Saddleback Valley Unified School District

Hazard Mitigation Plan

Version 2.0

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Section 1 – Introduction

Executive Summary

To summarize, this document contains:

- Saddleback Valley USD Hazard Vulnerability Study results;
- Prioritization of Saddleback Valley USD Hazards;
- Hazard Mitigation Strategy Goals and Objectives;
- Proposed strategies and actions as recommended by the Hazard Mitigation Planning Committees to reduce short- and long-term vulnerability to the identified hazards;
- Coordination with local interest groups and citizens;
- Methods of implementing, monitoring, evaluating, and updating the mitigation Plan;
- The establishment of a Hazard Mitigation Planning Committee to assist in the further development, prioritization and implementation of the recommended Hazard Mitigation strategies.

The Saddleback Valley USD Hazard Mitigation Plan is a living document and is subject to change as the program evolves.

This document also provides a framework for identification of coordination of hazard mitigation strategies developed with Saddleback Valley USD and with other plans; especially those developed by State and other local agencies and those plans developed in order to file for Federal disaster assistance, as required by P.L. 106-390 (as amended) of the Disaster Mitigation Act of 2000.

Definition of Hazard Mitigation

Hazard Mitigation is any sustained action taken to eliminate or reduce long term risk to human life, property and the environment posed by a hazard.

Hazard Mitigation Planning is the process of making any sustained plan or course of action taken to reduce or eliminate long-term risk to people and property from both natural and technological hazards and their effects. The planning process includes establishing goals and recommendations for mitigation strategies.

Hazard Mitigation may occur during any phase of a threat, emergency or disaster. Mitigation can and should take place during the preparedness (before), response (during), and recovery (after) phases.

The process of hazard mitigation involves evaluating the hazard's impact and identification and implementation of actions to minimize the impact.

Purpose of the Plan

The purpose of this plan is to integrate hazard mitigation strategies into the activities and programs of the local jurisdictions and special districts and to the extent practical, into the activities of private sector organizations.

The plan identifies and evaluates specific Local Hazard Mitigation strategies to be considered by Saddleback Valley USD and its planning support for those strategies developed by its agencies and organizations.

The strategies presented are deemed appropriate and effective by recommendation of the Saddleback Valley USD Hazard Mitigation Planning Committee and local Offices of Emergency Services, the City Managers, and individual local agencies and private groups.

Upon acceptance by the Saddleback Valley USD board, the selected strategies will be further developed for funding and implementation by the lead agencies. The plan describes the potential sources of Hazard Mitigation Strategy funding, and general procedures to obtain that funding.

The plan is based upon the Saddleback Valley USD Hazard Vulnerability Analysis (HVA) that considers the natural, technological, and human-caused risks to which Saddleback Valley USD are vulnerable. The plan describes strategies that the government and private sector organizations may utilize as their capabilities to mitigate those hazards.

It is understood that the mitigation strategies adopted in this plan are recommendations only, and they must be approved and funded in order to be implemented as official Hazard Mitigation Strategies. They must be implemented by the Saddleback Valley USD and neighboring jurisdictions.

Mission Statement

"To make Saddleback Valley USD's constituents less vulnerable to the effects of natural and human-made hazards through the effective administration of hazard mitigation grant programs, hazard assessment, floodplain management, and a coordinated approach to mitigation policy through the regional and local planning activities."

Vision Statement

"Institutionalize a District-wide hazard mitigation commitment through leadership, professionalism, and excellence, leading the way to a safe, sustainable Saddleback Valley USD."

Plan Adoption

Adoption by Governing Board

On _____, 2005, the Saddleback Valley Unified School District Board voted to approve the Saddleback Valley USD Hazard Mitigation Plan. It is agreed that the document is a living document subject to modification as the program continually evolves.

Legal Authority

The following codes, laws and ordinances are applicable to the jurisdictions within the Saddleback Valley Unified School District geographical area.

Federal Laws

- "The Federal Civil Defense Act of 1950"
- Public Law 96-342 "The Improved Civil Defense Act of 1980"
- Public Law 91-606 "Disaster Relief Act"
- Public Law 93-288 "The Robert T. Stafford Disaster Relief Act of 1974"
- Section 322, Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act
- Public Law 106-390 enacted by Section 104 of the Disaster Mitigation Act of 2000 (DMA
- Interim Final Rule for DMA 2002 as published in the February 26,2002, at 44 CFR Part 201

State Laws

California Government Code, Section 3100, Title 1, Division 4, Chapter 4.

States those public employees are disaster service workers, subject to such disaster service activities as may be assigned to them by their superiors or by law. The term "public employees" includes all persons employed by the state or any county, city, city and county, state agency or public district, excluding aliens legally employed. The law applies when:

- A local emergency has been proclaimed.
- A state of emergency has been proclaimed.
- A federal disaster declaration has been made.

Provides the basic authorities for conducting emergency operations following a proclamation of Local Emergency, State of Emergency, or State of War Emergency by the Governor and/or appropriate local authorities, consistent with the provisions of this Act.

The California Emergency Plan

Promulgated by the Governor, and published in accordance with the Act and provides overall statewide authorities and responsibilities, and describes the functions and operations of government at all levels during extraordinary emergencies, including wartime. Section 8568 of the Act states, in part, that "...the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof." Local emergency plans are, therefore, considered to be extensions of the California Emergency Plan.

California Civil Code, Chapter 9, Section 1799.102

Provides for "Good Samaritan Liability" for those providing emergency care at the scene of an emergency: "No person, who, in good faith and not for compensation, renders emergency care at the scene of an emergency, shall be liable for any civil damages resulting from any act or omission. The scene of an emergency shall not include emergency departments and other places where medical care is usually offered."

- State of California Multi-Hazard Mitigation Plan, July 1, 2004
- Local Codes, Laws and Ordinances
- Saddleback Valley USD
- Codes, Ordinances and Laws

(Insert codes, ordinances and laws for school districts)

- District Emergency Response Team

The SVUSD has implemented the State of California's Standardized Emergency Management System and Incident Command System to respond to emergencies and disasters with the following responsibilities:

City of Laguna Hills

Local Municipal Code
Title 1 GENERAL PROVISIONS
Title 2 ADMINISTRATION AND PERSONNEL
Title 3 REVENUE AND FINANCE
Title 4 BUSINESS REGULATIONS
Title 5 HEALTH AND SANITATION
Title 6 PUBLIC WELFARE
Title 7 PUBLIC NUISANCES, CODE ENFORCEMENT, AND ABATEMENT
Title 8 RECREATION, PARKS, AND FACILITIES
Title 9 ZONING AND SUBDIVISIONS
Title 10 BUILDINGS AND CONSTRUCTION
Title 11 VEHICLES AND TRAFFIC
Title 12 STREETS AND SIDEWALKS
Title 13 ANIMALS

City of Lake Forest

Local Municipal Code
Title 1 GENERAL PROVISIONS
Title 2 ADMINISTRATION AND PERSONNEL
Title 3 REVENUE AND FINANCE
Title 4 MISCELLANEOUS REGULATIONS (Reserved)
Title 5 BUSINESS REGULATIONS
Title 6 HEALTH AND SANITATION
Title 7 SUBDIVISIONS
Title 8 BUILDINGS AND CONSTRUCTION
Title 9 PLANNING AND ZONING
Title 10 ANIMALS
Title 11 PEACE, MORALS AND SAFETY*
Title 12 VEHICLES AND TRAFFIC
Title 13 PARKS AND RECREATIONAL FACILITIES
Title 14 STREETS AND SIDEWALKS
Title 15 WATER AND SEWERS
Title 16 INTEGRATED WASTE MANAGEMENT

City of Mission Viejo

Local Municipal Code
Title 1 GENERAL PROVISIONS
Title 2 ADMINISTRATION AND PERSONNEL*
Title 3 REVENUE AND FINANCE*
Title 4 RESERVED
Title 5 BUSINESS REGULATIONS*
Title 6 HEALTH AND SANITATION*
Title 7 RESERVED
Title 8 BUILDINGS AND CONSTRUCTION*
Title 9 LAND USE/ZONING/SUBDIVISION REGULATIONS*
ARTICLE I. GENERAL PROVISIONS
ARTICLE II. ZONING DISTRICTS
ARTICLE III. GENERAL REGULATIONS
ARTICLE IV. ADMINISTRATION
ARTICLE V. SUBDIVISION REGULATIONS
Title 10 ANIMALS*
Title 11 PEACE, MORALS AND SAFETY*
Title 12 TRAFFIC*
Title 13 PARKS AND RECREATIONAL FACILITIES*
Title 14 STREETS AND SIDEWALKS*
CODE COMPARATIVE TABLE 1988 CODE
CODE COMPARATIVE TABLE ORDINANCES
STATE LAW REFERENCE TABLE

City of Rancho Santa Margarita

The City has adopted the Uniform Building Code, Uniform Mechanical Cods, Uniform Fire Code and the National Electrical Code that contain structural requirements for existing and new buildings. The codes are designed to insure structural integrity during seismic and other hazardous events and prevent personal injury, loss of life and substantial property damage.

(Rancho Santa Margarita Safety Element December 2002)

Orange County

CHARTER*
CHARTER COMPARATIVE TABLE ORDINANCES
TITLE 1 GOVERNMENT AND ADMINISTRATION
Division 6 CAMPAIGN REFORM*
TITLE 2 PUBLIC FACILITIES
TITLE 3 PUBLIC MORALS, SAFETY AND WELFARE
Division 13 PROPERTY MAINTENANCE
TITLE 4 HEALTH SANITATION AND ANIMAL REGULATIONS
TITLE 5 BUSINESS AND SPECIAL LICENSES, REGULATIONS
TITLE 6 HIGHWAYS, BRIDGES, RIGHTS-OF-WAY, and VEHICLES
TITLE 7 LAND USE AND BUILDING REGULATIONS
TITLE 8 FEES
TITLE 9 WATER QUALITY--ORANGE COUNTY FLOOD CONTROL DISTRICT*
Division 1 STORMWATER MANAGEMENT AND URBAN RUNOFF--ORANGE COUNTY FLOOD CONTROL DISTRICT REGULATIONS
CODE COMPARATIVE TABLE 1961 CODE
CODE COMPARATIVE TABLE ORDINANCES

Section 2 –Planning Process

Hazard Mitigation Planning Participation

Planning Committee Members

Gary Matsumoto	Assistant. Superintendent
Frank Manzo	Committee Chair, Director of Business Services
Randy Huttenberger	Director, Facilities and Planning
Jim Simone	Manager, Maintenance & Operations
Ray Mc Elheney	Planner, Maintenance & Operations
Chris Ramey	Technician, Risk Management
Joann Reinhold	Technician, Facilities

Adjunct Contributors

Genevieve Pastor-Cohen, Consultant	Dimensions Unlimited, Inc
Theresa Hayes, Consultant	Dimensions Unlimited, Inc.
Kristel Arnott, Consultant	Dimensions Unlimited, Inc.

Hazard Mitigation Planning Committee By-laws

1. The SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee was organized in June 2004.

2. Members of the SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee shall elect a chair/co-chair.

3. Members of the SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee agree to meet monthly to identify hazard priorities and review, identify and implement the SADDLEBACK VALLEY USD hazard mitigation strategy recommendations.

4. The SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee agrees to make and pass policy recommendations by a vote of a simple majority of those members present at the scheduled meeting.

5. Any single Hazard Mitigation Planning Committee member may request, at a scheduled meeting of the SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee as a whole, an adoption of, or amendment to the plan or process.

6. The SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee may form subcommittees to review and develop those feasible hazard mitigation strategy recommendations identified that will be reviewed by the Hazard Mitigation Planning Committee as a whole.

7. The sub-committees or members will identify and bring forward hazard mitigation strategies from existing recommendations contained in plans and documents, and from the input of inter-city departments, committees, commissions, private citizens and organizations.

8. The SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee will identify constraints to mitigation strategies that affect SADDLEBACK VALLEY USD's ability, authority and responsibility to implement those strategies.

9. Public Input will be implemented in the following manner: To be decided

Hazard Mitigation Planning Tasks

1. Coordinate all-hazard mitigation planning tasks and activities with the SADDLEBACK VALLEY USD administrative staff and departments to develop a multi-hazards disaster mitigation plan and support the Hazard Mitigation Planning Committee chair/co-chair's oversight of the planning process.

2. Review incorporation of existing plans, studies, reports and technical information.

3. Assist in carrying out the goals and objectives of the SADDLEBACK VALLEY USD Hazard Mitigation Plan in compliance with FEMA DMA 2000 Hazard Mitigation Act.

4. Prioritize risks for implementing mitigation strategies.

5. Select designated Critical Facilities owned by SADDLEBACK VALLEY USD and in proximity to SADDLEBACK VALLEY USD facilities, and develop a risk exposure analysis for those facilities.

6. Select highest priority and most-desired mitigation recommendations and develop those recommendations for further action by each member of the SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee.

7. Review mitigation planning drafts, recommendations and updates.

8. Develop and implement long- and short-term goals.

9. Integrate the plan with all phases of the SADDLEBACK VALLEY USD's Multi-hazard Functional Plan and Safety Element to the General Plan.

10. Provide for the implementation of Planning Committee decisions.

11. Encourage development of, coordinate and implement a methodology for the implementation of public input.

12. Establish Hazard Mitigation Planning Committee responsibilities to include but not be limited to the following:

13. Determine implementation ability and constraints for proposed Hazard Mitigation planning steps and development of strategies

14. Bring forward community concerns through private and public input

15. Identify implementation resources

16. Identify lead departments, commissions and committees for implementation of strategies

17. Provide for the update of the Disaster Mitigation Plan on a regularly scheduled basis

18. Evaluate and carry out mitigation activities, as feasible.

19. Assist in implementation of funding identification and procurement

Hazard Mitigation Planning Goals

1. Support the priorities of the SADDLEBACK VALLEY USD; its mandates, employees, citizens and the business community.

2. Promote economic development consistent with seismic, floodplain and risk management guidance as developed by the SADDLEBACK VALLEY USD and its departments, committees and/or commissions.

3. Provide for an effective public awareness program for natural, human-caused and technological hazards present in the SADDLEBACK VALLEY USD.

4. Encourage scientific study and the development of data to support mitigation strategies for those hazards that are a threat to the SADDLEBACK VALLEY USD.

5. Promote the recognition of the real value of hazard mitigation to public facilities, public safety and the welfare of all citizens of the SADDLEBACK VALLEY USD.

6. Support the mitigation efforts of local governments, private citizens, non-profit organizations, community-based organizations and private businesses throughout the city.

Hazard Mitigation Planning Objectives

1. Identify mitigation actions to reduce loss of lives and property.

2. Implement mitigation actions that are feasible, to reduce loss of lives and property.

3. Identify mitigation strategies that will allow the SADDLEBACK VALLEY USD to perform its primary mission and goals.

4. Identify mitigation opportunities for short- and long-range planning considerations.

5. Maintain safe building and zoning codes that support scientific findings of a known risk.

6. Identify lead SADDLEBACK VALLEY USD Departments, Commissions and Committees that have an interest in mitigation of specific hazards.

7. Develop a standard mitigation program utilizing authorities, policies and programs of each SADDLEBACK VALLEY USD Department, Commission and/or Committee.

8. Organize, train and maintain an effective and ongoing SADDLEBACK VALLEY USD Hazard Mitigation Planning Committee that will facilitate implementation of the SADDLEBACK VALLEY USD All-Hazard Mitigation Plan.

9. Review and update other SADDLEBACK VALLEY USD programs to identify current and future mitigation goals and objectives in compliance with appropriate city, county, state and Federal requirements.

10. Gain support of the SADDLEBACK VALLEY USD's administration for the SADDLEBACK VALLEY USD Multi-Hazard Mitigation Plan implementation.

11. Achieve the overall goal of developing a comprehensive mitigation program with Federal, state, county and city organizations and other appropriate jurisdictions.

12. Support and expand identified hazard mitigation strategies as set forth in the SADDLEBACK VALLEY USD Safety Element to the SADDLEBACK VALLEY USD General Plan and all other SADDLEBACK VALLEY USD plans that contain Hazard Mitigation Strategies.

Hazard Mitigation Planning Public Participation

Neighboring Communities Involvement

On August 20, 2004, the Saddleback Valley USD Hazard Mitigation Planning Committee Chair, Frank Manzo, sent a letter of invitation to the cities of Laguna Hills, Lake Forest, Mission Viejo, and Rancho Santa Margarita and to the County of Orange to participate in the review of the plan during its November 15, 2004 planning meeting.

The letter outlined the process needed to successfully pursue the plan and the need for neighboring jurisdictions input into the plan. The invitation was sent to:

Public Input Meeting

On September 2, 2004, the Saddleback Valley Unified School District Hazard Mitigation Planning Committee (SVUSD Hazard Mitigation Planning Committee) drafted a letter to principals inviting them and interested parents to participate in a public input meeting held on Tuesday, September 14, 2004 at 7:00 p.m. in the district office conference room.

A presentation was made identifying the Disaster Mitigation Act of 2000 requirements and how the Saddleback Valley Unified School District was approaching the process and emphasized the importance of public input. In addition, the SVUSD Hazard Mitigation Planning Committee's process of how hazards were identified, rated, ranked and prioritized was presented.

The attendees of the first public input meeting were:

Randy Huttenberger	Facilities Director, SVUSD
Frank Manzo	Business Services Director, SVUSD
Ann Peacock	ETHS Representative
Christine Ramey	Risk Manager, SVUSD
Joanne Reinhold	Facilities, SVUSD
Jim Simone	Maintenance & Operations, SVUSD
Genevieve Pastor-Cohen	Consultant, Dimensions Unlimited,Inc.

Public Input

The information and data gathered from the questionnaires and from the public meetings was analyzed by the Planning Committee members and used extensively in developing SVUSD's list of hazards and their prioritization. Also much of the information was helpful in developing strategies and goals for future mitigation projects.

Saddleback Valley PTA Council Meeting October 28, 2004

Parliamentarian Report (Dolores Winchell)
- A Nominating Committee/Elections workshop will be held November 16 for unit Parliamentarians.
- Dolores handed out an article she wrote as an update on Measure B. Download it from *www.svpta.org* for you unit's newsletter. The next Measure B Committee meeting is December 13 at 9:30 am and is open to the public.
- Bridget appointed Kim Henderson as Parliamentarian, upon Dolores Winchell's departure.

District Report (Dr. Kathy Dick)
- Dr. Dick announced Monday Nov. 1 as a Staff Development Day. Intermediate and high school staff will be on campus. Elementary staff will be on campus ½ the day, the other ½ training for Language Arts adoption.
- Dr. Dick announced Presidents will be notified about the Teacher's Recognition Dinner in May. It's for the "Teacher of the Year" as chosen by the Teacher's Association at each school. PTA units sponsor as a minimum the Teacher, their spouse and the Principal. There was discussion about how this can be a "PTA endorsed" program with the community, to avoid problems with the association about the cost.

Vice President's Report (Kim Henderson)
- Kim announced that Council Workshop's attendees (Starting 9/04) will be updated on the "Walk of Stars" incentive chart. Also, put your school's name on flyers given to Kim in order to receive credit for it!
- Kim announced CA State Convention registration will be due in early January. She suggests at unit's November meeting decide the number of people attending and the number of hotel rooms, and release required funds. The Convention is in Sacramento and airfare and hotel will be needed.

Auditor Report (Julie Schwarz)
- Julie reminded Presidents that 6/30/04 Audits were due in October. Email Julie and let her know what's going on if you have not handed it in.

Communications Report (MaryAnne Shults)
- MaryAnne distributed the Council 2004-2005 Directory
- MaryAnne did a presentation of PTA Grants, Scholarships and Awards, by California State, 4th District, and Council. California State PTA Awards are in the Toolkit. The "My PTA/PTSA Award" application is due January 10. Grants and Scholarships are due November 15. 4th District Awards are in the blue Program book and are due April 1. Council Awards are for Newsletter, Website, and Incentive Chart, and are ongoing. MaryAnne encouraged units to apply to receive available monies for Grants, & Scholarships, and recognition and prizes for awards.
- Kim said unit's will get a star on the "Walk of Stars" incentive chart for all award submissions, copy the front page only for Kim.

Legislative Report (Don Romoser)
- Don announced that Sacramento Safari will take place March 22 –23.
- A Legislative workshop will be held in late November or early December.

Membership Report (Jane Parmenter)
- Jane discussed the National PTA membership database project. The *Excel* form is available on *www.fourthdistrictpta.org*; forward directly to 4th District. There are other ways to do this, rather than *Excel*

Reflections Report (Bridget White for Ilana Meirovitch)
- Reflections entries are due at the November 18 meeting. Include the master list and proper forms.

Roundtable Discussion about New Policy for Flyers not coming home
- It was noted that there have been start up issues. Don Romoser, President of SVEF, said SVEF will publish a directory of non-profit organization flyers in September and March to go home in K-6 backpacks.

Meeting adjourned at 10:00 pm

Molly O'Grady
SV PTA Council Secretary

SADDLEBACK VALLEY PTA COUNCIL
PTA
every child. one voice.

SADDLEBACK VALLEY PTA COUNCIL MEETING
DATE: October 28, 2004

As you sign in ~ Please Print!

SCHOOL	NAME(S)	COUNCIL
Aliso	[illegible]	President Bridget White
Cielo Vista		
Del Cerro	Emily Simonian	Vice President Kim
Del Lago	Mikelle Meyer	
De Portola	Kim Heth	Treasurer Dennis Walsh
Esperanza		
Foothill Ranch		Recording Secretary Molly O'Connell
Ralph Gates	Stefanie Yoshii	
Glen Yermo		Membership Jane Pomeroy
La Madera		
La Tierra	JaNuana Sargent	Parliamentarian Dolores Wisehell
Laguna Hills HS		
Linda Vista	Kim van Toor	Auditor [illegible]
Lomarena	Jennifer Bodenhueter	
Melinda Heights	Dorella [illegible] President	Legislative Rep. Don Romoser
Montevideo	(ATHLEEN) PEREZ	
Olivewood	Susan Polk / Julie Lin	Reflections
O'Neill		
Portola Hills	Tricia Condon	Historian
Rancho Cañada	Gina Dunn	
Robinson		Communications Mary Anne Shultz
San Joaquin		
Santiago	Rick Hieb	School Readiness
Trabuco		
Trabuco Hills HS	Suzi Hunter	District Rep. K Bick
Trabuco Mesa	Kimberly Denzel	
Valencia	D. Toole Voshell	

Another public input meeting will be held in the spring of 2005 to provide input on the SVUSD Hazard Mitigation Plan before the final adoption before the school district board.

Questionnaire

A questionnaire was designed to help the Local Hazard Mitigation Planning Project by identifying the community's concerns about natural and human-caused hazards and to better understand community needs in reducing risk and loss from such hazards. The questionnaire was completed by an adult, preferably the homeowner or the head of the household within the Saddleback Valley USD boundaries. All individual responses were strictly confidential and used for research purposes only. A copy of the questionnaire can be found in the appendices of this plan. The compiled responses are as follows:

Synopsis of Public Input

1. The majority of respondents have internet access at their residences.

2. The respondents concern about disasters affecting their community were:

    - Flood –
    - Levee Failure –
    - High Winds –
    - Dam failure –
    - Health Emergency –
    - Landslides –
    - Earthquake –
    - Biological –
    - Transportation Loss –
    - Fire –
    - Telecommunications Failure –
    - Radiological Incident –
    - Special Events –
    - Terrorism –
    - Utilities Interruption –
    - The majority of respondents receive information from

3. The majority of respondents responded to participating in disaster preparedness as follows:

    - Attend meetings & receive information –
    - Talked with family members –
    - Develop a household emergency plan –
    - Prepare a disaster supply kit –
    - Been trained in emergency care –
    - The majority of respondents are willing to spend per year in disaster preparedness.

4. The majority of respondents consider the occurrence of a natural hazard when the moved into their home.

5. The majority of respondents to spend more money on a safe home.

6. The majority of respondents flood insurance.

7. The majority of respondents to make their home more disaster resistant.

8. The majority of respondents made non-structural modifications and made structural modifications to their homes to make them more disaster resistant.

9. The majority of respondents prioritize disaster preparedness in the following manner:

- Protecting Property –
- Protecting Critical Facilities –
- Preventing Development in Hazard Areas –
- Protecting Environment –
- Protecting Landmarks –
- Promoting Cooperation –
- Protecting Utilities –
- Strengthening Emergency Services –

10. The majority of respondents offered the following opinions on strategies to reduce risk:

- Support regulatory approach –
- Support non-regulatory approach –
- Support development prohibition policies –
- Support use of tax dollars –
- Support protecting historical structures -
- Willing to make their home more resistant –
- Support steps to safeguard economy –
- Support improving disaster preparedness in schools –

Questionnaire

This questionnaire is designed to help the Local Hazard Mitigation Planning Project by identifying the community's concerns about natural and human-caused hazards and to better understand community needs in reducing risk and loss from such hazards. The questionnaire should be completed by an adult, preferably the homeowner or the head of the household. Please, take a few moments to complete this questionnaire. All individual responses are strictly confidential, and are for research purposes only. Thank you.

1. Zip code: _____ Community Name or location: _____ Internet Access? Y/N _____ Own/Rent _____

2. How concerned are you about the following disasters affecting your community? Please give each hazard a priority rating as follows: ***0 = Not concerned;*** 1 ***= Somewhat concerned; 2 = Moderately concerned; 3 = Very concerned***

Natural:

Floods	_____	Landslide/Mudslide	_____	Fire	_____
Levee Failure	_____	Earthquake	_____	Telecommunications Failure	_____
High Winds	_____	Biological/Plant/Animal	_____	Radiological Incident	_____
Dam Failure	_____			Special Events	_____
Health Alert/Epidemic	_____	**Human caused:**		Terrorism	_____
		Transportation Loss	_____	Utilities Interruption	_____

3. What is the most effective way for you to receive information about how to make your household and home safer from natural disasters? (***Please check all that apply.***)

Media:

- ☐ Newspaper
- ☐ Newspaper ads
- ☐ Television news
- ☐ Television ads
- ☐ Radio news
- ☐ Radio ads

Other methods:

- ☐ Schools
- ☐ Outdoor advertising (billboards, etc)
- ☐ Books
- ☐ Mail
- ☐ Fire Department
- ☐ Internet
- ☐ Fact sheet/brochure
- ☐ Church/religious organization
- ☐ Employer
- ☐ Public meetings
- ☐ University or research institution
- ☐ Utility Bills

4 In the following list, please check those activities that you ***have done***, ***plan to do*** in the near future, ***have not done***, or are ***unable to do***. (***Please check one answer for each preparedness activity***)

Have you or someone in your household:	Have done	Plan to do	Not done	Unable to do
Attended meetings or received written information on natural disasters or emergency preparedness?	☐	☐	☐	☐
Talked with family members about what to do in case of a disaster or emergency?	☐	☐	☐	☐
Developed a "Household/Family Emergency Plan" in order to decide what everyone would do in the event of a disaster?	☐	☐	☐	☐
Prepared a "Disaster Supply Kit" (extra food, water, medications, batteries, first aid items and other emergency supplies)?	☐	☐	☐	☐
In the last year, has anyone in your household been trained in First Aid or Cardio-Pulmonary Resuscitation (CPR)?	☐	☐	☐	☐

5. Building a disaster supply kit, receiving First Aid training and developing a household/family emergency plan are all inexpensive activities that require a personal time commitment. How much time (per year) are you willing to spend on disaster/emergency preparedness? (***Check only one***)

☐ 0-1 hour ☐ 2-3 hours ☐ 4-7 hours ☐8-15 hours ☐16+ hours ☐ Other, please specify

6. Did you consider the possible occurrence of a natural hazard when you bought/moved into your current home?

☐ Yes ☐ No

7. Would you be willing to spend more money on a home that has features that make it more disaster resistant?

☐Yes ☐ No ☐ Don't know

8. Do you carry flood insurance? If so what is the annual cost?

☐Yes ☐ No _____

9. Would you be willing to make your home more resistant to natural disasters?
☐ Yes ☐ No

10. What nonstructural or structural modifications for earthquakes and floods have you made to your home?
(***Please check all that apply***)

10a. Nonstructural
- ☐ Anchor bookcases, cabinets to wall
- ☐ Secure water heater to wall
- ☐ Install latches on drawers/cabinets
- ☐ Fit gas appliances with flexible connections
- ☐ Others (please explain)
- ☐ Others (please explain)
- ☐ None

10b. Structural
- ☐ Secure home to foundation
- ☐ Brace inside of cripple wall with sheathing
- ☐ Brace unreinforced chimney
- ☐ Brace unreinforced masonry and concrete walls and foundations

11. Natural and human-caused disasters can have a significant impact on a community but planning for these events can help lessen the impact. The following statement will help us determine community priorities for planning for those hazards. Please tell us how important each one is to you.

Statement	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protecting private property	☐	☐	☐	☐	☐
Protecting critical facilities (hospitals, transportation networks, fire stations)	☐	☐	☐	☐	☐
Preventing development in hazard areas	☐	☐	☐	☐	☐
Protecting natural environment	☐	☐	☐	☐	☐
Protecting historical and cultural landmarks	☐	☐	☐	☐	☐
Promoting cooperation among public agencies, citizens, non-profit organizations and businesses	☐	☐	☐	☐	☐
Protecting and reducing damage to utilities	☐	☐	☐	☐	☐
Strengthening emergency services (police, fire, ambulance)	☐	☐	☐	☐	☐

12. Please check the box that best represents your opinion of the following strategies to reduce the risk and loss associated with natural disasters.

Communitywide Strategies	Agree	Neutral	Disagree	Not Sure
I support a regulatory approach to reducing risk.	☐	☐	☐	☐
I support a non-regulatory approach to reducing risk.	☐	☐	☐	☐
I support policies to prohibit development in areas subject to natural hazards.	☐	☐	☐	☐
I support the use of local tax dollars to reduce risks and losses from natural disasters.	☐	☐	☐	☐
I support protecting historical and cultural structures.	☐	☐	☐	☐
I would be willing to make my home more disaster-resistant.	☐	☐	☐	☐
I support steps to safeguard the local economy following a disaster event	☐	☐	☐	☐
I support improving the disaster preparedness of schools.	☐	☐	☐	☐

Mail to: Saddleback Valley USD, 25631 Diseño Drive, Mission Viejo, CA 92691
Attention: Joann Reinhold, Facilities

Letter Sent to Neighboring Jurisdictions

Dear Colleague:

Saddleback Valley Unified School District (SVUSD) is currently developing an All-Hazards Mitigation Plan as required in the Disaster Mitigation Act of 2000 (DMA-2000). This project addresses:

Safety of Life & Property by implementing activities assisting in protecting lives and property and by making critical facilities more resistant to losses from all hazards and reducing losses from repetitive damages for chronic hazard events.

Public Awareness by developing and implementing education and outreach programs to increase public awareness of the risks associated with these hazards; and, providing information on tools; partnership opportunities, and funding resources to assist in implementing mitigation activities.

Natural Systems by balancing natural resource management and land use planning with natural hazard mitigation to protect life, property, and the environment while preserving, rehabilitating, and enhancing natural systems to serve natural hazard mitigation functions.

Foster Partnerships and Implementation by strengthening communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation. And, encouraging leadership within public and private sector organizations to prioritize and implement local and regional hazard mitigation activities.

Enhancing Emergency Services by establishing policy to ensure mitigation projects for critical facilities, services, and infrastructure including strengthening emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry. This step involves coordinating and integrating hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

In accordance with that law, it is our intent to solicit input regarding hazards to our property and people from our neighboring communities and other stakeholders in the mitigation process. We anticipate inviting your agency for comment to one of our fall 2004 SVUSD Hazard Mitigation Planning Committee meetings. In the meantime, we request that, if you have information that would enhance or otherwise benefit our Hazard Mitigation Planning Project, to please forward that information, no later than, September 30, 2004 to:

Joann Reinhold, Facilities Maintenance Technician
Saddleback Valley USD
25631 Diseño Drive, Mission Viejo, CA 92691
Phone: (949) 580-3221; Fax: (949) 581-2813

Thank you for supporting our commitment to making Saddleback Valley USD a safe neighbor.

Sincerely,

Letter Sent to Principals

TO: Principals

FROM: Frank Manzo

SUBJ: Parent Representative to the Facilities Advisory and Hazard Mitigation Committees

DATE: September 2, 2004

As a follow up to the principals' leadership meetings, I am requesting the name of a parent representative for the Facilities Advisory Committee. I realize that this committee has been inactive for the past few years and anticipate the same situation for the 2004/05 school year. However, having a parent identified is important in the event the committee needs to be mobilized to address any unanticipated issues. Attached is a more detailed memo outlining the identification of the site representative in addition to the recommendation form for your convenience. Completed forms should be returned to Kimberly Seiver in Business Services.

Presently, the District is participating in a federally funded FEMA program that addresses potential hazardous conditions within the District and steps to mitigate these conditions. In the event funds become available from the Federal Government, the District will be in a position to apply for funds with an approved plan in place. A similar program occurred four years ago and resulted in $8 million to the District for seismic retrofit of the ceilings and light fixtures.

The Hazard Mitigation Committee has worked to identify, rank, and prioritize potential hazards in our area. Part of the process of developing our plan is to obtain public input. A meeting has been scheduled for **September 14 at 7:00 p.m. in the District Office Facilities Conference Room.** The meeting is designed to explain the process and to obtain community input on the identified hazards and priority rankings. This process is expected to take no more than one hour. The Hazard Mitigation Committee would like to invite a member of your community to this meeting.

Thank you for your assistance with these programs.

Planning Committee Meeting Minutes

SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT
DMA 2000 – Hazard Mitigation Planning
Kick Off Meeting – Mon., July 19, 2004

Attendees:

Frank Manzo (Chair)	Director, Business Services
Randy Huttenberger	Director, Facilities
Chris Ramey	Risk Management
Joann Reinhold	Facilities Technician
Jim Simone	Manager, Maintenance & Operations
Genevieve Pastor-Cohen	Consultant, Dimensions Unlimited, Inc.

Meeting Commenced at 9:07 a.m.

Introductions: Attendees introduced themselves and their roles within the district.

DMA 2000 Overview: Consultant provided an overview of the Disaster Mitigation Act of 2000 requirements and provided an outline of the plan contents.

Hazard Matrix: Consultant provided a hazard matrix to be completed by each member of the team.

To do: Each planning committee member will complete the hazard matrix and give to Joann Reinhold to fax to consultant by 8/13/04.

Name of Group: The team agreed to name the committee "Saddleback Valley USD Hazard Mitigation Planning Committee"

Meeting Schedule: The meeting schedule was discussed and changes were made according to the following: Change 2/21/05 to 2/28/05; change 12/20/04 to 12/13/04; change 2/21/05 to 2/28/05

Select Chair: By consensus, the team elected Frank Manzo as chair and Jim Simone as co-chair.

Committee: By consensus, the team wishes to invite local jurisdiction's emergency managers to the 11/15/04 meeting to comment on the plan. A draft plan will be provided prior to their attendance.

To do: A letter of invitation will be mailed to local jurisdictions emergency managers in early October to attend and comment on the plan during the 11/15/04 scheduled meeting.

Public Input: Discussion regarding identifying potential interested parties to attend the public input meeting, e.g. PTA members, non-district employee volunteers, working groups. It was agreed that the public input meeting be held in the evening to enable broader participation. It was suggested that an ad be placed in the Saddleback News the week prior to the meeting. Joanne will write a public announcement for the newspaper, September was chosen for the first public input meeting. Set-up for 9/14/04 at 7 p.m. for 1

½ hours. Another suggestion was made regarding sending notifications to school principals to select PTA members to attend.

The second public meeting will be held upon plan adoption before the Board. Consultant will attend each meeting to take minutes and assist in facilitating.

To do:

1. *Joann will write public announcement for Saddleback News and reserve a meeting location.*
2. *Notification to Principals letter/flyer inviting interested PTA members to attend. (Assigned to: TBD)*

Data: Consultant will need a GIS map for each hazard listed as high and moderate showing locations of school district properties. Potential GIS vendors are Eagle Aerial or Davis Geographic. Consultant will be contacting jurisdictions to obtain a copy of their hazard assessments and their general plan's safety element. Consultant requested a copy of the overall school district's ICS organization chart, future capital projects, building inventory with square footage with replacement value and contents value, list of current mitigation practices (strengthening of structures, non-structural bracing/anchoring of systems), previous disaster damage costs.

To do:

1. *Joann will arrange contract with GIS vendor and provide contact information to consultant for follow-up.*
2. *Joann will locate an overall school district ICS organizational chart.*
3. *Randy/Jim will provide list of building project.*
4. *Joann will provide previous disaster damage costs and list of FEMA hazard mitigation projects*
5. *Chris will provide updated list of building square footage, replacement costs and cost of contents*
6. *Jim will provide list of other mitigation practices SVUSD has implemented*

Mission/Vision Statement: Consultant recommended formulating a mission and vision statement for this project. Consultant will send samples statements to Joanne.

To do: Consultant to send sample mission/vision statements to Joanne.

Risk Hazards: By consensus, the team voted on producing a multi-hazard plan.

Goals, Objectives & Activities: Team will review draft goals, objectives and activities and suggest modifications to fit the school district. Consultant to send .doc file to Joanne

To do:

1. *Each committee member will review goals, objectives & activities for the plan and make necessary modifications to fit the needs of the school district.*
2. *Consultant will send the .doc file to Joanne for dissemination to committee members.*

Meeting Adjourned at 10:18 a.m.

Next Meeting: Monday, August 16, 2004 @ 9 a.m., conference room.

Saddleback Valley Unified School District
DMA 2000 Plan
SVUSD HMPC Meeting

Minutes

Monday, August 16, 2004

Attendees

Frank Manzo	Committee Chair, Director, Business Services
Randy Huttenberger	Director, Facilities
Gary Y. Matsumoto	Assist. Supt., Business Services
Ray Mc Elheny	Planner, Maintenance & Operations
Chris Ramey	Technician, Risk Management
Joann Reinhold	Technician, Facilities
Jim Simone	Manager, Maintenance & Operations
Genevieve Pastor-Cohen	Consultant, Dimensions Unlimited, Inc.

Welcome & Introduction. At 9:07 a.m., Frank Manzo, committee chair, opened the meeting. New member Gary Matsumoto introduced himself and provided a brief description of his role in the district.

Review and Approve Minutes of July 19, 2004 Meeting. Change 3.b.iii.2 assigned to Frank. Minutes were approved with corrections.

Old Business

Revise Meeting Schedule (December 2004 date). December date should read 12/6/04. Confirmation of public input meeting on 9/14/04. Meeting dates discussed, adjusted and re-confirmed.

Action Items – Follow-up

Hazard Matrix. Frank emailed the group's hazard matrix to consultant.

Local Government Input. Consultant drafted a letter of invitation for Frank's signature and emailed to Joann on 8/9/04. The letter will be mailed to local jurisdictions emergency managers in early October to attend and comment on the plan during the 11/15/04 scheduled meeting.

Public Input. Joann will write public announcement for Saddleback News and reserve a meeting location for 9/14/04 at 7 p.m. Frank volunteered to send a notification to Principals via letter or flyer inviting interested PTA members to attend. The second opportunity for public comment will be during the 2/28/04 board meeting.

Data. Joann will arrange contract with GIS vendor and provide contact information to consultant for follow-up. The firm's name is Davis Demographics. Joann indicated that the GIS firm was given the hazard map. Davis Demographics will contact consultant.

Frank volunteered to provide the overall school district ICS organizational chart.

Randy and Jim will provide list of building projects. Discussion occurred regarding ADA and Field Act compliance.

Discussion regarding Portola site and landslide potential. Relocation is a possible mitigation measure. Joann will provide costs expended thus far for Portola project. Irrigation line breaks have occurred at this site.

Joann provided previous disaster damage costs and list of FEMA hazard mitigation projects. Possible mitigation measure – furniture bracing. Joann provided an overview of work that was covered under previous disaster hazard mitigation programs.

Chris will provide an updated list of building square footage, replacement costs and cost of contents. SVUSD and Keenan square footage will redo and will use replacement values. School district will evaluate. Discussion occurred regarding building replacement and insurance.

Gary explained that when buildings are damaged to the extent of being uninhabitable, the insurance company will replace the building, then, the new insurance rates will reflect that replacement. SVUSD is self-insured. Discussion occurred regarding excess insurance carrier, contents value, and classroom per square. A Portable's contents can be up to $5,000 which can include fixtures and furniture. Committee will convene separately to determine cost per square foot for contents. Chris mentioned there is a listing of inventory from which these numbers can be drawn.

Jim will provide list of other mitigation practices SVUSD has implemented such as seismic tie downs, underground storage tanks (diesel and gas), asbestos abatement, and hazardous waste disposal.

Mission Statement. Mission statement reviewed by team and emailed to consultant.

Goals, Objectives & Bylaws. Committee reviewed and emailed to consultant.

New Business

Review Hazard Matrix Results. Question was raised to determine if there is there a log of threat calls. The Instructional Assist. Might be able to provide this information. Frank commented that he has been invited to threat assessment class.

The team voted to leave matrix as is. Prioritization of the hazards will be as follows:

- High: 18 and above.
- Moderate: 9 – 16
- Low: 8 and below.

Discussion occurred regarding hazards having subsets.

Other topics for next meeting: Potential Mitigation Projects. Identify Constraints. Identify Information Resources.

Meeting adjourned @ 10:21 a.m.

Next Meeting: September 14, 2004 @ 2 p.m., Conference Room

Notes: Equipment needs for 9/14/04 public input meeting - LCD projector that can be connected to consultant's laptop computer.

Saddleback Valley Unified School District
DMA 2000: Hazard Mitigation Plan
SVUSD HMPC Meeting

MINUTES

Tuesday, September 14, 2004
2 p.m.

Attendees:

Frank Manzo (Chair)	Director, Business Services
Randy Huttenberger	Director, Facilities
Ray McTheney	Planner, Maintenance & Operations
Chris Ramey	Risk Management
Joann Reinhold	Facilities Technician
Jim Simone	Manager, Maintenance & Operations
Genevieve Pastor-Cohen	Consultant, Dimensions Unlimited, Inc.

Welcome. The meeting commenced at 2:15 p.m. with the consultant facilitating the meeting.

Review minutes from 8/16/04 meeting. Minutes approved with changes. Change Public Input Board Mtg. 2/28/05.

OLD BUSINESS

Letters to Local Government Representatives. Frank & Joann mailed letter to local emergency managers on 8/20/04. Frank's letter was sent to principals on 9/2/04.

9/14/04 Public Input Meeting. The committee members approved of the agenda. The public will be provided with information about the process and intended outcomes of the hazard mitigation plan. Committee reviewed the presentation. Suggestion made to add completion date.

Data and Information Resources Follow-up.

1. Graphic Information System Data. Joanne contacted Greg Davis. He doesn't have all the hazard data. Consultant will contact cities for data sets GIS.
2. Building Projects. Randy and Jim will provide listing of schools sites from master plan. Specifically, the Exhibit B from master plan and bond projects. Joanne will provide the Portola Project expenditures.
3. Property Values Summary. Chris provided a summary of contents costs for schools. Books + workbooks ancillary items range from $80 to $200 average = $100 in teacher materials. $100 is reasonable amount.
4. Building Replacement Value (Team). – In progress (Joann)
5. Cost per Square Foot (Contents) – The team worked on this project and Chris presented a spreadsheet listing potential cost per square foot. When the corrected data is received, Chris will email to consultant. A discussion about cycle of book replenishing/replacement. At least $5M for one high school.

Previous and Current Mitigation Activities. The first school was built in 1952. Discussion regarding how to provide data. Listed by Category. Email format for each category of groupings. Modernization groupings. Risk assessment value groupings.

Codes & Ordinances. SCAQMD. South Coast Air Quality Management District in existence since 1950s. Consultant to review local jurisdictions plans to obtain codes, laws, and ordinances that impact the school district.

NEW BUSINESS

Potential Mitigation Projects. Consultant recommended that each committee member review the high and moderately ranks hazards and provide a listing of current and future potential mitigation measures that address each hazard. Each measure needs to include the description of the activity, the name of the department that is responsible for conducting the activity, fund source and time line for completion.

Identify Constraints. Constraints can be political, budgetary, etc. This topic will be discussed further in the next meeting.

Other Business.

1. Questionnaire posting on website for additional public input. The committee agreed that posting the questionnaire on the website would not yield sufficient response. The best way to obtain responses is to provide the questionnaire at public meetings.
2. Adoption of plan with changes. Discussion regarding when plan goes to the Board for approval. In the past, Joann has presented plans to the Board wherein changes could be made.
3. Office of Education. Frank reported that the Orange County Office of Education conducted a meeting about the feasibility of completing a hazard mitigation plan. Not all school districts are developing hazard mitigation plans.

Adjourned 3:25 p.m.

Next meeting: Monday, Oct. 18, 2004 @ 9 a.m. in Conference Room

SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT
DMA 2000 – Hazard Mitigation Planning
Meeting Minutes – Mon., October 18, 2004

Attendees:

Frank Manzo (Chair)	Director, Business Services
Randy Huttenberger	Director, Facilities
Gary Matsumoto	Assistant Superintendent, Business
Ray McTheney	Planner, Maintenance & Operations
Chris Ramey	Risk Management
Joann Reinhold	Facilities Technician
Jim Simone	Manager, Maintenance & Operations
Genevieve Pastor-Cohen	Consultant, Dimensions Unlimited, Inc.

Welcome. Meeting commenced @ 9:10 a.m. With consultant facilitating meeting.

Approval of 9/14/04 Meeting Minutes. Add attendees to last meeting. #3 changes $2 to $200. ACMD change to SCAQMD. Approved with changes.

OLD BUSINESS

Data. Randy suggested that Cotton & Bridges is another firm that can deliver the GIS mapping needed.

HM Strategies. Committee members indicated a meeting was convened prior to the planning meeting to develop mitigation strategies which were given to Joanne.

Questionnaire. Frank is going to the PTA council meeting and will present the PowerPoint and questionnaire.

NEW BUSINESS

Additional Information Needs. Planning committee reviewed the high hazard risks and categorized each risk to each school site. The high risk hazards are wildland/urban fires, earthquakes, winds, and hazardous materials exposure. It was agreed that all sites are vulnerable to earthquakes and acts of terrorism. Hazardous materials vulnerability is prevalent where school sites are located adjacent to highways.

Codes, Laws, Ordinances. The laws effecting school districts are: Division of State Architect - Field Act, Title 24 requirements, AHERA- asbestos management, EPA - underground storage tanks, SCUMD - emissions, Federal Storm Water Act, CFR 40 Clean Water Act, Universal Waste, ADA, DTS-Dept. of Toxic Substance which regulates what you can use such as pesticides on school facilities, State Education Code.

Critical Infrastructure. It was agreed that the following school sites are critical facilities because they serve as emergency shelters: Trabuco Hills HS, Rancho Santa Margarita Intermediate, and Laguna Hills. The District Office's data center is critical. To replace the building and equipment (phone system) it will cost $2.5M to replace. Also, it would cost $750,000 to replace M&OT. It was brought up that Pacific Bell's fiber optics run through

the district office and is a main distribution center. School district has an arrangement with Pacific Bell to use their battery back-up. The fiber optics is located in the vault in front of the district office. The district office is a critical system for SBC.

Local Capabilities. SVUSD has special agreements with local fire and police. Security monitoring is in house. SVUSD utilizes local authorities for terrorism incidents.
Frank and Chris volunteered to contact the City Managers to RSVP for the next meeting.

Hazard Mitigation Project. All agreed that Portola is the priority HM project. Documentation regarding the site's background, any geologic assessments, potential costs. Potential alternative solutions for site, i.e. relocation, consolidation. Has a cost-benefit analysis been done to determine feasibility of the intended solution?

Meeting adjourned @ 10:10 a.m.

Action Items:

1. *Obtain mitigation strategies from Joanne*
2. *Determine if the current GIS consultant is producing what SVUSD needs for the plan (mapping of school districts in cities with available high risk hazard data)*
3. *Results of Frank's presentation to PTA meeting*
4. *Results of Frank and Chris' calls to neighboring jurisdictions City Manager Offices regarding representation at SVUSD November meeting*
5. *Background information for Portola site from Gary. Litigation documents might have all the detail we need*
6. *List of school district facilities with the following data: school name, address, year built, construction type, square footage (each building on campus), cost to replace building, cost to replace contents.*
7. *Draft plan comments from committee members (provide copy of page that needs changes/edits and any additional information deemed necessary).*

Next Meeting: Monday, November 15, 2004 @ 9 a.m.
District Office Conference Room

Saddleback Valley Unified School District

DMA 2000 – Hazard Mitigation Planning

Meeting Minutes – Mon., November 15, 2004

Attendees:

Ben Siegel	Management Analyst	949 461-3537	bsiegel@ci.lake-forest.ca.us
Stacey Taylor	Sergeant	949 461-3542	staylor@ci.lake-forest.ca.us
Jeff Foster	Sergeant	949 7007-2642	jfoster@ocsd.org
Jim Simone	Maintenance and Operations	949 580-3251	simoneJ@SVUSD.org
Gary Matsumoto	Assistant Superintendent	949 580-3341	matsumotog@svusd.org
Theresa Hayes	Director of Operations	626 286-8305	theresa@dimensionsui.com
Kristel Arnott	Consultant	626 286-8305	kristel@dimensionsui.com
Randy Huttenberger	Director	949 580-3250	huttenberger@svusd.org
Genevieve Pastor-Cohen	Sr. Vice President	510 522-0250	genevive@dimensionsui.com
Frank Manzo	Director, Business Services	949 580-3335	manzo@svusd.k12.ca.us

Welcome. Meeting commenced @ 9:05 a.m.

Approval of 10/18/04 Meeting Minutes. . Approved with changes.

OLD BUSINESS

Hazards:

WMD/Terrorism:

Active shooter was found on one of SVUSD's Campuses last year and posed a risk to students and adults.

San Onofre:

Would be more likely placed under the Hazardous Materials (HazMat) section of the Plan.

Laguna Hills practices the San Onofre Nuclear Generating System (SONGS) exercise with the Orange County Emergency Operations Center.

SONGS does not affect the City of Lake Forest.

Airport:

The Airport is its own entity, isolated from the rest of the Cities.

Industrial Hazards:

No known hazards at this time, Frank Manzo will contact the Fire Department for their Hazardous Materials Plan.

Public Input:

A Power Point Presentation was given by Frank Manzo at the PTA Meeting. The members were comfortable with Hazard Risk Prioritization. Meeting Minutes and other documents were made available.

Dimensions suggested the Committee reach out to other organizations such as the Elks, or Rotary Club.

Questionnaires:

The Questionnaires are not currently posted on the SVUSD website, but will be considered for more public out reach.

Risk Matrix:

Severe Weather was moved from a Low Risk to a High Risk Hazard.

NEW BUSINESS

City Items:

The Committee gave a brief overview of the following items for the representatives from Lake Forest and Laguna Hills:

Plan Process

FEMA

Future Goals

Local Capabilities

Planning and Maintenance

Rating System of the Hazard Prioritization

The Committee requested any information or input that the Cities might have to include in the Plan. Any information that they have is already available, and doesn't need to be created.

Lake Forest just updated their Emergency Plan, with Terrorism added.

Action Items:

There were no corrections made to the Plan Draft given to the Committee at the last meeting.

Unincorporated areas:

Foothill Ranch and Trabuco Canyon

Inundation Maps are available through the Fire and Sheriff's Departments.

The Portola Report was discussed by the Committee. Data for the Study is available.

Property Value Report:

A Property Value Summary will be provided for Dimensions to include in the Plan.

Contents and Replacement Value

Dollar Amounts is not included for square footage

Electronic Version is available with updated corrections

Mitigation Strategies:

Large numbers were painted on the roof of Laguna Hills High School recently. The Committee will gather more information to include in the Historical Mitigation Section of the Plan. The District would like to add more numbers to the roofs of other schools.

The District put in a bid to for an updated security system in schools.

A School Mobil Research Team (SMRT) assesses school sites for risks. A summary of risks are available to include in the Plan.

Mitigation Constraints:

Railroads-Brief summary and map of the tracks will be in the Plan.

HazMat

Plan Format:

The Committee agreed that it would be acceptable to change the format of the Plan.

Next Meeting:

A Meeting was set up to discuss Mitigation Strategies on Monday, December 14, 2004 @ 9am to 12pm in the District Office Conference Room.

Adjourn:

Meeting was adjourned at 10:20am

Section 3 – Demographics & Statistics

History

Saddleback Valley Unified School District Geographical Profile

Located in south Orange County, SVUSD is the county's fourth largest school district. The District provides a highly regarded educational program to over 35,000 students from its attendance area that encompasses over 95 square miles. The District employs 2,973 people. SVUSD has 26 elementary schools, 4 intermediate schools, 4 high schools, 1 special education school, 1 continuation school and 1 independent study high school. In addition to the schools, the District Office also provides support services.

The success our students enjoy and our positive local and national reputation are the result of focused teacher energy, vigorous parent involvement and strong staff and management commitment as well as business and community support.

Our educational programs emphasize that students must develop basic skills and learn how to integrate them into higher order thinking abilities, such as problem solving, making comparisons, analyzing facts and drawing inferences. The academic environment is enhanced by a variety of athletic opportunities, fine and performing arts programs and many other student activities. Some schools offer unique curricular emphasis in science, language arts, fine and performing arts, gifted and advanced placement classes, second language support or immersion, or environmental education. The use of technology as a tool to enhance learning for all students is also a top priority. We are dedicated to providing students, teachers and administrators with appropriate access to a wide variety of electronically delivered educational information resources.

The District's commitment to providing continuous teacher training and staff development is an important component in keeping our educational vision clear and focused on enhancing student skills and learning.

Saddleback Valley Unified School District's (SVUSD) students graduate prepared to succeed in tomorrow's world.

SVUSD schools are located in the cities of Laguna Hills, Lake Forest, Mission Viejo, Rancho Santa Margarita and the unincorporated areas of Portola Hills, Foothill Ranch and Trabuco Canyon. The following section provides a geographic description of each jurisdiction.

National Blue Ribbon Schools

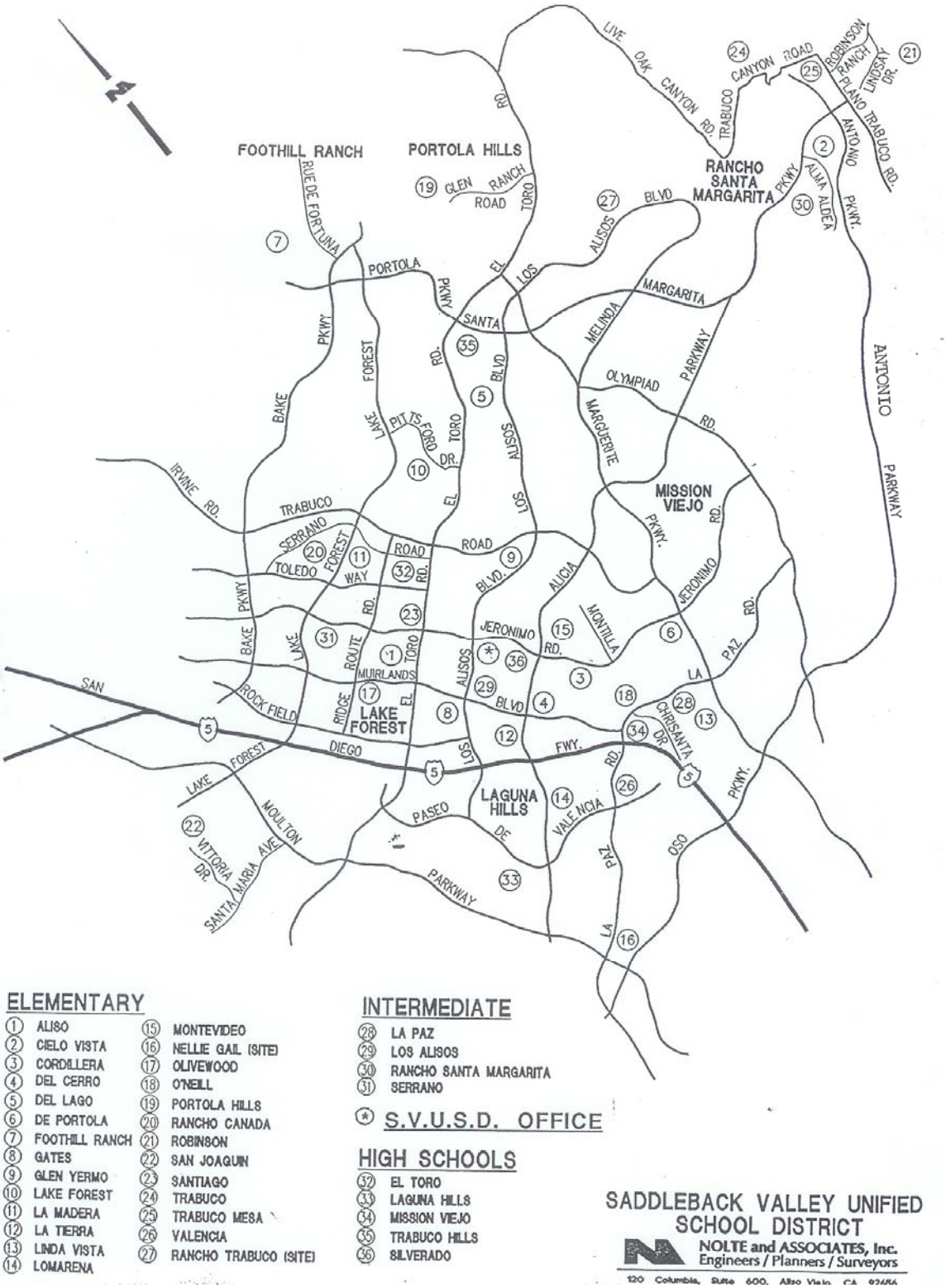
- Dil Cerro Elementary
- La Paz Intermediate
- Laguna Hills High
- Los Alisos Intermediate
- Mission Viejo High
- Montevideo Elementary
- O'Neill Elementary
- Rancho Santa Margarita Intermediate
- Trabuco Hills High
- Foothill Elementary

State Distinguished Schools

- Cielo Vista Elementary
- Cordillera Elementary
- Del Cerro Elementary
- Foothill Elementary
- Gates Elementary
- La Paz Intemediate
- Laguna Hills High
- Lake Forest Elementary
- Lomarena Elementary
- Los Alisos Intermediate
- Mission Viejo High
- Montevideo Elementary
- O'Neill Elementary
- Olivewood Elementary
- Portola Hills Elementary
- RSM Intermediate
- Robinson Elementary
- San Joaquin Elementary
- Serrano Intermediate
- Trabuco Hills High
- Valencia Elementary

District Enrollment (September 2002, 8th day)

Total Elementary	19,727
Total Intermediate	5,586
Total High School	10,202
Esperanza Special Education	108


FOOTHILL RANCH
PORTOLA HILLS
RANCHO SANTA MARGARITA
MISSION VIEJO
LAKE FOREST
LAGUNA HILLS
ELEMENTARY
1 ALISO
2 CIELO VISTA
3 CORDILLERA
4 DEL CERRO
5 DEL LAGO
6 DE PORTOLA
7 FOOTHILL RANCH
8 GATES
9 GLEN YERMO
10 LAKE FOREST
11 LA MADERA
12 LA TIERRA
13 LINDA VISTA
14 LOMARENA
15 MONTEVIDEO
16 NELLIE GAIL (SITE)
17 OLIVEWOOD
18 O'NEILL
19 PORTOLA HILLS
20 RANCHO CANADA
21 ROBINSON
22 SAN JOAQUIN
23 SANTIAGO
24 TRABUCO
25 TRABUCO MESA
26 VALENCIA
27 RANCHO TRABUCO (SITE)
INTERMEDIATE
28 LA PAZ
29 LOS ALISOS
30 RANCHO SANTA MARGARITA
31 SERRANO
* S.V.U.S.D. OFFICE
HIGH SCHOOLS
32 EL TORO
33 LAGUNA HILLS
34 MISSION VIEJO
35 TRABUCO HILLS
36 SILVERADO
SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT
NOLTE and ASSOCIATES, Inc.
Engineers / Planners / Surveyors

Board of Education

Board of Education

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Don Sedgwick	Member
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School Board Meetings

The SVUSD Board of Education generally meets on the second Tuesday of each month, and if necessary the fourth Tuesday of the month, at 7:00 p.m. at the Education Center located at the 25631 Peter A. Hartman Way, Mission Viejo, CA 92691

Orange County Departments & Responsibilities

EOC

The Emergency Management Bureau provides emergency management and preparedness services to the Orange County Operational Area. There are currently 114 members in the Operational Area (OA) encompassing all County departments and agencies, public and private organizations and the general population within the boundaries of Orange County The Operational Area Executive Board has eleven members. They are responsible for the development, establishment and implementation of the policies of the Operational Area.

