content of the landfill is not known, limited vector problems could be encountered temporarily if raw garbage is exposed during construction, and materials producing offensive odors could be encountered during site grading. The possibility of these impacts occurring at the Roberts Avenue Landfill would be substantially reduced by implementing normal landfill cover procedures during site grading. Typical construction practices that are included in the program would include applying daily engineered fill over exposed refuse and compacting cover areas, limiting active grading areas to small portions of the landfill at one time, inspecting the construction site regularly for signs of rodent activity, and eliminating observed rodents. These common construction procedures could also reduce any odor problems.

The potential for attraction of vectors and increased odor problems during construction on the landfill is considered a less-than-significant impact because grading would involve applying additional fill to the landfill area, landfill materials would likely be exposed for only short periods, and previous geotechnical investigation indicates that exploration boreholes produced no substantial odors. No mitigation measures are required.

Methane Gas Migration and Release

The presence of methane gas in the Roberts Avenue Landfill was studied by Cooper Engineers (1985) and Bissell & Karn, Inc. (1987). Methane gas is a highly volatile gas with the ability to migrate through landfill refuse into the atmosphere. Results from these studies indicate concentrations of methane in the refuse from 0% to 22% (average 13%). Methane concentrations found around the perimeter of the landfill were reported to be "negative to trace."

Implementation of the master plan could involve grading activities that could encounter limited amounts of methane gas. Although the possibility is unlikely on the Roberts Avenue Landfill, methane gas that is encountered during site grading has the potential for creating explosions and could result in asphyxiation of construction workers in confined areas, such as utility trenches.

The paved parking lot areas proposed on the landfill could result in increased concentrations of methane gas near the ground surface or could act as a cap that prevents methane gas escape. Without proper venting structures, paved parking areas could create methane gas concentrations that could result in explosions, and asphyxiation of patrons in enclosed structures near the landfill, such as the administration building. However, because the master plan indicates that a methane gas recovery and venting system would be incorporated into landfill design, the potential for hazards associated with methane gas is considered low.

The potential for hazards from methane gas migration and release during construction of the landfill parking lot is considered less than significant because a methane gas recovery and venting system would be incorporated into project design that meets OSHA and RCRA regulations for methane monitoring and venting of concentrations greater than 5%.

Hazardous or Infectious Wastes Exposure

Because the Roberts Avenue Landfill was a Class III disposal site, the potential for impacts associated with exposure of construction workers or park patrons to hazardous or infectious waste is considered low. Historical records and data from exploration boreholes indicate the landfill refuse consisted of solid waste, which includes household rubbish, yard waste, some construction or demolition debris, and some wet garbage. The landfill has been investigated for the presence of hazardous wastes by Cooper Engineers (1985), Bissell & Karn, Inc. (1987), and Harding Lawson Associates (1988). These studies identified no elevated concentrations of hazardous wastes and infectious waste is not reported to have been disposed of at this landfill. No infectious waste containers in the landfill area were identified in the previous studies.

However, because the precise content of landfill refuse is unknown, a small potential does exist for exposure to previously unidentified hazardous or infectious materials.

The potential for exposure of construction workers and park patrons to hazardous or infectious waste in the portion of the project site occupied by the closed Roberts Avenue Landfill is considered a less-than-significant impact because the potential for these wastes to occur at the landfill has been identified as low in previous landfill investigations and the landfill was previously a Class III facility. No mitigation measures are required.

Surface Water and Groundwater Contamination from Landfill Leachate

Modification of the landfill area could create a limited potential for increased leachate generation that could contribute to surface and groundwater contamination because the landfill was constructed without a leachate control system. Site grading activities for parking lots and picnic grounds could result in a low potential for exposure of landfill debris that could provide a pathway for stormwater infiltration into the landfill. Accidental infiltration of stormwater runoff into landfill materials during construction could potentially transport leachate into Coyote Creek and into groundwater.

However, the potential for leachate contamination in the creek or groundwater is expected to be minor because:

- previous geotechnical studies indicate the landfill is underlain by what appears to be a relatively continuous clay layer that is a remnant of the clay borrow pit at this site (Cooper 1985);

- permeability properties of the clay underlying the landfill appear to be suitable as a impermeable liner and no significant amounts of leachate were encountered during exploration drilling within the landfill;

- the groundwater aquifers underlying the landfill site have not been contaminated with leachate;

- Coyote Creek water samples collected upstream and downstream of the Roberts Avenue Landfill did not indicate the presence of leachate;

- planned site grading for a parking lot is not expected to penetrate leachate in the refuse or to disturb the existing clay liner material; and

- the planned paved parking lots will provide a relatively impermeable boundary to reduce infiltration of stormwater into the landfill.

The master plan would conform to applicable regulations of the SWRCB and RWQCB. Please refer to Section I, "Hydrology and Water Quality".

The master plan's northern bridge proposal could require piles to be driven into the landfill that could potentially penetrate the clay lining underlying the landfill. If piles were to completely penetrate the clay layer, the potential for leachate transport to groundwater would exist. If the clay layer were penetrated, excavation and sealing of the area would be required.

The potential for grading activities in the landfill area to contribute to surface water or groundwater contamination from increased landfill leachate entering the creek or groundwater basin is considered less than significant because:

- **landfill leachate is not currently affecting surface water or groundwater quality,**

- site grading activities associated with the parking lot are not expected to have a major effect on exposure of landfill materials and would not penetrate leachate in the landfill refuse or disturb the existing clay liner,

- impervious parking lot surfaces would reduce stormwater infiltration into the landfill, and

- construction of the northern bridge piles would be conducted according to a detailed geotechnical and structural engineering investigation and in accordance with the required landfill closure plan.

No mitigation measures are required.

Toxic Air Emissions

Previous environmental studies of the site did not identify the presence of hazardous materials that could produce toxic vapors (Terratech 1989). In addition, current methane gas emissions at the site are negative to trace. Site grading is not expected to increase the potential of toxic air emissions.

Although toxic air emissions are not expected during site grading, a low potential does exist for exposure of previously unidentified hazardous materials that may produce toxic air emissions. The potential of toxic air emissions could be reduced with an environmental monitoring and remediation program. A monitoring program could be developed by the City to detect toxic air emissions during site grading and construction. The program should include a health and safety program designed to monitor toxic emissions, and to protect workers and the public from exposure. The program should also provide plans for the control of emissions and the remediation of the source of toxic air emissions.

The potential for toxic air emissions from the Roberts Avenue Landfill to affect park construction workers or patrons is considered a less-than-significant impact because previous studies did not identify toxic vapors at the site, so the risk of exposure is low. No mitigation measures are required.

Impact Summary. Implementation of the master plan would result in less-than-significant public health and safety impacts associated with the potential for attraction of vectors and increased number of vectors, methane gas migration and release, hazardous and infectious waste exposure, surface water and groundwater contamination, and toxic air emissions.

3. Mitigation

Methane Gas Migration and Release during Construction

The following mitigation is already included in the project:

- Monitor methane gas concentrations during construction on the landfill.
- Require installation of a methane gas recovery and venting system during construction if required.
- Prepare a landfill closure plan before development of the landfill.

Hazardous or Infectious Waste Exposure

The following mitigation could be considered to further reduce a less-than-significant impact (not currently included in the project):

- Develop a monitoring program to detect and locate hazardous or infectious waste materials during landfill construction. The program could include a health and safety program designed to protect workers and the public from exposure to hazardous or infectious materials, and could provide plans for waste material characterization and remediation. The waste material remediation should be in compliance with current federal and State of California environmental permit requirements and laws.

Impact Conclusion. Implementation of these measures for methane gas and hazardous waste hazards would further reduce these less-than-significant public health and safety impacts.

G. GEOLOGY AND SOILS

1. Setting

Regional Geology

The Kelley Park project site is located in Santa Clara Valley, which is situated in the central portion of the Coastal Ranges geomorphic province. The Santa Clara Valley is approximately 100 miles long and 15 miles wide and extends from south of Gilroy northward to the southern end of San Francisco Bay (Rogers & Williams 1974). The valley is a northwest-trending late Pliocene structural and topographic depression, which separates the Santa Cruz mountains to the southwest from the Diablo Range to the northeast (AGS 1991), and is bounded by the San Andreas Fault to the west and the Hayward Fault to the east.

The Santa Clara Valley bedrock consists of Franciscan Complex and Cretaceous-age marine sediment, which are exposed in the Santa Cruz and Diablo Range mountains that flank the valley. The Franciscan Complex is composed of Jurassic-age basalts, serpentines, and graywackes. The Cretaceous-age sediments are generally shale. The basal bedrock is overlain by Plio-Pleistocene-age Santa Clara Formation sediments (AGS 1991). The Santa Clara Formation consists of a complex distribution of sand, silt, and clay lenses, which extend from bedrock to within approximately 300 to 500 feet of the surface of the valley floor (Rogers & Williams 1974). These sediments are overlain by recent unconsolidated sediment.

Site Geology

The Kelley Park project site is located approximately 11 miles south of San Francisco Bay; the park is bisected by Coyote Creek, a major tributary of the Guadalupe River. The Roberts Avenue Landfill area is located on the east bank of Coyote Creek and Happy Hollow Park and Zoo is on the west bank. The landfill, which is closed, was previously a clay borrow pit. Geotechnical studies of the landfill indicate that the clay was excavated from the area until groundwater was encountered.

Locally, sediments consist of older alluvial fan, interfluvial fresh water basin, fluvial, and young alluvial fan deposits. The depth of unconsolidated alluvial materials is estimated to be 500 feet below ground surface (Rogers & Williams 1974). The near-surface geology of the project site consists of younger alluvial fan and flood plain deposits overlain, in part, by fill material from the landfill. Soils underlying the landfill material consist of very stiff to hard sandy silt and clayey silt intervals. A prominent clay lens forms the boundary between the younger alluvial fan materials and the landfill.

The closed Roberts Avenue Landfill occupies an area of approximately 25 acres and contains approximately 400,000 cubic yards of residential, commercial, and demolition wastes. The fill material stands approximately 30 feet over existing grade on the southwest corner of the landfill area. The fill material was not placed in confined cells. The landfill is capped with a 2- to 4-foot-deep layer of gravelly silt.

Soil conditions south of the landfill are younger alluvial fan and floodplain sediments. The soil conditions at the proposed Natural Science Exhibit Building, administration building, and parking lot areas are unknown and would need to be determined from site-specific exploration boreholes.

Seismicity and Faults

The San Francisco Bay Area is one of the most active seismic regions in the United States. The significant earthquakes that occur in the Bay Area are associated with crustal movements along well-defined, active fault zones. Although research on earthquake prediction has greatly increased in recent years, seismologists cannot predict when and where an earthquake will occur. Predictive analysis can be used only to characterize maximum probable ground shaking at the study site. The greatest earthquake hazard that could occur at this site is strong ground shaking; fault rupture through the site is not likely.

The active fault closest to the project site is the Hayward Fault (approximately 4.8 miles to the east), which diverges from the Calaveras Fault south of Calaveras Reservoir in Santa Clara County. A branch of the San Andreas Fault, the Hayward Fault extends about 63 miles northward through and along the East Bay Hills.

The San Andreas Fault is the next closest active fault to the project site (12.5 miles southwest) and is the most significant seismically active fault near the project site. The San Andreas Fault is the boundary between the North American and Pacific crustal plates. The Kelley Park site is near the north-central fault segment, which has a fault trace length of approximately 196 miles. Movement along this segment has produced earthquakes with magnitudes exceeding 8.3.

Other major active faults near the Kelley Park site include the Calaveras, San Gregorio-Seal Cove, and Sargent Faults. Significant earthquakes have been associated with movement along these faults. Future earthquakes from movement along these faults have the potential to produce significant ground motion at the Kelley Park site.

The Kelley Park site is located approximately 2,100 feet west of the concealed trace of the Silver Creek Fault. This fault has been classified as inactive by Bryant (1982); however, a segment of the fault about 2.5 miles south of the project site is identified on the City of San Jose's Fault Hazard Map as a Special Study Zone and as a Potential Hazard Zone (City of San Jose 1983).

2. Impacts

Significance Criteria. This section uses the following criteria for determining the level of significance of impacts from seismic hazards and geological and soil conditions in the project area. An impact is considered significant if seismic and geological conditions would result in:

- destructive ground motion;
- liquefaction;
- slope failures and lateral deformation of slope materials;
- differential settlement of foundation materials;
- bearing-capacity failures of foundation materials;
- stormwater infiltration, runoff, and erosion; or
- wind erosion during construction.

Seismic Hazards

Facility Damage and Hazards

The Kelley Park site will likely be subject to strong ground shaking at some time in the future. Previous geotechnical investigations (AGS 1991) near the project site indicate potential peak ground accelerations on the order of 0.47 g. Strong ground shaking of this magnitude may cause destructive stress in the foundation and structure of existing and proposed buildings such as the Kelley House, Natural Science Exhibit Building, park operations center, or structures in the SJHM that could pose a hazard to park patrons.

Strong ground shaking could also result in the settling of foundation material under buildings and parking lots, and slope failures or permanent lateral deformation of slopes in the Coyote Creek riparian corridor, at the landfill, and in other areas planned for substantial topographic variation.

The potential for seismic ground shaking to cause damage to existing and future Kelley Park structures is considered a significant impact because damage to structures could result in substantial hazards for park patrons, considerable property damage could occur in the park, and landfill slopes could fail.

Liquefaction of Foundation Materials

Implementation of the Kelley Park master plan would have a low potential for exposing park facilities to damage from ground-shaking-induced liquefaction of foundation materials. A geotechnical study prepared by PSC Associates evaluated the site liquefaction potential and concluded that the well-graded site sands and gravels that are dense and covered with stiff clayey silt have a low liquefaction potential (PSC Associates, Inc. 1988).

The potential for liquefaction of foundation materials below planned buildings and parking lot areas in Kelley Park is considered a less-than-significant impact because liquefaction potential of soils on the site are low. No mitigation measures are required.

Geologic and Soil Hazards

Differential Movement of Foundation Materials

Implementation of the project would have a low potential to expose structures to damage from differential foundation material movement caused by the shrink-swell potential of site soils. In general, soils with potentially high shrink-swell properties are those areas of clay-rich soils exposed to repeated wetting and drying. Exploration borehole logs in the project area indicate that the remnants of the clay from the borrow pit are generally confined to the Roberts Avenue Landfill area. These potentially expansive clays are overlain by landfill materials, and the extent of clay materials beyond the landfill area to the south is unknown but is expected to be limited.

Proposed master plan structures near the landfill clay materials include the Natural Science Exhibit Building and the park operations center. The Natural Science Exhibit Building would be located beyond the area known to contain expansive clay soils, but the operations center, at the eastern landfill boundary, could potentially be affected.

The potential for soils with a high shrink-swell potential to cause differential movement of park building foundations is considered a less-than-significant impact because the park site appears to possess limited clayey soils that could be subject to substantial shrink-swell conditions and because site-specific geotechnical studies and site preparation for planned buildings would be required for all proposed structures.

Bearing-Capacity Failure of Foundation Materials in the Roberts Avenue Landfill

Construction of structures such as picnic pavilions, the operations center, and the northern bridge foundations could exceed the bearing capacity of Roberts Avenue Landfill materials. Previous geotechnical studies (Cooper Engineers 1985) indicate that the landfill materials are generally uncompacted with voids. The landfill materials also have low bearing-capacity properties and could support only minimal loads. The pavement and traffic loads from the planned parking lot areas are not expected to exceed the bearing capacity of near-surface landfill materials, but loads from picnic ground pavilions, the operations center, or the northern bridge could exceed the landfill bearing capacity. PSC Associates recommended in 1988 using either steel or pre-cast concrete piles to support a prefabricated steel or concrete bridge. The subsurface conditions at the west end of the proposed bridge consist of very stiff silty and clayey sands to a depth of approximately 38 feet. However, landfill debris was encountered at a comparable depth on the east side of Coyote Creek. Stiff sandy silts underlie the landfill debris. This may require that batter piles be imbedded into native soil underlying the landfill material.

Portions of the site south of the landfill are not expected to contain materials that would create bearing-capacity problems.

The potential for bearing-capacity failure of landfill materials to affect proposed structures is considered a significant impact because landfill materials are substantially unconsolidated and will require site-specific geotechnical and engineering studies for building or structure siting.

Settlement of Uncompacted Landfill Materials

Construction of the east side parking lot or structures on Roberts Avenue Landfill could result in settlement of uncompacted landfill materials that could cause structural damage or failure. Some settling of uncompacted landfill materials would be expected under existing conditions with no structural loads and under future conditions that involve static and dynamic loads. Investigation of the Roberts Avenue Landfill indicates that natural settlement can be on the order of 4% of refuse thickness or about 6 to 9 inches (Cooper Engineers 1985). Settlement from structural loading could be as much as several feet, depending on the site conditions, and settling of the landfill material can be expected to continue over a 50-year period. This magnitude of settlement is beyond the tolerance limit of typical lightly loaded foundations. This potential settlement would result in damage to non-engineered parking lot areas, picnic structures, operations center buildings, utilities, and bridge structures.

The southeastern portion of the project site consists of young alluvial fan deposits that may contain near-surface lenses of fine-grained sands and organic materials. These materials have a low potential for settlement under structural loading. Settlement would be on the order of a few inches and is not considered a substantial problem for building siting. Building foundations in these areas could be engineered using standard procedures.

Potential damage to parking lots and structures sited on the Roberts Avenue Landfill from settlement of uncompacted landfill materials is considered a less-than-significant impact because the master plan indicates that structural foundations and utilities on

the landfill will be designed to accommodate differential settlement. No mitigation measures are required.

Slope Failures of Landfill Materials

The potential for landfill slope failures in the project area is considered relatively low because slides in the creek area are minor and the southern landfill slope is stable.

The northeast quarter of the site is covered by uncompacted landfill material piled 30 feet above existing grade. Fill slopes range from 1.5:1 to 3:1 (horizontal:vertical) (Cooper Engineers 1985). Minor landsliding was observed on the steeper fill materials adjacent to the Coyote Creek bank. Landslide debris is confined to the immediate slide area and does not extended to Coyote Creek. The landfill slopes to the south appear to be stable. Minor landslides along the slopes of the Roberts Avenue Landfill may present a minor threat to parking lots located adjacent to Coyote Creek.

Previous engineering studies (Cooper Engineers 1985) determined that slope failures in the landfill materials could be prevented by grading fill slopes to 3:1 or less.

No impacts from slope failure are expected because of the stability of existing or planned levee slopes. The planned levees would be engineered structures designed with appropriate safety factors for slope stability. Slope failures of engineered levee structures are not expected during the life of this project.

Hazards or facility damage resulting from slope stability problems on or near the landfill are considered less-than-significant impacts because the potential for slope failure in this area is low.

Stormwater-Induced Soil Erosion

Implementation of the project would result in an increase in stormwater runoff from an approximate one-third increase in parking lot pavement area and from site grading for roadways, picnic grounds, and structures. An increase in uncontrolled storm runoff from parking lot areas could result in localized erosion and increased sediment loads into Coyote Creek. Uncontrolled stormwater runoff has the potential of creating erosion channels and gullies. Areas presently built above grade (i.e., the uncompacted landfill cap) present highest potential for erosion due to a prolonged or severe storm event. During flood periods, accelerated water flow in Coyote Creek could erode steep creek embankments adjacent to the landfill. Rapid erosion of the Coyote Creek banks is a natural ongoing process that could result in substantial water erosion effects in the project area.

The potential for increased soil erosion impacts related to an increase in stormwater runoff from development in the project area is considered a significant impact because uncontrolled runoff during storms could result in substantial erosion in the landfill area and on steep Coyote Creek banks.

Impact Summary. Implementation of the master plan would result in significant impacts associated with facility damage from earthquake-induced ground shaking and less-than-significant impacts from liquefaction associated with ground shaking. Implementation of the master plan also would result in significant impacts from potential bearing-capacity failure of landfill foundation materials and increased stormwater-induced soil erosion. Less-than-significant impacts associated with geologic/soils hazards include differential movement of foundation materials caused by the shrink-swell potential of site soils, settlement of uncompacted materials, and slope failures.

3. Mitigation

Seismic Ground Shaking

- Buildings and bridges associated with the master plan will be engineered to account for expected earthquake-induced dynamic loads. All buildings and structures will be designed according to requirements of the Uniform Building Code to minimize damage to structures or hazards to patrons from seismic events (included in the project).

Low-Bearing-Capacity Soils

- Site-specific geotechnical investigations will be conducted at all of the proposed buildings sites and bridges to determine the precise bearing capacity of foundation materials. Measures recommended by geotechnical studies, such as use of piles, ground improvement using dynamic compaction, or overexcavation and recompaction, will be implemented to eliminate hazards from low-bearing-capacity soils (included in the project).

Soil Erosion

- A City-approved drainage plan will be developed and implemented to control and direct stormwater runoff from parking lots, building sites, and picnic areas into lined drainage channels and storm drains. The plan will include requirements for an impermeable soil cover that complies with State of California landfill closure requirements (included in the project).

- A City-approved erosion control plan will be developed and implemented that includes, but is not limited to, the following construction measures (included in the project):

  - install temporary and permanent plantings for exposed soils,
  - install temporary drainage check dams and silt fences, and
  - install temporary or permanent sediment basins and traps.

Impact Conclusion. **Implementation of the measures identified for seismic ground shaking, low-bearing-capacity soils, and soil erosion would reduce all significant geologic and soil impacts to less-than-significant levels.**

H. CULTURAL RESOURCES

1. Setting

The cultural resources analysis is based on an archaeological survey report and a preliminary architectural evaluation presented in Appendix E. Setting information is excerpted from these documents.

Ethnographic Background

San Jose lies within the area occupied at the time of historic contact by the Costanoan or Ohlone group of Native Americans (Kroeber 1970). Although the term Costanoan is derived from the Spanish word "costaños", or "coast people", its application as a means of identifying this population is based in linguistics. The Costanoans spoke a language now considered one of the major subdivisions of the Miwok-Costanoan, which belonged to the Utian family within the Penutian language stock (Shipley 1978). Costanoan actually designates a family of eight languages. These were spoken by tribelets occupying an area from the Pacific Coast east to the Diablo Range and from San Francisco south to Point Sur. Tamyen or Santa Clara Costanoan, the group which would have occupied the Kelley Park area, was spoken by about 1,200 Native Americans who lived near the southern San Francisco Bay and lower Santa Clara Valley (Levy 1978).

Although linguistically linked as a "family", the eight Costanoan languages actually comprised a continuum in which neighboring groups could probably understand each other, but beyond neighborhood boundaries, each group's language was mutually unrecognizable. Each of the eight language groups was subdivided into smaller village complexes or tribelets. The tribelets were independent political entities, each occupying specific territories defined by physiographic features. Access to the natural resources of the territories was controlled by each tribelet. Although each tribelet had one or more permanent villages, a tribelet's territory contained numerous smaller campsites used as needed during a seasonal round of resource exploitation (Levy 1978).

Leadership was provided by a chief, who inherited the position patrilineally and who could be either male or female. The chief and a council of elders served mainly as community advisers. Specific responsibility for feeding visitors, providing for the impoverished, and directing ceremonies as well as hunting, fishing, and gathering activities fell to the chief. Only in times of warfare was the chief's role as absolute leader recognized by tribelet members.

Extended families lived in domed structures thatched with tule, grass, wild alfalfa, ferns, or carrizo (Levy 1978). Semi-subterranean sweat houses were built into pits excavated in streambanks and covered with a structure against the bank. The tule raft, propelled by double-bladed paddles similar to those employed in the Santa Barbara Island region, were used to navigate across San Francisco Bay (Kroeber 1970).

Mussels were an important staple in the Ohlone diet, as were acorns of the coast live oak, valley oak, tanbark oak and California black oak. Seeds, berries, roots, grasses, and the meat of deer, elk, grizzly bear, sea lion, rabbit, and squirrel also formed the Ohlone diet. Careful management of the land through controlled burning served to insure a plentiful and reliable source of all these foods (Kroeber 1970, Levy 1978).

The arrival of the Spanish in the San Francisco Bay Area in 1775 led to the rapid demise of native California populations. Diseases, declining birth rates, and the effects of the mission system served to eradicate the aboriginal lifeways. Brought into the missions, the surviving Ohlones, along with former neighboring groups of Esselen, Yokuts, and Miwok were transformed from hunters and gatherers into agricultural laborers (Levy 1978, Garaventa 1983). With the abandonment of the mission system and the Mexican takeover in the 1840s, numerous ranchos were established. What few Indians remained were then forced, by necessity, to work for the ranchos. The native lifestyle in much of Northern California ceased to exist by the mid-19th century, and most of the native population vanished with it.

Historic Background

The history of Northern California and Santa Clara County can be divided into three distinct periods of influence: the Spanish Period (1769-1821), the Mexican Period (1821-1848), and the American Period, which began in 1848 with the Treaty of Guadalupe Hildalgo. The Spanish Period in Alta California began in 1775 when Captain Juan Manuel Ayala's expedition studied the San Francisco Bay and ventured up the Sacramento and San Joaquin Rivers in search of a suitable mission site. The first mission in the region was established the following year with the completion of Mission San Francisco de Asis (Mission Dolores) in San Francisco. It was followed 3 months later with the establishment of Mission Santa Clara de Asis and in 1797 with the Mission San Jose de Guadalupe. The Mission era ensued, lasting over the next 46 years, leading to the establishment of numerous missions and outposts.

During the Mexican and American Periods, the Kelley Park project area was just outside the boundary of the City of San Jose (Thompson and West 1876), on Pueblo Tract No. 1. Apparently there were three palizadas (a Spanish variant of the Kentucky log house) and five other dwellings on this tract; all of these were situated to the south of the current Kelley Park boundary (Hendry and Bowman 1940). In the mid-19th century, the project area was in a relatively undeveloped region just outside the southeastern San Jose city limits. Individuals of local significance who resided in the vicinity include Lawrence Archer (a judge on the County Court); James Phelan (a financier); James D. Phelan (grandson of the elder Phelan, twice mayor of San Francisco, and a U.S. Senator); and Frank J. Kelley, who built a home that still stands in the north end of the park (Banet et al. 1990).

Roop (1988) reports that the Coyote Creek channel in the Kelley Park project vicinity may have been one of the earliest community dumps in San Jose, predated only by the dump on the Guadalupe River. The oldest part of the dump was apparently located on a former island in the center of the creek channel; the entire western channel of the creek was filled in with late-19th century trash deposits. Examination of early maps of the area show significant alteration in the path of Coyote Creek, perhaps caused at least in part by these trash deposits.

Another area of note is at the northeastern corner of the project area between Coyote Creek and Roberts Avenue. In 1876 this area, owned by J.M. Allen, was an orchard. Allen's house stood in the southeast corner of the orchard facing Roberts Avenue. This area was subsequently used as a (recent) landfill, then closed in the 1960s when the area was buried under several feet of fill (Roop 1988).

Also of interest is the location of the Remillard-Dandini Company on the north side of Story Road. This plant, established in 1863, was the location of a Hoffman-type brick kiln. This kiln used local clays in the manufacture of bricks. Apparently clay mining operations that supported this kiln extended far up Coyote Creek. Roop (1988) has found physical evidence in the creek channel that suggests clay mining extended at least as far south as Phelan Avenue.

Previous Archaeology

Background information on archaeological surveys conducted in the Bay Area is presented in Appendix E.

A records search of the project area was conducted on April 4, 1994, at the California Archaeological Inventory, Northwest Information Center at Sonoma State University. All known archaeological sites and previous cultural resource surveys within 0.25 mile of the project area boundary were identified on topographic maps of the area. The National Register of Historic Places (NRHP), the California Inventory of Historic Resources, California Historical Landmarks Register, and the City's Historic Inventory were also examined to determine if any local, county, state, or federal historic landmarks; city landmarks; or NRHP properties were loca: :d in the project area.

Eight archaeological field investigations have taken place within Kelley Park, recording one prehistoric archaeological site. Seventeen additional field investigations have taken place within 0.25 mile of the boundary of the project area. These investigations have recorded an additional 10 archaeological sites adjacent to the area.

The Coyote Creek Archaeological District is recorded in the California Inventory of Historic Resources. It is located 28 miles southeast of the project area in Henry W. Coe State Park and will not be affected by Kelley Park activities.

One archaeological site is located within the park boundaries. Seven prehistoric sites and three historic sites are found within 0.25 mile of the project boundary.

Field Reconnaissance

The Kelley Park archaeological field survey was conducted on April 11-12, 1994. The strategy was to conduct a 100% survey of the project area, with two exceptions: developed park areas lacking in cultural integrity (e.g., the Happy Hollow Park and Zoo, the Japanese Friendship Garden, and the SJHM) and paved or landscaped areas were not surveyed because they had little or no potential to yield useful archaeological information. The Roberts Avenue Landfill at the northeastern corner of the park was also not surveyed, as it was used into the 1960s.

The survey used a transect spacing interval of 10 meters (approximately 30 feet) or less, walked in parallel lines. Ground visibility varied from fair to poor, averaging 0-30%. "Fair" areas consisted of the remnant orchard and vineyard, where grass cover sporadically opened up to patches of bare ground. "Poor" visibility areas consisted of the riparian zones along Coyote Creek where no ground visibility was possible in places.

One site was recorded during the survey of Kelley Park. Temporary designation KP-1 is a historic dump dating to the late 19th century (the Archaeological Site Record is available from the City of San Jose Department of Planning and Building).

A preliminary historic architectural evaluation of the Kelley House, which is situated within Kelley Park, was conducted May 5, 1994. Information on the condition and architecture of the Kelley House is presented in Appendix E.

2. Impacts

Significance Criteria. This section uses the following criteria for determining the level of significance of an environmental impact on historic properties. An impact is considered significant if the project would:

- alter the characteristics of a property that meets city landmark status or

- alter the characteristics of the property that may qualify the property for inclusion in the NRHP or for city landmark status, including alteration of the property's location, setting, or use. An undertaking may have an adverse effect when the effect on a historic property may diminish the integrity of the

> property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to, physical destruction or alteration of all or part of the property; isolation of the property from or alteration of the property's setting when that character contributes to the property's qualification for the NRHP; introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting; neglect of a property resulting in its deterioration or destruction; and transfer, lease, or sale of the property (36 CFR 800.9).

CEQA contains provisions relative to preservation of historic and prehistoric cultural sites. Appendix K of the State CEQA Guidelines directs public agencies (i.e., the City of San Jose) to "avoid damaging effects on archaeological resources whenever feasible. If avoidance is not feasible, the importance of the site shall be evaluated. . ." as a means of determining the impact and developing mitigation measures. Appendix K, Section III, states that an "important archaeological resource" is one that:

> is associated with an event or person of recognized importance in California or American history, or recognized scientific importance in prehistory; can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions; has special or particular quality such as oldest, best example, largest, or last surviving example of its kind; is at least 100 years old and possesses substantial stratigraphic integrity; or involves important research questions that historical research has shown can be answered only with archaeological methods.

The City of San Jose also considers cultural resource impacts significant if archaeological resources are located in an archaeologically sensitive zone as shown on the City of San Jose Potential Archaeological Resource maps.

To evaluate cultural resource sites against CEQA criteria requires consideration, among other things, of the overall integrity of the site, the regional culture history (the types, ages, and distribution of other sites in the region), and the nature of questions that researchers are attempting to address regarding the history or prehistory of the region.

Modification of Historic Resources

Implementation of the project may result in modifications to the Kelley House. The Kelley House is a potentially significant example of early 20th-century domestic design in the history of San Jose. It may be eligible for the NRHP under criterion C (for Design/Construction in Architecture) at a local level of significance. The

Kelley House may also be eligible under the City of San Jose's Historic Landmark Designation Ordinance as the "embodiment of elements of architectural design, detail, materials or craftsmanship which represents a significant architectural innovation or which is unique" (see Section 13.48.110 of the San Jose Planning Code). The carriage house contributes to the significance of the Kelley House, but would most likely not be individually eligible for the NRHP because substantial remodeling has reduced its historic integrity.

Modification of the Kelley House would be a significant impact because it could result in alteration of architectural design, details, or materials of a property potentially eligible for inclusion in the NRHP and the house is also potentially eligible for city landmark status.

Potential Destruction or Modification of Archaeological Resources

Implementation of the project could result in destruction or modification of all or part of archaeological site KP-1. Extension of Phelan Avenue to the east would destroy the eastern portion of the site, and expansion of the SJHM parking facilities would require grading or other construction or modification of the remainder of the site.

Extension of Phelan Avenue could also result in the disturbance of the area where archaeological site SCl-352 was originally recorded. However, no impact on this site would likely occur because the site has probably already been obliterated and it was not relocated during the field reconnaissance.

Because the project would involve excavation in an area that is generally identified as sensitive archaeologically, a potential also exists for unidentified cultural materials (i.e., buried sites) to be encountered during project construction.

Modification or destruction of site KP-1 from expansion of SJHM and extension of Phelan Avenue would be a significant impact because the site, which is potentially eligible for inclusion in the NRHP, would be destroyed. This site could provide information that is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions, it is at least 100 years old and may possess stratigraphic integrity, and it could address important research questions that can be answered only with archaeological methods.

Extension of Phelan Avenue would result in a less-than-significant impact on site SCl-352 because the site appears to have already been destroyed.

3. Mitigation

Historic Resources

The following mitigation measures are included in the project:

- Before making modifications to the Kelley House, the City of San Jose should employ a qualified architectural historian to conduct a complete evaluation of the building to determine whether it qualifies for the NRHP or meets city landmark status criteria. This evaluation will include additional research to determine the significance of the Kelley House in the local historical context and a comparison of the Kelley House with other early 20th-century houses in San Jose to determine whether it represents an outstanding or unique domestic design of the period.

- If, after the evaluation, the Kelley House is determined to be eligible for inclusion in the NRHP or city landmark status, ways to avoid, minimize, or reduce the effects of the project will be sought in consultation with the architectural historian, the State Historic Preservation Officer, and the City Historic Preservation Officer. These measures may include, but would not be limited to, the use of appropriate materials, design, and workmanship in the course of alterations to ensure that qualities that make the building significant are not altered or destroyed.

- If the Kelley House is determined to be eligible for city landmark status, the public works department would initiate an application for city landmark status.

- If the Kelley House is identified as a city landmark, the project would require a Historic Preservation Permit from the City Department of Planning and Building before the building is altered to ensure that the qualities that make the building significant are not altered or destroyed.

- Subsurface excavation in the vicinity of the Kelley House will be monitored to the extent determined necessary by a qualified archaeologist or historian.

Archaeological Resources

The following mitigation measures are included in the project:

- Conduct subsurface testing for archaeological site KP-1. Subsurface testing will be conducted before expansion of the SJHM and construction of parking facilities that could result in a significant impact on archaeological site KP-1 to adequately define the site subsurface extent and integrity and to define the cultural components at the site. Archival research would also be conducted for the site as a means of corroborating the archaeological data. If, after testing and additional research, the site is determined to be ineligible for inclusion in the NRHP, it will not be considered further. If the site is determined to be eligible for listing in the NRHP, ways to avoid, minimize, or reduce the effects of the project on it will be sought in consultation with the State Historic Preservation Officer. These measures may include, but would not be limited to, avoidance, excavation, and archaeological monitoring.

- Areas along Coyote Creek will be monitored to the extent determined by a qualified archaeologist.

- If cultural materials are encountered during construction or other activities, work would be stopped until a qualified archaeologist can evaluate the finds. In consultation with the State Historic Preservation Officer, mitigation measures will be developed for all cultural resources that are determined to be eligible for inclusion in the NRHP.

- If subsurface excavation is required at site KP-1, the excavation will be monitored to the extent determined necessary by a qualified archaeologist.

Impact Conclusion. **Implementation of these mitigation measures for the Kelley House and site KP-1 would reduce these significant impacts to less-than-significant levels because the qualities that could make the Kelley House significant would be preserved and site KP-1 would be either avoided or a significant amount of the cultural information concerning its role in local history would be gathered before the site is modified.**

I. HYDROLOGY AND WATER QUALITY

1. Setting

Existing Park Drainage

Kelley Park irrigation water and stormwater surface runoff drain either via overland flow to Coyote Creek or through a series of storm sewers that drain to Coyote Creek. Surface water also infiltrates site soils and is used by landscape vegetation. The park does not have major internal drainage problems.

Coyote Creek Watershed and Hydrology

The Coyote Creek watershed is in the Diablo Mountain Range east of the City of San Jose; the headwaters are situated in rugged terrain at an elevation of approximately 3,000 feet. The creek's watershed covers 200,000 acres, is 45 miles long, 10 miles wide, and drains to South San Francisco Bay. Primary tributaries to Coyote Creek include Fisher, Silver, Pentencia, and Berryessa Creeks. Land uses in the watershed are mainly urban with a small percentage of agricultural use. Coyote Creek is a perennial stream that is regulated by the Santa Clara Valley Water District (SCVWD) for groundwater recharge programs. Water is released from Anderson Reservoir for delivery to spreading basins downstream in the Santa Clara Valley.

Streamflows in Coyote Creek vary with rainfall intensity and SCVWD water management operations at Anderson Reservoir. Floodflows of 15,000-17,000 cubic feet per second (cfs) have been documented by the SCVWD (Wheeler pers. comm). Streamflows during nonstorm periods generally are less than 10 cfs.

Coyote Creek has flooded the park occasionally during intense regional storms. The City participates in the National Flood Insurance Program. The Federal Emergency Management Agency (FEMA) has mapped the 100-year floodplain in the park vicinity. The 100-year event is the magnitude of flooding expected to occur on an average of every 100 years, based on historical data. Review of the FEMA map shows that certain areas of Happy Hollow Park and Zoo would be inundated by several feet of water during a 100-year flood. City staff has indicated that the zoo animals have been evacuated during some years due to floodwaters from Coyote Creek. The evacuation of zoo animals and minor flood damage to the zoo and other areas are a concern to City staff. Flooding during 100-year storms would also occur in the Japanese Friendship Garden. The garden has been closed in the recent past because of Coyote Creek flooding. In 1991, the City retained Schaaf and Wheeler Consulting Engineers, as part of the park master plan process, to conduct site-specific flood modeling, refine FEMA's floodplain elevation estimates, and evaluate several flood protection alternatives for the zoo. Figure III-13 illustrates the Coyote Creek 100-year floodplain.

Coyote Creek Water Quality

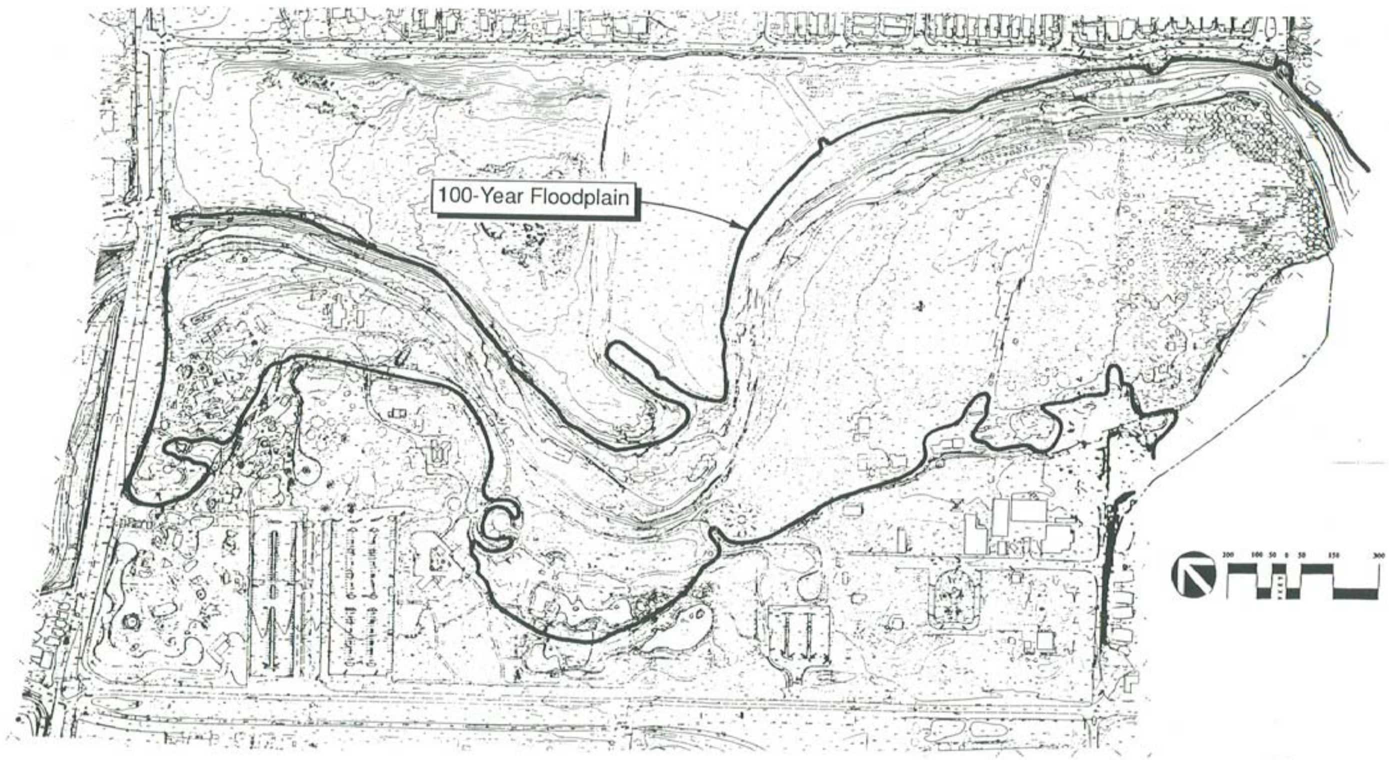
Coyote Creek drains a large urban area and receives discharges from over 37 stormwater outfalls as it drains to the South Bay (U.S. EPA 1980). Water quality conditions in Coyote Creek vary depending on time of year, flow conditions, and creek segment. Water quality conditions generally worsen with distance from Anderson Reservoir. Streamflows~~ and water quality~~ conditions are regulated by the SCVWD from operations at Anderson Reservoir.

The creek segment in the project area is littered with shopping carts, automotive parts (e.g., truck and automobile tires, oil filters, and mufflers), broken glass, styrofoam, and other urban trash. Large dead trees, such as box elder, cottonwood, and others, carried during peak streamflow events, are scattered along the creek and form small impoundments that trap urban trash carried from upstream areas. During the March 1994 field survey, the creek streamflow was low, estimated at 1-2 cfs, and the water was warm and dark colored. Numerous stickleback minnows were observed indicating the dissolved oxygen concentrations were at sufficient levels for aquatic life. Inspection of the creek bottom revealed a lack of gravels and pea gravels with most of the streambed consisting of compacted clays and fine silt that indicate upstream soil erosion and siltation problems.

Coyote Creek water quality has been and continues to be studied by numerous researchers investigating the effects of urban runoff on water quality and aquatic life (Environmental Protection Agency 1980, SCVWD 1993). The EPA study found that Coyote Creek is subject to periodic pulses of pollution from urban stormwater runoff. Significant concentrations of coliform bacteria; heavy metals such as lead, chromium, and copper; total solids; biological oxygen demand (BOD); and nutrients were detected in Coyote Creek. Several observed concentrations exceeded EPA criteria for the protection of freshwater aquatic life. The findings and conclusions of this study and others demonstrated the need for controlling stormwater pollution to Coyote Creek and other creeks in Santa Clara valley. The California State Water Resources Control Board (SWRCB) lists 34 miles of Coyote Creek, including the Kelley Park reach, as a water-quality-limited surface water because of nonpoint source pollution and natural causes (State Water Resources Control Board 1988). Water-quality-limited segments are surface waters that do not meet water quality standards and are not expected to meet water quality standards even after the application of effluent limitations required by the Clean Water Act (CWA).

Currently, water quality monitoring is being conducted by the SCVWD as part of the Santa Clara Valley Nonpoint Source Control Program. Initiated in 1989 in response to new EPA stormwater rules for municipal stormwater runoff, the Santa Clara

Figure III-13
Coyote Creek 100-Year Floodplain



Valley program is the model program in California. The program includes regular water quality monitoring, identification and correction of illicit connections to the storm drainage system, increased public participation programs, and more stringent standards for new development projects. Coyote Creek is one of several creeks monitored as part of the program.

Shallow Groundwater Quality

Shallow groundwater is found generally between 40 and 50 feet below the land surface. Reports completed in 1987 reveal elevated concentrations of dissolved solids and organic and inorganic salts (Bissell & Karn 1987). Volatile organic compounds have not been detected. The City is not currently monitoring groundwater quality at the Roberts Avenue Landfill but is performing ongoing monitoring at the Story Road Landfill, which is downgradient from the Roberts Avenue Landfill.

Water Quality Regulatory Network

A brief overview of the state regulatory and institutional framework and applicable state and federal water quality control plans, policies, and regulations is provided in the following sections.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Water Code 13000 et seq.) established the SWRCB, divided the state into nine regional basins, and established a regional water quality control board (RWQCB) for each basin. The Porter-Cologne Act requires the SWRCB or RWQCBs to adopt water quality control plans for protection of water quality. A water quality control plan must:

- identify beneficial uses of water to be protected,
- establish water quality objectives for the reasonable protection of the beneficial uses, and
- establish a program of implementation for achieving water quality objectives.

The Porter-Cologne Act also provides for the issuance of waste discharge requirements (WDRs) to dischargers. When the state issues WDRs to a point source, that action also typically constitutes the issuance of a National Pollution Discharge Elimination System (NPDES) permit required by the CWA.

State Water Resources Control Board

The SWRCB and nine RWQCBs are the agencies responsible for regulating discharges to California's rivers and streams. The SWRCB is the primary state agency responsible for formulating statewide policies to protect surface water and groundwater supplies and approving water quality control plans. These water quality control plans are implemented and enforced by the regional boards. The proposed project is within the San Francisco Bay RWQCB jurisdiction. Each regional board prepares water quality control plans to protect surface water and groundwater supplies within its region. Basin plans identify important regional water resources and their beneficial uses and provide for preventing and abating waste pollution and nuisance. The plans also provide the technical basis for determining WDRs, taking enforcement actions, and evaluating CWA grant proposals.

Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for promulgating rules and regulations for protecting water quality and enforcing provisions of the CWA. In California, EPA has granted administration of the CWA to the SWRCB and serves in a supervisory role. The EPA Region 9 staff reviews NPDES monthly reports and assists SWRCB staff with investigations of permit violations.

Relevant Water Quality Regulations and Policies

Clean Water Act

The CWA is the primary legislation protecting the nation's waters and it regulates point and nonpoint source discharges to rivers, creeks, and lakes. The CWA requires treatment of wastewaters from point source discharges from industrial and municipal facilities, and it established the NPDES permit as a tool for regulating discharges. The NPDES permit for point source discharges established numerical effluent limits, pretreatment requirements, and strict monitoring and reporting procedures.

NPDES Permit System. The NPDES program, administered by the SWRCB under EPA supervision, requires any entity that discharges pollutants into navigable waters, or proposes to do so, to obtain a permit. NPDES is a self-monitoring program, requiring dischargers to sample effluents based on certain sampling frequencies. The permits generally include criteria and water quality objectives for a wide range of constituents.

NPDES Construction Activity Permit. EPA issued the final rule for stormwater discharges associated with construction activity on September 9, 1992. This general permit requires development projects on 5 acres or more to file a Notice of Intent

(NOI), develop and implement a stormwater pollution prevention plan, and conduct site inspections for facilities. The goal of the permit program is to reduce or eliminate surface water pollution from construction activities. Questions have arisen on how these permit regulations differ from existing grading ordinances or required erosion control plans by local municipalities. Some of the SWRCB regulations do duplicate provisions of local ordinances, but the local grading and erosion plans can be used to help satisfy these specific permit requirements. The permit must be obtained before construction occurs and applies only during the project's construction phase. The City would be required to obtain this permit for the construction phase of the park improvements.

2. Impacts

Significance Criteria. This section uses the following criteria for determining the level of significance of flooding or water quality impacts. An impact is considered significant if the project would:

- increase the 100-year elevation in Coyote Creek,
- violate numerical or narrative water quality standards in the regional basin plan,
- contaminate a public water supply, or
- cause substantial erosion or siltation.

Hydrology and Flooding

Reduced Flooding Potential in the Happy Hollow Zoo Area from Construction of the Proposed Levee

The Kelley Park master plan proposes to locate a levee on the perimeter of the zoo boundary outside the creek floodway (approximately 200 feet from the riparian zone) to protect the area from devastating floods and eliminate the need to evacuate zoo animals during floods. The levee would be approximately 800 feet long, 13 feet high, and ~~72~~ 26 feet wide and would provide flood protection to key areas of the zoo. Minor flooding of the Japanese Friendship Gardens during large storms would continue.

Reducing the frequency and magnitude of flooding at the zoo and associated flood damage by constructing the proposed levee would reduce a currently significant flooding impact to a less-than-significant level. No mitigation measures are required.

Incremental Increase in Stormwater Runoff and Downstream Flood Elevations from New Parking Lots

The master plan includes several new elements that would increase stormwater runoff to Coyote Creek, including the Happy Hollow Zoo expansion areas and new parking lots. The most important hydrology issues are the effects of runoff from the new eastern and SJHM parking areas situated on the Roberts Avenue Landfill and in the Coyote Creek floodplain. The new parking areas would cover approximately 11 acres of the landfill and 4 acres in the SJHM expansion area. The impervious surfaces of the parking lots would generate increased stormwater runoff to Coyote Creek above ambient levels. During a storm that delivers one-half inch of rain, the new eastern parking lots would generate about 0.46 acre-feet of stormwater runoff to Coyote Creek. During peak storms, runoff from the planned impervious surfaces would contribute to the current flooding condition. The existing Coyote Creek channel has a defined carrying capacity and may not be able to accommodate the increased project runoff during floods. Runoff volumes would be greater for larger storms and could cause downstream flooding along Coyote Creek.

The incremental increase in stormwater runoff to Coyote Creek from the new parking areas is considered a significant impact because it would contribute to downstream flood levels and possible streambank erosion and downcutting.

Potential Impairment of Floodflows from Proposed Levee and Pedestrian Bridges

Constructing a new levee along the northern boundary of the Happy Hollow Park and Zoo would protect the zoo area from major floods but would cause a small increase in the Coyote Creek 100-year flood elevation. In response to SCVWD scoping comments, the City retained Schaaf and Wheeler Consulting Engineers to prepare a flooding analysis of the proposed levee. Using the HEC-2 hydrologic model developed by the U.S. Army Corps of Engineers, Schaaf and Wheeler estimate that the proposed levee may cause an increase in the 100-year flood elevation by 0.01 feet upstream of the park; a maximum increase of 0.09 feet would occur within the park itself (Schaaf and Wheeler Consulting Engineers 1991). The study recommended constructing a small ditch upstream of the levee to mitigate for the increase in flood levels. This study did not evaluate the potential flooding impacts from the two proposed bridges.

Two pedestrian bridges would provide access from the new parking areas to the main park area. The northern bridge is planned to be prefabricated steel or concrete construction, about 15 feet wide and 300 feet long. Geotechnical studies have been conducted by PSC Associates for the proposed bridge, but specific bridge designs are not available at this time (PSC Associates 1988). The primary purpose of the geotechnical studies was to determine foundation requirements for bridge piers. Construction of the two proposed bridges across Coyote Creek, without proper hydraulic design, could impair floodflows during large storms, cause backwaters, and potentially contribute to or exacerbate park flooding. The northern pedestrian bridge would be designed to have a minimum elevation of 102 feet and would safely convey the 100-year storm flows in Coyote Creek. The southern pedestrian bridge would be constructed in the floodplain and could cause incremental increases in the 100-year flood elevation.

During previous agency coordination activities by the City in April 1990, the SCVWD commented on previously proposed low-flow bridges and stated that the bridges must not cause an increase in the 100-year flood elevation (Carlsen pers. comm).

No additional flood elevation changes are expected to be associated with the SJHM master plan, because floodplain uses would be for parking, picnicking, and open space uses. No permanent structures are proposed in the floodplain east of existing SJHM facilities.

The incremental increase in flood elevation from the proposed zoo levee and additional increases that would likely occur associated with the southern pedestrian bridge are considered significant impacts because these structures could impair safe passage of floodwaters through the park property and exacerbate flooding problems near the park and surrounding areas.

Water Quality

Potential Short-Term Water Quality Impacts on Coyote Creek from Stormwater Runoff from Additional Parking Areas

Construction of the proposed eastern parking lot for the park expansion would create an additional 11 acres of impermeable surface in Kelley Park that would generate an incremental increase in stormwater runoff to Coyote Creek, as would the proposed SJHM paved parking areas. Stormwater runoff from roads, highways, and parking lots typically contains a wide variety of pollutants, including lead, copper, zinc, residual oils and greases, asbestos, antifreeze, and lightweight petroleum hydrocarbons (U.S. Environmental Protection Agency 1980, U.S. Geological Survey 1987).

Coyote Creek is designated by the SWRCB as a water-quality-impaired stream and is on the Clean Water Act Section 304 (l) list of streams needing additional water quality remediation and protection measures.

The incremental increase in stormwater runoff and associated pollutants generated by the new paved parking areas is considered a significant impact because it would adversely contribute to existing poor water quality conditions in Coyote Creek.

Incremental Increases in Turbidity and Total Suspended Solids in Coyote Creek from Bridge, Parking Lot, and Levee Construction Activities

Construction activities associated with the new parking areas, new bridges, and levee could cause incremental increases in Coyote Creek turbidity and total suspended solids (TSS) levels in the absence of any project-specific mitigation. Construction of projects on 5 or more acres requires a statewide NPDES permit for construction activities. The park improvements will disturb more than 5 acres, requiring the statewide permit.

Incremental increases in turbidity and TSS associated with the project are considered significant impacts because they would adversely contribute to poor water quality conditions in Coyote Creek and could contribute to documented siltation problems. Construction-related siltation could also contribute to incremental reductions in the hydraulic carrying capacity of the creek and exacerbate downstream flooding.

Impact Summary. Implementation of the master plan would result in significant flooding and water quality impacts associated with incremental increases in downstream runoff and flood elevations, impairment of floodflows from the proposed levee and southern bridge, and short-term water quality effects on Coyote Creek. Constructing a levee at the Happy Hollow Park and Zoo would reduce significant flood hazards to a less-than-significant level at the zoo but would not alter flooding conditions at the Japanese Friendship Garden.

3. Mitigation

Hydrology and Flooding

- Integrate best management practices (BMPs) to reduce incremental flooding from parking lot runoff into the drainage design for the proposed parking lot as required in the NPDES municipal stormwater permit. The drainage system design could incorporate both flood control and water quality goals. Incremental runoff contributions from parking lots can be reduced during storms by delaying runoff to the creek channel through use of natural swales, detention basins, or gravel percolation basins. The City would be responsible for preparing detailed drainage designs (included in the project).

- Coordinate with SCVWD to ensure that any potential increase in flood elevations caused by constructing the Happy Hollow levee and the southern pedestrian bridge is mitigated by grading a portion of the SJHM expansion area to accommodate additional flooding (included in the project).

- Park design, including landscaping, grading and placement of buildings, would comply with FEMA standards and the City Flood Hazard Ordinance (included in the project).

Water Quality

- Integrate BMPs for stormwater pollution into its drainage system design. The municipal stormwater NPDES permit lists options and alternatives to reduce stormwater pollution from new development projects, including use of small detention basins, grassy swales, overland flow, and other measures (included in the project).

  Clean up and restore the segment of Coyote Creek that borders Kelley Park to enhance and improve the creek's water quality. Various state-funded programs are available to provide labor and support for such clean-up programs. The California Department of Water Resources Urban Streams Program provides limited funding and coordination assistance for urban stream restoration projects. Local Urban Creeks Councils throughout the state of California also conduct volunteer creek clean-up programs and youth education programs (included in the project).

- Prepare a stormwater pollution prevention plan and monitoring program for the construction activities associated with improvements to comply with the requirements of the NPDES general permit. The prevention plan and monitoring program will be designed to reduce soil erosion and siltation of Coyote Creek to the maximum extent practicable. The following best management practices are a few examples (but not a complete list) of measures that should be included in the plan (included in the project):

  - stabilizing denuded areas before the wet season (October 1 through May 1);
  - limiting construction access routes and stabilizing access points;
  - protecting adjacent properties with sediment barriers, dikes, or mulching; and
  - stabilizing and preventing erosion from temporary conveyance channels and outlets.

Impact Conclusions. Implementation of the above flooding measures would reduce significant downstream flooding and floodflow impairment impacts to less-than-significant levels. Implementation of water quality measures would reduce significant runoff pollution and construction pollution impacts on Coyote Creek to less-than-significant levels.

J. VEGETATION, WILDLIFE, AND FISHERIES RESOURCES

1. Setting

This chapter presents information on vegetation, wildlife, and fisheries resources in the Kelley Park Master Plan area. The chapter is based on existing information and surveys conducted by Jones & Stokes Associates on July 9, 1992, and March 30, 1994. Field surveys conducted by Jones & Stokes Associates focused on mapping vegetation types, identifying whether suitable habitat was present in the project area for special-status plant species and surveying for special-status wildlife species. The survey in July 1992 focused on locating suitable habitat conditions for special-status plants. During the March 1994 field visit, a biologist conducted a special-status species survey and gathered additional information to augment the 1992 field data. Plant, wildlife, and fish species discussed in the text are listed in Appendix F.

For additional information on vegetation and wildlife resources identified during the July 1992 field visit, refer to the Preliminary Research and Data Collection Report for the Kelley Park Master Plan Environmental Impact Report (Jones & Stokes Associates 1993).

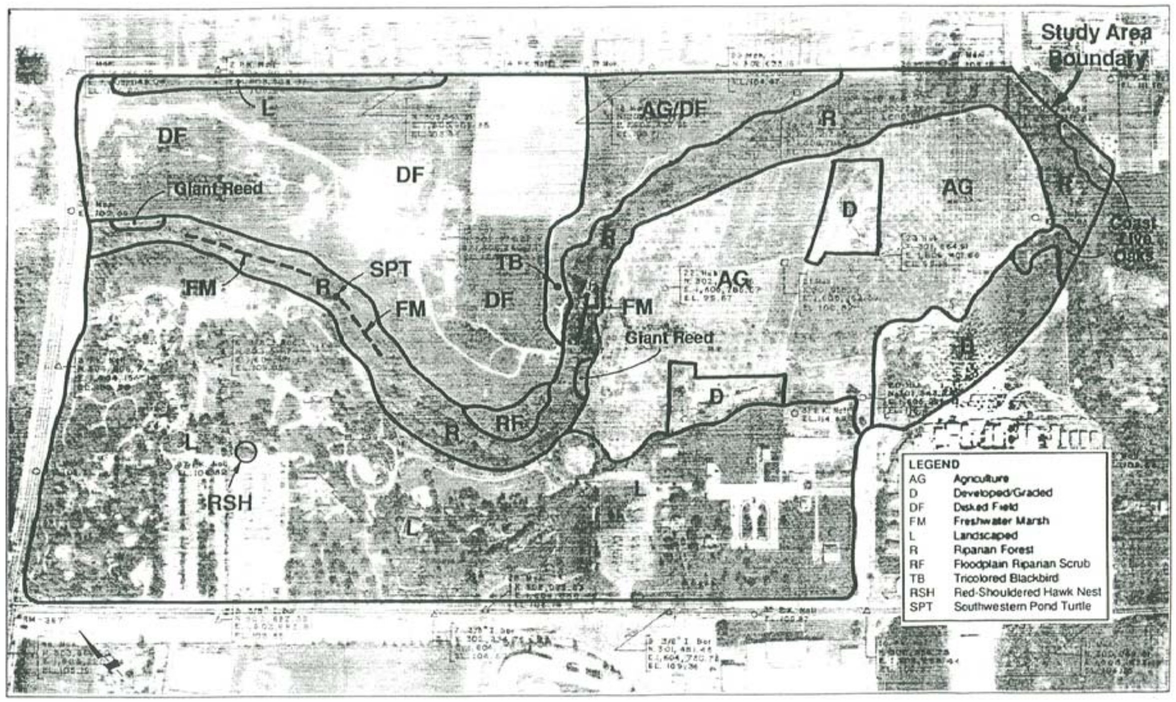
Vegetation and Wildlife Resources

The project site and surrounding area is predominantly urban and agricultural with a central area of natural riparian habitat. The project site supports the following plant communities and associated wildlife habitats (Figure III-14):

- mixed riparian forest,
- floodplain riparian scrub,
- creek channel,
- cattail marsh,
- ruderal grassland,
- agriculture, and
- landscaped/developed.

Vegetation and wildlife resources are grouped into sensitive natural communities, common and landscaped communities, and special-status species. Descriptions of plant communities and associated wildlife habitats presented in the Preliminary Research and Data Collection Report for Kelley Park were slightly altered to incorporate supplemental information gathered during the 1994 field survey.

Figure III-14
Habitat Types and Important Wildlife Species Identified



Sensitive Natural Communities and Wildlife Habitats

The term "sensitive natural community" refers to those communities that are especially diverse, regionally uncommon, or of specific concern to state or federal agencies. Elimination or substantial degradation of these communities would constitute significant impacts on plants and wildlife, as defined under CEQA. In the plan area, oak woodland and savanna, riparian and creek habitat, and wetlands are considered sensitive natural communities. These sensitive natural communities are given special consideration because they provide important ecological functions, including water quality maintenance, streambank stabilization, and essential habitat for wildlife and fisheries resources. Additionally, because of land development activities, existing distribution of sensitive natural communities is limited compared with historical distribution. For this reason, sensitive natural communities are afforded special protection or consideration under federal, state, and county laws and policies. Regulations and policies influencing sensitive natural communities are described below.

Mixed riparian forest, creek channel, and cattail marsh would qualify as waters of the United States under Section 404 of the Clean Water Act within the jurisdiction of the U.S. Army Corps of Engineers (Corps). Some wetlands qualify as "waters of the United States" and also are regulated under Section 404. Wetlands are inundated or saturated at a frequency and duration sufficient to support a prevalence of vegetation adapted to saturated soils. Wetlands include communities that are characterized by hydrophytic vegetation (water plants), hydric soils, and wetland hydrology. Similar plant communities that lack one of these three criteria are considered other waters of the United States by the Corps.

Mixed Riparian Forest. Mixed riparian forest is the dominant streamside vegetation along Coyote Creek and the most sensitive natural community in the survey area. The riparian forest is characterized by multilayered vegetation, including canopy, subcanopy, shrub, and herb layers. Vegetation in each of these strata changes along the lower and higher bank sides. The riparian vegetation grades from more drought-tolerant riparian species along the top of the bank to a more moisture-dependent association of riparian species on the lower bank and along the creek channel.

Mixed riparian forest along the higher creek banks is characterized by a tree canopy of box elder and northern California black walnut with scattered coast live oak and sycamore. The shrub and vine layer is composed of elderberry, wild rose, Himalaya berry, Pacific blackberry, snowberry, periwinkle, poison-oak, and clematis. The understory vegetation along the upper banks comprises annual grasses and ruderal species.

Along the edge of the creek channel and lower terrace areas, box elder, Fremont cottonwood, black cottonwood (uncommon), red willow, ~~black~~ shining willow, and northern California black walnut form a dense overstory above a subcanopy of arroyo willow and box elder, sycamore, and willow seedlings. Shrub species found along the higher bank edges are also found in a less dense association near the creek channel. Herbaceous species are more common in this lower terrace mixed riparian forest zone than in the upper terrace zone and include curly dock, cocklebur, knotgrass, milo grass, sneezeweed, hedge nettle, plantain, and mugwort.

In some areas of the mixed riparian forest, especially near Kelley Park facilities, horticultural species have invaded the native habitat. Locust, giant reed, palm, English walnut, periwinkle, English ivy, and English elm are some of the invasive species intergrading into the natural habitat. In contrast, the southern extent of the survey area contains a less disturbed riparian forest with fewer non-native plants and more dense vegetation layers.

The mixed riparian forest along Coyote Creek provides high-quality breeding, foraging, and roosting habitat for many wildlife species. The riparian forest supports the most diverse wildlife community in the area. The diversity of plant species and growth forms provides a variety of microhabitat conditions for wildlife. Many of the riparian plants provide important food for wildlife, such as fruits, nuts, or seeds. Cavity-nesting birds nest in cottonwoods, sycamores, and snags (standing dead trees). Wildlife species present during the field survey include the red-shouldered hawk, downy woodpecker, northern flicker, Pacific-slope flycatcher, chestnut-backed chickadee, bushtit, Bewick's wren, house wren, American robin, black-headed grosbeak, and song sparrow.

Mixed riparian forest along the lower edge of the creek may likely qualify as a jurisdictional wetland and therefore would be regulated under Section 404 of the Clean Water Act.

Floodplain Riparian Scrub. One area of riparian scrub occurs along the east side of Coyote Creek on a low floodplain terrace. Scattered individuals of Fremont cottonwood, mule fat, arroyo willow, coyote brush, tree tobacco, and eucalyptus occur in an annual grassland mixture of ripgut brome, wild oats, foxtail, summer mustard, cheese mallow, bull mallow, goosefoot, knotweed, horseweed, curly dock, horehound, sweet clover, and bindweed. This site is adjacent to a portion of Coyote Creek that supports sycamore trees. Future restoration or revegetation plans could designate this site for sycamore alluvial woodland vegetation restoration.

The sparse riparian scrub vegetation provides some cover and foraging habitat for wildlife species. The riparian scrub provides habitat for such species as Nuttall's woodpecker, bushtit, Wilson's warbler, rufous-sided towhee, California towhee, and song sparrow. The willow scrub habitat also provides habitat for reptiles and amphibians, including the Pacific treefrog, western fence lizard, gopher snake, western terrestrial garter snake, and common kingsnake.

Creek Channel. Herbaceous vegetation occurs throughout most of the Coyote Creek channel, extending from the middle of the channel to the high water mark. Common plant species include smartweed, umbrella sedge, and water-cress. Algae is also common in portions of the creek, particularly in areas that receive direct urban runoff.

Several wildlife species forage, breed, and rest along the creek channel, including the bullfrog, Pacific tree frog, western terrestrial garter snake, belted kingfisher, and black phoebe.

Refer to Section I, "Hydrology and Water Quality", for a description of the hydrological characteristics of Coyote Creek. Construction activities along Coyote Creek would be regulated under California Fish and Game Code Section 1601-1603 streambed alteration agreements and Section 404 of the Clean Water Act (discussed in more detail in the "Impact and Mitigation" sections).

Cattail Marsh. Portions of the Coyote Creek channel support cattail marsh dominated by slender cattail and narrow-leaved cattail. This wetland community develops in areas with shallow, stagnant surface water.

The disjunct areas of cattail marsh are too small to support typical cattail marsh wildlife species; however, several riparian wildlife species along Coyote Creek were observed foraging in the marsh habitat.

Common and Landscaped Plant Communities and Wildlife Habitats

Common natural communities are native landscapes that have not been altered by farming or other land disturbance. Ruderal grassland is considered a common natural community, rather than a sensitive natural community, because of its abundance in the project area and throughout California. Landscaped plant communities are human-created landscapes that provide some wildlife habitat value. Landscaped/developed communities and agriculture communities are the primary communities in the project area.

Ruderal Grassland. The disked field (landfill area) on the east side of Coyote Creek is dominated by ruderal grassland with scattered coyote brush. Characteristic species found in the disked fields include ripgut brome, wild oats, soft chess, foxtail, Italian ryegrass, cheese weed, yellow star-thistle, sow thistle, bull mallow, mustard, wild radish, bindweed, black nightshade, Russian thistle, bull thistle, sweet fennel, and filaree species.

The open, disked fields provide low-quality wildlife habitat because site disturbance reduces habitat quality for most wildlife species. The field provides foraging habitat for common wildlife species, including the American kestrel, mourning dove, rock dove, house finch, gopher snake, and Botta's pocket gopher.

Agricultural Areas. Walnut orchards and vineyards occur in the southwest and southeast portions of the survey area. Most of these agricultural areas have been disked and contain little grassland or ruderal understory. Some areas probably once supported coast live oak woodland.

The orchards and vineyards provide habitat for few wildlife species and are used by regionally common species, including the mourning dove, American robin, yellow-rumped warbler, house finch, and Botta's pocket gopher.

Landscaped and Developed Areas. A large portion of Kelley Park is landscaped and developed. Some horticultural species found in landscaped areas include Monterey pine, sweet gum, redwood, palm, English ivy, pepper tree, fruitless mulberry, American elm, eucalyptus, juniper, magnolia, crepe myrtle, Oregon grape, locust, camphor tree, oleander, and Bermuda grass. Some naturally occurring species also occur in the landscaped park area, including coast live oak and box elder.

Ornamental plantings of trees and shrubs attract a variety of wildlife species, although disturbance from pedestrians lowers wildlife habitat value by discouraging wildlife species that are not tolerant of human activity. Wildlife species observed in the landscaped areas include the downy woodpecker, bushtit, chestnut-backed chickadee, American robin, European starling, and northern mockingbird. One pair of red-shouldered hawks was observed nesting in a eucalyptus tree adjacent to the parking lot (Figure III-14).

Special-Status Plant and Wildlife Species

Special-status species are plants and animals legally protected under the state and federal Endangered Species Acts or other regulations, and species considered sufficiently rare by the scientific community to qualify for such listing. Special-status plants are defined for the purpose of this document to include species in the following categories:

- plants listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 Code of Federal Regulations [CFR] 17.12 for listed plants and various notices in the Federal Register [FR] for proposed species);
- plants that are Category 1 or 2 candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (55 CFR 6184, February 21, 1990);
- plants that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380);

- plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Lists 1B and 2 in Smith and Berg 1988);

- plants listed by CNPS as plants about which more information is needed and plants of limited distribution (Lists 3 and 4 in Smith and Berg 1988) that may be included as special-status species on the basis of local significance or recent biological information;

- plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 California Code of Regulations [CCR] 670.5); and

- plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).

Special-status wildlife is defined for the purpose of this document to include species in the following categories:

- wildlife listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 CFR 17.11 for listed wildlife and various notices in the Federal Register for proposed species);

- wildlife that is Category 1 or 2 candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (54 CFR 554, January 6, 1989);

- wildlife that meets the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380);

- wildlife listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (14 CCR 670.5);

- wildlife species of special concern to DFG (Remsen 1978 for birds and Williams 1986 for mammals); and

- wildlife species fully protected in California (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Special-Status Plants

A list of special-status plants that could occur in the project area was compiled before the July 1992 field survey was conducted. The following sources were used to develop this list of plants: California Department of Fish and Game's Natural Diversity Data Base (1991) and Smith and Berg (1988). The field survey was conducted beyond the blooming period for special-status plants known to occur in the project area's floristic region. Because of this, the field visit focused on locating suitable habitat for special-status plants. This list was revised before the 1994 field survey and is presented in Table III-11.

Based on existing conditions in the plan area (e.g., plant communities, soils, and elevation) and known distributions and habitat requirements for special-status plants in the coastal region, special-status plants have the potential to occur on the project site (Natural Diversity Data Base 1994, Skinner and Pavlik 1994) (Table III-11), but none were identified during field surveys.