The Orange County Board of Supervisors has designated the Sheriff-Coroner Department as the lead agency in matters of emergency preparedness and disaster response. The County's Emergency Operations Center (EOC) is located at Loma Ridge and is maintained in a constant state of readiness by the Emergency Management Bureau. In emergencies involving earthquakes, tsunamis, civil disturbances, energy crises, nuclear power plant emergencies, terrorism and acts of war, the Sheriff-Coroner is designated as the OA Coordinator/DES. Similarly, the Fire Services Director is designated as the Operational Area Coordinator/Director of Emergency Services for a fire, mass casualty incident or hazardous material release. The Resources and Development Management Department Director is the OA Coordinator/DES for a flood, storm, dam failure or a coastal oil spill. The Health Officer is the OA Coordinator/DES for a threat or declaration of an epidemic.

The EOC can accommodate a staff of 140 responders working in 12-hour shifts throughout activation. This emergency response and recovery staff is drawn from the first responder pool of all County agencies/departments, led by fire, law, health and public works. The EOC has emergency power, food, water and supplies to support emergency responders for two weeks in a catastrophic event. The rooms at the EOC include the following:

Command Center

The Command Center policy group directs emergency response and recovery. Executive and management staff from agencies such as the Sheriff's Department, Orange County Fire Authority, Health Care Agency, County Executive Office, County Counsel, Social Services Agency, Resources and Development Management Department, Planning and Development Services Department and a member of the Board of Supervisors comprise this policy group.

Operations Center

The Operations Chief directs staff from a variety of public agencies and the American Red Cross, maintaining contact with emergency responders at the scene of an incident, helping to coordinate efforts and requests for mutual aid. The Planning/Intelligence Chief directs efforts to collect information on the extent of damages developing an appropriate action plan. Planning/Intelligence also updates the State regarding the current status of emergency conditions. The Logistics Chief takes the lead in providing services, personnel and equipment in support of emergency operations. The Finance Chief has the overall responsibility for developing financial documentation of the emergency and establishing funding authorities.

Support Center

A variety of support functions are carried out in the Support Center. One of the most important support functions is the Public Information Hotline. The Hotline Staff operates a bank of telephones designed to help relieve the load on 911 police and fire lines in an emergency. During the Laguna Beach Firestorm in October of 1993, the hotline handled over 27,000 calls in three days.

The Emergency Management Bureau offers training throughout the year to County staff, city personnel and other public agencies. The classes include EOC Orientation, SEMS (State mandated Standardized Emergency Management System), Planning and Situation Analysis, Support Pool functions such as Hotline, Documentation, Messenger and Plotter. Emergency Management also conducts exercises and EOC activation drills to train staff and to insure the County's ability to respond to a widespread emergency.

Orange County has an unincorporated area and three cities (San Clemente, Dana Point and San Juan Capistrano) within 10 miles of San Onofre Nuclear Generating Station (SONGS). Emergency Management devotes considerable time in preparation and planning for a possible radiological emergency. The Nuclear Regulatory Commission and the Federal Emergency Management Agency (FEMA) have mandated Emergency Management

to develop extensive emergency plans for a radiological emergency. The Emergency Management Bureau conducts a FEMA-graded SONGS Exercise every two years. The exercise involves a full activation of the EOC with a staff of 140 responders working on the potential evacuation and decontamination of residents from the three cities near the plant.

The Emergency Management Bureau is staffed by the following positions: 1 Emergency Management Manager; 1 Administrative Manager; 5 Senior Program Coordinators; 1 Information Processing Technician; 1 Senior Accounting Assistant; and 2 OCSD Cadets. For further information regarding Emergency Management or the Emergency Management Bureau, you may call (714)628-7055.

South Operations Division

Captain Bob Blackburn

The South Operations Division provides law enforcement services to more than 500,000 residents of South Orange County. The citizens serviced reside in the ten contract cities of Dana Point, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Aliso Viejo and the unincorporated areas of Trabuco Canyon, Coto De Caza, Ladera Ranch, Wagon Wheel Canyon, Las Flores and Talega.

The 404 sworn and professional staff members provide responsive, professional, and caring law enforcement services to the communities of South Orange County. The division's goals are to respond to calls for service in a prompt manner, protect lives and property, and maintain the public peace and order, investigate criminal offenses and traffic collisions, apprehend criminal offenders, and provide a myriad of services directed at solving community problems and addressing local issues. South Operations is supported and assisted in its endeavors of serving the populace by a large network of partnerships developed and maintained with our community, local businesses, and other agencies.

The South County contract cities and unincorporated regions encompass a vast area stretching across the southern portion of Orange County. The demographics and geography of this area are diverse and providing efficient, cost effective law enforcement to the varying needs of the citizens we serve is challenging and rewarding. Through collaborative efforts with our community partners, the South Operations Division has

succeeded in maintaining a high quality of life for its citizens by guarding and acting against those that seek to harm or gain through illegal means. The South Orange County region enjoys the lowest crime rate of any similar sized community in the United States. Crime has declined steadily since 1996 when the reported rate for the South County contract cities was 2.61 Part One Crimes per one hundred residents. The crime rate has dropped 39% to 1.57 in 2000 and is significantly lower and than that reported by other large police agencies in Orange County and achieved at a lower per capita cost.

Terrorism Early Warning Group (TEWG)

I. MISSION STATEMENT

The mission of the Terrorism Early Warning Group (TEWG) is to monitor trends and potentials which may result in terrorist threats or attack within the Orange County Operational Area. This early warning element evaluates open source data and intelligence information, and researches threat information to guide training and planning efforts. These early warning efforts also support fire service and health emergency response efforts. The TEWG is committed to effective, timely and two-way sharing of information between government agencies, the private sector, and the community. This effort is directed to the detection and prevention of terrorist activity and effective response to a crisis as its primary goal.

F. PRIVATE SECTOR TERRORISM RESPONSE GROUP (PSTRG)

The PSTRG is an integral part of the private sector/public sector partnership that is essential in combating terrorism. This component addresses and coordinates private sector safety, incident management, and public health consequences of potential terrorist attacks on the critical infrastructure within the Orange County operational area.

ADDITIONAL Agencies:

- Federal Emergency Management Agency
- Governor's Office Of Emergency Services
- Orange County Red Cross
- Orange County Fire Authority
- Orange County Health Care Agency
- Orange County Local Government

Orange County Fire Authority

The **Orange County Fire Authority** provides fire prevention/suppression and emergency services to 23 jurisdictions within Orange County, California. Those municipalities are displayed in the table below with links to additional information about each city and unincorporated Orange County.

The Orange County Fire Authority serves twenty-two of Orange County's cities as well as the unincorporated areas.

Partner City 2004	Population 2004	Housing Units	Square Mileage 2003	Incidents
Aliso Viejo	44,833	17,968	7.15	1,889
Buena Park	80,634	23,848	10.06	5,434
Cypress	48,450	16,381	6.93	2,260
Dana Point	36,532	15,880	6.44	2,475
Irvine	171,828	63,014	47.59	9,758
Laguna Hills	33,010	11,108	6.63	2,411
Laguna Niguel	65,669	24,664	14.74	2,846
Laguna Woods	18,287	13,629	3.04	3,804
Lake Forest	77,666	26,385	16.80	3,971
La Palma	16,040	5,131	2.02	693
Los Alamitos	11,933	4,362	4.26	971
Mission Viejo	97,752	33,714	17.43	5,749
Placentia	49,891	16,010	6.61	2,506
Rancho Santa Margarita	49,023	16,684	13.07	1,840
San Clemente	63,079	25,414	18.02	3,464
San Juan Capistrano	35,834	11,676	14.06	2,312
Seal Beach	24,964	14,347	12.20	2,793
Stanton	38,614	11,065	3.13	2,524
Tustin	70,339	25,850	10.99	3,773
Villa Park	6,202	2,020	2.09	294
Westminster	91,464	27,185	10.19	5,674
Yorba Linda	63,991	20,681	19.92	2,660
Unincorporated	112,778	37,957	300.38	5,977
TOTAL	1,308,813	464,973	553.74	76,078*

Data Sources:

- California State Department of Finance (population and housing unit estimates)
- Orange County Public Facilities & Resources Department (square mileage)
- Orange County Fire Incident Reporting System - OCFIRS (Incidents)

* - Excluding 3,495 mutual aid calls outside the OCFA jurisdiction.

OCFA provides a variety of public services, including the following:

Regionally delivers fire, emergency medical, and rescue services from 60 fire stations.

Receives and dispatches emergency calls. The dispatcher answers the initial call, determines the type of call, jurisdiction and closest unit and dispatches units via computer aided dispatch (CAD).

Provides public education programs to schools, businesses, community associations, childcare providers and other members of the community. Administers a Reserve Firefighter Program. As separate companies or in combination with one or more career companies, reserve personnel serve their community as part of OCFA's suppression forces. The program evolved from the volunteer departments which provided much of the county's fire protection in earlier years and from the former Paid-Call Firefighter program.

Sponsors Fire Explorer posts. The Explorers are young individuals, ages 15 to 21, interested in a career in fire and emergency medical services.

Adopts and enforces codes and ordinances relative to fire and life safety issues associated with commercial, industrial, and residential development.

Maintains a firefighting helicopter used for emergency responses throughout the year. During fire season this helicopter is primarily used to fight wildland and wildland - urban interface fires.

Coordinates the inspection of all commercial buildings, investigates all fires, and enforces hazardous materials regulations.

Works with developers and jurisdictional planning departments on development projects impacting fire protection services, from conception through planning process approval.

Conducts new construction inspections, fire safety inspections, and State Fire Marshal-required inspections (including high rise, jail, board and care, and day care inspections), and enforces applicable fire codes and ordinances.

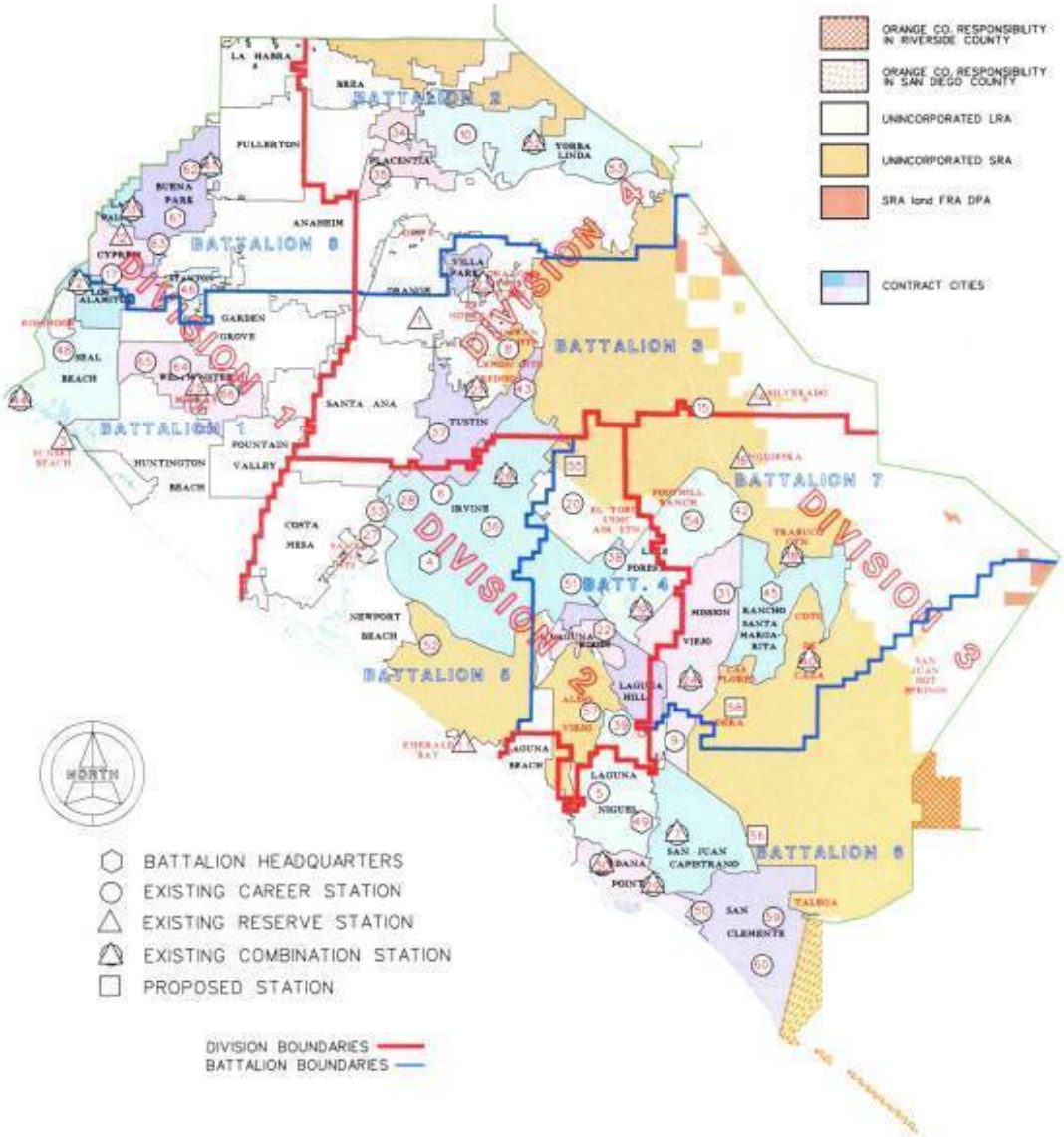
Interacts with developers, architects, and engineers to meet the fire protection requirements for buildings and developments by reviewing all architectural blue prints, development plans, and proposals submitted in OCFA's jurisdiction.

Conducts an inventory program of hazardous materials stored, handled, and used within OCFA's jurisdiction, and maintains related information on a data base accessible to all emergency response agencies in the event of a major emergency. The information is also provided to the public regarding the location, type, and health risks of hazardous materials on a facility- specific basis. Conducts Uniform Fire Code inspections, assists in reducing risks associated with the use of hazardous materials in the community, and administers the State-mandated Risk Management and Prevention program.

Investigates fires to determine their cause, prepares arson and hazardous materials cases for the district attorney, and initiates actions to recover costs for negligently caused fires. Staff also works closely with local, state, and federal law enforcement agencies, as well as the district attorney's office, in the investigation of hazardous materials incidents.

Develops and maintains a fire-safe corridor between the wildland and community developments through fuel modifications and inspections.

Orange County Fire Authority Map



City of Laguna Hills

Laguna Hills is built on one of the major land grants developed during the Rancho Era. Following Mexico's independence from Spain in 1821, those who had served in the government or who had friends in authority, were given vast lands for cattle grazing. Rancho Lomas de Santiago, Rancho San Joaquin, and Rancho Niguel covered much of the western portion of the Saddleback Valley. Don Juan Avila was granted the 13,000 Rancho Niguel on which Laguna Hills is located.

In 1874, Lewis Moulton purchased Rancho Niguel from Don Juan Avila and increased the original grant to 22,000 acres. Moulton and his partner, Jean Piedra Daguerre, used the ranch to raise sheep and cattle. The Moulton Ranch was eventually subdivided in the early 1960's, part of which is recognized as Laguna Hills. Incorporation efforts began in 1987 and on March 5, 1991, the goal of incorporation was finally achieved with 86% of the residents voting in favor of forming the City of Laguna Hills. On December 20, 1991, Laguna Hills officially became a City.

On November 14, 1995, the City Council approved annexation of the North Laguna Hills area, which became part of the incorporated City on July 1, 1996. 'On September 18, 2000, with the overwhelming support from the 1,800 residents, the "Westside" Annexation Area officially became part of the incorporated City. The annexation added 149 acres of residential land, which includes the Aliso Viejo Community Association's Sheep Hills Park.

Demographic / Housing Profile of Laguna Hills

Population

1992	24,085
1993	24,521
1994	24,832
1995	24,940
1996	25,021
1997	29,554
1998	30,381
1999	31,017
2002	32,875

Source: January Revised Estimates, State Dept. of Finance

2000 Racial & Ethnic Profile

White	21,471	68.9%
Hispanic	5,113	16.4%
Asian/P.I.	3,198	10.3%
Black	404	1.3%
Other	992	3.2%

Source: April Decennial Census of Population, U.S. Census Bureau

2000 Population by Age

Age	Total	%
0-4	1,915	6.1%
5-9	2,319	7.4%
10-14	2,429	7.8%
15-19	2,297	7.4%
20-24	1,505	4.8%
25-34	3,767	21.1%
35-44	5,226	16.8%
45-54	5,097	16.3%
55-59	1,715	5.5%
60-64	1,120	3.6%
65-74	1,517	4.9%
75-84	1,325	4.2%
85+	946	3.0%
Total	31,178	
Median Age:	37.7	

Source: April Decennial Census of Population, U.S. Census Bureau

100% Vital Statistics

	1997	1998	1999
Total Births	1,249	403	N/A
Birth Rate	N/A	13.2	N/A
Total Deaths	1,072	1,121	N/A
Death Rate	N/A	N/A	N/A

Includes data from Aliso Viejo (1997-98 births/1997-98 deaths); Rates are not available. Source: Orange County Health Care Agency

2003 Housing Units by Type

Quantity	Percentage	
Single Detached	5,842	52.45%
Single Attached	2,191	19.67%
2 - 4 Dwelling Unit	611	5.4%
5+ Dwelling Unit	2,275	20.4%
Mobile Homes	218	1.95%
Total Housing Units	11,137	
Occupied	10,787	96.86%
Persons / Unit		3.008

Source: January Revised Estimates, State Dept. of Finance

2002 Voter Registration

Democratic	4,400
Republican	8,854
American Independent	
Libertarian	130
Natural Law	27
Reform	77
Green	60
Miscellaneous	
Not Stated	2,772
Total	16,717

Source: Orange County Registrar of Voters, 2002

Hospital/medical center in Laguna Hills:

SADDLEBACK MEMORIAL MEDICAL CENTER (24451 HEALTH CENTER DRIVE)

Average Climate

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average temp. (°F)	55.8	56.5	57.5	60.1	62.7	65.8	68.9	69.8	69.5	65.8	60.0	55.9
High temperature (°F)	66.5	67.0	67.2	69.8	70.6	73.6	76.8	78.3	78.1	75.4	70.9	67.0
Low temperature (°F)	45.2	46.0	47.8	50.3	54.9	58.0	61.1	61.3	60.7	56.2	49.1	44.8
Precipitation (in)	2.8	2.9	2.5	0.8	0.2	0.1	0.0	0.1	0.3	0.4	1.2	1.8

SVUSD Schools within the City of Laguna Hills

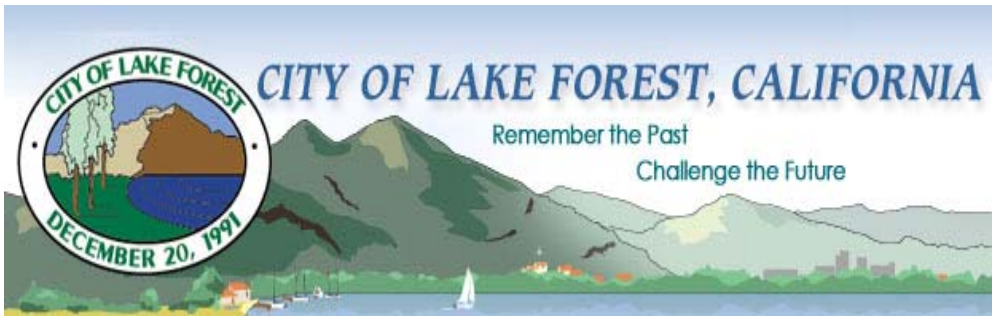
Lomarena Elementary School
25100 Earhart Road, Laguna Hills, CA 92653
Level: K-6

San Joaquin Elementary School
22182 Barbera, Laguna Hills, CA 92653
Level: K-6

Valencia Elementary School
25661 Paseo de Valencia, Laguna Hills, CA 92653
Level: K-6

Laguna Hills High School
25401 Paseo de Valencia, Laguna Hills, CA 92653
Level: 9-12

Adult Education Laguna Hills Office
2501 Paseo de Valencia, Laguna Hills, CA 92653



City of Lake Forest

Seeded in history, nestled within rolling hills, lakes and stands of eucalyptus, and freeway close, Lake Forest is a community that is responsive to business and aggressive in its desire for attracting and retaining an excellent business community.

Although Lake Forest is a new City, having incorporated on December 20, 1991, the Lake Forest area has a long history. Starting out as an agricultural area like most of Orange County region, Lake Forest began to grow rapidly following World War II. Residential, commercial and industrial development began to replace the acres of citrus and other agricultural products. A significant reason for the change was the growing importance of the El Toro Marine Base. The growth of the base increased the need for new homes and support services. Steadily, the Lake Forest area was built into the City we have today.

Lake Forest has been carefully master-planned to help ensure that it will always be an ideal place to live and conducive to business growth. Consequently, the amenities for encouraging residential and business growth are highly valued and carefully nurtured by those groups and individuals whose role is to help the City grow.

Statistics & Facts

The population of Lake Forest is approximately 59,400 (1999). The approximate number of families is 22,809 (1990).

The amount of land area in Lake Forest is 30.457 sq. kilometers. The amount of surface water is 0.137 sq kilometers. The distance from Lake Forest to Washington DC is 2400 miles. The distance to the California state capital is 400 miles. (As the crow flies) Lake Forest is positioned 33.64 degrees north of the equator and 117.68 degrees west of the prime meridian.

Lake Forest location: In Orange County near Irvine and the John Wayne Airport

Lake Forest History

El Toro used to be part of the un-incorporated area of Orange County. A few years ago the residents voted to incorporate and the name was changed to Lake Forest. The incorporation date of Lake Forest: 20 December 1991

Average Climate

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average temp. (°F)	56.1	56.9	57.8	60.4	63.0	66.1	69.3	70.3	69.8	66.1	60.3	56.2
High temperature (°F)	66.6	67.0	67.3	69.8	70.7	73.6	76.9	78.4	78.2	75.5	71.0	67.0
Low temperature (°F)	45.7	46.7	48.4	50.9	55.3	58.5	61.6	62.1	61.3	56.7	49.6	45.3
Precipitation (in)	2.8	2.9	2.5	0.8	0.2	0.1	0.0	0.1	0.3	0.4	1.2	1.8

SVUSD Schools within the City of Lake Forest

Aliso Elementary School
22882 Loumont Drive, Lake Forest, CA 92630
Level: K-6

Gates, Ralph A. Elementary School
23882 Landisview Avenue, Lake Forest, CA 92630
Level: K-6

Lake Forest Elementary School
21801 Pittsford Drive, Lake Forest, CA 92630
Level: K-6

La Madera Elementary School
25350 Serranto Road, Lake Forest, CA 92630
Level: K-6

Olivewood Elementary School
23391 Dune Mear Road, Lake Forest, CA 92630
Level: K-6

Rancho Canada Elementary School
21801 Winding Way, Lake Forest, CA 92630
Level: K-6

Santiago Elementary School
24982 Rivendell Drive, Lake Forest, CA 92630
Level: K-6

Serrano Intermediate School
24642 Jeronimo, Lake Forest, CA 92630
Level: 7-8

El Toro High School
25255 Toledo Way, Lake Forest, CA 92630

City of Mission Viejo

Although not a fledged city for too many years, Mission Viejo is steeped in a tradition that dates back to the vanishing days of men on horses driving cattle. Nearly 25 years ago, the Mission Viejo Co. bought a 10,000-acre section of Rancho Mission Viejo from the O'Neill family, which once owned much of the land from Oceanside to El Toro. The company would create a master plan for a community, specifying the number of parks, homes, recreational activities and retail spaces.

The rolling hills of the valley, home to a sea of grazing cattle, soon would also become home to seekers of "The California Promise."

The vision for the community began in 1963 with a planner's blueprint. The general development plan wound its way through the maze of county permits and by 1966 the first homes were sold, according to the Mission Viejo Co.

Fewer than a handful of changes - among them the additions of Saddleback College and lake Mission Viejo - have been made to that initial plan.

Currently, over 96,000 people call Mission Viejo home.

Through it all there has been the powerful guiding hand of the Mission Viejo Co. The company not only laid the groundwork for a planned city, but also helped to develop community activities and created a Mission Viejo identity.

The company was a major sponsor of floats in the Rose Parade, Fourth of July displays at Lake Mission Viejo, St. Patrick's Day parades and the internationally recognized Nadadores swim team.

But since Mission Viejo became a city on March 31, 1988, the company has begun withdrawing its heavy financial support of community activities. In addition, with Mission Viejo development nearly completed, the company has begun looking across the San Diego (I-5) Freeway to nurture its new planned community of Mission Viejo.

In 1974, the community formed a Municipal Advisory Council to keep track of local issues and serve as the eyes and ears of the County Board of Supervisors.

Eleven years later, as county funds became scarcer, the county prompted the community to form a service district which would be able to apply to the state for funds to help pay for services such as roads and parks.

Mission Viejo location: south east of Anaheim and Los Angeles in southern California

The population of Mission Viejo is approximately 96,568 (2001). The approximate number of families is 33,657 (2001).

The amount of land area in Mission Viejo is 17.4 sq. miles. The amount of surface water is 1.008 sq kilometers. The distance from Mission Viejo to Washington DC is 2398 miles. The distance to the California state capital is 403 miles. (as the crow flies) Mission Viejo is positioned 33.61 degrees north of the equator and 117.65 degrees west of the prime meridian.

The city tree is the Coast Live Oak.

Location

Mission Viejo location: south east of Anaheim and Los Angeles in southern California

History & History Related Items

The incorporation date of Mission Viejo: 1988

Economy & Industry

Mission Viejo economy: diverse. Three Largest Employers (2001): Mission Hospital Regional Medical, Saddleback College, Unisys Corporation

The population of Mission Viejo was:

1990 - 72,820
1999 - 96,300
2001 - 96,568

Hospitals/medical centers in Mission Viejo:

CHILDREN'S HOSPITAL AT MISSION (27700 MEDICAL CENTER RD, 5TH FLOOR)

MISSION HOSPITAL REGIONAL MED CENTER (27700 MEDICAL CENTER RD)

Average Climate

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average temp. (°F)	56.0	56.7	57.7	60.3	62.9	66.0	69.1	70.1	69.7	66.0	60.2	56.1
High temperature (°F)	66.6	67.0	67.3	69.9	70.6	73.6	76.9	78.4	78.2	75.5	71.0	67.0
Low temperature (°F)	45.4	46.4	48.1	50.6	55.1	58.2	61.4	61.7	61.0	56.5	49.3	45.1
Precipitation (in)	2.8	2.9	2.5	0.8	0.2	0.1	0.0	0.1	0.3	0.4	1.2	1.8

SVUSD Schools within the City of Mission Viejo

Cordillera Elementary School
25952 Cordillera Drive, Mission Viejo, CA 92691
Level: K-6

Del Cerro Elementary School
24382 Regina Street, Mission Viejo, CA 92691
Level: K-6

Del Lago Elementary School
27181 Entidad, Mission Viejo, CA 92691
Level: K-6

De Portola Elementary School
27031 Presciado Drive, Mission Viejo, CA 92691
Level: K-6

Glen Yermo Elementary School
26400 Trabuco Road, Mission Viejo, CA 92691
Level: K-6

La Tierra Elementary School
24150 Lindley, Mission Viejo, CA 92691
Level: K-6

Linda Vista Elementary School
25222 Pericia Drive, Mission Viejo, CA 92691
Level: K-6

Montevideo Elementary School
24071 Carrillo Drive, Mission Viejo, CA 92691
Level: K-6

O'Neill Elementary School
24701 San Doval Lane, Mission Viejo, CA 92691
Level: K-6

La Paz Intermediate School
25151 Pradera Drive, Mission Viejo, CA 92691
Level: 7-8

Los Alisos Intermediate School
25171 Moor Avenue, Mission Viejo, CA 92691
Level 7-8

Mission Viejo High School
25025 Chrisanta Drive, Mission Viejo, CA 92691
Level: 9-12

Trabuco Hills High School
27501 Cordova Road, Mission Viejo, CA 92691
Level: 9-12

Silverado Continuation High School
25632 Peter A. Hartman Way, Mission Viejo, CA 92691

Esperanza Special Center
25121 Pradera Drive, Mission Viejo, CA 92691

Adult Education Main Office
25598 Peter A. Hartman Way, Mission Viejo, CA 92691

City of Rancho Santa Margarita

Rancho Santa Margarita, California dubbed "A Small City with the Soul of a Small Village" is a splendid master-planned community with a population of 47,214 residents. Comprised of approximately 15 square miles where residential neighborhoods, business and commercial centers, and open space combine to create the perfect hometown environment. Tucked away, yet accessible, Rancho Santa Margarita is strategically located in the heart of dynamic South Orange County amidst the beauty of a vast alley of nature's handiwork including the 5,600-foot Saddleback Mountain, the sprawling range of the Santa Ana Mountains, the woodlands of the Cleveland National Forest, the rolling hills of Coto de Caza, and O'Neill Regional Park.

When Spanish explorer Caspar de Portola came upon the land in the late 1700s, he found Indian ranchers, rugged hillsides, dark canyons, old-growth sycamores, century-old live oaks, and prickly-pear cacti. The site was so attractive that the settlers built the original California mission here on the edge of the Arroyo Trabuco, even though it was later relocated to San Juan Capistrano. The early inhabitants delighted in the views of the mountains and the forest in the distance and shared the land with deer, mountain lions, bobcats, hawks and even rattlesnakes. And even though the community is located in heavily populated Orange Country, the wildlife can still be spotted within the area.

Rancho Santa Margarita embodies a sense of admiration for the land and its heritage. More than half of its 5,000 acres are for recreation-land set aside for greenbelts, parks, bike and jogging paths, and recreational facilities. Rancho Santa Margarita Landscape and Recreation Corporation, is one of the common areas in the city, and includes a 13-acre lake with swimming lagoon, boat rentals, 4 community pools, 10 community parks with numerous sport fields, and Tijeras Creek golfing.

Santa Margarita Center, Rancho Santa Margarita's 700-acre commercial and business center, is slated to provide an estimated 30,000 jobs by the end of this decade. The demographics here are impressive. The median household income is $84,159 per year. The average home price is $309,250. The architecture of Rancho Santa Margarita goes back to the early tradition when 18th century Spanish missionaries built California's first churches, missions and monasteries. Today, many of these architectural elements from the past are being highlighted in the homes and public buildings of Rancho Santa Margarita at the same time blending stunning views of its canyons, its plains and its coastal mountains. The ambiance within Rancho Santa Margarita will take you back in time.

The community benefits from two major transportation improvement programs: the Foothill Circulation Phasing Plan (FCPP), and the Foothill Transportation Corridor. FCPP's comprehensive network of roadways and road extensions will link the town to the region's many cultural, civic and retail facilities. Rancho Santa Margarita is a landmark on the route of the Foothill Transportation Corridor, one of Southern California's proposed superhighways.

In an urban village such as Rancho Santa Margarita, the vision is to offer residents with all the modern conveniences they'd enjoy in a small city, while providing the appealing quality of life one finds in a small village. Rancho Santa Margarita's contemporary lifestyle includes schools, fine dining, and convenient shopping and medical and child care facilities. Santa Margarita Center's master plan includes a traditional "town center" as the focal point of activity, where residents and visitors can enjoy shopping, dining and cinemas.

The community students are served by the two school districts of Capistrano Unified School District and Saddleback Valley Unified School District depending on residence. Both districts have a fine reputation and offer and outstanding learning environment. Student routinely outperform on national standardized test and college entrance exams. Colleges and universities in close proximity to Rancho Santa Margarita include Saddleback College, Irvine Valley College, Orange Coast College, California State University-Fullerton, and University of California Irvine.

The quality of life in Rancho Santa Margarita is splendid. It is an ideal place to live, work, retire or raise a family! If you are considering moving here or would like more information please feel free to request a "free relocation package" today!

Average Climate

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average temp. (°F)	54.7	55.7	57.1	60.1	63.4	67.3	71.1	71.9	70.6	65.8	59.2	54.8
High temperature (°F)	65.8	66.7	67.5	71.0	72.8	77.1	81.1	82.3	80.9	76.7	70.8	66.4
Low temperature (°F)	43.6	44.7	46.7	49.2	54.1	57.5	61.1	61.6	60.2	54.9	47.5	43.1
Precipitation (in)	2.7	2.8	2.4	0.7	0.2	0.1	0.1	0.1	0.3	0.4	1.1	1.7

SVUSD Schools within the City of Rancho Santa Margarita

Cielo Vista Elementary School
21301 Avenida De Las Flores, Rancho Santa Margarita, CA 92688
Level: K-6

Melinda Heights Elementary School
21001 Rancho Trabuco, Rancho Santa Margarita, CA 92688
Level: K-6

Rancho Santa Margarita Intermediate School
21931 Alma Aldea, Rancho Santa Margarita, CA 92688
Level: 7-8

Trabuco Mesa Elementary School
21301 Avenida De Los Flores, Rancho Santa Margarita, CA 92688
Level: K-6

Orange County Unincorporated Area

Brief History

The colorful pageantry of human history in Orange County began at some undetermined point in the distant past when Shoshone Indians came to dwell along the coast and in the lower canyons of the mountains. Theirs was a simple form of existence: they lived off the abundance of the land.

In 1769, Gaspar de Portola, a military man and Spanish aristocrat, was appointed governor of Lower California. He commanded an expedition traveling northward into the literally unmapped and half mythical territory of Alta California. His assignment was to seek out the legendary Bay of Monterey. He was also to secure the Spanish claim to his fast frontier against any invasion from Russian trappers or British colonizers. Portola called upon Father Junipero Serra, president of the Mexico City Missionary College, to assist in this monumental undertaking.

It was late in July in 1769 when this first party of European explorers reached the boundaries of present-day Orange County. Members of the expedition named the region "The Valley of Saint Anne:" (Santa Ana). It was to this valley that Father Serra returned six years later, where he proceeded with the work of establishing the Church and converting the local people.

While the East Coast of North America was engaged in revolution and spectacular change, the West Coast too was undergoing a quiet and almost undetected' transformation. Father Serra dedicated the Mission of San Juan Capistrano, Orange County's first permanent settlement on November 1, 1776. The Mission became a self sustaining unit based upon an agricultural economy. Its chapel and adjoining structure were the first signs of civilization erected upon the fertile, virgin soil of the Santa Ana Region.

In 1801, Jose Antonio Yorba, a volunteer on the Portola expedition, also returned to Santa Ana. He established the county's first rancho (Santiago de Santa Ana) in what are today the cities of Villa Park, Orange, Tustin, Costa Mesa and Santa Ana.

Following Mexico's liberation from Spanish rule in 1821, the extensive land holding of the Capistrano Mission were subdivided and awarded to a number of distinguished war heroes. By this time, Yorba's Rancho Santiago de Santa Ana had grown to resemble a feudal manor, and the romantic rancho era of Orange County had been ushered in.

Cattle were introduced into the area in 1834. A prosperous hide and tallow industry developed. Southern California became a virtual suburb of New England as sailing ships loaded with cargo traveled back and forth between coasts. In 1835, author seaman Richard Henry Dana arrived at what is today known as Dana Point. He later immortalized Spanish Orange County in his book "Two Years Before the Mast" by describing it as "the only romantic spot on the Coast." The Spanish California

tradition of a carefree lifestyle, fiestas with music and dancing, bear and bull fights, rodeos, and gracious hospitality, survived until 1860.

A severe drought brought an end to the cattle industry. Adventurous pioneers, such as James Irvine, capitalized on the economic downfall of the ranchos. Irvine, an Irish immigrant, established an 110,000-acre sheep ranch that is today one of the most valuable pieces of real estate in America.

In 1887, silver was discovered in the Santa Mountains. Hundreds of fortune seekers flocked to the "diggings." Land speculators and framers came by rail from the East to settle in such boomtowns as Buena Park, Fullerton and El Toro.

Orange County was formally organized as a political entity separate from the County of Los Angeles in 1889. The wilderness had finally given way to irrigated farmlands and prosperous communities. A year-round harvest of Valencia oranges, lemons, avocados and walnuts made agriculture the single most important industry in the fledging county. And with orange groves beginning to proliferate throughout the area (15,000 orange trees), the new county was named for the fruit: "Orange County."

The twentieth century brought with it many industrious individuals such as Walter Knott, a farmer turned entrepreneur, who founded the Knott legacy in Buena Park.

During the years that followed, Orange County witnessed the discovery of oil in Huntington Beach, the birth of the aerospace industry on the Irvine Ranch, and filming of several Hollywood classics in the Newport area.

In 1955, Walt Disney opened his Magic Kingdom in Anaheim. Noted as the pioneer of animated films, Disney revolutionized the entertainment world again with his "theme park" recreation concept.

By 1960, the neighboring metropolis of Los Angeles was "bursting at the seams." As the population spilled over the county line and across the rural Santa Ana Valley, it left in its wake an urban landscape of homes, shopping malls, and industrial parks.

Today Orange County is the home of a vast number of major industries and service organizations. As an integral part of the second largest market in America, this highly diversified region has become a Mecca for talented individuals in virtually every field imaginable. Indeed the colorful pageant of human history continues to unfold here; for perhaps in no other place on earth is there an environment more conducive to innovative thinking, creativity and growth than this balmy, sun bathed valley stretching between the mountains and the sea in Orange County.

Statistics

SIZE: 798 square miles

CITIES: 34

COASTLINE: 42 miles

BEACHES: 9

HARBORS: 3

REGIONAL PARKLAND: over 35,000 acres

TRAILS & BIKEWAYS: approximately 357 miles

COUNTY LIBRARY: 33 branches

ELEVATION:

Lowest - Sea level; Highest - Santiago Peak (5,687 feet)

LAND USE:

Total Residential: 146,888 acres
Total Commercial: 25,381 acres
Total Industrial: 18,859 acres
Total Open Space: 103,063 acres

Source of above information: County of Orange Departments including OCPL, Public Facilities &Resources, Planning &Development Services

COLLEGES/UNIVERSITIES:

11 public, 7 private (non-satellite, WASC accredited institutions)

Source: California Postsecondary Education Commission

AIRPORTS:

John Wayne Airport
Fullerton Municipal

Source: Focus Orange County 2000

MILITARY INSTALLATION:

Los Alamitos Reserve Center

TOURISM (2001):

Regional Travel Volume (person trips): 25.5 Million
Regional Travel Expenditures: $5,974.8 Million
Travel Industry Jobs: 91,220

Source: California Division of Tourism

TOURIST ATTRACTIONS:

Arrowhead Pond of Anaheim, Anaheim
Balboa Island, Newport Beach
Bowers Museum, Santa Ana
Crystal Cathedral, Garden Grove
Discovery Science Center, Santa Ana
Disneyland Park/California Adventure, Anaheim
Edison International Field of Anaheim, Anaheim
Knott's Berry Farm/Soak City, Buena Park
Mission San Juan Capistrano
O.C. Performing Arts Center, Costa Mesa
Richard Nixon Library & Birthplace, Yorba Linda

Source: California Division of Tourism

TOP 5 HOSPITALS: *(Ranked by number of licensed beds)*

St. Joseph Hospital, Orange (462 beds)
UCI Medical Center, Orange (453 beds)
Hoag Memorial Hospital, Newport Beach (409 beds)
Fountain Valley Regional Hospital, Fountain Valley (400 beds)
Mission Hospital, Mission Viejo (331 beds)

Source: Healthcare Association of Southern California

TOP 5 SHOPPING CENTERS: *(Ranked by taxable sales)*

South Coast Plaza $1.1 billion
Fashion Island $558 million
The Marketplace Tustin/Irvine $507 million
Brea Mall $437 million
The Shops at Mission Viejo $327 million

Source: O.C. Business Journal Book of Lists 2003 (2002 sales data)

CIVILIAN WORKFORCE: 1,559,700

Source: Employment Development Department (2002 Annual Average)

UNEMPLOYMENT: 4.1%

Source: Employment Development Department (2002 Annual Average)

MAJOR O.C. EMPLOYERS:

Walt Disney Co. 21,275
County of Orange 17,751
University of California, Irvine 14,981
Boeing Co. 11,179
Albertsons Inc. 9,500
St. Joseph Health System 9,435
Tenet Healthcare Corp. 8,389
SBC Communications, Inc. 7,100
Target Corp. 4,878
Bank of America Corp. 4,813

Source: O.C. Business Journal Book of Lists 2002

EMPLOYMENT MIX (2001):

Trade, Transportation & Utilities 18.7%
Professional & Business Services 17.8%
Manufacturing 13.5%
Government 11.1%
Leisure & Hospitality Services 11.1%
Educational & Health Services 8.4%
Financial Activities 7.9%
Other Services/Information 5.8%
Construction 5.7%

Source: Employment Development Department

GROSS COUNTY PRODUCT (GCP):

GCP $127 billion
GCP as a Percent of Gross State Product 8.7%
GCP as a Percent of Gross National Product 1.2%

Source: Chapman University, Center for Economic Research, 2003 forecast

MEDIAN FAMILY INCOME: $72,985

Source: Chapman University, Center for Economic Research, 2003 forecast

PER CAPITA INCOME: $39,624

Sources: Chapman University Economic & Business Review, 2003 forecast

MEDIAN HOME PRICE: $428,000

Source: DataQuick Information Systems, July 2003

CONSUMER PRICE INDEX (2002): 182.2

Source: U.S. Department of Labor, Bureau of Labor Statistics

ASSESSED VALUATIONS: $287.9 billion

Source: Orange County Auditor-Controller, FY 2003-04

TAXABLE SALES (2001): $44.6 billion

Source: California State Board of Equalization

LARGEST CROPS:

Nursery Stock & Cut Flowers $232,095,556
Strawberries $52,608,749
Tomatoes $25,992,000
Peppers – Bell & miscellaneous $9,776,600
Avocados $8,161,608

Source: 2002 O.C. Crop Report, O.C. Agricultural Commissioner

Transportation

Freeways

Critical Assets

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **ALISO ELEMENTARY**

Site Address: **22882 Loumont Dr.**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration, Classrooms Building	1969	C - Masonry	1	9,288	$1,097,303	$87,784	$1,185,087	$0	$0
	2	2	Classroom Wing (4-6)	1969	C - Masonry	1	10,030	$1,230,981	$98,479	$1,329,460	$0	$0
	3	3	Classroom Wing (9-18)	1969	C - Masonry	1	7,889	$968,184	$77,455	$1,045,639	$0	$0
	4	4	Classroom Wing (19-24)	1969	C - Masonry	1	4,821	$591,744	$47,340	$639,084	$0	$0
	5	5	Relocatable Classroom (TLC-P1)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	6	6	Relocatable Classroom (TLC-P2)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	7	7	Corridors	1969	C - Masonry	1	15,578	$583,264	$0	$583,264	$0	$0
				Total			49,526	$4,588,460	$320,416	$4,908,876	$0	$0

Building	Year Built/Modernization	Square Footage	Project	Replacement Value
Aliso Administration Classroom	1970/2000	10,373	Modernization	$1,486,689.00
Aliso Classroom Wing (4-6)	1969/2000	11,502	Modernization	
Aliso Classroom Wing (9-18)	1969/2000	8,939	Modernization	
Aliso Classroom Wing (19-24)	1969/2000	5,594	Modernization	
Aliso Elementary School Corridors	1969/2000	Building numbers	Modernization	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **CIELO VISTA ELEMENTARY SCHOOL**

Site Address: **21811 Avenida de las Fundadores**
Rancho Santa Margarita
CA - 92688

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	20	20	Classroom Wing (TC)	1990	D - Wood	1	1,000	$108,017	$8,642	$116,659	$0	$0
	21	21	Relocatable Classroom (P25-P27)	1996	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0
	22	22	Corridors	1990	C - Masonry	1	14,696	$550,295	$0	$550,295	$0	$0
				Total			77,134	$5,970,492	$433,607	$6,404,099	$0	$0

Amended Building Report November 29, 2004

Building	Year Built/Acquired	Square Footage
Cielo Vista Building A Administration & Wing	1990	14,046
Cielo Vista Building D Classroom Wing	1990	4,986
Cielo Vista Building E Classroom Wing	1990	4,959
Cielo Vista Building F Classroom Wing	1990	5,722
Cielo Vista Building G Classroom Wing	1990	4,959
Cielo Vista Building C Multipurpose Room	1990	6,615
Cielo Vista Building B Classroom Wing (K1-K2)	1990	5,006
Cielo Vista Relocatable Classroom (TLC 1)	1990/1990	960
Cielo Vista Relocatable Classroom (TLC 2)	1998/1998	960
Cielo Vista Relocatable Classroom (TLC 3)	1998/1998	960
Cielo Vista Relocatable Classroom (P1-P3))	1998/1998	1,920
Cielo Vista Relocatable Classroom (P6-P8))	1998/1998	1,920
Cielo Vista Relocatable Classroom (P11-P13))	1998/1998	1,920
Cielo Vista Relocatable Classroom (P16-P18))	1998/1998	1,920
Cielo Vista Relocatable Classroom (P19-P21))	1998/1998	1,920
Cielo Vista Relocatable Classroom (P22-P24))	1998/1998	1,920
Cielo Vista Relocatable Classroom (P14-P15))	1998/1998	1,280

Building	Year Built/Acquired	Square Footage
Cielo Vista Relocatable Classroom (P9-P10))	1998/1998	1,280
Cielo Vista Relocatable Classroom (P4-P5))	1998/1998	1,280
Cielo Vista Elementary Classroom Wing (TC)	1990/1990	1,000
Cielo Vista Relocatable Classroom (P25-P27))	1998/1998	1,920

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **CORDILLERA ELEMENTARY**

Site Address: **25952 Cordillera Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration, Classroom Wing (K1-K2)	1973	C - Masonry	1	9,551	$1,041,542	$83,324	$1,124,866	$0	$0
	2	2	Classroom Wing (6-8, 11)	1973	C - Masonry	1	10,032	$1,231,300	$98,504	$1,329,804	$0	$0
	3	3	Classroom Wing (12-21)	1973	C - Masonry	1	7,999	$981,753	$78,540	$1,060,293	$0	$0
	4	4	Classroom Wing (22-25)	1973	C - Masonry	1	4,856	$595,985	$47,679	$643,664	$0	$0
	5	5	Relocatable Classroom (P1)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	6	6	Relocatable Classroom (P2)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	7	7	Relocatable Classroom (P3-P4)	1998	D - Wood	1	1,920	$116,983	$9,359	$126,342	$0	$0
	8	8	Relocatable Classroom (P5-P7)	1998	D - Wood	1	2,880	$175,261	$14,020	$189,281	$0	$0
	9	9	Corridors	1973	D - Wood	1	13,948	$425,878	$0	$425,878	$0	$0
				Total			53,106	$4,685,686	$340,784	$5,026,470	$0	$0

Building	Year Built	Square Footage	Project	Replacement Value
Cordillera Administration Classroom (K1-K2)	1973/2002	10,373	Modernization	$1,602,282.00
Cordillera Classroom Wing (6-8,11)	1973/2000	11,502	Modernization	
Cordillera Classroom Wing (12-21)	1973/2000	8,939	Modernization	
Cordillera Classroom Wing (22-25)	1973/2000	5,594	Modernization	
Cordillera Relocatable Classroom TLC 1	1995/1995	960		
Cordillera Relocatable Classroom TLC 2	1995/1995	960		
Cordillera Relocatable Classroom TLC (P3-P4)	1995/1995	1,280		
Cordillera Relocatable Classroom TLC (P5-P7)	1998/1998	1,920		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **DE PORTOLA ELEMENTARY**

Site Address: **27031 Preciados Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1972	C - Masonry	1	34,660	$4,253,945	$340,315	$4,594,260	$0	$0
	2	2	Relocatable Classroom (TLC 1)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	3	3	Relocatable Classroom (TLC 2)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	4	5	Relocatable Classroom (26-27)	1998	A - Steel	1	1,280	$76,932	$6,155	$83,087	$0	$0
	5	6	Relocatable Classroom (28-29)	1998	A - Steel	1	1,280	$76,932	$6,155	$83,087	$0	$0
	6	7	Storage Building	1972	C - Masonry	1	84	$2,968	$237	$3,205	$0	$0
	7	8	Corridors	1997	A - Steel	1	2,400	$75,036	$0	$75,036	$0	$0
	8	9	RELOCATABLE CLASSROOM (30)	2000	A - Steel	0	960	$57,752	$4,620	$62,372	$0	$0
				Total			42,584	$4,660,549	$366,840	$5,027,389	$0	$0

Amended Building Report November 29, 2004

Building	Year Built	Square Footage	Project	Replacement Value
De Portola Elementary Main Building	1972/2002	34,811	Modernization	$1,633,298.00
De Portola Relocatable Classroom TLC 1	1990	960		
De Portola Relocatable Classroom (26-27)	1993	1,280		
De Portola Corridors	1997	2,779		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **DEL CERRO ELEMENTARY**

Site Address: **24382 Regina St.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1971	C - Masonry	1	36,573	$3,776,903	$302,152	$4,079,055	$0	$0
	2	2	Relocatable Classroom (TLC)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	3	3	Relocatable Classroom (Pre-School)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	4	4	Corridors	1971	D - Wood	1	7,200	$219,877	$0	$219,877	$0	$0
				Total			45,693	$4,113,764	$311,510	$4,425,274	$0	$0

Amended Building Report November 29, 2004

Building	Year Built	Square Footage	Project	Replacement Value
Del Cerro Elementary Main Building	1971/2002	34,811	Modernization	$1,524,311.00
Del Cerro Relocatable Classroom TLC 1	1993	960		
Del Cerro Relocatable Preschool	1990	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **DEL LAGO ELEMENTARY**

Site Address: **27181 Entidad**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1980	C - Masonry	1	26,931	$3,305,373	$264,429	$3,569,802	$0	$0
	2	2	Relocatable Classroom (P1)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	3	3	Relocatable Classroom (P2)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	4	4	Relocatable Classroom (P3)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	5	5	Relocatable Classroom (P4)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	6	6	Relocatable Classroom (P5)	1994	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	7	7	Relocatable Classroom (P6)	1994	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	8	8	Relocatable Classroom (P8)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	9	9	Relocatable Classroom (P9)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	10	10	Relocatable Classroom (P10-P11)	1998	D - Wood	1	1,280	$77,917	$6,234	$84,151	$0	$0
	11	11	Relocatable Classroom (TLC 1)	1996	A - Steel	1	1,996	$57,752	$4,620	$62,372	$0	$0
	12	12	Relocatable Classroom (TLC 2)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	13	13	Corridors	1980	A - Steel	1	5,722	$271,792	$0	$271,792	$0	$0
				Total			44,569	$4,234,822	$317,040	$4,551,862	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired	Square Footage	Project	Replacement Value
Del Lago Elementary Main Building	1980	26,993		
Del Lago Relocatable Classroom P1	1980	960		
Del Lago Relocatable Classroom P2	1980	960		
De Lago Relocatable Classroom P3	1980	960		
De Lago Relocatable Classroom P4	1980	960		
De Lago Relocatable Classroom P5	1981	960		
De Lago Relocatable Classroom P6	1981	960		

Amended Building Report November 29, 2004

Building	Year Acquired	Square Footage	Project	Replacement Value
Del Lago Elementary Classroom P8	1988	960		
Del Lago Relocatable Classroom P9	1988	960		
Del Lago Relocatable Classroom TLCL 2	1990	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **DISTRICT FACILITIES**

Site Address: **25631 Peter A Hartman Way**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	District Office	1965	C - Masonry	1	4,150	$509,163	$101,833	$610,996	$0	$0
	2	2	Relocatable Classroom (Special Ed)	1999	D - Wood	1	960	$58,492	$11,699	$70,191	$0	$0
	3	3	District Administration Office	1965	C - Masonry	1	20,610	$2,528,536	$505,707	$3,034,243	$0	$0
	4	4	Instruction Resource Center	1965	C - Masonry	1	9,060	$1,111,509	$222,301	$1,333,810	$0	$0
	5	5	District Warehouse	1965	C - Masonry	1	21,156	$1,188,471	$237,694	$1,426,165	$0	$0
	6	6	Maintenance Building (M)	1965	C - Masonry	1	10,200	$1,218,472	$243,694	$1,462,166	$0	$0
	7	7	Transportation Building (T)	1965	C - Masonry	1	6,975	$833,234	$166,647	$999,881	$0	$0
	8	8	Recreation Center, Warehouse	1965	C - Masonry	1	26,822	$1,506,712	$301,342	$1,808,054	$0	$0
	9	9	Food Service Building	1965	C - Masonry	1	12,079	$1,774,492	$354,899	$2,129,391	$0	$0
	10	10	Miramonte High School Relocatable Classroom	1995	D - Wood	1	1,440	$87,630	$17,526	$105,156	$0	$0
	11	11	Adult School Relocatable Classroom	1995	D - Wood	1	1,920	$116,983	$23,396	$140,379	$0	$0
	12	12	Relocatable Office	1995	D - Wood	1	2,880	$175,261	$35,052	$210,313	$0	$0
	13	13	Paint Shop	1970	A - Steel	1	504	$17,283	$3,456	$20,739	$0	$0
	14	14	Lounge	2001	D - Wood	1	960	$54,030	$10,806	$64,836	$0	$0
				Total			119,716	$11,180,268	$2,236,052	$13,416,320	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired	Square Footage	Project	Replacement Value
District Office Special Education	1999	960	Changed to lounge	
Relocatable Classroom	2004	1024	Addition	$$$$$$
Relocatable Classroom Computer Office	1990	1100	Addition	$$$$$$

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **EL TORO HIGH**

Site Address: **25255 Toledo Way**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration Building	1975	C - Masonry	1	15,932	$1,737,388	$260,608	$1,997,996	$0	$0
	2	2	Classroom Wing (201-213)	1975	C - Masonry	1	15,503	$1,902,656	$285,398	$2,188,054	$0	$0
	3	3	Classroom Wing (301-315)	1975	C - Masonry	1	17,030	$2,090,081	$313,512	$2,403,593	$0	$0
	4	4	Classroom Wing (401-416)	1975	C - Masonry	1	17,030	$2,090,081	$313,512	$2,403,593	$0	$0
	5	5	Classroom Wing (501-515)	1975	C - Masonry	1	17,030	$2,090,081	$313,512	$2,403,593	$0	$0
	6	6	Classroom Wing (601-617)	1975	C - Masonry	1	34,993	$4,294,759	$644,214	$4,938,973	$0	$0
	7	7	Theater Building	1975	C - Masonry	1	13,680	$1,872,656	$280,898	$2,153,554	$0	$0
	8	8	Gymnasium Building	1975	C - Masonry	1	35,994	$5,093,540	$764,030	$5,857,570	$0	$0
	9	9	Relocatable Classroom (801)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	10	10	Relocatable Classroom (802)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	11	11	Relocatable Classroom (803)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	12	13	Relocatable Classroom (805)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	13	14	Relocatable Classroom (806)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	14	15	Relocatable Classroom (807)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	15	16	Relocatable Classroom (808)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	16	17	Relocatable Classroom (618)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	17	18	Relocatable Classroom (619)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	18	19	Relocatable Classroom (620)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	19	20	Relocatable Classroom (621)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0
	20	21	Relocatable Classroom (622)	1995	A - Steel	1	960	$57,752	$8,663	$66,415	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **EL TORO HIGH**

Site Address: **25255 Toledo Way**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	22	Pool	1975	B - Reinforced Concrete	1	13,227	$428,395	$0	$428,395	$0	$0
	22	23	Relocatable Classroom (901)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	23	24	Relocatable Classroom (902)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	24	25	Relocatable Classroom (903)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	25	26	Relocatable Classroom (904)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	26	27	Relocatable Classroom (905)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	27	28	Relocatable Classroom (906)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	28	29	Relocatable Classroom (Coach)	1990	A - Steel	1	480	$28,876	$4,332	$33,208	$0	$0
	29	30	Restroom Building	1975	C - Masonry	1	1,507	$230,888	$0	$230,888	$0	$0
	30	31	Snack Bar	1975	C - Masonry	1	2,427	$219,333	$32,900	$252,233	$0	$0
	31	32	Field Storage Building	1975	D - Wood	1	736	$24,762	$3,714	$28,476	$0	$0
	32	33	Dugout (1)	1975	C - Masonry	1	724	$25,230	$0	$25,230	$0	$0
	33	34	Dugout & Press Box	1975	C - Masonry	1	644	$22,474	$0	$22,474	$0	$0
	34	36	Storage Building (1)	2000	D - Wood	1	256	$8,646	$1,297	$9,943	$0	$0
	35	37	Storage Building (2)	2000	D - Wood	1	256	$8,646	$1,297	$9,943	$0	$0
	36	38	Storage Building (3)	2000	D - Wood	1	256	$8,646	$1,297	$9,943	$0	$0
	37	39	Aquatics Building	1976	C - Masonry	1	5,167	$598,741	$89,811	$688,552	$0	$0
	38	40	Corridors	1975	A - Steel	1	16,004	$691,126	$0	$691,126	$0	$0
	39	41	Relocatable Classroom (804)	1995	A - Steel	0	960	$57,752	$8,663	$66,415	$0	$0
	40	42	Relocatable Classroom (P17)	1990	A - Steel	0	960	$57,752	$8,663	$66,415	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **EL TORO HIGH**