Special-Status Wildlife

Sixteen special-status wildlife species could occur in inland Santa Clara County (Table III-12). Two special-status wildlife species were observed during the field surveys: southwestern pond turtle (1992) and tricolored blackbird (1994). The project site supports suitable habitat for an additional two special-status wildlife species that could occur along Coyote Creek: San Francisco forktail damselfly and California yellow warbler. Potential habitat also exists for the monarch butterfly and burrowing owl, but there are no records for these species in the project area and the habitat quality is marginal.

Ten other special-status wildlife species could occur in the project region, but they are not expected to occur at the project site because either no suitable habitat exists there or these species' habitat has been extirpated from the San Jose area (Table III-12). These species include the bay checkerspot butterfly, Moestan blister beetle, edgewood blind harvestman, California red-legged frog, foothill yellowleg frog, California tiger salamander, Berkeley kangaroo rat, San Joaquin kit fox, bank swallow, and least Bell's vireo.

San Francisco Forktail Damselfly. The San Francisco forktail damselfly (forktail) occurs in small shallow ponds, marshes, and human-made channels in the greater San Francisco Bay area (e.g., from Marin County south to Santa Cruz County) (Natural Diversity Data Base 1993). Very little is known about the distribution and habitat requirements of the forktail. Forktails prefer slow-moving or ponded water with sparse or no emergent vegetation (Hafernik pers. comm.). Streams and ponds degraded by runoff from urban areas do not appear to adversely affect the forktail (Hafernik pers. comm.). Forktails inhabit natural streams and streams altered for flood control. This species has been recorded in eight locations in the Bay Area.

Table III-11. Special-Status Plant Species with Potential to Occur in the Study Area

Common and Scientific Name	Legal Status[a] Federal/State/CNPS	Distribution	Habitat Type	Potential to Occur in the Survey Area[b]	Identification Period[c]
Contra Costa goldfields *Lasthenia conjugens*	C1/--/1B	Central Valley from Butte and Tehama Counties to Kern County and drier inner Coast Ranges in Mendocino, Solano, Contra Costa, and Santa Barbara Counties; NDDB (1992) site locations in Santa Clara County	Low sunny flats, drying borders of vernal pools and valley grassland	Low; annual grassland too heavily disturbed to support Contra Costa goldfields	April-May
Fragrant fritillary *Fritillaria liliacca*	C2/--/1B	Near the coast from Sonoma to Monterey County	Heavy soil in open hills and fields	Low; annual grassland too disturbed to support fragrant fritillaries	February-April
Balsamroot *Balsamorhiza macrolepis*	--/--/B	Alameda, Butte, Mariposa, Placer, Santa Clara, and Tehama Counties	Annual grasslands, open rocky fields, and oak savanna habitats	Low; annual grassland too disturbed to support balsamroot	March-June
Delta tule pea *Lathyrus jepsonii*	C2/--/1B	From Butte to Tulare Counties	Riverbanks and canal banks in brackish and freshwater marshes and riparian woodlands	Low; freshwater marsh in isolated patches and does not appear to be suitable for supporting Delta tule pea	May-June
Showy Indian clover *Trifolium amoenum*	C2/--/1B	Historically widespread in Coast Ranges from Santa Clara County north to Mendocino County; previously believed extinct but rediscovered in Sonoma County in 1993; nearest reported site 10 miles (16 km) west of Tracy, just east of Kellogg Creek watershed	Mesic, protected locales in grasslands and oak woodlands	Low; annual grassland too disturbed to support showy Indian clover	March-April

[a] Status explanations (see the "Definitions of Special-Status Species" section in text for citations):

Federal

C1 = Category 1 candidate for federal listing. Category 1 includes species for which USFWS has on file enough substantial information on biological vulnerability and threat to support proposals to list them. Species that are possibly extinct are indicated with an asterisk (*).

C2 = Category 2 candidate for federal listing. Category 2 includes species for which USFWS has some biological information indicating that listing may be appropriate but for which further biological research and field study are usually needed to clarify the most appropriate status. Species that are possibly extinct are indicated with an asterisk (*). Category 2 species are not necessarily less rare, threatened, or endangered than Category 1 species or listed species; the distinction relates to the amount of data available and is therefore administrative, not biological.

California Native Plant Society

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.

[b] Based on field surveys conducted in July.
[c] Munz (1968).

Table III-12. Special-Status Wildlife Species That Are Known to Occur or Could Occur in the Kelley Park Area

Species	Legal Status[a] Federal/State	Distribution in California	Preferred Habitats	Potential to Occur in the Study Area
Bay checkerspot butterfly *Euphydryas editha bayensis*	T/--	Vicinity of San Francisco Bay	Native grasslands on outcrops of serpentine soil; California plantain and owl's clover are host plants	No records; no suitable habitat exists at the project site
San Francisco forktail damselfly *Ischnura gemina*	C2/--	Point Reyes peninsula, San Francisco, South Bay, East Bay to Berkeley, Suisun City	Small shallow ponds, slow streams, marshes, canals, and permanent water sources with emergent vegetation	No records; suitable habitat exists along Coyote Creek low-flow channel where cattails occur
Moestan blister beetle *Lytta moesta*	C2/--	Central Valley	Vernal pools	No records; no suitable habitat
Edgewood blind harvestman *Calicina minor*	C2/--	Santa Clara and San Mateo Counties	Moist, open serpentine grasslands	No records; nearest record is approximately 7 miles southeast of Kelley Park along Silver Creek; no suitable habitat at project site
Monarch butterfly *Danaus plexippus*	--/SSR	Overwinters in colonies along the California coast from Mendocino County in the north to San Diego County in the south	Roosts in trees, such as eucalyptus, Monterey pine, and Monterey cyprus	No records; potential overwintering habitat in the riparian vegetation along Coyote Creek
California red-legged frog *Rana aurora draytonii*	C1/SSC	West of the Sierra-Cascade crest and along the Coast Ranges, usually below 4,000 feet	Quiet pools of streams, marshes, and ponds	No records; potential habitat exists along Coyote Creek; none observed
Foothill yellow-legged frog *Rana boylii*	C2/SSC	Coast Ranges, western slope of the Sierra-Cascade foothills, up to 6,000 feet	Streams with sunny, sandy, or rocky banks with shallow riffles	No records; potential habitat exists along Coyote Creek; none observed
California tiger salamander *Ambystoma californiense*	C2/SSC	Central Valley and coastal region from Napa and Yolo Counties south to Kern County	Grasslands and open woodlands with vernal pools, ponds, and slowly flowing streams	No records; no suitable upland habitat, and aquatic habitat is marginal quality
Southwestern pond turtle *Clemmys marmorata pallida*	C1/SSC Petitioned for federal listing	South of San Francisco Bay and west of San Joaquin Valley	Ponds, small lakes, streams, and marshes with rocks and logs for sunning	No records; one pond turtle observed in Coyote Creek; suitable habitat exists along Coyote Creek
Berkeley kangaroo rat *Dipodomys heermanni berkeleyensis*	--/--	Contra Costa and Santa Clara Counties	Open grassy hills tops, open spaces in chaparral, and blue oak-digger pine woodlands	No records; nearest record is approximately 14 miles north of the project site at Calaveras Reservoir; no suitable habitat

Table III-12. Continued

Species	Legal Status[a] Federal/State	Distribution in California	Preferred Habitats	Potential to Occur in the Study Area
San Joaquin kit fox *Vulpes macrotis mutica*	E/T	Portions of western Kern, eastern San Luis Obispo, western Tulare, Kings, western Fresno, western Merced, western Stanislaus, southwestern San Joaquin, Alameda, Contra Costa, Santa Clara, San Benito, Monterey, and northern Santa Barbara Counties	Grasslands, saltbrush, open woodlands, and alkali sink valley floor	No records within 2 miles of the project site; none observed; study area is surrounded by development
Burrowing owl *Athene cunicularia*	--/SSC	Open habitats throughout lowland California	Open, dry, and nearly level grassland or prairie habitat	No records; suitable habitat exists in open areas east of Coyote Creek; none observed
Bank swallow *Riparia riparia*	--/T	Breeds throughout lowlands and mountain valleys of California	Steep, eroded riverbanks or coastal cliffs	No records; no suitable nesting habitat; none observed
Least Bell's vireo *Vireo bellii pusillus*	E/E	Breeds in Monterey, San Benito, Inyo, Santa Barbara, Riverside, and San Diego Counties	Willow scrub and cottonwood-willow riparian habitats	No records; nearest known breeding area is in the Salinas River Valley in Monterey and San Benito Counties; Coyote Creek is marginal-quality breeding habitat; none observed
California yellow warbler *Dendroica petechia brewsteri*	--/C2	Throughout California except the southern deserts	Riparian forest for nesting	No records; nearest record is along the Guadalupe River, approximately 3 miles to the east; potential nesting habitat exists; none observed.
Tricolored blackbird *Agelaius tricolor*	C1/SSC	Lowlands and valleys throughout California	Nests in freshwater marshes and blackberry thickets	No records; nearest known record is at least 6 miles from the project site (Coyote percolation ponds); no suitable breeding habitat; none observed.

[a] Status explanations (see the "Definitions of Special-Status Species" section in text for citations):

Federal

E = listed as endangered under the federal Endangered Species Act.

T = listed as threatened under the federal Endangered Species Act.

C1 = Category 1 candidate for federal listing. Category 1 includes species for which USFWS has on file enough substantial information on biological vulnerability and threat to support proposals to list them.

Table III-12. Continued

C2 = Category 2 candidate for federal listing. Category 2 includes species for which USFWS has some biological information indicating that listing may be appropriate but for which further biological research and field study are usually needed to clarify the most appropriate status. Category 2 species are not necessarily less rare, threatened, or endangered than Category 1 species or listed species; the distinction relates to the amount of data available and is therefore administrative, not biological.

State

E = listed as endangered under the California Endangered Species Act.

T = listed as threatened under the California Endangered Species Act.

SSC = species of special concern.

SSR = state special resource.

Suitable habitat for forktails is common along Coyote Creek. Some flood control activities (e.g., maintaining shallow, open water) may provide suitable habitat for forktails along the creek. There is at least one record of the forktail along Coyote Creek in the San Jose area. (Hafernik pers. comm.)

Southwestern Pond Turtle. Southwestern pond turtles occur in quiet waters of lowland and foothill ponds, streams, marshes, and reservoirs with rocks, logs, and bankside vegetation. Upland habitat is required for breeding pond turtles, and the pond turtles may travel from 0.25 to 0.5 mile upslope from a permanent or nearly permanent water source to lay its eggs in grassland or scrub habitats (Brode pers. comm.).

The Coyote Creek channel provides suitable foraging and sunning area for pond turtles. Overall, the habitat quality is considered low because of human development and the absence of suitable nesting habitat in the city urban areas. One adult pond turtle was observed in Coyote Creek in Kelley Park during the field survey. Pond turtles may no longer breed in the Kelley Park area because suitable nesting habitat (adjacent grasslands) is limited because of disking and mowing disturbance. No young turtles were observed during the field survey.

Tricolored Blackbird. The tricolored blackbird's breeding range occurs throughout the lowlands and valleys of California, including coastal Santa Cruz County. This blackbird breeds in freshwater marshes and blackberry thickets and forages in wetlands, grasslands, agricultural fields, and pastures. (Beedy et al. 1991.)

Tricolored blackbird populations have declined significantly in this century (approximately 90% since the 1930s). The sizes of breeding colonies have also declined and have been replaced by smaller, more fragmented colonies. The loss of wetland habitats, disturbance by humans near nesting colonies, and poisoning may be the primary reasons for the population decline. (Beedy et al. 1991.)

The riparian forest along Coyote Creek is considered marginal-quality nesting habitat for tricolored blackbirds because the scrub habitat is inadequate cover for nesting. The ruderal field east of Coyote Creek is marginal-quality nesting habitat for tricolored blackbirds because the mustard and other herbaceous vegetation provide marginal-quality cover for nesting. The nearest known nesting site for the tricolored blackbird is at ~~Calero Reservoir~~ the Coyote Percolation Ponds (Beedy et al. 1991), approximately ~~11~~ 6 miles from Kelley Park. One male tricolored blackbird was observed singing in the ruderal field east of Coyote Creek, but no females were observed in the area. The male would probably not obtain a mate for breeding, but if it did find a mate and nest, one pair of tricolored blackbirds, at most, would likely nest in the project area.

California Yellow Warbler. The California yellow warbler was once a common nesting bird throughout California, but the species has declined with the loss of riparian habitat and because of nest parasitism by the brown-headed cowbird (Remsen 1978). Yellow warblers nest in riparian forest and riparian scrub habitats, placing their nests in shrubs and low trees. The nearest known nesting location of the yellow warbler is along the Guadalupe River in the San Jose area, approximately 3 miles south of Kelley Park (Jones & Stokes Associates 1993).

The riparian forest is considered low-quality nesting habitat for yellow warblers because the riparian forest is narrow and because of nest parasitism by brown-headed cowbirds. There are no nesting records for California yellow warblers at the project site, and no yellow warblers were observed during the 1992 field survey.

Fisheries Resources

This description of the project site's fishery resources is based on a literature review, communications with agency personnel, and reconnaissance-level field surveys.

The only surface water feature at the project site that supports a fishery resource is Coyote Creek. Coyote Creek drains west to the San Francisco Bay. Urban development in Coyote Creek watershed resulted in channel modifications for flood control in lowland areas and in construction of reservoirs and water diversions in headwater areas (i.e., Anderson Reservoir and Coyote Lake). Urban development has also resulted in increased stormwater runoff and other runoff during dry weather. Reductions in water quality have caused severe depletion of native fish species. Several temporary and permanent structures also create barriers for native fish migration. These barriers include ~~Standish Dam (a flashboard dam designed to stop tidal action for agricultural diversions upstream),~~ Singleton Road culvert (occasionally plugged by debris), and Hellyer Park bike path (can be a barrier at low flow) (California Department of Fish and Game [DFG] unpublished file data). Standish Dam is located downstream of the project site. The original Standish Dam utilized by adjacent farmers on Coyote Creek is gone. Since 1991, the SCVWD has operated, and will continue to operate, any replacement structures to Standish Dam in a manner which allows fish passage at all times (SCVWD). Fisheries habitat varies along Coyote Creek from low to moderate quality, with pockets of high-quality habitat, based on stream morphology, cover, shade, and water temperature criteria. The Kelley Park portion of Coyote Creek is well shaded along most of the creek, which helps maintain cooler temperatures for fish.

Coyote Creek supports resident warmwater fish species and provides spawning habitat for chinook salmon and both spawning and rearing habitat for steelhead rainbow trout (DFG unpublished file data). Three spawning areas for chinook salmon have been identified by DFG downstream of Kelley Park. These spawning areas are located at the Montague Expressway area; the San Jose Municipal Golf Course area; and the Berryessa Flat Market area (DFG unpublished file data). The nearest spawning area is approximately 4 miles downstream of Kelley Park. Adult chinook salmon have also been known to occasionally occur upstream of Kelley Park, but no spawning areas were identified during 1987 surveys conducted by DFG (DFG unpublished file data). No spawning areas were identified in Coyote Creek near Kelley Park, and no spawning gravel suitable for salmon were observed during the field survey.

Other fish species that may be found in Coyote Creek include Pacific lamprey, largemouth bass, green sunfish, carp, Sacramento sucker, and mosquitofish (Appendix F).

Regulations and Policies Influencing Sensitive Biological Resources

Riparian Communities

Riparian communities have a variety of functions, including providing high-quality habitat for resident and migrant wildlife, streambank stabilization, and runoff water filtration. Riparian habitats have declined substantially in extent and quality compared with their historical distribution and condition.

Substantial statewide decline of riparian communities in recent years has increased concerns about dependent plant and wildlife species, leading state and federal agencies to adopt policies to arrest further loss. DFG has adopted a "no-net-loss" policy for riparian habitat value (Myshak 1985). U.S. Fish and Wildlife Service (USFWS) mitigation policy identifies California's riparian habitats in Resource Category 2, for which no net loss of existing habitat value is recommended (46 FR 15: 7644, January 23, 1981).

In addition to state and federal policies, local policies regulate riparian communities; these include a tree ordinance, a Heritage Tree List, policies in the general plan and general plan update EIR (City of San Jose 1992, 1994), and policies stated in the City of San Jose's Riparian Corridor Policy Study (1993).

The City of San Jose has an ordinance that places restrictions on the removal of trees that are over 18 inches in diameter at a height of 2 feet above ground (City of San Jose Civil Code [13.32.020]). The City of San Jose has also adopted a Heritage Tree List (Resolution 56609) that provides local recognition and protection for trees that are of special significance because of their history, girth, height, species, or unique quality, including native oaks and early ornamental tree plantings.

The existing General Plan Horizon 2000 (City of San Jose 1990) and the general plan update state several policies that may affect impacts of the master plan on riparian forest. The general plan states that the design, construction, and management of trails and pathways should be carefully executed to minimize environmental disturbance. The general plan update EIR (City of San Jose 1994) states several policies relevant to the riparian communities of Kelley Park:

- The City should preserve and protect individual oak trees, to the greatest extent possible.

- Creeks, natural riparian corridors and upland wetlands should be preserved whenever possible. When disturbances cannot be avoided, appropriate measures should be required to restore, or compensate for damage to, the creeks or riparian corridors.

- New development adjacent to riparian corridors should be designed to minimize encroachment of lighting and exotic landscaping into the riparian zone.

- The City should encourage appropriate native plant restoration projects along riparian corridors, upland wetlands, and in adjacent upland areas.

- New recreational trails should be located to avoid disturbance of riparian plant communities and wildlife habitat.

The Draft Riparian Corridor Policy Study of the City of San Jose (RCPS) (City of San Jose 1993) recommends that the City adopts the following additional policies.

- The City should preserve, protect and restore all riparian corridors for the protection of vegetation, wildlife and aquatic habitat values.

- Trails along natural channels should be set back from riparian corridors where there are opportunities for such set backs (e.g., city and county parks).

Riparian corridor development guidelines are given in the RCPS. One of these (Guideline 6G: Trails) states that trails should be set back from the riparian edge whenever possible. The RCPS also outlines guidelines for riparian revegetation plans and designs for trails in and adjacent to riparian corridors and stream systems in the City of San Jose. Because the Kelley Park Master Plan was filed before May 18, 1994, it is technically exempt from RCPS guidelines related to setbacks from the riparian corridors as per City memorandum approved on May 31, 1994.

Some riparian areas may also qualify as wetlands under Section 404 of the Clean Water Act and would be regulated by the Corps. Policies and laws regulating wetland communities are discussed below.

Wetlands

Wetland communities are considered valuable natural resources that provide habitat for a variety of dependent plant and wildlife species. Past land conversion to agricultural and urban uses has eliminated nearly 90% of California's wetlands (Dahl 1990). Following are Corps and DFG policies and laws that regulate impacts on wetlands.

U.S. Army Corps of Engineers

The Corps regulates the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act. Some class of fill activities may be authorized under general permits if specific conditions are met.

Additionally, the federal government supports a policy of minimizing "the destruction, loss, or degradation of wetlands" (Executive Order 11990, May 24, 1977).

California Department of Fish and Game

DFG regulates activities that would interfere with the natural flow of or substantially alter the channel, bed, or bank of a lake, river, or stream. These activities are regulated under California Fish and Game Code Section 1601 for public agencies. Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. Conditions that may be required by DFG include avoidance or minimization of vegetation removal, use of standard erosion control measures, limitations on use of heavy equipment, and requirements to restore degraded sites or compensate for permanent habitat losses.

Additionally, DFG has adopted a no-net-loss policy for wetlands (Executive Order 11190, California Fish and Game Commission 1987).

2. <u>Impacts</u>

Significance Criteria. Appendix G of the State CEQA Guidelines states that a project will normally have a significant effect on the environment if it would:

- substantially affect rare or endangered species of animal or plant or the habitat of the species;
- interfere substantially with the movement of any resident or migratory fish or wildlife species; or
- substantially diminish habitat for fish, wildlife, or plants.

The following general criteria were considered in determining whether an impact on a biological resource would be significant:

- federal or state legal protection of the resource or species;
- federal or state agency regulations and policies;
- City regulations and policies; or
- documented resource scarcity and sensitivity, both locally and regionally.

Professional interpretation of the significance criteria as they apply to the adoption of the master plan determined that impacts on vegetation, wildlife, and fisheries resources will be significant if implementation of the master plan will result in any of the following:

- substantial loss of common natural communities that provide habitat for wildlife and fish;

- disruption of natural wildlife and fish movement corridors;

- fragmentation or isolation of wildlife and fisheries habitats, especially riparian, wetland, and stream habitats;

- removal, filling, grading, or disturbance of wetlands and riparian and stream corridors;

- removal of:

  - trees over 18 inches in diameter at a height of 2 feet above ground (City of San Jose Civil Code [13.32.020]) or

  - trees on the Heritage Tree List (Resolution 56609), including native oaks and early ornamental tree plantings; or

- direct mortality, substantial reduction in local population size, lowered reproductive success, or habitat fragmentation of:

  - plants qualifying as rare and endangered under CEQA;

  - plants, wildlife, and fish that are state or federally listed as threatened or endangered species;

  - substantial portions of local populations of candidates for state or federal listing or CNPS List 1 or 3 species; or

  - substantial portions of local populations of California wildlife and fish species of special concern.

Degradation and Loss of 1.45 Acres of Riparian Forest and Shrub Vegetation

Degradation and loss of riparian vegetation will result from the construction of two pedestrian bridges and Phelan Avenue and construction of trails in the riparian forest and floodplain riparian scrub. The estimated area of riparian forest affected by the northern pedestrian bridge is 0.2 acre, the area affected by the southern pedestrian bridge is approximately 0.15 acre, and the area affected by the trails and Phelan Avenue crossing is approximately 1.1 acres.

These estimates were based on the following assumptions. The zone in which riparian forest will be removed or degraded was assumed to be 60 feet wide and 140 feet long for the northern pedestrian bridge, 50 feet wide and 130 feet long for the southern pedestrian bridge, and 70 feet wide and 140 feet long for Phelan Avenue. The total length of the newly constructed trail sections in the riparian forest was assumed to be 3,500 feet, and the average width of the impact zone was assumed to be 12 feet. The bicycle and pedestrian trail would affect approximately 400 feet of riparian forest, and the equestrian path would affect approximately 3,100 feet.

The proposed Happy Hollow levee would be constructed approximately 200 feet west of the riparian zone, as shown in Figure II-5 on page 34, therefore, construction activity associated with the grading and construction of the levee, such as the operation or storage of heavy construction equipment would not result in a loss or degradation of the riparian vegetation.

Loss of 1.45 acres of riparian forest vegetation is considered a significant impact because riparian habitats are regulated by federal and state laws and policies and are considered valuable for fish and wildlife habitat. USFWS and DFG have adopted no-net-loss policies for riparian communities.

Potential Degradation or Filling of 0.2 Acre of Wetlands

Construction of the two pedestrian bridges and the Phelan Avenue crossing would result in the loss or degradation of approximately 0.2 acre of wetlands that could be under Corps jurisdiction. Assuming that the wetland spans the entire creekbed (Appendix A of the master plan), and assuming impact widths identical to those used for the riparian forest, the area affected by construction of the northern pedestrian bridge is 0.06 acre, the southern pedestrian bridge is 0.03 acre, and Phelan Avenue is 0.07 acre. Cattail marsh and part of the riparian forest within the creek-crossing impact zones may qualify as jurisdictional wetlands, but the unvegetated portions of the creek channel probably do not qualify as jurisdictional wetlands.

The loss of 0.2 acre of wetland is considered a significant impact because wetlands, which provide important habitat for dependent plant and wildlife species, are regulated by federal and state laws and policies, and both USFWS and DFG have adopted no-net-loss policies for wetlands.

Loss of Ordinance-Protected or Heritage Ornamental Trees outside the Riparian Forest

Construction in the portion of the park west of the creek for trails could result in the removal of ornamental trees. Some of these trees are protected under the tree removal ordinance or are on the Heritage Tree List. The trees will be largely exotic trees but may include native oaks, such as the coast live oak.

The loss of ordinance-protected or Heritage Trees is considered less than significant and unlikely because of the protection provided by the ordinance. According to the Tree Ordinance and City Resolution 56609, the City would avoid removing any trees that are ordinance protected or on the Heritage Tree List. The ordinance does allow, however, removal of ordinance-sized trees with a tree removal permit and replacement of trees according to the following standards:

- for trees greater than 18 inches in diameter: 4:1 replacement in 24-inch box,
- for trees 12-18 inches in diameter: 2:1 replacement in 24-inch box, and
- for trees less than 12 inches in diameter and live orchard trees: 1:1 replacement in 15-gallon box.

Increased Human Disturbance of Habitat along Coyote Creek

Implementing the project would involve constructing pedestrian trails along both sides of the creek where none exist now. Constructing the recreation trails would permit additional human intrusion into the riparian corridor on both sides of Coyote Creek, which could substantially disrupt wildlife activities (e.g., breeding, roosting, feeding). Although the west side of the creek is a developed park, no formal trails currently exist along the creek that encourage human intrusion into the riparian forest. Human intrusion into the creek corridor appears to be low, and the east side of the creek is undeveloped. Because the riparian forest in Kelley Park is high-quality habitat for riparian-dependent birds and other animals and is a sensitive and declining wildlife habitat, additional human activities in and near the riparian corridor could adversely affect species that are dependent on this habitat. Ground-nesting birds such as the California towhee and rufous-sided towhee would be the most affected by human disturbance.

Disruption of habitat that supports riparian wildlife species is considered a significant impact because substantial numbers of wildlife could be affected in a sensitive and declining habitat (i.e., riparian forest).

Temporary Increases in Turbidity and Total Suspended Solids in Coyote Creek during Bridge Construction Could Adversely Affect Fish

Implementing the master plan could adversely affect native fish during construction of both pedestrian bridges, the trolley trestle, and Phelan Avenue. Bridge construction could require instream earthwork that could disturb existing sediments and create turbidity at the construction sites and downstream of the sites in Coyote Creek. Grading activities and other construction processes in the bridge areas would remove riparian vegetation and increase the potential for soil erosion and stream sedimentation.

Increased turbidity and levels of suspended solids may temporarily reduce light penetration and interfere with photosynthesis, thereby reducing oxygen levels and primary productivity. These effects on water quality could reduce habitat quality for fish (Appendix F). They can also cause substantial impacts on fish resulting in gill clogging and abrasion of gill fragments. Turbidity levels naturally vary in the creek area according to rainfall conditions; however, increases during the construction period could cause greater siltation of spawning areas for resident and anadromous fishes. Large increases in turbidity could increase stream temperatures, decrease adult feeding success, and smother eggs.

Implementing this project would not create additional permanent or temporary barriers (e.g., check dams or bridge structures) in the stream channel; therefore, no potential impacts on fish movements would occur.

These potential impacts are considered significant because sedimentation and turbidity of Coyote Creek from instream construction activities could lead to an incremental decrease in downstream spawning habitat and spawning success of both warmwater and anadromous fish.

Potential Disturbance of Nesting Raptors

Construction activities associated with Happy Hollow master plan implementation could disrupt nesting activities of a red-shouldered hawk pair that is currently nesting in the park (Figure III-13). This potential effect is considered minor because there would be no substantial impact on red-shouldered hawk species distribution locally, regionally, or statewide. Although there would be no substantial impact on this species, California Fish and Game Code 3505.5 and the federal Migratory Bird

Treaty Act protects birds-of-prey nests and eggs from destruction; therefore, measures should be taken to avoid destroying the nest tree, nest, and eggs during the nesting season (i.e., usually February through June). If the project is constructed during the red-shouldered hawk nesting season, the City should have a survey conducted by a qualified wildlife biologist to determine if the hawk pair is nesting in the affected area. If these hawks are nesting in the affected area, the City should contact DFG to determine what the appropriate buffer zone (radius around the nest) should be to minimize disturbance to the hawks.

Potential disturbance of nesting raptors is considered a less-than-significant impact because project implementation would not substantially affect the species' numbers or distribution.

<u>Potential Adverse Affects on Burrowing Owls</u>

<u>Implementation of the project could affect burrowing owls if they move into the landfill area prior to the start of grading or construction in that area.</u>

<u>This impact is potentially significant because the burrowing owl is a state species of special concern and the species has declined substantially in the Bay Area. In addition, disturbing or killing nesting burrowing owls would violate the federal Migratory Bird Act and California Fish and Game Code 3503.5.</u>

Potential Loss of Special-Status Wildlife Species Habitat

The Kelley Park portion of Coyote Creek is suitable habitat for the San Francisco forktail damselfly and is low-quality habitat for the southwestern pond turtle (one pond turtle was observed during the field surveys). Implementing the project could temporarily reduce aquatic habitat quality for the forktail and the pond turtle during construction of the bridges and the Phelan Avenue creek crossing.

Implementing the project would eliminate marginal-quality ruderal (i.e., weedy) nesting habitat for the tricolored blackbird in the vacant field south of the Roberts Avenue Landfill.

Constructing the project bridges and the Phelan Avenue extension could remove approximately 1 acre of suitable California yellow warbler nesting habitat (i.e., riparian forest) along Coyote Creek.

The potential impacts on the San Francisco forktail damselfly and the southwestern pond turtle are considered less than significant because only a small portion of their aquatic habitat (the proposed bridge crossing areas) would be affected and the impacts would be temporary. Implementing the mitigation measures described for

fisheries and water quality would minimize potential impacts on these two species. The impact on tricolored blackbird habitat is considered less than significant because the tricolored blackbird observed at the project site probably would not successfully nest at the project site because the habitat quality is of marginal quality. The impact on yellow warbler habitat is considered less than significant because no yellow warblers were found nesting at the project site and only a minor amount of habitat would be affected. No mitigation measures are required for these potential impacts.

Impact Summary. Implementation of the master plan would result in significant loss of 1.45 acres of riparian habitat and filling of 0.2 acre of wetlands in the Coyote Creek corridor. Increased use of the park would significantly increase disturbance of riparian habitat and the creek, which are important to sensitive wildlife and fish species. Implementation of the master plan would have a less-than-significant effect on heritage trees, nesting raptors, and special-status wildlife species habitat.

3. Mitigation

Riparian Habitat and Wetland Measures

Implementing the following mitigation measures would reduce impacts on upland riparian habitats:

- Locate proposed trails to contour Coyote Creek, where feasible, outside the riparian zone to avoid removing high-quality riparian vegetation and to minimize disturbance of wildlife that use the riparian habitat. Portions of access trails between the pedestrian bridges and other park components (such as parking lots and other facilities) that could affect riparian areas would be infeasible to remove, but the location of these trail portions could be chosen in a manner that avoids removal of native riparian trees (included in the project).

- Locate the equestrian path so as to avoid, where feasible, native riparian trees in the Coyote Creek riparian corridor (not included in the project).

- ~~Replace any removed native riparian tree or shrub species with the same or similar species at a ratio of 5:1. A qualified habitat restoration specialist would decide which planting material (i.e., trees and shrubs) will be most appropriate (included in the project).~~ Develop a riparian and wetland restoration plan by a qualified restoration specialist and plant ecologist incorporating, but not limited to the following (included in the project):

  Replacement ratios: Loss of mature mixed riparian forest and wetland habitat acreage will be mitigated at a 3:1 replacement ratio (in kind) to ensure riparian habitat of equal or greater value and to ensure no net loss of wetland value.

Location of mitigation areas: Riparian and wetland habitat mitigation areas will be provided on site to the extent possible. Selection of sites will focus on sites that are either heavily degraded or sites that previously supported riparian or wetland vegetation along the banks of Coyote Creek in or near the project site.

Develop planting plan: Establish baseline values for riparian and wetland habitat within the Coyote Creek corridor including, but not limited to the following: data on plant density, species composition, habitat structure, and edaphic factors. Baseline data will assist in determining the composition of species to be included in the planting plan. Replace any removed native riparian tree or shrub species with the same or similar species at ratio of 5:1.

Develop performance standards against which success of wetland replacement plan is measured and develop a monitoring program and a contingency plan to assure attainment of that standard: The restoration effort will be monitored for a minimum of 5 years. Monitoring will focus on survivor counts by species. All planting will have an overall survival rate of 80% by the fall of the fifth year of monitoring. When a species fails to achieve its performance standard, replacement planting will be initiated in conformance with the contingency plan.

Consultation: Consult with DFG and other involved agencies prior to, and during the development of the plan.

- Remove invasive non-native plant species that do not provide wildlife habitat, such as giant reed (Figure III-14), which compete with native plant species that have wildlife habitat value. Replace non-native vegetation that has been removed during construction with native trees and shrubs. Suitable species for replacement are those riparian species found on the site, including, but not limited to, red willow, arroyo willow, Fremont cottonwood, box elder, western sycamore, mule fat, and blue elderberry~~, and Oregon grape~~ (included in the project).

- Implement a riparian corridor maintenance plan designed by a qualified restoration specialist. This maintenance plan should include required monitoring and replacement planting actions (included in the project).

The following mitigation would further reduce the less-than-significant impacts to the riparian zone from construction of the levee:

- Erect high-visibility temporary fences between the levee construction and the riparian zone (included in the project);

- Limit levee construction activities and storage of construction equipment to the west side of the levee (included in the project).

Wetlands and Creek Measures

- Minimize the area of riparian habitat affected by park improvements near Coyote Creek. Erect high-visibility temporary fences on either side of each bridge to separate the limits of riparian habitat from protected areas. Limit construction activity in the riparian corridor as much as possible. Remove all debris and excess fill material from the riparian zone and creek channel following construction activities (included in the project).

- Remove industrial and household debris to improve creek channel wetland habitat. Removal of debris will help restore natural flow patterns in the creek and increase available habitat for wetland plant species, such as cattails. Refer also to Section I, "Hydrology and Water Quality", for creek cleanup recommendations (included in the project).

Necessary Permits and Recommended Agency Mitigation

- Consult with DFG to determine if a streambed alteration agreement is necessary under Section 1601 of the California Fish and Game Code for constructing the pedestrian bridges, and incorporate into project mitigation any additional measures required by DFG as a condition for granting the agreement (included in the project).

- Consult with the Corps to determine if a permit for filling of a jurisdictional wetland is necessary as a condition for construction of the pedestrian bridges. If the City complies with DFG's streambed design and construction requirements, it is likely that the amount of wetlands filled for the pedestrian bridge construction would be covered under a Nationwide Permit (included in the project).

Fisheries Resources Measures

Instream construction activities will be avoided between November 1 and June 30. Contractors will be required to use BMPs during bridge construction, such as the following (included in the project):

- minimizing disruption of the creekbed at and adjacent to the construction site to the extent possible, by implementing DFG's guidelines for temporary stream diversion (California Department of Fish and Game 1992);

- grading spoil sites to minimize surface erosion and siltation in the creekbed;

- avoiding riparian vegetation wherever possible;

- covering bare areas with mulch and revegetating all cleared areas; and

- establishing a spill prevention and countermeasure plan before project construction that includes strict onsite handling rules to keep construction and maintenance materials out of drainages and the waterway. Goals of this type of plan would be to:

  - prevent contamination of streamside soil and the watercourse from cement, concrete or concrete washing, asphalt, paint or other coating material, oil or other petroleum products, or hazardous materials;

  - clean up spills immediately and notify DFG immediately of any spill and cleanup procedures;

  - provide staging and storage areas outside the stream zone for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants; and

  - minimize equipment operation in flowing water and remove vehicles from the normal high-water area before refueling and lubrication.

These measures could be required by DFG to be incorporated into the project design as conditions of a DFG Section 1601 streambed alteration agreement. Specific requirements for reducing impacts on creek habitat and fisheries resources should be coordinated with DFG during the agreement process.

<u>Special-Status Species Mitigation</u>

- <u>At least one month prior to the start of grading or construction of specific projects in the landfill area, a qualified biologist would conduct a burrowing owl survey using the current California Department of Fish and Game protocol. If burrowing owls are not found at the project site then no further surveys would be necessary (included in the project).</u>

- <u>If burrowing owls are located during the field surveys a qualified biologist would prepare a burrowing owl relocation and management plan, subject to review and approved by the City of San Jose Department of City Planning and Building and DFG. The plan could include, but not be limited to the following (included in the project):</u>

  - <u>artificial burrow construction</u>

  - <u>owl relocation</u>

- habitat acquisition or enhancement

- relocation of owls during the non-nesting season (approximately September to February)

- applicable approval from DFG and U.S. Fish and Wildlife Service.

Impact Conclusion. Implementation of the measures included in the project for reducing impacts on riparian habitat, wetlands, Coyote Creek, ~~and~~ fisheries resources and burrowing owls would reduce these significant impacts to less-than-significant levels.

Chapter IV. Alternatives to the Proposed Master Plan

A. CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENTS

CEQA Section 15126(d) requires a discussion of reasonable alternatives to the project, or to the location of the project, that could feasibly attain the basic objective(s) of the project. In this case, the basic objective of the project is land development. The comparative merits of the alternatives should also be presented. CEQA provides the following guidelines for the discussion of project alternatives.

1. If there is a specific proposed project or a preferred alternative, explain why the other alternatives were rejected in favor of the proposal if they were considered in developing the proposal.

2. The specific alternative of "no-project" also shall be evaluated, along with the impacts of this alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

3. The discussion of alternatives shall focus on alternatives capable of eliminating significant adverse effects or of reducing them to a level of insignificance, even if these alternatives would partially impede the attainment of the basic objectives, or would be more costly.

4. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.

5. The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives fosters informed decision making and informed public participation. An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

B. ALTERNATIVES

Several alternatives have been identified by the City to determine the environmentally superior alternative. The six alternatives evaluated in this EIR are:

- No-Project Alternative,
- Phelan Avenue and Story Road Trolley Expansion Alternative,
- Offsite Parking Alternative,
- Pedestrian Bridge Crossing Alternative,
- Alternate Project Location Alternative, and
- Mitigated Design Alternative

Implementation of any alternative that could result in significant environmental effects could require separate environmental review.

No-Project Alternative

The No-Project Alternative assumes that the expansion and upgrading of Kelley Park facilities would not occur as proposed under the master plan. Current park conditions, constraints, and opportunities would prevail in future years.

Phelan Avenue and Story Road Trolley Expansion Alternative

The Phelan Avenue and Story Road Trolley Expansion Alternative would extend the Historic Trolley tracks into Phelan Avenue south to Senter Road and north to Story Road along the park boundary as proposed in the Kelley Park Master Plan. Under this alternative, the planned widening of Story Road would not occur, and the trolley tracks would be incorporated into the existing Story Road right-of-way at the Coyote Creek crossing instead of building a new trestle. This alternative would also eliminate the proposed future extension of Phelan Avenue east across the southern site boundary between Senter Road and Roberts Avenue. Possible future decisions to eliminate the Phelan Avenue extension and Story Road widening would occur under a separate planning processes.

Offsite Parking Alternative

The Offsite Parking Alternative would reduce onsite parking proposed under the master plan. All other proposed park features would be the same as identified in the master plan. An additional deficit of approximately 200 parking spaces would be designed into the park master plan, reducing the total parking at the eastern parking from 1,252 spaces to 1,052 spaces. The additional parking need would be accommodated at the Keyes Avenue parking lot, City Central Services Yard parking lot, and municipal stadium parking lot, as currently indicated in the master plan. The City also would continue to explore other offsite parking alternatives with other organizations, including shared use of San Jose State University facilities.

Pedestrian Bridge Crossing Alternative

The Pedestrian Bridge Crossing Alternative would modify pedestrian circulation to the eastern park by eliminating the southern pedestrian bridge. All other proposed park features would be the same as the identified in the master plan. The northern bridge crossing would provide the only eastern/western park pedestrian access.

Alternate Project Location Alternative

The Alternate Project Location Alternative assumes that the proposed neighborhood park, Natural Science Exhibit Building, and picnic areas would be located at two alternative sites south of Kelley Park: the Carroll property (APN 477-20-026) and the police department stables property. The Carroll property is approximately 3 acres, located between Senter Road and the future extension of Wool Creek Drive (Figure IV-1). The police stable property is approximately 10 acres, located south of Tully Road on the northern side of Coyote Creek and immediately adjacent to the police department stables. Both sites are owned by the City and designated on the general plan land use/transportation diagram for public park and open space use. The sites could be connected by future extension of the Coyote Creek trail.

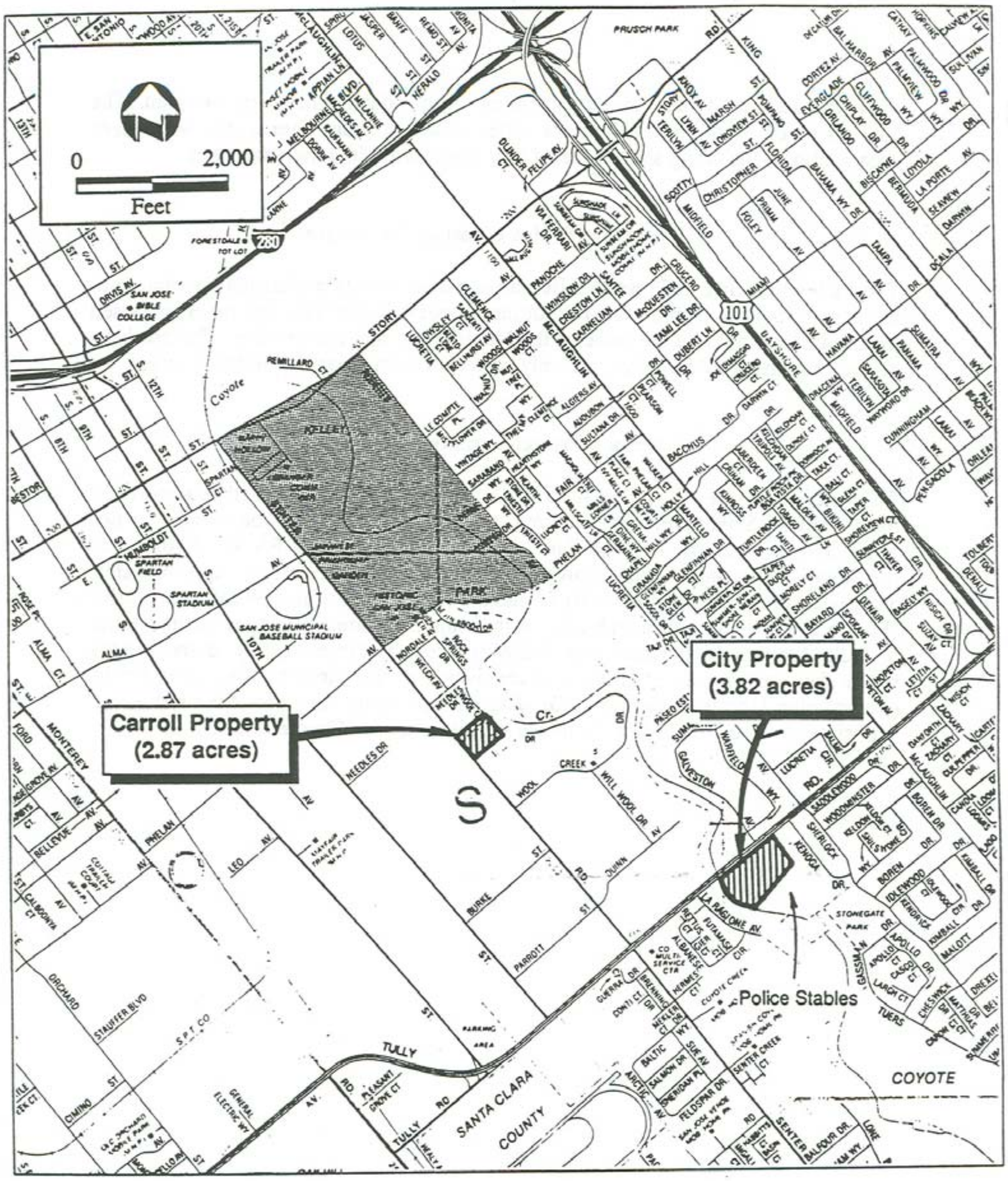


Figure IV-1
Location of Alternative Project Sites

C. IMPACTS OF THE PROPOSED MASTER PLAN ALTERNATIVES

No-Project Alternative

Under the No-Project Alternative both the adverse and the beneficial effects of implementing the master plan would be eliminated. This alternative would avoid possible land use conflicts with residents on Roberts Avenue and would divert traffic congestion impacts at park entrances on Story and Senter Roads to other areas of the city. Direct physical changes to the project site would be avoided, including parking lot development on the Roberts Avenue Landfill and modification of the Coyote Creek riparian corridor for the trolley trestle and the pedestrian bridges.

Under this alternative, traffic congestion on Senter and Story Roads and Roberts Avenue would be the same as currently experienced, and onsite parking would continue to be inadequate on peak summer weekends compared to the conditions under the proposed master plan. Noise and air quality would be similar to existing conditions.

Under this alternative, expansion of most of the public services and utilities would not be necessary. The sewer main extending from Story Road would likely need to be upgraded to eliminate the current capacity problem. No potential public health or safety effects associated with the landfill or site geology would occur under this alternative.

This alternative would avoid the sensitive cultural resource site located in the SJHM expansion area and would eliminate the possibility of restoring the historic Kelley House. Current impacts on existing cultural resources could continue.

Under this alternative, no additional impervious surfaces would be introduced to the site that could increase the flow of surface pollutants to Coyote Creek or that would affect the current flooding patterns. During severe storms, the Happy Hollow Zoo and the Japanese Friendship Garden would continue to flood. Coyote Creek would be unaltered, thus eliminating the need to restore portions of the riparian corridor and to compensate for temporary vegetation, wildlife, and fisheries impacts.

Implementing the No-Project Alternative would also eliminate the proposed features of the project that were intended to enhance recreation opportunities for park facilities in the Happy Hollow Park and Zoo, Japanese Friendship Garden, SJHM, eastern picnic sites, and the Roberts Avenue neighborhood park. This alternative would also divert many of the impacts that would result from the master plan to other sites in the project vicinity and would eliminate the opportunity to provide needed recreation services on a site designated for park and open space uses.

Impact Conclusion. **The No-Project Alternative would create fewer adverse environmental effects at the project site than the proposed master plan would, but this alternative could potentially divert the project effects to other sites in the project vicinity. This alternative would not meet the objectives of the proposed master plan. <u>The no-project alternative would be the environmentally superior alternative.</u>**

Phelan Avenue and Story Road Trolley Expansion Alternative

Land Use and Visual Resources

Under this alternative the land use and visual impacts would be similar to those of the proposed master plan because eliminating the Phelan Avenue extension and the trolley trestle across Coyote Creek would not reduce the visual effects of the eastern parking lot or potential land use conflicts that could affect the Roberts Avenue residents.

Transportation and Circulation

This alternative would place the trolley tracks on Story Road across Coyote Creek rather than on a separate trestle. This change could potentially result in an increase in conflicts between the trolley and other vehicles on Story Road. The aspect of this alternative dealing with Phelan Avenue would result in small changes in the circulation pattern around Kelley Park. More vehicles would use Story Road or other parallel streets. Not extending Phelan Avenue would also prevent the increases in traffic on Roberts Avenue that would likely accompany that extension.

Air Quality

Under this alternative, air quality impacts associated with construction of a new trestle and Phelan Avenue would be eliminated and overall air quality emissions from construciton would be less than under the proposed master plan. Traffic-related air quality impacts would be the same as identified for the proposed master plan.

Noise

Under this alternative, noise impacts would be similar to those identified for the proposed master plan.

Public Services and Facilities

Implementation of this alternative would result in the same impacts to water, wastewater, solid waste, police and fire, and utility services as identified for the proposed master plan.

Public Health and Safety

Implementation of this alternative would result in the same public health and safety issues associated with the Roberts Avenue Landfill as described for the proposed master plan because eliminating the Phelan Avenue extension and the trolley trestle would not change health and safety conditions at the landfill.

Geology and Soils

Implementation of the alternative would result in similar geologic and soil hazards as identified for the proposed master plan although no site-specific geotechnical investigations would be required for a new trestle or road crossing at Coyote Creek.

Cultural Resources

Implementation of this alternative would result in less impact to archaeological site KP-1 because Phelan Avenue would not be extended through the eastern portion of the site area. Implementation of this alternative would also reduce the likelihood of impacts to unidentified cultural resources (i.e., buried sites) because less ground-disturbing activities would occur along Coyote Creek, the most archaeologically sensitive area of the park.

Hydrology and Water Quality

Implementation of this alternative would create flooding and water quality impacts that are slightly less than the impacts expected under the proposed master plan because impervious surfaces associated with extending Phelan Avenue and the trolley trestle would be eliminated. This alternative would also require slightly less modification of the Coyote Creek riparian corridor and is expected to incrementally decrease temporary erosion and siltation impacts associated with project construction.

Vegetation, Wildlife, and Fisheries Resources

Implementation of this alternative would result in less impacts to vegetation, wildlife, and fisheries resources because eliminating the Phelan Avenue and trolley trestle crossing of Coyote Creek would incrementally reduce the direct and indirect impacts on biological resources in the riparian corridor.

Impact Conclusion. The Phelan Avenue and Story Road Trolley Expansion Alternative would create fewer impacts on biological resources in the Coyote Creek riparian corridor than the proposed project because this alternative reduces disturbance of the creek environment by eliminating two major transportation features of the project. This alternative would meet the objectives of the project.

Offsite Parking Alternative

Land Use and Visual Resources

Implementation of this alternative could incrementally reduce the adverse visual effects associated with siting the eastern parking lot adjacent to residences on Roberts Avenue because up to 200 parking spaces would be eliminated. Reducing the number of parking spaces could result in a larger buffer area located between the parking facility and sensitive residential uses on Roberts Avenue. However, because onsite parking would not accommodate the demand expected for the proposed park facilities, nuisance complaints related to park patrons searching for parking areas in adjacent residential areas near Kelley Park could increase. Pursuing parking opportunities at an offsite location could also create adverse visual land use conflicts at the alternate site.

Transportation and Circulation

Reducing the size of the eastern parking lot by 200 spaces would reduce the severity of traffic impacts at the intersection of the parking lot entrance with Story Road, as well as the conflicts between this intersection and the Story Road/Roberts Avenue intersection.

Air Quality

Under this alternative, construction- and traffic-related air quality impacts would be similar to the impacts identified for the proposed master plan.

Noise

Under this alternative, noise impacts would be similar to the impacts under the proposed master plan.

Public Services and Facilities

Implementation of this alternative would create similar impacts on water, wastewater, solid waste, police and fire, and utility services as described for the proposed master plan because this alternative would not reduce the park facilities or anticipated attendance that would generate demand for public services and utilities.

Public Health and Safety

Implementation of this alternative would result in similar public health and safety impacts as described for the proposed master plan. Reducing the amount of parking that would be constructed on the landfill could incrementally reduce the amount of landfill cap disturbance, but impacts would still be similar because the entire landfill area would likely need to be graded or treated with engineered fill regardless of the precise extent of parking facilities.

Geology and Soils

Implementation of this alternative would generally have geology and soils impacts similar to those of the proposed master plan. Reducing the amount of parking on the landfill could reduce the amount of differential settlement or slope failure encountered.

Cultural Resources

Implementation of the offsite parking alternative would result in similar impacts to cultural resources as described for the proposed master plan. No impacts on cultural resources at the offsite location are expected because the alternative site location would likely be in a disturbed area or an existing paved lot. No offsite activities that could disturb buried cultural resources are expected to result from this alternative.

Hydrology and Water Quality

The offsite parking alternative would generally have the same incremental flooding and water quality impacts as described for the proposed master plan if the acreage of impervious surfaces remain roughly similar to that of the proposed master plan. Under this alternative, there would be 200 fewer parking spaces at the park, reducing the volume of stormwater runoff generated from the existing parking area. If offsite parking is accommodated at existing parking areas in the project vicinity, stormwater and water quality impacts could be incrementally less than for the proposed master plan because a slightly smaller impervious surface area would be constructed compared to the proposed master plan.

Vegetation, Wildlife, and Fisheries Resources

Implementation of this alternative would have the same effect on vegetation, wildlife, and fisheries resources as for the proposed master plan.

Impact Conclusion. The Offsite Parking Alternative would create similar environmental impacts as the proposed master plan because reducing the amount of onsite parking by approximately 200 spaces would only have a minor beneficial effect on direct physical impacts of the project and operations, and park attendance would likely be the same as for the proposed master plan. This alternative would meet the objectives of the project.

Pedestrian Bridge Crossing Alternative

Land Use and Visual Resources

Implementation of this alternative would create the same nuisance and visual resource impacts as identified for the proposed master plan.

Transportation and Circulation

Implementation of this alternative would result in the same vehicular transportation and circulation impacts as identified for the proposed master plan. Pedestrian circulation inside the park could be affected slightly because patrons wishing to cross Coyote Creek would be required to use the northern bridge.

Air Quality

Under this alternative, construction- and traffic-related air quality impacts would be similar to the impacts identified for the proposed master plan.

Noise

Under this alternative, noise impacts would be similar to the impacts under the proposed master plan.

Public Services and Facilities

Implementation of this alternative would have the same impacts on water, wastewater, solid waste, police and fire, and utilities services as the proposed master plan.

Public Health and Safety

Implementation of this alternative would create the same public health and safety impacts associated with the Roberts Avenue Landfill because eliminating the southern bridge crossing would not change the landfill conditions.

Geology and Soils

Implementation of this alternative would reduce the need to prepare detailed geotechnical information at the southern bridge site. Geologic and soil hazards in other portions of the site would be the same as for the proposed master plan.

Cultural Resources

Implementation of this alternative would result in similar impacts to cultural resources as identified for the proposed master plan because one sensitive cultural site could still be affected and no cultural resources were identified at the southern bridge site. Impacts to any unidentified cultural resources (i.e., buried sites) that could occur at the southern pedestrian bridge site would be avoided.

Hydrology and Water Quality

Implementation of this alternative would result in less potential for flooding than identified for the proposed master plan because eliminating the southern pedestrian bridge would eliminate a substantial impediment to Coyote Creek floodflows. Although detailed modeling of the incremental flooding effects in Coyote Creek caused by the bridge has not yet been prepared, it is likely that this bridge structure would increase upstream flooding in the floodplain because the proposed bridge design could restrict the Coyote Creek channel capacity at the structure. Under this alternative, the increase in the 100-year flood elevation caused by the southern pedestrian bridge would be avoided.

Vegetation, Wildlife, and Fisheries Resources

Implementing the pedestrian bridge crossing alternative would result in less impact on riparian habitat and wetlands than that described for the proposed master plan because the southern bridge site would not be disturbed. The amount of riparian habitat that would be affected under this alternative would be 10% to 20% less than what would occur under the proposed master plan. Potential wetland impacts would be reduced by as much as 30% to 40% compared to the proposed master plan.

Impact Conclusion. The Pedestrian Bridge Crossing Alternative would create less flooding and biological impacts than the proposed master plan because a major construction project in the Coyote Creek riparian area would be eliminated. This alternative would meet the objectives of the project, although pedestrian circulation would probably be less efficient than under the proposed master plan. As required by CEQA when the no-project alternative is identified as the environmentally superior alternative the no-bridge alternative has been identified as the environmentally superior alternative.

Alternate Project Location Alternative

Land Use and Visual Resources

Implementation of this alternative could have similar nuisance and visual effects at the Carroll and police stable sites as identified for the proposed master plan because at both sites, the neighborhood park, Natural Science Exhibit Building, picnic sites, and parking areas would be relatively near existing sensitive residential areas on Senter and Tully Roads. The magnitude of land use and visual effects at the alternate sites would be considerably less than under the proposed master plan because this alternative would develop approximately 13 vacant acres compared to 56 vacant acres under the proposed master plan. Visual effects associated with parking under this alternative would likely be less than under the proposed master plan because parking at these sites would be a small portion of total site area and because parking would not be located in a visually dominant area as with the proposed master plan. Developing the Carroll property could potentially affect use of one parcel adjacent to Senter Road.

Transportation and Circulation

Relocating the proposed neighborhood park, Natural Science Exhibit Building, and picnic areas at alternative sites would result in fewer impacts at Kelley Park and greater impacts at the relocation sites. Fewer people would travel to Kelley Park, reducing parking- and traffic-volume-related impacts.

Air Quality

Under this alternative, construction- and traffic-related air quality impacts would be similar to the impacts identified for the proposed master plan.

Noise

Under this alternative, noise impacts would be similar to the impacts under the proposed master plan.

Public Services and Facilities

Implementation of this alternative would create less demand for public services and facilities than under the proposed master plan because only 13 acres would be developed, and the increased park attendance that could be expected under this alternative would be considerably less than what would occur under the proposed master plan.

Public Health and Safety

Implementation of this alternative would create less potential for public health and safety impacts because neither site has previously been used as a landfill; therefore, the potential for encountering hazardous or infectious waste at these sites would likely be less than at the proposed master plan site.

Geology and Soils

Implementation of this alternative would likely result in similar geologic and soil hazards as identified for the proposed master plan because both sites are located in or near the Coyote Creek floodplain and alluvial soils similar to those in the proposed master plan site could be encountered. The Natural Science Exhibit Building and neighborhood park facilities would be subject to the same seismic hazard as in the project area.

Cultural Resources

Implementation of this alternative could result in a similar potential for impacts on identified and unidentified cultural resources as described for the proposed master plan because several prehistoric and historic archaeological sites have been recorded in the vicinity of the two alternative project locations. Because the alternative sites are near Coyote Creek, they are both considered to have high cultural resource sensitivity.

Hydrology and Water Quality

Implementation of this alternative would have less impact on Coyote Creek flooding and water quality than the proposed master plan because the amount of impervious surface associated with this project would be substantially less than under the proposed master plan and because no bridge crossings are proposed. The volume of surface water runoff to Coyote Creek that carries urban pollutants would be minor compared to the proposed master plan.

Vegetation, Wildlife, and Fisheries Resources

Implementation of this alternative would have substantially less impact on vegetation, wildlife, and fisheries resources than under the proposed master plan because all park development would occur outside the Coyote Creek riparian corridor, no bridge or road crossings of the creek would occur, and the sites are currently vacant.

Impact Conclusion. The Alternate Project Location Alternative would generally create less land use and visual resource impacts, transportation and circulation effects, public health and safety hazards, and biological resource effects because the proposed sites would be substantially smaller in size than the expansion area under the proposed master plan. This alternative could meet some of the objectives of the project but would not adequately meet the demand for additional picnic areas in Kelley Park or locate the neighborhood park facilities within easy walking distance of the neighborhood they would be intended to serve.

Chapter V. Cumulative Impacts

A. INTRODUCTION

The analyses of cumulative impacts are based on the conclusions and information contained in the San Jose 2020 General Plan Draft Environmental Impact Report (City of San Jose 1994). Where possible, the significant cumulative impacts that could occur in the Kelley Park vicinity are highlighted. However, because Kelley Park is located in an urban area and no major development areas or general plan intensification zones are proposed in the near vicinity, much of the cumulative analysis contained in this chapter is excerpted from the regional, citywide analyses contained in the general plan EIR.

The draft San Jose 2020 General Plan would allow development of approximately 52,900 new residential units in San Jose. This total includes 43,000 residential units currently allowed under the existing general plan plus an additional 9,900 units within the City's Urban Service Area. Additional residential units would be accommodated by adding residential uses or increasing the density of residential uses to higher densities. The proposed general plan update would also allow 2,000 units in the South Almaden Valley Urban Reserve to be planned and developed. However, the general plan update would not allow development of the Coyote Valley Urban Reserve during the plan's 2020 timeframe.

The general plan update also proposes three transportation improvements and a downgrade of one street in the North San Jose Planning Area and includes eight land use changes on relatively small sites throughout the city. One land use change (GP 93-7-5) is a 2.1-acre site located on the east side of McLaughlin Avenue south of Story Road. The project proposes to change the land use designation on the site from Medium High Density Residential to General Commercial to allow development of a neighborhood retail project.

The Draft San Jose 2020 General Plan and draft EIR are available at the City of San Jose Department of Planning and Building, 801 North First Street, San Jose, California 95110-1795.

B. CEQA REQUIREMENTS

CEQA requires that significant cumulative impacts be discussed. The term "cumulative impacts" refers to two or more effects that, when considered together, compound or increase the impacts of a development beyond the level of significance of either effect viewed independently. Developers, resource managers, and others are particularly concerned with the cumulative impacts of urban development.

Section 21083(b) of the State CEQA Guidelines requires an analysis of the effects of past projects, other current projects, and probable future projects. A decision by the California Court of Appeals interpreted that language to include not only those projects that are already approved but also those projects subject to a similar level of analysis in the environmental review process.

The State CEQA Guidelines (Section 15130) establish three elements for an adequate cumulative impact analysis:

- a list of related projects or summary of projections contained in an adopted general plan or related document,
- a summary of impacts with reference to additional information, and
- a reasonable analysis of cumulative impacts.

Projects that are normally on cumulative lists are often at various stages in the planning and approval process and include those for which applications have been received, those with final approvals, and those that are currently under construction. In accordance with San Franciscans for Reasonable Growth v. City and County of San Francisco (151 Cal. App. 3d. 61) (1984), when interpreting CEQA with regard to cumulative impact analysis, it is appropriate to consider, at a minimum, all projects for which applications have been submitted.

C. CUMULATIVE IMPACTS

Land Use and Visual Resources

Cumulative land use impacts in the City of San Jose from implementation of the Draft San Jose 2020 General Plan would result from the incompatibility of developing high-density residential uses adjacent to single-family neighborhoods in some of the intensification corridors and converted sites. Conversion of open space land allowed under the general plan update would result in a substantial loss of open space and prime agricultural land (especially in the South Almaden Valley Urban Reserve). Substantial visual resource impacts would also result from loss of open space areas.

The cumulative land use compatibility impacts of development allowed under the draft San Jose 2020 General Plan would be significant although development allowed under the Kelley Park Master Plan would be compatible with surrounding residential, commercial, and public land uses. Implementation of "City Concept"; "Community

Development"; and "Aesthetic, Cultural, and Recreational Resources" chapter policies would reduce this impact to a less-than-significant level.

Cumulative cCitywide land conversions impacts and visual resource effects are considered significant and unavoidable. Land conversion and visual resource effects contributed by the Kelley Park Master Plan would be less than significant.

Transportation and Circulation

Table III-5 shows the traffic volumes projected by the City of San Jose traffic model for Story Road, Senter Road, and Phelan Avenue. This table also shows the capacity, V/C ratios, and the LOS for these three facilities. No facility is projected to operate at an unacceptable LOS under cumulative 2010 conditions.

Operation of Story Road, Senter Road, and Phelan Avenue under cumulative conditions at LOS C or better during the p.m. peak hour would result in a less-than-significant impact. No mitigation measures are required.

Air Quality

Regional air pollution emissions generated by implementation of the general plan update would be approximately 21,558 pounds of CO; 820 pounds of ROG; 2,259 pounds of NO_x; and 788 pounds of PM10 per each peak hour. The daily emissions would be approximately ten times the hourly emissions. This level of emission would result in a greater than 1% increase in the projected countywide mobile source emissions inventory for 2010. The project's contribution to this regional problem would be relatively minor because the master plan would not create a new traffic source of emissions but could redistribute traffic in the vicinity. The proposed neighborhood park and picnic facilities are intended to serve local residents who might otherwise have to drive to a more distant park. Therefore, the proposed master plan could reduce regional trips (and pollutant emissions) associated with local patron use of the park.

The cumulative impact of all reasonably foreseeable future projects, including the proposed master plan, on air quality in the project area is significant because emission levels in the project area are expected to increase by a substantial amount under cumulative conditions. Regional air quality effects associated with CO emissions and ozone precursors would be significant unavoidable impacts. Significant particulate emissions could be reduced by implementing "Natural Resources" chapter policies of the draft San Jose 2020 General Plan.

Noise

The future transportation network in the project region would include two new major roadways, Routes 85 and 87. These routes are expected to have an extensive effect on traffic distribution in the city and, in some instances, would result in substantial decreases in traffic noise generated along the local street network. Several streets in the vicinity of Kelley Park are among those that would experience noticeable reductions in noise levels.

Cumulative noise impacts under the general plan update, including the proposed master plan, would be less than significant because noise levels on roadways in the project area are expected to decrease under cumulative conditions.

Public Services and Facilities

Implementation of the proposed master plan would contribute to cumulative impacts related to the use of limited natural resources in the San Jose area. Future growth in the city would increase the demands on water supply, wastewater treatment, solid waste disposal, and police and fire protection services. Utilities, such as gas, electric, and telephone, have plentiful resources and are not expected to be substantially affected by future growth.

Water Supply

Future water demand is anticipated to be met through water conservation programs as well as supplemental imported water supplies during drought years. The Kelley Park expansion project is not expected to contribute significantly to the cumulative reduction in the city's water supply.

Wastewater Treatment

Future wastewater treatment capacity is anticipated to be met by the Water Pollution Control Plant, which generally has capacity available to accommodate future growth in the city. Because of concerns over discharges into the San Francisco Bay, the RWQCB may impose a flow cap, reducing the facility's overall ability to provide treatment in future years. However, Water Pollution Control Plant officials are working on a reclamation program that would enable the facility to reclaim approximately 40% of the treated wastewater. The Kelley Park expansion project is not expected to contribute substantially to the cumulative reduction in the facility's ability to provide wastewater treatment.

Solid Waste

Landfill capacity is expected to be exhausted within the next 24 to 32 years. Additional capacity would need to be provided beyond that timeframe. Implementation of solid waste reduction plans and adherence to Assembly Bill 939 requirements would reduce the amount of solid waste generated and would extend existing landfill life. The Kelley Park expansion project is not expected to contribute substantially to the cumulative reduction in the life of existing landfills.

Police and Fire Protection Services

Police and fire protection services would need to be expanded to provide for future growth. Developer fees and taxes would be generated to increase services as the population increases. The Kelley Park expansion project is not expected to contribute significantly to the cumulative increase in the need for police and fire protection services.

Cumulative public service and utility impacts from future growth in the city would result in significant impacts. These impacts would be reduced to less-than-significant levels by implementing plans and policies of the draft San Jose 2020 General Plan.

Public Health and Safety

Future development allowed under the general plan update could result in potential hazardous materials impacts from siting future residential or other sensitive uses on potentially contaminated sites or in areas of future or existing industrial or commercial operations that use hazardous materials. The Kelley Park Master Plan is not expected to expose any park patrons to hazardous materials because no hazardous materials are known to exist at the site and the Roberts Avenue Landfill was a Class III facility.

Cumulative public health and safety impacts associated with implementing the general plan update would result in significant impacts. These significant impacts would be reduced to a less-than-significant level by implementing plans and policies in the "Hazards" chapter of the draft San Jose 2020 General Plan.

Geology and Soils

Under the general plan update, hazards associated with seismic activity, weak and expansive soils, and erosion could potentially affect future development. The Kelley Park Master Plan development would not substantially contribute to the citywide hazards.

Cumulative geology and soils impacts associated with development allowed under the general plan update would result in significant impacts. These impacts could be reduced to a less-than-significant level by implementing the "Community Development" and "Hazards" chapter policies of the draft San Jose 2020 General Plan.

Cultural Resources

Development allowed under the general plan update could result in cumulative impacts on cultural resources because more than 50 historic and prehistoric sites have been identified in the city, and presently unidentified cultural resource sites could be discovered in city development areas. Development of open space areas, such as in the South Almaden Valley Urban Reserve and areas along Coyote Creek, could affect important cultural resource sites in these sensitive areas. Development allowed under the Kelley Park Master Plan could incrementally contribute to this citywide problem because the Kelley House could be modified and the historic dump site (KP-1) in the Coyote Creek floodplain could be affected.

In cases where significant cultural resources cannot be avoided, each new project allowed under the general plan update would be required to mitigate for project-specific cultural resource impacts. An inventory of all cultural resources should be conducted and a resource evaluation completed before implementing new projects. Mitigation measures should be developed for all cultural resources that are determined to be eligible for inclusion in the National Register of Historic Places.

Cumulative impacts on cultural resources are considered significant. These impacts could be reduced to less-than-significant levels by implementing the "Aesthetic, Cultural, and Recreational Resources" chapter policies of the draft San Jose 2020 General Plan.

Hydrology and Water Quality

Development allowed under the general plan update, particularly in the South Almaden Valley Urban Reserve and at development site 3 along Coyote Creek, could affect the quantity and quality of stormwater runoff to Coyote Creek by increasing impervious surfaces in undeveloped open space and agricultural areas. Implementing the Kelley Park Master Plan would incrementally contribute to these regional stormwater runoff and water quality effects.

The potential for flooding and water quality impacts in Coyote Creek from development allowed under the general plan update are considered significant. These impacts could be reduced to less-than-significant levels by implementing planned Coyote Creek flood improvements and the requirements of the SCVWD and draft San Jose 2020 General Plan "Community Development" and "Hazards" chapter policies.

Vegetation, Wildlife, and Fisheries Resources

Development allowed under the general plan update would increase the amount of developed land in the city, reducing natural habitats and resulting in further human encroachment on wildlife areas. Impacts on vegetation and wildlife resulting from citywide growth would include disturbance of wetland and riparian habitats, impacts on special-status species, and removal of large, ordinance-protected trees and other types of vegetation. Impacts on wetlands, riparian areas, and special-status species could occur at a number of locations in the city, including the South Almaden Valley Urban Reserve and development sites 2 and 3. The Kelley Park Master Plan would incrementally contribute to this cumulative effect because a small portion of Coyote Creek riparian habitat would be modified to accommodate park facilities.

Cumulative vegetation, wildlife, and fisheries resources impacts in new city development areas could result in significant impacts on wetland and riparian areas, special-status species, and ordinance-protected trees. These impacts could be reduced to a less-than-significant level by implementing the "Natural Resources" chapter policies of the draft San Jose 2020 General Plan.

Chapter VI. Significant Environmental Impacts That Cannot Be Avoided If the Proposed Project Is Implemented

The proposed Kelley Park Master Plan project would result in 20 significant impacts. One of these significant impacts is unavoidable and cannot be mitigated to acceptable levels:

- Exposure of residents to traffic-related carbon monoxide emissions.

Chapter VII. Growth-Inducing Impacts of the Proposed Project

Section 15126 (g) of the State CEQA Guidelines provides the following guidance in determining the growth-inducing impacts of a proposed action:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also, discuss the characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessary beneficial, detrimental, or of little significance to the environment.

1. Would the project foster economic or population growth or foster the construction of additional housing?

   No. The proposed project involves upgrading and expanding facilities at an existing park site that is designated for park and recreation and open space uses on the land use and transportation diagram.

2. Would the project remove obstacles to population growth?

   No. The Kelley Park Master Plan would be implemented on a site that is surrounded by developed land. The public services that would be needed, such as water and sewer service, are currently provided at the project site and in the vicinity. The wastewater collection system would be upgraded to serve future park use areas but would not be used to extend to other offsite development areas. Major road infrastructure is already in place.

3. Would the project tax existing community service facilities?

   No. The Analysis in Chapter III, Section E, "Public Services and Facilities", indicates that demand for police and fire, solid waste, and utilities services would be relatively minor and mitigable.

4. Would the project encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively?

   No. Implementing the project would not induce residential or commercial activity in the project vicinity because the surrounding area is largely developed. The project would not induce additional park development because implementing the master plan is expected to satisfy the local demand for neighborhood and community park uses areas.

In summary, implementing the Kelley Park Master Plan is not expected to create growth-inducing effects because of the relatively small scale of the project and because the project would not directly or indirectly increase the population.