Site Address: **25255 Toledo Way**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	41	43	AUXILIARY GYM	2003	B - Reinforced Concrete	0	5,000	$1,550,000	$50,000	$1,600,000	$0	$0
				Total			233,076	$26,176,485	$3,534,258	$29,710,743	$0	$0

Amended Building Report November 29, 2004

Building	Year Built/Acquired	Square Footage	Project	Replacement Value
El Toro Building A Administration	1975	1,5897		
El Toro Auxiliary Gym	2003	8,012		
El Toro New Science Building		35,302		
El Toro Observation Deck		1,120		
El Toro Building 700		4,361		
El Toro Classroom Wing (201-213)	1975	16,000		
El Toro Classroom Wing (301-315)	1975	16,900		
El Toro Classroom Wing (401-416)	1975	16,900		
El Toro Classroom Wing (501-515)	1975	16,900		
El Toro Classroom Wing (601-617)	1975	35,187		
El Toro Theater Building	1975	13,477		
El Toro Gymnasium Building	1975	36,308		
El Toro Relocatable Classroom (801))	1995	960	Demolished	
El Toro Relocatable Classroom (802))	1995	960	Removed	
El Toro Relocatable Classroom (803))	1995	960	Removed	
El Toro Relocatable Classroom (804)	1995	960	Removed	
El Toro Relocatable Classroom (805)	1995	960	Removed	
El Toro Relocatable Classroom (806)	1995	960	Removed	

Building	Year Built/Acquired	Square Footage	Project	Replacement Value
El Toro Relocatable Classroom (807)	1995	960	Removed	
El Toro Relocatable Classroom (808)	1995	960		
El Toro Relocatable Classroom (618)	1995/1998	960		
El Toro Relocatable Classroom (619)	1995/1998	960		
El Toro Relocatable Classroom (620)	1995/1998	960		
El Toro Relocatable Classroom (621)	1995/1999	960		
El Toro Relocatable Classroom (622)	1995/1999	960		
El Toro Relocatable Classroom (901)	1977	960		
El Toro Relocatable Classroom (902)	1977	960		
El Toro Relocatable Classroom (903)	1977	960		
El Toro Relocatable Classroom (904)	1995/1997	960		
El Toro Relocatable Classroom (905)	1997	960		
El Toro Relocatable Classroom (906)	1997	960		
El Toro Relocatable Classroom (Coach)	1990	480	Removed/Replaced with 960 sq.ft from RSM	
El Toro Relocatable Classroom (P17)	1990	960	Removed/ Not here	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **ESPERANZA SPECIAL EDUCATION**

Site Address: **25121 Pradera Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration, Classroom Wing (1-3, 11-12)	1973	D - Wood	1	11,052	$1,194,167	$238,833	$1,433,000	$0	$0
	2	2	Classroom Wing (5-6)	1973	D - Wood	1	1,787	$193,086	$38,617	$231,703	$0	$0
	3	3	Classroom Wing (9-10)	1973	D - Wood	1	1,787	$193,086	$38,617	$231,703	$0	$0
	4	4	Classroom Wing (7-8)	1973	D - Wood	1	3,106	$321,063	$64,213	$385,276	$0	$0
	5	5	Relocatable Classroom	1996	D - Wood	1	960	$58,492	$11,699	$70,191	$0	$0
	6	6	Pool	1995	B - Reinforced Concrete	1	1,208	$39,147	$0	$39,147	$0	$0
	7	7	Restroom Building	2000	D - Wood	1	799	$92,754	$0	$92,754	$0	$0
	8	8	Corridors	1973	D - Wood	1	515	$15,691	$0	$15,691	$0	$0
				Total			21,214	$2,107,486	$391,979	$2,499,465	$0	$0

Amended Building Report November 29, 2004

Building	Year Built	Square Footage	Project	Replacement Value
Esperanza Administration, Classroom Wing (1-3, 11-12	1973	11,100		
Esperanza Classroom Wing (5-6)	1973	1,962		
Esperanza Classroom Wing (9-10)	1973	1,745		
Esperanza Classroom Wing (7-8)	1973	3,093		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **FOOTHILL RANCH ELEMENTARY**

Site Address: **One Torino**
Foothill Ranch
CA - 92610

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration, Library Building	1995	D - Wood	1	8,643	$933,943	$74,715	$1,008,658	$0	$0
	2	2	Classroom Wing (5-8)	1995	D - Wood	1	3,759	$406,132	$32,490	$438,622	$0	$0
	3	3	Classroom Wing (9-12)	1995	D - Wood	1	4,550	$491,628	$39,330	$530,958	$0	$0
	4	4	Classroom Wing (21-24)	1995	D - Wood	1	4,544	$490,988	$39,279	$530,267	$0	$0
	5	5	Multi-Purpose Building	1995	D - Wood	1	4,875	$579,365	$46,350	$625,715	$0	$0
	6	6	Classroom Wing (13-16)	1995	D - Wood	1	4,550	$491,628	$39,330	$530,958	$0	$0
	7	7	Classroom Wing (17-20)	1995	D - Wood	1	3,719	$401,863	$32,148	$434,011	$0	$0
	8	8	Classroom Wing (K1-K2)	1995	D - Wood	1	5,009	$541,153	$43,292	$584,445	$0	$0
	9	9	Office, Storage Building	1995	D - Wood	1	1,300	$126,696	$10,135	$136,831	$0	$0
	10	10	Relocatable Classroom (25-27)	1995	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0
	11	11	Relocatable Classroom (31-33)	1995	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0
	12	12	Relocatable Classroom (28-30)	1995	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0
	13	13	Relocatable Classroom (37-39)	1995	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0
	14	14	Relocatable Classroom (34-36)	1995	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0
	15	15	Relocatable Classroom (43-45)	1995	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0
	16	16	Relocatable Classroom (40-42)	1995	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0
	17	17	Relocatable Classroom (48-49)	1995	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	18	18	Relocatable Classroom (46-47)	1995	D - Wood	1	1,920	$116,769	$9,341	$126,110	$0	$0
	19	19	Relocatable Restroom	1995	A - Steel	1	480	$77,459	$6,196	$83,655	$0	$0
	20	20	Relocatable Classroom (50-52)	1995	A - Steel	1	2,880	$173,046	$13,843	$186,889	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **FOOTHILL RANCH ELEMENTARY**

Site Address: **One Torino**
Foothill Ranch
CA - 92610

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Relocatable Classroom (TLC 1)	1995	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	22	22	Relocatable Classroom (TLC 2)	1995	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	23	23	Relocatable Classroom (TLC 3)	1995	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	24	24	Corridors	1995	D - Wood	1	19,176	$643,940	$0	$643,940	$0	$0
52866/67/68	25	25	Relocatable Classroom (P53, 54, 55)	2001	D - Wood	1	1,920	$118,366	$9,469	$127,835	$0	$0
52872/73/74	26	26	Relocatable Classroom (P56-57,58)	2001	D - Wood	1	1,920	$118,408	$9,472	$127,880	$0	$0
4807001-02	27	27	TLC4 (SN 4807001-02)	2004	D - Wood	0	960	$0	$0	$0	$0	$0
				Total			95,165	$7,211,466	$525,392	$7,736,858	$0	$0

Amended Building Report November 29, 2004

Building	Year Built/Acquired	Square Footage	Project	Replacement Value
Foothill Ranch Administration, Library	1995	8,692	Additions (2) 60 x 32 portables 7/12/01 3,840	
Foothill Ranch Classroom Wing (5-8)	1995	3,727		
Foothill Ranch Classroom Wing (9-12)	1995	4,529		
Foothill Ranch Classroom Wing (21-24)	1995	4,529		
Foothill Ranch Multi-Purpose Room	1995	4,901		
Foothill Ranch Classroom Wing (13-16)	1995	4,517		
Foothill Ranch Classroom Wing (17-20)	1995	3,727		
Foothill Ranch Classroom Wing (K1-K2)	1995	4,942		
Foothill Ranch Relocatable Classroom (25-27)	1998	1,998		
Foothill Ranch RelocatableClassroom (31-33)	1998	1,920		

Building	Year Built/Acquired	Square Footage	Project	Replacement Value
Foothill Ranch RelocatableClassroom (28-30)	1998	1,920		
Foothill Ranch RelocatableClassroom (37-39)	1998	1,920		
Foothill Ranch Relocatable Classroom (34-36))	1998	1,920		
Foothill Ranch RelocatableClassroom (43-45)	1998	1,920		
Foothill Ranch RelocatableClassroom (40-42)	1998	1,920		
Foothill Ranch Relocatable Classroom (48-49)	1998	1,280		
Foothill Ranch Relocatable Classroom (46-47)	1998	1,280		
Foothill Ranch Relocatable Restroom	1998	480		
Foothill Ranch Relocatable Classroom (50-52)	1998	1,920		
Foothill Ranch Relocatable Classroom TLC 1	1995/1996	960		
Foothill Ranch Relocatable Classroom TLC 2	1995/1996	960		
Foothill Ranch Relocatable Classroom TLC 3)	1995/1996	960		
Foothill Ranch Corridors	1995	19,176		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **GATES ELEMENTARY**

Site Address: **23882 Landisview Ave.**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration Building	1965	C - Masonry	1	2,700	$282,197	$22,576	$304,773	$0	$0
	2	2	Multi-Purpose Building	1965	C - Masonry	1	4,744	$613,689	$49,095	$662,784	$0	$0
	3	3	Classroom Wing (1-6)	1965	C - Masonry	1	8,100	$952,707	$76,216	$1,028,923	$0	$0
	4	4	Classroom Wing (7-14)	1965	C - Masonry	1	5,775	$679,202	$54,337	$733,539	$0	$0
	5	5	Classroom Wing (15-23)	1965	C - Masonry	1	8,100	$952,707	$76,216	$1,028,923	$0	$0
	6	6	Classroom Wing (24-25)	1965	C - Masonry	1	3,312	$389,479	$31,159	$420,638	$0	$0
	7	7	Relocatable Classroom (TLC 1)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	8	8	Relocatable Classroom (TLC 2)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	9	9	Relocatable Classroom (P5-P6)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	10	10	Relocatable Classroom (P7-P8)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	11	11	Relocatable Classroom (P11)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	12	12	Relocatable Classroom (P9)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	13	13	Relocatable Classroom (P10)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	14	14	Relocatable Classroom (P1)	1990	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	15	15	Relocatable Classroom (P2)	1990	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	16	16	Relocatable Classroom (P3)	1990	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	17	17	Relocatable Classroom (P4)	1990	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	18	18	Corridors	1965	A - Steel	1	3,880	$167,565	$0	$167,565	$0	$0
				Total			49,091	$4,792,762	$370,015	$5,162,777	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired Built/Modernized	Square Footage	Project	Replacement Value
Gates Building A Administration	1965/2000	2,700	Modernization	$1,764,303.00
Gates Multi-Purpose Building	1965	4,665		
Gates Classroom Wing (1-6)	1965	6,600		
Gates Classroom Wing (7-14)	1965	5,760		
Gates Classroom Wing (15-23)	1965	6,600		
Gates Classroom Wing (24-25)	1975	3,305		
Gates Relocatable Classroom TLC1	1996	960		
Gates Relocatable Classroom TLC2	1990	960		
Gates Relocatable Classroom P11	1998	960	Rental	
Gates Relocatable Classroom P9	1990	960		
Gates Relocatable Classroom P10	1990	960		
Gates Relocatable Classroom P1	1989	960		
Gates Relocatable Classroom P2	1989	960		
Gates Relocatable Classroom P3	1989	960		
Gates Relocatable Classroom P4	1996	960		
Gates Corridors	1965	3,880		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **GLEN YERMO ELEMENTARY**

Site Address: **26400 Trabuco Rd.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1974	C - Masonry	1	34,692	$4,257,761	$340,621	$4,598,382	$0	$0
	2	2	Relocatable Classroom (TLC 1)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	3	3	Relocatable Classroom (TLC 2)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	4	4	Relocatable Classroom (P3)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	5	5	Relocatable Classroom (P4)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	6	6	Relocatable Classroom (P5)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	7	7	Relocatable Classroom (P6)	1996	A - Steel	7	960	$57,752	$4,620	$62,372	$0	$0
	8	8	Relocatable Classroom (P7)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	9	9	Relocatable Classroom (P8-P10)	1996	A - Steel	1	2,880	$173,256	$13,860	$187,116	$0	$0
	10	10	Corridors	1974	A - Steel	1	1,755	$75,773	$0	$75,773	$0	$0
				Total			46,047	$4,911,054	$386,821	$5,297,875	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired Built/Modernized	Square Footage	Project	Replacement Value
Glen Yermo Main Building	1974	36,044		
Glen Yermo Relocatable Classroom TLC 1	1996/2000	960		
Glen Yermo Relocatable Classroom TLC 2	1990	960		
Glen Yermo Relocatable Classroom P3	1996/1998	960		
Glen Yermo Relocatable Classroom P4	1996/1998	960		
Glen Yermo Relocatable Classroom P5	1996/1998	960		
Glen Yermo Relocatable Classroom P8-P10	1996/2000	2,880		
Glen Yermo Corridors	1974	1,284		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LA MADERA ELEMENTARY**

Site Address: **25350 Serrano Rd.**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1977	D - Wood	1	33,371	$4,076,047	$326,085	$4,402,132	$0	$0
	2	2	Relocatable Classroom (TLC 1)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	3	3	Relocatable Classroom (TLC 2)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	4	4	Relocatable Classroom (P1)	1990	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	5	5	Relocatable Classroom (P2)	1990	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	6	6	Relocatable Classroom (P3)	1990	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	7	7	Relocatable Classroom (P4-P6)	1995	D - Wood	1	2,880	$175,261	$14,020	$189,281	$0	$0
	8	8	Relocatable Classroom (P7-P9)	1995	D - Wood	1	2,880	$175,261	$14,020	$189,281	$0	$0
	9	9	Corridors	1977	D - Wood	1	3,350	$102,360	$8,189	$110,549	$0	$0
				Total			47,281	$4,821,389	$385,709	$5,207,098	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired Built/Modernized	Square Footage	Project	Replacement Value
La Madera Main Building	1977	33,051		
La Madera Relocatable Classroom TLC 1	1993	960		
La Madera Relocatable Classroom TLC 2	1991	960		
La Madera Relocatable Classroom P1	1980	960		
La Madera Relocatable Classroom P2	1987	960		
La Madera Relocatable Classroom P3	1987	960		
La Madera Relocatable Classroom P4-6	1998	2,880		
La Madera Relocatable Classroom P7-9	1998	2,880		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LA PAZ INTERMEDIATE**

Site Address: **25151 Pradera Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1968	C - Masonry	1	11,097	$1,210,097	$145,212	$1,355,309	$0	$0
	2	2	Classroom Wing (17-25)	1968	C - Masonry	1	11,880	$1,458,054	$174,966	$1,633,020	$0	$0
	3	3	Library	1968	C - Masonry	1	2,600	$295,237	$35,428	$330,665	$0	$0
	4	4	Classroom Wing (9-16)	1968	C - Masonry	1	7,200	$883,695	$106,043	$989,738	$0	$0
	5	5	Classroom Wing (1-8)	1968	C - Masonry	1	8,910	$1,093,593	$131,232	$1,224,825	$0	$0
	6	6	Locker Room Building	1968	C - Masonry	1	4,000	$427,854	$51,342	$479,196	$0	$0
	7	7	Classroom Wing (27-33)	1968	C - Masonry	1	3,375	$414,284	$49,714	$463,998	$0	$0
	8	8	Relocatable Classroom (B1)	1999	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	9	9	Relocatable Classroom (B2)	1999	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	10	10	Relocatable Classroom (B3)	1999	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	11	11	Storage Building (1)	1985	D - Wood	1	100	$3,415	$410	$3,825	$0	$0
	12	12	Storage Building (2)	2000	D - Wood	1	120	$3,950	$474	$4,424	$0	$0
	13	13	Relocatable Classroom (P11)	1975	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	14	14	Relocatable Classroom (B9)	2000	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	15	15	Relocatable Classroom (B4)	1995	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	16	16	Relocatable Classroom (B5)	1995	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	17	17	Relocatable Classroom (B6)	1995	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	18	18	Relocatable Classroom (B7)	1995	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	19	19	Relocatable Classroom (B8)	1995	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	20	20	Storage Building (3)	2000	D - Wood	1	120	$3,950	$474	$4,424	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LA PAZ INTERMEDIATE**

Site Address: **25151 Pradera Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Corridors	1968	C - Masonry	1	52,560	$2,146,902	$0	$2,146,902	$0	$0
				Total			111,562	$8,525,951	$765,475	$9,291,426	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired Built/Modernized	Square Footage	Project	Replacement Value
La Paz Intermediate Main Building	1968/2004	12,458 +9,600 new portables 7/04	Modernization	$4,684,271.00
La Paz Intermediate Classroom Wing (17-25)	1968	8,880		
La Paz Intermediate Library	1968	7,200		
La Paz Intermediate Classroom Wing (9-16)	1968	12,240		
La Paz Intermediate Classroom Wing (1-8)	1968	2,600		
La Paz Intermediate Classroom Wing (27-33)	1968	3,360		
La Paz Intermediate Relocatable Classroom (B-1)	1999	960		
La Paz Intermediate Relocatable Classroom	7/2004	9,600	Installed 10 portables from Rancho Santa Margarita.	
La Paz Intermediate Corridors	1968	1,646		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LA TIERRA ELEMENTARY**

Site Address: **24150 Lindley St.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1978	D - Wood	1	22,684	$2,557,616	$204,610	$2,762,226	$0	$0
	2	2	Relocatable Classroom (TLC 1)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	3	3	Relocatable Classroom (TLC 2)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	4	4	Corridors	1978	B - Reinforced Concrete	1	1,865	$92,471	$0	$92,471	$0	$0
	5	5	Relocatable Classroom (P1-P2)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	6	6	Relocatable Classroom (P3-P5)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	7	7	Relocatable Classroom (P6-P8)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
				Total			32,229	$3,112,843	$241,632	$3,354,475	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
La Tierra Main Building	1978	22,749		
La Tierra Relocatable Classroom TLC 2	1998/1999	960		
La Tierra Relocatable Classroom (P1-P2)	1998/1999	1,920		
La Tierra Relocatable Classroom (P3-5)	1998/1999	1,920		
La Tierra Relocatable Classroom (P6-P8)	1998/1999	1,920		
La Tierra Relocatable Classroom (P9-P10)	2001	2,240	Additions	
La Tierra Intermediate Corridors	1968	1,646		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LAGUNA HILLS HIGH**

Site Address: **25401 Paseo de Valencia**
Laguna Hills
CA - 92653

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration Building	1978	C - Masonry	1	47,254	$6,524,454	$978,669	$7,503,123	$0	$0
	2	2	Gymnasium Building	1978	C - Masonry	1	43,169	$6,343,709	$951,557	$7,295,266	$0	$0
	3	3	Auto Shop and Classroom Wing	1978	C - Masonry	1	14,118	$1,877,108	$281,566	$2,158,674	$0	$0
	4	4	Classroom Wing	1978	C - Masonry	1	9,854	$1,310,170	$196,525	$1,506,695	$0	$0
	5	5	Relocatable Classroom (Adult Ed)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	6	6	Relocatable Classroom (P1)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	7	7	Relocatable Classroom (P2)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	8	8	Relocatable Classroom (P3)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	9	9	Relocatable Classroom (P4)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	10	10	Relocatable Classroom (P5)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	11	11	Relocatable Classroom (P6)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	12	12	Relocatable Classroom	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	13	13	Relocatable Classroom (P8)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	14	14	Relocatable Classroom (P9)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	15	15	Relocatable Classroom (P10)	1997	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	16	16	Relocatable Classroom (P11)	1997	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	17	17	Relocatable Classroom (P12)	1997	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	18	18	Relocatable Classroom (P13)	1997	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	19	19	Relocatable Classroom (P14)	1997	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	20	20	Relocatable Classroom (P16-P19)	1999	D - Wood	1	3,600	$219,344	$32,901	$252,245	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LAGUNA HILLS HIGH**

Site Address: **25401 Paseo de Valencia**
Laguna Hills
CA - 92653

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Relocatable Classroom (P20)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	22	22	Relocatable Classroom (P21)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	23	23	Relocatable Classroom (P22)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	24	24	Relocatable Classroom (P23)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	25	25	Relocatable Classroom (P24)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	26	26	Relocatable Classroom (P25)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	27	27	Relocatable Classroom (P26)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	28	28	Relocatable Classroom (P27)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	29	29	Relocatable Classroom (P28)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	30	30	Relocatable Classroom (P29)	1999	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	31	31	Relocatable Storage (1)	1975	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	32	32	Relocatable Storage (2)	1975	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	33	33	Restroom Building	1995	D - Wood	1	480	$61,159	$9,174	$70,333	$0	$0
	34	34	Pool	1978	B - Reinforced Concrete	1	6,209	$237,633	$0	$237,633	$0	$0
	35	35	Pool Filter Building	1978	C - Masonry	1	1,050	$36,680	$0	$36,680	$0	$0
	36	36	Food Service Building	1985	D - Wood	1	2,671	$367,279	$55,093	$422,372	$0	$0
	37	37	Pool House	1978	D - Wood	1	423	$43,015	$0	$43,015	$0	$0
	38	38	Tennis Court Storage	1978	C - Masonry	1	84	$3,922	$0	$3,922	$0	$0
	39	39	Football Storage Building	1978	D - Wood	1	687	$28,925	$4,339	$33,264	$0	$0
	40	40	Dugout (1)	1978	C - Masonry	1	231	$10,919	$0	$10,919	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LAGUNA HILLS HIGH**

Site Address: **25401 Paseo de Valencia**
Laguna Hills
CA - 92653

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	41	41	Dugout (2)	1978	D - Wood	1	231	$10,993	$0	$10,993	$0	$0
	42	42	Storage Building (3)	1978	D - Wood	1	78	$3,629	$545	$4,174	$0	$0
	43	43	Greenhouse	1985	D - Wood	1	425	$19,319	$0	$19,319	$0	$0
	44	44	Corridors	1978	D - Wood	1	1,800	$74,183	$0	$74,183	$0	$0
023823/24	45	45	RELOCATABLES (SN 023823/24)	2001	D - Wood	0	960	$0	$0	$0	$0	$0
CPX66053	46	46	RELOCATABLES	1994	D - Wood	0	960	$41,780	$9,000	$50,780	$0	$0
				Total			160,204	$18,793,505	$2,756,267	$21,549,772	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Laguna Hills High Administration Building	1978/2004	49,735/172,079	New Construction	$$$$$
Laguna Hills High Gymnasium Building	1978	43,947		
Laguna Hills High Auto Shop & Classroom Wing	1978	13,871		
Laguna Hills High Classroom Wing Building 004	1978	9,855		
Laguna Hills High Relocatable Classroom (P1)	1981	960		
Laguna Hills High Relocatable Classroom (P2)	1981	960		
Laguna Hills High Relocatable Classroom (P8)	1981	960		
Laguna Hills High Relocatable Storage (2)	1975	960	Removed	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LAKE FOREST ELEMENTARY SCHOOL**

Site Address: **21801 Pittsford Dr.**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1992	D - Wood	1	30,847	$3,767,899	$301,432	$4,069,331	$0	$0
	2	2	Classroom Wing (32-35)	1992	D - Wood	1	3,626	$408,800	$32,704	$441,504	$0	$0
	3	3	Multi-Purpose Building	1992	D - Wood	1	3,999	$537,310	$42,985	$580,295	$0	$0
	4	4	Classroom Wing (37-40)	1992	D - Wood	1	3,626	$408,800	$32,704	$441,504	$0	$0
	5	5	Relocatable Classroom (59-61)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	6	6	Relocatable Classroom (58A-58B)	1994	D - Wood	1	1,055	$64,256	$5,141	$69,397	$0	$0
	7	7	Relocatable Classroom (47)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	8	8	Relocatable Classroom (48)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	9	9	Relocatable Classroom (49)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	10	10	Relocatable Classroom (55-57)	1995	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	11	11	Relocatable Classroom (52-54)	1995	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	12	12	Relocatable Classroom (51)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	13	13	Relocatable Classroom (50)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	14	14	Relocatable Classroom (71-72)	1999	D - Wood	1	1,440	$87,630	$7,010	$94,640	$0	$0
	15	15	Storage Building	1992	D - Wood	1	225	$7,578	$606	$8,184	$0	$0
	16	16	Restroom Building (Boys)	1992	D - Wood	1	223	$25,936	$0	$25,936	$0	$0
	17	17	Restroom Building (Girls)	1992	D - Wood	1	223	$25,936	$0	$25,936	$0	$0
	18	18	Corridors	1992	C - Masonry	1	16,792	$571,603	$0	$571,603	$0	$0
				Total			72,616	$6,543,240	$473,582	$7,016,822	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Lake Forest. Relocatable Classroom (58A-58B)	1994/1996	1,055		
Lake Forest Relocatable Classroom (47)	1992	960		
Lake Forest Relocatable Classroom (48)	1989	960		
Lake Forest Relocatable Classroom (49)	1989	960		
Lake Forest Relocatable Classroom (55-57)	1995	1,920		
Lake Forest. Relocatable Classroom (52-54)	1995	1,920		
Lake Forest Relocatable Classroom TLC 51	1998	960		
Lake Forest. Relocatable Classroom TLC 50	1998	960		
Lake Forest. Relocatable Classroom (71-72)	1999	1,440	Removed	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LINDA VISTA ELEMENTARY**

Site Address: **25222 Pericia Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration Building	1968	C - Masonry	1	1,808	$197,178	$15,775	$212,953	$0	$0
	2	2	Classroom Wing (20-25)	1968	C - Masonry	1	7,260	$891,009	$71,280	$962,289	$0	$0
	3	3	Classroom Wing (K)	1968	C - Masonry	1	2,985	$366,263	$29,301	$395,564	$0	$0
	4	4	Multi-Purpose Building	1968	C - Masonry	1	5,151	$632,134	$50,571	$682,705	$0	$0
	5	5	Classroom Wing (4-19)	1968	C - Masonry	1	13,320	$1,634,877	$130,790	$1,765,667	$0	$0
	6	6	Relocatable Classroom (TLC 1)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	7	7	Relocatable Classroom (TLC 2)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	8	8	Relocatable Classroom (28)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	9	9	Relocatable Classroom (29)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	10	10	Relocatable Classroom (30)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	11	11	Relocatable Classroom (26)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	12	12	Relocatable Classroom (27)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	13	13	Relocatable Classroom (31)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	14	14	Relocatable Classroom (32)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	15	15	Relocatable Classroom (33)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	16	16	Corridors	1968	C - Masonry	1	3,521	$131,876	$0	$131,876	$0	$0
				Total			43,645	$4,437,517	$344,448	$4,781,965	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Linda Vista. Administration Building	1968/2004	1,799	Modernization	$2,785,000.00
Linda Vista Classroom Wing (K)	1968	3,000		
Linda Vista Multi-Purpose Building	1968	5,100		
Linda Vista Relocatable Classroom TLC 1	1992	960		
Linda Vista Relocatable Classroom TLC 2	1990	960		
Linda Vista. Relocatable Classroom (28)	1989	960		
Linda Vista Relocatable Classroom (29)	1989	960		
Linda Vista. Relocatable Classroom (30)	1989	960		
Linda Vista. Relocatable Classroom (31)	1989	960		
Linda Vista. Relocatable Classroom (32)	1988	960		
Linda Vista. Relocatable Classroom (33)	1988	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LOMARENA ELEMENTARY**

Site Address: **25100 Earhart Rd.**
Laguna Hills
CA - 92653

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1974	C - Masonry	1	36,776	$4,513,562	$902,712	$5,416,274	$0	$0
	2	2	Relocatable Classroom (35-37)	1998	D - Wood	1	2,880	$175,474	$14,038	$189,512	$0	$0
	3	3	Relocatable Classroom (34)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	4	4	Relocatable Classroom (32)	1990	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	5	5	Relocatable Classroom (33)	1990	D - Wood	1	54,800	$58,492	$4,679	$63,171	$0	$0
	6	6	Relocatable Classroom (Resource)	2000	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	7	7	Relocatable Classroom (TLC 1)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	8	8	Relocatable Classroom (TLC 2)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	9	9	Corridors	1974	D - Wood	1	1,512	$46,110	$0	$46,110	$0	$0
				Total			100,768	$5,086,098	$944,824	$6,030,922	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Lomarena. Administration Building	1974	36,603		
Lomarena Relocatable Classroom (34)	1980	960		
Lomarena Relocatable Classroom (32)	1980	960		
Lomarena Relocatable Classroom (32)	1985	960		
Lomarena Relocatable Classroom Resource	2000	960	Rented	
Lomarena. Relocatable Classroom TLC 1	1991	960		
Lomarena Relocatable Classroom TLC 2	1995	960		
Lomarena. Relocatable Classroom (33)	1988	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **LOS ALISOS INTERMEDIATE**

Site Address: **25171 Moor Ave.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1974	D - Wood	1	46,262	$4,754,036	$570,484	$5,324,520	$0	$0
	2	2	Classroom Wing (C1-C6)	1972	C - Masonry	1	8,385	$1,029,033	$123,484	$1,152,517	$0	$0
	3	3	Locker Room Building	1980	C - Masonry	1	5,686	$608,176	$72,980	$681,156	$0	$0
	4	4	Classroom Wing (H1-H6)	1972	C - Masonry	1	7,993	$981,011	$117,721	$1,098,732	$0	$0
	5	5	Relocatable Classroom (T5)	1998	C - Masonry	1	960	$58,093	$6,972	$65,065	$0	$0
	6	6	Relocatable Classroom (T6)	1998	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	7	7	Relocatable Classroom (T1)	1998	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	8	8	Relocatable Classroom (T2)	1998	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	9	9	Relocatable Classroom (P18)	1996	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	10	10	Concession Stand	1972	C - Masonry	1	606	$54,807	$6,577	$61,384	$0	$0
	11	11	Corridors	1972	D - Wood	1	17,568	$536,351	$0	$536,351	$0	$0
				Total			91,300	$8,255,475	$926,290	$9,181,765	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Los Alisos Intermediate. Main Building	1972	46,452		
Los Alisos Intermediate Classroom Wing (C1-C6)	1972	8,320		
Los Alisos Intermediate Locker Room Building	1972	5,632		
Los Alisos Intermediate Classroom Wing (H1-H6)	1972	7,898		
Los Alisos Intermediate Relocatable Classroom (T5)	1980	960		
Los Alisos Intermediate. Relocatable Classroom (T6)	1980	960		
Los Alisos Intermediate Relocatable Classroom (T1)	1981	960		
Los Alisos Intermediate. Relocatable Classroom (T2)	1981	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **MELINDA HEIGHTS**

Site Address: **21001 Rancho Trabuco**
Rancho Santa Margarita
CA - 92688

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration, Library, Classroom Wing	1998	D - Wood	1	8,696	$980,481	$78,438	$1,058,919	$0	$0
	2	2	Classroom Wing (19-22)	1998	D - Wood	1	4,692	$529,092	$42,327	$571,419	$0	$0
	3	3	Classroom Wing (13-18)	1998	D - Wood	1	3,813	$429,934	$34,394	$464,328	$0	$0
	4	4	Classroom Wing (7-12)	1998	D - Wood	1	4,602	$518,952	$41,516	$560,468	$0	$0
	5	5	Classroom Wing (1-6)	1998	D - Wood	1	3,767	$424,704	$33,977	$458,681	$0	$0
	6	6	Multi-Purpose Building	1998	D - Wood	1	4,975	$616,936	$49,356	$666,292	$0	$0
	7	7	Office, Storage Building	1998	D - Wood	1	1,308	$132,994	$10,640	$143,634	$0	$0
	8	8	Classroom Wing (K)	1998	D - Wood	1	5,082	$572,961	$45,836	$618,797	$0	$0
	9	9	Relocatable Classroom (TLC 1)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	10	10	Relocatable Classroom (TLC 2)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	11	11	Relocatable Classroom (TLC 3)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	12	12	Relocatable Classroom (55-57)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	13	13	Relocatable Classroom (52-54)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	14	14	Relocatable Classroom (50-51)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	15	15	Relocatable Classroom (48-49)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	16	16	Relocatable Classroom (46-47)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	17	17	Relocatable Classroom (43-45)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	18	18	Relocatable Classroom (40-42)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	19	19	Relocatable Classroom (31-33)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	20	20	Relocatable Classroom (34-39)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **MELINDA HEIGHTS**

Site Address: **21001 Rancho Trabuco**
Rancho Santa Margarita
CA - 92688

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Relocatable Classroom (37-39)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	22	22	Classroom Wing (27-30)	1998	D - Wood	1	4,566	$514,789	$41,182	$555,971	$0	$0
	23	23	Storage Building	1998	D - Wood	1	208	$6,938	$555	$7,493	$0	$0
	24	24	Corridors	1998	D - Wood	1	15,858	$532,508	$0	$532,508	$0	$0
				Total			79,647	$6,588,585	$484,491	$7,073,076	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Melinda Heights. Administration, Library, Classroom Wing	1998	11.031		
Melinda Heights Classroom Wing (19-22)	1998	4,786		
Melinda Heights Classroom Wing (13-18)	1998	4,813		
Melinda Heights Classroom Wing (7-12)	1998	4,868		
Melinda Heights Classroom Wing (1-6)	1998	3,844		
Melinda Heights. Multi-Purpose Building	1998	5,480		
Melinda Heights Classroom Wing (K)	1998	5,534		
Melinda Heights. Relocatable Classroom (55-57)	2000	1,920		
Melinda Heights Relocatable Classroom (52-54)	2000	1,920		
Melinda Heights Relocatable Classroom (50-51)	1999	1,920		
Melinda Heights Relocatable Classroom (48-49)	1999	1,920		
Melinda Heights Relocatable Classroom (46-47)	1999	1,920		
Melinda Heights Relocatable Classroom (43-45)	1999	1,920		
Melinda Heights Relocatable Classroom (40-42)	1999	1,920		

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Melinda Heights Relocatable Classroom (31-33)	1999	1,920		
Melinda Heights Relocatable Classroom (34-36)	1999	1,920		
Melinda Heights Relocatable Classroom (37-39)	1999	1,920		
Melinda Heights Classroom Wing (27-30)	1998	4,114		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **MISSION VIEJO HIGH**

Site Address: **25025 Chrisanta Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration Building	1965	C - Masonry	1	30,729	$3,630,397	$544,560	$4,174,957	$0	$0
	2	2	Classroom Wing (213-223)	1965	C - Masonry	1	9,826	$1,205,962	$180,894	$1,386,856	$0	$0
	3	3	Classroom Wing (201-212)	1965	C - Masonry	1	9,826	$1,205,962	$180,894	$1,386,856	$0	$0
	4	4	A/C Building	1965	C - Masonry	1	3,451	$388,207	$0	$388,207	$0	$0
	5	5	Shop,Classroom Wing (400)	1965	C - Masonry	1	2,400	$254,846	$38,228	$293,074	$0	$0
	6	6	Classroom Wing (401-407)	1965	C - Masonry	1	16,810	$2,063,155	$309,473	$2,372,628	$0	$0
	7	7	Classroom Wing (500-512)	1965	C - Masonry	1	13,957	$1,713,005	$256,951	$1,969,956	$0	$0
	8	8	Classroom Wing (513-529)	1965	C - Masonry	1	14,773	$1,813,078	$271,962	$2,085,040	$0	$0
	9	9	Auditorium, Classroom Wing (601-603)	1965	C - Masonry	1	11,961	$1,773,749	$266,062	$2,039,811	$0	$0
	10	10	Gymnasium Building	1965	C - Masonry	1	32,649	$4,620,102	$693,015	$5,313,117	$0	$0
	11	11	Restroom Building (1)	1965	C - Masonry	1	2,051	$314,211	$47,132	$361,343	$0	$0
	12	12	Restroom Building (2)	1965	C - Masonry	1	2,051	$314,211	$47,132	$361,343	$0	$0
	13	13	Relocatable Classroom (801)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	14	14	Relocatable Classroom (802)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	15	15	Relocatable Classroom (803)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	16	16	Relocatable Classroom (804)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	17	17	Relocatable Classroom (805)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	18	18	Relocatable Classroom (806)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	19	19	Relocatable Classroom (807)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	20	20	Relocatable Classroom (808)	1995	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **MISSION VIEJO HIGH**

Site Address: **25025 Chrisanta Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Classroom Wing (300-312)	1965	C - Masonry	1	10,696	$1,312,820	$196,923	$1,509,743	$0	$0
	22	22	Classroom Wing (313-320)	1965	C - Masonry	1	9,826	$1,205,962	$180,894	$1,386,856	$0	$0
	23	23	Pool	1990	B - Reinforced Concrete	1	6,150	$181,028	$0	$181,028	$0	$0
	24	24	Radiation Lab	1965	C - Masonry	1	517	$63,499	$9,525	$73,024	$0	$0
	25	25	Greenhouse	1980	A - Steel	1	652	$27,717	$0	$27,717	$0	$0
	26	26	Storage Building	1980	D - Wood	1	607	$21,988	$3,298	$25,286	$0	$0
	27	27	Relocatable Classroom (P9)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	28	28	Girl's Locker Room Building	1965	C - Masonry	1	6,350	$679,202	$101,881	$781,083	$0	$0
	29	29	Relocatable Storage (Football Field)	1990	D - Wood	1	754	$46,216	$6,932	$53,148	$0	$0
	30	30	Restroom Building (3)	1965	C - Masonry	1	349	$48,129	$7,219	$55,348	$0	$0
	31	31	Field Storage Building	1980	D - Wood	1	1,458	$52,942	$7,941	$60,883	$0	$0
	32	32	Bleachers (1)	1980	A - Steel	1	11,533	$531,044	$0	$531,044	$0	$0
	33	33	Bleachers (2)	1980	A - Steel	1	12,982	$597,859	$0	$597,859	$0	$0
	34	34	Press Box	1980	D - Wood	1	1,260	$105,242	$15,787	$121,029	$0	$0
	35	35	Restroom Building	1965	C - Masonry	1	1,107	$155,410	$23,312	$178,722	$0	$0
	36	36	Barn Building	1985	D - Wood	1	2,729	$73,222	$10,983	$84,205	$0	$0
	37	37	Dugout (1)	1965	D - Wood	1	185	$8,433	$0	$8,433	$0	$0
	38	38	Dugout (2)	1965	D - Wood	1	185	$8,433	$0	$8,433	$0	$0
	39	39	Corridors	1965	C - Masonry	1	17,816	$667,118	$0	$667,118	$0	$0
				Total			244,280	$25,609,577	$3,479,964	$29,089,541	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Mission Viejo High. Administration Building	1965	30,729/228,560		
Mission Viejo High Science Building	2004	29,762	New	$$$$$
Mission Viejo High Relocatable Storage (Football Field)	1990	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **MONTEVIDEO ELEMENTARY**

Site Address: **24071 Carrillo Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1974	C - Masonry	1	39,091	$4,797,667	$383,814	$5,181,481	$0	$0
	2	2	Relocatable Classroom (P1)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	3	3	Relocatable Classroom (P4)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	4	4	Relocatable Classroom (P3)	1998	D - Wood	1	1,440	$87,630	$7,010	$94,640	$0	$0
	5	5	Relocatable Classroom (P2)	1998	D - Wood	1	1,440	$87,630	$7,010	$94,640	$0	$0
	6	6	Relocatable Classroom (TLC 1)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	7	7	Relocatable Classroom (TLC 2)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	8	8	Relocatable Classroom (P5)	2001	D - Wood	1	960	$47,984	$3,839	$51,823	$0	$0
32521/22	9	9	Relocatable Classroom (P6)	2001	D - Wood	1	960	$47,984	$3,839	$51,823	$0	$0
				Total			47,731	$5,302,863	$424,228	$5,727,091	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Montevideo Main Building	1974	39,987		
Montevideo Corridors	1974	2,619		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **NELLIE GAIL - VACANT SITE**

Site Address: **25631 Diseno Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	VACANT SITE	0	D - Wood	0	0	$0	$0	$0	$0	$0
				Total			0	$0	$0	$0	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **O'NEIL ELEMENTARY**

Site Address: **24701 San Doval Ln.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration, Classroom Wing (21-22)	1968	C - Masonry	1	9,402	$1,025,323	$82,026	$1,107,349	$0	$0
	2	2	Classroom Wing (1-6, 23)	1968	C - Masonry	1	1,170,400	$1,240,734	$99,258	$1,339,992	$0	$0
	3	3	Classroom Wing (9, 16)	1968	C - Masonry	1	8,000	$981,859	$78,549	$1,060,408	$0	$0
	4	4	Classroom Wing (17-20)	1968	C - Masonry	1	4,872	$597,999	$47,839	$645,838	$0	$0
	5	5	Relocatable Classroom (TLC)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	6	6	Corridors	1968	C - Masonry	1	10,390	$353,648	$0	$353,648	$0	$0
				Total			1,204,024	$4,258,055	$312,351	$4,570,406	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
O'Neil. Administration, Classroom Wing (21-22)	1968/2000	9,457	Modernization	$1,793,691.00
O'Neil Administration/Classroom 21-22 Corridors	1968/2000	9,457		
O'Neil Classroom Wing (1-6,23)	1968	9,963		
O'Neil Classroom 1-6,23 Corridors	1968/2000	1,539		
O'Neil Classroom Wing (9-16)	1968/2000	7,936		
O'Neil Classroom 9-16 Corridors	1968/2000	1,003		
O'Neil Classroom Wing (17-20)	1968/2000	4,836		
O'Neil Classroom 9-16 Corridors	1968/2000	758		
O'Neil Relocatable Classroom (TLC 2)	2001	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **OLIVEWOOD ELEMENTARY**

Site Address: **23391 Dune Mear Rd.**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration, Multi-Purpose, Classroom Wing (21)	1967	D - Wood	1	8,155	$1,095,649	$87,652	$1,183,301	$0	$0
	2	2	Classroom Wing (1-8)	1967	D - Wood	1	8,620	$1,012,394	$80,992	$1,093,386	$0	$0
	3	3	Classroom Wing (9-20)	1978	D - Wood	1	8,620	$1,012,394	$80,992	$1,093,386	$0	$0
	4	4	Classroom Wing (22-28)	1967	D - Wood	1	5,697	$669,130	$53,531	$722,661	$0	$0
	5	5	Relocatable Classroom (P2)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	6	6	Relocatable Classroom (P1)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	7	7	Relocatable Classroom (TLC 2)	1980	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	8	8	Relocatable Classroom (TLC 1)	1994	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	9	9	Relocatable Classroom (P3-P4)	1985	D - Wood	1	1,060	$64,576	$5,165	$69,741	$0	$0
	10	10	Relocatable Classroom (P5)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	11	11	Corridors	1967	A - Steel	1	7,769	$335,446	$0	$335,446	$0	$0
22879/80	12	12	RELOCATABLE (SN #22879/80)	2004	D - Wood	0	960	$0	$0	$0	$0	$0
22893/94	13	13	RELOCATABLE (SN #22893/94)	2004	D - Wood	0	960	$0	$0	$0	$0	$0
				Total			46,641	$4,482,049	$331,727	$4,813,776	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Olivewood. Administration,Multi-Purpose, Class-room Wing (21)	1967/2004	8,155	Modernization	$2,385,000.00
Olivewood Administration/Classroom 21- Corridors	1968/2004	211		
Olivewood Classroom Wing (1-8) +Corridors	1967	8544/1,052		
Olivewood Classroom Wing (9-20) +Corridors	1967	8544/1,052		
Olivewood Classroom Wing (22-28) + Corridors	1967	5,616/806		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **PORTOLA HILLS ELEMENTARY**

Site Address: **19422 Saddleback Ranch Rd.**
Trabuco Canyon
CA - 92679

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration	1992	D - Wood	1	7,924	$893,490	$71,480	$964,970	$0	$0
	2	2	Classroom Wing (13,LAAP,PSYCH Office)	1992	D - Wood	1	1,330	$149,965	$11,997	$161,962	$0	$0
	3	3	Classroom Wing (9-12)	1992	D - Wood	1	4,559	$514,042	$41,124	$555,166	$0	$0
	4	4	Multi-Purpose Building	1992	D - Wood	1	4,981	$617,790	$49,422	$667,212	$0	$0
	5	5	Classroom Wing (5-8)	1992	D - Wood	1	4,580	$516,391	$41,311	$557,702	$0	$0
	6	6	Classroom Wing (1-4)	1992	D - Wood	1	3,730	$420,541	$33,644	$454,185	$0	$0
	7	7	Classroom Wing (K1-K3)	1992	D - Wood	1	3,795	$427,906	$34,233	$462,139	$0	$0
	8	8	Relocatable Classroom (18)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	9	9	Relocatable Classroom (19)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	10	10	Relocatable Classroom (20)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	11	11	Relocatable Classroom (21)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	12	12	Relocatable Classroom (22)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	13	13	Relocatable Classroom (23)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	14	14	Relocatable Classroom (24)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	15	15	Relocatable Classroom (25)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	16	16	Relocatable Classroom (26)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	17	17	Relocatable Storage, Restroom	1998	D - Wood	1	480	$29,246	$2,339	$31,585	$0	$0
	18	18	Relocatable Classroom (27	1996	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	19	19	Relocatable Classroom (30-32)	1996	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	20	20	Relocatable Classroom (33-35)	1996	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **PORTOLA HILLS ELEMENTARY**

Site Address: **19422 Saddleback Ranch Rd.**
Trabuco Canyon
CA - 92679

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Relocatable Classroom (36-38)	1996	A - Steel	1	1,996	$115,504	$9,241	$124,745	$0	$0
	22	22	Relocatable Classroom (TLC 1)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	23	23	Relocatable Classroom (TLC 2)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	24	24	Corridors	1992	D - Wood	1	8,384	$255,954	$0	$255,954	$0	$0
	25	25	Relocatable Classroom (39-41)	2001	D - Wood	1	1,920	$118,408	$9,331	$127,739	$0	$0
23897/98	26	26	RELOCATABLE (SN 23897/98)	2004	D - Wood	0	960	$0	$0	$0	$0	$0
mdt 55336,66337	27	27	RELOCATABLE (CPX 09996)	1994	D - Wood	1	960	$36,468	$12,000	$48,468	$0	$0
mdt 55338,66339	28	28	RELOCATABLE (CPX 09997)	1994	D - Wood	1	960	$36,468	$12,000	$48,468	$0	$0
mdt 55340,66340	29	29	RELOCATABLE (CPX 09998)	1994	D - Wood	1	960	$36,468	$12,000	$48,468	$0	$0
mdt 55344,66345	30	30	RELOCATABLE (CPX 10009)	1994	D - Wood	1	960	$33,812	$12,000	$45,812	$0	$0
AMI 29406	31	31	RELOCATABLE (AMI 29406)	1994	D - Wood	1	528	$75,366	$12,000	$87,366	$0	$0
MDT 55325	32	32	RELOCATABLE (CPX 09990)	1994	D - Wood	1	528	$28,621	$12,000	$40,621	$0	$0
MDT 55328,66329	33	33	RELOCATABLE (CPX 09992)	1994	D - Wood	1	960	$36,468	$12,000	$48,468	$0	$0
MDT 55326,66327	34	34	RELOCATABLE (CPX 09991)	1994	D - Wood	1	960	$36,468	$12,000	$48,468	$0	$0
MDT	35	35	RELOCATABLE (CPX 09993)	1994	D - Wood	1	960	$36,468	$12,000	$48,468		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **PORTOLA HILLS ELEMENTARY**

Site Address: **19422 Saddleback Ranch Rd.**
Trabuco Canyon
CA - 92679

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
55330,66331											$0	$0
MDT 55322,66323	36	36	RELOCATABLE (CPX 09989)	1994	D - Wood	1	960	$28,621	$12,000	$40,621	$0	$0
MDT 55322,66323	37	37	RELOCATABLE (CPX 08221)	1994	D - Wood	1	960	$36,468	$12,000	$48,468	$0	$0
				Total			70,655	$5,469,377	$515,196	$5,984,573	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Portola Hills. Administration, Library, Classroom Wing (14-17)	1992/2002	11,420	Modernization	$1,633,298
Portola Hills Classroom Wing (9-12)	1992	5,299		
Portola Hills Multi-Purpose Room	1992	5,635		
Portola Hills Classroom Wing (5-8)	1992	4,418		
Portola Hills Classroom Wing (1-4)	1992	4,519		
Portola Hills Classroom Wing (K1-K3)	1992	4,323		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **RANCHO CANADA ELEMENTARY**

Site Address: **21801 Winding Way**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1976	D - Wood	1	36,063	$4,405,008	$352,401	$4,757,409	$0	$0
	2	2	Relocatable Classroom (26)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	3	3	Relocatable Classroom (27)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	4	4	Relocatable Classroom (28)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	5	5	Relocatable Classroom (29)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	6	6	Relocatable Classroom (31)	1999	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	7	7	Relocatable Classroom (30)	1994	D - Wood	1	1,103	$67,137	$5,370	$72,507	$0	$0
	8	8	Relocatable Classoom (TLC 1)	1998	A - Steel	1	1,998	$57,752	$4,620	$62,372	$0	$0
	9	9	Relocatable Classroom (TLC 2)	1994	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	10	10	Relocatable Classroom (TLC 3)	1994	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	11	11	Corridors	1976	D - Wood	1	2,748	$83,896	$0	$83,896	$0	$0
				Total			48,632	$5,020,277	$394,908	$5,415,185	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Rancho Canada. Main Building	1976	35,211		
Rancho Canada Classroom (31)	1999	960	Returned	
Rancho Canada Relocatable Classroom (30)	1994/1998	1,103	Action	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **RANCHO SANTA MARGARITA INTERMEDIATE**

Site Address: **21931 Alma Aldea**
Rancho Santa Margarita
CA - 92688

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
o	1	1	Main Building	1993	D - Wood	1	67,074	$8,507,846	$1,020,942	$9,528,788	$0	$0
	2	2	Restroom Building (Girls)	1993	D - Wood	1	595	$75,996	$0	$75,996	$0	$0
	3	3	Restroom Building (Boys)	1993	D - Wood	1	595	$75,996	$0	$75,996	$0	$0
	4	4	Food Service Building	1993	D - Wood	1	2,856	$349,028	$41,884	$390,912	$0	$0
	5	5	Gymnasium	1993	D - Wood	1	16,504	$2,232,391	$267,888	$2,500,279	$0	$0
	6	6	Theater Building	1993	D - Wood	1	7,298	$1,005,883	$120,706	$1,126,589	$0	$0
	7	7	Relocatable Classroom (701)	1996	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	8	8	Relocatable Classroom (702)	1996	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	9	9	Relocatable Classroom (703)	1996	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	10	10	Relocatable Classroom (801)	1996	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	11	11	Relocatable Classroom (802)	1996	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	12	12	Relocatable Classroom (803)	1996	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	13	13	Relocatable Classroom (901)	1998	A - Steel	1	960	$57,752	$6,930	$64,682	$0	$0
	14	14	Relocatable Classroom (902)	1998	A - Steel	1	960	$57,752	$6,930	$64,682	$0	$0
	15	15	Relocatable Classroom (903)	1998	A - Steel	1	960	$57,752	$6,930	$64,682	$0	$0
	16	16	Relocatable Classroom (904)	1998	A - Steel	1	960	$57,752	$6,930	$64,682	$0	$0
	17	17	Relocatable Classroom (905)	1998	A - Steel	1	960	$57,752	$6,930	$64,682	$0	$0
	18	18	Relocatable Classroom (906)	1998	A - Steel	1	960	$57,752	$6,930	$64,682	$0	$0
	19	19	Restroom, Storage Building	1993	D - Wood	1	1,153	$133,740	$16,048	$149,788	$0	$0
	20	20	Corridors	1993	D - Wood	1	25,459	$854,958	$0	$854,958	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **RANCHO SANTA MARGARITA INTERMEDIATE**

Site Address: **21931 Alma Aldea**
Rancho Santa Margarita
CA - 92688

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
				Total			133,054	$13,933,302	$1,551,156	$15,484,458	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Rancho Santa Margarita. Main Building New Construction of 16 Classrooms	1993/2004	91,614 + 23,690	Modernization	$$$$
Rancho Santa Margarita Relocatable Classroom (701-703, 801-803, 901-906)	1996	960	Relocated	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **ROBINSON ELEMENTARY**

Site Address: **21400 Lindsey Dr.**
Trabuco Canyon
CA - 92679

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration, Classroom Wing (1-4)	1994	C - Masonry	1	8,857	$991,824	$79,346	$1,071,170	$0	$0
	2	2	Classroom Wing (8-9)	1994	D - Wood	1	3,799	$428,333	$34,266	$462,599	$0	$0
	3	3	Classroom Wing (10-13)	1994	D - Wood	1	4,550	$512,975	$41,038	$554,013	$0	$0
	4	4	Multi-Purpose Building	1994	D - Wood	1	1,841	$600,392	$48,031	$648,423	$0	$0
	5	5	Classroom Wing (14-17)	1994	D - Wood	1	4,550	$512,975	$41,038	$554,013	$0	$0
	6	6	Classroom Wing (6)	1994	D - Wood	1	1,305	$147,189	$11,775	$158,964	$0	$0
	7	7	Classroom Wing (K1-K2)	1994	D - Wood	1	3,881	$437,512	$35,001	$472,513	$0	$0
	8	8	Relocatable Classroom (K3)	1998	D - Wood	1	1,400	$85,176	$6,813	$91,989	$0	$0
	9	9	Relocatable Restroom, Storage	1998	D - Wood	1	960	$111,325	$8,906	$120,231	$0	$0
	10	10	Relocatable Classroom (P1)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	11	11	Relocatable Classroom (P2)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	12	12	Relocatable Classroom (P3)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	13	13	Relocatable Classroom (P4)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	14	14	Relocatable Classroom (P5)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	15	15	Relocatable Classroom (P6)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	16	16	Relocatable Classroom (P7)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	17	17	Relocatable Classroom (P8)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	18	18	Relocatable Classroom (P9)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	19	19	Relocatable Classroom (p10)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	20	20	Relocatable Classroom (P11)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **ROBINSON ELEMENTARY**

Site Address: **21400 Lindsey Dr.**
Trabuco Canyon
CA - 92679

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Relocatable Classroom (P12)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	22	22	Relocatable Classroom (P13)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	23	23	Relocatable Classroom (P14)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	24	24	Relocatable Classroom (P15)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	25	25	Relocatable Classroom (P16)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	26	26	Relocatable Classroom (M11-M12)	1995	D - Wood	1	1,280	$77,917	$6,234	$84,151	$0	$0
	27	27	Relocatable Classroom (M13-M14)	1995	A - Steel	1	1,995	$76,932	$6,155	$83,087	$0	$0
	28	28	Relocatable Classroom (P17)	1997	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	29	29	Relocatable Classroom (M8-M10)	1998	D - Wood	1	1,920	$116,983	$9,359	$126,342	$0	$0
	30	30	Relocatable Classroom (M5-M7)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	31	31	Relocatable Classroom (TLC2)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	32	32	Relocatable Classroom (TLC 1)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	33	33	Relocatable Classroom (M3-M4)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	34	34	Relocatable Classroom (M1-M2)	1998	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	35	35	Relocatable Classroom	1998	D - Wood	1	480	$55,716	$4,458	$60,174	$0	$0
	36	36	Corridors	1994	B - Reinforced Concrete	1	11,271	$620,850	$0	$620,850	$0	$0
				Total			72,089	$6,233,219	$448,985	$6,682,204	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Robinson. Relocatable Classroom (P17)	1997	960	Removed	
Robinson Relocatable Classroom (M3-M4)	1998	1,280		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **SAN JOAQUIN ELEMENTARY**

Site Address: **22182 Barbera**
Laguna Hills
CA - 92653

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Main Building	1975	B - Reinforced Concrete	1	30,981	$5,184,007	$414,721	$5,598,728	$0	$0
	2	2	Multi-Purpose Building	1975	B - Reinforced Concrete	1	4,197	$772,465	$61,797	$834,262	$0	$0
	3	3	Relocatable Classroom (P1)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	4	4	Relocatable Classroom (P2)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	5	5	Relocatable Classroom (P3)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	6	6	Relocatable Classroom (P4)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	7	7	Relocatable Classroom (P5)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	8	8	Relocatable Classroom (P6)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	9	9	Relocatable Classroom (P7)	1996	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	10	10	Relocatable Classroom (P8-P9)	1998	A - Steel	1	1,280	$76,932	$6,155	$83,087	$0	$0
	11	11	Relocatable Classroom (P10-P11)	1998	A - Steel	1	1,280	$76,932	$6,155	$83,087	$0	$0
	12	12	Relocatable Classroom (P12-P13)	1998	A - Steel	1	1,280	$76,932	$6,155	$83,087	$0	$0
	13	13	Relocatable Classroom (TLC 1)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	14	14	Relocatable Classroom (TLC 2)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	15	15	Corridors	1975	D - Wood	1	1,873	$57,211	$0	$57,211	$0	$0
				Total			49,531	$6,764,987	$536,622	$7,301,609	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
San Joaquin. Main Building + Corridors	1975	35,178, 1,471		
San Joaquin Relocatable Classroom (P1)	1989	960		
San Joaquin Relocatable Classroom (P2)	1989	960		
San Joaquin Relocatable Classroom (P3)	1989	960		
San Joaquin Relocatable Classroom (P12-13)	1999	1,280		
San Joaquin Relocatable Classroom (TLC 1)	1991	960		
San Joaquin Relocatable Classroom (TLC 2)	1997	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **SANTIAGO ELEMENTARY**

Site Address: **24982 Rivendell Dr.**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration,Multi-Purpose,Classroom Wing (K)	1973	C - Masonry	1	8,721	$951,116	$76,089	$1,027,205	$0	$0
	2	2	Classroom Wing (1-8)	1973	C - Masonry	1	7,920	$972,106	$77,769	$1,049,875	$0	$0
	3	3	Classroom Wing (9-12, Library)	1973	C - Masonry	1	6,624	$812,986	$65,039	$878,025	$0	$0
	4	4	Classroom Wing (13-20)	1973	C - Masonry	1	7,920	$972,106	$77,769	$1,049,875	$0	$0
	5	5	Relocatable Classroom (1)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	6	6	Relocatable Classroom (Speech)	1993	D - Wood	1	1,030	$62,761	$5,021	$67,782	$0	$0
	7	7	Relocatable Classroom (TLC 1)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	8	8	Relocatable Classroom (TLC 2)	1998	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	9	9	Storage Building	1995	D - Wood	1	120	$3,950	$315	$4,265	$0	$0
	10	10	Storage Building	1998	D - Wood	1	140	$4,696	$376	$5,072	$0	$0
	11	11	Corridors	1973	C - Masonry	1	1,300	$44,206	$0	$44,206	$0	$0
				Total			36,655	$3,997,923	$316,297	$4,314,220	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Santiago. Administration, Multi-Purpose, Classroom Wing (K) + Corridors	1973/2001	8,786, 782	Modernization	$1,642,987.00
Santiago Relocatable Classroom (1)	1990	960		
Santiago Relocatable Classroom (TLC 1)	1999	960		
Santiago Relocatable Classroom (TLC 2)	1999	960		
Santiago Corridors	1973/2001	2,349		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **SERRANO INTERMEDIATE**

Site Address: **24642 Jeronimo Rd.**
Lake Forest
CA - 92630

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration & Classroom Wing (D, L)	1975	C - Masonry	1	64,086	$7,865,473	$943,857	$8,809,330	$0	$0
	2	2	Classroom Wing (E1-E8)	1975	C - Masonry	1	12,890	$1,581,978	$189,838	$1,771,816	$0	$0
	3	3	Food Service Building	1975	C - Masonry	1	1,403	$183,184	$21,982	$205,166	$0	$0
	4	4	Multi-Purpose Room & Locker Rooms	1975	D - Wood	1	810	$1,004,815	$120,578	$1,125,393	$0	$0
	5	5	Classroom Wing (J1-J3)	1975	C - Masonry	1	3,889	$477,360	$57,283	$534,643	$0	$0
	6	6	Relocatable Classroom (A-1)	1994	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	7	7	Relocatable Classroom (a-2)	1994	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	8	8	Relocatable Classroom (A-3)	1994	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	9	9	Relocatable Classroom (A-4)	1994	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	10	10	Relocatable Classroom (A-5)	1994	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	11	11	Relocatable Classroom (A-6)	1994	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
	12	12	Corridors	1975	C - Masonry	1	6,120	$229,086	$0	$229,086	$0	$0
	13	13	Relocatable Classroom (Storage)	1994	D - Wood	1	960	$58,492	$7,018	$65,510	$0	$0
				Total			95,918	$11,751,340	$1,382,664	$13,134,004	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Serrano Intermediate. Administration, Classroom Wing (D,L)	1975	57,295		
Serrano Intermediate Classroom (E1-E8)	1975	12,763		
Serrano Intermediate Food Service Building	1975	1,375		
Serrano Intermediate Multi-Purpose & Locker Rm	1975	8,185		

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Serrano Intermediate Classroom Wing (Ji-J3)	1975	3,836		
Serrano Intermediate Relocatable Classroom (A1)	1980	960		
Serrano Intermediate Relocatable Classroom (A2)	1981	960		
Serrano Intermediate Relocatable Classroom (A3)	1981	960		
Serrano Intermediate Relocatable Classroom (A4)	1981	960		
Serrano Intermediate Relocatable Classroom (A5)	1981	960		
Serrano Intermediate Relocatable Classroom (A6)	1981	960		

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **SILVERADO HIGH**

Site Address: **25632 Diseno Dr.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration Building	1976	D - Wood	1	1,650	$167,789	$25,168	$192,957	$0	$0
	2	2	Concession Stand	1976	C - Masonry	1	131	$11,873	$1,781	$13,654	$0	$0
	3	3	Classroom Wing (1-13)	1976	C - Masonry	1	11,403	$1,399,536	$209,930	$1,609,466	$0	$0
	4	4	Relocatable Classroom (P1)	1994	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	5	5	Relocatable Classroom (P2)	1994	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	6	6	Relocatable Clasroom (P3)	1994	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	7	7	Relocatable Classrom (P4)	1994	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	8	8	Relocatable Classroom (P5-P7)	1998	A - Steel	1	1,920	$115,504	$17,326	$132,830	$0	$0
	9	9	Restroom Building	1998	D - Wood	1	480	$55,716	$0	$55,716	$0	$0
	10	10	Corridors	1976	D - Wood	1	1,030	$31,380	$0	$31,380	$0	$0
50401-16	11	11	Relocatable Classroom (Serial No. 50401-16)	2001	D - Wood	1	3,840	$1,055,750	$158,363	$1,214,113	$0	$0
				Total			24,294	$3,071,516	$447,664	$3,519,180	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Silverado High. Administration,	1976	1,711		
New 2 Story Portable with 8 Classrooms	2001	3,840	New	$$$$

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **TRABUCO ELEMENTARY**

Site Address: **31052 Trabuco Canyon Rd.**
Trabuco Canyon
CA - 92678

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Relocatable Office (Administration)	1985	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	2	2	Classroom Wing (1)	1955	D - Wood	1	952	$98,410	$7,872	$106,282	$0	$0
	3	3	Relocatable Classroom	2001	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	4	4	Relocatable Classroom (4)	1980	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	5	5	Relocatable Classroom (5)	1980	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	6	6	Relocatable Classroom (6)	1970	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	7	7	Relocatable Classroom (7,RSP)	1999	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	8	8	Classroom Wing (2-3)	1950	D - Wood	1	1,800	$186,041	$14,882	$200,923	$0	$0
	9	9	Relocatable Classroom (Library,Field Study)	1999	A - Steel	1	1,920	$115,504	$9,241	$124,745	$0	$0
	10	10	Restroom Building	1970	D - Wood	1	384	$48,992	$3,919	$52,911	$0	$0
	11	11	Multi-Purpose Building	1980	D - Wood	1	2,840	$322,878	$25,830	$348,708	$0	$0
	12	12	Storage Building	1995	D - Wood	1	240	$8,112	$649	$8,761	$0	$0
	13	13	Barn	1970	A - Steel	1	480	$12,752	$1,020	$13,772	$0	$0
46099/00/01	14	14	Kitchen/MPR	2001	A - Steel	1	1,920	$117,216	$9,377	$126,593	$0	$0
				Total			18,216	$1,374,141	$109,929	$1,484,070	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Trabuco. Relocatable Office (Administration)	1988	960		
Trabuco Classroom Wing (1)	1979	952		
Trabuco Relocatable Classroom (6)	1980	960		
Trabuco Relocatable Classroom (Library, Field Study)	2000	1,920		

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Trabuco Restroom Building	1970	384	Demolished	
Trabuco Multi-Purpose Building	1980	2,840	Removed	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **TRABUCO HILLS HIGH SCHOOL**

Site Address: **27501 Cordova Rd.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration & Classroom Wing (101-137)	1985	C - Masonry	2	47,254	$6,524,454	$978,669	$7,503,123	$0	$0
	2	2	Gymnasium Building	1985	C - Masonry	1	51,952	$7,634,478	$1,145,172	$8,779,650	$0	$0
	3	3	Classroom Wing (300-331)	1999	C - Masonry	2	67,379	$8,958,748	$1,343,812	$10,302,560	$0	$0
	4	4	Classroom Wing (401-407)	1985	C - Masonry	1	9,976	$1,224,409	$183,662	$1,408,071	$0	$0
	5	5	Classroom Wing (701-704)	1985	C - Masonry	1	5,426	$665,951	$99,892	$765,843	$0	$0
	6	6	Food Service Building	1985	C - Masonry	1	3,329	$434,638	$65,196	$499,834	$0	$0
	7	7	Relocatable Classroom (501)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	8	8	Relocatable Classroom (502)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	9	9	Relocatable Classroom (503)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	10	10	Relocatable Classroom (504)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	11	11	Relocatable Classroom (505)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	12	12	Relocatable Classroom (506)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	13	13	Relocatable Classroom (507)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	14	14	Relocatable Classroom (508)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	15	15	Relocatable Classroom (509)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	16	16	Relocatable Classroom (510)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	17	17	Relocatable Classroom (511)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	18	18	Relocatable Classroom (512)	1990	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	19	19	Relocatable Classroom (609A)	1998	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	20	20	Relocatable Classroom (601A)	1998	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **TRABUCO HILLS HIGH SCHOOL**

Site Address: **27501 Cordova Rd.**
Mission Viejo
CA - 92691

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Relocatable Classroom (609)	1994	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	22	22	Relocatable Classroom (601)	1994	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	23	23	Relocatable Classroom (Storage)	1994	D - Wood	1	960	$58,492	$8,774	$67,266	$0	$0
	24	24	Relocatable Classroom (Storage)	1994	D - Wood	1	1,440	$87,630	$13,144	$100,774	$0	$0
	25	25	Press Box	1985	C - Masonry	1	1,523	$150,745	$22,611	$173,356	$0	$0
	26	26	Grandstand	1985	A - Steel	1	11,200	$515,763	$0	$515,763	$0	$0
	27	27	Grandstand	1985	B - Reinforced Concrete	1	11,200	$558,214	$0	$558,214	$0	$0
	28	28	Dugout (1)	1985	C - Masonry	1	300	$10,495	$0	$10,495	$0	$0
	29	29	Dugout (2)	1985	C - Masonry	1	410	$14,312	$0	$14,312	$0	$0
	30	30	Storage Building (Near Dugouts)	1985	C - Masonry	1	187	$6,573	$986	$7,559	$0	$0
	31	31	Pool	1985	B - Reinforced Concrete	1	6,227	$201,660	$0	$201,660	$0	$0
	32	32	Corridors	1985	C - Masonry	1	13,842	$565,349	$0	$565,349	$0	$0
				Total			247,965	$28,547,783	$4,002,302	$32,550,085	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Trabuco Hills High. Administration & Classroom Wing (101-137)	1985/1988	192,308	New Construction	
Trabuco Hills High Relocatable Classroom (609A)	1998	960	Rental	
Trabuco Hills High Relocatable Classroom (601A)	1998	960	Rental	
Trabuco Hills High Relocatable Classroom (Storage)	1994	960	Removed	
Trabuco Hills High Storage	1994	1,440	Removed	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **TRABUCO MESA ELEMENTARY**

Site Address: **21301 Avenida de las Flores**
Rancho Santa Margarita
CA - 92688

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration Building	1988	D - Wood	1	8,442	$912,169	$72,973	$985,142	$0	$0
	2	2	Classroom Wing (5-8)	1988	D - Wood	1	3,747	$404,851	$32,388	$437,239	$0	$0
	3	3	Classroom Wing (9-12)	1988	D - Wood	1	4,595	$496,537	$39,723	$536,260	$0	$0
	4	4	Classroom Wing (13-16)	1988	D - Wood	1	3,021	$326,400	$26,112	$352,512	$0	$0
	5	5	Classroom Wing (17-20)	1988	D - Wood	1	4,626	$499,846	$39,988	$539,834	$0	$0
	6	6	Classroom Wing (Computer Lab)	1988	D - Wood	1	1,020	$110,151	$8,813	$118,964	$0	$0
	7	7	Multi-Purpose Building	1988	D - Wood	1	4,898	$529,199	$42,336	$571,535	$0	$0
	8	8	Classroom Wing (K)	1988	D - Wood	1	3,536	$382,116	$30,569	$412,685	$0	$0
	9	9	Relocatable Classroom (P24)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	10	10	Relocatable Classroom (P7-P9)	1998	D - Wood	1	1,920	$116,877	$9,349	$126,226	$0	$0
	11	11	Relocatable Classroom (P4-P6)	1998	D - Wood	1	1,920	$116,877	$9,349	$126,226	$0	$0
	12	12	Relocatable Classroom (P1-P3)	1998	D - Wood	1	1,920	$116,877	$9,349	$126,226	$0	$0
	13	13	Relocatable Classroom (P10-P12)	1998	D - Wood	1	1,920	$116,877	$9,349	$126,226	$0	$0
	14	14	Relocatable Classroom (TLC 3)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	15	15	Relocatable Classroom (TLC 1)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	16	16	Relocatable Classroom (P25)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	17	17	Relocatable Classroom (P26)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	18	18	Relocatable Classroom (P27)	1995	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	19	19	Relocatable Classroom (TLC 2)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	20	20	Restroom Building	1998	A - Steel	1	480	$67,342	$0	$67,342	$0	$0

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **TRABUCO MESA ELEMENTARY**

Site Address: **21301 Avenida de las Flores**
Rancho Santa Margarita
CA - 92688

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	21	21	Relocatable Classroom (P5)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	22	22	Relocatable Classroom (P16)	1998	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	23	23	Corridors	1988	D - Wood	1	14,972	$457,151	$0	$457,151	$0	$0
cpx-66045 GCD20212	24	24	Relocatable Classroom CPX-66045	1998	D - Wood	1	1,056	$41,780	$9,000	$50,780	$0	$0
				Total			66,713	$5,221,478	$381,409	$5,602,887	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Trabuco. Mesa Administration Building	1988	9,518		
Trabuco Mesa Classroom Wing (5-8)	1988	3,528		
Trabuco Mesa Classroom Wing (9-12)	1988	4,907		
Trabuco Mesa Classroom Wing (13-16)	1988	3,876		
Trabuco Mesa Classroom Wing (17-20)	1988	4,677		
Trabuco Mesa Multi-Purpose Building	1988	4,907		
Trabuco Mesa Classroom Wing (K)	1988	3,528		
Trabuco Mesa Relocatable Classroom (P24)	1988	960		
Trabuco Mesa Relocatable Classroom (P7-P9)	2000	1,920		
Trabuco Mesa Relocatable Classroom (P4-P6)	2000	1,920		
Trabuco Mesa Relocatable Classroom (P1-P3)	2000	1,920		
Trabuco Mesa Relocatable Classroom (P11-P12)	2000	1,920		
Trabuco Mesa Relocatable Classroom (TLC 3)	1999	960		
Trabuco Mesa Relocatable Classroom (TLC 1)	1988	960		

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Trabuco Mesa Relocatable Classroom (P25)	1988	960		
Trabuco Mesa Relocatable Classroom (P26)	1988	960		
Trabuco Mesa Relocatable Classroom (P27)	1988	960		
Trabuco Mesa Relocatable Classroom (TLC 2)	1988	960		
Trabuco Mesa Restroom Building	1988	480		
Trabuco Mesa Relocatable Classroom (P15)	1998	960	Removed	
Trabuco Mesa Relocatable Classroom (P16)	1998	960	Removed	

Keenan & Associates

Property & Casualty Administration Department

SITE STATEMENT OF VALUES

JPA Name : **Saddleback Valley Unified School Dist.**
District Name : **Saddleback Valley Unified School Dist.**
Site Name : **VALENCIA ELEMENTARY**

Site Address: **25661 Paseo de Valencia**
Laguna Hills
CA - 92652

Bldg Ser No	Seq. No.	Bldg No	Building Name	Construction Year	Construction Class	No Of Stories	Total Square Feet	Real Property Replacement Cost	Personal Property Replacement Cost	Total Property Replacement Cost	Total EDP Replacement Cost	Course of Construction Value
	1	1	Administration,Multi-Purpose Building	1969	C - Masonry	1	8,639	$1,166,316	$93,305	$1,259,621	$0	$0
	2	2	Classroom Wing (3-10)	1969	C - Masonry	1	7,911	$970,940	$77,675	$1,048,615	$0	$0
	3	3	Library,Classroom Wing (11-14)	1969	C - Masonry	1	6,624	$812,986	$65,039	$878,025	$0	$0
	4	4	Classroom Wing (15-22)	1969	C - Masonry	1	7,911	$970,940	$77,675	$1,048,615	$0	$0
	5	5	Relocatable Classroom (P10-P11)	1996	D - Wood	1	1,040	$63,295	$5,063	$68,358	$0	$0
	6	6	Relocatable Classroom (P8-P9)	1996	D - Wood	1	1,040	$63,295	$5,063	$68,358	$0	$0
	7	7	Relocatable Classroom (P7)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	8	8	Relocatable Classroom (P1)	1989	A - Steel	1	960	$57,752	$4,620	$62,372	$0	$0
	9	9	Relocatable Classroom (P2)	1989	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	10	10	Relocatable Classroom (P3)	1989	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	11	11	Relocatable Classroom (P11)	1989	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	12	12	Relocatable Classroom (P5)	1989	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	13	13	Relocatable Classroom (P6)	1989	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	14	14	Relocatable Classroom (TLC 1)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	15	15	Relocatable Classroom (TLC 2)	1996	D - Wood	1	960	$58,492	$4,679	$63,171	$0	$0
	16	16	Corridors	1969	D - Wood	1	6,318	$231,511	$0	$231,511	$0	$0
				Total			48,123	$4,804,971	$365,872	$5,170,843	$0	$0

Amended Building Report November 29, 2004

Building	Year Acquired/Built Modernization	Square Footage	Project	Replacement Value
Valencia Administration , Multi-Purpose Building + Corridors	1969/2001	8,786, 782	Modernization	$1,568,062.00
Valencia Relocatable Classroom (P10-P11)	1996	1,040	Removed	
Valencia Relocatable Classroom (P1)	1985	960		
Valencia Relocatable Classroom (TLC 2)	1992	960		

Section 4 – Hazard Vulnerability Analysis

Hazard Definitions

A hazard can be defined as a condition that has the potential to result in equipment or system failure that can result in human injury or death or damage to the environment. Hazards are divided into two categories: natural or technological. Natural hazards include earthquakes, wild fires, and floods; while technological hazards include transportation accidents, illegal disposal, and equipment failures during manufacturing, storage, transportation, and use of hazardous materials.

A risk assessment is the process of evaluating the degree of harm a hazard presents. Risk assessments are utilized in developing emergency response plans and procedures, designing and modifying safety systems, identifying needed resources, conducting training and exercises, and minimizing damage and liability.

The urban environment of Saddleback Valley Unified School District contains a variety of hazards, both natural and human-made, that have the potential to endanger the public safety of the community. Ensuring public safety involves establishing goals and policies that consider all types of potential disasters, crime prevention, fire prevention, and reducing the risk of personal injury and potential property damage.

Hazard Ratings

Hazard Rating Definitions

Rate each hazard bay priority category.

0= No Risk in accordance with the definitions for hazard prioritization definitions listed below

1= Low Risk in accordance with the hazard prioritization definitions listed below

2= Moderate Risk in accordance with the hazard prioritization definitions listed below

3= High Risk in accordance with the hazard risk definitions listed below

Total the numbers horizontally for each hazard category. The highest possible score for a hazard is 24; the lowest is 0.

Magnitude

Physical and Economic greatness of a risk-caused event.

Factors to consider:

Size of Event

Threat to life

Threat to Property

1. Individual

2. Public Sector
3. Business and Manufacturing
4. Tourism

Duration

The length of time the effects of a risk-caused event would last.

Factors to consider:

Physical duration during emergency phase

Length of time of threat to life and property

Physical duration during recovery phase

Length of time of effects on individual citizens and community recovery

Length of time of effects on economy, tax base, business and manufacturing, tourism, and employment

Distribution

The depth of impact of a risk-caused event among all sectors of the community

Factors to consider:

Across the jurisdiction, how wide spread is the effects of the disaster?

Are all sectors of the community affected equally or disproportionately?

Area Affected

How large of an area is physically threatened or potentially impaired by a risk-caused event?

Factors to Consider:

Geographic area affected by primary event.

Geographic, physical, economic areas affected by potential secondary effects.

Frequency

The historic and predicted rate of recurrence of a risk-caused event (generally expressed in years such as the 100-year flood)

Factors to consider:

Historic events and recurrences of events in a measured time frame.

Probability

The degree of likelihood or calculated odds that a risk-caused event would occur (such as a 62% chance of a magnitude 6.7 earthquake along a given fault within a 30-year period).

Factors to consider:

Scientifically based predictions for occurrence of an event in a given period.

Degree of Vulnerability

How susceptible are the population, community infrastructure and state resources to the effects of a risk-caused event.

Factors to Consider:

History of the impact of similar events.

Mitigation steps taken to lessen impact.

Community preparedness to respond to and recover from the event.

Community Priorities

The importance placed on a particular risk by the citizens and their elected officials.

Factors to consider:

Willingness to prepare for and respond to a particular risk.

More widespread concerns over a particular risk then other risks.

Cultural significance of the threat associated with a risk.

Prioritization of Hazard Matrix Results

Stakeholder Prioritization

High Risk

Wildland/Urban Conflagration
Weapons of Mass Destruction/Terrorism
Earthquake
Hazardous Materials: Transportation Accidents/Underground Pipelines
Winds
Severe Weather

Moderate Risk

Data/Telecommunications
Utility Loss/Disruption
Water/Wastewater Disruption
Dam Failure
Floods
Explosions

Low Risk

Aviation Disasters
Sinkholes
Biological/Health, i.e. small pox, SARS, Disease Clusters

Disaster Threat	Probability of Occurrence			Danger Factor			Disaster Rating
	Likely (3)	Possible (2)	Unlikely (1)	High (3)	Average (2)	Low (1)	Probability x Danger
Earthquake (1)	3			3			9
Wildland Fire		2			2		6
Drought		2			2		4
Flood/Storm (2)	3			3			9
Hazardous Materials Release	3				2		6
Mass Casualty Transportation Accident (3)		2			2		4
Energy Shortage		2				1	1
National Security Threat (4)			1	3			3
Civil Disturbance		2			2		4
Terrorism (5)		2		3			6

This threat can lead to all of the other threats

This threat tends to be more regional; includes evacuation threats due to dam failure, hurricane, and/or tornado.

Includes aircraft, rail, or multi-vehicle accident.

Includes acts of war and nuclear attack.

Includes work place violence.

Hazard Analysis Establishing Planning Priorities

Planning Priority (6,7,8)	Disaster Threat	Disaster Rating
1	Earthquake	9
2	Flood/Storm	9
3	Hazardous Material Release	6
4	Wildland Fire	6
5	Mass Casualty Transportation Accident	6
6	Terrorism	6
7	Civil Disturbance	4
8	Drought	4
9	National Security Threat	3
10	Energy Shortage	2

When several potential disasters have the same rating, they should be prioritized according to 1) potential life loss, and 2) damage to property and environment

Priorities are subjective and require input from all affected agencies.

Compare this priority list to recent events within the community and see if it reflects the frequency and danger of actual event

Estimated Potential Losses for High & Moderate Natural Hazards

(In K for thousands, M for millions.)

Hazard	Estimated Daily Population at risk	Potential $ losses to Critical Facilities or Infrastructure	Potential $ losses to Commercial Buildings	Potential $ losses to Residential or Private Property	Potential Other $ losses (Environmental, Historical, Economic, Human)	Total Potential $ losses for this hazard
Totals	35,000 (students) 2,973 (employed)	$345.9M	$345.9B	$31.9M	$18.5M	$396.3M
Wildland Fire	1.1K	$10.4M	$10.4M	$957K	$555K	$11.9M
Earthquake	8.4K	$76.1M	76.1M	$7M	$4.1M	$87.1M
Severe Weather , Destructive Winds	4.6K	$41.9M	$41.9M	$3.9M	$2.2M	$48M
Floods	>50	$415K	$415K	$38K	$22K	$475K
Expansive Soils/Sink Holes	Low Risk					
Natural Hazards that do not pertain to Burbank	Avalanche, Coastal Erosion, Drought, Hailstorm, Hurricane, Land Subsidence, Landslide, Tornado, Tsunami, Volcanic Activity					

High Risk Priority Hazards

Wildland/Urban Conflagration

Wildland/Urban Conflagration was rated a HIGH RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.

Fires in Orange County, California

September 10, 1998
12:00 p.m.

Due to the extreme heat, the winds, and the added brush from the El Niño season, Orange County firefighters have had their hands full with battling several fires in the county. There have been fires in Carbon Canyon (near Brea), Holy Jim Canyon (in the Cleveland National Forest), and Santiago Canyon (by Irvine Lake).

STATISTICS:

	Holy Jim Canyon	Carbon Canyon	Santiago Canyon
Cause:	Incendiary	Lightning	Lightning
Began:	August 31, 12:27 p.m.	August 31, 9:26 p.m.	August 31, 9:36 p.m.
Fully Controlled:	September 2	September 3	September 6
Acreage:	100	1,000	9,000
Total Personnel:	319	259	1,359
Total Injuries:	1	0	8
Total Engines:	55	35	99
Total Bulldozers:	2	3	19
Total Water Tenders:	5	4	11
Total Helicopters:	6	2	11
Total Air Tankers:	5	0 Diverted	10
Total Other Units:	9	26	45
Agencies Participating:	8	18	36
Estimated Suppression Cost:	$67,945	$68,924	$2 Million

Baker Canyon Fire

Wednesday, November 12, 1997, 4:00 pm

Summary

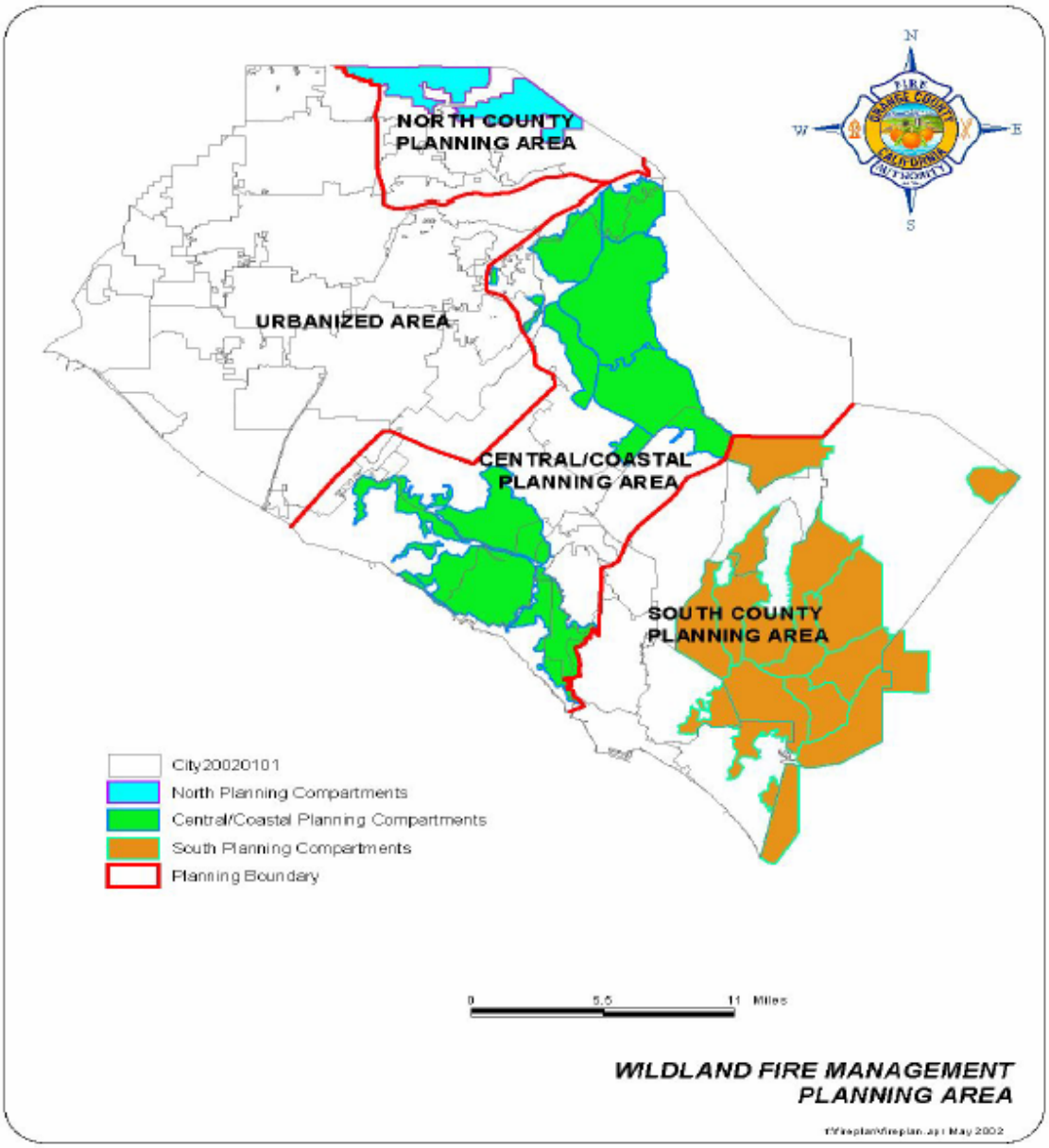
Start of Fire: Monday October 13, 11:15 p.m.
Origin: Convergence of Black Star and Baker Canyons
Containment: October 15, 5:00 p.m.
Controlled: October 16, 8:00 a.m.
Flare Up: October 17, noon
Flare Up Containment: October 19, 6:00 a.m.
Flare Up Controlled: October 20, 6:00 p.m.
Incident Officially Closed: November 12, 1997
Acres Burned: 6,317
Structures Destroyed: 2 (a mobile home and an abandoned classroom)
Cost of Fighting Fire: $3.8 Million
Cause of Fire: Illegal Burning
No injuries or deaths

Resources:

1,261 Total Personnel
209 Engine Companies
6 Dozers
54 Hand Crews
7 Helicopters
8 Fixed-Wing Aircraft
1 Medic Unit
10 Water Tenders
Miscellaneous Support and Utility Vehicles
Agencies Responding:
Orange County Fire Authority
All Orange County Fire Departments
California Department of Forestry and Fire Protection
United States Forest Service
County and City Fire Departments from Los Angeles, Riverside, Ventura, San Bernardino, San Diego, and Kern counties

USMCAS/El Toro; US Marine Corps/Camp Pendleton; Other Military Depts.
California Office of Emergency Services
Cooperating Agencies:
California Highway Patrol
Orange County Sheriff's Department
American Red Cross
Southern California Edison Company
Orange County Department of Harbors, Beaches, and Parks
Orange County Animal Control

Map 9 – Wildland Fire Management Planning Areas



California Fire Code 2001

(For fuel modification and enforcement of hazardous fuels within populated areas.)

Section 27, Appendix 2-A-1
Article 11, Section 1103.2.4

CALIFORNIA PUBLIC RESOURCES CODE

DIVISION 4. FORESTS, FORESTRY AND RANGE AND FORAGE LANDS
PART 1. DEFINITIONS AND GENERAL PROVISIONS
CHAPTER 1. DEFINITIONS 4001-4004
CHAPTER 2. GENERAL PROVISIONS
Article 1. Penalties 4021-4022
Article 2. Purchase of Land 4031
PART 2. PROTECTION OF FOREST, RANGE AND FORAGE LANDS
CHAPTER 1. PREVENTION AND CONTROL OF FOREST FIRES
Article 1. Definitions 4101-4104
Article 2. General Provisions 4111-4123
Article 3. Responsibility for Fire Protection 4125-4136
Article 3.5. State Responsibility Area Fire Protection Benefit Fees 4138-4140.7
Article 4. Cooperative Agreements 4141-4145
Article 5. Firewardens and Firefighting Personnel 4151-4157
Article 6. Violations 4165-4170.5
Article 7. Public Nuisances 4171-4181
Article 8. Clarke-McNary Act 4185-4187
Article 9. Fire Hazard Severity Zones 4201-4205
CHAPTER 2. HAZARDOUS FIRE AREAS 4251-4290
CHAPTER 3. MOUNTAINOUS, FOREST-, BRUSH- AND GRASS-COVERED LANDS 4291-4299
CHAPTER 4. RESTRICTED AREAS 4331-4333
CHAPTER 6. PROHIBITED ACTIVITIES
Article 1. Definitions and General Provisions 4411-4418
Article 2. Prohibited Activities 4421-4446
CHAPTER 7. BURNING OF LANDS
Article 1. Experimental Program for Wildland Fire Protection and Resources Management 4461-4473
Article 2. Department of Forestry Burning Contracts 4475-4480
Article 3. Private Burning of Brush-Covered Lands Under Permit 4491-4494

CHAPTER 10. PROTECTION OF FOREST AND LANDS
Article 8. Wildland Fire Prevention and Vegetation Management. 4740-4741

ORANGE COUNTY FIRE AUTHORITY

Planning & Development Services Section

1 Fire Authority Road, Building A Irvine, CA 92602 714-573-6100 www.ocfa.org

Fire Master Plans for Public Schools

DRAFT

Approved and Authorized by

Guideline B-10

Hugh Wood
Fire Marshal / Assistant Chief

Date: May 14, 2004

Serving the Cities of: Aliso Viejo, Buena Park • Cypress • Dana Point • Irvine • Laguna Hills • Laguna Niguel • Laguna Woods • Lake Forest • La Palma • Los Alamitos • Mission Viejo • Placentia • Rancho Santa Margarita • San Clemente • San Juan Capistrano • Seal Beach • Stanton • Tustin • Villa Park • Westminster • Yorba Linda • and Unincorporated Areas of Orange County

Fire Master Plans for Public Schools

PURPOSE

This document is intended to serve as Orange County Fire Authority (OCFA) guidance for the plan review of fire master plans for public school campuses.

SCOPE

The Division of the State Architect (DSA) is the authority having jurisdiction over the construction of public schools for grades K–12 and community colleges. However, the DSA requires that applicants obtain approval from the local fire department for projects that affect emergency access on school campuses and/or water supply, including the addition or relocation of hydrants.

Regulations adopted by the State for access at public schools are not particularly detailed, generally stating only that a minimum 20-foot wide, unobstructed roadway capable of supporting fire apparatus and gates that allow passage to emergency vehicles and personnel be provided. The information in this document provides practical guidance on how to design fire access for public schools in the areas served by the OCFA. It draws upon standard, uniform emergency access and installation standards used throughout the State as described in the California Fire Code and NFPA 24 as well as operational procedures and capabilities particular to OCFA vehicles and suppression personnel.

These guidelines are provided to assist you in gaining approval from the OCFA for projects at both new and existing *public* school campuses undergoing tenant improvement, additions, or modernization or any public school campus where temporary or permanent portable or modular buildings will be added.

New *private* school campuses or changes to existing private schools are subject to all regulations governing commercial development and are not addressed in this guideline. Please refer to OCFA Guideline B-09 for more information.

SUBMITTAL REQUIREMENTS

1. Determination of Requirements

The type of structures being placed on a public school campus and its duration and use determines the extent of the OCFA's review.

New school campus—The OCFA will perform a complete review of fire master plan components, including hydrant quantity and location, water availability, access to all structures, and vehicle and pedestrian gates.

Addition of permanent structures to an existing campus—The OCFA will perform a complete review of fire master plan components, including hydrant quantity and location, water availability, access to structures, and vehicle and pedestrian gates for the portion of the campus affected by the addition as well as the area leading to it. This category may include the addition of portable or modular units to accommodate a growing student population (see Section C.1.b below).

Existing campus undergoing modernization—These projects vary in scope from minor changes to restrooms to retrofit of entire classroom or administrative buildings that results in the relocation of students and staff to portable structures.

1) Portables—If the modernization project includes the addition of portable units on the campus, the applicant must state on the plans whether such portables are for short-term or long-term use.

   a) Short-term portables are expected to be on-site for no more than two years. The OCFA will review the placement of short-term portables for access and vehicle and pedestrian gate requirements only. Review of hydrant location or water availability is not required for short-term portables. Should it become necessary that a portable originally classified as short-term need to remain on-site for more than two years, it may only do so only with the approval of the OCFA. Provide a stamped copy of the fire master plan that the short-term portables were originally approved under with a letter explaining the change in classification and the anticipated duration of the modular units. The OCFA may request other information in order to evaluate what additional fire protection measures are necessary, if any, due to this change in classification.

   b) Long-term portables are expected be on-site for more than two years. The OCFA will review projects consisting of only long-term portables for hydrant quantity and location, water availability, access to structures, and vehicle and pedestrian gates.

2) Modernization or improvement projects that do not include the use of portable structures must be submitted to the OCFA for review if the modernization will alter the footprint of any building on campus, the location of or access to hydrants, or otherwise affect access to structures (e.g., fences, planters, and gates), fire flow requirements, or water availability. If the modernization project does not affect any of these items, and it is acceptable to the DSA, the OCFA does not require submittal of plans. However, should the DSA require the local fire authority's sign-off of a modernization project even if these items are not affected, plans must be submitted to

the OCFA for review of access and gates serving the areas affected by the modernization.

3) Occasionally, outside organizations such as the YMCA or Headstart will propose the addition of facilities to an existing campus to host after-school activities, seasonal programs, or community events. The scope of the OCFA's review of these facilities is dependent upon who will be using them. In the case where the facility will be used solely by the children normally attending class in that school, the project will be treated as any other school building. Where the facility offers services to the general public or other children not enrolled at the school, such as for daycare purposes or community activities, the project falls under the jurisdiction of the OCFA. Such facilities are subject to reviews not normally performed by the OCFA for public school buildings, including underground piping for sprinklers, architectural life-safety and egress, sprinkler system design, alarm and monitoring system installations, etc.

2. Plan Requirements

Plans shall be provided to demonstrate compliance with all codes and other regulations governing water availability and emergency access for new structures at public schools. In addition, changes to existing structures or sites shall be reviewed by the OCFA to ensure that the modifications do not affect water availability or access.

A. Submittals – Three plan sets will need to be submitted directly to OCFA Headquarters. Accompanying documentation for items such as electric gates, water availability data, paving certification, or hold harmless letters shall be supplied, as needed. The OCFA plan review fee is due upon submittal of plans. Refer to the fee schedule on the OCFA website (www.ocfa.org) for the current fire master plan fee.

B. Scope – The scope of work shall be clearly indicated on the plan. Include a copy of the most recently approved site plan with your submittal, if available, to facilitate review and approval.

C. Building Data – Information related to the building's location, use, and construction shall be clearly indicated on the plan.

1) Include the project's street address and the tract, tentative tract, or County Assessor's parcel number.

2) Indicate the types of occupancies that will be housed in the structure as listed in California Building Code (CBC) Table 3-A.

3) Indicate the construction type of each building. If sprinklers are being used for a one-hour construction equivalency, note this clearly on the plan.

4) Allowable area or mixed occupancy calculations shall be provided for all structures or portable clusters over 2,500 square feet. Indicate all increases allowed by CBC

Chapter 5 (e.g., multistory, side yards, or sprinklers for area, height, or construction type increase) that are being applied.

D. Fire Master Plan Notes – Include the notes at the bottom of the OCFA Public School Fire Master Plan Checklist on the plan, verbatim, as applicable. See Attachment 1.

E. Water Availability – A Water Availability form or equivalent data from a water purveyor or third party shall accompany all fire master plan submittals for projects where a new permanent building or long-term portable is added or where modification to an existing building increases the floor area of the structure. Water data may be requested by the OCFA for other conditions as necessary to ensure adequate fire protection for a particular site.

F. Complete Attachment 1, Public School Fire Master Plan Checklist, and verify that basic project information has been provided and that general access and water requirements have been addressed on the plan. Information other than that identified on the Checklist may be required depending on project parameters and site conditions.

3. Access Requirements

For newly proposed schools, access requirements parallel those for any new commercial development. However, for many existing schools, fire department input was not required or requested at the time of construction and, as a result, portions of the campus may not be designed or built to these standards. In these cases, the DSA asks designers, school districts, and the OCFA to work collaboratively in developing a practical solution that maximizes access to existing structures and provides the greatest level of life-safety protection. As such, extenuating circumstances that result in increased on-site hazards may affect the requirements listed in this guideline.

A. Fire access roadways, often referred to as fire lanes, must be provided for every facility or building when any portion of an exterior wall of the first story is located more than 150 feet from a public roadway, as measured along an approved route that simulates the path of firefighter travel.

B. Fire Access Roadway Construction Requirements - Fire access roadways shall be engineered to support emergency response apparatus. Roadways must be designed to facilitate turning radii of apparatus and meet requirements for gradient, height clearance, and width. Specific criteria pertaining to the design of fire access roadways are detailed below:

1) Fire access roadways shall be designed, constructed, and maintained to support the imposed loads of OCFA fire apparatus with a total weight of 68,000 pounds. Apparatus weight is distributed as 46,000 pounds on tandem rear axles and 22,000 pounds on the front axle. The surface shall be designed, constructed, and maintained to provide all-weather driving capabilities.

a) A letter or statement, wet-stamped and signed by a registered engineer, shall be provided on the plans certifying that any *new* roadway meets this 68,000-pound, all-weather requirement. As an alternative, the OCFA will accept a hold-harmless letter from the school district for *existing* paving on the campus. *The hold-harmless letter applies to existing paving only; an engineer's certification is required for all new paving installed as part of the project.*

2) Width of Fire Access Roads - The minimum unobstructed width of a fire access roadway is 20 feet. To this end, particular attention should be given to the flow of traffic in parking lots and the location of on-site drop-off/pick-up zones and bus parking. Where drop-off/pick-up zones share areas designated as fire lanes, they should be at least 28 feet in width to allow the unobstructed use of the fire lane. Fire access roadways narrower than the 20-foot minimum may be acceptable for short distances only to accommodate *existing* site conditions in an effort to improve overall access coverage at the campus.

3) Parking Restrictions – In order to ensure that fire access roadways remain unobstructed to a minimum width of 20 feet, no parking is permitted on fire access roadways narrower than 28 feet in width. Parking on one side is permitted on a roadway that is at least 28 but less than 36 feet in width. Parking on two sides is permitted on a roadway 36 feet or more in width. Red curbs or "Fire Lane—No Parking" signs are required in areas where the fire lane is less than 36 feet in width. See Attachment 2.

4) Vertical Clearance - Fire access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches. All vegetation, wires, eaves, or other obstructions overhanging the fire access roadway must be maintained clear to this height.

5) Fire Access Road Grade - The grade for access roads should not exceed 10 percent. The grade may be increased to a maximum of 15 percent for approved lengths of access roadways when all structures served by the access road are protected by automatic fire sprinkler systems.

6) Inside and Outside Turning Radii - The inside turning radius for an access road must be 17 feet or greater. The outside turning radius for an access road must be 38 feet or greater. As fire apparatus are unable to negotiate tight "S" curves, a 47-foot straight leg must be provided between these types of compound turns or the radii and/or road width must be increase accordingly. *Note: to accommodate the OCFA's largest fire apparatus an inside and outside turning radius of 20 and 42 feet, respectively, is recommended and requested whenever possible.*

7) Dead-end Access Roadways - Dead-end roadways in excess of 150 feet need to be designed and constructed with approved turnarounds. Turnarounds must meet the minimum dimensions specified in Attachment 3.

C. Poles, backboards, nets, picnic tables, and other obstructions – Typically, playground blacktop areas are the only way for fire apparatus to access many buildings on school campuses.

1) Poles, backboards, or other items related to the normal use of the playground may not obstruct the path of emergency vehicles and may not be placed within apparatus turnarounds or hammerheads.

2) As many playgrounds are unlit at night, reflective paint or tape must be applied to such obstructions to make them more visible to apparatus engineers navigating near or between them. A reflective stripe, approximately four inches wide should be placed approximately three to four feet above the ground or as otherwise required to make the obstruction apparent to the fire apparatus engineer.

3) Permanent or removable bollards are not permitted to be placed across fire access roadways.

D. Fire Lane Identification - Fire lane identification will be required when it is necessary to restrict parking of vehicles in order to maintain the required width of fire access roadways for emergency vehicle use. The following methods are acceptable means of identifying designated fire lanes on public school campuses. Choose either Option A or B, but not a combination of the two, for each area of the campus (for instance, it is acceptable for red curbs to be used in the public parking lot areas and for "No Parking" signs to be used elsewhere on the campus):

A - Specific areas designated as fire lanes must be marked with red curbs in accordance with the requirements specified in Attachment 4. In addition, each vehicle entrance to an area containing red curbs must be posted with an approved Fire Lane Entrance Sign. See Attachments 5 and 6. *This option is preferred by the OCFA.*

B - "Fire Lane—No Parking" signs must be posted immediately adjacent to each designated fire lane and at intervals not to exceed 50 feet. See Attachments 6 through 8. In interior areas of the campus that are accessible only to school district vehicles (i.e., maintenance trucks or janitor's carts), the spacing of such signs may be increased provided that the extent of the restricted parking area remains apparent and well defined. Such areas will be evaluated on a case-by-case basis. In addition, each vehicle entrance to an area containing "Fire Lane—No Parking" signs must be posted with an approved Fire Lane Entrance Sign.

E. Premises Identification – For new schools, the main address for the school campus must be located on the side of the school that faces the public road to which it is addressed. These address numbers should be at least six inches high, internally or externally illuminated at night, and be easily visible from the public road fronting the property. Such address numbers may be mounted to either a building or an independent monument.

1) Any newly constructed buildings on the campus need to be identified with six-inch high address numbers or letters that are easily visible from the either the public way or internal fire access roadways, as applicable. Clusters of modular units with the same designation (e.g., "Colony A" or "Kindergarten") may have six-inch address numbers on only one structure in the cluster provided that each individual classroom is given a name or number that is prominently displayed on or next to each door.

4. Gate Requirements

Gates are often constructed on public school campuses to control student egress during the day and to restrict use of the grounds after hours. Locations of vehicular and pedestrian gates and barriers must be clearly shown on the plans. For all gates or barriers across fire access roadways and for those pedestrian gates in the path of firefighter access to structures, information such as the type of gate (manual/electric, swinging/sliding), clear opening width (for vehicle gates), type of lock, and emergency override must be provided.

A. Manually Operated Gate and Barrier Design – Typical gate designs may include sliding gates, swinging gates or arms, or guard posts with a chain traversing the opening. Permanent signage (constructed of 18-gauge steel or equivalent) that reads "FIRE LANE—NO PARKING" must be attached to the front and back of manually operated vehicle gates. Letters should be red on a white background and a minimum of three inches high with a ½ inch width. See Attachment 9.

B. Bollards – Removable bollards are not permitted to placed across fire access roadways.

C. Clear Width – Gate openings for egress and ingress of vehicles shall not be less than 13 feet clear width. The vertical clearance shall not be less than 13 feet 6 inches, including landscaping and/or trees.

D. Setbacks – Vehicle gates shall be located to facilitate ingress without endangering emergency response personnel, emergency apparatus, and the general public. For retrofit installations, gates and barriers should be located a minimum of 46 feet from any major street. For gates and barriers at new campuses, a 56-foot setback is needed. A 27-foot minimum unobstructed setback is required beyond a gate to the first turn to allow sufficient emergency apparatus clearance.

E. Manually Operated Gate and Barrier Locks – Manually operated vehicle gates or barriers shall be equipped with Knox padlocks or a non-case-hardened, frangible padlock/chain that can be cut with bolt cutters. Pedestrian gates may be equipped with a Knox padlock, frangible padlock, or a Knox box containing a key that will open the gate. Note on the plan which type of lock will be used. Contact the Planning and Development Services Section at 714-573-6100 for a Knox application, if needed.

F. Electrically Operated Gates and Barriers – Most vehicle gates at public schools are manually operated. For specific requirements for electrically operated gates, please refer to OCFA Guideline B-09.

5. Hydrant and Water Availability Requirements

Applicants must demonstrate that hydrants are provided in the quantity and spacing described in California Fire Code (CFC) Appendix III-BB and are capable of delivering the amount of water required by CFC Appendix III-AA. The quantity and spacing of hydrants is governed by the fire flow required for the structure(s) served. The required fire flow is dependent upon the size of the structure (see Fire Area below), type of construction, and whether the building is sprinklered. This information should be shown clearly on the plans to assist in the determination of the minimum fire flow requirement.

A. Water Availability – To facilitate the review process and avoid untimely delays in project approval, applicants are strongly encouraged to obtain fire flow data from the local water department or a qualified third party *prior to submitting plans to the OCFA*. Fire flow information is not required for projects that consist only of short-term portables or for long-term portables that are over 1000 feet from a public water main.

1) Obtain a Water Availability form from OCFA Planning & Development Services Section or download a form from the Planning and Development website at www.ocfa.org/business/pandd/index.htm.

2) Fill out the project and building information in the first section of the Water Availability form. Care should be taken when determining the applicable fire area for the project. As stated above, fire flow is dependent on several factors, so the largest building or group of structures is not necessarily the *most demanding* in terms of fire flow. When a project consists only of the addition of portables to an existing site, the applicable fire area will be the portables themselves and any adjacent structures not adequately separated as described under "Fire Area" below. Other existing structures at the site, though more demanding, may be ignored under these circumstances.

3) Determine the required fire flow from the table in CFC Appendix III-AA. A 75% reduction in fire flow (but not duration) may be taken when the fire area consists only of buildings equipped with an approved automatic fire sprinkler system. If you are unsure of how to calculate the fire flow requirement for your project, you may fax the form to the OCFA at the number provided on the form and we will determine the fire flow for you. See Attachment 10.

4) Contact the local water company to request a hydrant flow test or fire flow modeling calculation, and have a representative of the water company complete and sign the last section on the form. In some cases, the water company may allow or require a qualified third party to perform the flow test for you.

5) Blueline the completed form onto your plans or include the original with your plan submittal.

B. Fire Area – Fire area is used to determine the potential fire load present at a site and the resultant water supply necessary to effectively combat a fire of that size and protect adjacent structures. Typically, multiple buildings of similar construction located within

20 feet of each other are considered to be part of the same fire area, unless otherwise protected or separated in accordance with the California Building Code (refer to Table 5-A therein). The floor area of each floor in multi-story buildings must be included in the fire area calculation, although miscellaneous structures such as covered walkways, open lunch shelters, ball walls, back stops, non-combustible bleachers, and utility towers need not be included.

C. Hydrant Location – Hydrants shall be provided along the length of the fire access roadway in the minimum quantities and at the maximum distances prescribed in CFC Appendix III-BB. See Attachment 11.

1) Hydrants must be located no more than three feet from the edge of a fire access roadway and cannot be located in areas where they will be visually or operationally obstructed (behind fences or walls, in bushes, behind parking spaces, etc.). Clearance shall be provided to a distance no less than three feet from the perimeter of the hydrant.

2) The hydrant outlets must face the fire access roadway.

3) The hydrant shall be located at least 40 feet from the building(s) it serves. Where it is impractical to locate the hydrant 40 feet from adjacent structures, it may be located closer provided that nearby walls do not contain openings and the hydrant is not otherwise located where it can be rendered inoperable due to damage from collapsed walls, debris, or excessive heat.

4) Hydrants and fire department connections (FDCs) should be located so that a hose line running between the hydrant and the FDC does not cross driveways, obstruct roads or fire lanes, or otherwise interfere with emergency vehicle response and evacuation of a site.

D. Protection of Hydrants – Where hydrants are located such that they are exposed to potential damage from vehicular collision, they must be protected by curbs or bollards.

1) Hydrants located on or adjacent to playgrounds or similarly open areas of pavement must be protected by bollards. If vehicles can approach the hydrant from more than one direction, the hydrant must be protected by four bollards of concrete-filled pipe four inches in diameter and mounted in concrete in a square around the hydrant. The bollards need to be spaced a minimum of three feet from the perimeter of the hydrant. The bollards must be placed so that their location does not impede access to or use of the hydrant. Two bollards may protect hydrants that can be approached from only one side. See Attachment 12.

2) Hydrants may not require protection by bollards if they are located such that the potential for collision is minimal or if they are sufficiently protected by standard concrete curbs eight inches or greater in height.

6. Access to Structures

The dimension of 150 feet when used in relation to fire department access is commonly referred to as "hose pull distance." As the name implies, this is the maximum distance that firefighters can effectively pull a fire hose or carry other equipment to combat a fire. The hose pull distance is set at 150 feet due to a variety of factors, including standard hose lengths, weight of equipment, hydraulic properties, and accepted operational procedures.

Hose pull is measured along a path that simulates the route a firefighter may take to access a structure from the nearest public road or fire lane. Under most circumstances, hose pull will not be a straight-line distance and should not be measured "as the crow flies." All obstructions such as fences, planters, vegetation, and other structures must be considered when determining whether a building is accessible from a particular location on the fire access roadway. Topography may also affect the potential access route and any significant changes in elevation must be accounted for when measuring hose pull distances. Hose pull measurements begin at a point in the street located 10 feet from the edge of the curb or fire lane. See Attachment 13.

7. Fire Department Connections (FDCs) and Alarm Systems

In addition to access, gate, and hydrant approval, the DSA may defer review of other items to the OCFA, namely the location of FDCs for sprinklered buildings and the recommended type of alarm system for a specific application. To facilitate the review process, this information should be shown on the fire master plan submitted to the OCFA instead of being requested at a later date. *NOTE: The review of underground piping and alarms systems by the OCFA is limited to the location of FDCs and the recommended type of alarm system only– the OCFA does not perform a complete review of these systems unless specifically requested by the DSA.*

A. FDCs – Show the location of the FDC on the plan for any sprinklered buildings. FDCs may be mounted on the backflow prevention device/double detector check or in a separate location.

1) FDCs shall be located a minimum of 40 feet from the buildings served. They may be located closer provided that nearby walls do not contain openings and the hydrant is not otherwise located where it can be rendered inoperable due to damage from collapsed walls, debris, or excessive heat.

2) Indicate on the plan which building(s) each FDC serves.

3) Note on the plan that each FDC will be provided with a sign, securely mounted to the FDC and of a durable material with contrasting lettering, indicating which building(s) it serves.

B. Alarm systems – If OCFA input regarding the type of alarm system needed is required by the DSA, indicate on the plan which structures will be provided with alarm systems and list the type(s) of system that will be installed. The most common types are listed below:

1) Manual system with pull stations, per NFPA 72.

2) Fully automatic system with smoke and heat detection, including manual pull stations in large assembly areas (A-2.1) and one in the administration office, per NFPA 72.

3) Manual system with augmented detection by addition of smoke/heat detectors in particular rooms/buildings, per NFPA 72.

ATTACHMENT 1

Public School Fire Master Plan Checklist

Scope of project is clearly defined on the plan?	☐ Yes	
Portables are defined as short or long term?	☐ Yes	☐ N/A (No portables)
Tract or Assessor's Parcel Number has been provided?	☐ Yes	
Water availability/fire flow data provided?	☐ Yes	☐ No
Extent of all fire lanes is shown on the plan?	☐ Yes	
Turning radii are shown or noted on the plan?	☐ Yes	
Are the areas that are out of access identified on plan?	☐ Yes	☐ N/A
Are all gates, fences, and planters shown?	☐ Yes	
Are vehicle gates identified as manual or electric?	☐ Yes	☐ N/A (No gates)
Manual vehicle gates have "No Parking" sign noted?	☐ Yes	☐ N/A (No gates)
Are all hydrants within 250' of the school shown?	☐ Yes	
Are hydrants protected from damage?	☐ Yes	☐ N/A (Curbs provided)
Red curbs are identified with bold or dashed lines?	☐ Yes	☐ N/A (Signs provided)
Location of each "Fire Lane—No Parking" sign shown?	☐ Yes	☐ N/A (Red curbs provided)
Entrance sign provided at each vehicle entrance?	☐ Yes	
Detail of red curbs/"No Parking"/entrance signs shown?	☐ Yes	
Location of main school address shown on plan?	☐ Yes	
Engineer's certification provided for new paving?	☐ Yes	☐ N/A (No new paving)
Hold harmless letter provided for existing paving?	☐ Yes	☐ N/A (All paving certified)
Service Request form has been completed and signed?	☐ Yes	

Include each of the following notes on the plan:

☐ All vegetation and other obstructions overhanging a fire access roadway shall be maintained to a clear height of 13'-6".

☐ All poles, backboards, and other obstructions on playgrounds near a fire access roadway shall be provided with reflective tape or paint.

☐ Knox key switches, Knox locks, or frangible padlocks/chains shall be provided for all gates and barriers in the path of vehicle or firefighter access.

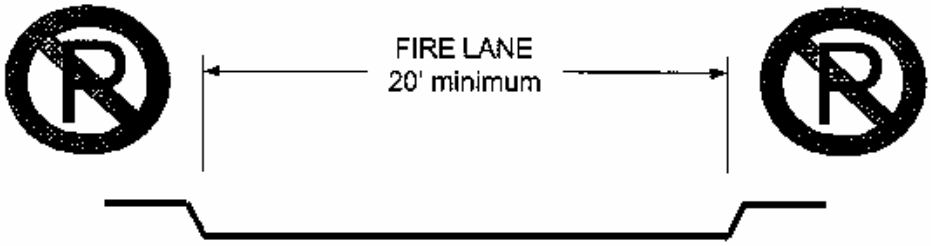
☐ The campus is identified with 6" high address numbers easily visible from the public road fronting the property. Individual structures are identified with 6" high address numbers or letters easily visible from the public way or fire access roadway.

☐ All-weather access roadways and all fire hydrants shall be in place and operational before bringing combustible building materials or portable units on-site.

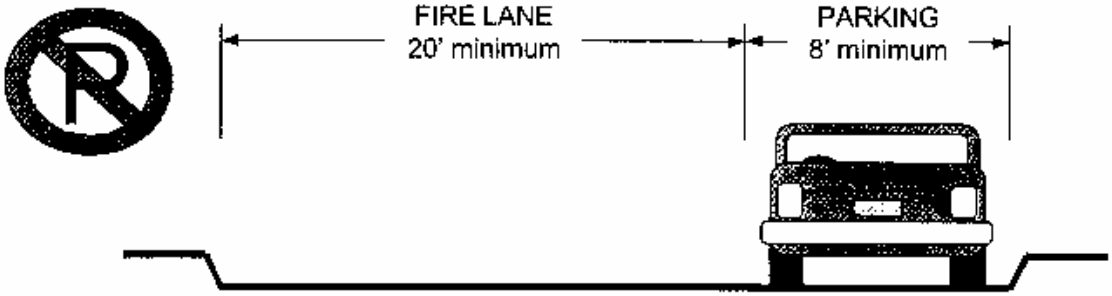
ATTACHMENT 2

Minimum Fire Lane Widths

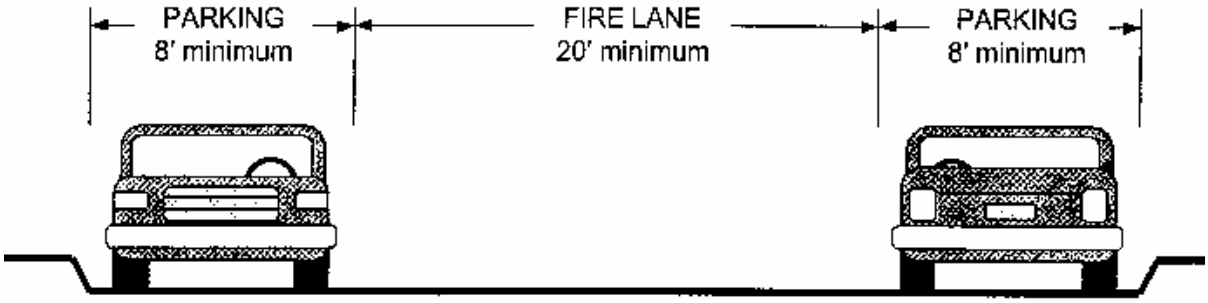
Width is measured base of curb to base of curb for standard curbs
or flowline to flowline for rolled curbs



ROADWAY LESS THAN 28'
Parking prohibited.
Roadway is required to be posted as a fire lane.



ROADWAY AT LEAST 28' BUT LESS THAN 36'
Parking permitted on one side only.
Roadway is required to be posted as a fire lane.