Chapter VIII. Relationship between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

The relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity involves balancing the beneficial use of a project site today and the future effects of the project on maintaining long-term productivity. Developing the project site would create minor, mitigable effects associated with land use, visual resources, noise, air quality, public health and safety, and geology and soils. Expanding use of the site could have greater effects on local traffic conditions, sensitive cultural resources, and biological resources of the Coyote Creek riparian corridor.

Although implementing the Kelley Park Master Plan could create some adverse environmental effects, the project is proposed at this time because of the recreation benefits that it would create for City residents and local neighborhoods. Park uses are also specifically proposed to meet demand for picnicking and neighborhood park uses, and to reduce parking problems on local streets.

Chapter IX. Significant Irreversible Environmental Changes That Would Be Involved in the Proposed Action Should It Be Implemented

Expanding Kelley Park to the eastern side of Coyote Creek would irreversibly commit the City to use of the site for parking and park and recreation as has been planned for in the Horizon 2000 General Plan and the draft San Jose 2020 General Plan. Irreversible changes are associated with future grading, and excavation of a vacant parcel and construction of park facilities. Stormwater runoff from the site to Coyote Creek and hydrological patterns would be changed.

Implementing the project would also change the visual character of the site and irreversibly change air quality and traffic distribution on local roadways surrounding the site.

Constructing the project site would result in consumption of nonrenewable resources, such as concrete, glass, plastic, and petroleum products. Operation of the park facilities will require use of natural gas and electricity for lighting and space and water heating.

Chapter X. Views of Local Groups

The draft Kelley Park Master Plan was developed based on a programming effort that involved a site tour of the park by the Kelley Park Master Plan Task Force and the design team. Public input was an integral part of the park programming effort. Task Force members were asked to respond to a number of questions about 12 sites in the developed and undeveloped portions of the park. A summary of the responses to the site tour questionnaire is contained in the Draft Kelley Park Master Plan, Appendix 3.

Goals of the Department of Recreation, Parks and Community Services, existing user desires, new park element proposals and task force concepts were presented and evaluated to compile a specific list of goals and objectives for park development. A public input session was held in February 1991 to solicit comments and suggestions from members of the public on future development of the park. A second public meeting was held in August 1991 to solicit reaction to the preliminary master plan. The public input and programming effort resulted in an extensive list of the goals and objectives. Major issues that have influenced the master plan effort include:

- improving circulation throughout the park and on adjacent streets;
- opening the views into Coyote Creek, highlighting the creek as a major element for the park;
- conforming to the development setbacks, riparian corridor uses, and trail system as outlined in the 1990 Long-Range Land Utilization Report for the Coyote Creek Park Chain;
- accommodating the master plans and goals of the Happy Hollow Park and Zoo and SJHM;
- accommodating the high demand for picnic facilities, including small and large groups, reservable, and nonreservable sites;
- planning a portion of undeveloped Kelley Park for neighborhood park use;
- minimizing traffic impacts on Roberts Avenue; and
- providing additional parking onsite that will serve users of the park.

Chapter XI. EIR Authors and Consultants

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Katherine Jensen, Senior Landscape Architect
Arlene Nakagawara, Landscape Architect

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> Craig Stevens, Transportation and Circulation
> Wayne Shijo, Transportation and Circulation
> Kimberly Pell, Air Quality and Noise
> Barry Scott, Cultural Resources
> Douglas Brewer, Hydrology and Water Quality
> Gerrit Platenkamp, Vegetation and Wetland Resources
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Chapter XII. Citations

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Felix, Charles. Traffic signal systems engineer. City of San Jose, Department of Streets and Parks, San Jose, CA. April 28, 1994 - telephone conversation with Wayne Shijo.

Fujack, Walter. Fire protection engineer. City of San Jose Fire Department, San Jose, CA. May 2, 1994 - telephone conversation.

Gibson, Mignon. Historical museum manager. Kelley Park, San Jose, CA. April 25, 1994 - telephone conversation.

Hafernik, John. Professor of entomology. California State University, San Francisco, CA. May 26, 1993 - telephone conversation.

Harris, Norman. Service planner. Pacific Gas and Electric Company, San Jose, CA. April 27, 1994 - telephone conversation.

Kwok, Patrick. Principal sanitary engineer. San Jose Water Pollution Control Plant, Department of Environmental Services, San Jose, CA. May 2, 1994 - telephone conversation.

Lacaze, Skip. Senior environmental specialist. City of San Jose Environmental Services Department, San Jose, CA. May 5, 1994 - telephone conversation.

Lynch, Gary. Environmental program manager. City of San Jose Environmental Services Department, San Jose, CA. July 29, 1994 - telephone conversation.

Marshall, David. Environmental planner. Bay Area Air Quality Management District, San Francisco, CA. June 13, 1994 - telephone conversation.

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Stunke, Jim. Captain. City of San Jose Fire Department - Bureau of Field Operations, San Jose, CA. May 2, 1994 - telephone conversation.

Wheeler, James. Engineer. Schaaf & Wheeler, San Jose, CA. April 14, 1994 - telephone conversation regarding Coyote Creek flood levels and findings.

APPENDIX A. COMMENT LETTERS RECEIVED ON THE NOTICE OF PREPARATION

County of Santa Clara
Environmental Resources Agency
Parks and Recreation Department

298 Garden Hill Drive
Los Gatos, California 95030
(408) 358-3741 [redacted]

RECEIVED
APR 11 1994
CITY OF SAN JOSE
PLANNING DEPARTMENT

April 8, 1994

City of San Jose
Attn: Lee Quintana
City Hall Annex, Room 400
801 N. First Street
San Jose, CA 95110-1795

Subject: **Notice of Preparation (NOP) of a Draft Environmental Impact Report for Kelley Park Master Plan**

Dear Lee:

Thank you for the opportunity to respond to the NOP for the above-mentioned project. Your NOP appears to have identified potential environmental impacts that could be associated with future development of Kelley Park. We were pleased to note that the multi-use regional trail along Coyote Creek is identified as part of the Kelley Park Master Plan Improvements. We have no further comments at this stage, but would appreciate the opportunity to review the DEIR.

Sincerely,

JULIE BONDURANT
Park Planner

cc: Dave Pierce
Elish Ryan

h/kelley.eir/jb/lillian

Historical Resources File System

LAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLARA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Foundation Center, Bldg. 300
Sonoma State University
Rohnert Park, California 94928
(707) 664-2494 • Fax (707) 664-3947

RECEIVED
APR 15 1994
CITY OF SAN JOSE
PLANNING DEPARTMENT

File No.: 94-SC-29E

12 April 1994

City of San Jose
Attn: Lee Quintana
City Hall Annex Room 400
801 N. First Street
San Jose CA 95110-1795

re: Draft EIR for Kelley Park Master Plan

Dear Lee Quintana:

Records at this office were reviewed to determine if this project could adversely affect historical resources. The review for possible historic structures, however, was limited to references currently in our office. The Office of Historic Preservation has determined that any building or structure 45 years or older may be of historic value. Therefore, if the project area contains such properties they should be evaluated prior to commencement of project activities.

____ The proposed project area contains or is adjacent to the archaeological resource(s) ( ). A study is recommended prior to commencement of project activities.

____ The proposed project area has the possibility of containing archaeological resources. A study is recommended prior to commencement of project activities.

____ The proposed project area contains a listed historic structure ( ). See recommendations in the comments section below.

____ Study # identified one or more historical resources. The recommendations from the report are attached.

____ Study # identified no historical resources. Further study for historical resources is not recommended.

____ There is a low possibility of archaeological sites. Further study for archaeological resources is not recommended.

✓ Comments: One archaeological site, CA-SCL-352, has been identified. Studies S-4229 & S-11529 have studied portions of the study area. No recommendations were provided for this cultural resource. Also historic maps indicate the likelihood of hist. arch. deposits. Given this area where buried cultural resources are common, both prehistoric & historic buried archaeological deposits may exist within the study area. It is recommended that an archaeologist provide recommendations for CA-SCL-352.

If archaeological resources are encountered during the project, work in the immediate vicinity of the finds should be halted until a qualified archaeologist has evaluated the situation. If you have any questions please give us a call (707) 664-2494.

Sincerely,

S Boston for

Leigh Jordan
Assistant Coordinator

TA *Transportation Agency*
Santa Clara County Bus, Light Rail, Roads, Aviation
3331 North First Street
San Jose, CA 95134-1906

April 29, 1994

RECEIVED
MAY 5 1994
CITY OF SAN JOSE
PLANNING DEPARTMENT

Ms. Lee Quintana
Department of Planning and Building
City Hall Annex, Room 400
801 North First Street
San Jose, CA 95110-1795

Subject: Draft Environmental Impact Report (DEIR) for
Kelley Park Master Plan

Dear Ms. Quintana:

We have received subject DEIR on March 30, 1994 and our comments are as follows:

1. The Santa Clara County Transit District operates bus service and maintains three (3) northbound bus stops on Senter Road adjacent to the proposed project. Two of the three stops, Senter Road at north of Phelan Avenue and Senter Road at south of Story Road, have bus duckouts. However, the third stop on Senter Road at north of Alma Avenue has no duckout. The curb lane is narrow and lacks adequate width for accommodating the buses making service stops and the moving traffic without conflicts.

2. The project DEIR should include a discussion on the existing bus service and the proposal to remedy the existing traffic conflicts at the northbound bus stop on Senter Road at Alma Avenue. The improvement should include, but not limited to, construction of a half width bus duckout (in order to save existing trees) and paved passenger waiting area.

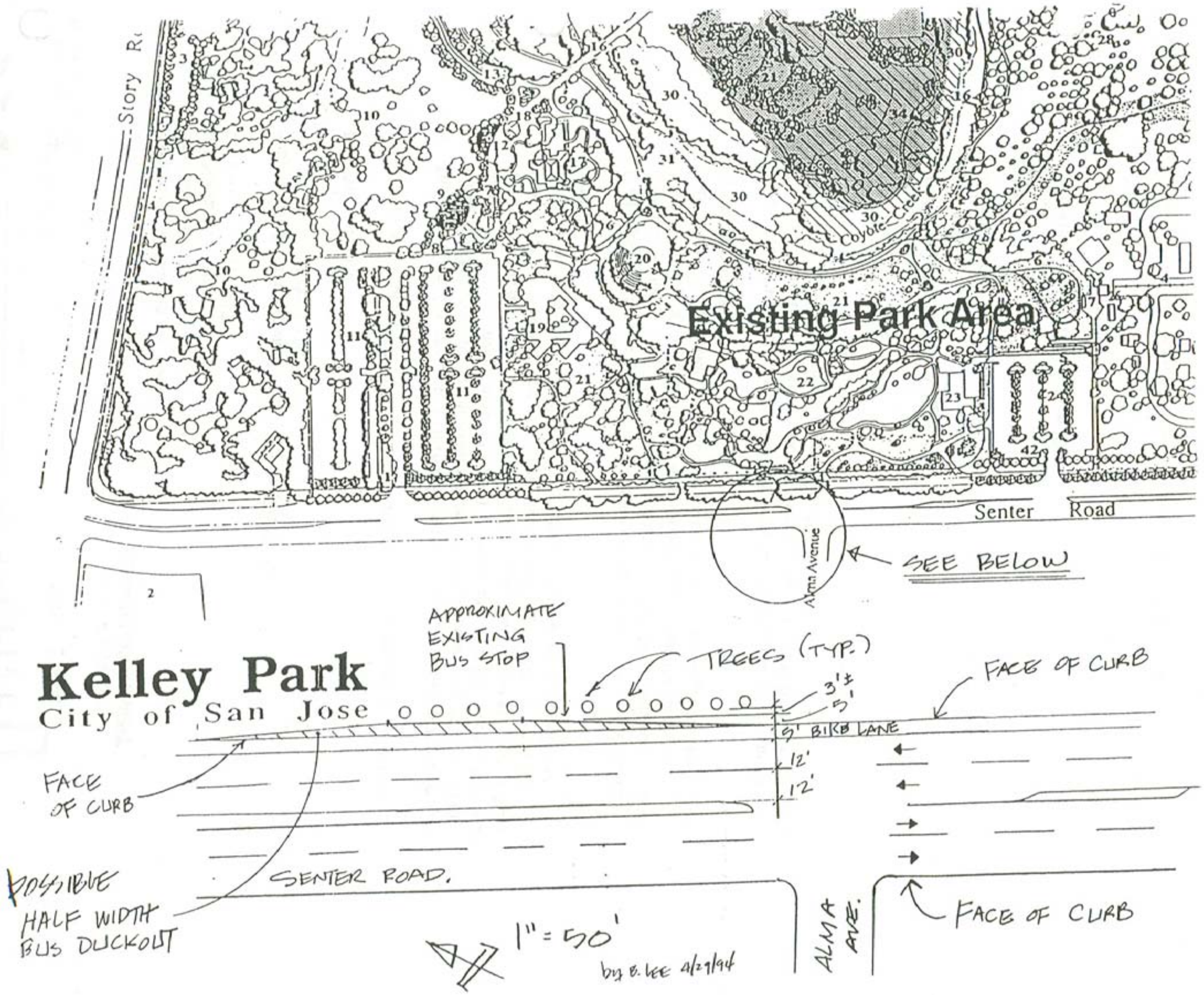
We have enclosed a sketch of a possible half width bus duckout on northbound Senter Road, just north of Alma Avenue. Also enclosed is a standard detail for bus duckout. If you have any questions please call me at (408) 299-4208.

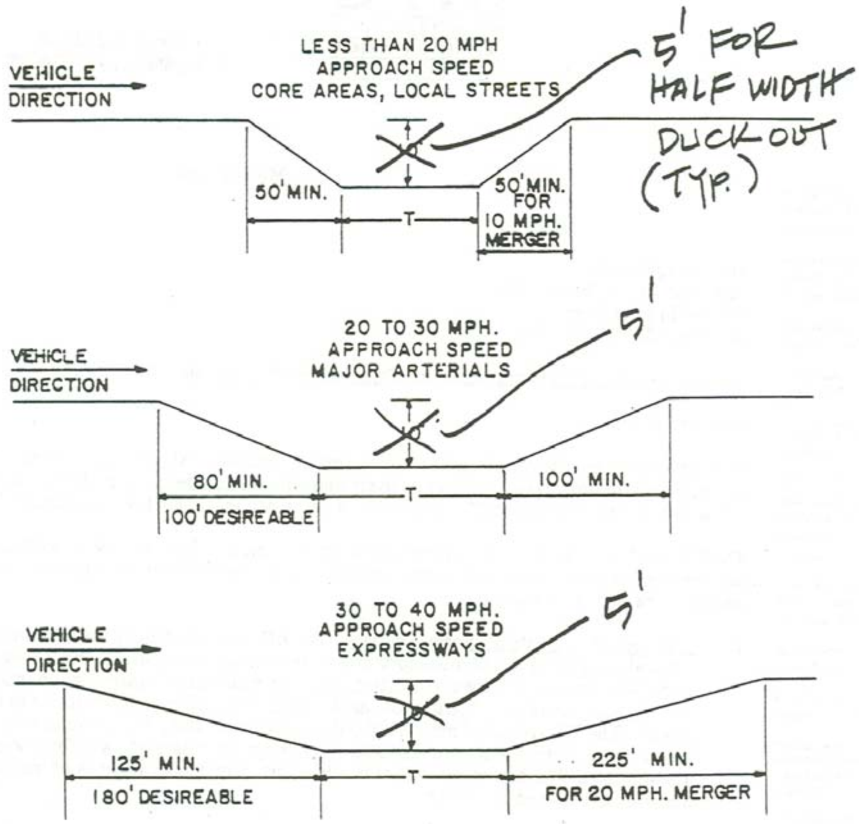
Sincerely,

William R. Lee

William R. Lee
Project Engineer

WRL:dh
Attachment
cc: RVE, KU, JU, RW, R. Shields, F. Shirey, File


Story Rd
Existing Park Area
Senter Road
Alma Avenue
SEE BELOW
Kelley Park
City of San Jose
APPROXIMATE
EXISTING
BUS STOP
TREES (TYP.)
FACE OF CURB
3'±
5'
5' BIKE LANE
12'
12'
FACE
OF CURB
POSSIBLE
HALF WIDTH
BUS DUCKOUT
SENTER ROAD.
ALMA
AVE.
FACE OF CURB
1" = 50'
by B. Lee 4/29/94



NOTE:

1. T (tangent length) = 55' required for one bus stop.
   = 75' required for articulated bus.

   = 55' plus 70'(X-1) where X=No. of buses. (use at major transfer terminal)
2. Duckouts are required only where a safe and adequate shoulder or parking lane is not available. Provision should also be made where future widening to add traffic lanes will eliminate bus loading zone.
3. Adequate Right-of-way should be retained to provide benches and shelters adjacent to the duckout.

1/1/81

Santa Clara County Transit District

BUS DUCKOUT STANDARDS
FIGURE 21

METROPOLITAN TRANSPORTATION COMMISSION

RECEIVED
MAY 16 1994
CITY OF SAN JOSE
PLANNING DEPARTMENT

May 12, 1994

Ms. Lee Quintana
City Hall Annex, Room 400
801 North First Street
San Jose, CA 95110-1795

Subject: Notice of Preparation, Kelley Park Master Plan Update

Dear Ms. Quintana:

This letter includes Metropolitan Transportation Commission (MTC) staff recommendations for the transportation system impact analysis that will be included in the EIR for this refinement of the major strategies and policies contained in the Kelley Park Master Plan.

The EIR will evaluate both the western, developed portion of Kelley Park as well as the undeveloped portion of the park on the eastern side of Coyote Creek by adding a new parking area and other amenities:

1. Transportation System Impact Analysis. The EIR should identify the assumptions and methodology used for the transportation system impact analysis. It should identify the population and employment projections used, as well as the transportation model used and the trip generation, distribution, modal split, and assignment equations in the model. The TRANPLAN network should include only fully-funded road and transit projects. The EIR should provide data supporting the choice of travel behavior assumptions. The assumptions should allow for a worst case analysis of traffic impacts, as required by CEQA.

   The EIR should present detailed traffic information for all freeways and arterial segments. This information should include volume/capacity ratios and level of service with implementation only of fully-funded transportation projects. Unfunded or partly-funded transportation projects should be introduced only as a project mitigation. The analysis year should be 2010 or 2015 to present a long-term view of project impacts.

3. Impact Areas: The NOP states that project impacts will be assessed in the following areas:

   - transportation and circulation;
   - air quality;
   - noise;
   - land use factors;
   - vegetation and wildlife;
   - geology and seismicity;
   - visual resources; and
   - cultural resources

Joseph P. Bort MetroCenter • 101 Eighth Street • Oakland, CA 94607-4700
510/464-7700 • TDD/TTY 510/464-7769 • FAX 510/464-7848

Ms. Lee Quintana
May 12, 1994
Page Two

Mitigation Measures. In addition to the unfunded transportation projects, the mitigation section should look at the following methods for reducing local street and highway system impacts:

- reductions in future growth; and
- more measures to reduce demand for single occupant vehicle use, including development site design features to facilitate transit use.

The EIR should discuss why the analysis will be limited to these areas. A comprehensive environmental impact analysis should also look at:

- population, housing and employment;
- energy; and
- social environment

Thank you for the opportunity to comment on the Notice of Preparation for Kelley Park Master Plan. I look forward to receiving the draft EIR when it is issued.

Sincerely,

Marc Roddin

Marc F. Roddin
Santa Clara County Coordinator

MFR:rbp
MR Distk/L-L. Quintana 5/94

cc: Commissioner Beall
Commissioner Diridon
Commissioner McKenna
John McCallum
Craig Goldblatt
CEQA Binder

Santa Clara Valley Water District

5750 ALMADEN EXPRESSWAY
SAN JOSE, CA 95118-3686
TELEPHONE (408) 265-2600
FACSIMILE (408) 266-0271
AN AFFIRMATIVE ACTION EMPLOYER

May 18, 1994

Ms. Lee Quintana
City Hall Annex, Room 400
City of San Jose
801 North First Street
San Jose, CA 95110-1795

Dear Ms. Quintana:

Subject: Notice of Preparation of a Draft Environmental Impact Report for the Kelly Park Master Plan.

The District has reviewed the subject document and offers the following comments:

The NOP section "Hydrology and Water Quality" notes that additional development in the Coyote Creek floodplain could impact water quality. The DEIR should also address any water quality impact that would be caused by development and construction activities in the portion of the park expansion outside of the floodplain. An example would be the grading, paving and operation of new parking lots and roads. Attached is typical California Environmental Quality Act (CEQA) language addressing storm water quality issues. This language was prepared by staff at the San Francisco Bay Regional Water Quality Control Board.

By merit of its size and potential impact to Coyote Creek, the construction of this project appears to be regulated under the State Water Resources Control Board's NPDES General Permit for Storm Water Discharges Associated With Construction Activity. The DEIR should note this and include a statement that compliance with the permit requires development and implementation of a storm water pollution prevention plan and a storm water quality monitoring plan.

Consideration should be given to incorporating permanent storm water quality controls (source controls or treatment-based controls) into the design of this project (ie, post-construction controls, as required by the NPDES permit).

The Master Plan indicates the construction of two pedestrian bridges across Coyote Creek and the construction of a levee along the creek. Impacts to the floodplain resulting from this construction must be mitigated such that water surface elevations on areas subject to flooding are not increased.

In accordance with District Ordinance 83-2 (enclosed), a District permit is required for any construction adjacent to or within Coyote Creek.

We appreciate the opportunity to review this document and wish to review the Draft Environmental Impact Report (DEIR).

Sincerely,

Marc J. Klemencic, P.E.
Division Engineer
Design Coordination Division

Enclosure: Ordinance 83-2 and Sample CEQA Language

Enclosure
12/22 ORIG GSF
KWW

DRAFT

EXAMPLE LANGUAGE TO INCLUDE IN ENVIRONMENTAL IMPACT REPORTS FOR ADDRESSING STORM WATER QUALITY ISSUES IN ENVIRONMENTAL DOCUMENTS

SETTING

Water Quality

Surface Water. There are [number] streams that flow through the proposed project area. These streams are ______________. Discharges from these streams eventually reach San Francisco Bay. Surface runoff channeled in these creeks carry pollutants to the Bay, including sediments, motor oil, car exhaust, chemicals, eroded soil, detergents, paints, and any other discarded material carried through the storm drain system. These sediments and pollutants build up and increasingly degrade the Bay's water quality and biological health.

Water quality degradation is regulated by the Federal National Pollution Discharge Elimination System (NPDES) Program (established by the Clean Water Act), which controls and reduces pollutants to water bodies from point and nonpoint discharges. The program is administered by the California Regional Water Quality Control Boards. The San Francisco Bay Regional Water Quality Control Board (RWQCB) issues NPDES permits for discharges to water bodies in the San Francisco Bay Area.

Projects disturbing more than five acres of land during construction are required to file a notice of intent to be covered under the State NPDES General Construction Permit for discharges of storm water associated with construction activity. The project sponsor must propose control measures that are consistent with the State General Construction Permit, and with recommendations and policies of the local agency and the RWQCB.

Projects that include facilities with discharges of storm water associated with industrial activity are required to file a notice of intent to be covered under the State NPDES General Industrial Permit for discharges of storm water associated with industrial activity. The project sponsor must propose control measures that are consistent with the State General Industrial Permit, and with recommendations and policies of the local agency and the RWQCB. In a few cases, the project sponsor may apply for (or the RWQCB may require) issuance of an individual (industry- or facility-specific) permit.

The RWQCB has issued municipal (area-wide) NPDES permits to municipalities in Santa Clara, Alameda, Contra Costa, and San Mateo counties and the cities of Vallejo and Fairfield. These municipalities have established urban runoff programs to comply with the terms of the NPDES permits. Ultimately, all Bay Area municipalities are expected to establish programs.

The RWQCB's Urban Runoff Management Program emphasizes the following elements as essential components of a successful municipal program: public information and participation; elimination of illegal discharges; public agency activities, such as street sweeping or recycling; new development planning and management; and control if industrial and commercial sources. Therefore, each municipal urban runoff program includes new development and construction site storm water quality controls. The objective of this component is to ensure that appropriate measures to control pollutants from new development are considered during the planning phase, before construction begins; implemented during the construction phase; and maintained after construction throughout the life of the project.

IMPACTS

Surface Water

Water quality would degrade from siltation and from construction materials and wastes during construction of the project. Water quality would also degrade from nonpoint sources generated due to newly established, post-construction activities at the project site.

During construction, grading and vegetation removal would expose sediments to rain or wind erosion and subsequent transportation of sediments to the [Bay, creek[s], etc.] by storm water. The silt load that would be generated could degrade the quality of water in the creek[s] and San Francisco Bay by transporting other pollutants adhered to sediments, obstructing natural flow patterns at the points of sediment deposition, or adversely affecting biological resources (See Section ___, Vegetation and Wildlife). Water quality degradation from siltation would have a potentially significant effect on the environment.

Materials used and wastes generated during construction would degrade water quality also. Construction materials commonly contain nutrients in fertilizer for new landscape; trace metals in metal building products, paint or preserved wood; pesticides; synthetic organic compounds in adhesives, cleaners, sealants, and solvents. Wastes generated commonly include wash water from concrete mixers; paints and painting equipment cleaning activities; oil, grease and fuel constituents from vehicle use, storage and maintenance; solid wastes from tree and shrub removal during land clearing; wood and paper materials from packaging of building products; and sanitary wastes.

Nutrients can result in excessive or accelerated growth of vegetation or algae resulting in impaired use of water in lakes and other sources of water supply. Bacteria and viruses can result in public health threats. Oxygen demanding substances, such as solid wastes resulting from vegetation removal and litter, depress the dissolved oxygen levels in streams and lakes. Some oil and grease compounds are toxic to aquatic organisms. Several heavy metals are toxic to aquatic organisms and can bioaccumulate. These pollutants could degrade water quality if transported to nearby creeks or the

Bay by runoff or sediment transport, resulting in a potentially significant effect on the environment.

Development of the project, post-construction, would increase the amount of runoff from the site by adding new impervious surfaces and would generate nonpoint source pollutants from newly established [residential, industrial, commercial?] activity at the project site. The runoff would contain pollutants typical of [residential, industrial, commercial?] activity, such as oil and grease, fuel constituents, heavy metals, organic chemicals, bacteria and sediments. These pollutants would degrade the quality of surface waters in the project area and receiving waters outside the project area, such as San Francisco Bay. Water quality degradation from nonpoint sources resulting from post-construction project activities would have a potentially significant effect on the environment.

MITIGATION MEASURES

Water Quality Degradation From Siltation During Construction

The project should minimize construction erosion impacts by developing and implementing a soil erosion plan (which can be combined with the storm water pollution prevention plan (SWPPP) discussed below) as a condition of development. The plan should be consistent with the terms of the State General Construction Permit [if the site is greater than five acres], the Manual of Standards for Erosion & Sedimentation Control Measures by ABAG, policies and recommendations of the local urban runoff program (city and/or county) and recommendations of the RWQCB. The following best management practices are a few examples (but not a complete list) of measures that should be included in the plan:

* Stabilizing denuded areas prior to the wet season (October 1 through May 1);
* Limiting construction access routes and stabilizing access points;
* Protecting adjacent properties with sediment barriers, dikes or mulching;
* Stabilizing and preventing erosion from temporary conveyance channels and outlets.

Implementation of the above mitigation measures would reduce impacts of water quality degradation from siltation to a less-than-significant level. *

Water Quality Degradation From Construction Materials and Wastes

The project should minimize construction materials and wastes impacts by developing and implementing a SWPPP as a condition of development. The plan should be consistent with the terms of the State General Construction Permit [if the site is greater than five acres], the policies and recommendations of the local urban runoff program (city and/or county) and recommendations of the RWQCB. The following best management practices are a few examples (but not a complete list) of measures that should be included in the plan:

* Using proper construction material and construction waste storage, handling and disposal practices;

* Using proper vehicle and equipment cleaning, fueling and maintenance practices.

Implementation of the above mitigation measures would reduce impacts of water quality degradation from construction materials and wastes to a less-than-significant level.

Water Quality Degradation From Post-Construction Nonpoint Sources

The project should minimize nonpoint source impacts by developing and implementing a SWPPP as a condition of development. The plan should be consistent with the terms of the State Industrial General Permit [if storm water associated with industrial activity would be generated at the site], the policies and recommendations of the local urban runoff program (city and/or county) and recommendations of the RWQCB. The following best management practices are a few examples (but not a complete list) of measures that should be included in the plan:

* Use safe housekeeping practices (handling, storage and disposal of hazardous materials);

* Conduct vehicle and equipment cleaning and maintenance and material processing in areas with impermeable surfaces, berms, roof covers, and appropriate drainage systems (not to the storm drain);

* Protect outdoor storage materials from drainage with berms and roof covers;

* Use appropriate landscape controls (irrigation and application of fertilizers, herbicides and pesticides);

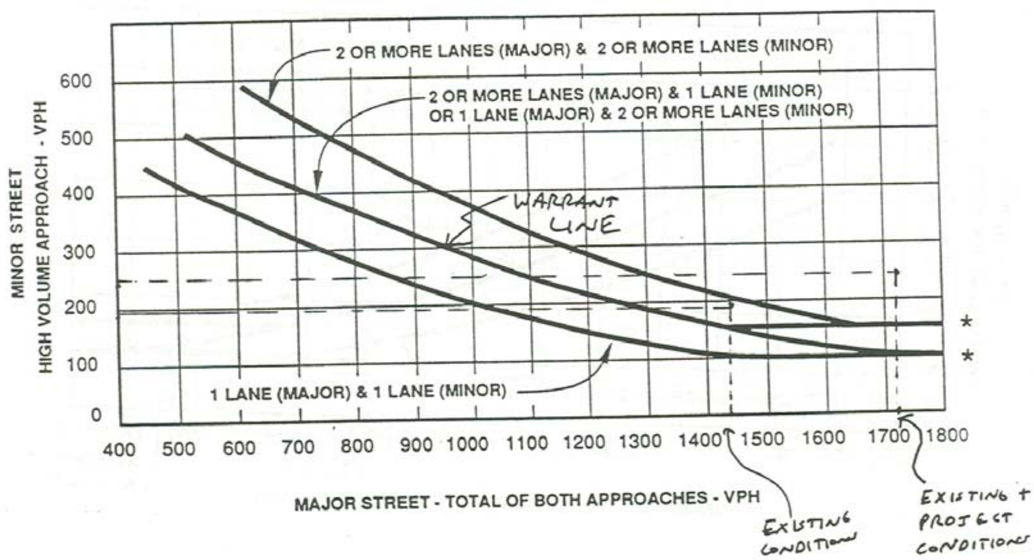
* Install structural storm water treatment controls such as, wet ponds, swales, vegetated filter strips, extended detention basins, and/or sand filters.

Implementation of the above mitigation measures would reduce impacts of water quality degradation from nonpoint sources to a less-than-significant level.