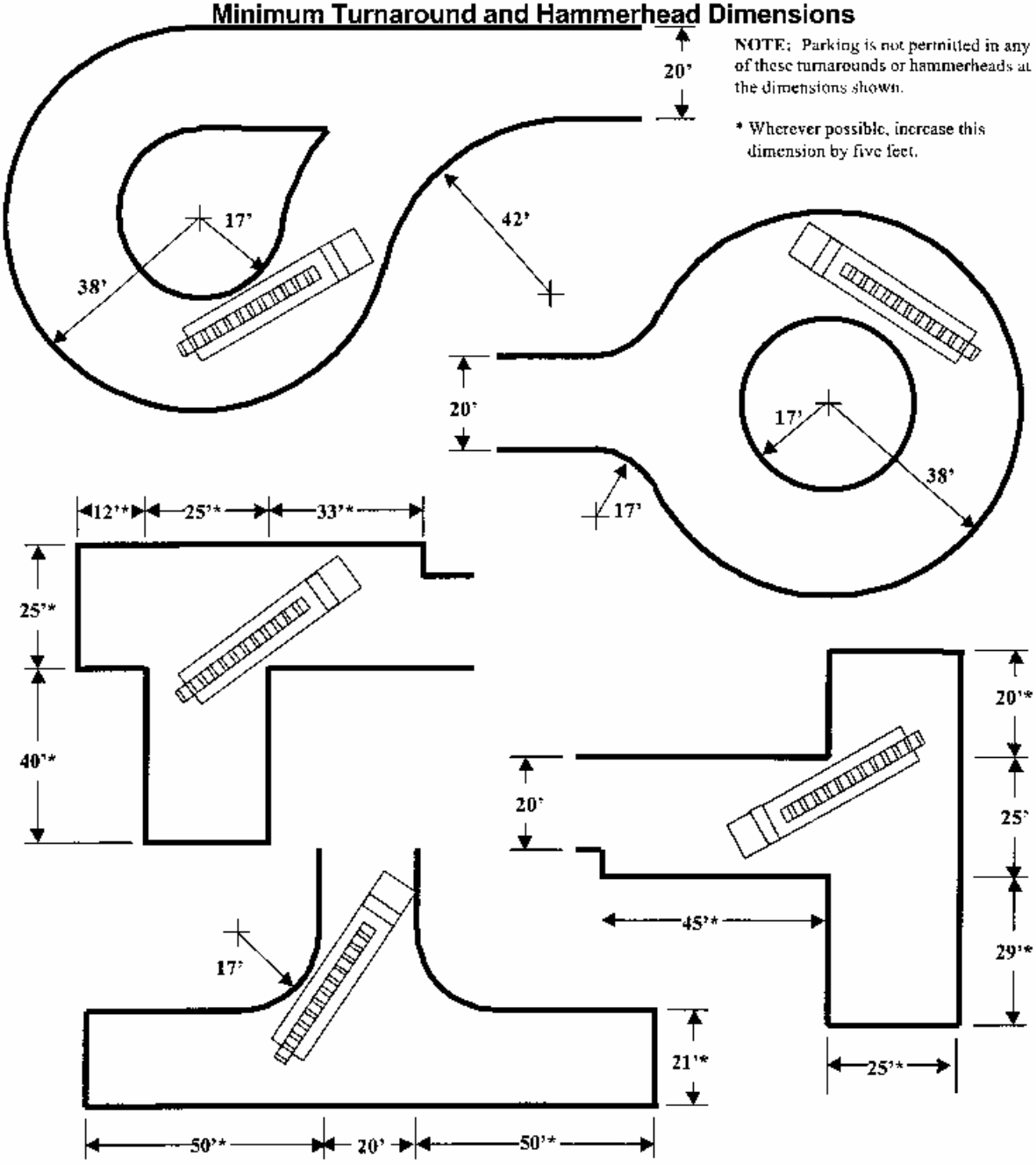
ROADWAY 36' OR WIDER
Parking permitted on both sides

ATTACHMENT 3

Minimum Turnaround and Hammerhead Dimensions

NOTE: Parking is not permitted in any of these turnarounds or hammerheads at the dimensions shown.

* Wherever possible, increase this dimension by five feet.



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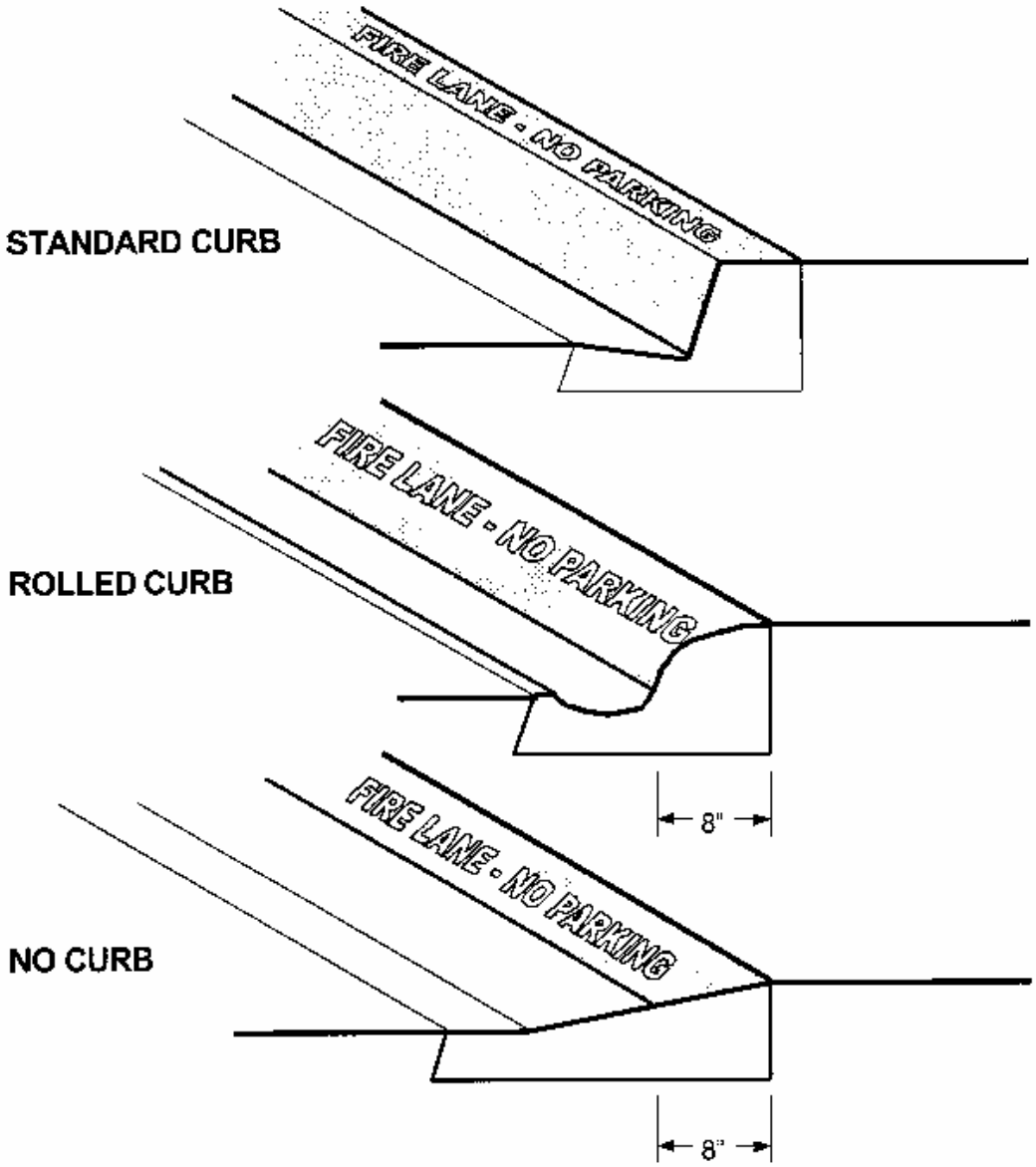
ATTACHMENT 4

Fire Lane Identification – Red Curbs



1. Fire lane entrance sign(s) shall be provided per Attachment 8.
2. Curbs shall be painted OSHA safety red.
3. "FIRE LANE – NO PARKING" shall be painted on top of curb in 3" white lettering at a spacing of 30' on center or portion thereof.

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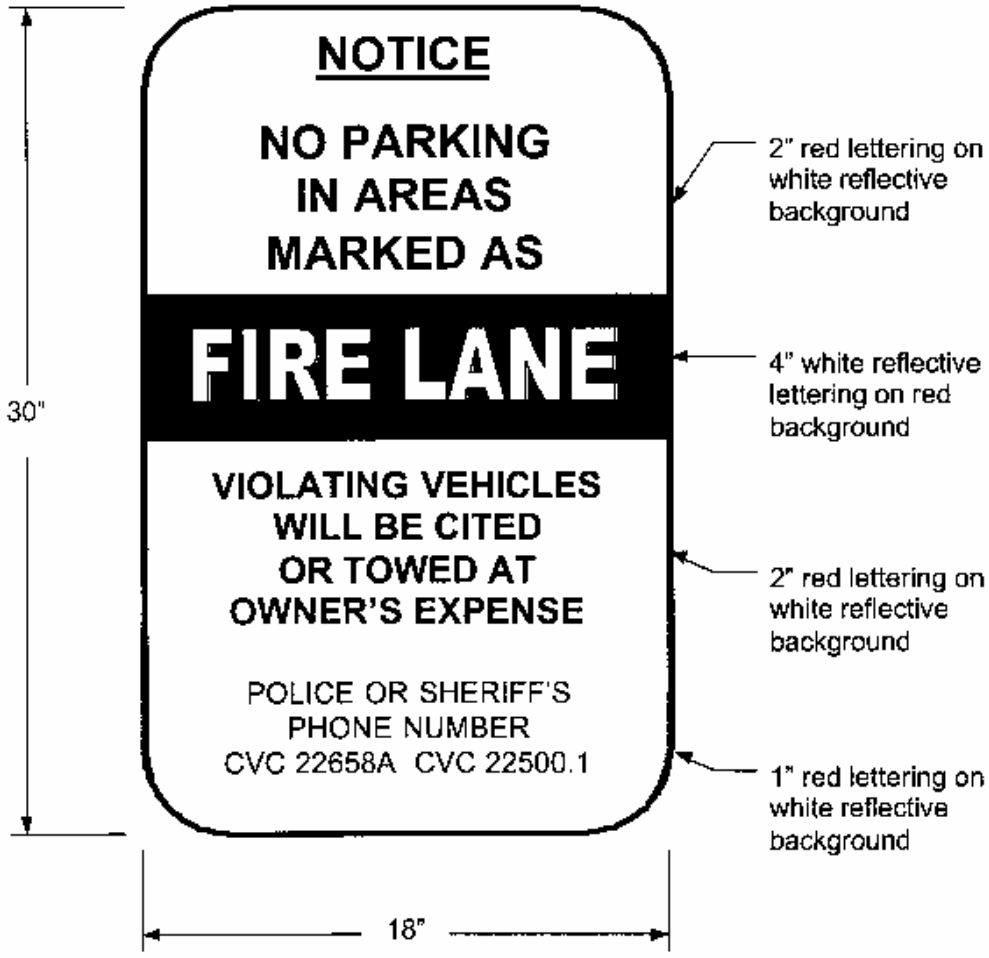
ATTACHMENT 5

Specifications for Fire Lane Entrance Signs



All sign and lettering dimensions shown are minimums.

This sign shall be posted at all vehicle entrances to areas marked with either red curbs or fire lane "No Parking" signs.

Signs shall be securely mounted facing the direction of travel and clearly visible to oncoming traffic entering the designated area. Signs shall be made of durable material and installed per Attachment 10.

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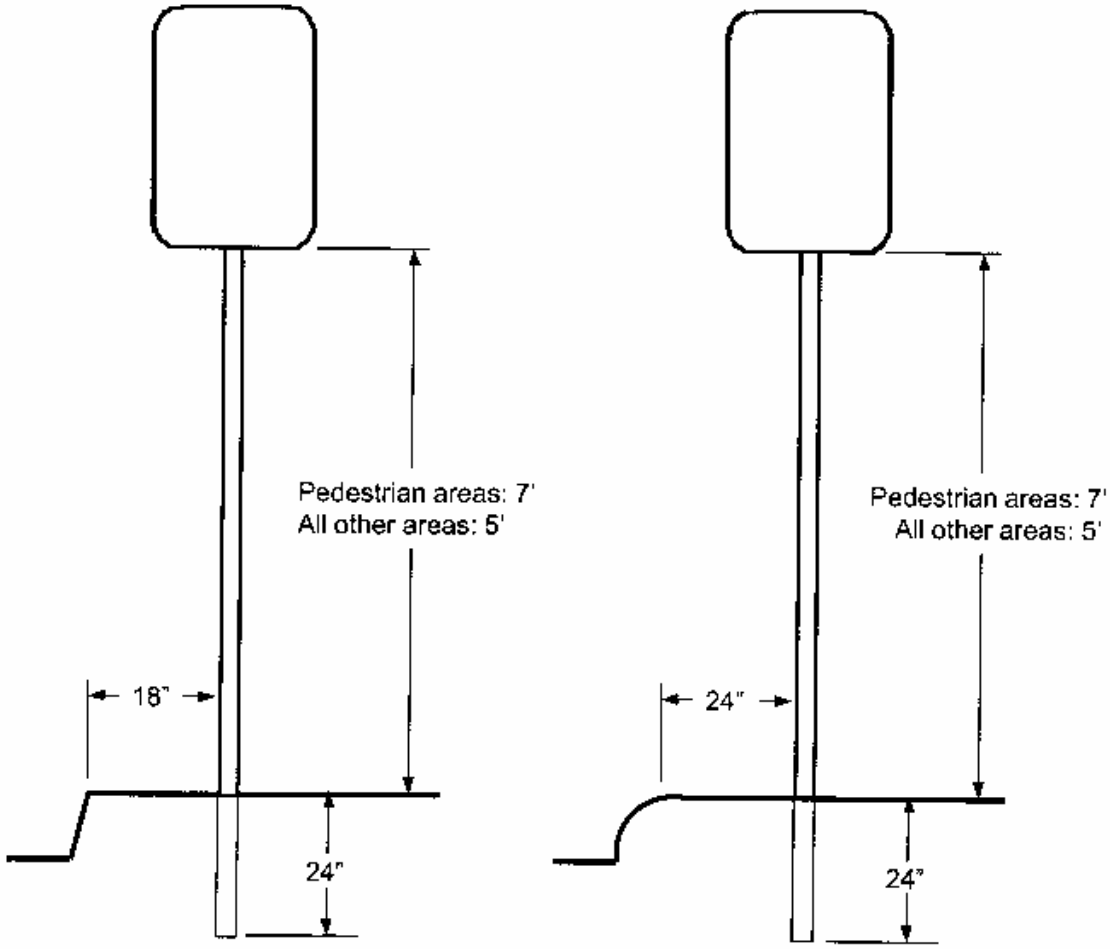
ATTACHMENT 6

Mounting Specifications for Fire Lane Entrance and No Parking Signs



STANDARD CURB **ROLLED CURB**

Signs shall be mounted facing the direction of vehicular travel.

Signs may be mounted on existing posts or buildings where the centerline of the sign is no more than 24" from the edge of the roadway.

Depth of bury shall be a minimum of 24".

ATTACHMENT 7

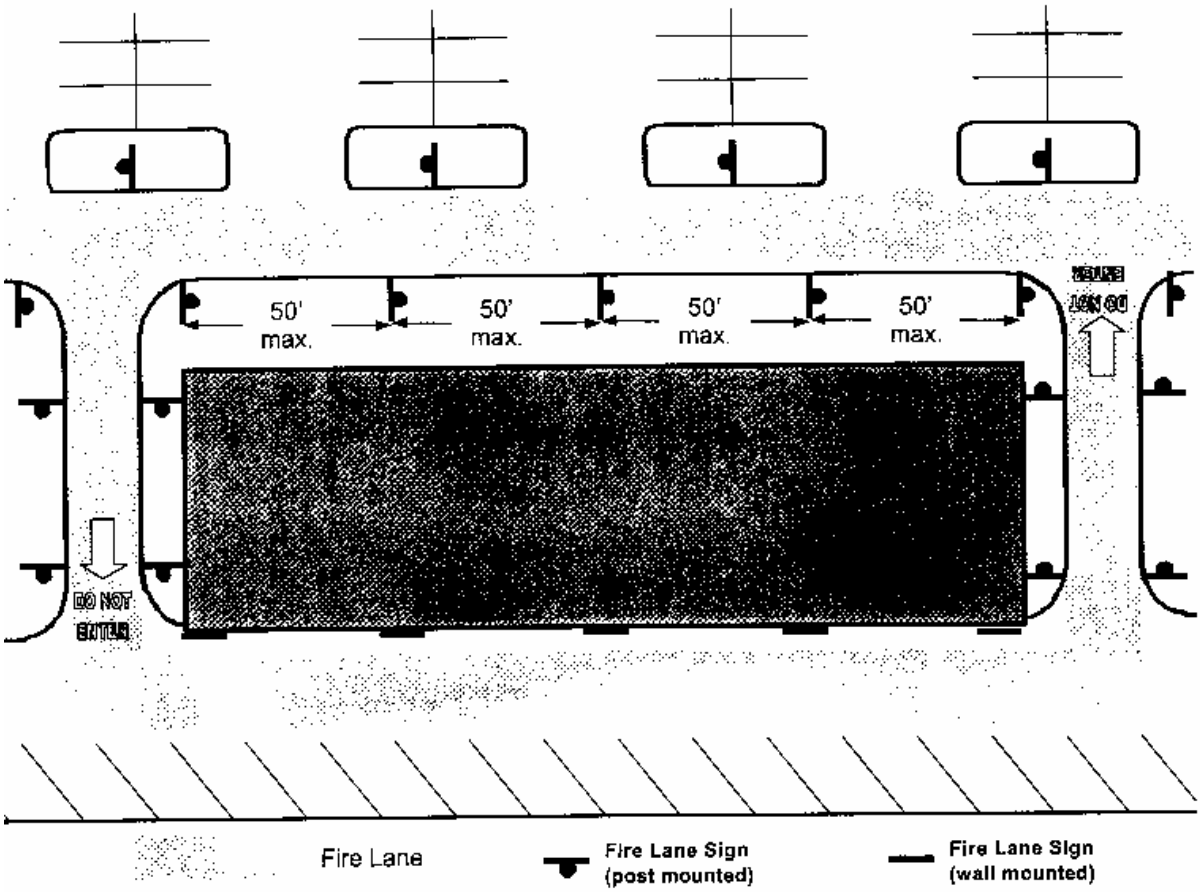
Specifications for Fire Lane No Parking Signs

All sign and lettering dimensions shown are minimums.

Signs shall be securely mounted facing the direction of travel and clearly visible to oncoming traffic entering the designated area. Signs shall be made of durable material and installed per Attachment 10.

ATTACHMENT 8

Fire Lane No Parking Sign Locations

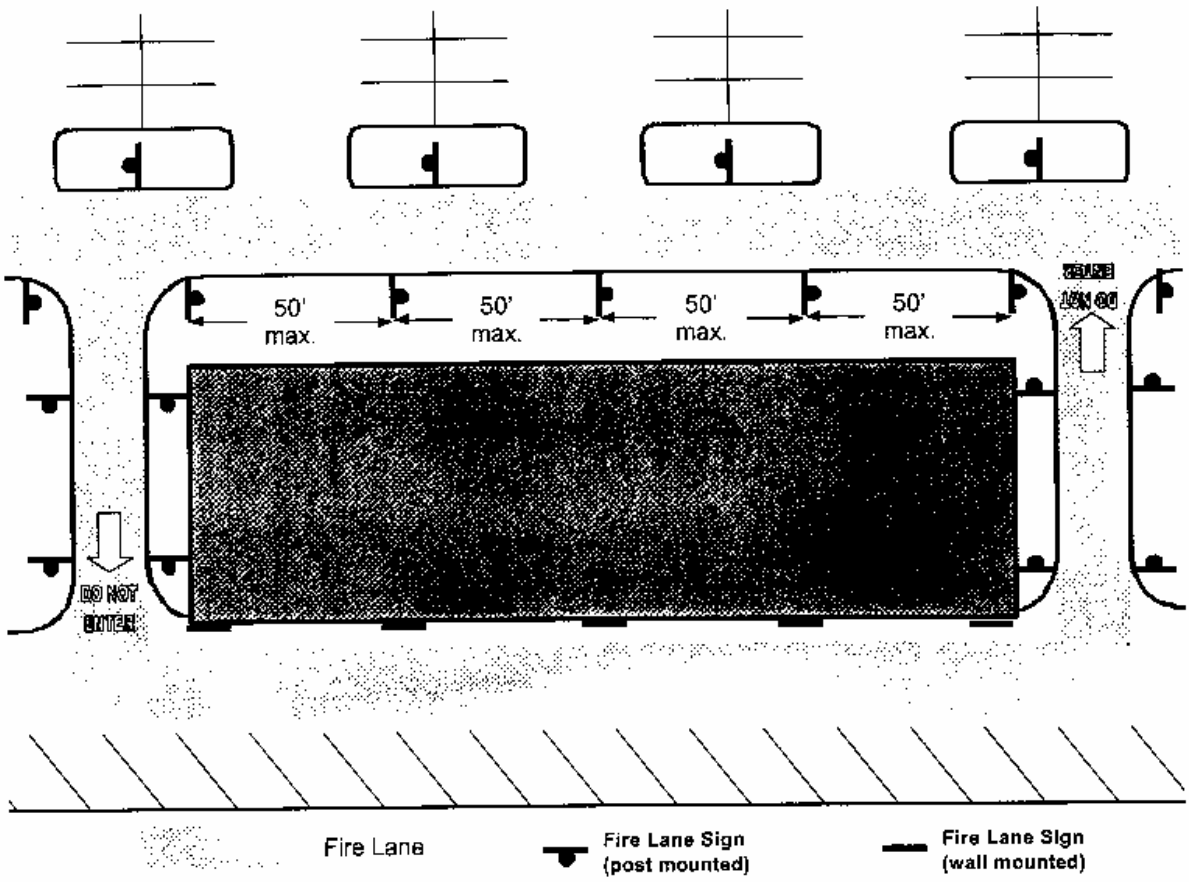


Signs are required within 3' of the end of each designated fire lane and spaced a maximum of 50' along the entire designated lane. One sign is required for each island adjacent to the fire lane.

Signs shall be securely mounted facing the direction of travel and clearly visible to oncoming traffic entering the designated area. Signs shall be made of durable material and installed per Attachment 10. Where sign posts are not practical, signs may be mounted on a wall or fence.

ATTACHMENT 8

Fire Lane No Parking Sign Locations

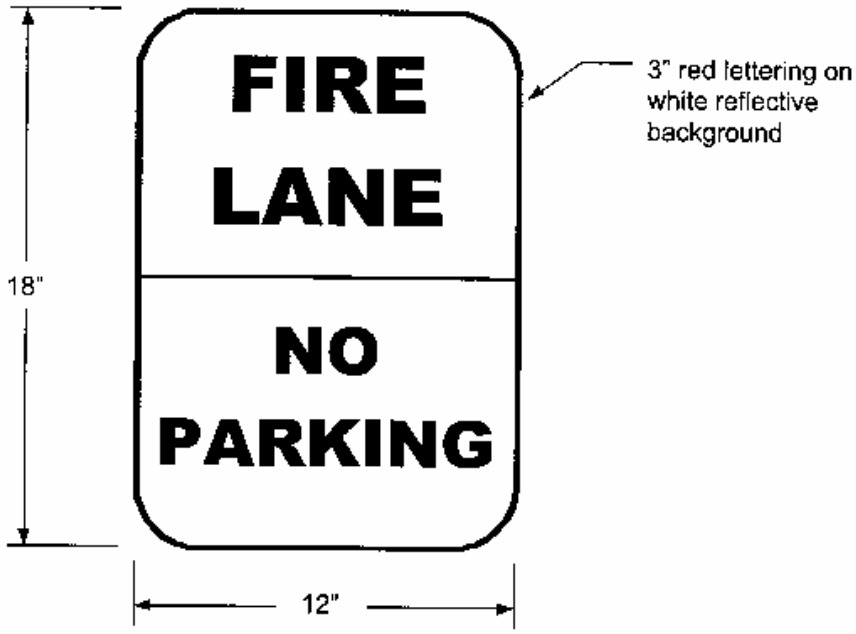


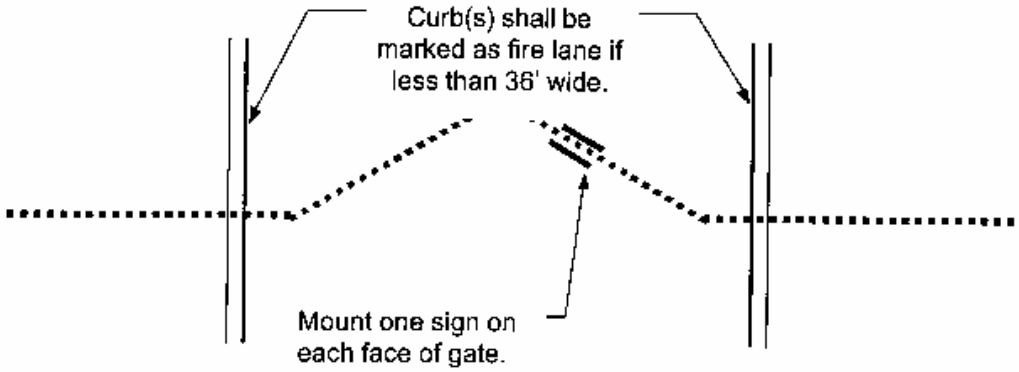
Signs are required within 3' of the end of each designated fire lane and spaced a maximum of 50' along the entire designated lane. One sign is required for each island adjacent to the fire lane.

Signs shall be securely mounted facing the direction of travel and clearly visible to oncoming traffic entering the designated area. Signs shall be made of durable material and installed per Attachment 10. Where sign posts are not practical, signs may be mounted on a wall or fence.

ATTACHMENT 9

Specifications for "Fire Lane - No Parking" Signs for Manually Operated Gates and Barriers





All sign and lettering dimensions shown are minimums.

Signs shall be securely mounted on the front and back face of the gate clearly visible to traffic entering the designated area. Signs shall be made of a durable material.

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ATTACHMENT 10

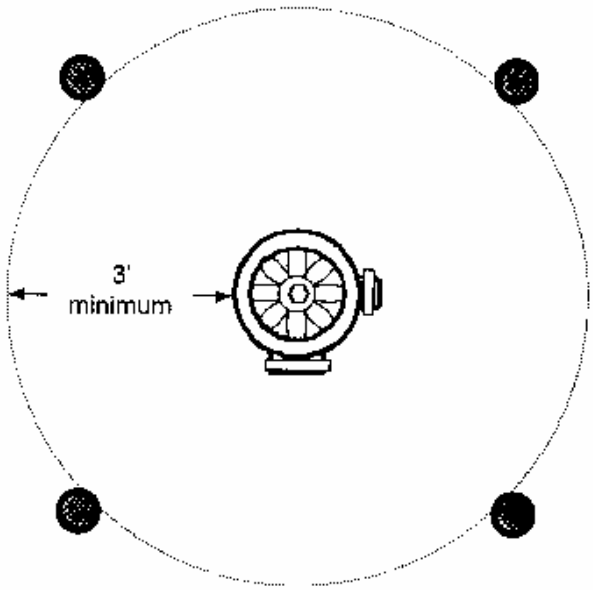
CFC TABLE A-III-AA-I:
Minimum Required Fire Flow and Flow Duration for School Buildings

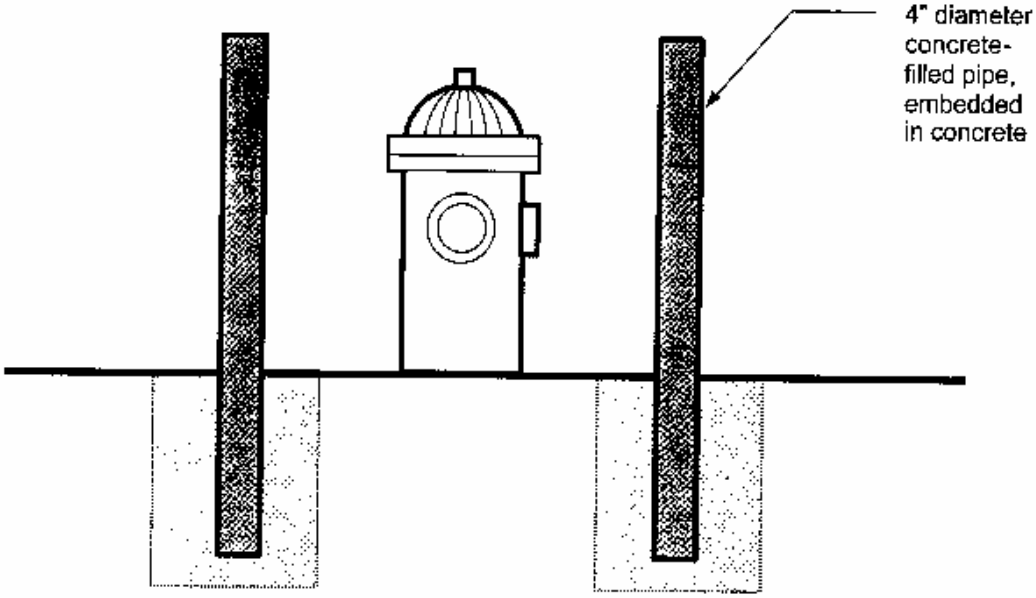
FIRE AREA (square feet)					FIRE FLOW (gallons/min) [2]		Flow Duration
Type I-FR, II-FR [1]	Type II-1hr, III-1hr [1]	Type IV, V-1hr [1]	Type II-N, III-N [1]	Type V-N [1]	unsprinklered	*sprinklered*	
0-22700	0-12700	0-8200	0-5900	0-3600	1500	*1500*	2
22701-30200	12701-17000	8201-10900	5901-7900	3601-4800	1750	*1500*	
30201-38700	17001-21800	10901-12900	7901-9800	4801-6200	2000	*1500*	
38701-48300	21801-24200	12901-17400	9801-12600	6201-7700	2250	*1500*	
48301-59000	24201-33200	17401-21300	12601-15400	7701-9400	2500	*1500*	
59001-70900	33201-39700	21301-25500	15401-18400	9401-11300	2750	*1500*	
70901-83700	39701-47100	25501-30100	18401-21800	11301-13400	3000	*1500*	3
83701-97700	47101-54900	30101-35200	21801-25900	13401-15600	3250	*1500*	
97701-112700	54901-63400	35201-40600	25901-29300	15601-18000	3500	*1500*	
112701-128700	63401-72400	40601-46400	29301-33500	18001-20600	3750	*1500*	
128701-145900	72401-82100	46401-52600	33501-37900	20601-23300	4000	*1500*	4
145901-164200	82101-92400	52501-59100	37901-42700	23301-26300	4250	*1500*	
164201-183400	92401-103100	59101-66000	42701-47700	26301-29300	4500	*1500*	
183401-203700	103101-114600	66001-73300	47701-53000	29301-32600	4750	*1500*	
203701-225200	114601-126700	73301-81100	53001-58600	32601-36000	5000	*1500*	
225201-247700	126701-139400	81101-89200	58601-65400	36001-39600	5250	*1500*	
247701-271200	139401-152600	89201-97700	65401-70600	39601-43400	5500	*1500*	
271201-295900	152601-166500	97701-106500	70601-77000	43401-47400	5750	*1500*	
295901+	166501+	106501-115800	77001-83700	47401-51500	6000	*1500*	
		115801-125500	83701-90600	51501-55700	6250	*1563*	
		125501-135500	90601-97900	55701-60200	6500	*1625*	
		135501-145800	97901-106800	60201-64800	6750	*1688*	
		145801-156700	106801-113200	64801-69600	7000	*1750*	
		156701-167900	113201-121300	69601-74600	7250	*1813*	
		167901-179400	121301-129600	74601-79800	7500	*1875*	
		179401-191400	129601-138300	79801-85100	7750	*1938*	
		191401+	138301+	85101+	8000	*2000*	

[1] Types of Construction are based upon the CBC (actual base construction type without CBC 508 sprinkler substitution equivalency)
[2] Measured at 20 psi.

ATTACHMENT 12

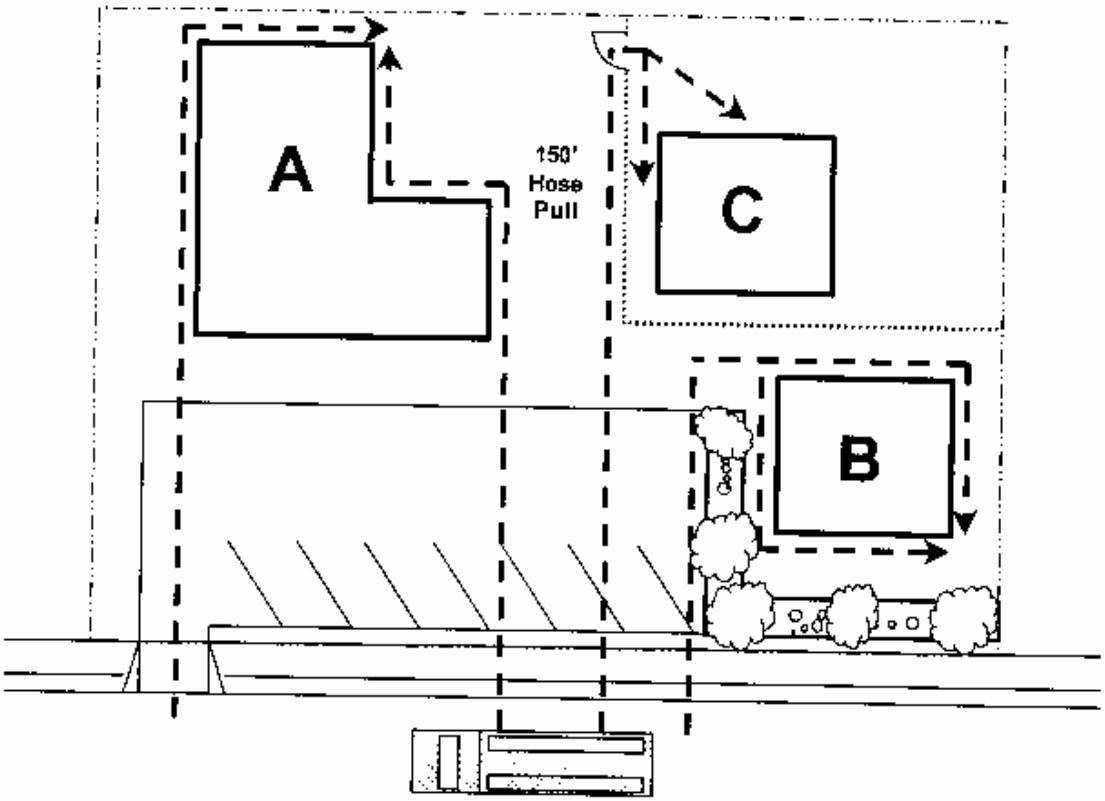
Protection of Hydrants





ATTACHMENT 13

Hose Pull



Assume that the parking lot is not accessible to fire apparatus due to turning radii and fire lane widths less than the required minimums.

- All portions of building "A" are within 150' feet of the public road as measured along the path of firefighter travel.
- Building "B" is also in access despite the obstruction presented by the planter and hedges.
- Building "C" is out of access; the presence of a chainlink fence forces firefighters to backtrack once they pass through the gate, increasing their travel distance beyond 150'. On-site fire access roadways or a change in the location of the gate and would be necessary to provide access to Building "C".

City of Laguna Hills

The City of Laguna Hills provided their draft master environmental impact report dated March 31, 1994 containing the following profile of wildland and urban fires within their jurisdiction.

Wildland Fires

Local variations in topography and the abundance of native plant material such as chaparral and ruderal vegetation found in canyons and along hillsides make the area highly susceptible to wildland fire hazards. The many scenic canyons and hillsides that wind through developments within the southern portion of the General Plan study area can also create potential access problems for fire suppression efforts.

The City of Laguna Hills' General Plan study area also provides a unique mix of natural hillsides and canyons combined with urban development. Although such a combination creates a pleasant setting for a community, it has the potential to create unique fire hazards. Homes located in narrow canyons or saddles, for example, can be especially fire prone because of the existence of "natural chimneys" in these areas where winds are funneled into the canyons and eddies. Studies have also shown that homes located where a canyon meets a ridge are more likely to burn than other ridge top homes. Variations of these conditions exist in the southern half of the General Plan study area. Representatives of the Orange County Fire Department, however, have indicated that past incidences of urban structures being threatened by natural areas have been few. Still, the City and applicable Homeowner Associations, and homeowners who own property or live in such areas should take extra precautions due to the threat of fire.

Urban Fires

The most common type of urban structural fire occurs in single family dwellings. These fires are primarily caused by unsafe practices, such as falling asleep while smoking, kitchen fires from the ignition of cooking oil, or children playing with matches or fireworks.

County Fire Department Responses in Laguna Hills

Year-to-Date as of October 31, 1992

Population	24,514	
Total Calls per 1,000 Capita	41.93	
Categories	**#**	**%**
Fire Explosions	61	5.9
Over-Pressure Rupture	2	0.2
Rescue EMS	574	56
Hazardous Conditions Stand By	44	4.3
Service Call	63	6.0
Good Intent Call	216	21.0
False Call	65	6.3
Natural Disaster	1	0.1
Other	2	0.2
Total	**1028**	**100**

City of Lake Forest

The City of Lake Forest provided the safety element of their general plan dated June 21.1994 of which the following describes the fire hazard within their jurisdiction.

The Planning Area is subject to both wild and urban fires. The eastern portion of the Planning Area is contiguous with the Cleveland National Forest. The regional natural vegetation is highly prone to wide fire. A fire in the natural forest could spread to developed areas illustrated in the map shown on the following page depicting the high fire hazard area. The urbanized portion of the Planning Area is also subject to structural fires.

The City of Lake Forest will reduce the potential for dangerous fires by coordinating with the Orange County Fire Department (OCFD) to implement fire hazard education, fire protection and fuel modification programs. The current Uniform Fire Code will be used to reduce structural fire hazards. In addition, the City of Lake Forest will work closely with the local water districts and the OCFD to ensure that water pressure is adequate for fire fighting purposes.

Emergency Plan Part One Basic Plan

Enclosure 6 Threat Summary Wildland Fire/Conflagration

This threat summary addresses the threat of a major fire, which threatens large numbers of people, may pose a significant impact on the environment, or where loss of property may require a multi-agency response. Major fires include, but are not limited to forest fires, structural fires, or explosions.

Wildland fires have occurred within Orange County, particularly in the fall of the year, ranging from small, localized fires to disastrous fires covering thousands of acres. The most severe fire protection problem in the unincorporated areas is wildland fire during Santa Ana wind conditions.

Reasons for control difficultly associated with wildland fires are:

Adverse weather conditions
Large quantities of combustible fuel
Inaccessible terrain
Nonexistent or very limited water supply
Large fire frontage requiring disbursement of fire forces

The Orange County Fire Authority will actively enforce codes and ordinances to ensure a reasonable degree of fire safety exists in facilities and occupancies to minimize the threat to life and property. This activity is ongoing and conducted daily. Comprehensive pre-emergency planning, fire protection engineering, and training programs are currently in place and are designed to ensure the Department's ability to meet future service demands.

There are a number of natural conditions, which might increase the possibility of wildland fires. Three such conditions are weather elements, the topography of the area, and the type and condition of wildland vegetation.

The major objective of wildland fire defense planning is to prevent wildland fires from starting and, if unsuccessful, to minimize the damage to natural resources and structures. Some of the more successful programs currently in effect which contribute to the success of wildland fire prevention activities are:

Closure of public access to land in hazardous fire areas
Uniform Building Code prohibition to combustible roof covering materials
Construction and maintenance of community and private fuel modification zones
Vegetative Management Program
Fire Prevention Education Programs

In an effort to alleviate fire dangers near urban development interface, the construction of a fuel modification zone (firebreak, fuel break, or greenbelt) has been required. The continued application of this method does have drawbacks and therefore is not the only acceptable solution. In addition to the associated impacts created by some fuel break installations, there are usual impacts on wildlife, unique vegetation and in some cases to the watershed cover as deep-rooted chaparral species are replaced by shallow rooted grasses. Fuel breaks are costly to install, require expensive maintenance to ensure their success during a wildfire, and offer protection primarily to these structures with direct exposure to the wildland. This inequity in protection versus installation/maintenance costs represents a very important point with respect to the natural resource /urban development interface conflict. Fire prevention measures to reduce the level of risk to the structures with wildland exposure must be developed within the design of the residential development, rather than in the natural resource.

SOURCE: Cotton/Beland/Associates, Inc., 1994

Figure SN-3
Area of Fire Hazard

City of Mission Viejo

The City of Mission Viejo provided the public safety element of their general plan dated January 20, 2003 containing a description of the fire hazard within its boundaries.

The City of Mission Viejo's urban fringe and rural residential areas are prone to wildland fire hazards. These areas are subject to both wild and urban fires due to the proximity to Cleveland National Forest. The region's natural vegetation is highly prone to wild fire, with the potential that a fire in the national forest could spread to developed areas of the City. The urbanized areas of the City are also subject to structural fires. The City will reduce the potential for dangerous fires by coordinating with the Orange County Fire Authority (OCFA) to implement fire hazard education, fire protection, and fuel modification programs. The current Uniform Fire Code and the City's adopted Very High Fire Hazard Severity Zone Ordinance (Ordinance No. 95151) will be used to reduce structure fire hazards. In addition, the City will work closely with local water districts and OCFA to ensure that water pressure is adequate for fire fighting purposes. For these reasons, the following goal and policies are established:

GOAL 6: Protect the City's inhabitants from risk associated with fires.

Policy 6.1: Continue to work closely with OCFA on educating residents and businesses regarding wildland fire hazards.

Policy 6.2: Implement and enforce established regulations for fire-resistant building materials for areas subject to wildland fire hazards.

Policy 6.3: Continue to implement programs to provide notice to all residents located near wildland fire hazard areas.

Policy 6.4: Maintain mutual aid agreements with the County of Orange and surrounding cities for fire protection.

Policy 6.5: Work closely with the Orange County Fire Authority to establish and maintain a wildfire defense planning and weed abatement programs to reduce the danger of vegetation fires in or adjacent to the City.

Policy 6.6: Work closely with the Orange County Fire Authority to adopt and enforce the most current edition of the Uniform Fire Codes and the City's Very High Fire Hazard Severity Zone Ordinance.

Policy 6.7: Establish a vegetation management program in brush areas.

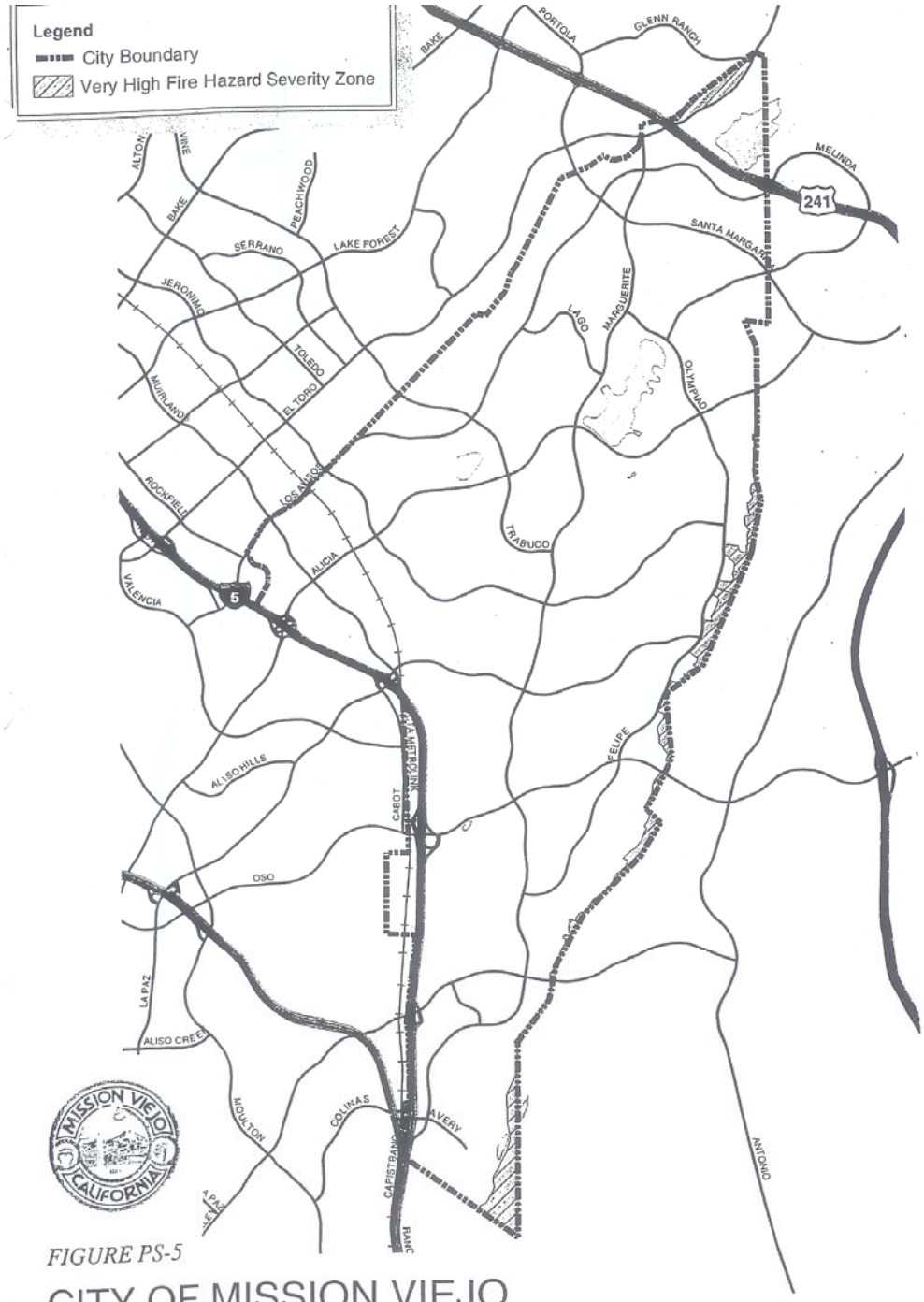


FIGURE PS-5

CITY OF MISSION VIEJO
VERY HIGH FIRE HAZARD MAP

Source: Ordinance No. 95-151

25

City of Rancho Santa Margarita

The City of Rancho Santa Margarita provided the safety element of the general plan dated December 2002 containing a description of the fire hazard within their jurisdiction.

Rancho Santa Margarita is subject to both wild and urban fires. Weather, topography and vegetation type all affect the intensity of fires. Given the large portion of land that remains as open space including rugged topography with highly flammable native vegetation, wildland fires are a significant risk. The map on the following page shows the various levels of potential fire risk in the City of Rancho Santa Margarita. Extreme fire severity zones are located in the northwest, west and northeast areas of the City.

Areas posing a significant risk to the City of Rancho Santa Margarita are subject to the *Public Resources Code, Sections* 4291-4299, which require property owners to conduct maintenance to reduce the fire danger. The Orange County Fire Authority (OCFA) has responsibility for wildfire suppression on all private land in Rancho Santa Margarita. Any proposed development plans are reviewed by the OCFA to determine if fuel modification plans or other preventative measures are required. The Planned Communities that are now incorporated in the

The City of Rancho Santa Margarita included fuel modification requirements in the Feature and Development Plans. The fire flow rates from the Uniform Fire Code are also implemented by the OCF A and reviewed for any new development.

The City of Rancho Santa Margarita will continue to reduce the potential for dangerous fires by coordinating with the OCFA to implement fire hazard education, fire protection and fuel modification programs. The current Uniform Fire Code will be used to reduce structural fire hazards. In addition, the City of Rancho Santa Margarita will work closely with the local water districts and OCF A to ensure that water pressure is adequate for fire fighting purposes.

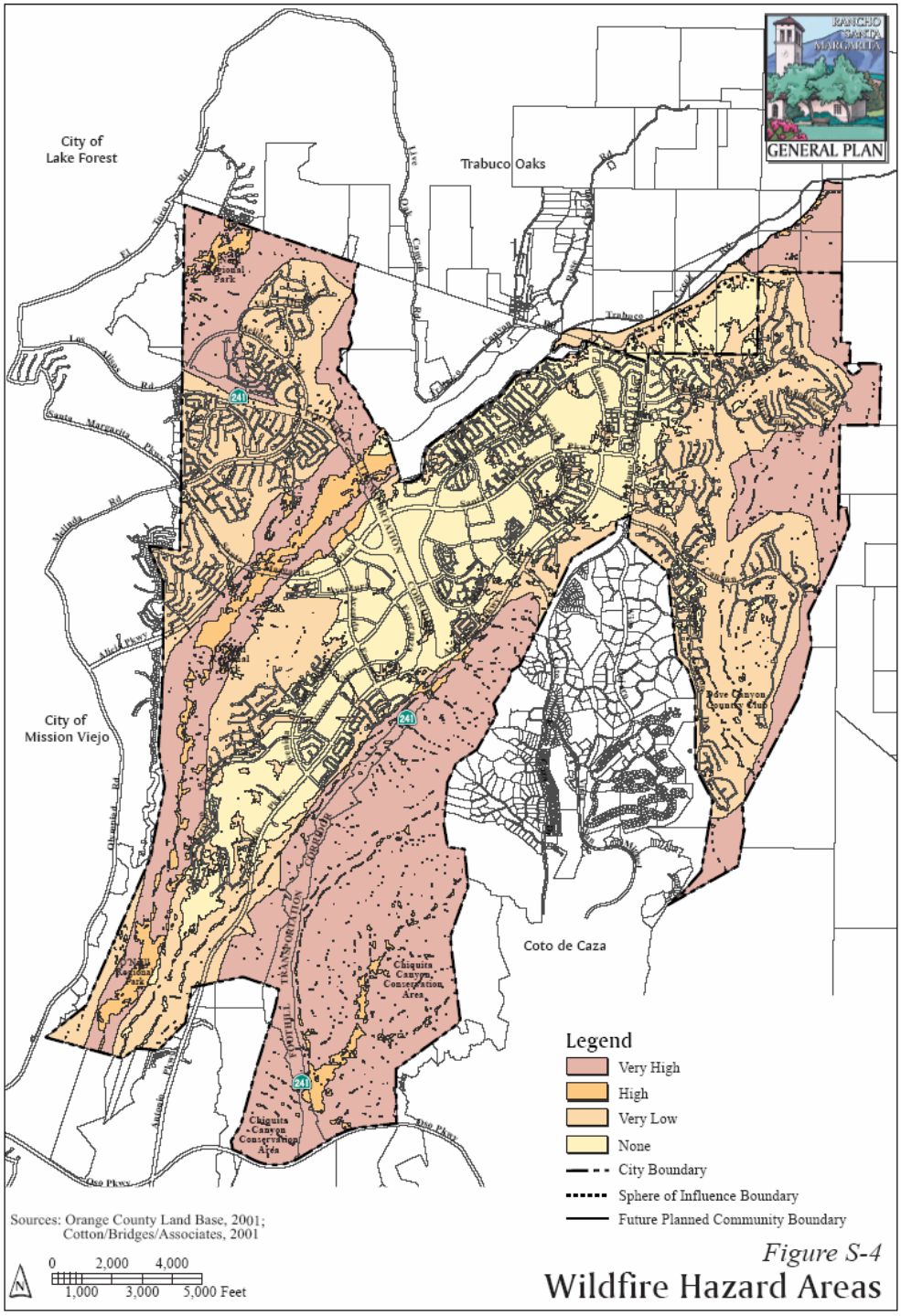


Figure S-4
Wildfire Hazard Areas

County of Orange

The County of Orange provided a draft of their hazard mitigation plan dated July 9, 2004 containing a description of wildland/urban fire hazards within the County. The following provides the County wildland/urban fire profile.

In Orange County a variety of fire protection challenges exist within the County, including structure, urban fires, wildland fires, and fires at the wildland/urban interface. This hazard analysis focuses on wildland fires, but also addresses issues specifically related to the wildland/urban interface and structure issues. The provision of adequate fire protection is directly affected by residential, commercial and industrial growth, all of which are proceeding rapidly in Orange County.

By 1960, manufacturing employed three times as many workers as the agricultural industry. Aerospace and other high-tech industries began moving into the area, bringing with them growing affluence. Between 1950 and 1960, Orange County's median income grew from the 20th highest of California's 58 counties to the third highest, behind only the Bay Area suburbs of Contra Costa and Marin Counties. By the mid-1990s, Orange County's high-tech and information industries were among the most dynamic in the United States. By 1999, Orange County had a population of 2.85 million residents. Between 1990 and 2020, the population of the entire County is expected to increase by more than 500,000 or 21.6 percent, with a corresponding increase in demand for fire protection services (Statistics taken from the Orange County General Plan, 1999).

Wildland/Urban Interface.

In an effort to alleviate fire dangers near urban development interfaces, the construction of a fuel modification zone (firebreak, fuel break, or greenbelt) has been required. The continued application of this method does have drawbacks and therefore is not the only acceptable solution. In addition to the associated impacts created by some fuel break installations, there are impacts on wildlife, unique vegetation and in some cases to the watershed cover as deep-rooted chaparral species are replaced by shallow-rooted grasses. Fuel breaks are costly to install, require expensive maintenance to ensure their success during a wildfire, and offer protection primarily to these structures with direct exposure to the wildland. This inequity in protection versus installation/maintenance costs represents a very important point with respect to the natural resource/urban development interface conflict. Fire prevention measures to reduce the level of risk to the structures with wildland exposure must be developed within the design of the residential development, rather than in the natural resource.

Much of the following, which addresses the threat of fire to urban areas, wildlands and the wildland/urban interface, has been extracted from the information prepared by the Orange County Fire Authority (OCFA) for the Safety Element of the County's General Plan. Some of the most difficult fire protection problems in the urban area are:

- Multiple story, wood frame, high-density apartment developments
- Large contiguous built up areas with combustible roof covering materials
- Transportation of hazardous materials by air, rail, road, water and pipeline
- Natural disasters

Other factors contributing to major fire losses are:

- Delayed detection of emergencies,

• Delayed notification to the fire agency,
• Response time of emergency equipment,
• Street structure – private, curvilinear and dead-end,
• Inadequate and unreliable water supply with poor hydrant distribution,
• Inadequate code enforcement and code revisions, which lag behind fire prevention knowledge.

Fire prevention is the major fire department activity in urban areas; the objective is to prevent fires from starting. Once a fire starts, the objective is to minimize the damage to life and property. Urban fire prevention programs that are designed to achieve this fire prevention objective are:

• Adoption and aggressive enforcement of the most recent Uniform Fire Code,
• Development of a comprehensive master plan to ensure that staffing and facilities keep pace with growth,
• Enforcement of Hazardous Materials Disclosure Ordinance,
• Active participation in Planning Committees and other planning activities.

The character of the existing built-up area and future land use determines the location of fire stations, the number of companies, staffing of such companies, and future fire protection facility needs. Structural conditions also influence the quantity of water needed for fire protection (fire flow) and hydrant distribution. Features of structural conditions that affect fire control are:

• Type of construction and use of buildings,
• Area of building (ground floor area),
• Number of stories,
• Type of roof covering material,
• Exposures to the building.

Wildland Fires

California experiences large, destructive wildland fires almost every year and Orange County is no exception.

Wildland fires have occurred within the county, particularly in the fall of the year, ranging from small, localized fires to disastrous fires covering thousands of acres. The most severe fire protection problem in the unincorporated areas is wildland fire during Santa Ana wind conditions. Figure 11 shows fuel hazard ranking for 2000 for the County.

Reasons for control difficulty associated with wildland fires are:

Adverse weather conditions

Large quantities of combustible fuel

Inaccessible terrain

Nonexistent or very limited water supply

Large fire frontage requiring dispersal of fire forces

For these reasons, it is usually necessary for the fire force to meet the advancing fire front in an accessible area containing a minimum amount of vegetation for fuel, and preferably located close to a water source.

The major objective of wildland fire defense planning is to prevent wildland fires from starting and, if unsuccessful, to minimize the damage to natural resources and structures. Some of the more successful programs currently in effect which contribute to the success of wildland fire prevention activities are:

Closure of public access to land in hazardous fire areas

Uniform Building Code prohibition of combustible roof covering materials

Construction and maintenance of community and private fuel modification zones

Vegetative Management Program (controlled burning)

Weed Abatement Program

Fire Prevention Education Programs

There are a number of natural conditions, which might increase the possibility of wildland fires. Three such conditions are weather elements, the topography of the area, and the type and condition of wildland vegetation.

Weather

Weather conditions have many complex and important effects on fire intensity and behavior. Wind is of prime importance; as wind increases in velocity, the rate of fire spread also increases. Relative humidity (i.e., relative dryness of the air) also has a direct effect; the drier the air, the drier the vegetation and the more likely the vegetation will ignite and burn. Precipitation (annual total, seasonal distribution and storm intensity) further affects the moisture content of dead and living vegetation, which influences fire ignition and behavior.

Many wildland fires have been associated with adverse weather conditions. In the 1982 Gypsum Canyon Fire, 17 homes were lost and 18,000 acres burned, leaving an estimated $16 million in damage. The Santa Ana winds during the time of the fire were approximately 50-55 mph, making the fire difficult to contain. In 1993, aided by extreme fire weather conditions, devastating firestorms swept the County during the period of October 24 through November 4. During this period, a total of 20 major fires in six Southern California counties burned out of control. Three fires burned in Orange County during this time; the Stagecoach, Laguna Beach, and Ortega fires. The Stagecoach fire burned 750 acres and destroyed 9 buildings. The Ortega fire burned 21,384 acres and destroyed 19 buildings. The Laguna Beach fire burned 14,337 acres, destroyed 441 homes and caused approximately $528 million in damage. In 1997, the Baker Canyon fire by Irvine Lake burned 6,317 acres of vegetation, followed by two additional fires in 1998: the Blackstar/Santiago Canyons fire destroyed 8,800 acres, and the Carbon Canyon fire burned 733 acres of brush.

In addition to winds, structural development within or adjacent to wildland exposures represents an extreme fire protection problem due to flying embers and the predominance of combustible roof coverings.

Topography

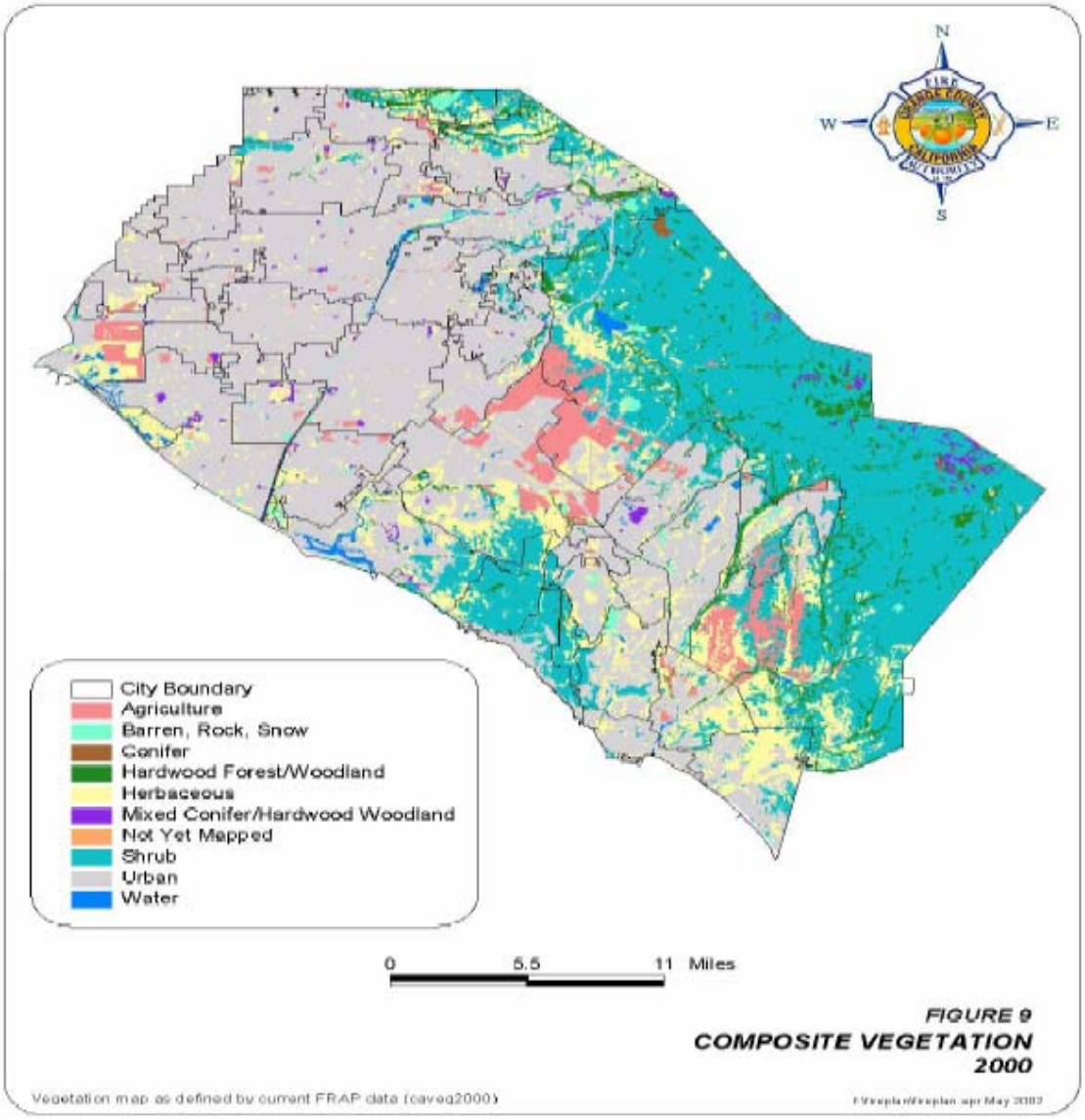
Topography has considerable effect on wildland fire behavior and on the ability of firefighters and their equipment to take action to suppress those fires. Simply because of topography, a fire starting in the bottom of a canyon may expand quickly to the ridge top before initial attack forces can arrive. Rough topography greatly limits road construction, road standards, and accessibility by ground equipment. Steep topography also channels airflow, creating extremely erratic winds on lee slopes and in canyons. Water supply for fire protection to structures at higher elevations is frequently dependent on pumping units. The source of power for such units is usually from overhead distribution lines, which are subject to destruction by wildland fires.

Vegetation

A key to effective fire control and the successful accommodation of fire in wildland management is the understanding of fire and its environment. Fire environment is the complex of fuel, topographic, and air mass factors that influence the inception, growth, and behavior of a fire. The topography and weather components are, for all practical purposes, beyond man's control, but it is a different story with fuels, which can be controlled before the outbreak of fires. In terms of future urban expansion, finding new ways to control and understand these fuels can lead to possible fire reduction.

A relatively large portion of the county is covered by natural (though modified) vegetation as indicated on the Composite Vegetation Map, Figure ##, provided by the Orange County Fire Authority. Of these different vegetation types, coastal sage scrub, chaparral, and grasslands reach some degree of flammability during the dry summer months and, under certain conditions, during the winter months. For example, as chaparral gets older, twigs and branches within the plants die and are held in place. A stand of brush 10- to 20-years of age usually has enough dead material to produce rates of spread about the same as in grass fires when the fuels have dried out.

In severe drought years, additional plant material may die, contributing to the fuel load. There will normally be enough dead fuel accumulated in 20- to 30-year old brush to give rates of spread about twice as fast as in a grass fire. Under moderate weather conditions that produce a spread rate of one-half foot per second in grass, a 20- to 30-year old stand of chaparral may have a rate of fire spread of about one foot per second. Fire spread in old brush (40 years or older) has been measured at eight times as fast as in grass, about four feet per second. Under extreme weather conditions, the fastest fire spread in grass is 12 feet per second or about eight miles per hour. Fuel Hazard Ranking for 2000 is shown on Figure ## provided by OCFA.



Orange County Fire Authority (OCFA)

The OCFA currently serves a population of more than 1.2 million people (2002 population), within an area of approximately 553 square miles. The OCFA service area includes the cities of Aliso Viejo, Buena Park, Cypress, Dana Point, Irvine, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, La Palma, Los Alamitos, Mission Viejo, Placentia, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Seal Beach, Stanton, Tustin, Villa Park, Westminster, Yorba Linda, and the unincorporated areas of Orange County.

In 2001, OCFA responded to more than 73,000 incidents, not including mutual aid calls outside the OCFA jurisdiction. The OCFA is actively involved in enforcing codes and ordinances to ensure that a reasonable degree of fire safety exists in facilities and occupancies to minimize the threat to life and property. This activity is ongoing and conducted daily.

Comprehensive pre-emergency planning, fire protection engineering, and training programs are currently in place and are designed to ensure the Authority's ability to meet future service demands.

Wildfires as a Threat to Southern California

For thousands of years, fires have been a natural part of the ecosystem in Southern California. However, wildfires present a substantial hazard to life and property in communities built within or adjacent to hillsides and mountainous areas. There is a huge potential for losses due to wildland/urban interface fires in Southern California. According to the California Division of Forestry (CDF), there were over seven thousand reportable fires in California in 2003, with over one million acres burned. According to CDF statistics, in the October, 2003 Firestorms, over 4,800 homes were destroyed and 22 lives were lost.

The 2003 Southern California Fires

The fall of 2003 marked the most destructive wildfire season in California history. In a ten-day period, 12 separate fires raged across Southern California in Los Angeles, Riverside, San Bernardino, San Diego, and Ventura counties. The massive “Cedar” fire in San Diego County alone consumed 2,800 homes and burned over a quarter of a million acres.

Historic Fires in Southern California

Large fires have been part of the Southern California landscape for millennia. Written documents reveal that during the 19th century human settlement of southern California altered the fire regime of coastal California by increasing the fire frequency. This was an era of very limited fire suppression, and yet like today, large crown fires covering tens of thousands of acres were not uncommon.

One of the largest fires in Los Angeles County (60,000 acres) occurred in 1878, and the largest fire in Orange County’s history, in 1889, was over half a million acres.

During the 2002 fire season, more than 6.9 million acres of public and private lands burned in the US, resulting in loss of property, damage to resources and disruption of community services. Taxpayers spent more than $1.6 billion to combat more than 88,400 fires nationwide. Many of these fires burned in wildland/urban interface areas and exceeded the fire suppression capabilities of those areas.

20 Largest California Wildland Fires (By Structures Destroyed)

	FIRE NAME/*CAUSE*	DATE	COUNTY	ACRES	*STRUCTURES*	DEATHS
1	TUNNEL *(REKINDLE)*	October 1991	ALAMEDA	1,600	2,900	25
*2	CEDAR *(HUMAN)*	October 2003	SAN DIEGO	273,246	2,820	15
*3	OLD *(HUMAN)*	October 2003	SAN BERNARDINO	91,281	1,003	6
4	JONES *(UNDETERMINED)*	October 1999	SHASTA	26,200	954	1
5	PAINT *(ARSON)*	June 1990	SANTA BARBARA	4,900	641	1
6	FOUNTAIN *(ARSON)*	August 1992	SHASTA	63,960	636	0
7	CITY OF BERKELEY *(POWERLINES)*	September 1923	ALAMEDA	130	584	0
8	BEL AIR *(UNDETERMINED)*	November 1961	LOS ANGELES	6,090	484	0
9	LAGUNA FIRE *(ARSON)*	October 1993	ORANGE	14,437	441	0
*10	PARADISE *(HUMAN)*	October 2003	SAN DIEGO	56,700	415	2
11	LAGUNA *(POWERLINES)*	September 1970	SAN DIEGO	175,425	382	5
12	PANORAMA *(ARSON)*	November 1980	SAN BERNARDINO	23,600	325	4
13	TOPANGA *(ARSON)*	November 1993	LOS ANGELES	18,000	323	3
14	49ER *(BURNING DEBRIS)*	September 1988	NEVADA	33,700	312	0
*15	SIMI *(UNDER INVESTIGATION)*	October 2003	VENTURA	108,204	300	0
16	SYCAMORE *(MISC. - KITE)*	July 1977	SANTA BARBARA	805	234	0
17	CANYON *(VEHICLE)*	September 1999	SHASTA	2,580	230	0
18	KANNAN *(ARSON)*	October 1978	LOS ANGELES	25,385	224	0
19	KINNELOA *(CAMPFIRE)*	October 1993	LOS ANGELES	5,485	196	1
*19	GRAND PRIX *(HUMAN)*	October 2003	SAN BERNARDINO	69,894	136	0
20	OLD GULCH *(EQUIP. USE)*	August 1992	CALAVERAS	17,386	170	0

Note that this list does not include fire jurisdiction. These are the Top 20 within California, regardless of whether they were state, federal, or local responsibility. Also note that "structures" is meant to include all loss - homes and outbuildings, etc.

4/22/2004

(2003 fire statistics subject to change as final figures are tabulated.)

Wildfire Characteristics

There are three categories of interface fire: The classic wildland/urban interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas; the mixed wildland/urban interface is characterized by isolated homes, subdivisions and small communities situated predominantly in wildland settings; and the occluded wildland/urban interface exists where islands of wildland vegetation occur inside a largely urbanized area. Certain conditions must be present for significant interface fires to occur. The most common conditions include: hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel topography, weather, drought and development.

Southern California has two distinct areas of risk for wildland fire. The foothills and lower mountain areas are most often covered with scrub brush or chaparral. The higher elevations of mountains also have heavily forested terrain. The lower elevations covered with chaparral create one type of exposure.

The higher elevations of Southern California's mountains are typically heavily forested.

The magnitude of the 2003 fires is the result of three primary factors: (1) severe drought, accompanied by a series of storms that produce thousands of lightning strikes and windy conditions; (2) an infestation of bark beetles that has killed thousands of mature trees; and

(3) the effects of wildfire suppression over the past century that has led to buildup of brush and small diameter trees in the forests.

When Lewis and Clark explored the Northwest, the forests were relatively open, with 20 to 25 mature trees per acre. Periodically, lightning would start fires that would clear out underbrush and small trees, renewing the forests.

Today's forests are completely different, with as many as 400 trees crowded onto each acre, along with thick undergrowth. This density of growth makes forests susceptible to disease, drought and severe wildfires. Instead of restoring forests, these wildfires destroy them and it can take decades to recover. This radical change in our forests is the result of nearly a century of well-intentioned but misguided management."

The Interface

One challenge Southern California faces regarding the wildfire hazard is from the increasing number of houses being built on the wildland/urban interface. Every year the growing population has expanded further and further into the hills and mountains, including forest lands. The increased "interface" between urban/suburban areas and the open spaces created by this expansion has produced a significant increase in threats to life and property from fires and has pushed existing fire protection systems beyond original or current design and capability. Property owners in the interface are not aware of the problems and threats they face. Therefore, many owners have done very little to manage or offset fire hazards or risks on their own property. Furthermore, human activities increase the incidence of fire ignition and potential damage.

Fuel

Fuel is the material that feeds a fire and is a key factor in wildfire behavior. Fuel is classified by volume and by type. Volume is described in terms of "fuel loading," or the amount of available vegetative fuel. The type of fuel also influences wildfire. Chaparral is a primary fuel of Southern California wildfires. Chaparral habitat ranges in elevation from near sea level to over 5,000' in Southern California. Chaparral communities experience long dry summers and receive most of their annual precipitation from Winter

rains. Although chaparral is often considered as a single species, there are two distinct types; hard chaparral and soft chaparral. Within these two types are dozens of different plants, each with its own particular characteristics.

Fire has been important in the life cycle of chaparral communities for over 2 million years; however, the true nature of the "fire cycle" has been subject to interpretation. In a period of 750 years, it generally thought that fire occurs once every 65 years in coastal drainages and once every 30 to 35 years inland. "The vegetation of chaparral communities has evolved to a point it requires fire to spawn regeneration. Many species invite fire through the production of plant materials with large surface-to-volume ratios, volatile oils and through periodic die-back of vegetation. These species have further adapted to possess special reproductive mechanisms following fire. Several species produce vast quantities of seeds, which lie dormant until fire triggers germination The parent plant, which produces these seeds, defends itself from fire by a thick layer of bark, which allows enough of the plant to survive so that the plant can crown sprout following the blaze.

In general, chaparral community plants have adapted to fire through the following methods; a) fire induced flowering; b) bud production and sprouting subsequent to fire; c) in-soil seed storage and fire stimulated germination; and d) on plant seed storage and fire

stimulated dispersal." An important element in understanding the danger of wildfire is the availability of diverse fuels in the landscape, such as natural vegetation, manmade structures and combustible materials.

A house surrounded by brushy growth rather than cleared space allows for greater continuity of fuel and increases the fire's ability to spread. After decades of fire suppression "dog-hair" thickets have accumulated, which enable high intensity fires to flare and spread rapidly.

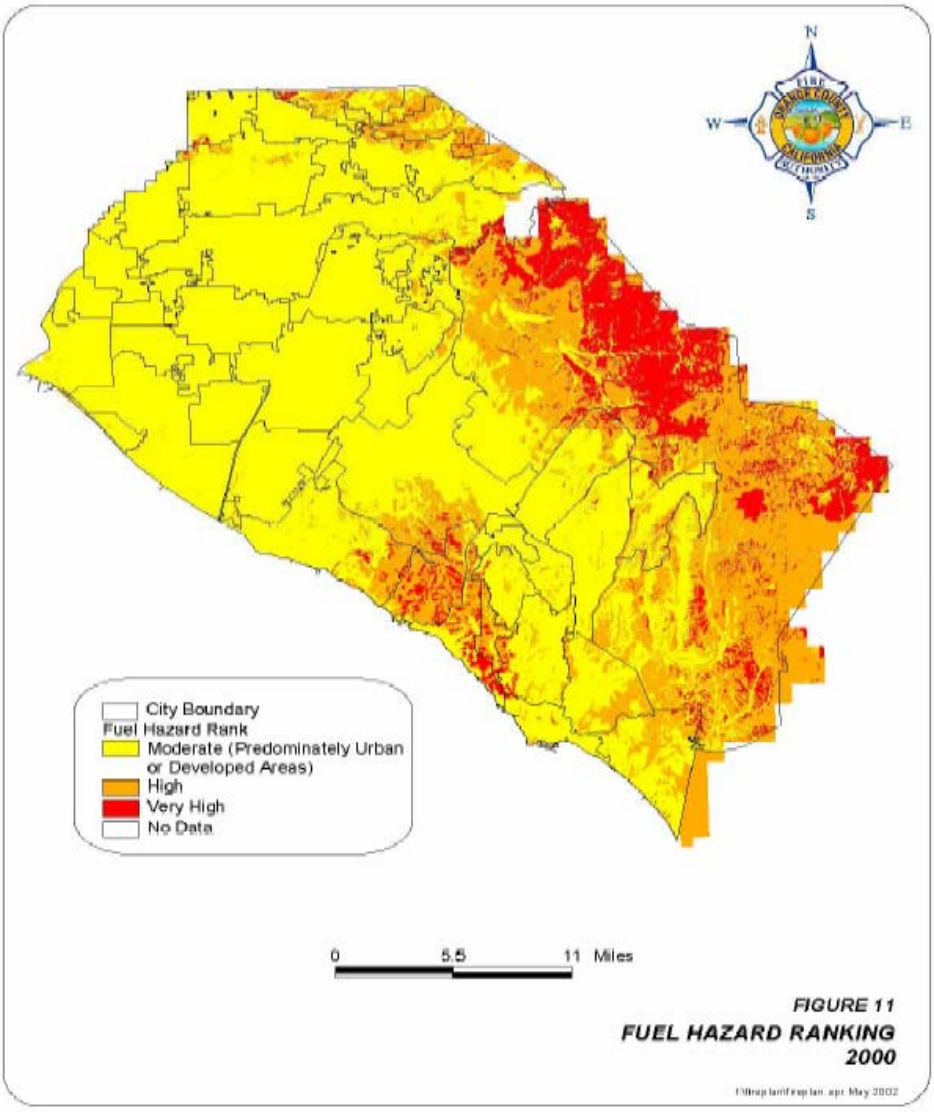


FIGURE 11
FUEL HAZARD RANKING 2000

Topography

Topography influences the movement of air, thereby directing a fire course. For example, if the percentage of uphill slope doubles, the rate of spread in wildfire will likely double. Gulches and canyons can funnel air and act as chimneys, which intensify fire behavior and cause the fire to spread faster. Solar heating of dry, south-facing slopes produces up slope drafts that can complicate fire behavior.

Unfortunately, hillsides with hazardous topographic characteristics are also desirable residential areas in many communities. This underscores the need for wildfire hazard mitigation and increased education and outreach to homeowners living in interface areas.

Weather

Weather patterns combined with certain geographic locations can create a favorable climate for wildfire activity. Areas where annual precipitation is less than 30 inches per year are extremely fire susceptible. High-risk areas in Southern California share a hot, dry season in late summer and early fall when high temperatures and low humidity favor fire activity. The so-called “Santa Ana” winds, which are heated by compression as they flow down to Southern California from Utah, create a particularly high risk, as they can rapidly spread what might otherwise be a small fire.

Drought

Recent concerns about the effects of climate change, particularly drought, are contributing to concerns about wildfire vulnerability. The term drought is applied to a period in which an unusual scarcity of rain causes a serious hydrological imbalance. Unusually dry winters, or significantly less rainfall than normal, can lead to relatively drier conditions and leave reservoirs and water tables lower. Drought leads to problems with irrigation and may contribute to additional fires, or additional difficulties in fighting fires.

Development

Growth and development in scrubland and forested areas is increasing the number of human-made structures in Southern California interface areas. Wildfire has an effect on development, yet development can also influence wildfire. Owners often prefer homes that are private, have scenic views, are nestled in vegetation and use natural materials. A private setting may be far from public roads, or hidden behind a narrow, curving driveway. These conditions, however, make evacuation and fire fighting difficult.

The scenic views found along mountain ridges can also mean areas of dangerous topography. Natural vegetation contributes to scenic beauty, but it may also provide a ready trail of fuel leading a fire directly to the combustible fuels of the home itself.

Wildfire Hazard Assessment

Wildfire Hazard Identification

Wildfire hazard areas are commonly identified in regions of the wildland/urban interface. Ranges of the wildfire hazard are further determined by the ease of fire ignition due to natural or human conditions and the difficulty of fire suppression. The wildfire hazard is also magnified by several factors related to fire suppression/control such as the surrounding fuel load, weather, and topography and property characteristics. Generally,

hazard identification rating systems are based on weighted factors of fuels, weather and topography.

The table below illustrates a rating system to identify wildfire hazard risk (with a score of 3 equaling the most danger and a score of 1 equaling the least danger.)

Sample Hazard Identification Rating System

Category	Indicator	Rating
Roads and Signage	Steep; narrow; poorly signed	3
	One or two of the above	2
	Meets all requirements	1
Water Supply	None, except domestic	3
	Hydrant, tank, or pool over 500 feet away	2
	Hydrant, tank, or pool within 500 feet	1
Location of Structure	Top of steep slope with brush/grass below	3
	Mid-slope with clearance	2
	Level with lawn, or watered groundcover	1
Exterior Construction	Combustible roofing, open eaves, Combustible siding	3
	One or two of the above	2
	Non-combustible roof, boxed eaves, non-combustible siding	1

In order to determine the "base hazard factor" of specific wildfire hazard sites and interface regions, several factors must be taken into account. Categories used to assess the base hazard factor include:

Topographic location, characteristics and fuels;

Site/building construction and design;
Site/region fuel profile (landscaping);
Defensible space;
Accessibility;
Fire protection response; and
Water availability.

The use of Geographic Information System (GIS) technology in recent years has been a great asset to fire hazard assessment, allowing further integration of fuels, weather and topography data for such ends as fire behavior prediction, watershed evaluation, mitigation strategies and hazard mapping.

Vulnerability and Risk

Southern California residents are served by a variety of local fire departments as well as county, state and federal fire resources. Data that includes the location of interface areas in the county can be used to assess the population and total value of property at risk from wildfire and direct these fire agencies in fire prevention and response.

Key factors included in assessing wildfire risk include ignition sources, building materials and design, community design, structural density, slope, vegetative fuel, fire occurrence and weather, as well as occurrences of drought.

The National Wildland/Urban Fire Protection Program has developed the Wildland/Urban Fire Hazard Assessment Methodology tool for communities to assess their risk to wildfire. For more information on wildfire hazard assessment refer to http://www.Firewise.org.

Community Wildfire Issues

Susceptibility to Wildfire

Table 12 Large Fires in Orange County 1914-2002

Year	Fire Name	Acreage	Year	Fire Name	Acreage
1914	Unknown	18,754	1967	Paseo Grande	51.075
1915	Unknown	1,794	1970	Nelson	3,586
1917	Unknown	3,164	1975	Grundy	1,915
1919	Unknown	2,225	1976	Pendelton	2,111
1920	Unknown	2,724	1977	Mine	4,956
1923	Unknown	2,150	1978	Soquel	5,428
1925	Unknown	8,650	1979	Paseo	3,644
1926	Unknown	9,934	1980	Owl	18,332
1927	Unknown	1,837	1980	Carbon Canyon	14,613
1929	Unknown	1,085	1980	Indian	28,938
1937	Unknown	4,916	1982	Gypsum	20,142
1943	Unknown	1,930	1985	Shell	1,635
1943	Unknown	2,727	1986	Bedford 1	2,956
1947	Green River	53,079	1987	Bedford	4,070
1952	Indian Potrero	5,604	1987	Silverado	6,018
1954	Weigand	4,956	1988	Ortega	2,471
1954	Jameson	7,881	1989	Ortega	8,170
1955	Niger	1,606	1989	Assist 108	13,478
1956	Cornwall	3,173	1990	Carbon Canyon	6,664
1958	Unknown	11,774	1990	Yorba	7,884
1958	Kelly	2,380	1993	Laguna Fire	14,337
1958	Steward	69,4444	1993	Ortega	21,010
1959	Talega	3,187	1997	Baker	6,320
1961	Unknown	5,273	1998	Santiago Canyon	7,760
1961	Outside Origin #2	5,019	2002	Green	2,234
1966	Indian	1,405	2002	Antonio	1,480

Growth and Development in the Interface

The hills and mountainous areas of Southern California are considered to be interface areas. The development of homes and other structures is encroaching onto the wildlands and is expanding the wildland/urban interface. The interface neighborhoods are characterized by a diverse mixture of varying housing structures, development patterns, ornamental and natural vegetation and natural fuels.

In the event of a wildfire, vegetation, structures and other flammables can merge into unwieldy and unpredictable events. Factors important to the fighting of such fires include access, firebreaks, proximity of water sources, distance from a fire station and available firefighting personnel and equipment. Reviewing past wildland/urban interface fires shows that many structures are destroyed or damaged for one or more of the following reasons:

Combustible roofing material;
Wood construction;
Structures with no defensible space;
Fire department with poor access to structures;
Subdivisions located in heavy natural fuel types;
Structures located on steep slopes covered with flammable vegetation;
Limited water supply; and
Winds over 30 miles per hour.

Road Access

Road access is a major issue for all emergency service providers. As development encroaches into the rural areas of the county, the number of houses without adequate turn-around space is increasing. In many areas, there is not adequate space for emergency vehicle turnarounds in single-family residential neighborhoods, causing emergency workers to have difficulty doing their jobs because they cannot access houses. As fire trucks are large, firefighters are challenged by narrow roads, and limited access, When there is inadequate turn around space, the fire fighters can only work to remove the occupants, but cannot safely remain to save the threatened structures.

Water Supply

Fire fighters in remote and rural areas are faced by limited water supply and lack of hydrant taps. Rural areas are characteristically outfitted with small diameter pipe water systems, inadequate for providing sustained fire fighting flows.

Interface Fire Education Programs and Enforcement

Fire protection in wildland/urban interface areas may rely heavily more on the landowner's personal initiative to take measures to protect his or her own property. Therefore, public education and awareness may play a greater role in interface areas. In those areas with strict fire codes, property owners who are resist maintaining the minimum brush clearances may be cited for failure to clear brush.

The Need for Mitigation Programs

Continued development into the interface areas will have growing impacts on the wildland/urban interface. Periodically, the historical losses from wildfires in Southern California have been catastrophic, with deadly and expensive fires going back decades. The continued growth and development increases the public need for natural hazards mitigation planning in Southern California.

Wildfire Mitigation Activities

Existing mitigation activities include current mitigation programs and activities that are being implemented by county, regional, state, or federal agencies or organizations.

Local Programs

In Southern California there are dozens of independent local fire departments as well as large county wide consolidated fire districts. Although each district or department is responsible for fire related issues in specific geographic areas, they work together to keep Southern California residents safe from fire. Although fire agencies work together to fight wildland/urban interface fires, each separate agency may have a somewhat different set of codes to enforce for mitigation activities. The fire departments and districts provide essential public services in the communities they serve and their duties far surpass extinguishing fires. Most of the districts and departments provide other services to their jurisdictions, including Emergency Medical Services who can begin treatment and stabilize sick and injured patients in emergency situations. All of the fire service providers in the county are dedicated to fire prevention and use their resources to educate the public to reduce the threat of the fire hazard, especially in the wildland/urban interface. Fire prevention professionals throughout the county have taken the lead in providing many useful and educational services to Southern California residents, such as:

Home fire safety inspection;
Assistance developing home fire escape plans;
Business Inspections;
Resident Emergency Response Team (CERT) training;
Fire cause determination;
Counseling for juvenile fire-setters;
Teaching fire prevention in schools;

Coordinating educational programs with other agencies, hospitals and schools; d Answering residents' questions regarding fire hazards.

The Threat of Urban Conflagration

Although communities without an wildland/urban interface are much less likely to experience a catastrophic fire, in Southern California there is a scenario where any community might be exposed to an urban conflagration similar to the fires that occurred following the 1906 San Francisco earthquake.

"Large fires following an earthquake in an urban region are relatively rare phenomena, but have occasionally been of catastrophic proportions. The two largest peace-time urban fires in history, 1906 San Francisco and 1923 Tokyo, were both caused by earthquakes. The fact that fire following earthquake has been little researched or considered in the United States is particularly surprising when one realizes that the conflagration in San Francisco after the 1906 earthquake was the single largest urban fire, and the single largest earthquake loss, in U.S. history. The loss over three days of more than 28,000 buildings within an area of 12 km2 was staggering: $250 million in 1906 dollars, or about $5 billion at today's prices. The 1989 Loma Prieta Earthquake, the 1991 Oakland hills fire, and Japan's recent Hokkaido Nansei-oki Earthquake all demonstrate the current, real possibility of a large fire, such as a fire following an earthquake, developing into a conflagration. In the United States, all the elements that would hamper fire-fighting capabilities are present: density of wooden structures, limited personnel and equipment to address multiple fires, debris blocking the access of fire-fighting equipment, and a limited water supply."

This in Southern California, this scenario highlights the need for fire mitigation activity in all sectors of the region, wildland/urban interface or not.

Fire Codes

County Fire Codes

Summaries of key sections of county codes that apply to wildland/urban interface areas are covered in the State Fire Code.

Federal Programs

The role of the federal land managing agencies in the wildland /urban interface is reducing fuel hazards on the lands they administer; cooperating in prevention and education programs; providing technical and financial assistance; and developing agreements, partnerships and relationships with property owners, local protection agencies, states and other stakeholders in wildland/urban interface areas. These relationships focus on activities before a fire occurs, which render structures and communities safer and better able to survive a fire occurrence.

Federal Emergency Management Agency (FEMA) Programs

FEMA is directly responsible for providing fire suppression assistance grants and, in certain cases, major disaster assistance and hazard mitigation grants in response to fires. The role of FEMA in the wildland /urban interface is to encourage comprehensive disaster preparedness plans and programs, increase the capability of state and local governments and provide for a greater understanding of FEMA programs at the federal, state and local levels.

Fire Suppression Assistance Grants

Fire Suppression Assistance Grants may be provided to a state with an approved hazard mitigation plan for the suppression of a forest or grassland fire that threatens to become a major disaster on public or private lands. These grants are provided to protect life and property from damage of wild fire.

Risk to School Facilities

The generally suburban nature of Orange County and the population density in areas interfacing wild lands are both circumstances that dictate where schools are placed. School Facilities, for the most part, are built in areas safe from wildland fires; however, a combination of factors (wind, humidity, fuel, and temperature) could place several SVUSD school facilities and their populations at risk.

A worse-case scenario estimate of 3% of the District's facilities could be considered at risk.

Weapons of Mass Destruction/Terrorism

Weapons of Mass Destruction/Terrorism was rated a HIGH RISK PRIORITY HAZARD by the Saddleback Valley Unified School District.

Terrorism Early Warning Group (TEWG)

Mission Statement

The mission of the Terrorism Early Warning Group (TEWG) is to monitor trends and potentials which may result in terrorist threats or attack within the Orange County Operational Area. This early warning element evaluates open source data and intelligence information, and researches threat information to guide training and planning efforts. These early warning efforts also support fire service and health emergency response efforts. The TEWG is committed to effective, timely and two-way sharing of information between government agencies, the private sector, and the community. This effort is directed to the detection and prevention of terrorist activity and effective response to a crisis as its primary goal.

Goals And Objectives

A. GOALS

TEWG strives to be a focal point for analyzing the strategic and operational information needed to respond to and combat terrorism and protect critical infrastructure. Special emphasis is placed on early detection of emerging threats, including acts employing weapons of mass destruction (WMD) such as chemical, biological, radiological or nuclear agents and information warfare (IW or cyber terrorism). The TEWG supports the County Emergency Operations Center (EOC), the Terrorism Working Group (TWG), and the Orange County Metropolitan Medical Response System (MMRS).

B. OBJECTIVES

Providing Indications and Warnings (I&W), including on-going disease surveillance.

Performing Net Assessments to gauge the impact of a specific threat or attack and develop viable course of action (COAs) to respond to an attack.

Functions as the interagency liaison between federal, state and local entities and is the conduit connecting these agencies, their intelligence and response plans to the infrastructure of the Orange County operational area.

TEWG Components And Descriptions

The TEWG is comprised of the following components: The Command component, Analysis/Synthesis, Epidemiological Intelligence (epi-intel), Investigative Liaison, Consequence Management, Forensic Intel Support (FIS), and the Private Sector Terrorism Response Group.

A. COMMAND COMPONENT

Officer In Charge – OCSD Lieutenant

Assistant Officer In Charge – OCSD Sergeant

B. ANALYSIS/SYNTHESIS

Monitors trends and potentials which may result in terrorist threats or attacks within the Orange County Operational Area. This early warning element evaluates open source data and intelligence information, and researches threat information to guide training and planning efforts.

STAFF

1 OCSD Deputies

1 Research Analyst

1 Information Processing Technician

C. EPIDEMIOLOGICAL INTELLIGENCE

Integrates disease surveillance for all threats (especially biological terrorism) into the complete analysis/assessment. This component ensures the integration of public health and law enforcement investigations; provide planning estimates on distribution of causalities, potential quarantine and treatment issues. Ensures accurate and complete flow of information during intentional or suspicious outbreaks.

D. INVESTIGATIVE LIAISON

Establishes and coordinates cooperation with federal, state and local law enforcement agencies through effective, timely and two-way sharing of information.

STAFF

1 OCSD Investigator E. CONSEQUENCE MANAGEMENT/FORENSIC INTEL SUPPORT (FIS)

Reviews current and future resource status of fire, health, and law enforcement agencies and provides technical reference, and develop potential courses of action for response to terrorism involving chemical biological, radiological nuclear and large scale explosives. This component will also be responsible for developing play books, target folders, monitoring the status of resource personnel and critical infrastructure as well as sustaining comprehensive responses.

STAFF

2 OCSD Deputies

1 Senior Program Coordinator

1-Fire Battalion Chief

F. PRIVATE SECTOR TERRORISM RESPONSE GROUP (PSTRG)

The PSTRG is an integral part of the private sector/public sector partnership that is essential in combating terrorism. This component addresses and coordinates private sector safety, incident management, and public health consequences of potential terrorist attacks on the critical infrastructure within the Orange County operational area.

STAFF

1 Senior Program Coordinator

Saddleback Valley USD

City of Lake Forest

The City of Lake Forest is a contract City; these services are provided as part of our contract with the Orange County Sheriff-Coroner Department.

City of Mission Viejo

Terrorism is both a threat to our national security as well as a criminal act. Because of the magnitude of such an incident, the United States Administration has a national policy on terrorism, as specified in Presidential Decision Directive - 39 (PDD -39). An unclassified synopsis of this policy validates and reaffirms existing Federal Lead Agency responsibilities for counterterrorism, which are assigned to the Department of Justice (DOJ), as delegated to the Federal Bureau of Investigation (FBI), for threats or acts of terrorism within the United States.

The possibility of a terrorist attack involving weapons of mass destruction (WMD), chemical, biological, radiological, nuclear (CBRNE), or large explosive weapons, remains real (Enclosure 7). CBRN attacks could cause lasting disruption and generate significant psychological impact on a population and its infrastructure. Some CBRN materials, technology, and especially information continue to be widely available, particularly from commercial sources and the internet. The first notorious attack involving chemical weapons against a civilian target was Aum Shinrikyo's sarin nerve agent attack against a Tokyo subway in March 1995.

The FBI as the lead for Crises Management will involve only those Federal agencies required and designated in classified documents.

Crises management includes measures to identify, acquire, and plan the use of resources needed to anticipate, prevent, and/or resolve a threat or act of terrorism. The laws of the United States assign primary authority to the Federal Government to prevent and respond to acts of terrorism; State and local governments provide assistance as required. Crises management is predominantly a law enforcement response.

Consequence Management includes measures to protect public health and safety, restore essential government services, and provide emergency relief to governments, businesses, and individuals affected by the consequences of terrorism. The laws of the United States assign primary authority to the States to respond to the consequences of terrorism; the Federal Government provides assistance as required.

The California Terrorism Response Plan provides direction to state agencies and local governments within California involved in protecting public safety and preparing for a terrorist event.

County of Orange

Bioterrorism

For Orange County Physicians, and Public Health

October 2001 Hildy Meyers, M.D., M.P.H.

Introduction

Bioterrorism is defined as the use of living organisms or their products to produce death or disease in humans, animals or plants. Bioterrorism is sometimes grouped with nuclear and chemical terrorism and referred to collectively as NBC (nuclear, biological, chemical) or weapons of mass destruction (WMD).

The Centers for Disease Control & Prevention (CDC) and other experts have identified microorganisms that could have potential as biological weapons. Many of these microorganisms are extremely rare causes of disease, essentially nonexistent in the United States, or, in the case of smallpox, have been eradicated. In addition, some organisms or their toxins could be used in an airborne form, resulting in a different clinical presentation than with naturally acquired infection. Most physicians in this country have little or no familiarity with these organisms and would be hard-pressed to make the correct diagnosis quickly.

Although the likelihood of a successful bioterrorist event in Orange County seems remote, some basic preparedness is reasonable, especially if it can be used to strengthen basic public health functions such as communicable disease monitoring and control. In addition, we encourage physicians to learn more about and participate in their hospital's disaster planning efforts. Orange County Emergency Medical Services (OCEMS) has provided materials on bioterrorism to emergency departments and held educational programs and disaster drills regarding terrorism. For more information, please contact OCEMS at (714) 834-3500.

Preparation

For physicians, preparation for a bioterrorist event involves becoming familiar with the agents most likely to be used in a bioterrorist attack, the clinical syndromes they cause and how they are transmitted, as well as epidemiological clues suggestive of a bioterrorist attack.

The microorganisms experts think are most likely to be used in a bioterrorist attack and the diseases they cause are:

Microorganism	Disease
Bacillus anthracis	Anthrax
Yersinia pestis	Plague
Variola virus	Smallpox

Microorganism	Disease
Clostridium botulinum (botulinum toxin)	Botulism
Francisella tularensis	Tularemia
Hemorrhagic fever viruses (Ebola, Marbourg, Lassa fever, Crimean-Congo fever, etc.)	Hemorrhagic fever

Although many textbooks no longer include clinical information on smallpox, recent journal articles on this and other potential bioterrorism agents are available (see reference list below).

CDC maintains a supply of smallpox vaccine, which is supplied only to certain laboratory workers who are at risk of infection with smallpox-like viruses as a result of their occupation. CDC has contracted for production of 40 million doses of smallpox vaccine. These supplies would be available in the event of a smallpox release.

Anthrax vaccine is available only for members of the military. The vaccine is not recommended for the general population, and there have been some difficulties in its manufacture. There are no safety data for persons less than 18 or older than 65 years of age. It is likely that the federal government would make anthrax vaccine available if a release occurred.

Recognition

Epidemiological clues can suggest a biological attack; however, none of these is proof that a biological attack occurred. The epidemiological clues include the following.

Large numbers of cases of unexplained diseases or deaths

Higher morbidity and mortality in association with a common disease or syndrome, or failure of such patients to respond to usual therapy

Many ill persons seeking treatment at about the same time

Illness associated with a ventilation system

A disease that is unusual for a given geographic area, occurs outside the normal transmission season, or occurs in the absence of the normal vector for transmission

Multiple simultaneous epidemics of different diseases

Illness that is unusual (or atypical) for a given population or age group

Unusual patterns of death or illness among animals that precedes or accompanies illness or death in humans

Response

The most critical step in response is early recognition that something unusual is occurring and notification of the Orange County Health Care Agency (the health department). The health department will notify and activate all other government agencies that would be involved in responding to a bioterrorist event. In such an event, the Orange County Health Care Agency will be responsible for:

Case investigation and case finding

Establishing a diagnosis

Notifying:

California Dept of Health Services

Centers for Disease Control & Prevention (CDC)

FBI and local law enforcement

Recommending treatment and infection control measures—*Please note that treatment recommendations made in response to a bioterrorist event may differ from published recommendations due to the circumstances—antimicrobial resistance of the agent, availability of pharmaceuticals, etc.*

Establishing exposure date(s) and location(s)

Identifying exposed persons

Following up cases and contacts

Providing mass prophylaxis (if indicated)

The response to a bioterrorist event will require the concerted effort of physicians, the health department, health care facilities, and many others to identify the biological agent involved, treat affected patients, prevent additional transmission, and bring the situation under control. Federal, state, and local governments and health departments are taking part in training to improve the ability to respond to a bioterrorist event. The federal government is stockpiling pharmaceuticals and other medical supplies that may be needed in large quantities following a bioterrorist event, and there are a variety of response teams that can be called upon for assistance. Local pharmaceutical and equipment stockpiling is being arranged. A regional system of laboratories with specialized tests for the agents listed above is being developed.

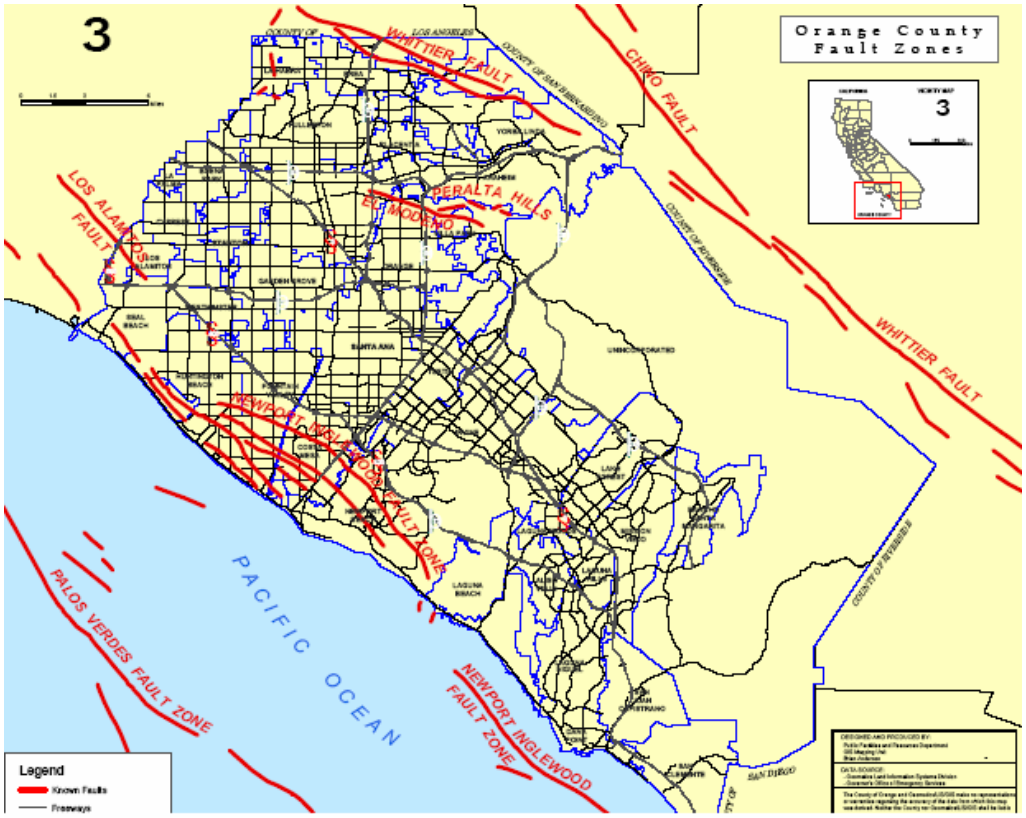
Management of the response will require your participation in rapid assessment of individual patients, collection of patient data, and dissemination of treatment protocols.

Ricin

Ricin is a poison that can be breathed in (inhaled), swallowed (ingested) or introduced into the body through a break in the skin (injected). It can be in the form of a powder, a mist, a solid or pellet, or it can be dissolved in liquid.

Earthquake

Earthquake was rated a HIGH RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.



City of Laguna Hills

The City of Laguna Hills provided the Draft Master EIR dated March 31, 1994 containing a description of the Earthquake hazard within their jurisdiction.

Geology and Seismicity

Regional Geology

The City of Laguna Hills and its sphere of influence lie in rolling hills at the southeastern most extremity of the Los Angeles Structural Basin. During the middle to late Eocene Epoch, the area was a broad alluvial floodplain and delta; during the Oligocene to early Miocene Epochs, the General Plan study area had subsided and was the site of a warm, shallow sea. During the middle to late Miocene Epoch, the General Plan study area was a deep water marine basin. Rocks deposited during this time were folded into a broad, north trending syncline. During the Pliocene Epoch, the tectonic uplift of the area resulted in a

shallowing of the sea. During coastal uplift, submarine channels were incised across the shallow sea floor and filled with sands, cobbles and fossils. The majority of this rock sequence (the Niguel Formation) lay down during Pliocene times appears to represent a gradual emergence of the coast from the sea, almost two million years ago.

Capping the shallow water deposit, the Niguel Formation is a sequence of marine and non-marine terrace units. The marine terrace deposits were laid down on wave cut terraces; the non-marine sedimentary units were deposited by the streams and rivers that once existed in this area.

Local Geology

Tertiary marine and non-marine rocks, capped by recent surficial units, underlie the General Plan study area. It is on these bedrock areas that the major geologic forces of uplift, erosion and deposition have been acting for million of years. These forces result in the distribution of distinctive land forms. The following bedrock formations, from oldest to the youngest, occur within the General Plan study area:

the Sespe Formation;
the Vaqueros Formation;
the Monterey Formation;
the Capistrano Formation;
the Niguel Formation;
non-marine terrace deposits; and
recent alluvium, slope wash, and artificial fill.

These geologic units are described in more detail below.

Sespe Formation

The Sespe Formation is expressed as low rounded hills with occasional resistant sandstones or conglomeratic sandstones that commonly form steep slopes. Brush and cactus with interspersed grass areas form the vegetative cover. The sediments are non-marine, red to pale orange clay and silty sandstones with beds of conglomeratic sandstone and mudstone that interfinger with the overlying Vaqueros Formation. The unit is moderately to well indurated and poorly bedded. The slopes have a moderately high stability; porosity is moderate to high with permeability moderate to high with local areas of low permeability. Expansivity is low in freshly sheared rock, but the weathered and sheared portions tend to be highly expansive; the mudstones are moderately expansive. Slope wash is commonly thick with accumulations of highly plastic 'reddish sandy clay on lower slopes and in canyon bottoms.

Vaqueros Formation

The Vaqueros Formation is a series of yellow to green sandstones with siltstone and shale interbeds. The sandstone is well indurated and massive to thick. Slope stability is generally good except in the shaly or silty horizons. Expansivity is moderate to high in the weathered zone of shaly and silty horizons; permeability is moderate to impermeable, and porosity is moderate to low. The slope wash is generally poorly developed except on silty or shaly horizons where it is commonly expansive. Topographically the Vaqueros Formation is expressed as rounded hills with relatively steep antidip slopes.

Monterey Formation

The Monterey Formation is a deep water marine unit consisting *of* shales, siltstones, minor amounts of sandstones, and a basal limestone deposited in late middle to late Miocene time. The unit commonly is thinly bedded and contorted. The Monterey Formation is around 700 feet thick, and is tectonically deformed into a broadly synclinal shape. Within this syncline is a series of folds generally extending northward.

This geologic unit is moderately well indurated, with very well indurated limestone and sandstone beds. Slope wash develops thick accumulations of highly plastic clays on Monterey shales and siltstones that may reach thicknesses of 2S feet. The Monterey Formation is very highly expansive in the clay units; the siltstones and shale are highly expansive. The siltstone and shale have a low permeability, high porosity, and erode easily when weathered. Topographically. the Monterey Formation is expressed as rounded gently rolling hills with the more resistant beds forming small cliffs near stream courses.

Seismicity

Southern California as a whole is subject to potential ground shaking in the event of an earthquake. To minimize damage to human occupancy structures, the State of California has adopted the Alquist-Priolo Special Studies Zone Act. Under this act, the State Geologist bas mapped "Special Studies Zones. along the state's active and potentially active faults. Prior to approval of structures for human occupancy within a special study zone, a geologic study must be undertaken to determine the precise location and necessary setbacks from identified faults. No Alquist-Priolo Special Studies Zones have been set up within the City of Laguna Hills or its sphere of influence. No active faults are presently known within the City of Laguna Hills or its sphere of influence. The major regional faults likely to generate earthquakes of a magnitude 7 or higher are the San Andreas, the San Jacinto, the Ellsinore-Whittier, and the Newport-Inglewood Faults. The nearest major active fault is the Newport-Inglewood Fault Zone, which lies approximately three miles to the southwest of the General Plan study area. A level 7 magnitude earthquake on this fault system would likely result in minor damage to structures in the Zone 8 category (Laguna Hills Mall Expansion Draft EIR, 1993) that have been designed to be earthquake resistant. Figure IV-U-3 illustrates the regional seismicity and known faults within and/or near the General Plan study area.

The risk of damage due to ground ruptures during an earthquake in minimal because of the absence of active faults in the City. However, the risk of structural damage (both above and underground) and loss of life because of ground shaking is considerable, due to the combination of proximate active faults and the developed character of the General Plan study area. Low density residential development and low intensity land uses are, however, less vulnerable to seismic hazards. The City is marked by relatively low intensity residential land use and is, therefore, at less risk than intensely developed .urban" communities.

Liquefaction

Liquefaction is another seismic hazard within the General Plan study area. The potential for liquefaction is a function of soil type and shallow groundwater. Soils that are poorly consolidated and combine with groundwater during an earthquake loose their shear strength and take on the properties of a heavy liquid. Liquefaction can result in the loss of

foundation support, ground failure due to lateral spreading, and settlement of affected soils.

Orange County has reviewed the region to determine those areas where factors may lead to high susceptibility for liquefaction hazards. The City of Laguna Hills is not located in any of the areas designated by the County. There are several soils types that, in combination with shallow groundwater, can be prime candidates for liquefaction hazards. However, this is more appropriately determined on a case-by-case basis because the groundwater levels are not well known in detail over the City of Laguna Hills or its sphere of influence.

Slope Stability (Landslides)

Slope stability is another type of geologic hazard that can impact a community. Slope stability involves such issues as landslides and erosion, and is a hazard in hillside areas. Laguna Hill's topography includes several hills and valleys and, therefore, has the potential for slope stability problems.

Slope stability is dependent on the number of interrelated factors such as rock type and degree of porous ness and slope characteristics. Additionally, climatic conditions, man-induced topographical alterations and earthquakes also trigger failure of unstable slopes.

Areas underlain by shale and siltstone are more prone to landslides. The Capistrano, Monterey and Topanga Formation areas are most prone to slow developing, slump type failures. Both the Capistrano and Monterey Formations are located within the General Plan study area.

PROJECT IMPACTS

The impacts of the proposed General Plan on geotechnical resources are discussed in the Geology and Seismicity Section of the Environmental Hazards portion of the General Plan. Although there are no "active" or "potential1y active" faults within the study area, as a result of implementation of the proposed General Plan, an increased number of residents and employees could experience seismic impacts if a major earthquake occurred in the vicinity. In addition, because of the existing hillside topography within much of the study area, the potential for slope stability problems does exist, although impacts associated with slope failure should be minimal because of the lack of vacant hillside land left for development.

MITIGATION MEASURES

The City of Laguna Hil1s shal1 require that all new structures comply with the latest Uniform Building Code seismic design standards, as well as supplemental design criteria necessary to ensure that:

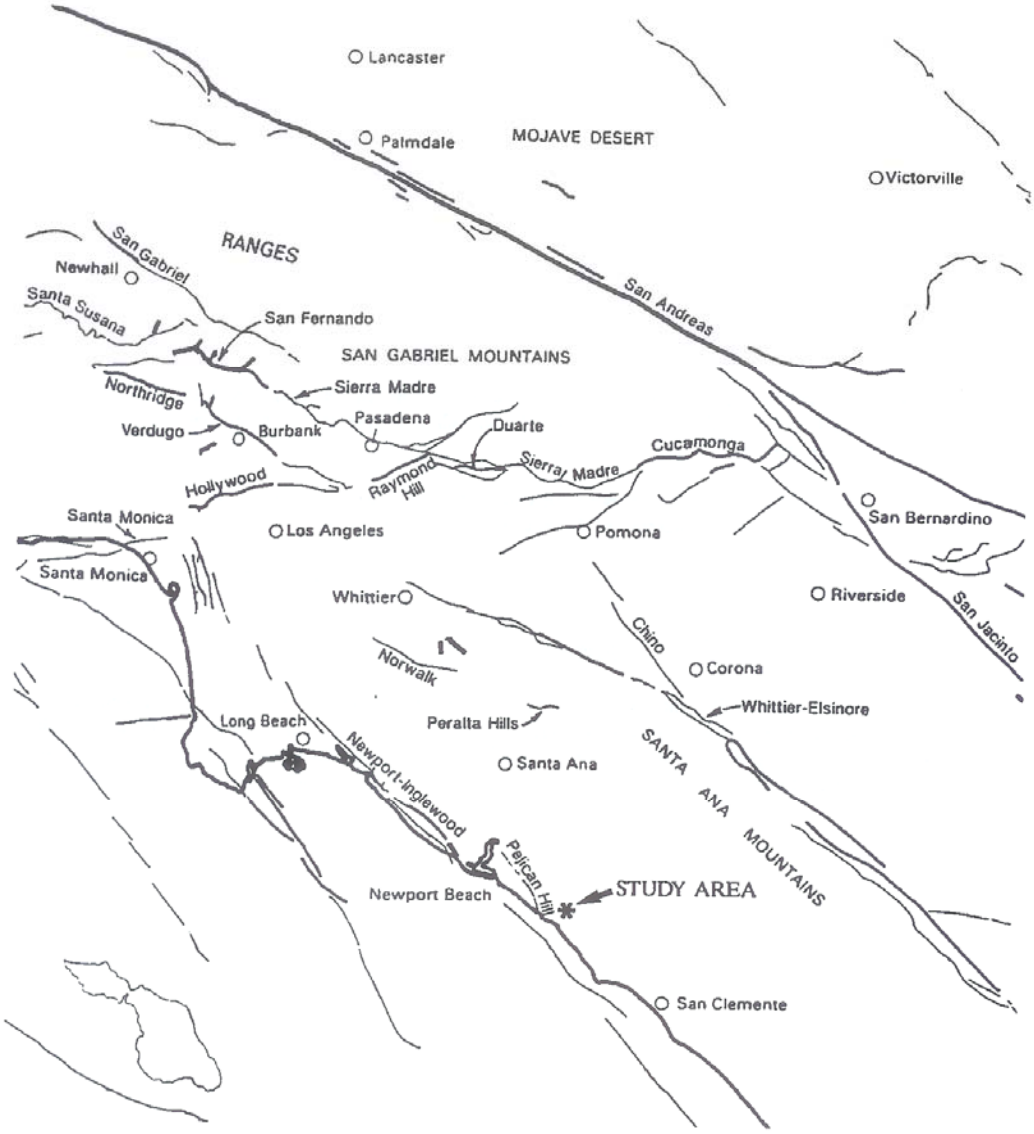
all uses needed for emergency response are designed to withstand sufficient "g" force to remain functional; and

the guidelines measuring frequency of occurrence and severity of consequences of the Master EIR are met.

MITIGATION MONITORING

The City of Laguna Hills shall require new development or (when applicable) redevelopment to submit site-specific soils studies concurrent with submittal of grading and/or building permit applications to determine onsite soils and geologic conditions and to define the site-specific design criteria needed to avoid the unacceptable risks outlined in City of Laguna Hills' Master EIR.

Regional Seismicity



March 31, 1994

City of Lake Forest

The City of Lake Forest provided the safety and Noise element of the general plan dated June 21, 1994 containing a description of the earthquake hazard within their jurisdiction.

Geologic Hazards

The City of Lake Forest's planning area is located in a region with active seismic faults and is therefore subject to risks and hazards associated with earthquakes. Seismic activity poses two types of hazards: primary and secondary. Primary hazards include ground shaking, ground displacement, and subsidence and uplift from earth movement. Primary hazards can induce secondary hazards, including ground failure (lurch cracking, lateral spreading and slope failure), liquefaction, water waves (tsunamis and seiche), movement on nearby faults (sympathetic fault movement), and dam failure. Large earthquakes of magnitude 7.0 and greater on the Richter scale are expected to occur along at least one of the active faults in the region within a time period equivalent to the historic record.

No known active fault exists within the City of Lake Forest's Planning Area. Consequently, the potential for ground rupture is low and no Alquist-Priolo Special Study Zone has been established by the state. In addition, the potential for liquefaction from seismic activity is low. While seiche could occur in the created lakes, the Planning Area will not be subject to inundation from dam failure. Slope failure from ground shaking could occur on some of the hillsides in the Planning Area. Ground settlement could occur on sites within a short distance of alluvial valleys or where a site is partially on bedrock formation, or partially on fill with inadequate internal compaction or consolidation of unsuitable soils. These geologic hazards, combined with ground shaking, can result in substantial structural damage and related loss of life and personal injury.

The City of Lake Forest will enact programs to reduce geologic hazards to protect public safety. To minimize hazards from earthquakes and other geologic hazards, the most recent state seismic guidelines and guidelines for other geologic hazards will be implemented for structural design. The stability of residential structures, critical structures and vital emergency facilities will be given particular attention. During the review of development proposals involving slopes, grading, unstable soils and other hazardous conditions, surveys of soil and geologic conditions by a state-licensed engineering geologist will be required. Based on the results of the survey, design measures will be incorporated into projects to minimize geologic hazards. Open space easements will be considered to avoid geologic hazards.

Earthquake preparedness is one of the best methods to minimize human suffering and property damage and accelerate recovery. The City will promote earthquake preparedness in the community with periodic earthquake awareness programs. The programs will be coordinated with emergency service providers and school districts to maximize public participation and effectiveness.

Threat Summary Major Earthquake (City of Lake Forest Emergency Plan)

All jurisdictions in California are subject to the effects of damaging earthquakes. Earthquakes are considered a threat to the City of Lake Forest due to the proximity of fault zones, which could influence the entire southern coastal portion of the State. Most notable of these is the Newport-Inglewood Fault, which trends southeast from the Malibu Fault in western Los Angeles County, along the northern section of the Orange County coastline, heading offshore at approximately Newport Beach.

An earthquake along the Newport-Inglewood Fault or along one of the other faults in the vicinity, either known or unknown, could cause a number of causalities and extensive property damage. The effects of such a quake could be aggravated by aftershocks and secondary effects such as fires, hazardous materials releases, landslides and other threats to public health, safety and welfare. The potential direct and indirect consequences of a major earthquake can easily exceed the response resources of the City and would require a high level of self-help, coordination and cooperation. Assistance from neighboring cities, Orange County, and other local, State and Federal agencies may be delayed for up to 72 hours or more depending on the regional severity of the earthquake. Damage control and disaster relief support could be required from other governmental and private organizations.

Earthquake emergency planning for the City of Lake Forest reflects and is consistent with the City's General Plan Public Safety Element. The primary sources applied in the development of this plan are the State of California Earthquake Plan Scenarios for the Newport-Inglewood and San Andreas faults and California Earthquake Response Plan. The emergency plan for the City of Lake Forest responds to those scenarios and is compatible with the plans of local jurisdictions.

City of Mission Viejo

The City of Mission Viejo provided the Public Safety Element of the General Plan dated January 20, 2003 containing a description of the fire hazard within their jurisdiction.