APPENDIX B. TRAFFIC SIGNAL WARRANTS AND LOS CALCULATION SHEETS

Figure 9-8
PEAK HOUR VOLUME WARRANT
(Urban Areas)

SENTER ROAD / HAPPY HOLLOW PARKING LOT ENTRANCE

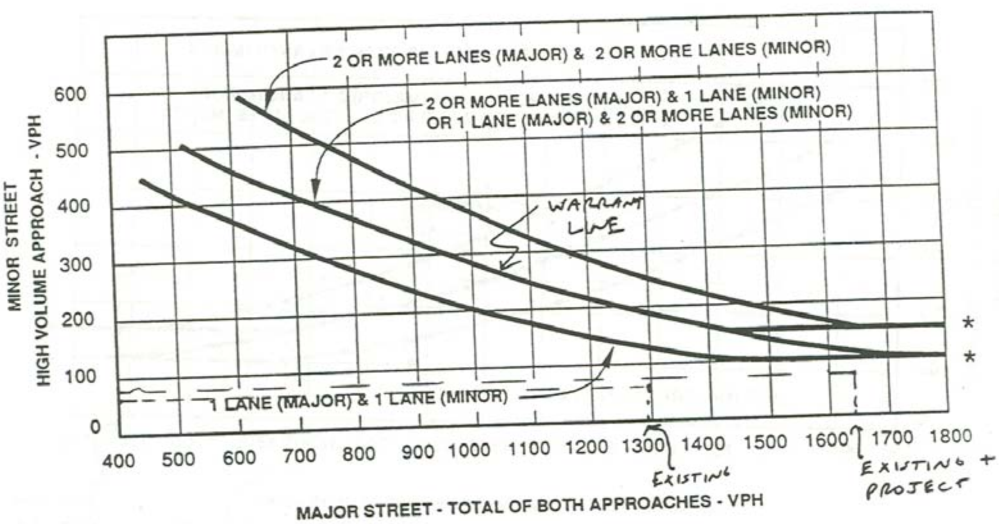


* NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

MEETS UNDER BOTH EXISTING + EXISTING PLUS PROJECT

Figure 9-8
PEAK HOUR VOLUME WARRANT
(Urban Areas)

SENTER ROAD / FRIENDSHIP GARDEN PARKING LOT ENTRANCE



* NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

FAILS UNDER BOTH EXISTING + EXISTING PLUS PROJECT

LEVEL OF SERVICE CALCULATION SHEETS
EXISTING CONDITIONS

```
OCATION:Senter/Happy Hollow Lot          |NAME:cds
---------------------------------------------------------------------------------
OURLY VOLUMES                           | VOLUMES IN PCPH
                                  N>    |
                                        |
Major street:SENTER                     |
====================================== | ====================================
|= 3                  <---V5---  601   |                        <---V5---
rade   666---V2--->   v---V4---   96   |      ---V2--->         v---V4---   106
 0%    78---V3---v           N= 4      |      ---V3---v
================  <|    |>  ========== | ================  <|    |>  =========
ate of Counts: |   |    |  |           |                   |   |    |   |
XISTING        |  V7    V9 | X STOP    |                   |  V7   V9   |
ime Period:    |   |    |  |  YIELD    |                   |   |    |   |
UNDAY PEAK     |  88    108|           |                   |  97    119|
pproach Speed:  Minor Street:   Grade  |
5              LOT ENT.          0%    |
HF:              N= 1
opulation: 1000000
=================================================================================
OLUME ADJUSTMENTS
---------------------------------------------------------------------------------
lovement no.            |  2  |   3  |   4  |   5  |   7  |   9  |
---------------------------------------------------------------------------------
olume (vph)             | 666 |   78 |   96 |  601 |   88 |  108 |
---------------------------------------------------------------------------------
ol(pcph),see Table 10.1|XXXXXXXX|XXXXXXXX|  106  |XXXXXXXX|  97  |  119  |
=================================================================================
TEP 1 : RT From Minor Street           |         /-> V9
=================================================================================
onflicting Flows, Vc                   | 1/2 V3+V2= 39 + 222 = 261 vph(Vc9)
ritical Gap, Tc                        | Tc=    6 secs (Tab.10.2)
otential Capacity, Cp                  | Cp9=  740 pcph (Fig.10.3)
ctual Capacity, Cm                     | Cm9=Cp9=  740 pcph
=================================================================================
TEP 2 : LT From Major Street           |         v-- V4
=================================================================================
onflicting Flows, Vc                   | V3+V2= 78 + 666 = 744 vph(Vc4)
ritical Gap, Tc                        | Tc=  5.5 secs (Tab.10.2)
otential Capacity, Cp                  | Cp4=  459 pcph (Fig.10.3)
 of Cp utilized and Impedance Factor   | (V4/Cp4)x100= 23.1% P4= .83
ctual Capacity, Cm       (Fig.10.5)    | Cm4=Cp4=  459 pcph
=================================================================================
TEP 3 : LT From Minor Street           |         <-\ V7
=================================================================================
onflicting Flows, Vc                   | 1/2 V3+V2+V5+V4=
                                       | 39 + 666 + 601 + 96 = 1402 vph(Vc7)
ritical Gap, Tc                        | Tc=    8 secs (Tab.10.2)
otential Capacity, Cp                  | Cp7=   65 pcph (Fig.10.3)
ctual Capacity, Cm                     | Cm7=Cp7xP4= 65 x .83 = 54 pcph
=================================================================================
HARED LANE CAPACITY     SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is shared

                                                   CR        CR        LOS   LOS
OVEMENT    V(PCPH)    CM(PCPH)    CSH(PCPH)     (CM-V)    (CSH-V)      CM    CSH
=================================================================================
  7           97          54          110          -43       -106        F     F
  9          119         740          110          621       -106        A     F
  4          106         459                       353                   B
```

```
LOCATION:SENTER/HISTORIC MUSEUM           |NAME:CDS
---------------------------------------------------------------------------------
HOURLY VOLUMES                              | VOLUMES IN PCPH
                                      N>    |
 Major street:SENTER                        |
=========================================== | ===================================
N= 3                      <---V5---   500   |                        <---V5---
Grade    744---V2--->     V---V4---    41   |          ---V2--->     V---V4---   45
 0%       14---V3---V            N= 4       |          ---V3---V
================  <|       |>  ==========   | ================  <|     |>  ========
Date of Counts: |  |       |   |            |                 |  |     |     |
EXISTING        |  V7      V9  | X STOP     |                 |  V7    V9    |
Time Period:    |  |       |   |   YIELD    |                 |  |     |     |
SUNDAY PEAK     |  16      46|              |                 |  18      51|
Approach Speed:  Minor Street:   Grade      |
45               LOT ENTR.        0%        |
PHF:                N= 1
Population: 1000000
=================================================================================
VOLUME ADJUSTMENTS
---------------------------------------------------------------------------------
Movement no.              |   2   |    3  |   4   |   5   |   7   |   9   |
---------------------------------------------------------------------------------
Volume (vph)              |  744  |   14  |  41   |  500  |  16   |  46   |
---------------------------------------------------------------------------------
Vol(pcph),see Table 10.1|XXXXXXXX|XXXXXXXX|   45  |XXXXXXXX|  18  |  51   |
=================================================================================
STEP 1 : RT From Minor Street               |          /-> V9
=================================================================================
Conflicting Flows, Vc                       | 1/2 V3+V2= 7 + 248 = 255 vph(Vc9)
Critical Gap, Tc                            | Tc=     6 secs (Tab.10.2)
Potential Capacity, Cp                      | Cp9=  746 pcph (Fig.10.3)
Actual Capacity, Cm                         | Cm9=Cp9=  746 pcph
=================================================================================
STEP 2 : LT From Major Street               |          v-- V4
=================================================================================
Conflicting Flows, Vc                       | V3+V2= 14 + 744 = 758 vph(Vc4)
Critical Gap, Tc                            | Tc=  5.5 secs (Tab.10.2)
Potential Capacity, Cp                      | Cp4=  450 pcph (Fig.10.3)
% of Cp utilized and Impedance Factor       | (V4/Cp4)x100=    10% P4= .94
Actual Capacity, Cm          (Fig.10.5)     | Cm4=Cp4=  450 pcph
=================================================================================
STEP 3 : LT From Minor Street               |          <-\ V7
=================================================================================
Conflicting Flows, Vc                       | 1/2 V3+V2+V5+V4=
                                            | 7 + 744 + 500 + 41 = 1292 vph(Vc7)
Critical Gap, Tc                            | Tc=    8 secs (Tab.10.2)
Potential Capacity, Cp                      | Cp7=   81 pcph (Fig.10.3)
Actual Capacity, Cm                         | Cm7=Cp7xP4= 81 x .94 = 76 pcph
=================================================================================
SHARED LANE CAPACITY     SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is shared

                                                  CR        CR        LOS   LOS
MOVEMENT    V(PCPH)    CM(PCPH)    CSH(PCPH)    (CM-V)    (CSH-V)     CM    CSH
=================================================================================
   7           18         76          226          58        157        E     D
   9           51        746          226         695        157        A     D
   4           45        450                      405                   A
```

```
 UG 0 4  '9

                                              Critical Movement Analysis: PLANNING
                                                        Calculation Form 1
Intersection: SENTER / PHELAN
Problem Statement: EXISTING
================================================================================
Step 1. IDENTIFY LANE GEOMETRY           | Step 4. LEFT TURN CHECK
               | Approach 3:SENTER        |
               | 1   3   1 |        ^     |                 -------Approach-----
               |   R   L   |        N     |               : -1-  -2-  -3-  -4-
PHELAN         | R T T T L |              |a.No. of change :  0    0    0    0
-------------  T H H H T  -------------|  intervals/hour :
Approach 1     < < | > >    ^--RT  1     |b.LT capacity on :  0    0    0    0
 1  LT--^        v v v     <^-RTH        |  change (vph)   :
    LTH-^>                 <--TH   1     |c.G/C ratio      :  0    0    0    0
 1   TH-->                 <v-LTH        |d.Opposing volume:  0    0    0    0
    RTH-v>       ^ ^ ^      v--LT  1     |  in vph         :
 1  RT--v      < < | > >   Approach 2    |e.LT capacity on :  0    0    0    0
-------------  L L T R R  -------------|  green (vph)     :
               | T T H T T |PHELAN       |f.LT capacity in :  0    0    0    0
               |   H   H   |             |  vph (b+e)      :
               | 1   2 1   |             |g.Left turn volume: 0    0    0    0
               | Approach 4:SENTER       |  in vph         :
                                         |h.Is volume > cap.:
                                         |  (g>f) ?        :
=======================================+=======================================
Step 2. IDENTIFY VOLUMES, in vph         | Step 5. ASSIGN LANE VOLUMES, in vph
                                         |        |                    |
                                         |        |   1 1 1            |
              | Approach 3|              |-------   9 9 9 1          -------
3:  LT=  18 | |           | 2:RT=  16    |        7 7 7 7 8            ^-  16
   TH= 592  | |           |   TH=   3    |        | | | | |            <-   3
   RT=   7  | v           |   LT=   9    |        < v v v >            v-   9
-------------             -------------|
                          <--Approach 2  |
                                         |
Approach 1-->                            |
-------------             -------------|  25 -^           < ^ ^ ^ >
1:LT=  25   |           ^ | 4: RT=   8   |  15 ->           | | | + +
  TH=  15   |           | |   TH= 610    |  62 -v
  RT=  62   |           | |   LT=  49    |-------            2 2 1       -------
            | Approach 4|                |        |        4 0 0 9    |
                                         |        |        9 6 6 8 8  |
=======================================+=======================================
Step 3. IDENTIFY PHASING                 | Step 6a. CRITICAL VOLUMES, in vph
                                         |           (two phase signal)
        --^ v--   B2B1                   |             | Approach 3|
                                         |             |           |
        --> <--   A1A2                   |             |           |
                                         |             |           |
         |   <    B4B3                   |-------------          -------------
         >   |                           | Approach 1
         |   ^    A3A4                   |
         v   |                           |           See Step 6b.
                                         |
                                         |                        Approach 2
                                         |-------------          ------------
                                         |             |           |
---------------------------------------|             |           |
A1 -->   A3 |       B1 v--     B3    <|  |             |           |
            v ^                       | |  |             | Approach 4|
A2 <--   A4   |       B2 --^     B4 |>   |
================================================================================
```

Design Hour: SUNDAY 12-1

Step 6b. VOLUME ADJUSTMENT FOR MULTIPHASE SIGNAL OVERLAP

Probable Phase	Possible Critical Volume in vph		Volume Carryover to next phase	Adjusted Critical Volume in vph
B2B1	25(B2)	OR	9(B1)	25
A1A2	43(A1)	OR	11(A2)	43
B4B3	49(B3)	OR	18(B4)	49
A3A4	206(A4)	OR	197(A3)	206

Step 7. SUM OF CRITICAL VOLUMES

25(B2)+43(A1)+49(B3)+206(A4)

= 323 vph

Step 8. INTERSECTION LEVEL OF SERVICE
(compare step 7 with table 6)

| A |

Step 9. RECALCULATE

Geometric Change:
Signal Change:
Volume Change:

COMMENTS

Exclusive right turns reduced 30 %
V/C Ratio = .23

AUG

```
.OCATION:Story Rd & Remillard Ct.        |NAME:Existing Conditions
-------------------------------------------------------------------------------
HOURLY VOLUMES                          | VOLUMES IN PCPH
                                  N     |
Major street:Story Road           v     |
======================================= | ===================================
N= 3               <---V5---  845       |                    <---V5---
Grade   821---V2--->  v---V4---    3    |        ---V2--->   v---V4---     3
 0%      4---V3---v          N= 3       |        ---V3---v
================  <|     |>  ========== | ================  <|    |>  =========
Date of Counts: |   |     |   |         |               |   |    |   |
05/22/94        |  V7     V9  | X STOP  |               |  V7   V9   |
Time Period:    |   |     |   |  YIELD  |               |   |    |   |
Sun Mid-Day Pea |   3      5|           |               |   3       6|
Approach Speed:  Minor Street:   Grade  |
Sun Mid-Day     Remillard Court    0%   |
PHF: 1              N= 1
Population: 250000
===============================================================================
VOLUME ADJUSTMENTS
-------------------------------------------------------------------------------
Movement no.          |   2    |   3  |   4   |   5   |   7   |   9   |
-------------------------------------------------------------------------------
Volume (vph)          |  821   |   4  |   3   |  845  |   3   |   5   |
-------------------------------------------------------------------------------
Vol(pcph),see Table 10.1|XXXXXXXX|XXXXXXXX|  3  |XXXXXXXX|   3   |   6   |
===============================================================================
STEP 1 : RT From Minor Street          |          /-> V9
===============================================================================
Conflicting Flows, Vc                  | 1/2 V3+V2= 0 + 411 = 411 vph(Vc9)
Critical Gap, Tc                       | Tc=    5 secs (Tab.10.2)
Potential Capacity, Cp                 | Cp9=  790 pcph (Fig.10.3)
Actual Capacity, Cm                    | Cm9=Cp9=  790 pcph
===============================================================================
STEP 2 : LT From Major Street          |          v-- V4
===============================================================================
Conflicting Flows, Vc                  | V3+V2= 0 + 821 = 821 vph(Vc4)
Critical Gap, Tc                       | Tc=    5 secs (Tab.10.2)
Potential Capacity, Cp                 | Cp4=  492 pcph (Fig.10.3)
% of Cp utilized and Impedance Factor  | (V4/Cp4)x100=   .6% P4=    1
Actual Capacity, Cm          (Fig.10.5)| Cm4=Cp4=  492 pcph
===============================================================================
STEP 3 : LT From Minor Street          |          <-\ V7
===============================================================================
Conflicting Flows, Vc                  | 1/2 V3+V2+V5+V4=
                                       | 0 + 821 + 845 + 3 = 1669 vph(Vc7)
Critical Gap, Tc                       | Tc=  6.5 secs (Tab.10.2)
Potential Capacity, Cp                 | Cp7=   88 pcph (Fig.10.3)
Actual Capacity, Cm                    | Cm7=Cp7xP4= 88 x 1 = 88 pcph
===============================================================================
SHARED LANE CAPACITY    SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is shared
```

MOVEMENT	V(PCPH)	CM(PCPH)	CSH(PCPH)	CR (CM-V)	CR (CSH-V)	LOS CM	LOS CSH
7	3	88	216	85	207	E	C
9	6	790	216	784	207	A	C
4	3	492		489		A	

AUG 0 4

```
LOCATION:Story Rd & Roberts Avenue          |NAME:Existing Conditions
---------------------------------------------------------------------------
HOURLY VOLUMES                        ^     | VOLUMES IN PCPH
                                      N     |
 Major street:Story Road                    |
=========================================== | ===================================
                          <---V5---  797    |                        <---V5---
N= 2                      V---V4---   27    |         ---V2--->      V---V4---   30
Grade    841---V2--->                N= 3   |         ---V3---V
 0%      37---V3---V                        |                     <|      |>   =========
=================  <|     |>   ==========   | =================   |      |      |
Date of Counts: |    |     |   |            |                   |  |      |      |
05/22/94        |   V7    V9   | X STOP     |                   |  V7     V9     |
Time Period:    |    |     |   |   YIELD    |                   |  |      |      |
Sun Mid-Day Pk  |   15    18|               |                   |  17       20|
Approach Speed:  Minor Street:    Grade     |
40              Roberts Ave        0%       |
PHF: 1              N= 1
Population: 250000
===========================================================================
VOLUME ADJUSTMENTS
---------------------------------------------------------------------------
Movement no.             |   2    |    3    |   4   |   5    |   7   |   9   |
---------------------------------------------------------------------------
Volume (vph)  _          |  841   |   37    |  27   |  797   |  15   |  18   |
---------------------------------------------------------------------------
Vol(pcph),see Table 10.1|XXXXXXXX|XXXXXXXX|  30   |XXXXXXXX|  17   |  20   |
===========================================================================
STEP 1 : RT From Minor Street                |        /-> V9
===========================================================================
Conflicting Flows, Vc                        | 1/2 V3+V2= 19 + 421 = 440 vph(Vc9)
Critical Gap, Tc                             | Tc=     5 secs (Tab.10.2)
Potential Capacity, Cp                       | Cp9=  764 pcph (Fig.10.3)
Actual Capacity, Cm                          | Cm9=Cp9=  764 pcph
===========================================================================
STEP 2 : LT From Major Street                |        V-- V4
===========================================================================
Conflicting Flows, Vc                        | V3+V2= 37 + 841 = 878 vph(Vc4)
Critical Gap, Tc                             | Tc=     5 secs (Tab.10.2)
Potential Capacity, Cp                       | Cp4=  458 pcph (Fig.10.3)
% of Cp utilized and Impedance Factor        | (V4/Cp4)x100=  6.6% P4= .96
Actual Capacity, Cm              (Fig.10.5)  | Cm4=Cp4=  458 pcph
===========================================================================
STEP 3 : LT From Minor Street                |        <-\ V7
===========================================================================
Conflicting Flows, Vc                        | 1/2 V3+V2+V5+V4=
                                             | 19 + 841 + 797 + 27 = 1684 vph(Vc7)
Critical Gap, Tc                             | Tc=  6.5 secs (Tab.10.2)
Potential Capacity, Cp                       | Cp7=   87 pcph (Fig.10.3)
Actual Capacity, Cm                          | Cm7=Cp7xP4= 87 x .96 = 84 pcph
===========================================================================
SHARED LANE CAPACITY     SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is shared
```

MOVEMENT	V(PCPH)	CM(PCPH)	CSH(PCPH)	CR (CM-V)	CR (CSH-V)	LOS CM	LOS CSH
7	17	84	162	67	125	E	D
9	20	764	162	744	125	A	D
4	30	458		428		A	

AUG 3 4

```
                                        Critical Movement Analysis: PLANNING
                                                  Calculation Form 1
Intersection: Senter / Happy Hollow Lot
Problem Statement: Exist - Mit
=============================================================================
Step 1. IDENTIFY LANE GEOMETRY              | Step 4. LEFT TURN CHECK
                | Approach 3:SENTER         |                      -------Approach-----
                |     3   1 |        ^      |                      : -1-  -2-  -3-  -4-
                |   R   L   |        N      |a.No. of change       :  0    0    0    0
                | R T T T L |               |  intervals/hour      :
-------------     T H H H T  ---------------|b.LT capacity on      :  0    0    0    0
 Approach 1     < < | > >     ^--RT         |  change (vph)        :
   LT--^          v v v      <^-RTH         |c.C/C ratio           :  0    0    0    0
   LTH-^>                    <--TH    1     |d.Opposing volume     : 108   0    0   583
    TH-->                    <v-LTH         |  in vph              :
   RTH-v>        ^ ^ ^        v--LT         |e.LT capacity on      :  0    0    0    0
    RT--v       < < | > >    Approach 2     |  green (vph)         :
-------------   L L T R R  -----------------|f.LT capacity in      :  0    0    0    0
                | T T H T T |LOT ENTR.      |  vph (b+e)           :
                |   H   H   |               |g.Left turn volume    :  0    0    0    0
                |     2 1   |               |  in vph              :
                | Approach 4:SENTER         |h.Is volume > cap.    :  NO             NO
                                            |  (g>f) ?             :
=============================================+===============================
Step 2. IDENTIFY VOLUMES, in vph             | Step 5. ASSIGN LANE VOLUMES, in vph
                                             |          |                      |
                                             |          | 1 1 1                |
                 | Approach 3|               |-------    9 9 9 9             -------
3:  LT=  96 | |              | 2:RT= 108     |           4 4 4 6             ^+ 108
    TH= 583 | |              |   TH=   0     |           | | | |             <-   0
    RT=   0 | v              |   LT=  88     |           v v v >             v+  88
-------------                 ---------------|
                              <--Approach 2  |
                                             |
                                             |
Approach 1-->                                |
-------------                 ---------------|                 ^ ^ ^ >
1:LT=    0  |              ^ | 4: RT=  78    |                 | | + +
  TH=    0  |              | |    TH= 650    |-------                       -------
  RT=    0  |              | |    LT=   0    |      |          2 2 1
            | Approach 4|                    |      |          4 4 6 7 |
                                             |      |          3 3 5 8 |
=============================================+===============================
Step 3. IDENTIFY PHASING                     | Step 6a. CRITICAL VOLUMES, in vph
                                             |          (two phase signal)
           |   |   A3B4                      |              | Approach 3|
           v   >                             |              |           |
           |   ^   A3A4                      |              |           |
           v   |                             |              |           |
              <--  A2B1                      |-------------              -------------
              v--                            |  Approach 1
                                             |
                                             |              See Step 6b.
                                             |
                                             |                            Approach 2
                                             |-------------              ------------
                                             |              |           |
                                             |              |           |
---------------------------------------------|              |           |
A1 -->    A3 |      B1 v--     B3    <|      |              | Approach 4|
             v ^                      | |    |
A2 <--    A4   |    B2 --^     B4 |>         |
=============================================================================
```

Design Hour: SUNDAY PEAK

Step 6b. VOLUME ADJUSTMENT FOR MULTIPHASE SIGNAL OVERLAP

Probable Phase	Possible Critical Volume in vph	Volume Carryover to next phase	Adjusted Critical Volume in vph
A3B4	96(B4)	194- 96= 98(A3)	96
A3A4	243(A4) OR	98(A3)	243
A2B1	196(A2) OR	88(B1)	196

Step 7. SUM OF CRITICAL VOLUMES

339(B4A4)+196(A2)+0()+0()

= 535 vph

Step 8. INTERSECTION LEVEL OF SERVICE

(compare step 7 with table 6)

| A |

Step 9. RECALCULATE

Geometric Change:
Signal Change:
Volume Change:

COMMENTS

MITIGATION - SIGNALIZATION

V/C Ratio = .38

LEVEL OF SERVICE CALCULATION SHEETS
EXISTING + PROJECT CONDITIONS

```
.OCATION:Senter/Happy Hollow Lot          |NAME:cds
------------------------------------------------------------------------------
IOURLY VOLUMES                              | VOLUMES IN PCPH
                                   N>       |
Major street:SENTER                         |
==========================================  | ===================================
I= 3                    <---V5---  711      |                         <---V5---
Grade   794---V2--->    v---V4---  120      |          ---V2--->      v---V4---  132
 0%     97---V3---v            N= 4         |          ---V3---v
================  <|     |>   ==========    | ================  <|     |>  ========
Date of Counts: |    |     |  |             |                 |  |     |    |
EXIST+PROJ      |   V7    V9  | X STOP      |                 | V7    V9    |
Time Period:    |    |     |  |   YIELD     |                 |  |     |    |
SUNDAY PEAK     |  109   135|               |                 | 120   149|
Approach Speed:  Minor Street:   Grade      |
45             LOT ENT.            0%       |
PHF:              N= 1
Population: 1000000
==============================================================================
VOLUME ADJUSTMENTS
------------------------------------------------------------------------------
Movement no.           |   2   |   3   |   4   |   5   |   7   |   9   |
------------------------------------------------------------------------------
Volume (vph)           |  794  |   97  |  120  |  711  |  109  |  135  |
------------------------------------------------------------------------------
Vol(pcph),see Table 10.1|XXXXXXXX|XXXXXXXX|  132 |XXXXXXXX|  120  |  149  |
==============================================================================
STEP 1 : RT From Minor Street          |             /-> V9
==============================================================================
Conflicting Flows, Vc                  | 1/2 V3+V2= 49 + 265 = 314 vph(Vc9)
Critical Gap, Tc                       | Tc=    6 secs (Tab.10.2)
Potential Capacity, Cp                 | Cp9=  694 pcph (Fig.10.3)
Actual Capacity, Cm                    | Cm9=Cp9=  694 pcph
==============================================================================
STEP 2 : LT From Major Street          |             v-- V4
==============================================================================
Conflicting Flows, Vc                  | V3+V2= 97 + 794 = 891 vph(Vc4)
Critical Gap, Tc                       | Tc=  5.5 secs (Tab.10.2)
Potential Capacity, Cp                 | Cp4=  380 pcph (Fig.10.3)
% of Cp utilized and Impedance Factor  | (V4/Cp4)x100= 34.7% P4= .72
Actual Capacity, Cm          (Fig.10.5)  | Cm4=Cp4=  380 pcph
==============================================================================
STEP 3 : LT From Minor Street          |             <-\ V7
==============================================================================
Conflicting Flows, Vc                  | 1/2 V3+V2+V5+V4=
                                       | 49 + 794 + 711 + 120 = 1674 vph(Vc7)
Critical Gap, Tc                       | Tc=    8 secs (Tab.10.2)
Potential Capacity, Cp                 | Cp7=   43 pcph (Fig.10.3)
Actual Capacity, Cm                    | Cm7=Cp7xP4= 43 x .72 = 31 pcph
==============================================================================
SHARED LANE CAPACITY    SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is shared

                                                   CR       CR      LOS   LOS
MOVEMENT   V(PCPH)   CM(PCPH)   CSH(PCPH)       (CM-V)   (CSH-V)    CM    CSH
==============================================================================
   7         120        31         66            -89      -203      F     F
   9         149       694         66            545      -203      A     F
   4         132       380                       248                C
```

```
LOCATION:SENTER/HISTORIC MUSEUM          |NAME:CDS
-----------------------------------------------------------------------------
HOURLY VOLUMES                           | VOLUMES IN PCPH
                                     N>  |
 Major street:SENTER                     |
======================================== | =====================================
                      <---V5---   668 |                          <---V5---
N= 3                  V---V4---    51 |         ---V2--->        V---V4---    56
Grade    912---V2--->           N= 4  |         ---V3---V
  0%     18---V3---V                  |                    <|    |>  =========
================  <|    |>  ========== | ================   |     |    |     |
Date of Counts: |    |     |   .|     |                     |    V7   V9    |
EXIST+PROJ      |   V7    V9   | X STOP |                   |    |    |     |
Time Period:    |    |     |   |  YIELD |                   |    22     63|
SUNDAY PEAK     |   20      57|        |
Approach Speed:  Minor Street:   Grade |
45               LOT ENTR.        0%   |
PHF:               N= 1
Population: 1000000
=============================================================================
VOLUME ADJUSTMENTS
-----------------------------------------------------------------------------
Movement no.                |   2   |    3   |   4   |   5   |   7   |   9  |
-----------------------------------------------------------------------------
Volume (vph)                |  912  |   18   |  51   |  668  |  20   |  57  |
-----------------------------------------------------------------------------
Vol(pcph),see Table 10.1|XXXXXXXX|XXXXXXXX|   56  |XXXXXXXX|  22   |  63  |
=============================================================================
STEP 1 : RT From Minor Street            |           /-> V9
=============================================================================
Conflicting Flows, Vc                    | 1/2 V3+V2= 9 + 304 = 313 vph(Vc9)
Critical Gap, Tc                         | Tc=    6 secs (Tab.10.2)
Potential Capacity, Cp                   | Cp9=  695 pcph (Fig.10.3)
Actual Capacity, Cm                      | Cm9=Cp9=  695 pcph
=============================================================================
STEP 2 : LT From Major Street            |           v-- V4
=============================================================================
Conflicting Flows, Vc                    | V3+V2= 18 + 912 = 930 vph(Vc4)
Critical Gap, Tc                         | Tc=  5.5 secs (Tab.10.2)
Potential Capacity, Cp                   | Cp4=  362 pcph (Fig.10.3)
% of Cp utilized and Impedance Factor    | (V4/Cp4)x100= 15.5% P4=   .9
Actual Capacity, Cm          (Fig.10.5)  | Cm4=Cp4=  362 pcph
=============================================================================
STEP 3 : LT From Minor Street            |           <-\ V7
=============================================================================
Conflicting Flows, Vc                    | 1/2 V3+V2+V5+V4=
                                         | 9 + 912 + 668 + 51 = 1640 vph(Vc7)
Critical Gap, Tc                         | Tc=    8 secs (Tab.10.2)
Potential Capacity, Cp                   | Cp7=   46 pcph (Fig.10.3)
Actual Capacity, Cm                      | Cm7=Cp7xP4= 46 x .9 = 41 pcph
=============================================================================
SHARED LANE CAPACITY    SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is shared

                                                  CR       CR      LOS   LOS
MOVEMENT   V(PCPH)   CM(PCPH)   CSH(PCPH)      (CM-V)   (CSH-V)    CM    CSH
=============================================================================
   7          22        41         136            19       51        E     E
   9          63       695         136           632       51        A     E
   4          56       362                      306                 B
```

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```
                                              Critical Movement Analysis: PLANNING
                                                       Calculation Form 1
ntersection: SENTER / PHELAN
?roblem Statement: EXIST + PROJ
===============================================================================
Step 1. IDENTIFY LANE GEOMETRY              | Step 4. LEFT TURN CHECK
                | Approach 3:SENTER         |                      -------Approach-----
                | 1   3   1 |         ^     |                      : -1-  -2-  -3-  -4-
                |   R   L   |         N     |a.No. of change       :  0    0    0    0
PHELAN          | R T T T L |               |  intervals/hour      :
-------------   T H H H T   --------------|b.LT capacity on      :  0    0    0    0
Approach 1      < < | > >     ^--RT   1     |  change (vph)        :
  1  LT--^        v v v     <^-RTH          |c.C/C ratio           :  0    0    0    0
     LTH-^>                 <--TH     1     |d.Opposing volume     :  0    0    0    0
  1   TH-->                 <v-LTH          |  in vph              :
     RTH-v>        - - -      v--LT   1     |e.LT capacity on      :  0    0    0    0
  1  RT--v      < < | > >   Approach 2      |  green (vph)         :
-------------   L L T R R   --------------|f.LT capacity in      :  0    0    0    0
                | T T H T T |PHELAN         |  vph (b+e)           :
                |   H   H   |               |g.Left turn volume    :  0    0    0    0
                | 1    2 1  |               |  in vph              :
                | Approach 4:SENTER         |h.Is volume > cap.    :
                                            |  (g>f) ?             :
===========================================+===================================
Step 2. IDENTIFY VOLUMES, in vph            | Step 5. ASSIGN LANE VOLUMES, in vph
                                            |        |                          |
                                            |        |    1 1 1                 |
                | Approach 3|               |--------     9 9 9 7
3:  LT=  77 | |             | 2:RT=  87     |           7 7 7 7 7            ^-   87
   TH= 592  | |             |   TH=  46     |           | | | | |            <-   46
   RT=   7  | v             |   LT=  45     |           < v v v >            v-   45
-------------               --------------|
                            <--Approach 2   |
                                            |
                                            |
Approach 1-->                               |
-------------               --------------|  25 -^              < ^ ^ ^ >
1:LT=  25   |             ^ | 4: RT=  40    |  41 ->              | | | + +
  TH=  41   |             | |   TH= 610     |  62 -v
  RT=  62   |             | |   LT=  49     |--------               2 2 1       -------
            | Approach 4|                   |        |          4 1 1 7 4 |
                                            |        |          9 7 7 7 0 |
===========================================+===================================
Step 3. IDENTIFY PHASING                    | Step 6a. CRITICAL VOLUMES, in vph
                                            |            (two phase signal)
        --^ v--  B2B1                       |                | Approach 3|
                                            |                |           |
        --> <--  A1A2                       |                |           |
                                            |                |           |
        |   <    B4B3                       |--------------              -------------
        >   |                               | Approach 1
        |   ^    A3A4                       |
        v   |                               |              See Step 6b.
                                            |
                                            |                        Approach 2
                                            |--------------           ------------
                                            |                |           |
--------------------------------------------|                |           |
A1 -->     A3 |        B1 v--     B3   <|   |                |           |
              v ^                      | |  |                | Approach 4|
A2 <--     A4   |      B2 --^     B4  |>    |
===============================================================================
```

Design Hour: SUNDAY 12-1

Step 6b. VOLUME ADJUSTMENT FOR MULTIPHASE SIGNAL OVERLAP

Probable Phase	Possible Critical Volume in vph		Volume Carryover to next phase	Adjusted Critical Volume in vph
B2B1	45(B1)	OR	25(B2)	45
A1A2	61(A2)	OR	43(A1)	61
B4B3	77(B4)	OR	49(B3)	77
A3A4	217(A4)	OR	197(A3)	217

Step 7. SUM OF CRITICAL VOLUMES

45(B1)+61(A2)+77(B4)+217(A4)

= 400 vph

Step 8. INTERSECTION LEVEL OF SERVICE
(compare step 7 with table 6)

| A |

Step 9. RECALCULATE

Geometric Change:
Signal Change:
Volume Change:

COMMENTS

Exclusive right turns reduced 30 %
V/C Ratio = .29

```
------------------------------------------------------------------------------
|_________________________INPUT WORKSHEET_____________________________________|
|Intersection:Story Road & Remillard Court          Date:  July 29, 1994      |
|Analyst:Shijo          TimePeriod Anlyzd:SunMidDayPk Area Type:  CBD XOther  |
|Project No.Exist+Proj    City/State: San Jose, CA         1 NB>WB LT Lane    |
|=============================================================================|
|VOLUME AND GEOMETRICS                |Remillard Ct. N/S ST.|                 |
|                           [   8]     |                     |      4 ^        |
|         ^                 SB TOTAL   |  1    1             |        -        |
|         |               |    |    |  | 16.0 |             |  937 <- [1192]  |
|         |               <    v    >  |  |  12.0           |        -WB TOTAL|
|        (N)              5    0    3| RTH  LT              |  251 v          |
|        |||             -----------------  <   >          ------------------|
|       NORTH                               v              <^--RTH-13.0'-1   |
|                                                          <---TH--12.0'-1   |
|                                                           v---LT-13.0'-1   |
|                         1-11.0'-LT---^                                     |
|                         1-12.0'--TH--->                        ^           |
|IDENTIFY IN DIAGRAM      1-16.0'-RTH--v>                                   |
|1.Volumes                -----------------              <   >  ------------|
|2.Lanes,lane widths                      |              LT RTH | Story Road  |
|3.Movements by lane                ^   3 |            12.0 |   |  E/W STREET |
|4.Parking locations                -     |               |  12.0|      0     |
|5.Bay storge lngths      [1225]   -> 976 |               1   1  |  277  <^>  283 |
|6.Islands               E/B TOTAL -      |                      |    [ 560]  |
|7.Bus stops                      v 246   |                      |  N/B TOTAL |
|TRAFFIC AND ROADWAY CONDITIONS                                               |
|=============================================================================|
|Ap|Grd.| % HV  | Adj.Pkg.Lane | Buses |  PHF  |Cnf.Ped| Pedstrn Button| Arr.|
|pr| (%)|       |  Y/N  |  Nm  |  (Nb) |       |(pd/hr)|  Y/N  |Mn.Time| Type|
|--|----|-------|-------|------|-------|-------|-------|-------|-------|-----|
|EB|+0.0|  2.0  |   N   |   0  |   2   | 0.90  |   9   |   Y   |  12   |  3  |
|WB|+0.0|  2.0  |   N   |   0  |   2   | 0.90  |   9   |   Y   |  12   |  5  |
|NB|+0.0|  2.0  |   N   |   0  |   0   | 0.90  |   9   |   Y   |  19   |  3  |
|SB|+0.0|  2.0  |   N   |   0  |   0   | 0.90  |   9   |   Y   |  19   |  3  |
|-----------------------------------------------------------------------------|
|Grade:+up,-down       Nb:buses stopping/hr       Min.Timing: min.green for   |
|HV:veh. > 4 whls      PHF:peak-hour factor               pedestrian crossing|
|Nm:pkg.maneuvers/hr   Cnf.Peds:Cnflctng peds/hr   Arr.Type: Type 1-5        |
|=============================================================================|
|PHASING                                                                      |
|===================== OR ====================================================|
|     |        |   ^    |        |  ^     |  .     |        |   .    |        |
|  D  |        |   .    |        |  .     |  .     |        |   .    |        |
|  I  | .....  |<.....  |        |<.....  |  ..>   |        |<..     |        |
|  A  | .      |   .    |        |        |        |        |   v    |        |
|  G  | v    ^ |   v    |      ^ |        |        |        |        |        |
|  R  |      . |        |      . |        |        |    ^   |     ^  |        |
|  A  | .....  |        | .....> | .....> |  <..   |  <...> |    ..> |        |
|  M  |        |        |      . |      . |    .   |    .   |     .  |        |
|     |        |        |      v |      v |    .   |    .   |     .  |        |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|
|Tim- | G=  1.3| G= 23.1| G=  0.0| G= 52.9| G=  1.3| G= 24.4| G=  4.1| G=  0.0|
| ing |Y+R=   3|Y+R=   3|Y+R=   3|Y+R=   3|Y+R=   3|Y+R=   3|Y+R=   3|Y+R=   0|
|-----|--------|--------|--------|--------|--------|--------|--------|--------|
|Ptmd/Act|  A  |    A   |    A   |    A   |    A   |    A   |    A   |        |
|-----------------------------------------------------------------------------|
| Protected turns: ****^ oooo^ | Permitted turns: ++++^ | Cycle Length 125 Sec|
|-----------------------------------------------------------------------------|
|      JONES & STOKES ASSOCIATES, INC., Sacramento, CA, using NCAP by PSI     |
```

Intersection:Story Road & Remillard Court — Date: July 29, 1994
Analyst:Shijo — TimePeriod Anlyzd:SunMidDayPk — Area Type: CBD XOther
Project No.Exist+Proj — City/State: San Jose, CA — 1 NB>WB LT Lane

VOLUME ADJUSTMENT WORKSHEET

1 Appr.	2 Mvt.	3 Mvt. Volume (vph)	4 Peak Hour Factor PHF	5 Flow Rate Vp 3/4	6 Lane Group	7 Flw rt In Ln Grp Vg (vph)	8 Number of Lanes N	9 Lane Utiliz Fctr,U Tb 9-4	10 Adj. Flow V,vph 7 x 9	11 Prop. of LT or RT Plt , Prt
EB	LT	3	0.90	3	A	3	1	1.00	3	1.00 LT
	TH	976	0.90	1084	O	1357	2	1.05	1425	*
	RT	246	0.90	273						0.20 RT
WB	LT	251	0.90	279	A	279	1	1.00	279	1.00 LT
	TH	937	0.90	1041	O	1045	2	1.05	1097	*
	RT	4	0.90	4						0.00 RT
NB	LT	277	0.90	308	A	308	1	1.00	308	1.00 LT
	TH	0	0.90	0	O	314	1	1.00	314	*
	RT	283	0.90	314						1.00 RT
SB	LT	3	0.90	3	A	3	1	1.00	3	1.00 LT
	TH	0	0.90	0	O	6	1	1.00	6	*
	RT	5	0.90	6						1.00 RT

LANE GROUP DIAGRAMS-[*** = PROTCTD, +++ = PERMTTD, ### = PROTCTD & PERMTTD]