Geologic Hazards

Landslides, subsidence, uplift, erosion, and dangerous soil characteristics (expansive, peat, sulfate, gaseous, and corrosive soils, and hydro-consolidation) are natural geologic occurrences that can have devastating impacts on developed areas resulting in property damage, and even loss of life. As part of the City's mandate to protect the public health and safety, it must ensure that new development is constructed on lands that are geologically safe or that have been properly prepared for development. For these reasons, the following goal policies are established:

GOAL 1: Protect the community from hazards associated with geologic formations.

Policy 1.1: Require soil and geotechnical reports for new developments, both residential and commercial. Development in areas that contain potentially hazardous geologic/soils conditions shall require detailed geotechnical studies and mitigation measures that reduce the identified risks prior to the approval of development.

Policy 1.2: Monitor known and potential geologic hazards in the City through periodic updates to the City's Master Environmental Assessment and Emergency Operations Plan.

Policy 1.3: Coordinate with the County of Orange and surrounding jurisdictions to reduce geologic hazard conditions.

Mission Viejo is situated in a seismically active region. The Uniform Building Code designates seismic zones, on a scale of 1 to 4 (4 being the most active and sever seismic zone), for the purpose of determining structural requirements. Mission Viejo is designated as being within seismic zone 4. The City is aware of the need to cooperate with local and state agencies to reduce the risk of seismic hazards to its inhabitants. The State of

California passed the Alquist-Priolo Special Studies Zone Act and the Seismic Hazards Mapping Act to assist localities in identifying and mitigating potential seismic hazards.

The Alquist-Priolo Special Studies Zone Act was passed in 1972 by the State legislature to mitigate the hazards of surface faulting to structures for human occupancy. The State Geologist designates regulatory zones (known as Earthquake Fault Zones) near active faults that have the potential to surface rupture. Proposed development projects within Earthquake Fault Zones require a geologic investigation prior to local government approval. A licensed geologist must carry out the geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. The most recent list of cities affected by the Alquist-Priolo Earthquake Fault Zones was published in May 1999 by the Department of Conservation, California Geological Survey. Mission Viejo is not listed as one of the affected cities.

The Seismic Hazards Mapping Act was passed on April 1, 1991 by the State legislature to identify areas where earthquakes are likely to cause shaking, liquefaction, landslides, or other ground failures, and to regulate development to reduce future earthquake losses. The process for this act is similar to the process outlined in the Alquist-Priolo Special Studies Zone Act. The State Geologist designates regulatory zones (called Zones of Required Investigation) in areas were seismic hazards exist. The Zones of Required Investigation require geologic investigations and appropriate mitigation measures prior to obtaining building permits. When real property within the zones is sold, the seller or the seller's agent must disclose this fact to potential buyers.

Using these acts as tools, the City of Mission Viejo implements planning and building standards ensuring new development implements mitigation measures thus reducing the risk of damage from seismic events. In addition, maintenance of public facilities is necessary to reduce the risk of hazards involving a major structure, such as dam failure, as a result of a seismic event. The following goal and policies have been adopted by the City to help reduce risks to its inhabitants from seismic hazards:

GOAL 2: Reduce the risk of seismic hazards.

Policy 2.1: Follow established standards for grading and construction to mitigate the potential for seismic hazards.

Policy 2.2: Support continued State inspection of the Upper Oso Reservoir Dam, El Toro Reservoir Dam, and Lake Mission Viejo Dam to reduce risk of dam failure as a result of a seismic event.

Policy 2.3: Coordinate with the County of Orange, Caltrans and surrounding jurisdictions to reduce seismic hazard conditions and preparing for seismic event conditions.

Policy 2.4: Coordinate with Caltrans and the County of Orange to ensure that any seismic hazards associated with bridges are identified and corrected.

Policy 2.5: Ensure that critical facilities, such as hospitals and schools, are not located across active or potentially active faults.

Policy 2.6: Continue to implement operational guidelines and design standards, consistent with Public Utility Commission limitations, for subsurface transmission lines including natural gas, petroleum, water, and waste water which minimize potential environmental damage resulting from operational failure due to natural or man-made catastrophes.

Policy 2.7: Monitor any proposed changes to the Alquist-Priolo Special Studies Zone Act and Seismic Hazards Mapping Act that may impact the City.

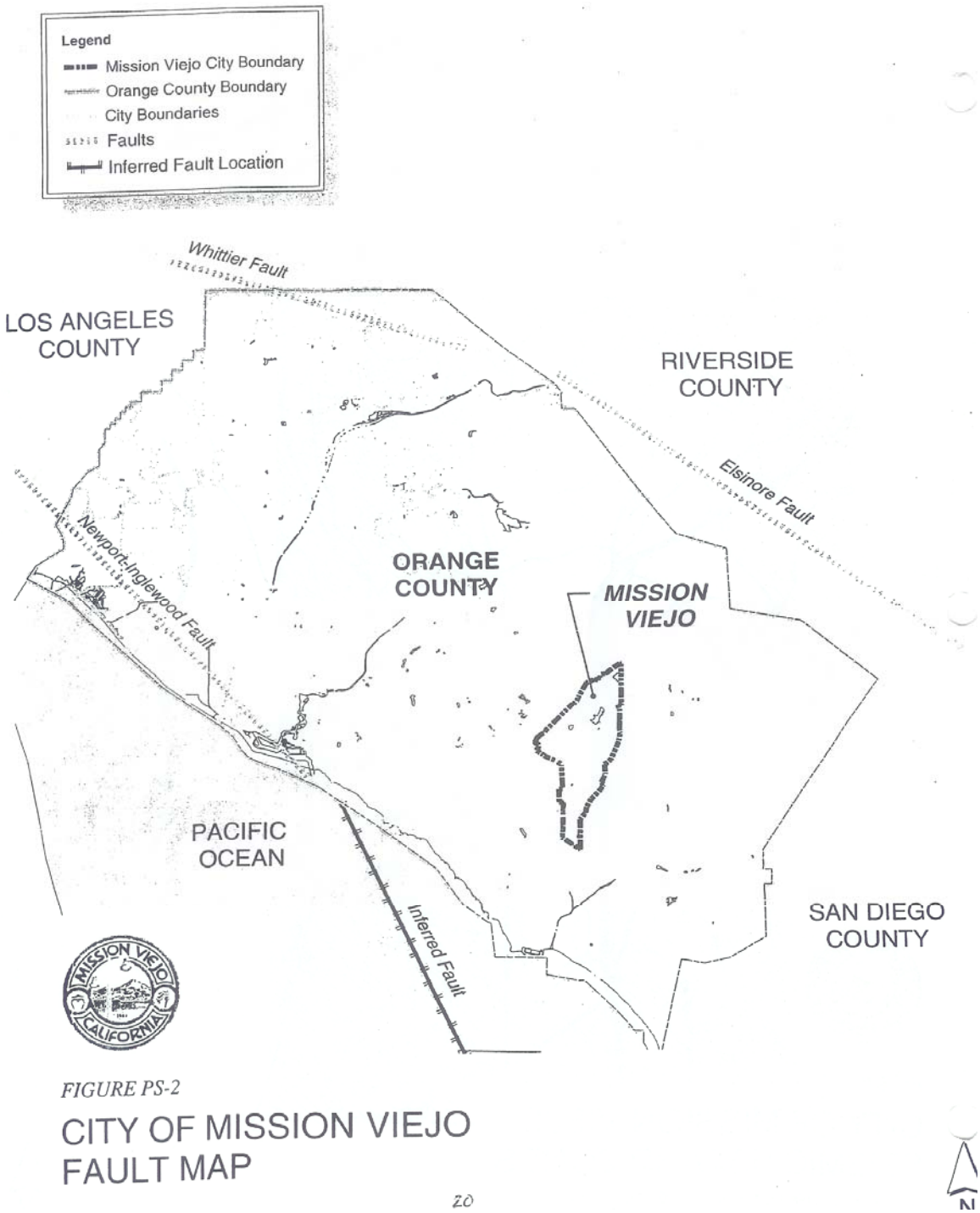


FIGURE PS-2

CITY OF MISSION VIEJO
FAULT MAP

20

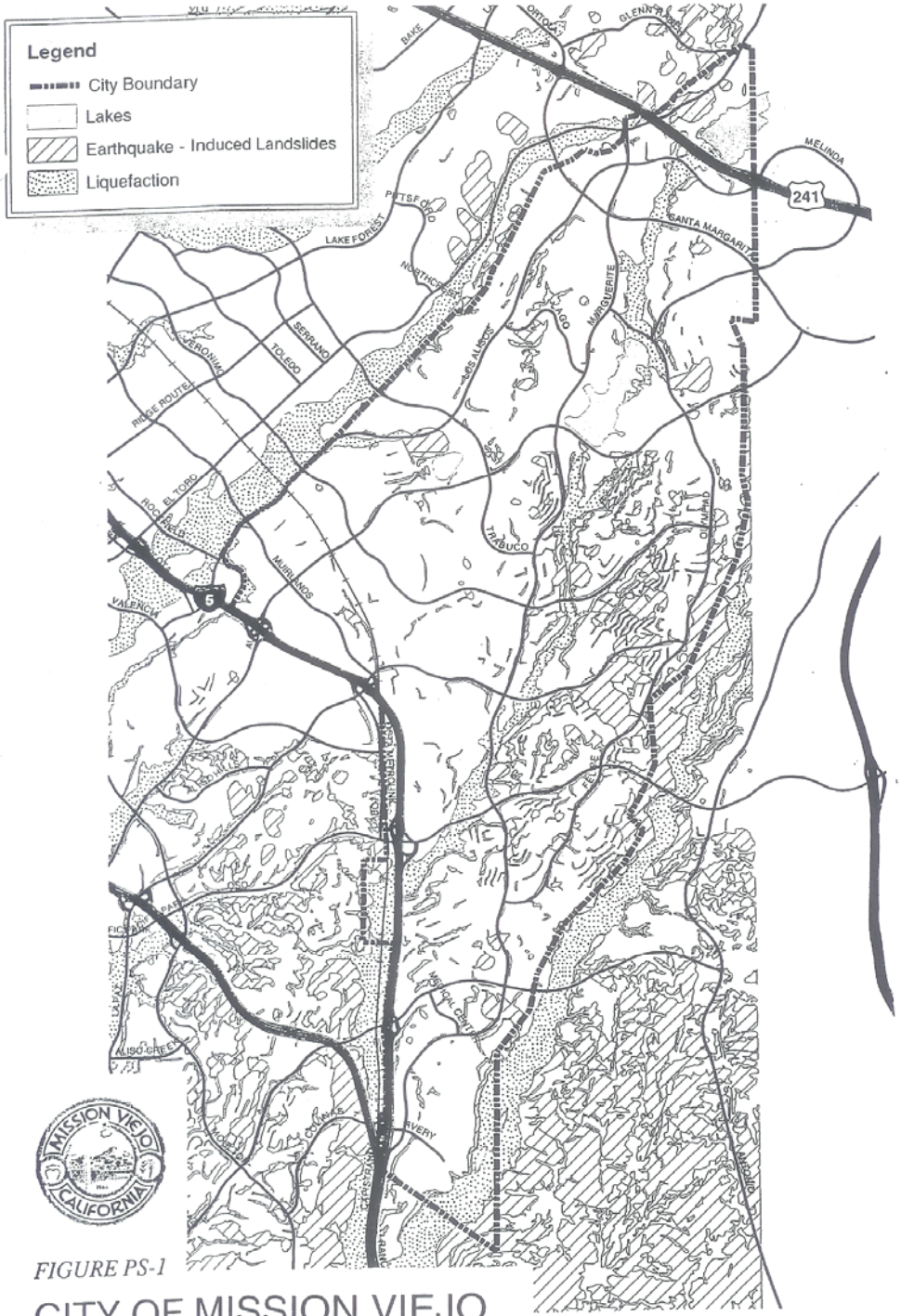


FIGURE PS-1

CITY OF MISSION VIEJO
SEISMIC HAZARD ZONES

Source: California Department of Conservation

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City of Rancho Santa Margarita\

The City of Rancho Santa Margarita provided the safety element of the general plan dated December 2002 containing a description of the fire hazard within their jurisdiction.

Seismic Hazards

The Rancho Santa Margarita planning area is situated in the western part of the Peninsular Ranges province, a region with a characteristic northwest trend to its landforms and to its underlying geologic structures.

Earthquake severity is normally classified according to magnitude (a measure of the amount of energy released when a fault ruptures), and seismic intensity (a qualitative estimate of the damage caused by an earthquake at a given location). Because the amount of destruction generally decreases with increasing distance away from the epicenter (the point at the Earth's surface directly above where the earthquake originated), earthquakes are assigned several intensities. The most commonly used seismic intensity scale, called the Modified Mercalli Intensity (MMI) scale, and has 12 levels of damage. The higher the number, the greater the damage.

The largest earthquake likely to occur on a fault or fault segment is termed the maximum credible (MCE) or characteristic earthquake. Depending on the planned use, lifetime, or importance of a facility, a maximum probable earthquake (MPE) is the earthquake most likely to occur in a specified period of time, (such as 30 to 500 years). In general, the longer the time period between earthquakes on a specific fault segment (recurrence interval), the larger the earthquake.

The State of California, under the guidelines of the Alquist-Priolo Earthquake Fault Zoning Act of 1972 classifies faults according to the following criteria:

A*ctive:* faults showing proven displacement of the ground surface within about t he last 11,000 years; and

Potentially Active: faults showing evidence of movement within the last 1.6 million years (modified to 750,000 years by the U.S. Geological Survey).

No active faults are known to pass through Rancho Santa Margarita. The closest active faults are the Ellsinore-Glen Ivy fault (10.1 miles away), the Chino fault (11.1 miles away), and the Newport Inglewood fault (14.4 miles away). The occurrence of surface rupture on these segments would not be expected to produce fault surface rupture within the City.

The two known local faults, Aliso and the Cristianitos, are thought to be inactive. These faults are shown on Figure S-I. An earthquake on either of these two faults would be particularly damaging to residential buildings, particularly those of wood or reinforced masonry construction, and to mobile homes. Other buildings

that do not typically perform well in earthquakes are soft-story buildings. These have a story (typically the first floor) that lacks adequate strength or toughness due to too few shear walls. Two types of soft story buildings are common: 1) buildings with large window openings used for display purposes on the first floor, and 2) buildings housing the garage on the first floor.

Geologic Hazards Resulting from Seismic Shaking

Geologic hazards resulting from seismic shaking include liquefaction, seismically induced settlement and slope failure.

Liquefaction is a geologic process that causes various types of ground failure. Three general conditions need to be met for liquefaction to occur: (1) strong ground shaking of relatively long duration; (2) loose, or unconsolidated, recently deposited sediments consisting primarily of silty sand and sand; and (3) water saturated sediments within about 50 feet of the surface. Most of the lowlands in the Santa Margarita area have a high liquefaction potential because shallow ground water, within 50 feet of the ground surface, has been reported historically.

Under certain conditions, strong ground shaking can cause the densificati9n of soils, resulting in local or regional settlement of the ground surface. During strong shaking, soil grains become more tightly packed due to the collapse of voids and pore spaces, resulting in a reduction of the thickness of the soil column. This type of ground failure typically occurs in loose granular, cohesion less soils, and can occur in either wet or dry conditions. Unconsolidated young alluvial deposits are especially susceptible to this hazard. Artificial fills may also experience seismically induced settlement. Damage to structures typically occurs as a result of local differential settlements.

Those portions of the planning area that may be susceptible to seismically induced settlement are generally the floodplains and larger drainages that are underlain by late Quaternary alluvial sediments (similar to the liquefaction-susceptible areas). These include areas in Trabuco Canyon, Live Oak Canyon and especially the flatter areas along these drainages. Also included are the areas along Tijeras Canyon. Sites near the base of natural hills (valley margins) may be particularly vulnerable.

Strong ground motions can worsen existing unstable slope conditions, particularly if coupled with saturated ground conditions. Seismically induced landslides can overrun structures, people or property, sever utility lines, and block roads, thereby hindering rescue operations after an earthquake. The area east of Rancho Santa Margarita and some steep slopes within the City would be most vulnerable to seismically induced slope failure, due to the steep terrain and the presence of weak sedimentary rock units. Areas on the gentler slopes may also be susceptible where slopes have been undercut by streams or road cuts.

A combination of geologic conditions leads to landslide vulnerability. The hilly and mountainous areas within the planning area are underlain by soft sedimentary bedrock. Numerous landslides have been mapped in the eastern half of the Santa Margarita area, these sediments have the potential to fail (by land sliding) during an earthquake. Sections of Trabuco Canyon Road or Live Oak Canyon Road could be blocked by fallen rock debris immediately following an earthquake, or worse, could be destroyed by land sliding. This would hinder rescue and evacuation operations. Earthquake induced landslides could also impact developments adjacent to the mountain front.

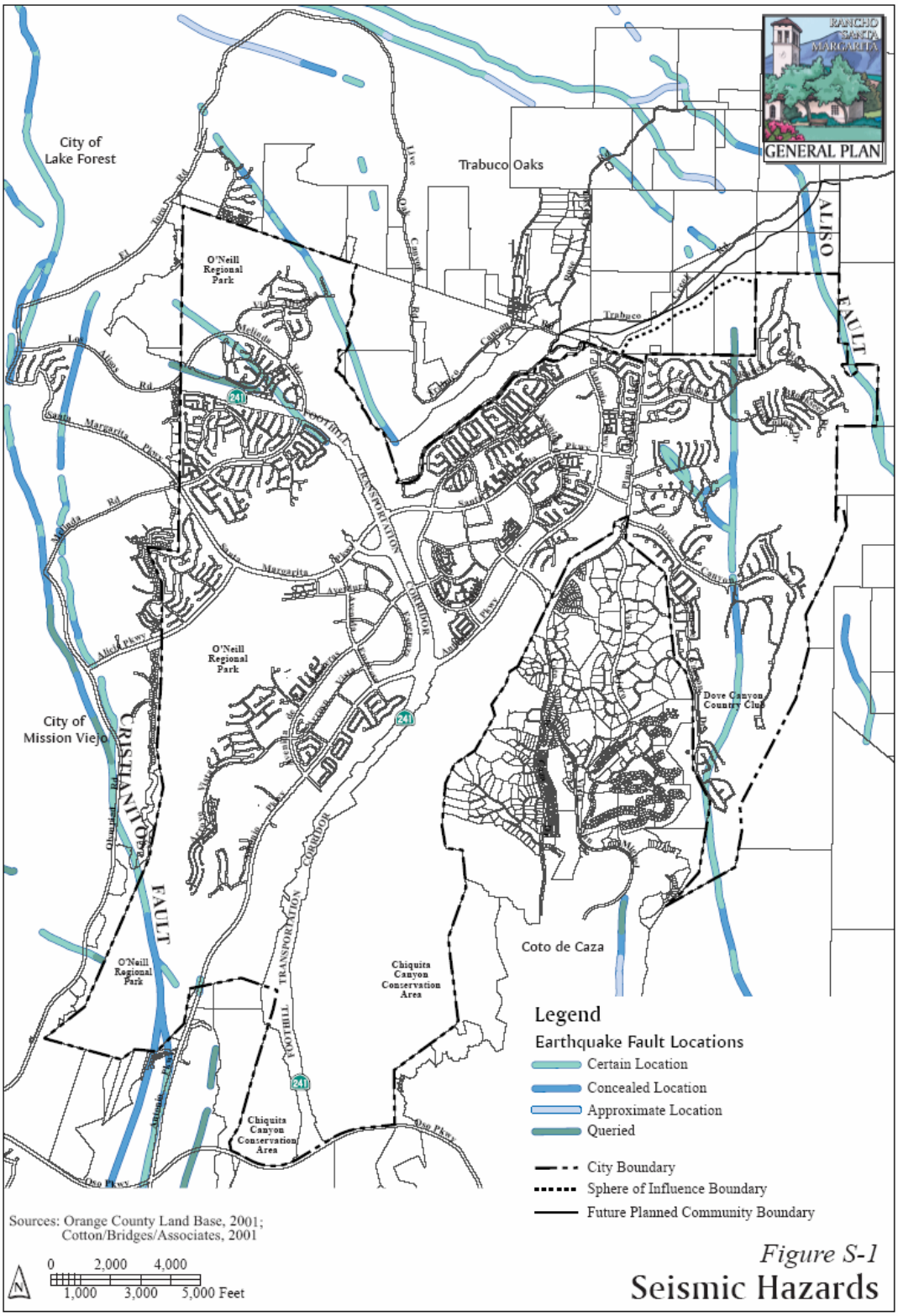


Figure S-1
Seismic Hazards

Geologic Hazards

Rancho Santa Margarita lies primarily on a long narrow older river terrace called the Plano Trabuco. The land rises and steepness eastward while, across Trabuco Creek to the north and Tijeras Creek to the south, the land becomes more rolling and underlain by less stable geologic materials. Elevations range from about 350 feet above mean sea level in the valleys to about 2,400 feet at the highest ridgeline north of the City. Most of the City sits on competent alluvial materials that are less prone to natural hazards than the perimeter portions of the City. Potential geologic hazards in the planning area include landslides, expansive spills, subsidence and collapsible soils.

The sedimentary bedrock units that underlie the hillside areas appear to be grossly stable in their natural conditions, as remarkably few landslides have been mapped in the planning area. However, an earthquake on a nearby seismic source could trigger landslides. The stability of these slopes can also be negatively impacted by development.

Most of the planning area is underlain by sedimentary units (both bedrock and alluvium) that are composed primarily of granular soils (silty sand, sand, and gravel).

Such units are typically in the low to moderately-low range for expansion potential.

However, every sedimentary unit in the area contains layers of fine-grained soils that are typically in the moderate to highly expansive range. The areas most susceptible to expansive soils are located along the western boundary of the City. Potentially expansive layers may be exposed at the surface by erosion or may be uncovered by grading cuts made for developments.

Ground subsidence is the gradual settling or sinking of the ground surface with little or no horizontal movement. Most ground subsidence is man-induced. No regional subsidence as a result of

either groundwater pumping or oil extraction has been reported. However, thick alluvial deposits may be susceptible to subsidence should rapid groundwater withdrawal occur beneath these areas in response to population increase. These areas are primarily located in designated open spaces in the City, however, development in the northeastern portion of the City and adjacent to Antonio Parkway may be susceptible to this geologic hazard.

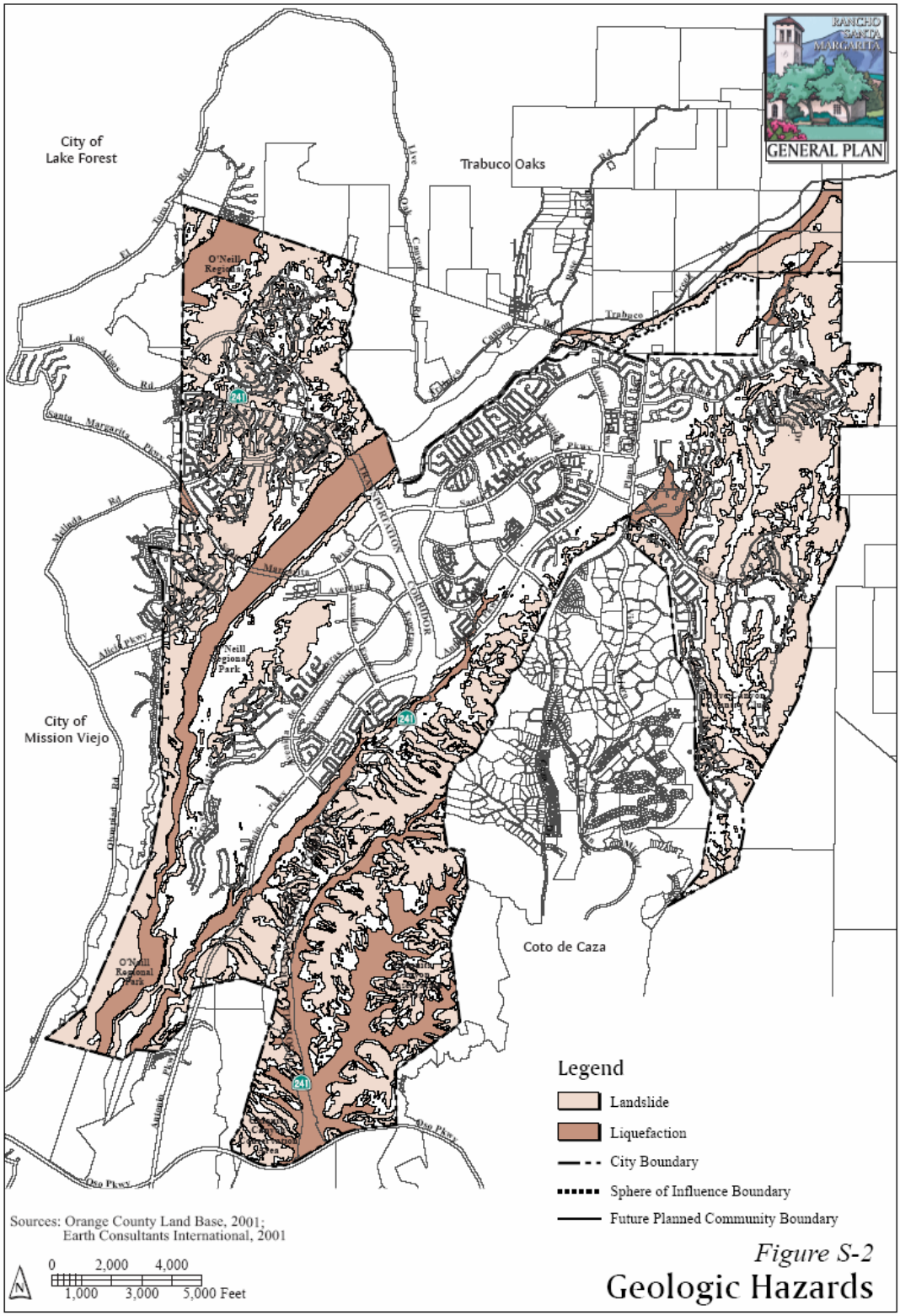


Figure S-2
Geologic Hazards

Collapse occurs when saturated, collapsible soils lose cementation, resulting in substantial and rapid settlement under relatively low loads. The alluvial deposits in the valley and canyon floors are susceptible to collapse.

The City will enact programs to reduce geologic hazards to protect public safety. To minimize hazards from earthquakes and other geologic hazards, the most recent state seismic guidelines and guidelines for other geologic hazards will be implemented for structural design. During the review of development proposals involving slopes, grading, unstable soils and other hazardous conditions, surveys of soil and geologic conditions by a state licensed engineering geologist will be required. Based on the results of the survey, design measures will be incorporated into projects to minimize geologic hazards.

County of Orange

The County of Orange provided a draft of their Hazard Mitigation Plan dated July 9, 2004 containing a description of earthquake hazards within the County.

Earthquakes are considered a major threat to the County due to the proximity of several fault zones, notably including the San Andreas Fault Zone and the Newport-Inglewood Fault Zone. A recent Southern California Earthquake Center (SCEC) report (SCEC, 1995) indicated that the probability of an earthquake of Magnitude 7 or larger in southern California before the year 2024 is 80 to 90%. A significant earthquake along one of the major faults could cause substantial casualties, extensive damage to buildings, roads and bridges, fires, and other threats to life and property. The effects could be aggravated by aftershocks and by secondary effects such as fire, landslides and dam failure. A major earthquake could be catastrophic in its effect on the population, and could exceed the response capability of the local communities and even the State.

Following major earthquakes, extensive search and rescue operations may be required to assist trapped or injured persons. Emergency medical care, food and temporary shelter would be required for injured or displaced persons. In the event of a truly catastrophic earthquake, identification and burial of the dead would pose difficult problems. Mass evacuation may be essential to save lives, particularly in areas below dams. Many families could be separated, particularly if the earthquake should occur during working hours, and a personal inquiry or locator system would be essential to maintain morale. Emergency operations could be seriously hampered by the loss of communications and damage to transportation routes within, and to and from, the disaster area and by the disruption of public utilities and services.

Extensive federal assistance could be required and could continue for an extended period. Efforts would be required to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and welfare for the affected population, including temporary housing for displaced persons.

In general, the population is less at risk during non-work hours (if at home) as wood-frame structures are relatively less vulnerable to major structural damage than are typical commercial and industrial buildings. Transportation problems are intensified if an earthquake occurs during work hours, as significant numbers of Orange County residents commute to work in Los Angeles County. Similarly, a somewhat smaller number of Los Angeles residents commute to work in Orange County. An earthquake occurring during work hours would clearly create major transportation problems for those displaced workers.

Hazardous materials could present a major problem in the event of an earthquake. Orange County, one of the largest industrial and manufacturing areas in the state, has several thousand firms that handle hazardous materials, and is estimated to produce more than 100 million gallons of hazardous waste per year (See Figure 6). The County's highways serve as hazardous materials transportation corridors, and Interstate 5 is the third busiest highway corridor in the country.

Much of the industrial base of Southern California, and Orange County in particular, consists of high-technology companies essential to the Nation's commerce, economy, and defense effort. A catastrophic earthquake could not only have a severe impact on the local industrial base, but also a major impact on the security of our nation. For example: census and Department of Defense data indicate that over 50 percent of the U.S. Missile and Space Vehicle business, about 75 percent of the domestic micro-chip industry, 40 percent of the U.S. semiconductor business, and more than 20% of the U.S. optical instrument business is located in California. Much of that capacity, including prime contractors, subcontractors or supply vendors, is located in Orange County. Approximately 5,000 defense contractors are located within 50 miles of the San Andreas Fault-including virtually all of Orange and Los Angeles Counties. In some cases, local defense contractors are the only source for some of the most critical defense systems used by our military departments.

In addition to the loss of production capabilities, the economic impact on the County from a major earthquake would be considerable in terms of loss of employment and loss of tax base. Also, a major earthquake could cause serious damage and/or outage to computer facilities. The loss of such facilities could curtail or seriously disrupt the operations of banks, insurance companies, and other elements of the financial community. In turn, this could affect the ability of local government, business and the population to make payments and purchases.

A fault map of southern California developed by the Southern California Earthquake Center (SCEC) can be found at http://www.scec.orq/faultmap.html. Large faults that could affect Orange County include the San Andreas Fault, the Newport-Inglewood Fault, the Whittier Fault, the Ellsinore Fault, and the San Jacinto Fault. Smaller faults include the Norwalk Fault, and the EI Modena and Peralta Hills Faults (orange). In addition, newly studied thrust faults, such as the San Joaquin Hills Fault and the Puente Hills Fault (not shown on map) could also have a significant impact on the County. Each of the major fault systems is described briefly below.

San Andreas fault zone: The dominant active fault in California, it is the main element of the boundary between the Pacific and North American tectonic plates. The longest and most publicized fault in California, it extends approximately 650 miles from Cape Mendocino in northern California to east of San Bernardino in southern California, and is approximately 35 miles northeast of Orange County. This fault was the source of the 1906 San Francisco earthquake, which resulted in some 700 deaths and millions of dollars in damage, but it is the southern section of this fault that is currently of greatest concern to the scientific community. Geologists can demonstrate that at least eight major earthquakes (Richter magnitude 7.0 and larger) have occurred along the Southern San Andreas Fault in the past 1200 years with an average spacing in time of 140 years, plus or minus 30 years. The last such event occurred in 1857 (the Fort Tejon earthquake). Based on that evidence and other geophysical observations, the Working Group on California Earthquake Probabilities (SCEC, 1995) has estimated the probability of a similar rupture (M 7.8) in the next 30 years (1994 through 2024) to be about 50%. The range of probable Magnitudes on the San Andreas Fault Zone is reported to be 6.8 - 8.0.

Newport-Inglewood fault zone: Extends from the Santa Monica Mountains southeastward through the western part of Orange County to the offshore area near Newport Beach and was the source of the destructive 1933 Long Beach earthquake (magnitude 6.4), which caused 120 deaths and considerable property damage. During the past 60 years, numerous other shocks ranging from magnitude 3.0 to 5+ have been recorded. SCEC reports probable earthquake Magnitudes for the Newport-Inglewood fault to be in the range of 6.0 to 7.4.

Ellsinore fault zone: Located in the northeast part of the county, this fault follows a general line easterly of the Santa Ana Mountains into Mexico. The main trace of the Ellsinore Fault zone is about 180 km long. The last major earthquake on this fault occurred in 1910 (M 6.0), and the interval between major ruptures is estimated to be about 250 years. SCEC reports probable earthquake Magnitudes for the main trace of the Ellsinore fault to be in the range of 6.5 to 7.5. At the northern end of the Ellsinore Fault zone, the fault splits into two segments; the 40 km long Whittier Fault (probable Magnitudes between 6.0 and 7.2), and the 21 km long Chino Fault (probable Magnitudes between 6.0 and 7.0).

San Jacinto fault zone: Located approximately 30 miles north and east of the county. The interval between ruptures on this 210 km long fault zone has been estimated by SCEC to be between 100 and 300 years, per segment. The most recent event (1968 M6.5) occurred on the southern half of the Coyote Creek segment. SCEC reports probable earthquake Magnitudes for the San Jacinto fault zone to be in the range of 6.5 to 7.5.

San Joaquin Hills Fault: The San Joaquin Hills Fault is a recently discovered southwest-dipping blind thrust fault originating near the southern end of the Newport-Inglewood Fault near Huntington Beach, at the western margins of the San Joaquin Hills. Rupture of the entire area of this blind thrust fault could generate an earthquake as large as M 7.3. In addition, a minimum average recurrence interval of between about 1650 and 3100 years has been estimated for moderate-sized earthquakes on this fault (Grant and others, 1999).

Puente Hills Thrust Fault: The Puente Hills Thrust Fault is another recently discovered blind thrust fault that runs from northern Orange County to downtown Los Angeles. This fault is now known to be the source was the 1987 Whittier Narrows earthquake. Recent studies indicate that this fault has experienced four major earthquakes ranging in Magnitude from 7.2 to 7.5 in the past 11,000 years, but that the recurrence interval for these large events is on the order of several thousand years.

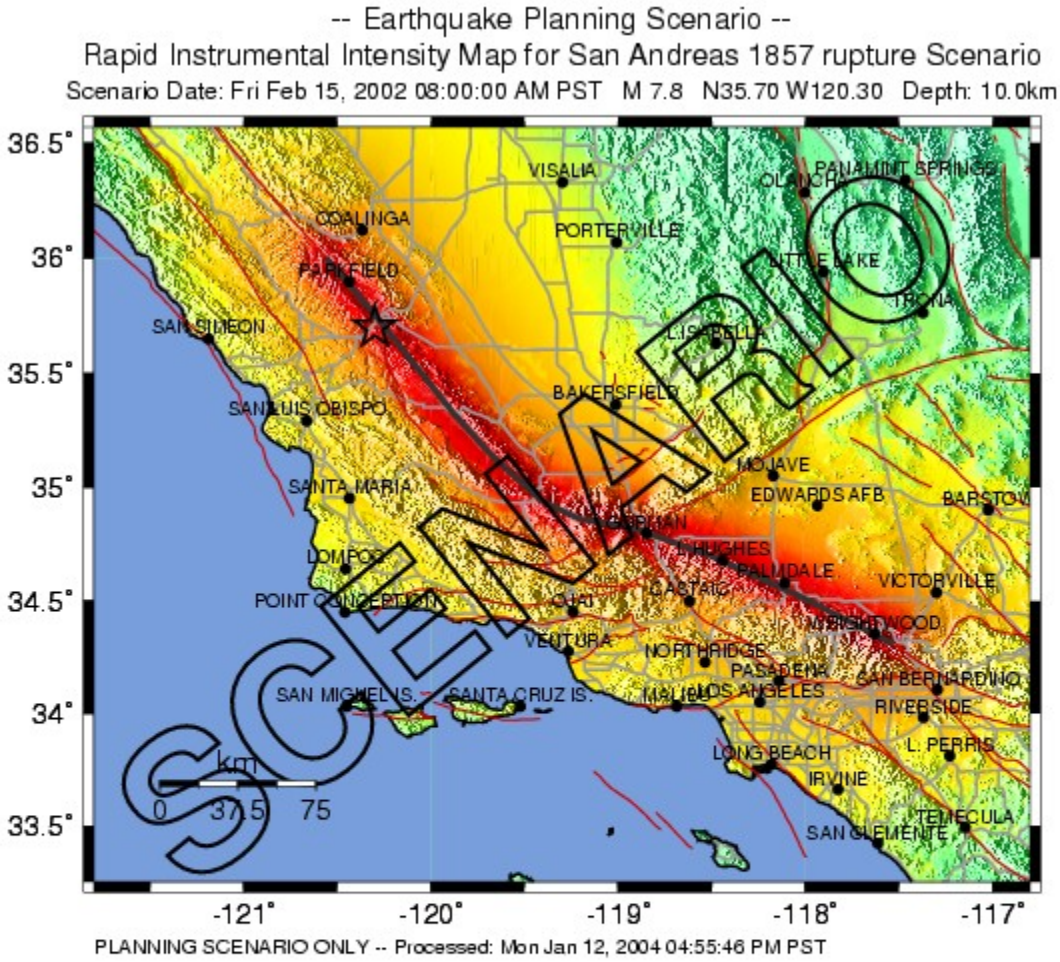
In addition to the major faults described above, rupture of a number of smaller faults could potentially impact Orange County, including the Norwalk Fault (located in the north part of the county in the Fullerton area), the El Modena Fault (located in the Orange area), and the Peralta Hills Fault in the Anaheim Hills area.

As indicated, there are a large variety of earthquake events that could affect Orange County. (The earliest recorded earthquake in California occurred in Orange County in 1769.) Predicted ground shaking patterns throughout Southern California for hypothetical scenario earthquakes are available from the United States Geological Survey as part of their ongoing "ShakeMap" program. These maps are provided in terms of Instrumental Intensity, which is essentially Modified Mercalli Intensity estimated from instrumental ground motion recordings. Shake Maps in graphical and GIS formats are available on the USGS website at: http://earthquake.usgs.gov/shakemap/sc/.

Risk to School Facilities

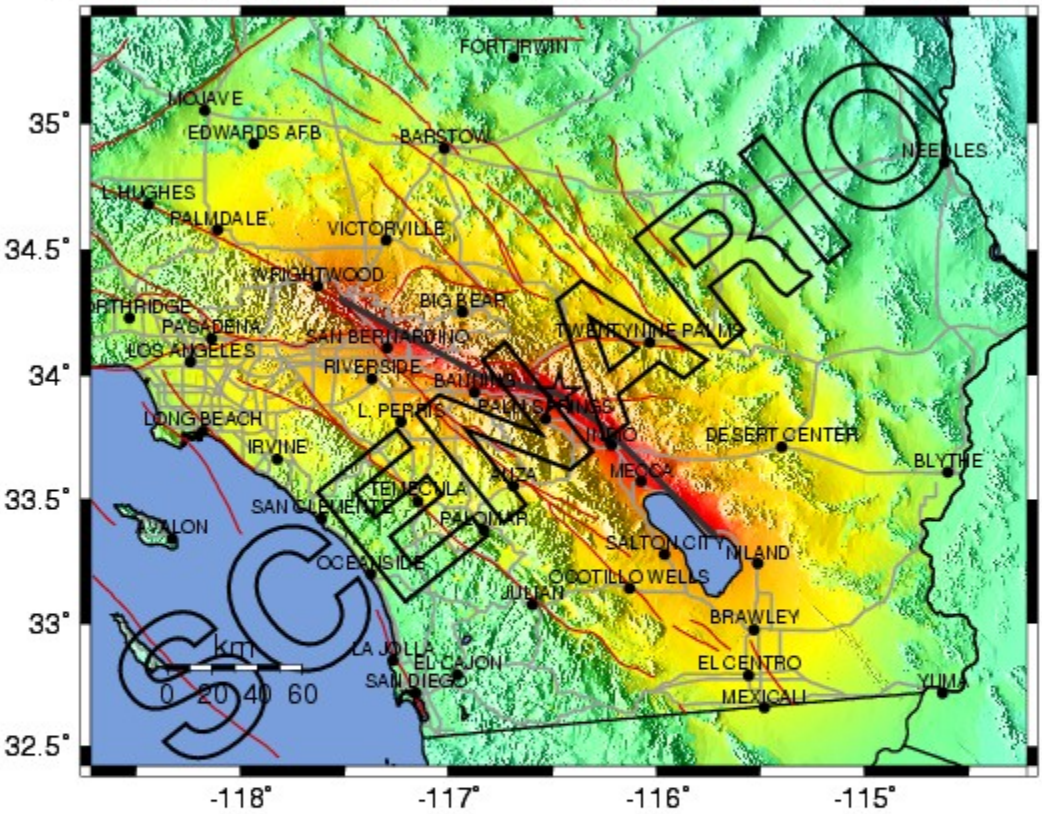
Saddleback Valley Unified School District facilities and populations share the same risk as do the communities it serves. A catastrophic earthquake along any of the faults described could bring extensive damage to District facilities located on or near those faults.

It is estimated that a catastrophic earthquake in Orange County would affect 22% of the district facilities.



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

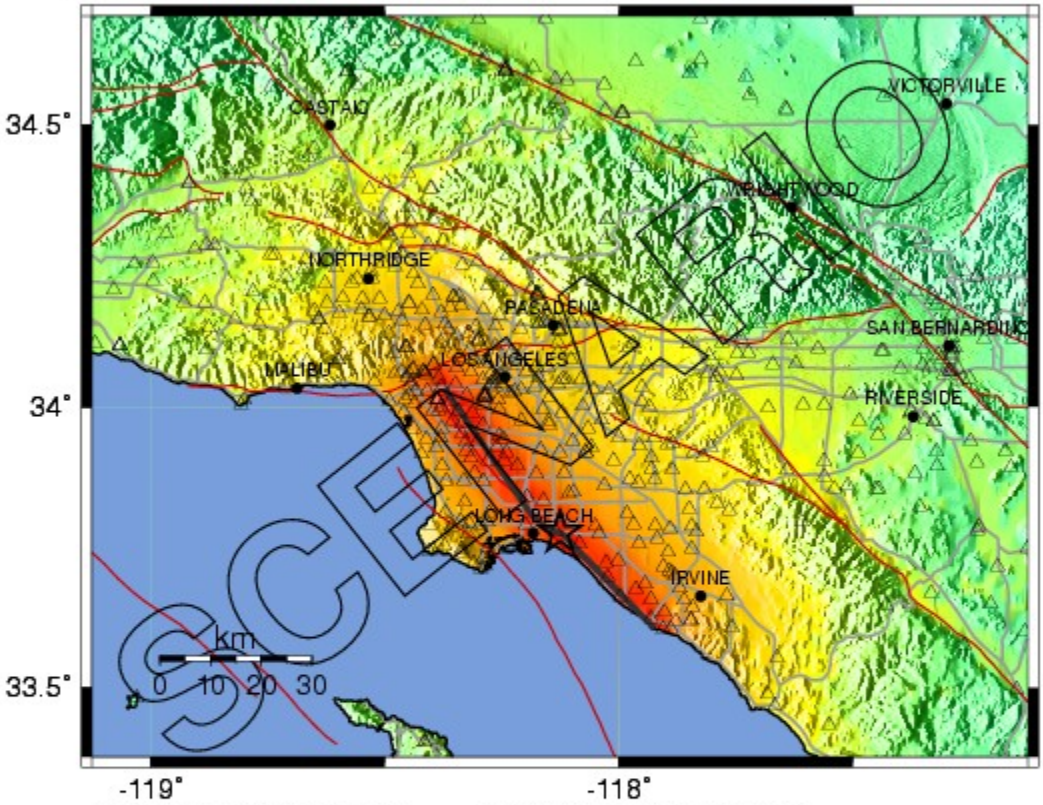
-- Earthquake Planning Scenario --
Rapid Instrumental Intensity Map for San Andreas southern rupture Scenario
Scenario Date: Wed Nov 14, 2001 04:00:00 AM PST M 7.4 N33.92 W116.47 Depth: 10.0km



PLANNING SCENARIO ONLY -- Processed: Mon Jan 12, 2004 10:55:42 AM PST

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	*<.17*	*.17-1.4*	*1.4-3.9*	*3.9-9.2*	*9.2-18*	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	*16-31*	*31-60*	*60-116*	*>116*
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

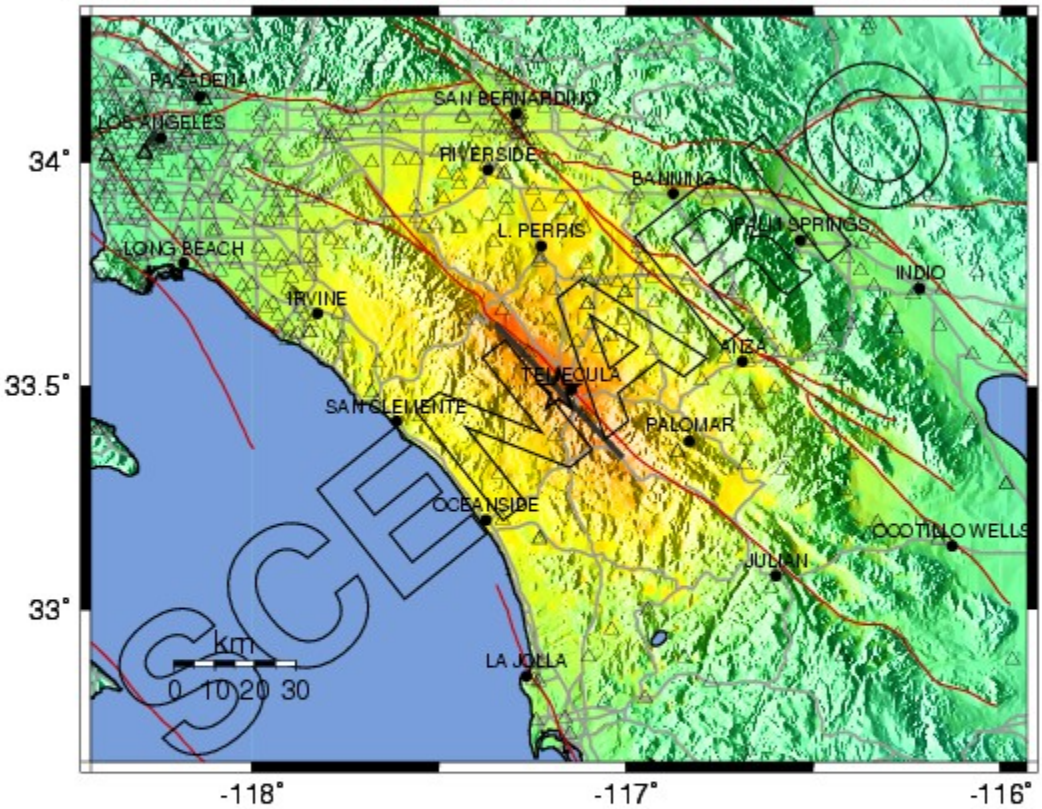
-- Earthquake Planning Scenario --
Rapid Instrumental Intensity Map for Newport-Inglewood M6.9 Scenario
Scenario Date: Fri Aug 3, 2001 05:00:00 AM PDT M 6.9 N33.78 W118.13 Depth: 6.0km



PLANNING SCENARIO ONLY -- Processed: Wed Jul 7, 2004 10:40:47 PM PDT

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

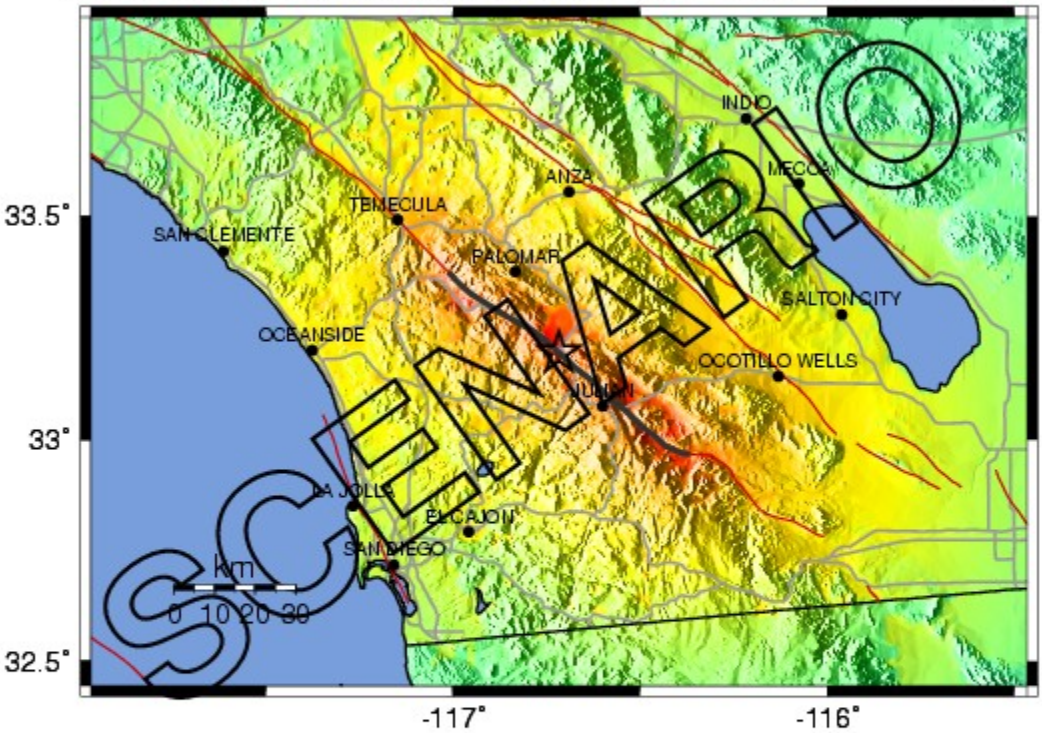
-- Earthquake Planning Scenario --
Rapid Instrumental Intensity Map for Elsinore Fault M6.8 Scenario
Scenario Date: Wed Apr 10, 2002 05:00:00 AM PDT M 6.8 N33.49 W117.18 Depth: 6.0km



PLANNING SCENARIO ONLY -- Processed: Wed Jul 7, 2004 10:19:48 PM PDT

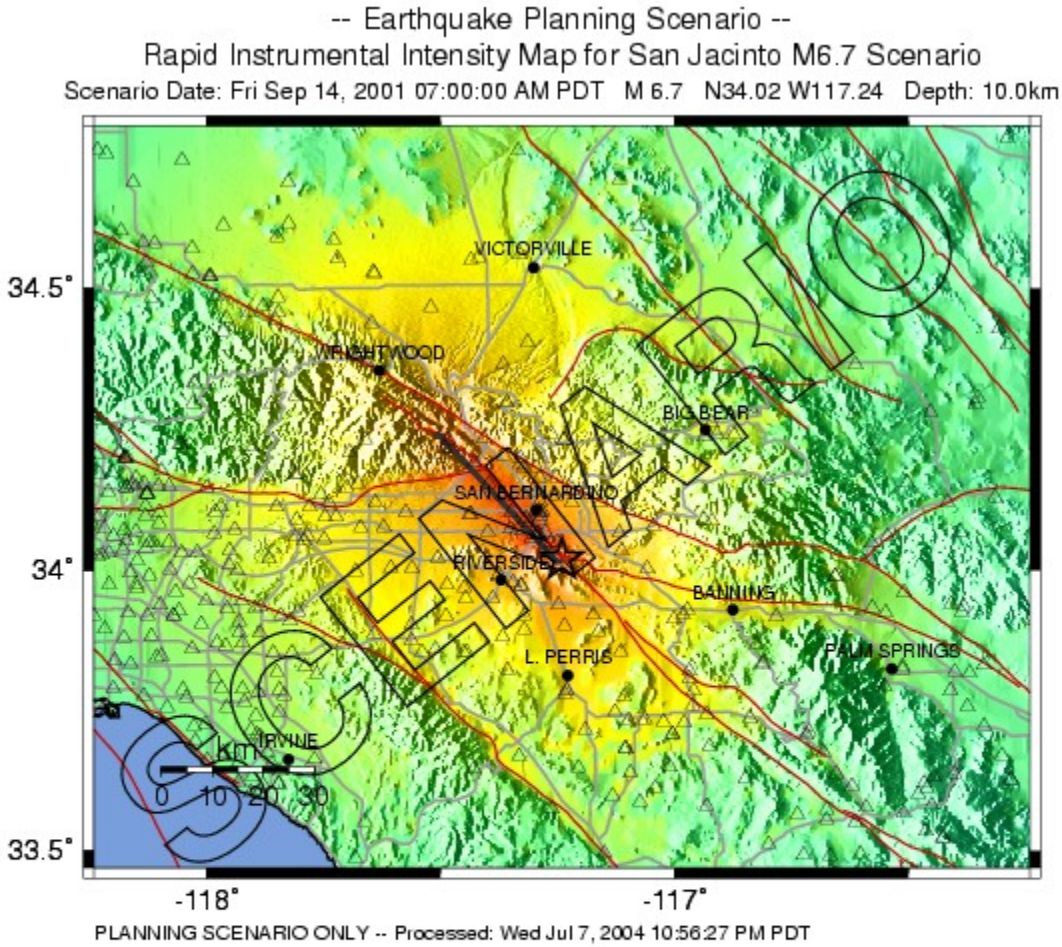
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

-- Earthquake Planning Scenario --
Rapid Instrumental Intensity Map for Elsinore Julian7.1 Scenario
Scenario Date: Tue Aug 12, 2003 05:00:00 AM PDT M 7.1 N33.19 W116.72 Depth: 0.0km



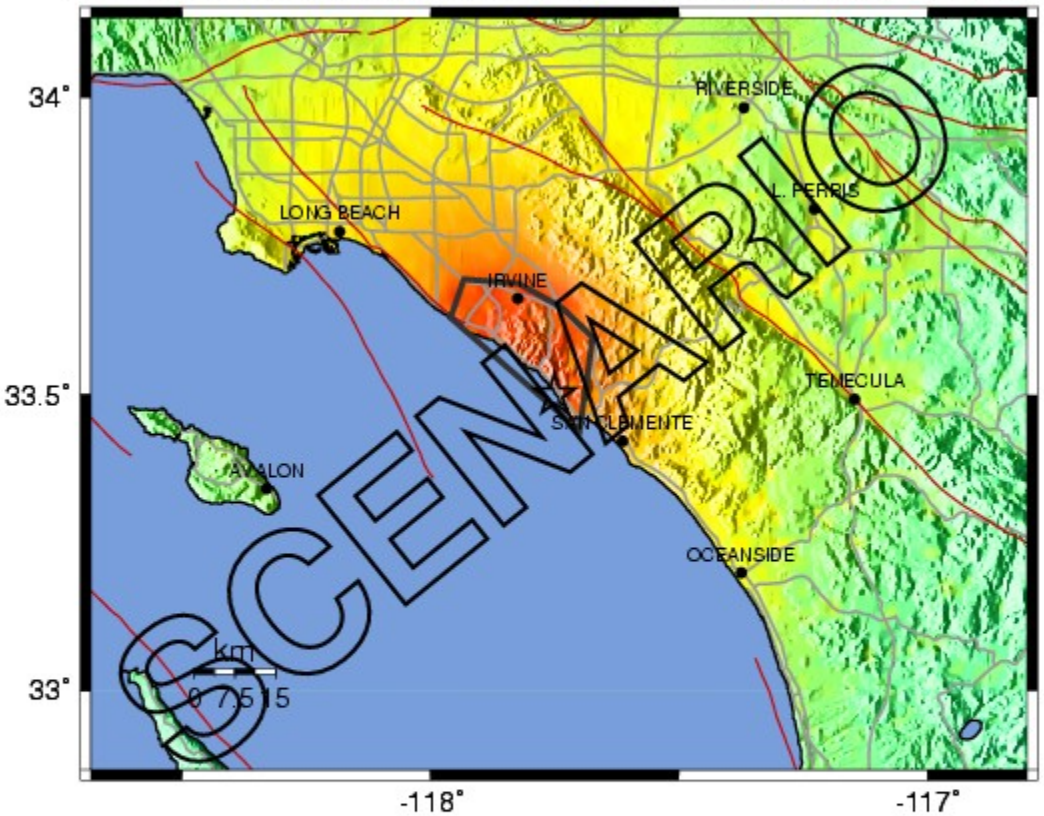
PLANNING SCENARIO ONLY -- Processed: Mon Jan 12, 2004 12:02:21 PM PST

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+



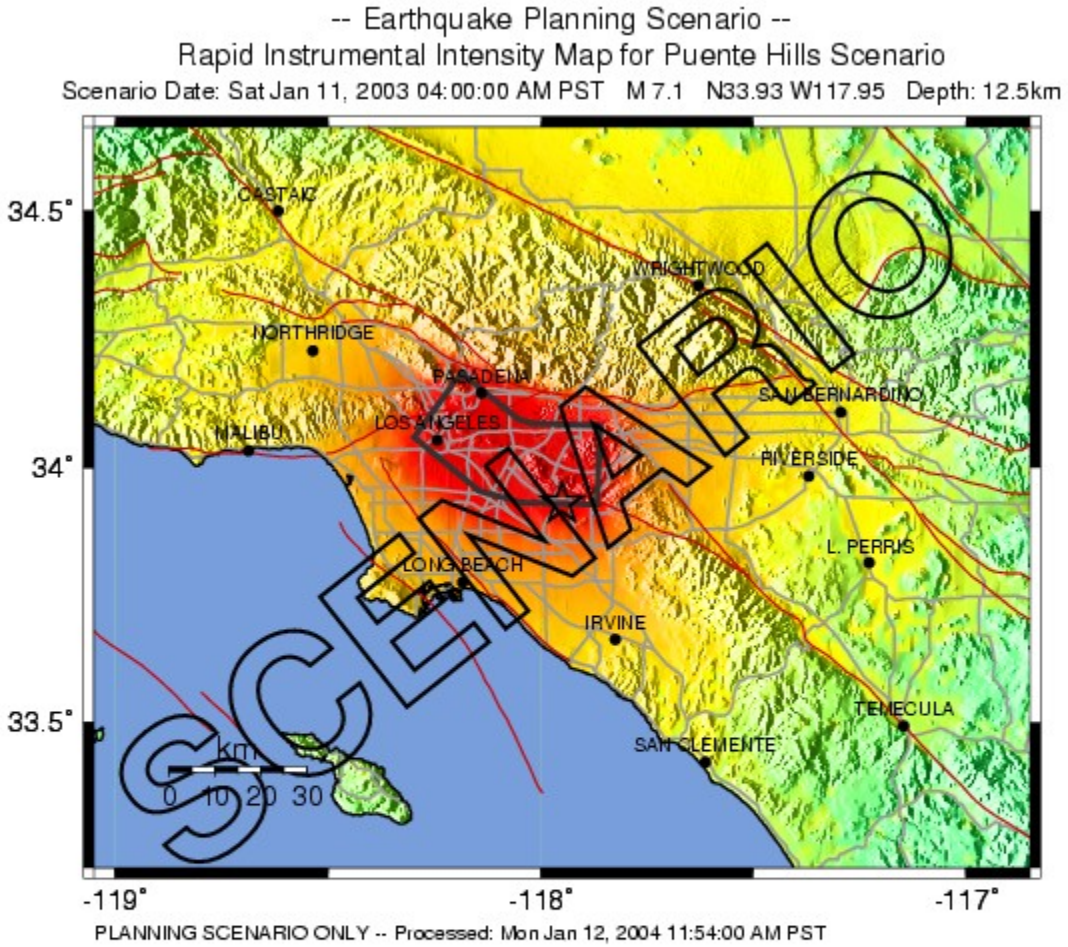
PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

-- Earthquake Planning Scenario --
Rapid Instrumental Intensity Map for San Joaquin Hills Scenario
Scenario Date: Sat Jan 11, 2003 04:00:00 AM PST M 6.6 N33.50 W117.75 Depth: 7.5km

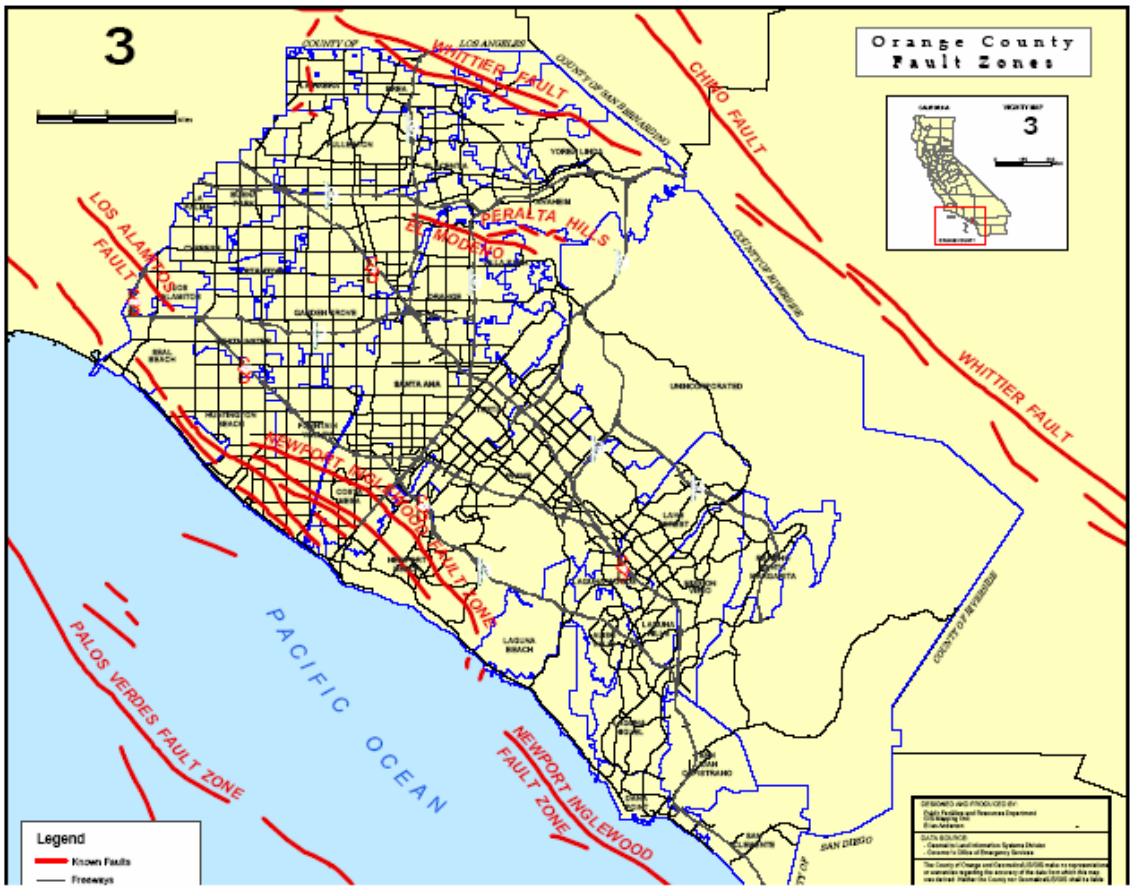


PLANNING SCENARIO ONLY -- Processed: Mon Jan 12, 2004 11:50:20 AM PST

PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	*<.17*	*.17-1.4*	*1.4-3.9*	*3.9-9.2*	*9.2-18*	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	*16-31*	*31-60*	*60-116*	*>116*
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+


3
Orange County
Fault Zones
WHITTIER FAULT
CHINO FAULT
LOS ALAMITOS FAULT
PERALTA HILLS
EL MODENO
NEWPORT-INGLEWOOD FAULT ZONE
PACIFIC OCEAN
PALOS VERDES FAULT ZONE
NEWPORT INGLEWOOD FAULT ZONE
Legend
Known Faults
Freeways

Hazardous Materials: Transportation Accidents/Underground Pipelines

Hazardous Materials: Transportation Accidents/Underground Pipelines were rated as a HIGH RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.