```
A  ^   | O      |
   *   |        |
 ****  | ****>  |
       |    *   |
       |    v   |
```

JONES & STOKES ASSOCIATES, INC., Sacramento, CA, using NCAP by PSI

Intersection:Story Road & Remillard Court   Date: July 29, 1994
Analyst:Shijo   TimePeriod Anlyzd:SunMidDayPk Area Type: CBD XOther
Project No.Exist+Proj   City/State: San Jose, CA   1 NB>WB LT Lane

SATURATION FLOW ADJUSTMENT WORKSHEET

LANE GROUP Appr (1)	Mv (2)	3 Ideal Sat. Flow pcphgp	4 No. of Lns N	5 Ln.W. Fw T.9-5	6 HvyVeh Fhv T.9-6	7 Grade Fg T.9-7	8 Pkg. Fp T.9-8	9 BusBlk Fbb T.9-9	10 AreaTp Fa T.9-10	11 Rt Trn Frt T.9-11	12 Lt Trn Flt T.9-12	13 AdjSat FlwRt S (vphg)
	A	1800	1	0.970	0.990	1.000	1.000	1.000	1.000	1.000	0.950	1642
EB	O	1800	2	1.070	0.990	1.000	1.000	0.996	1.000	0.970	1.000	3684
	A	1800	1	1.030	0.990	1.000	1.000	1.000	1.000	1.000	0.950	1744
WB	O	1800	2	1.015	0.990	1.000	1.000	0.996	1.000	0.999	1.000	3601
	A	1800	1	1.000	0.990	1.000	1.000	1.000	1.000	1.000	0.950	1693
NB	O	1800	1	1.000	0.990	1.000	1.000	1.000	1.000	0.850	1.000	1515
	A	1800	1	1.000	0.990	1.000	1.000	1.000	1.000	1.000	0.950	1693
SB	O	1800	1	1.100	0.990	1.000	1.000	1.000	1.000	0.850	1.000	1666

LANE GROUP DIAGRAMS-[*** = PROTCTD, +++ = PERMTTD, ### = PROTCTD & PERMTTD]

```
A  ^  | O      |
   *  |        |
****  |  ****> |
      |     *  |
      |     v  |
```

JONES & STOKES ASSOCIATES, INC., Sacramento, CA. using NCAP by PSI

```
|Intersection:Story Road & Remillard Court        Date:  July 29, 1994        |
|Analyst:Shijo           TimePeriod Anlyzd:SunMidDayPk Area Type:  CBD XOther|
|Project No.Exist+Proj    City/State: San Jose, CA        1 NB>WB LT Lane     |
|=============================================================================|
|      SUPPLEMENTAL WORKSHEET FOR LEFT-TURN ADJUSTMENT FACTOR, fLT             |
|=============================================================================|
|INPUT_VARIABLES/COMPUTATIONS_____|____EB____|____WB____|____NB____|____SB____|
|Cycle Length, C (sec)            |          |          |          |          |
|Effective Green, g (sec)         |          |          |          |          |
|Number of Lanes, N               |          |          |          |          |
|Total Approach Flow Rate, Va(vph)|          |          |          |          |
|Mainline Flow Rate, Vm (vph)     |          |          |          |          |
|Left-Turn Flow Rate, Vlt (vph)   |          |          |          |          |
|Proportion of LT, Plt            |          |          |          |          |
|Opposing Lanes, No               |          |          |          |          |
|Opposing Flow Rate, Vo (vph)     |          |          |          |          |
|Prop. of LT in Opp. Vol. Plto    |          |          |          |          |
|Sop = 1800No/(1+Plto[(400+Vm)etc.|          |          |          |          |
|Yo = Vo/Sop                      |          |          |          |          |
|Gu = (g-CYo)/(1-Yo)              |          |          |          |          |
|Fs = (875-0.625Vo)/1000          |          |          |          |          |
|Pl = Plt[1+(N-1)g/(FsGu+4.5)]    |          |          |          |          |
|Gq = g - Gu                      |          |          |          |          |
|Pt = 1 - Pl                      |          |          |          |          |
|Gf = 2Pt[1-Pt^(.5Gq)]/Pl         |          |          |          |          |
|El = 1800/(1400-Vo)              |          |          |          |          |
|Fm = Gf/g + Gu/g * [1/(1+Pl etc. |          |          |          |          |
|Flt = (Fm + N - 1)/N             |          |          |          |          |
|-----------------------------------------------------------------------------|
|     JONES & STOKES ASSOCIATES, INC., Sacramento, CA, using NCAP by PSI      |
-------------------------------------------------------------------------------
```

Intersection:Story Road & Remillard Court   Date: July 29, 1994
Analyst:Shijo   TimePeriod Anlyzd:SunMidDayPk Area Type: CBD XOther
Project No.Exist+Proj   City/State: San Jose, CA   1 NB>WB LT Lane

CAPACITY ANALYSIS WORKSHEET

LANE GROUP 1 Appr.	2 Mvmt.	3 Adjusted Flow Rate v (vph)		4 Ad.Sat Flw.Rt s (vphg)	5 Flow Ratio v/s 3/4		6 Green Ratio g / C	7 Ln.Grp Capac. c,vph 4x6	8 v/C Ratio X 3/7	9 Crit. ? Lane Group
	A	3	-	1642	0.002	-	0.010	17	0.176	-
EB	O	1425	-	3684	0.387	-	0.423	1559	0.914	***
	A	279	-	1744	0.160	-	0.219	382	0.730	***
WB	O	1097	-	3601	0.305	-	0.632	2276	0.482	-
	A	308	-	1693	0.182	-	0.230	389	0.792	-
NB	O	314	-	1515	0.207	-	0.252	382	0.823	***
	A	3	-	1693	0.002	-	0.010	18	0.170	***
SB	O	6	-	1666	0.004	-	0.033	55	0.110	-

Cycle Length= 125.0sec, Lost Time/Cycle,L= 12.0sec, S(v/s)ci= 0.756, Xc=0.836

LANE GROUP DIAGRAMS-[*** = PROTCTD, +++ = PERMTTD, ### = PROTCTD & PERMTTD]

```
A ^  | O     |
  *  |       |
**** | ****> |
     |   *   |
     |   v   |
```

JONES & STOKES ASSOCIATES, INC., Sacramento, CA, using NCAP by PSI

Intersection: Story Road & Remillard Court — Date: July 29, 1994

Analyst: Shijo — TimePeriod Anlyzd: SunMidDayPk — Area Type: CBD XOther

Project No. Exist+Proj — City/State: San Jose, CA — 1 NB>WB LT Lane

LEVEL-OF-SERVICE WORKSHEET

LANE GROUP 1 Ap	2 Mv	First Term Delay: 3 v/c Ratio X	4 Green Ratio g/C	5 Cycle Length C (sec)	6 Delay d1 sec/veh	Second Term Delay: 7 Lane Group Cap, c (vph)	8 Delay d2 sec/veh	9 Prgrsn Factor PF T.9-13	10 Lane Gp Delay sec/veh (6+8)*9	Tot. Delay & LOS: 11 Ln Gp LOS 9-1	12 Apprch Delay sec/veh	13 Apr LOS Tbl 9-1
	A	0.176	0.010	125.0	46.60	17	0.50	1.00	47.11	E		
EB	O	0.914	0.423	125.0	25.77	1559	6.30	0.85	27.26	D	27.30	D
	A	0.730	0.219	125.0	34.47	382	4.76	1.00	39.23	D		
WB	O	0.482	0.632	125.0	9.25	2276	0.13	0.40	3.75	A	10.95	B
	A	0.792	0.230	125.0	34.46	389	7.34	1.00	41.80	E		
NB	O	0.823	0.252	125.0	33.53	382	9.30	0.85	36.40	D	39.08	D
	A	0.170	0.010	125.0	46.60	18	0.45	1.00	47.04	E		
SB	O	0.110	0.033	125.0	44.60	55	0.04	0.85	37.94	D	40.97	E

Intersection Delay 22.92 sec/veh, Intersection LOS C Table 9.1

LANE GROUP DIAGRAMS-[*** = PROTCTD, +++ = PERMTTD, ### = PROTCTD & PERMTTD]

```
| A  ^  | O      |
|    *  |        |
| ****  |  ****> |
|       |    *   |
|       |    v   |
```

JONES & STOKES ASSOCIATES, INC., Sacramento, CA, using NCAP by PSI

```
OCATION:Story Rd & Roberts Avenue       |NAME:cds
--------------------------------------------------------------------------------
IOURLY VOLUMES                       ^  | VOLUMES IN PCPH
                                     N  |
Major street:Story Road                 |
======================================  | ===================================
I= 2                   <---V5--- 1164   |                            <---V5---
;rade  1255---V2--->   v---V4---   27   |         ---V2--->          v---V4---    30
 0%     37---V3---v             N= 3    |         ---V3---v
=================  <|    |>  ==========  | =================  <|    |>  =========
)ate of Counts:  |   |    |    |        |                   |   |    |    |
:xist+project    |   V7   V9   | X STOP |                   |   V7   V9   |
'ime Period:     |   |    |    |  YIELD |                   |   |    |    |
;un Mid-Day Pk.  |   15      18|        |                   |   17      20|
\pproach Speed:  Minor Street:    Grade |
10              Roberts Ave         0%  |
'HF:                 N= 1
'opulation: 250000
================================================================================
/OLUME ADJUSTMENTS
--------------------------------------------------------------------------------
lovement no.             |   2   |    3   |    4   |    5   |    7   |    9   |
--------------------------------------------------------------------------------
/olume (vph)             |  1255 |   37   |   27   |  1164  |   15   |   18   |
--------------------------------------------------------------------------------
/ol(pcph),see Table 10.1|XXXXXXXX|XXXXXXXX|   30   |XXXXXXXX|   17   |   20   |
================================================================================
;TEP 1 : RT From Minor Street           |             /-> V9
================================================================================
:onflicting Flows, Vc                   | 1/2 V3+V2= 19 + 628 = 647 vph(Vc9)
:ritical Gap, Tc                        | Tc=    5 secs (Tab.10.2)
'otential Capacity, Cp                  | Cp9=  599 pcph (Fig.10.3)
\ctual Capacity, Cm                     | Cm9=Cp9=  599 pcph
================================================================================
;TEP 2 : LT From Major Street           |             v-- V4
================================================================================
:onflicting Flows, Vc                   | V3+V2= 37 + 1255 = 1292 vph(Vc4)
:ritical Gap, Tc                        | Tc=    5 secs (Tab.10.2)
'otential Capacity, Cp                  | Cp4=  273 pcph (Fig.10.3)
, of Cp utilized and Impedance Factor   | (V4/Cp4)x100=   11% P4= .93
\ctual Capacity, Cm        (Fig.10.5)   | Cm4=Cp4=  273 pcph
================================================================================
;TEP 3 : LT From Minor Street           |             <-\ V7
================================================================================
:onflicting Flows, Vc                   | 1/2 V3+V2+V5+V4=
                                        | 19 + 1255 + 1164 + 27 = 1700 vph(Vc7)
:ritical Gap, Tc                        | Tc=  6.5 secs (Tab.10.2)
'otential Capacity, Cp                  | Cp7=   85 pcph (Fig.10.3)
\ctual Capacity, Cm                     | Cm7=Cp7xP4= 85 x .93 = 79 pcph
================================================================================
;HARED LANE CAPACITY    SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is shared

                                                    CR        CR       LOS    LOS
AOVEMENT    V(PCPH)    CM(PCPH)    CSH(PCPH)     (CM-V)   (CSH-V)     CM     CSH
================================================================================
   7          17          79          149          62       112        E      D
   9          20         599          149         579       112        A      D
   4          30         273                      243                  C
```

AUG 0 4

```
                                        Critical Movement Analysis: PLANNING
                                                  Calculation Form 1

Intersection: SENTER/HAPPY HOLLOW LOT
Problem Statement: EXIST + PROJ - MIT
==============================================================================
Step 1. IDENTIFY LANE GEOMETRY           | Step 4. LEFT TURN CHECK
              | Approach 3:SENTER        |                      -------Approach-----
              |    3    1 |      ^       |                      : -1-  -2-  -3-  -4-
              |  R    L   |      N       |a.No. of change       :  0    0    0    0
              | R T T T L |              |  intervals/hour      :
------------- T H H H T  ----------------|b.LT capacity on      :  0    0    0    0
 Approach 1   < < | > >     ^--RT        |  change (vph)        :
   LT--^        v v v      <^-RTH        |c.C/C ratio           :  0    0    0    0
   LTH-^>                  <--TH    1    |d.Opposing volume     : 135   0    0  711
   TH-->                   <v-LTH        |  in vph              :
   RTH-v>       ^ ^ ^       v--LT        |e.LT capacity on      :  0    0    0    0
   RT--v      < < | > >    Approach 2    |  green (vph)         :
------------- L L T R R  ----------------|f.LT capacity in      :  0    0    0    0
             | T T H T T |LOT ENTR.      |  vph (b+e)           :
             |   H   H   |               |g.Left turn volume    :  0    0    0    0
             |     2 1   |               |  in vph              :
             | Approach 4:SENTER         |h.Is volume > cap.    : NO   NO   NO   NO
                                         |  (g>f) ?             :
======================================+=======================================
Step 2. IDENTIFY VOLUMES, in vph         | Step 5. ASSIGN LANE VOLUMES, in vph
                                         |         |                       |
                                         |         | 2 2 2 1               |
              | Approach 3|              |-------    3 3 3 2              -------
3:  LT= 120 | |           | 2:RT= 135    |           7 7 7 0             ^+ 135
   TH= 711  | |           |    TH=   0   |           | | | |             <-   0
   RT=   0  | v           |    LT= 109   |           v v v >             v+ 109
-------------            ----------------|
                         <--Approach 2   |
                                         |
                                         |
Approach 1-->                            |                       ^ ^ ^ >
-------------                ------------|                       | | + +
1:LT=   0   |           ^ | 4: RT=  97   |
  TH=   0   |           | |    TH= 794   |                       2 2 2     -------
  RT=   0   |           | |  LT=   0     |-------                9 9 0 9 |
            | Approach 4|                |       |               7 7 0 7 |
                                         |       |
======================================+=======================================
Step 3. IDENTIFY PHASING                 | Step 6a. CRITICAL VOLUMES, in vph
                                         |              (two phase signal)
          |    |    A3B4                 |              | Approach 3|
          v    >                         |              |           |
          |    ^    A3A4                 |              |           |
          v    |                         |              |           |
              <--   A2B1                 |-------------              -------------
              v--                        | Approach 1
                                         |
                                         |            See Step 6b.
                                         |
                                         |                          Approach 2
                                         |-------------              ------------
                                         |              |           |
-----------------------------------------|              |           |
 A1 -->   A3 |       B1 v--    B3   <|   |              |           |
             v ^                    | |  |              | Approach 4|
 A2 <--   A4 |       B2 --^    B4  |>    |
==============================================================================
```

Design Hour: SUNDAY PEAK

Step 6b. VOLUME ADJUSTMENT FOR MULTIPHASE SIGNAL OVERLAP

Probable Phase	Possible Critical Volume in vph	Volume Carryover to next phase	Adjusted Critical Volume in vph
A3B4	120(B4)	237- 120= 117(A3)	120
A3A4	297(A4) OR	117(A3)	297
A2B1	244(A2) OR	109(B1)	244

Step 7. SUM OF CRITICAL VOLUMES

417(B4A4)+244(A2)+0()+0()

= 661 vph

Step 8. INTERSECTION LEVEL OF SERVICE
(compare step 7 with table 6)

| A |

Step 9. RECALCULATE

Geometric Change:
Signal Change:
Volume Change:

COMMENTS

MITIGATION - SIGNALIZE

V/C Ratio = .46

APPENDIX C. PARKING SURVEY DATA

Chapter 2. Parking Survey Data

BACKGROUND AND PURPOSE

This study was originally conducted as part of a traffic and parking analysis to be conducted for the future Kelley Park Master Plan EIR. The city contracted with Jones & Stokes Associates to collect data on parking demand and supply prior to initiation of work on the EIR. This was done to allow the data collection to occur during summer, the period when park usage is highest.

The purpose of this study was to determine the relationship between current parking supply and demand at Kelley Park and to characterize the parking habits of park visitors (i.e., average duration of stay, the distribution of demand over the course of a day, and average occupancy of vehicles using the parking lot). This information should be useful in planning for future parking needs at the park. Data on the direction of approach for vehicles entering the lot were also collected to aid in any future analyses of operations at park entrances.

METHODOLOGY

Parking data were collected at Kelley Park on Sunday, August 9, 1992, by Jones & Stokes Associates' contractors. Three separate data collection efforts were conducted at the two operating parking lots: a license-plate survey, a vehicle-occupancy survey, and a direction- of-approach survey. The weather on this day was clear and warm.

Four parking lots serve parking demand at Kelley Park. These are shown in Figure 2-1. The largest lot is between Happy Hollow Park and the Leininger Center; it has a capacity of 462 vehicles and is accessed from Senter Road. Parking fees are normally collected at this lot. For the purposes of this study, the lot will be known as Lot A.

A smaller parking lot is between the Japanese Friendship Garden and the San Jose Historical Museum; it has a capacity of 76 spaces and is accessed from Senter Road. Parking fees are normally collected at this lot. For the purposes of this study, the lot will be known as Lot B.

An overflow parking lot is on the southwest corner of the Keyes Street/Story Road/Senter Road intersection; this lot has a capacity of approximately 203 spaces and is used only during special events when additional parking is needed. For the purposes of this study, the lot will be known as Lot C.

Approximately 100 informal, unpaved parking spaces along Phelan Avenue are used mainly by historical museum visitors. Parking fees are not collected at this lot. For the purposes of this study, the lot will be known as Lot D.

Data Limitations

At the time that direction to proceed was given for the data collection, a limited number of weekends (during which demand would be uncharacteristically high and after which demand for park use would drop off due to the start of public school sessions) was available prior to Labor Day. Sunday, August 9, was chosen as the survey day. Subsequent to choosing that date, it was discovered that the historical museum was closed for renovation and would not be reopened until September 1.

Because the museum is considered one of the principal attractions of the park, this closure was expected to greatly affect parking demand in Lot B. However, it was not expected to have as large an effect on Lot A. It was also discovered that Phelan Avenue was closed due to adjacent construction. This closure prevented any parking in Lot D. Because Lot C was not used on the day of the survey and Lot D was not useable, data were only collected for Lots A and B.

Although parking fees are normally collected at all lots except D, personnel shortages on the day of the survey resulted in no fees being collected. Because this absence of fee collection could not be known by users in advance, it was not expected to significantly bias the data that were collected.

License Plate Survey

The license plate survey was conducted at Lots A and B between the hours of 8:00 a.m. and 8:00 p.m., roughly the hours that the park was expected to be open. The survey was conducted by circulating through each of the parking lots on hourly circuits and writing down the last four digits of the license plate of each vehicle parked in the lot. The form used to collect these data are shown as Figure 2-2. The data sheets were then processed using proprietary software developed by Jones & Stokes Associates to calculate lot occupancy by hour, average duration of stay, and turnover.

Some vehicles were already in the lot before the first circuit, and others remained in the lot after the last circuit. The duration of stay of these vehicles cannot be determined, so they were excluded in calculating the average duration of stay for vehicles in each lot.

Figure 2-2.

LICENSE PLATE SURVEY DATA COLLECTION FORM

NAME: ______________

DATE: ______________

LOT # ______

PAGE: ____ OF ____

TIME CIRCUIT BEGINS												

INSTRUCTIONS

Fill in last 4 digits of license plate (XXXX).
Use a check mark to repeat number from previous circuit ( ).
Use a dash to indicate an empty parking space (– – –).

JSA
7/24/92

Vehicle Occupancy Survey

Surveyors were stationed at the entrance to both of the parking lots and were instructed to count the number of occupants of each vehicle entering the lot. The form used to collect these data are shown as Figure 2-3. The data were segregated into seven categories to provide an accurate estimate of vehicle occupancy.

Approach Direction Survey

The same surveyors who collected vehicle occupancy counts were instructed to collected data on the direction of approach for all vehicles entering the two active parking lots. The form used to collect these data is the same form used to collect the vehicle occupancy counts and is shown as Figure 2-3.

RESULTS

The results of these surveys are described below. Five types of results are presented:

- duration of parking stay,
- parking lot turnover,
- lot occupancy by hour of day,
- vehicle occupancy, and
- direction of approach.

Duration of Parking Stay

Figures 2-4, 2-5, and 2-6 present summaries of parking duration at Lot A, Lot B, and both lots combined, respectively. The data displayed in these figures indicate that the majority of people using these lots park for 3 hours or less. In Lot A, more than 60% of vehicles park for 3 hours or less, and nearly 78% park for 4 hours or less. This contradicts the presumption that most people use this lot to park for all-day picnic trips.

At Lot B, nearly 68% of vehicles park for 3 hours or less, and 85% of all vehicles park for 4 hours or less. For both lots combined, 61% of vehicles park for 3 hours or less, and nearly 79% of vehicles park for 4 hours or less. The average duration of stay in Lot A is 3.4 hours, in Lot B it is 3.5 hours, and for the two combined it is 3.4 hours.

TURN MOVEMENT AND VEHICLE OCCUPANCY COUNT SHEETS

Figure 2-3.

NAME: ______________
DATE: ______________
LOT #: ______________
PAGE: _____ OF _____

APPROACH FROM		NUMBER OF PERSONS						
LEFT	RIGHT	1	2	3	4	5	6	> 6 *

* IF MORE THAN 6 PERSONS, PLEASE ENTER AN ESTIMATE OF THE NUMBER OF PERSONS IN THE LAST COLUMN.

Figure 2-4.

DURATION OF STAY IN PARKING LOT

VEHICLES ARR & LV DURING STUDY –LOT A

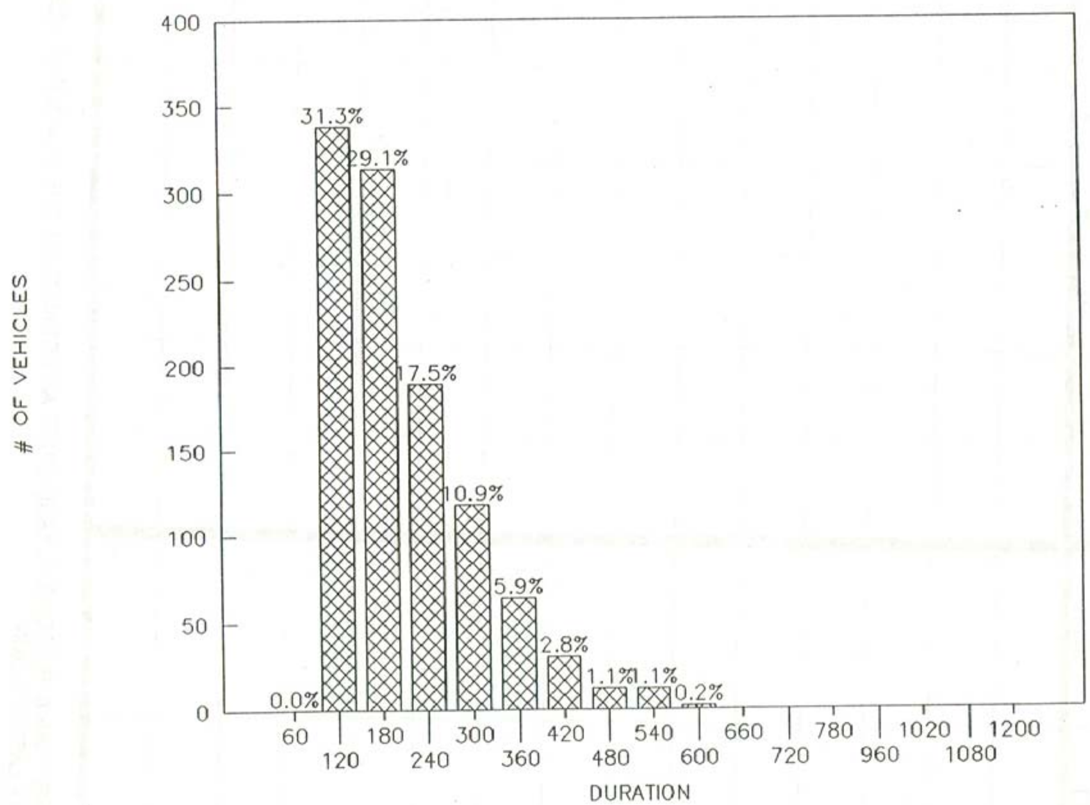


Figure 2-5.

DURATION OF STAY IN PARKING LOT

VEHICLES ARR & LV DURING STUDY -LOT B

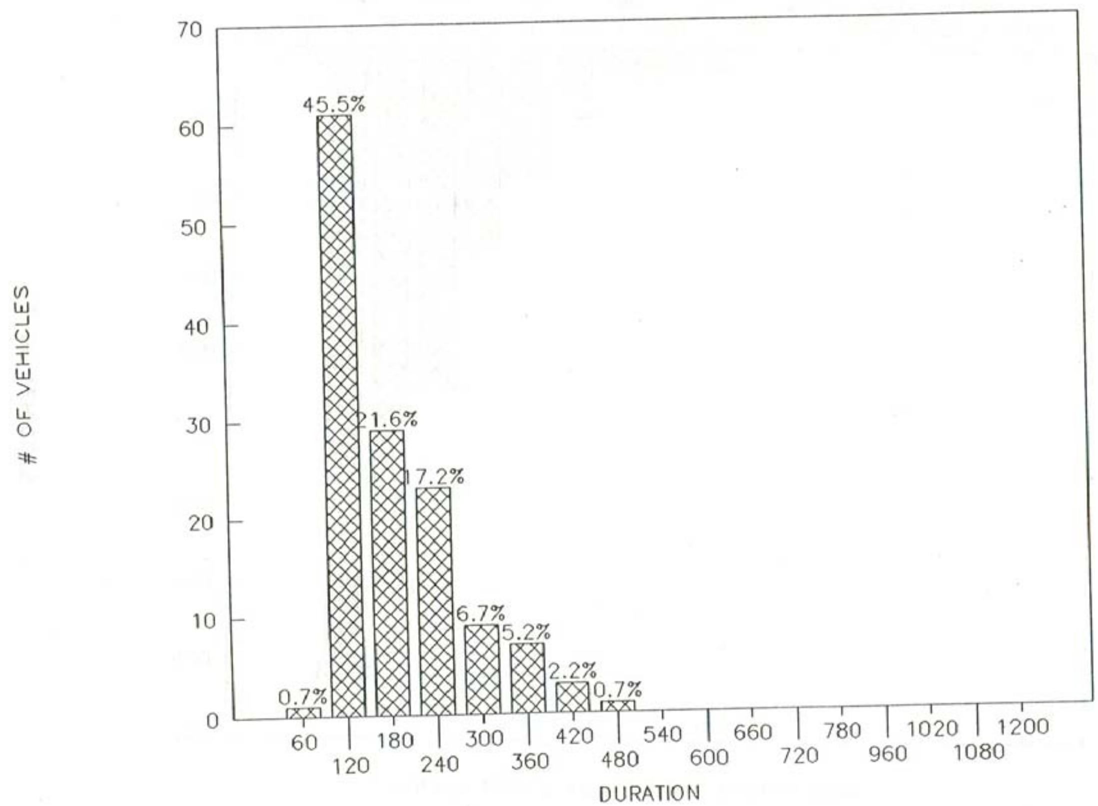
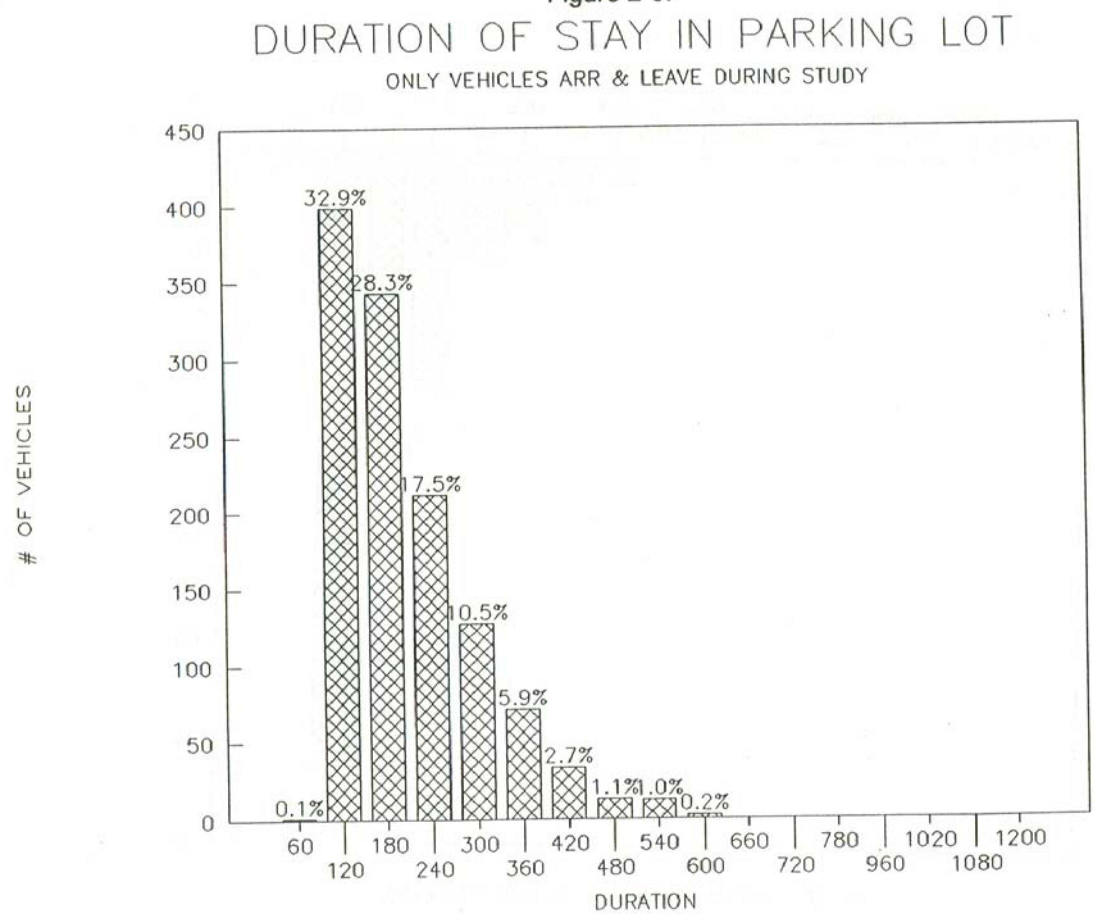


Figure 2-6.



DURATION OF STAY IN PARKING LOT
ONLY VEHICLES ARR & LEAVE DURING STUDY
OF VEHICLES
450
400
350
300
250
200
150
100
50
0
32.9%
28.3%
17.5%
10.5%
5.9%
2.7%
1.1%
1.0%
0.2%
0.1%
60
120
180
240
300
360
420
480
540
600
660
720
780
960
1020
1080
1200
DURATION

Turnover

Turnover at a parking lot measures the average number of different vehicles occupying each space in a lot during the course of a day. If a lot has a high turnover, then more total vehicles can use the lot each day because each individual vehicle uses the lot for a short time. Turnover is calculated by dividing the total number of individual vehicles parked in the lot all day by the physical capacity of the lot.

Lot A has a capacity of approximately 462 vehicles. A total of 1,096 different vehicles parked in the lot on the survey day, so the turnover rate for that lot is approximately 2.4. Lot B has a capacity of 76 vehicles. A total of 164 different vehicles parked in Lot B on the survey day, so the turnover rate for that lot is approximately 2.2. For both lots combined, the turnover rate is approximately 2.3.

Lot Occupancy

Figure 2-7 shows the occupancy of Lot A over the course of the study period. Occupancy is calculated as the percentage of lot capacity utilized during each hour. Contrary to expectations, the maximum occupancy of Lot A occurred between the hours of 2:00 and 5:00 p.m. and peaked at just under 90% occupancy. As shown in Figure 2-8, Lot B occupancy was highest between 3:00 and 6:00 p.m. and peaked at nearly 98% occupancy. In both cases, occupancy during the morning hours was quite low, never reaching above 30%.

Vehicle Occupancy

Figure 2-9 presents the results of the vehicle occupancy counts at Lot A. These data show that 53% of the vehicles contained only one or two persons, 37% contained three or four persons, and 10% contained more than four persons. Figure 2-10 presents the same information for Lot B. These data show that 40% of the vehicles contained only one or two persons, 37% contained three or four persons, and 23% contained more than four persons. Thus, the occupancy of vehicles at Lot B was much higher than at Lot A. Figure 2-11 shows the data for both lots combined, which are roughly the same as the data for Lot A alone because it is by far the larger lot.

Average vehicle occupancy was calculated by dividing the total number of persons in all cars by the number of cars counted. For Lot A, the average vehicle occupancy was 2.7 persons per vehicle. For Lot B, the average was 3.2 persons per vehicle, and for both lots the average was 2.8 persons per vehicle.

Figure 2-7.

OCCUPANCY OF LOT BY HOUR OF DAY

LOT A

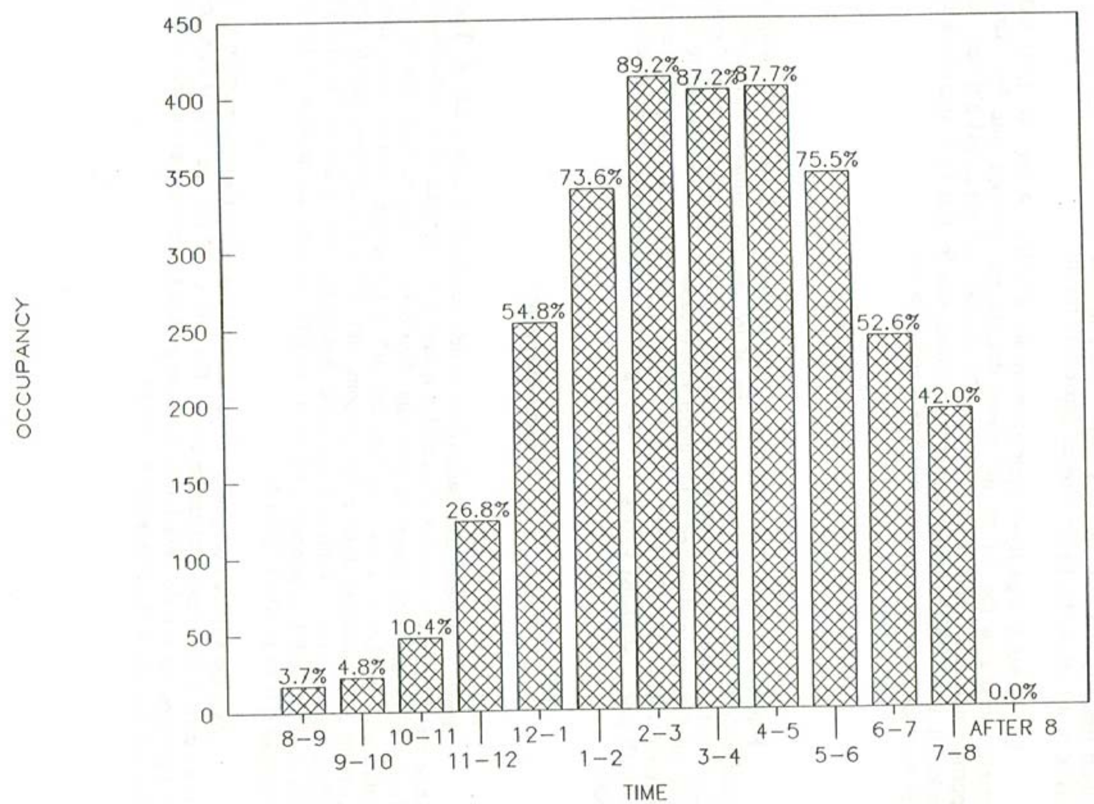
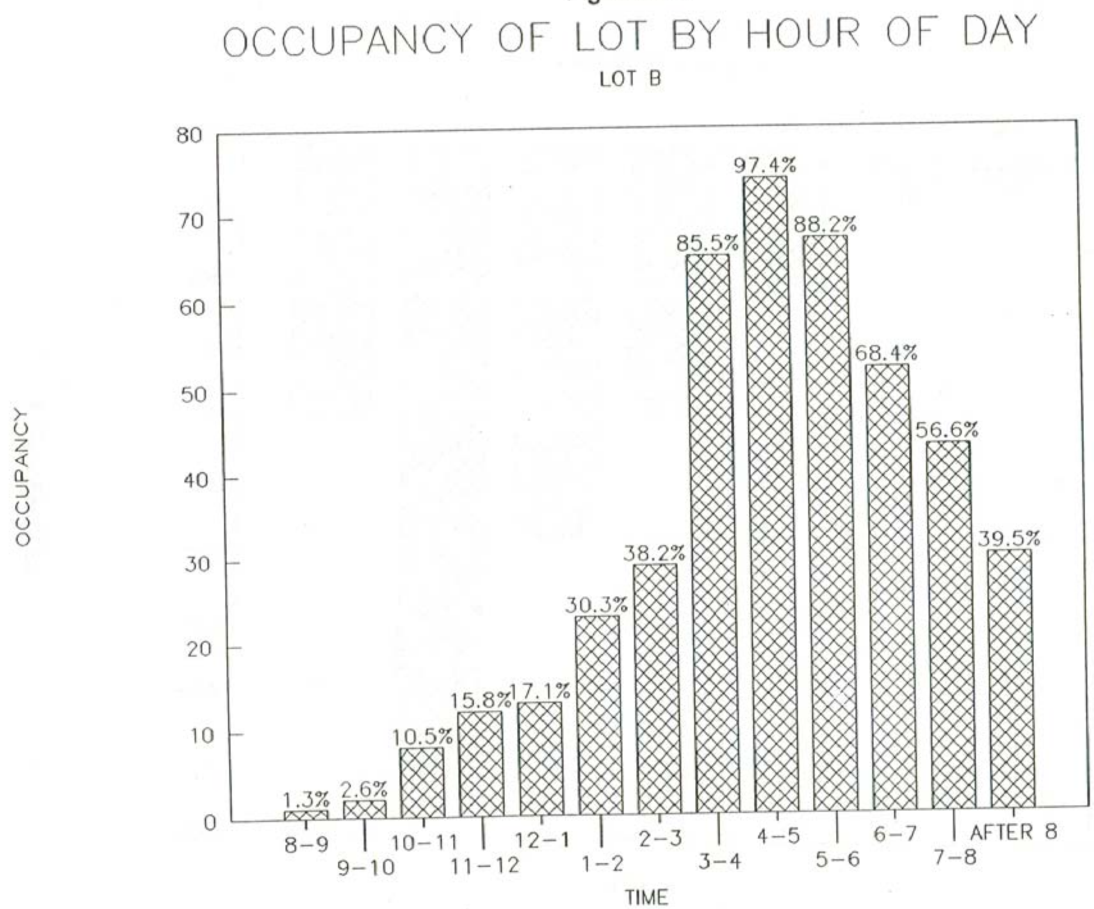


Figure 2-8.



OCCUPANCY OF LOT BY HOUR OF DAY
LOT B
OCCUPANCY
0
10
20
30
40
50
60
70
80
1.3%
2.6%
10.5%
15.8%
17.1%
30.3%
38.2%
85.5%
97.4%
88.2%
68.4%
56.6%
39.5%
8-9
9-10
10-11
11-12
12-1
1-2
2-3
3-4
4-5
5-6
6-7
7-8
AFTER 8
TIME

Figure 2-9.

Vehicle Occupancy

LOT A

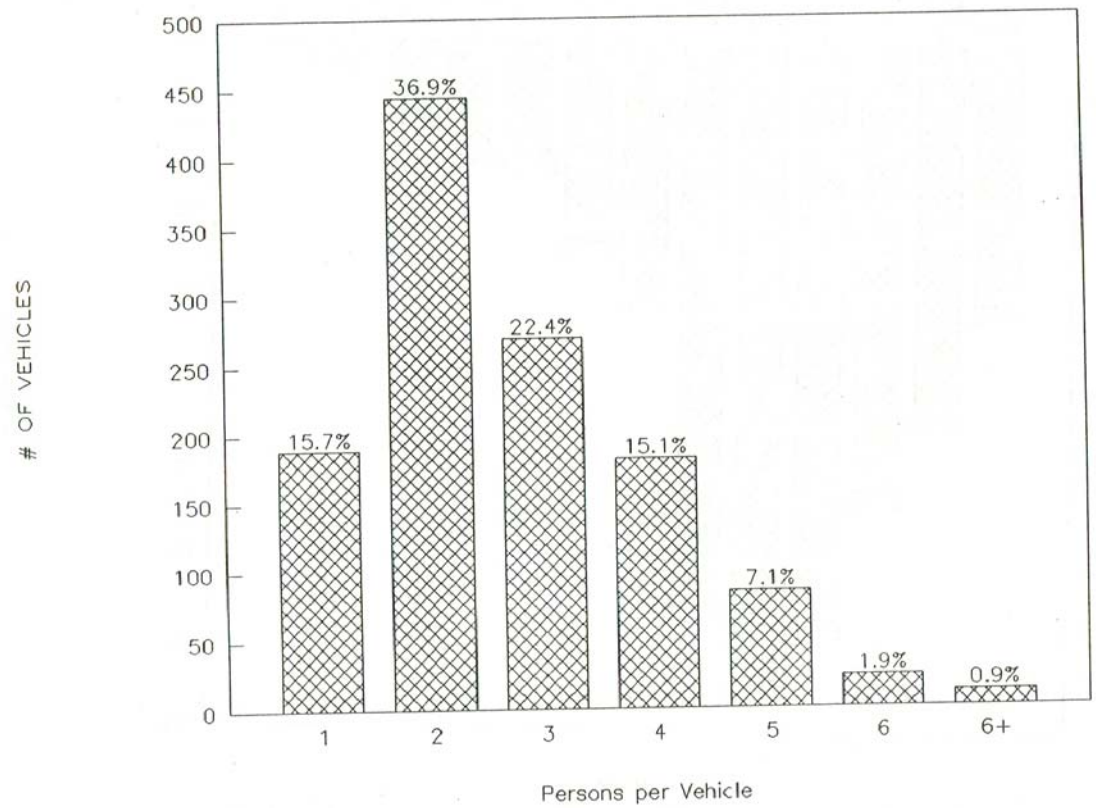


Figure 2-10.

Vehicle Occupancy

LOT B

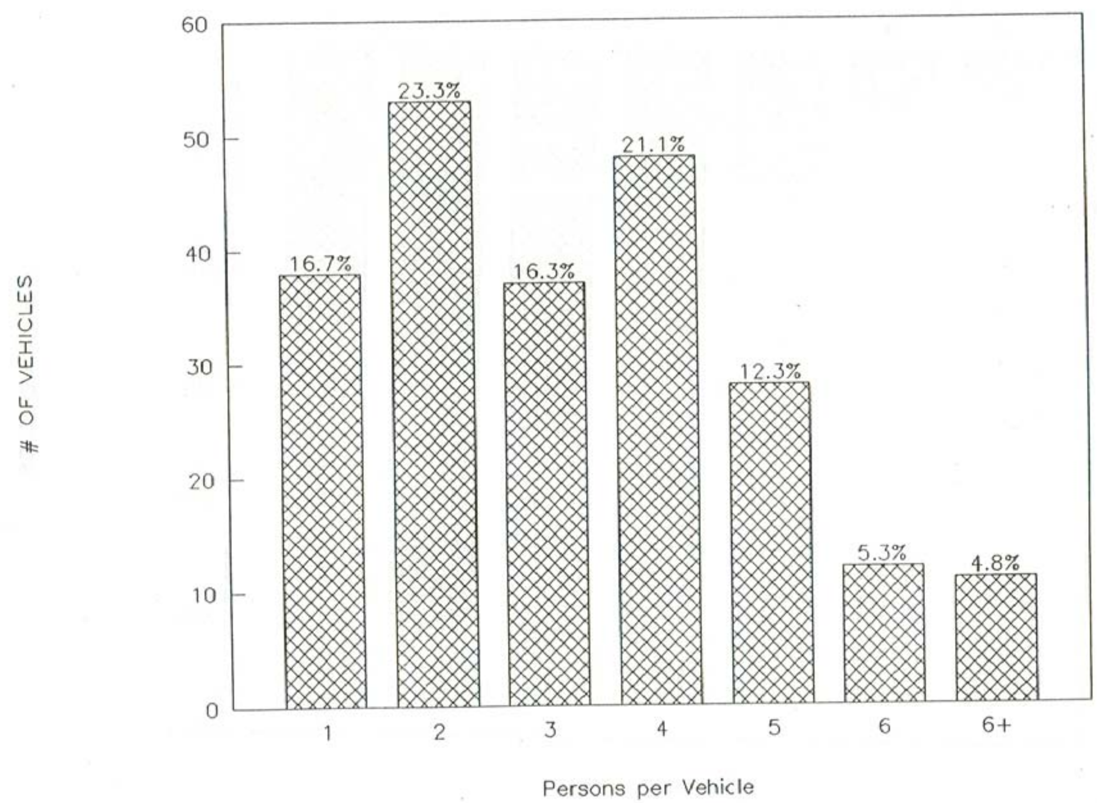
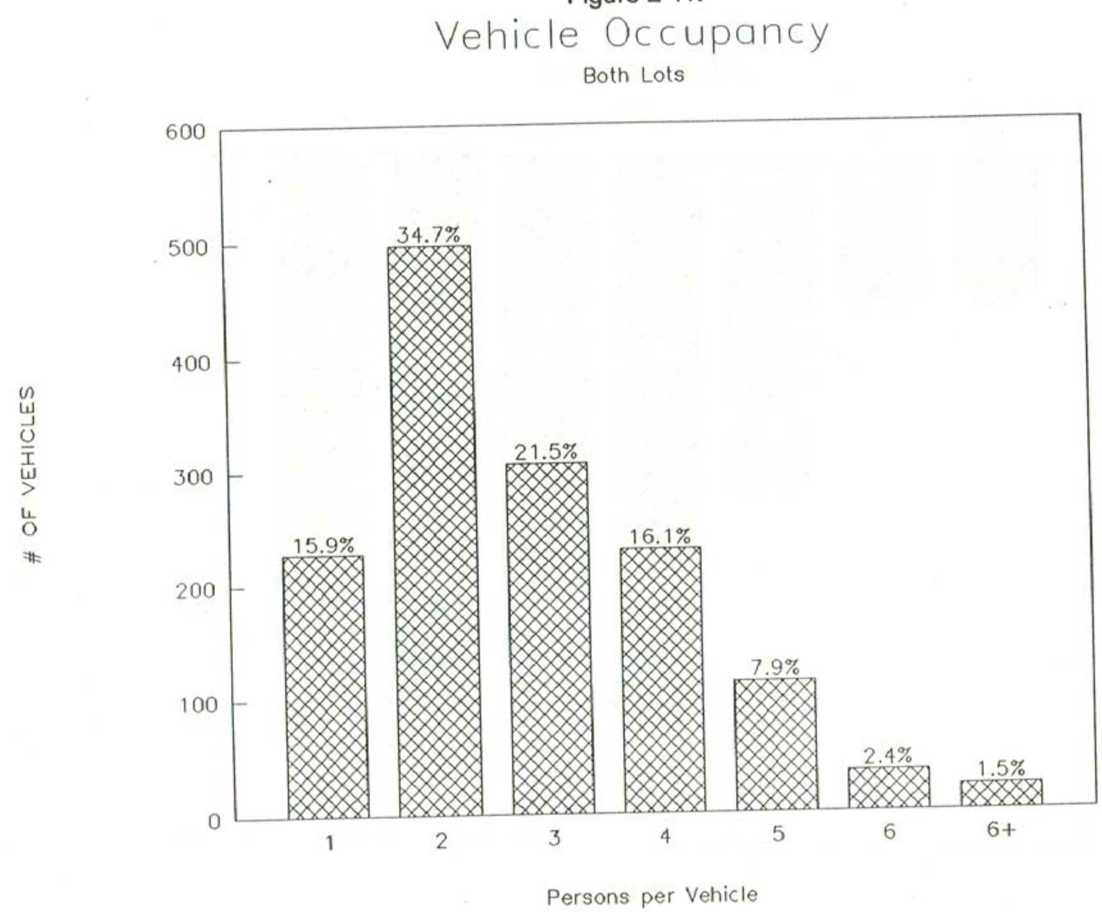


Figure 2-11.


Vehicle Occupancy
Both Lots
OF VEHICLES
600
500
400
300
200
100
0
15.9%
34.7%
21.5%
16.1%
7.9%
2.4%
1.5%
1
2
3
4
5
6
6+
Persons per Vehicle

Direction of Approach

For Lot A, approximately 45% of the vehicles entering the lot approached from northbound Senter Road, and 55% approached from southbound Senter Road. For Lot B, the distribution was quite different, with 26% approaching from northbound Senter Road and 74% approaching from southbound Senter Road.

APPENDIX D. BACKGROUND INFORMATION ON ACOUSTICS

APPENDIX D. BACKGROUND INFORMATION ON ACOUSTICS

Sound Terminology

Sound travels through the air as waves of minute air pressure fluctuations caused by some type of vibration. In general, sound waves travel away from the sound source as an expanding spherical surface. The energy contained in a sound wave is consequently spread over an increasing area as it travels away from the source. This results in a decrease in loudness at greater distances from the sound source. The following terms are commonly used in acoustics.

Decibels

Sound-level meters measure the pressure fluctuations caused by sound waves. Because of the ability of the human ear to respond to a wide dynamic range of sound pressure fluctuations, loudness is measured in terms of decibels (dB), which are units on a logarithmic scale. This results in a scale that measures pressure fluctuations in a convenient notation and corresponds to our auditory perception of increasing loudness.

A-Weighted Decibels

Most sounds consist of a broad range of sound frequencies. Because the human ear is not equally sensitive to all frequencies, several frequency-weighting schemes have been used to develop composite decibel scales that approximate the way the human ear responds to sound levels. The "A-weighted" decibel scale (dBA) is the most widely used for this purpose. Typical A-weighted sound levels for various types of sound sources are summarized in Figure B-1. Noise levels described in this document are reported using the A-weighted scale but are simply referred to as "dB".

Equivalent Sound Level

Time-varying sound levels are often described in terms of an equivalent constant decibel level. Equivalent sound levels (Leq) are used to develop single-value descriptions of average sound exposure over various periods of time. Such average sound exposure values often include additional weighting factors for annoyance potential attributable to time of day or other considerations. The Leq data used for these average sound exposure descriptors are generally based on A-weighted sound-level measurements.

Day-Night Average Sound Level

Average sound exposure over a 24-hour period is often presented as a day-night average sound level (Ldn). Ldn values are calculated from hourly Leq values, with the Leq values for the nighttime period (10:00 p.m.-7:00 a.m.) increased by 10 dB to reflect the greater disturbance potential from nighttime noises.

Community Noise Equivalent Level

The community noise equivalent level (CNEL) is also used to characterize average sound levels over a 24-hour period, with weighting factors included for evening and nighttime sound levels. Leq values for the evening period (7:00 p.m.-10:00 p.m.) are increased by 5 dB, while Leq values for the nighttime period (10:00 p.m.-7:00 a.m.) are increased by 10 dB.

Percentile-Exceeded Sound Level

The sound level exceeded during a given percentage of a measurement period is the percentile-exceeded sound level (Lx). Examples include L10, L50, and L90. L10 is the A-weighted sound level that is exceeded 10% of the measurement period, L50 is the level exceeded 50% of the period, and L90 is the level exceeded 90% of the period. L90 is often considered to represent the ambient sound level.

Ambient Sound

Ambient sound is the all-encompassing sound associated with a given community site, usually being a composite of sounds from many sources, near and far, with no particular sound being dominant.

Equivalencies between Various Sound Descriptors

The Ldn value at a site calculated from a set of measurements taken over a given 24-hour period will be slightly lower than the CNEL value calculated over the same time period. Except in situations where unusually high evening sound levels occur, the CNEL value will be within 1.5 dB of the Ldn value for the same set of sound measurements.

The relationship between peak hourly Leq values and associated Ldn values depends on the distribution of traffic over the entire day. There is no precise way to convert a peak hourly Leq value to an Ldn value. However, in urban areas near heavy traffic, the peak hourly Leq value is typically 2-4 dB lower than the daily Ldn value. In less heavily developed areas, the peak hourly Leq is often equal to the daily Ldn value. For rural areas with little nighttime traffic, the peak hourly Leq value will often be 3-4 dB greater than the daily Ldn value.

Working with Decibel Values

The nature of dB scales is such that the individual sound level for different sound sources cannot be added directly to give the combined sound level of these sources. Two sound sources producing equal sound levels at a given location will produce a composite sound level that is 3 dB greater than either sound alone. When two sound sources differ by 10 dB, the composite sound level will be only 0.4 dB greater than the louder source alone.

Most people have difficulty distinguishing the louder of two sound sources if they differ by less than 1.5-2.0 dB. Research into the human perception of changes in sound level indicates the following:

- a 3-dB change is just perceptible,
- a 5-dB change is clearly perceptible, and
- a 10-dB change is perceived as being twice or half as loud.

When distance is the only factor considered, sound levels from an isolated noise source will typically decrease by about 6 dB for every doubling of distance away from the noise source. When the sound source is essentially a continuous line (e.g., vehicle traffic on a highway), sound levels decrease by about 3 dB for every doubling of distance. In traffic noise studies, a drop-off rate of 4.5 dB per doubling of distance is often used when the intervening ground between the roadway and the receiver is acoustically "soft" (e.g., ground vegetation, scattered trees, clumps of bushes).

Sound levels at different distances can also be affected by a number of factors other than just the distance from the sound source. Topographic features and structural barriers that absorb, reflect, or scatter sound waves can result in increased or decreased sound levels. Atmospheric conditions (wind speed and direction, humidity levels, and temperatures) can also affect the degree to which sound is attenuated over distance.

Echoes off topographical features or buildings can sometimes result in higher sound levels (lower sound attenuation rates) than normally expected. Temperature inversion and attitudinal changes in wind conditions can at times refract sound waves to a location at considerable distance from the sound source.

Guidelines for Interpreting Sound Levels

Various federal, state, and local agencies have developed guidelines for evaluating land use compatibility under different sound-level ranges. The following is a summary of federal and state guidelines.

Federal Agency Guidelines

The federal Noise Control Act of 1972 (Public Law 92-574) established a requirement that all federal agencies must administer their programs to promote an environment free of noise that jeopardizes public health or welfare. The U. S. Environmental Protection Agency (EPA) was given the responsibility for:

- providing information to the public regarding identifiable effects of noise on public health or welfare,
- publishing information on the levels of environmental noise that will protect the public health and welfare with an adequate margin of safety,
- coordinating federal research and activities related to noise control, and
- establishing federal noise emission standards for selected products distributed in interstate commerce.

The federal Noise Control Act also directed that all federal agencies comply with applicable federal, state, interstate, and local noise control regulations.

Although the EPA was given major public information and federal agency coordination roles, each federal agency retains authority to adopt noise regulations pertaining to agency programs. The EPA can require other federal agencies to justify their noise regulations in terms of the federal Noise Control Act policy requirements. The Occupational Safety and Health Administration retains primary authority for setting workplace noise exposure standards. The Federal Aviation Administration (FHWA) retains primary jurisdiction over aircraft noise standards while the Federal Highway Administration retains primary jurisdiction over highway noise standards.

In 1974, in response to the requirements of the federal Noise Control Act, the EPA identified indoor and outdoor noise limits to protect public health and welfare (communication disruption, sleep disturbance, and hearing damage). Outdoor Ldn limits of 55 dB and indoor Ldn limits of 45 dB are identified as desirable to protect against speech interference and sleep disturbance for residential, educational, and health care areas. Sound-level criteria to protect against hearing damage in commercial and industrial areas are identified as 24-hour Leq values of 70 dB (both outdoors and indoors).

The FHWA has adopted criteria for evaluating noise impacts associated with federally funded highway projects and for determining whether these impacts are sufficient to justify funding noise mitigation actions (47 FR 131:29653-29656, July 8, 1982). The FHWA noise abatement criteria are based on peak hourly Leq sound levels, not Ldn or 24-hour Leq values. The peak 1-hour Leq criteria for residential, educational, and health care facilities are 67 dB outdoors and 52 dB indoors. The peak 1-hour Leq criterion for commercial and industrial areas is 72 dB (outdoors).

The U.S. Department of Housing and Urban Development has established guidelines for evaluating noise impacts on residential projects seeking financial support under various grant programs (44 FR 135:40860-40866, January 23, 1979). Sites are generally considered acceptable for residential use if they are exposed to outdoor Ldn values of 65 dB or less. Sites are considered "normally unacceptable" if they are exposed to outdoor Ldn values of 65-75 dB. Sites are considered unacceptable if they are exposed to outdoor Ldn values above 75 dB.

State Agency Guidelines

In 1987, the California Department of Health Services published guidelines for the noise element of local general plans. These guidelines include a sound-level/land use compatibility chart that categorizes various outdoor Ldn ranges into up to four compatibility categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable), depending on land use. For many land uses, the chart shows overlapping Ldn ranges for two or more compatibility categories.

The noise element guidelines chart identifies the normally acceptable range for low-density residential uses as less than 60 dB, while the conditionally acceptable range is 55-70 dB. The normally acceptable range for high-density residential uses is identified as Ldn values below 65 dB, while the conditionally acceptable range is identified as 60-70 dB. For educational and medical facilities, Ldn values below 70 dB are considered normally acceptable, while Ldn values of 60-70 dB are considered conditionally acceptable. For office and commercial land uses, Ldn values below 70 dB are considered normally acceptable, while Ldn values of 67.5-77.5 are categorized as conditionally acceptable.

These overlapping Ldn ranges are intended to indicate that local conditions (existing sound levels and community attitudes toward dominant sound sources) should be considered in evaluating land use compatibility at specific locations.

The California Department of Housing and Community Development has adopted noise insulation performance standards for new hotels, motels, and dwellings other than detached single family structures (24 CCR T25-28). These standards require that "interior community noise equivalent levels (CNEL) with windows closed, attributable to exterior sources, shall not exceed an annual CNEL of 45 dB in any habitable room."

The California Department of Transportation uses the FHWA criteria as the basis for evaluation noise impacts from highway projects.

APPENDIX E. ARCHAEOLOGICAL SURVEY REPORT
AND PRELIMINARY HISTORIC
ARCHITECTURAL EVALUATION

Appendix E is on file at the City of San Jose Department of City Planning and Building.

APPENDIX F. COMMON AND SCIENTIFIC NAMES OF PLANT AND WILDLIFE SPECIES

Table F-1. Common and Scientific Names of Plant Species Identified in the Study Area

Scientific Name[a]	Common Name	Growth Habit[b]	Habitat	Family
Acer macrophyllum	Bigleaf maple	T	L	Aceraceae
Acer negundo ssp. *californicum*	Box elder	T	L	Aceraceae
Aesculus californica	California buckeye	T	R	Hippocastanaceae
Agoseris grandiflora (*A. laciniata, A. plebeja*)	Bigflower dandelion	PH	R	Asteraceae
Amaranthus albus (e) (*A. graecizans*)	Pigweed amaranth	AH	DF	Amaranthaceae
Artemisia douglasiana	Mugwort	PH	R	Asteraceae
Arundo donax (e)	Giant reed	PG	R	Poaceae
Avena fatua (e) (*A. f. var. glabrata, f. var. vilis*)	Wild oat	AG	G/DF	Poaceae
Baccharis pilularis ssp. *consanguinea*	Coyote brush	S	R	Asteraceae
Baccharis salicifolia (*B. viminea, glutinosa*)	Mule fat, seep-willow	S	R	Asteraceae
Berberis nervosa (*Mahonia n.*)	Oregon-grape	S	L	Berberidiaceae
Brassica geniculata (e)	Summer mustard	PH	DF/G	Brassicaceae
Bromus diandrus (e)	Ripgut grass	AG	G/DF	Poaceae
Bromus mollis (*B. hordeaceus*)	Soft chess	AG	G	Poaceae
Carpobrotus edulis (e, o) (*Mesembryanthemum e.*)	Hottentot fig	PH/S	L	Aizoaceae
Centaurea melitensis (e)	Tocalote	AH	DF/G	Asteraceae
Centaurea solstitialis (e)	Yellow star-thistle	AH	DF	Asteraceae
Chenopodium album (e)	Lambsquarter	AH	R/DF	Chenopodiaceae
Chenopodium ambrosioides (e)	Mexican tea	PH	R	Chenopodiaceae
Cinnamomum camphora (o)	Camphor tree	T	L/R	Lauraceae
Cirsium vulgare (e) (*C. lanceolatum*)	Bull thistle	AH	R/DF	Asteraceae
Clematis ligusticifolia var. *californica*	California pipestem	PV	R	Ranunculaceae
Convolvulus arvensis (e)	Bind weed	PV	G/DF	Convolvulaceae
Conyza canadensis var. *canadensis*	Western horseweed	AH	R/G/DF	Asteraceae
Cynodon dactylon (e)	Bermuda grass	PG	L/DF	Poaceae
Cyperus eragrostis	Umbrella-sedge	PH	R	Cyperaceae
Datura meteloides (*D. wrightii*)	Jimson weed	AH	DF/R	Solanaceae
Erodium botrys (e)	Broadleaf filaree	AH	DF/G	Geraniaceae
Erodium cicutarium (e)	Redstem filaree	AH	DF/G	Geraniaceae
Eucalyptus globulus (o)	Tasmanian blue gum	T	L/R	Myrtaceae

Table F-1. Continued

Scientific Name	Common Name	Growth Habit[a]	Habitat	Family
Euphorbia prostrata (*Chamaesyce p.*)	Prostrate euphorbia	AH	DF/G	Euphorbiaceae
Ficus sp. (o)	Fig	S	L	Moraceae
Foeniculum vulgare (e)	Sweet fennel	PH	R/G/DF	Apiaceae
Fraxinus dipetala	Flowering ash	T	L	Oleaceae
Hedera helix (o)	English ivy	PV	L	Araliaceae
Helenium puberulum	Rosilla, sneezeweed	PH	R	Asteraceae
Herdera helix	English ivy	V	L	Araliaceae
Heterotheca grandiflora	Telegraph weed	PH	G	Asteraceae
Hordeum leporinum (*H. murinum* ssp. l.)	Hare barley	AG	G/DF	Poaceae
Juglans hindsii	Northern California black walnut	T	L	Juglandaceae
Juglans regia (o)	English walnut	T	L	Juglandaceae
Juniperus horizontalis var. *horizontalis*	Creeping juniper	S	L	Cupressaceae
Juniperus sp.	Juniper	S	L	Cupressaceae
Lactuca serriola (e)	Prickly wild lettuce	AH	R/DF/G	Asteraceae
Lagerstroemia indica	Crape myrtle	T	L	
Liquidamber styrachiflua (o)	Sweet gum	T	L	Hamamelidaceae
Lolium multiflorum (e) (*L. m. varieties, perenne* ssp. m.)	Italian ryegrass	AG	DF	Poaceae
Mahonia aquifolium	Oregon grape	S	L	Berberidaceae
Malva nicaeensis (e)	Bull or high mallow	AH	R/DF	Malvaceae
Malva parviflora (e)	Cheeseweed	AH	G	Malvaceae
Marrubium vulgare (e)	White horehound	S	R	Lamiaceae
Melilotus alba (e)	White sweetclover	AH	R	Fabaceae
Morus alba	Fruitless mulberry	T	L	Moraceae
Nerium oleander	Oleander	S	L	Apocynaceae
Nicotiana glauca (e)	Tree tobacco	S	R	Solanaceae
Oryzopsis miliacea (e)	Smilo grass, Indian rice grass	PG	R	Poaceae
Paspalum distichum	Joint Dallis grass	PG	R	Poaceae
Phoenix dactylifera (o)	Date palm	T	L	Arecaceae
Picris echioides (e)	Bristly ox-tongue	AH	R	Asteraceae
Pinus radiata	Monterey pine	T	L	Pinaceae

Table F-1. Continued

Scientific Name	Common Name	Growth Habit[a]	Habitat	Family
Pistacia chinensis	Chinese pistachio	T	L	Anacardiaceae
Plantago major (e)	Broadleaf plantain	PH	R	Plantaginaceae
Platanus racemosa	Western sycamore	T	R	Platanaceae
Polygonum aviculare var. *aviculare* (*P. heterophyllum*) (e)	Prostrate knotweed	AH	G	Polygonaceae
Polygonum punctatum var. *punctatum* (*Persicaria p.*)	Dotted smartweed	AH	R	Polygonaceae
Polypogon monspeliensis (e)	Rabbitsfoot grass	AG	R	Poaceae
Populus fremontii	Fremont cottonwood	T	R	Salicaceae
Populus trichocarpa (*P. balsamifera* ssp. t.)	Black cottonwood	T	R	Salicaceae
Quercus agrifolia var. *agrifolia* (*Q. pricei*)	Coast live oak	T	L/R	Fagaceae
Raphanus sativus (e)	Wild radish	AH	G	Brassicaceae
Robinia pseudoacacia (e, o)	Black locust	T	L/R	Fabaceae
Robinia sp.	Locust	T	R/L	Fabaceae
Rorippa nasturtium-aquaticum (e) (*Nasturtium officinale*)	Water-cress	PH	R	Brassicaceae
Rosa californica	California wild rose	S	R	Rosaceae
Rubus procerus (e)	Himalaya berry	PV	R	Rosaceae
Rubus ursinus ssp. *ursinus* var. *ursinus* (*R. vitifolius* ssp. u.)	Pacific blackberry	PV	R	Rosaceae
Rumex crispus (e)	Curly dock	PH	R	Polygonaceae
Salix babylonica (o)	Weeping willow	T	L	Salicaceae
Salix gooddingii	Black willow	T	R	Salicaceae
Salix laevigata	Red willow	T	R	Salicaceae
Salix lasiolepis	Arroyo willow	T	R	Salicaceae
Salsola tragus (*S. kali*) (e)	Russian thistle	AH	DF	Chenopodiaceae
Sambucus mexicana (*S. caerulea* var. m.)	Blue elderberry	S	R	Caprifoliaceae
Schinus molle	Peruvian pepper tree	T	L	Anacardiaceae
Sequoia sempervirens	Coast redwood	T	L	Taxodiaceae
Solanum nigrum (e)	Black nightshade	AH	DF	Solanaceae
Solanum umbelliferum var. *glabrescens*	Hairless blue witch	S	DF	Solanaceae
Sonchus oleraceus (e)	Slender sow-thistle	AH	R	Asteraceae
Stachys rigida	Rigid hedge-nettle	PH	R	Lamiaceae

Table F-1. Continued

Scientific Name	Common Name	Growth Habit[a]	Habitat	Family
Symphoricarpos mollis	Trailing snowberry	S	R	Caprifoliaceae
Toxicodendron diversilobum (*Rhus diversiloba*)	Poison oak	S/V	R	Anacardiaceae
Typha angustifolia	Slender cattail	PH	M	Typhaceae
Typha domingensis	Narrow-leaved cattail	PH	M	Typhaceae
Ulmus americana	American elm	T	L	Ulmaceae
Ulmus procera	English elm	T	L	Ulmaceae
Urtica holosericea (*U. dioica* ssp. *gracilis* var. h.)	Giant creek or hoary nettle	AH	R	Urticaceae
Vaccinium sp.	Huckleberry	S	L	Ericaceae
Vinca major (e)	Periwinkle	PV	L/R	Apocynaceae
Washingtonia sp.	Fan palm	T	R/L	Arecaceae
Xanthium strumarium ssp. *canadense*	Cocklebur	AH	R	Asteraceae

Note: Common names follow Abrams and Ferris (1960), Bailey and Bailey (1976), Neihaus and Ripper (1976), and DeGarmo (1980).

[a] e = exotic, nonnative.
o = ornamental.

[b] Definitions:

AF = annual fern or fern ally.
AG = annual grass.
AH = annual herb.
AV = annual vine.
BH = biennial herb.
PF = perennial fern or fern ally.
PG = perennial grass.
PH = perennial herb.
PV = perennial vine.
S = shrub.
T = tree.

Habitat types.

R = riparian.
L = landscaped.
DF = disked field.
G = grassland.
M = marsh.

Table F-2. Common and Scientific Names of Wildlife Species Referenced in the Text or Observed in the Study Area

Invertebrates	
San Francisco forktail damselfly	*Ischnura gemina*
Moestan blister beetle	*Lytta moesta*
Monarch	*Danaus plexippus*
Bay checkerspot	*Euphydryas editha bayensis*
Edgewood blind harvestmand	*Calicina minor*
Fish	
Pacific lamprey	*Lampetra tridentata*
Steelhead rainbow trout	*Oncorhynchus mykiss*
Chinook salmon	*Oncorhynchus tshawytscha*
Mosquitofish*	*Gambusia affinis*
Green sunfish	*Lempomois cyanellus*
Largemouth bass	*Micropterus salmonoides*
Carp	*Cyprinus carpio*
Sacramento sucker	*Catostomus occidentalis*
Amphibia	
California tiger salamander	*Ambystoma tigrinum californiense*
Pacific treefrog*	*Hyla regilla*
California red-legged frog	*Rana aurora draytoni*
Foothill yellow-legged frog	*Rana boylei*
Bullfrog*	*Rana catesbeiana*
Reptiles	
Southwestern pond turtle*	*Clemmys marmorata pallida*
Gopher snake	*Pituophis melanoleucus*
Western terrestrial garter snake	*Thamnophis elegans*
Aves	
Red-shouldered hawk*	*Buteo lineatus*
American kestrel	*Falco sparverius*
Rock dove*	*Columba livia*
Mourning dove	*Zenaida macroura*
Burrowing owl	*Athene cunicularia*
Belted kingfisher*	*Ceryle alcyon*
Nuttall's woodpecker*	*Picoides nuttallii*
Downy woodpecker*	*Picoides pubescens*
Northern flicker*	*Colaptes auratus*

Table F-2. Continued

Pacific-slope flycatcher*	*Empidonax difficilis*
Black phoebe*	*Sayornis nigricans*
Bank swallow	*Riparia riparia*
Steller's jay*	Cyanocitta stelleri
Scrub jay*	*Aphelocoma coerulescens*
American crow*	*Corvus brachyrhynchos*
Chestnut-backed chickadee*	*Parus rufescens*
Plain titmouse*	*Parus inornatus*
Bushtit*	*Psaltriparus minimus*
Bewick's wren*	*Thryomanes bewickii*
House wren*	*Troglodytes aedon*
American robin*	*Turdus migratorius*
Northern mockingbird*	*Mimus polyglottos*
European starling*	*Sturnus vulgaris*
Least Bell's vireo	*Vireo bellii pusillus*
California yellow warbler	*Dendroica petechia brewsteri*
Yellow-rumped warbler*	*Dendroica coronatta*
Wilson's warbler*	*Wilsonia pusilla*
Black-headed grosbeak*	*Pheucticus melanocephalus*
Rufous-sided towhee*	*Pipilo erythrophthalmus*
California towhee*	*Pipilo crissalis*
Song sparrow*	*Melospiza melodia*
Tricolored blackbird*	*Agelaius tricolor*
Northern oriole*	*Icterus galbula*
House finch*	*Carpodacus mexicanus*
Mammals	
Botta's pocket gopher*	*Thomomys bottae*
Berkeley Kangaroo rat	*Dipodomys heermanni berkeleyensis*
Sierra Nevada red fox	*Vulpes vulpes necator*

Note: * = observed at the site.