Orange County Fire Authority Hazardous Materials Services Section

Hazardous Materials Release Reporting

Notification Responsibility

All businesses are required to provide an immediate, verbal report of any accidental *release or threatened release* of a hazardous material to the Orange County Fire Authority (OCFA) Hazardous Material Services Section and to the State Office of Emergency Services. This is required when a person has knowledge of the release or threatened release, and the notification can be provided without impeding immediate control of the release.

HOW? If you have a release that requires emergency response, call 911. A spill that can be managed by the facility is considered an incident, while a large release or a release involving injured or unconscious personnel requires emergency responders. The information you provide to the dispatcher will assist them in determining the response level (i.e. single fire engine, a multi-engine response, the hazardous materials unit, etc.).

Fed, State & Local Requirements

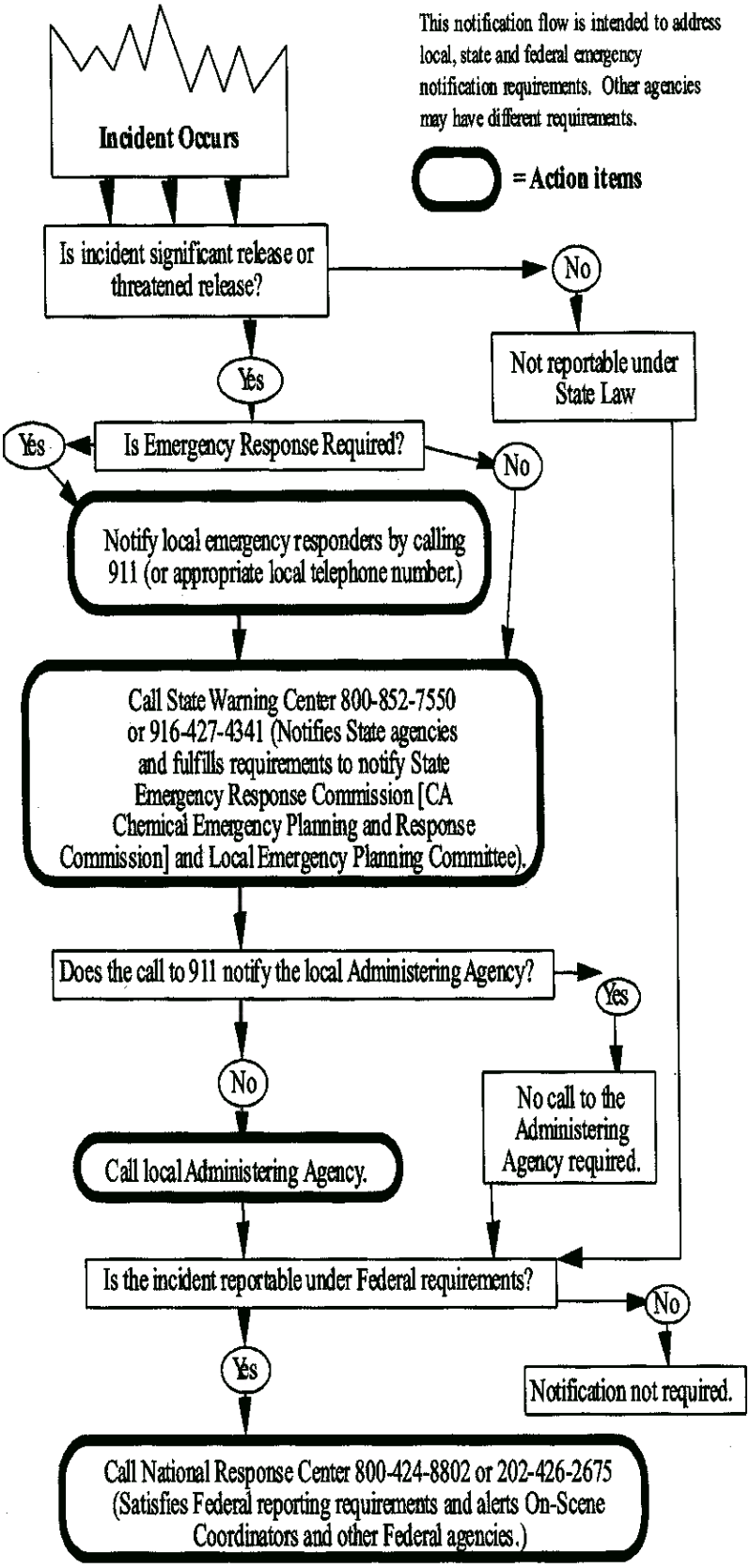
Pursuant to Title 42 of the United States Code, Section 11004(c), a business shall prepare a written emergency release follow-up notice within 30 days of a release.

A notification flow chart has been provided to assist you in meeting the reporting requirements.

Incident vs. Emergency

A *hazardous materials incident* is a spill or release that can be absorbed, neutralized, or otherwise controlled at the time of the release. Generally, the substance can be controlled by the employees in the immediate area or by maintenance personnel and there are no immediate safety or health hazards.

A *hazardous materials emergency* requires emergency responders, my requires response from different regulating agencies, results in an actual or potential uncontrolled release, and/or causes danger to employees requiring immediate d medical attention.


This notification flow is intended to address local, state and federal emergency notification requirements. Other agencies may have different requirements.
= Action items
Incident Occurs
Is incident significant release or threatened release?
No
Not reportable under State Law
Yes
Is Emergency Response Required?
Yes
No
Notify local emergency responders by calling 911 (or appropriate local telephone number.)
Call State Warning Center 800-852-7550 or 916-427-4341 (Notifies State agencies and fulfills requirements to notify State Emergency Response Commission [CA Chemical Emergency Planning and Response Commission] and Local Emergency Planning Committee).
Does the call to 911 notify the local Administering Agency?
Yes
No
No call to the Administering Agency required.
Call local Administering Agency.
Is the incident reportable under Federal requirements?
No
Yes
Notification not required.
Call National Response Center 800-424-8802 or 202-426-2675 (Satisfies Federal reporting requirements and alerts On-Scene Coordinators and other Federal agencies.)

City of Lake Forest

The City of Lake Forest provided the Safety and Noise Element of the General Plan dated June 21, 1994 containing a description of the hazardous materials hazard within their jurisdiction.

Emergency Plan

Threat Summary Hazardous Materials Release

Hazardous materials are transported through the City via highway, rail, and pipeline. Public facilities and numerous businesses located in the City store and use varying types and quantities of hazardous materials. The haulers and users of hazardous materials are listed with the Orange County Fire Authority and are regulated and monitored under the auspices of the County of Orange. There are no production facilities for the manufacture of hazardous materials in the City

A hazardous material incident could arise from a transportation mishap or a situation at a fixed installation. The release of a hazardous material, because of its quantity, concentration, or characteristics, could cause widespread damage and pose a significant threat to the health and safety of the public and to the environment.

Hazardous material emergency response activities will be provided by the Orange County City Hazardous Material Emergency Response Authority, a joint powers agency.

The planning basis for response to a hazardous material incident in Lake Forest is the Orange County Hazardous Materials Area Plan. The plan is executed within the contract services of the Orange County Fire Authority under the Orange County-City Hazardous Material Emergency Response Authority, a joint powers agency.

Threat Summary Nuclear Power Plant Emergency

The San Onofre Nuclear Generating Station (SONG) is located on the coast of Southern California in San Diego County, approximately 35 miles south of Lake Forest. The City is NOT located within the e10 mile Emergency Planning Zone (EPZ), defined as that area most likely to be affected by a major nuclear incident. The cities currently included in the EPZ are San Cemented, San Juan Capistrano, and Dana Point. These three cities participate in the nuclear Preparedness Program (NPP), a more intensive planning program related to nuclear incidents at SONGS. The City of Lake Forest is , however, located within the 50-mile Public Education Zone. The SONGS site, located entirely within the boundaries of the United States Marine Corps Base, Camp Pendleton, is approximately 4500 feet long and 800 feet wide, comprising 82.64 acres. SONGS is owned and operated by Southern California Edison (SCE).

The plant is designed to use slightly enriched uranium dioxide (UO2) as a fuel. This fuel poses no major concern in its unirradiated form since it is of very low radioactivity. However, after being in the core during operation of the reactor (fission process), the fuel becomes extremely radioactive by the production of fission by-products. These highly radioactive by-products, if released to the environment, are the main concern in a nuclear power plant accident.

The abnormal release of radioactivity during a catastrophic event could present a potential health hazard to the public. The controlled release of radioactive materials to the environment and limitation of radiation dose to workers and members of the public from

operations involving normal nuclear power reactors are governed by Code of Federal Regulations, Title 10, Part 20.

Radiological emergency response plans in support of nuclear power plants are developed using guidance from the Federal planning document titled *NUREG-0654/FEMA-REP-I, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.*

The State of California has also established regulations and guidance for nuclear power plant emergency preparedness. The State Emergency Services Act provides a broad base of authority and guidance applicable to all disaster response program activities. Program guidance more specifically applied to nuclear power plant emergency preparedness is contained in the California Health and Safety Code.

The planning effort for San Onofre has incorporated activities which will allow response actions to be taken for the most minor accident with little or no City involvement, to worst-case situations with total local, State, and Federal actions.

San Onofre Nuclear Generating Station

The San Onofre Nuclear Generating Station is located near the southern boundary of Orange County. The federal and state governments have created three levels of emergency zones surrounding nuclear facilities:

Emergency Planning Zone: Planning efforts within this zone include emergency sheltering or evacuation;

Public Education Zone: Lake Forest is located within this zone and educational programs are focused in this zone to ensure that residents are prepared for any problems with the facility; and

Ingestion Pathway Zone: This zone is created to avoid the ingestion of deposited radioactive materials by humans and livestock.

Southern California Edison, which operates SONGS, will provide notification to all off – site jurisdictions within 15 minutes of declaration of any emergency. At this point, the City will implement procedures established in the Emergency Preparedness Plan.

City of Mission Viejo

The City of Mission Viejo provided the Public Safety Element of the General Plan dated January 20, 2003 containing a description of the hazardous materials hazard within their jurisdiction.

Hazardous Material Exposure

The handling and storage of hazardous materials, both household and industrial, has become a daily occurrence within urban areas. Many households and commercial and industrial establishments throughout Mission Viejo store and/or use hazardous materials in some capacity. When improperly stored and disposed of, these materials can result in a multitude of hazards for the community including fire, water contamination, illness, and death.

The Southern California Association of Governments (SCAG) with input from the Orange County Health Care Agency has prepared a Hazardous Waste Management Plan that

encompasses a regional plan to dispose of, store, and reduce the risks associated with hazardous waste. The associated hazardous materials issues

include accidental spillage of wastes, the transportation of wastes through populated areas, and disposal of wastes in a safe manner.

One of the greatest risks to a community from hazardous materials is during the transportation of materials from suppliers to users on freeways, streets, and railroads. The California Department of Transportation is the primary regulatory authority for interstate transport of hazardous materials, establishing safe handling procedures. The California Highway Patrol enforces the regulations regarding hazardous material transportation.

Hazardous materials such as petroleum and natural gas can also be transported through underground pipelines. These underground pipelines have the potential to rupture contaminating drinking water and causing fire. The California State Fire Marshal, Office of Liquid Pipeline Division, enforces and inspects underground pipelines. The Orange County Fire Authority (OCFA) has emergency response authority in the event of a ruptured pipeline.

The Orange County Fire Authority's other responsibilities include inventorying the distribution of hazardous materials. The OCF A has developed and implemented area emergency plans to respond to a hazardous material incident and requires businesses that handle hazardous materials to develop business emergency plans to deal with fire and the release of those materials.

The San Onofre Nuclear Generating Station (SONGS) is approximately 15 miles southeast of Mission Viejo. The nuclear power plant is located next to San Onofre State Beach, on Camp Pendleton U.S. Marine Corps Base. The Nuclear Regulatory Commission establishes an area around all nuclear power plant identified as an Emergency Planning Zone (EPZ). Extensive planning efforts within the SONGS EPZ are provided for emergency actions in the unlikely event of a serious emergency. The State of California has defined the area around and adjacent to the Emergency Planning Zone as the Public Education Zone. Mission Viejo falls within the Public Education Zone. For the reasons, the following goal and policies are established:

GOAL 5: Protect the City's inhabitants from exposure to hazardous materials and wastes.

Policy 5.1: Cooperate with the County and SCAG in implementation of its Hazardous Waste Management Plan.

Policy 5.2: Cooperate with railroad operations to ensure that hazardous materials transported by rail do not pose a threat to life or property.

Policy 5.3: Land uses involving the production, storage, transportation, handling, or disposal of hazardous materials shall be located a safe distance from other land uses that may be adversely affected by such activities.

Policy 5.4: Establish transportation routes for the conveyance of hazardous materials.

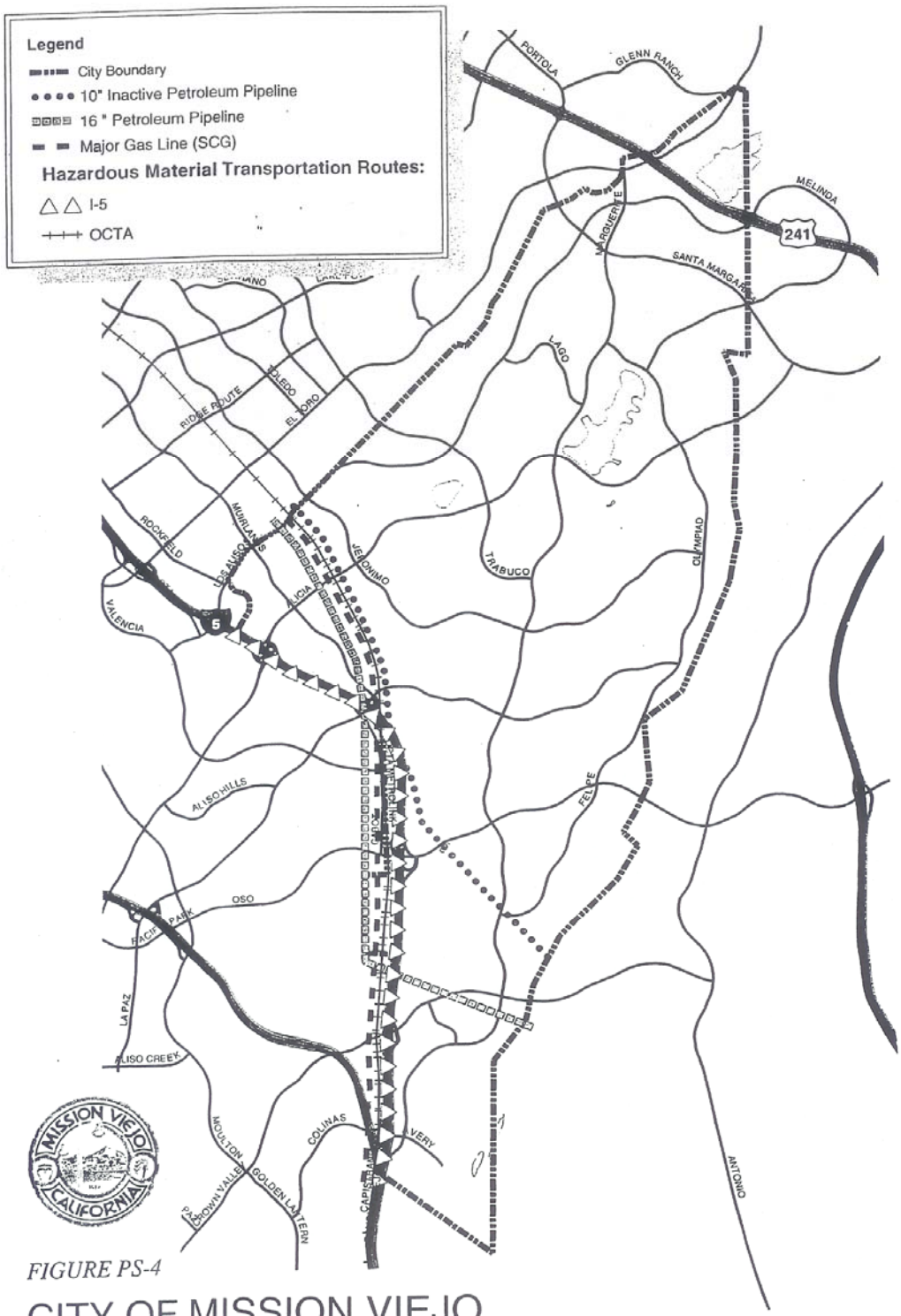


FIGURE PS-4

CITY OF MISSION VIEJO
HAZARDOUS MATERIALS MAP

City of Rancho Santa Margarita

The City of Rancho Santa Margarita provided the Safety Element of the General Plan dated December 2002 containing a description of the hazardous materials hazard within their jurisdiction.

Hazardous Materials

Hazardous materials are used in Rancho Santa Margarita for a variety of purposes, including service industries, small businesses, schools and households. Many chemicals used in household cleaning, construction, dry cleaning, film processing, landscaping, and automotive maintenance and repair are considered hazardous. Accidents can occur in the production, use, transport and disposal of hazardous waste.

In order to effectively manage hazardous materials and waste, the City implements applicable portions of both the Orange County Hazardous Materials Area Plan and the Orange County Hazardous Waste Management Plan. Both the federal government and the State of California require all businesses that handle more than a specified amount of hazardous materials or extremely hazardous materials, termed a reporting quantity, to submit a business plan to the local Certified Unified Program Agency (CUPA). The CUP A with responsibility for the City of Rancho Santa Margarita is the Orange County Environmental Health Department. These business plans are submitted to the CUP A annually.

The City participates in a Household Hazardous Waste (HHW) collection program set up by the County of Orange in accordance with the California Integrated Solid Waste Management Act of 1989. HHW drop-off facilities are located throughout the county. The City also participates in a recycling program operated under private sector contract.

The City will work to minimize accident and health risk from hazardous materials with the following approaches:

- Cooperate with federal, state, and county agencies to effectively regulate the management of hazardous materials and hazardous waste;
- Cooperate with the County of Orange to implement the applicable portions of the County Hazardous Waste Management Plan and the Hazardous Materials Area Plan;
- Identify roadway transportation routes for conveyance of hazardous materials (the City does not exercise jurisdiction over transportation of freight along railroad right-of-way);
- Implement the emergency response plan for accidents involving hazardous materials; and
- Cooperate with the Certified Unified Program Agency (CUP A) for Rancho Santa Margarita (the Orange County Environmental Health Department) and the Orange County Fire Authority to administer risk management plans for businesses within the City.

Hazardous Materials Location Laguna Hills	
Garrett Precision 22951 Alcalde Dr	Contour Arc Inc 23122 Alcalde Dr.
Beco Manufacturing Inc 23197 Alcade Dr	Best Cleaners 24781 Alicia Parkway
Laguna Hills Car Wash/Chervon Station 24795 Alicia Parkway	Laguna Hills Union # 5647 24799 Alicia Parkway
Alpha Cleaners 24881 Alicia Parkway	Phillips Buick Pontiac Mazda 24888 Alicia Parkway
Show White Dry Cleaners 25381 Alicia Parkway	Mobil Service Station #00826 25491 Alicia Parkway
Alicia Cleaners 25606 Alicia Parkway	Verizon Wireless #042 23046 Av De La Carlota
The Pacificare Building 23046 Av De La Carlota	AT & T Wireless 24422 Av De La Carlota
Laguna Hills Auto Spa 25172 Cabot RD	Toro Cleaners 25248 Cabot RD
Just Tires 25352 Cabot RD	Pacific Hills Surgery Center Inc 24022 Calle De La Plata
Viking Independent Inc 23501 Commerce Center	Laguna Auto Collision 23501 Commerce Center
T N K Automotive 23502 Commerce Center	Leisure World Auto Repair 23512 Commerce Center
Power Collision Center 23522 Commerce Center	BJS Auto Care and Repair Clinic 23551 Commerce Center
Southland Autocare 23551 Commerce Center	Saddleback Imports 23551 Commerce Center
Simon's Autobody & Frame Inc 23551 Commerce Center	Daytona Auto Care 23551 Commerce Center
Color Masters 23552 Commerce Center	Pacific Concrete Images 23015 Del Lago Dr.
Drews Optical 23111 Del Lago Dr	El Toro Fuel Corp #255408 24082 El Toro RD
Nellie Gail Ranch Tennis Club 25281 Empty Saddle Dr.	Moulton Niguel Water District 26161 Gordon RD
Vision Motor Sports 22681 Granite Way	Mechanical Mann Auto Service Inc 22701 Granite Way
Precision Auto Repair 22701 Granite Way	Autobody by Caldwell 22772 Granite Way
Saddleback Hospital 24451 Health Center Dr.	Country Villa Laguna Hills 24452 Health Center Dr.
Verizon Wireless 25260 E La Paz Rd	Fancy Cleaners 25260 E La Paz Rd
Goodyear Tire/ Just Tires #8662 24099 Laguna Hills Mall	Sears Laguna Hills Mall/Auto Center 24300 Laguna Hills Mall
Saddleback Suzuki 23034 Lake Forest Dr.	Shell Oil #135404 23038 Lake Forest Dr.
Gyro Hobbies 23052 Lake Forest Dr	Royale Cleaners 25292 McIntyre St.

Hazardous Materials Location Laguna Hills	
MNWD-Aliso Hills 25292 McIntyre St	A & R Floor Covering Accessories & Supply 23011 Moulton Parkway
Laguna Hills Muffler Service 23011 Moulton Parkway	Hanlon Foreign Car Repair 23011 Moulton Parkway
El Toro Water District 23542 Moulton Parkway	Moulton Parkway Auto Spa 24202 Moulton Parkway
EZ Lube # 14 24281 Moulton Parkway	Polo Cleaners 26548 Moulton Parkway
Kragen Auto Works #715 26562 Moulton Parkway	Kragen Auto Works #715 26562 Moulton Parkway
Parkway Cleaners 27001 Moulton Parkway	Verizon Wireless # 102 27393 Moulton Parkway
MNWD – Mathis Res. 25655 Nellie Gail RC	Verizon Wireless 23521 Paseo De Valencia
OCFA Fire Station #22 24001 Paseo De Valencia	Saddleback Valley Outpatient Surgical Center 24302 Paseo De Valencia
Sunrise Senior Living 24552 Paseo De Valencia	Saddleback Valley Associates 25261 Paseo De Valencia
Laguna Hills High School 25401 Paseo De Valencia	Ralphs #223 25539 Paseo De Valencia
Cooksey Corporation 23191 Peralta Dr.	Twins Auto Repair 23221 Peralta Dr.
Twins Auto Repair 23221 Peralta Dr.	Expert Auto Repair 232221 Peralta Dr.
Maurer Technical Services 23331 Peralta Dr.	TG Scientific Glass Fabrication Inc 23422 Peralta Dr.
El Toro Water District 23201 Ridge Route Dr.	Tectron Engineering 23621 Ridge Route Dr.
Kelly Paper Store 23641 Ridge Route Dr.	Lake Hill's Cleaners 24401 Ridge Route Dr
El Toro Water District – Westline Lift Station 23572 Santa Vittoria Dr	El Toro Water District- Veeh Lift Station 23988 Santa Vittoria Dr
Fossil Energy Research Corporation 23342 South Pointe Dr	Energy Research Consultants 23342 South Pointe Dr.
United Green Mark Inc 23432 South Pointe Dr.	Doctors Ambulance Co 23091 Terra Dr.
Consolidated Reprographics 23271 Verdugo Dr.	Terminix International 23302 Verdugo Dr.
R C Westburg Engineering 23302 Vista Grande Dr.	

Trabuco Canyon, Orange County Hazardous Material List	
Dove Canyon Country Club Maintenance 23885 Barneburg	Verizon Wireless 20437 Live Oak Canyon RD.
Normans Nursery Inc 20177 Meadow Ridge Dr.	R & M Shell #13685 21712 Plano Trabuco RD.
Joplin Youth Center 19480 Rose Canyon RD.	O'Neill Park 30892 Trabuco Canyon RD.
OCFA Fire Station #18 30942 Trabuco Canyon RD.	Trabuco General Store 31021 Trabuco Canyon RD.
Ty Nursery 31761 Trabuco Canyon RD.	Sakaida Nursery Inc 31971 Trabuco Canyon RD.
Santa Margarita Water District 24263 Coto De Caza Dr.	Verizon Wireless 32154 Violeta Lane
OCFA Fire Station #40 25082 Vista Del Verde	Coto De Caza Golf Maintenance 25541 Vista Del Verde

Rancho Santa Margarita Hazardous Materials Locations	
Santa Margarita Water District 1 Altisima	Vons Pavilion #2217 22451 Antonio Parkway
Rancho Santa Margarita Jiffy Lube #1598 23041 Antonio Parkway	Royal Motors Mercedes & BMW 23061 Antonio Parkway
Awesome Performance Industries 23061 Antonio Parkway	Paul's Japanese Auto Repair 23061 Antonio Parkway
Golden Wrench Automotive 23071 Antonio Parkway	Santa Margarita Water District 23084 Antonio Parkway
M2 Collision Care Center 23251 Antonio Parkway	Santa Margarita Water District 24134 Antonio Parkway
Hughes Supply 22931 Arroyo Vista	Gish Biomedical 22942 Arroyo Vista
Car Sound Exhaust System, Inc. 22961 Arroyo Vista	V M Technology, Inc 23031 Arroyo Vista
O'Connell Landscape Maintenance 23091 Arroyo Vista	Mission Viejo Ornamental Iron 29708 Av De Las Banderas
Glas Werk Inc 29710 Av De Las Banderas	American Partitions, Inc. 29722 Av De Las Banderas
Santa Margarita Ford Fleet Service 29922 Av De Las Banderas	Cox Communications 29947 Av De Las Banderas
Image One Impact DBA RSM U-Haul 29962 Av De Las Banderas	Car sound Exhaust System, Inc 30142 Av De Las Banderas
Viking Components 30200 Av De Las Banderas	Lowe's Home Improvement #758 30481 Av De Las Flores
Paradise Cleaners 30485 Av De Las Flores	Sam Larc 21472 Av De Los Fundadores
Control Components Inc 22591 Av Empresa	Toyota of Rancho Santa Margarita 22722 Av Empresa
Applied Medical Resources Corporation 22872 Av Empresa	Stylecraft 22922 Av Empresa
Rancho Cleaners 29941 Aventura	CH Grinding Incorporated 30062 Aventura
Solus Industrial Innovations 30152 Aventura	SBC 30161 Aventura
Verizon Wireless 22954 Camino Altozano	Raymond's Automatic Machining 30061 Comercio
Ritz Cleaners 31961 Dove Canyon Dr.	Al Phillips the Cleaner 22307 El Paseo
Key Essentials Inc. 30322 Esperanza	Big Train Inc. 30432 Esperanza
Forespar 22322 Gilberto	Swiss-Micron 22361 Gilberto
Trabuco Canyon Water District 211937 Heritage Dr.	Econo Lube and Tune #81 21562 Plano Trabuco Rd.
Canyon Cleaners 21612 Plano Trabuco Rd.	Albertsons #6521 21672 Plano Trabuco Rd.
Rancho Santa Margarita Arco 29880 Santa Margarita Parkway	Nissan Rancho Santa Margarita 29901 Santa Margarita Parkway

Rancho Santa Margarita Hazardous Materials Locations	
Santa Margarita Family Honda 29961 Santa Margarita Parkway	Santa Margarita Ford 30031 Santa Margarita Parkway
Dunn Edwards Corporation 30102 Santa Margarita Parkway	R & M Shell #121712 30114 Santa Margarita Parkway
Santa Margarita Water District 30125 Santa Margarita Parkway	Town Center Car Wash 30832 Santa Margarita Parkway
Mercado Cleaners 31451 Santa Margarita Parkway	Ralphs #78 31481 Santa Margarita Parkway
Mobil Service #00Mv2 31521 Santa Margarita Parkway	Tijeras Creek Golf Club 29372 Tijeras Creek

Hazardous Materials Location Mission Viejo	
AT & T Wireless N. Mission Viejo 25910 Acero	Santa Margarita Water District 22352 Alicia Parkway
Mobil Service Station # 00ADR 23002 Alicia Parkway	Al Phillips Cleaners 23052 Alicia Parkway
Albertson's #6549 23072 Alicia Parkway	Verizon Wireless #418 23120 Alicia Parkway
Arco #3102/PSI #574 23921 Alicia Parkway	K's Custom Cleaners 24184 Alicia Parkway
Fivestar Cleaners 24395 Alicia Parkway	Target #T300 24500 Alicia Parkway
Kragen Auto Parts #733 24510 Alicia Parkway	Pro Auto Care 26371 Avery Parkway
Arroyo Trabuco Golf Club 26772 Avery Parkway	SCP Distributors LLC 26621 Cabot Rd.
Amato Tire 27120 Cabot Rd.	Laguna Viejo Auto Service 27140 Cabot Rd.
Niguel Motors 27140 Cabot Rd.	AT & T Wireless Oso Parkway/5FWY 26724 Camino Capistrano
SOCWA- 3A Plant /Building 20 26801 Camino Capistrano	City of Mission Viejo Marguerite Aquatic 27474 Casta Del Sol
Casta Del Sol Golfcourse-Maintenance Yard 27591 Casta Del Sol	SBC 27826 Center Dr.
AAA Complete Auto Care & Tires 27913 Center Dr.	El Toro Water District 25121 Charlinda Dr.
Mission Viejo High School 25025 Chrisanta Dr.	Sunrise Senior Living of Mission Viejo 26151 Country Club Dr.
Santa Margarita Water District 26198 Crown Valley Parkway	California Specialty Surgery Center 26371 Crown Valley Parkway
The Brain Therapeutics Medical Clinic 26381 Crown Valley Parkway	Crown Valley 76 #6447 26411 Crown Valley Parkway
Mission Ambulatory Surgicenter LTD 26730 Crown Valley Parkway	Arco Facility #3048 27682 Crown Valley Parkway
Kaleidscope 27741 Crown Valley Parkway	Chevron Station #90297 27742 Crown Valley Parkway
Saddleback School District 25631 Diseno Dr.	Mountain View Tire & Service Inc. 25752 El Paseo
M B Class Motors 25752 El Paseo	Econo Lube N Tune #214 25902 El Paseo
Home Depot #614 27952 Hillcrest	Mobil Service Station #00836 25502 Jeronimo Rd.
Jeronimo Shell #121775 25561 Jeronimo Rd.	Jeronimo Cleaners 25571 Jeronimo Rd.
Unisys Corporation 25725 Jeronimo Rd.	British Performance 25800 Jeronimo Rd.
South County Brake 25800 Jeronimo Rd.	Unique Imports 25800 Jeronimo Rd.
Autobahn West 25800 Jeronimo Rd.	Oilmax 25800 Jeronimo Rd.
Mission Viejo Tire Emporium 25800 Jeronimo Rd.	Santa Margarita Water District 23372 La Glorieta

Hazardous Materials Location Mission Viejo	
El Toro Water District 23392 La Glorieta	Arco #1956 26001 E La Paz Rd.
Mobil Service Station #00HL8 26051 E La Paz Rd.	Classy Cleaners 26137 E. La Paz Rd.
La Paz Ultramar 26202 E La Paz Rd.	Oso Creek Water Reclamation Plant 27204 E. La Paz Rd.
Romona Tire #8 27210 E. La Paz Rd.	Mission Viejo Transmission 27210 E. La Paz Rd.
Saddleback Automotive 277220 E. La Paz Rd.	Midas 27220 E. La Paz Rd
Snappy Cleaners 27230 E. La Paz Rd	Mission Viejo Jiffy Lube #1053 27240 E. La Paz Rd.
Moulton Niguel Water District 26475 Lope De Vega Dr.	Los Alisos Village Cleaners 22922 Los Alisos Blvd.
Autozone #5533 22942 Los Alisos Blvd.	Mission Viejo Rentals 23462 Los Alisos Blvd.
Angels Cleaners 28731 Los Alisos Blvd.	Vons #1670 28751 Los Alisos Blvd.
Royale Health Care Center Inc. 23228 Madero	Accu Auto Service 23253 Madero
Larry's Independent Service 23353 Madero	A & C German Auto Repair 23252 Madero
Savon Auto Service 23253 Madero	Angels El Toro Transmission 23253 Madero
Angels El Toro Transmission 23255 Madero	Purrfect Auto Service #117 23255 Madero
Scholten Roofing Service 23401 Madero	Wakunaga of America Co LTD 23501 Madero
Vista Cleaners 24011 Marguerite Parkway	Plaza Cleaners 25100 Marguerite Parkway
Ralphs #76 25104 Marguerite Parkway	Arco Service and M P G Tune Up #3101 25122 Marguerite Parkway
Michaels #8513 25310 Marguerite Parkway	Bonded Cleaners 25482 Marguerite Parkway
One Day Cleaners 26012 Marguerite Parkway	Vons Store #2210 26022 Marguerite Parkway
Mobil Service Station #00ADQ 26052 Marguerite Parkway	Moulton Niguel Water District 26742 Marguerite Parkway
Marcro Shell #135598 27600 Marguerite Parkway	Concierge Cleaners 27620 Marguerite Parkway
Gambro Healthcare 27640 Marguerite Parkway	MNWD – Saddleback 27989 Marguerite Parkway
Saddleback Community College 28000 Marguerite Parkway	U.S. Postal Service- Mission Viejo VMF 28081 Marguerite Parkway
Lexus of Mission Viejo 28242 Marguerite Parkway	AT & T Wireless 28302 Marguerite Parkway
Infinity of Mission Viejo Auto Dealship 28471 Marguerite Parkway	Land Rover Mission Viejo 28662 Marguerite Parkway

Hazardous Materials Location Mission Viejo	
Marguerite Shell #121048 28662 Marguerite Parkway	Land Rover 28682 Marguerite Parkway
Saab of South County 28730 Marguerite Parkway	Acura of Mission Viejo 28802 Marguerite Parkway
Mission Hospital Regional Medical Center 27700 Medical Center Rd.	Advanced Micro Systems 26052 Merit Cl. Laguna Hills
Montanoso Recreation Center 25800 Montanoso Dr.	Los Alisos Intermediate School 25171 Moor Ave
Albertsons #6517 25872 Muirlands Blvd.	A-One Transmissions 25721 Obrero Dr.
Brad's Automotive 25721 Obero Dr.	Five Star Automotive Inc. 25741 Obrero Dr.
Tim's Auto Service 25741 Obrero Dr.	Import Auto Works 25741 Obrero Dr.
Mike's Automotive Repair 25741 Obrero Dr.	Express Automotive 25761 Obrero Dr.
Dependable services & Sales 25761 Obrero Dr.	Highway 5 Auto 25761 Obrero Dr.
G & A Automotive 25761 Obrero Dr.	Mission Viejo Motors Inc. 25781 Obrero Dr.
OCFA Fire Station #31 22426 Olympiad Rd	Mission Viejo Lake Association 22555 Olympiad Rd
OSO Freeway Union 26282 Oso Parkway	Chevron #1881/92225 26302 Oso Parkway
Mission Viejo Country Club 26332 Oso Parkway	Medix Ambulance Service Inc 26021 Pala
Verizon Wireless 26691 Plaza	Esperanza School/TMR 25121 Pradera Dr
MNWD – La Paz #1 & #2 26887 Recodo Lane	Sierra Recreation Center 26887 Recodo Lane
Chevron #202017 27650 Santa Margarita Parkway	Ralphs #117 27730 Santa Margarita Parkway
Ralphs #117 27730 Santa Margarita Parkway	Portola 1 Hour 27732 Santa Margarita Parkway
Trabuco Hills Cleaners 27855 Santa Margarita Parkway	Ramona Tire & Service Center 27865 Santa Margarita Parkway
R&M Shell #135599 27875 Santa Margarita Parkway	OCFA Fire Station #9 9 Shops Blvd.
Saks Fifth Ave 500 Shops at MVO	Import Specialties Automotive 25651 Taladro Circle
DXR Motorsports/Auto 25652 Taladro Circle	Japanese Car Specialties Inc 25672 Taladro Circle
Caliber Collision Centers 25692 Taladro Circle	Bogart Automotive 25712 Taladro Circle
Verizon Wireless 26301 Via Escolar	A-Z Tech 23672 Via Fabricante
IX's Able Auto Repair Inc 23720 Via Fabricante	German Car Garage 23720 Via Fabricante
Elite Motors 23725 Via Fabricante	Prestige Auto Collision 23726 Via Fabricante

Hazardous Materials Location Mission Viejo	
High Caliber Collision Center 23761 Via Fabricante	Phillips Tire Company 23761 Via Fabricante
Mission Viejo Auto Collision 23812 Via Fabricante	Academy Automotive Incorporated 23854 Via Fabricante
Accurate Auto Repair 23854 Via Fabricante	Yes Cleaners 24001 Via Fabricante
Alicia Auto Services Incorporated 24002 Via Fabricante	Service Bay Automotive Incorporated 24002 Via Fabricante
El Toro Water District 26081 Via Pera	

Hazardous Materials Lake Forest	
International Color Poster 19651 Alter	Foothill Ranch Auto Spa 19323 Alton Parkway
AGI/IVS 25131 Arctic Ocean Dr.	Quantum Fuel Systems 25242 Arctic Ocean Dr.
Focus Industries 25391 Arctic Ocean Dr.	Lake Forest Transmission 22741 Aspan St.
Lake Forest Toyota Repair 22741 Aspan St.	HI Tech Auto Center 22751 Aspan St
Anamed Incorporated 25651v Atlantic Ocean Dr.	Konica USA INC. 25662 Atlantic Ocean Dr.
PSB INC 26012 Atlantic Ocean Dr.	Refrigeration Supplies Distributor 26021 Atlantic Ocean Dr.
Foothill Ranch GMC-Pontaic-Buick 26901 Auto Center Dr.	Foothill Ranch Chevrolet 70 Auto Center Dr.
Foothill Ranch-Chrysler-Jeep-Dodge 81 Auto Center Dr.	MWD-OC 88 20584 Bake Parkway
Cottman Transmission 20771 Bake Parkway	Certified Japanese Auto Repair 20771 Bake Parkway
Forever Green Art 20382 Barents Sea Circle	El Toro Chevron 23891 Bridger Rd.
Acta Laboratories 27082 Burbank, Foothill Ranch 92610	Kott Koatings Inc 27161 Burbank, Foothill Ranch 92610
Spectrum Landscape 27181 Burbank, Foothill Ranch 92610	Avion Graphics 27192 Burbank, Foothill Ranch 92610
Sunset Landscape Maintenance 27201 Burbank, Foothill Ranch 92610	Tri-State Manufacturing 27212 Burbank, Foothill Ranch 92610
Bokkes Independent Mercedes Service 20591 Canada Rd.	W B Starr Inc 20622 Canada Rd
International Color Posters Inc 20761 Canada Rd.	McLaren Unibody 20781 Canada Rd.
Midas Service Center 22752 Center Dr.	Cherry Tire & Service 22752 Center Dr.
Auto Smog 2311 Cherry Ave	Cherry Avenue Auto Clinic 2311 Cherry Ave
Barhorns Auto Care	Valley Building Materials

Hazardous Materials Lake Forest	
23211 Cherry Ave	23271 Cherry Ave
Lake Forest Golf and Practice Center 233089 Cherry Ave	Varian Inc 25200 Commercentre
Varian Inc 25252 Commercentre	H & R Block Mortgage Corporation 25510 Commercentre
Pureline Treatment Systems, LLC 25612 Commercentre	Elite Access Systems Inc Caliber Mold & Engineering
Caliber Mold & Engineering 25742 Commercentre	The Young Engineeers Inc 25841 Commercentre
Ellison Educational Equipment Inc 25862 Commercentre	Dynacast Inc 25952 Commercentre
Renkus Heinz, Inc. 19201 Cook, Foothill Ranch 92610	Knight Equipment 20531 Crescent Bay Dr.
IMS 19681 Da Vinci, Foothill Ranch 92610	Black & Decker 19701 Da Vinci, Foothill Ranch 92610
Westamerica Graphics 19682 Descartes, Foothill Ranch 92610	Irvine Ranch Water District (Pump Station) 26001 Dimension Dr.
Irvine Ranch Water District (LAWD Well 7) 26001 Dimension Dr.	King Entertainment Inc/Budweiser 26231 Dimension Dr.
Fabricante Auto Body & Paint 26341 Dimension Dr.	Vulcan Materials/Calmat Co. 20851 El Toro Rd.
Sycamore Cleaners 22345 El Toro Rd.	Stater Bros. Markets (#142) 223451 El Toro Rd.
Mobil Service Station #170 22381 El Toro Rd.	Procare 76 Lake Forest #2705948 22391 El Toro Rd.
Lido Cleaners 22421 El Toro Rd	Vons Market #2067 22475 El Toro Rd.
SBC 23011 El Toro Rd	OCFA Fire Station #19 23022 El Toro Rd.
Spic N Span Cleaners 23374 El Toro Rd.	Orange Tree Cleaners 23532 El Toro Rd.
Beacon Bay Auto Wash 23602 El Toro Rd.	The Party Place Warehouse 23615 El Toro Rd.
Xpress Cleaners 23635 El Toro Rd.	Petown Tropical Fish 23720 El Toro Rd.
Arco Am-Pm Mini Mart #3013/PSI #5478 23742 El Toro Rd.	El Toro Shell # 120964 23751 El Toro Rd.
Mobil Service Station #378 23771 El Toro Rd.	USA Gasoline #825 23852 El Toro Rd.
Washington Mutual 23861 El Toro Rd.	Laguna Hills Shell #4056-0207 23971 El Toro Rd.
G & M Oil Company Inc, #40 23991 El Toro Rd.	Insight Health Corporation 26250 Enterprise Circle
Western Digital Technologies 26160 Enterprise Way	Apria Healthcare 26220 Enterprise Way
Irvine Ranch Water District 27841 Glen Ranch Rd. Foothill Ranch, 92610	ITT Industries Flojet 20 Icon, Foothill Ranch, 92610
Lumenyte International 74 Icon, Foothill Ranch, 92610	A R B INC 20602 Indian Ocean Dr.

Hazardous Materials Lake Forest	
A R C INC 20632 Indian Ocean Dr.	Sunstate Equipment Company 20772 Indian Ocean Dr.
Air Liquide America 20451 James Bay Circle	Celebrity Cleaners 25252 Jeronimo Rd
AT & T Wireless 23201 Lake Center Dr.	The Home Depot #6668 20021 Lake Forest Dr.
Harbor Pointe Air Conditioning & Control 20331 Lake Forest Dr.	Western Digital Corporation 20511 Lake Forest Dr.
Western Digital Corporation 20511 Lake Forest Dr.	Western Digital Corporation 20521 Lake Forest Dr.
Arco AM/PM Mini Market #5699 20572 Lake Forest Dr.	Crossroads Automotive 20592 Lake Forest Dr.
Nakase Brothers Wholesale Nursery 20621 Lake Forest Dr.	Foothill Cleaners 20651 Lake Forest Dr.
Baywash 24 Hr Self Service Car Wash 20722 Lake Forest Dr.	G&M Oil # 83 20731 Lake Forest Dr.
Purrfect Auto Service Inc. 20732 Lake Forest Dr.	Master Auto Center 20732 Lake Forest Dr.
Big O Tires #5659 20742 Lake Forest Dr.	Saddleback Automotive 20742 Lake Forest Dr.
Cleaners 2000 20761 Lake Forest Dr.	Santa Margarita Automotive 20761 Lake Forest Dr.
Jiffy Lube #1301 20781 Lake Forest Dr.	Mobil Service Station #MY9 21721 Lake Forest Dr.
Ralphs #79 21751 Lake Forest Dr.	Sav On Drug #9587 21761 Lake Forest Dr.
Trabuco Shell #20441090121 21762 Lake Forest Dr.	Serrano Cleaners 21771 Lake Forest Dr.
Elite Dry Cleaners 22641 Lake Forest Dr.	Pep Boys #798 22671 Lake Forest Dr.
Aspen Cleaners 22851 Lake Forest Dr.	Econo Lube N Tune #35 22861 Lake Forest Dr.
Irvine Ranch Water District Canada Lift 22952 Lake Forest Dr.	G & G Industries 22600 Lambert St.
Furniture Artists 22600 Lambert	Monarch Industries 20722 Linear Lane
AFAB 20742 Linear Lane	El Toro Water District 24251 Los Alisos Blvd.
Ewing Irrigation Products 23941 McWhorter Way	Mercury Cleaners 23804 Mercury Rd.
LAWRP/IRWD 22312 Muirlands Blvd.	Albertson's #6526 24251 Muirlands Blvd.
Lake Forest Cleaners & Laundry 24301 Muirlands Blvd.	Autozone # 2888 24361 Muirlands Blvd.
Lake Forest Nursing Center 25652 Old Trabuco Rd.	Sun Pac Containers Incorporated 23222 Olive Ave
Farino Construction Services Incorporated 23282 Olive Ave	Big O Tires/Terberg Tucker Incorporated 23081 Orange Ave
S & S Auto Service Incorporated 23081 Orange Ave	Golden Wrench Automotive 23091 Orange Ave

Hazardous Materials Lake Forest	
American Auto Center 23121 Orange Ave	K O Automotive 23121 Orange Ave
El Toro Muffler Brake and Hitch Company 23121 Orange Ave	American Discount Tires 23121 Orange Ave
AAMCO Transmissions 23121 Orange Ave	Montiel Auto Repair 23121 Orange Ave
Excel Auto Care 23131 Orange Ave	Advanced Auto Body 23131 Orange Ave
Affordable Auto Center 23141 Orange Ave	Advantage Radiator 23141 Orange Ave
Irvine Ranch Water District 20844 Osterman	Trench Shoring 20542 Pascal Way
Velco Tool and Die Incorporated 20551 Pascal Way	Alicia Complete Automotive 20602 Pascal Way
X J Jaguar 20602 Pascal Way	Barnhoorn/Skiles Mercedes LLC 20622 Pascal Way
Exhibit Works Incorporated 19531 Pauling	Bal Seal 19650 Pauling
Innovation Sports 19762 Pauling	OCFA Fire Station #54 19811 Pauling
Mefas Incorporated 105 N Pointe Dr.	USA Petroleum Corp. Gasoline Station #824 26731 Portola Parkway
Ralph's #99 26751 Portola Parkway	Mobil Service Station #12565 27252 Portola Parkway
Arco #6540 29080 Portola Parkway	Conway Western Express 20697 Prism Place
Rancho Parkway Shell 26721 Rancho Parkway	EZ Lube #49 26731 Rancho Parkway
Crown Cleaners 24601 Raymond Way	Kragen Auto Parts #1383 24601 Raymond Way
Power Cleaners 20562 Regency Lane	Verizon Wireless #468 20696 Regency Lane
Irvine Ranch Water District 20696 Regency Lane	Autobody USA 23892 Remme Ridge
Lake Forest Beach & Tennis Club 22921 Ridge Route Dr.	Chevron #90884 22942 Ridge Route Dr.
Beacon Bay Auto Wash/Lake Forest #12 23581 Rockfield Blvd.	Smilecare Dental Group 23622 Rockfield Blvd.
Chevron Stations Inc. #90937 23631 Rockfield Blvd.	Rockfield Shell 23652 Rockfield Blvd.
Franks Auto Sales 23663 Rockfield Blvd.	Firestone #7148 24421 Rockfield Blvd.
El Toro Materials 1 Rocky Rd.	Standard Concrete Products 1 Rocky Rd.
Irvine Ranch Water District 18967 Saddleback Ranch, Trabuco Canyon	Hydro Scape Products Incorporated 22542 Shannon Circle
Hi Tech Auto Collision & Glass Centers 22582 Shannon Circle	General Monitors Incorporated 26776 Simpatica Circle
Cycle City	Lake Forest II Master HOA

Hazardous Materials Lake Forest	
24316 Swartz Dr.	24752 Toledo Way
El Toro High School 25255 Toledo Way	Protocol Marketing Group 25892 Towne Centre Dr.
Irvine Ranch Water District (Borrego) 25893 Towne Centre Dr.	USA Express Tire and Service Incorporated 26492 Towne Centre Dr.
Walmart 26502 Towne Centre Dr, Foothill Ranch 92610	Pacific Life 26642 Towne Centre Dr Foothill Ranch 92610
USA Express Tire and Service Incorporated 24561 Trabuco Rd.	Chevron Bake Hand Car Wash 24571 Trabuco Rd.
Ascension Cementary 24754 Trabuco Rd	Dylern Incorporated 26814 Vista Terrace
Saddleback VBalley Ornamental Iron 26891 Vista Terrace	Lou's Auto Service 26911 Vista Terrace
Quigley Auto Body 26921 Vista Terrace	Verizon Wireless 25017 Whisler Dr.
Insulectro 20362 Window Dr.	IRWD- V P Baker Filtration Plant 21082 Wisteria
Hertz Equipment Rental 25831 Wright	Mission Flavors 25882 Wright
Shepherd Machinery Company 25961 Wright	

San Onofre Nuclear Generator Station

From Southern California Edison

The San Onofre Nuclear Generating Station (SONGS) is a jointly owned enterprise among SCE (75% ownership), San Diego Gas & Electric (20%), and the cities of Riverside and Anaheim. Today, SONGS provides nearly 20 percent of the power to more than 15 million people in Southern California -- enough power to serve 2.75 million households.

SCE and its partners in SONGS are committed to the safe, reliable and compliant operations of San Onofre. In addition, SCE is proud of its continuous support of environmental protection and the community of which we are a part. Within these pages, we hope to demonstrate those values and to provide you with important information about our operations.

Winds

Winds were rated as a HIGH RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.

High winds can and do occasionally cause damage to homes and businesses. Severe windstorms can present a very destabilizing effect on the dry brush that covers local hillsides and urban wildland interface areas and increase wildfire threat. Destructive impacts to trees, power lines, and utility services also are associated with high winds.

Santa Ana Winds

Santa Ana winds are blustery, warm – (often hot) – dry winds that blow from the east or northeast. These occur below the passes and canyons of the coastal ranges of Southern California. Typically they occur from October to March when cooler air in the desert increases air pressure and creates strong westerly winds. Generally speaking, wind speed must reach 25 knots to be classified as a Santa Ana wind.

The map above shows the direction of the Santa Ana winds as they travel from the stable, high-pressure weather system called the Great Basin High through the canyons and towards the low pressure system off the Pacific

While the effects of Santa Ana Winds are often overlooked, it should be noted that in 2003, two deaths in Southern California were directly related to the fierce condition. A falling tree struck one woman in San Diego. The second death occurred when a passenger in a vehicle was hit by a flying pickup truck cover launched by Santa Ana winds.

In windstorms, reports of dislodged roofs and fallen trees and power lines are common. The winds are not considered major widespread threats to population and property, but do involve responses from emergency service personnel. Fallen power lines may cause

widespread power outages and fire. Falling trees can occasionally cause fatalities and serious structural damage. These incidents are rare as well as localized.

Hazard Extent

In the case of a Santa Ana wind – which can last several days – hazards created by wind-fallen trees or utility poles can threaten property and have the potential for personal injury and even death. Many older neighborhoods have larger trees. Although these trees are usually well-rooted enough to withstand higher speed winds, broken and falling tree limbs can create significant hazards.

Strong Santa Ana winds typically occur annually. Although Santa Ana winds are frequent, the occurrence wind with enough velocity to cause significant damage is much less.

Vulnerabilities

Life and Property

Based on the historical data for the region, windstorm events can be expected, perhaps annually, across widespread areas of the County. This can result in an emergency responses. Both residential and commercial structures with vulnerable or weak construction are susceptible to damage. Wind pressure can create a direct and frontal assault on a structure, pushing walls, doors, and windows inward. Conversely, passing currents can create lift suction forces that pull building components and surfaces outward. With extreme wind forces, roofs or entire buildings can fail, causing considerable damage. Debris carried by strong winds can contribute directly to loss of life, and indirectly to the failure of protective building envelopes, siding, or walls. When severe windstorms strike a community, resulting downed trees, power lines, and damaged property are major hindrances to emergency response and disaster recovery.

Utilities

Historically, falling trees have been the major cause of power outages in the region as a result of high winds. Windstorms can cause flying debris that cut utility lines. For example, tree limbs breaking in winds of only 45 mph can be thrown over 75 feet. As such, overhead power lines may receive damage in even relatively minor windstorms. Falling trees bringing electric power lines down to the ground create the possibility of electric shock.

Infrastructure

Windstorms can damage buildings, power lines, and other property and infrastructure because of falling trees and branches. During wet winters, saturated soils cause trees to become less stable and more vulnerable to uprooting from high winds. Windstorms can result in collapsed or damaged buildings or blocked roads and bridges, damaged traffic signals, streetlights, and parks. Roads blocked by fallen trees during a windstorm may have severe consequences to people who need to be accessed by emergency workers.

Emergency response operations can be complicated when roads are blocked or when power supplies are interrupted. Industry and commerce can suffer losses from interruptions in electric services and from extended road closures. They can also sustain direct losses from damaged buildings, injured personnel, and damage to other vital equipment. There are direct consequences to the local economy resulting from windstorms related to both physical damages and interrupted services.

Transportation

Windstorm activity can have an impact on local transportation in addition to the problems caused by downed trees and electrical wires blocking streets and highways. During periods of extremely strong Santa Ana winds, major highways may require temporarily closure to truck and recreational vehicle traffic. Typically these disruptions are not long lasting, nor do they generally carry a severe long-term economic impact on the region.

Increased Fire Threat

Perhaps the greatest danger from in Southern California comes from the combination of the always present threat of wild fires and the drying hot Santa Ana winds that occur every few years in the urban/wildland interface. With the Santa Ana winds driving the flames, the speed and reach of the wild fires is much greater than in times of calm wind conditions. The higher fire hazard raised by Santa Ana wind conditions requires that even more care and attention be paid to proper brush clearances on property in the wildland/urban interface areas.

Losses

Losses from damage caused by windstorms are generally limited to isolated property such as roofs or tree damage. There are no areas of specific risk in Los Angeles County. Losses are seldom significant in the County.

Existing Mitigation

As stated, one of the most common problems associated with windstorms are power outages. High winds may cause trees to bend, sag, or break (tree limbs or entire trees).

They may come in contact with nearby electrical distribution power lines. Fallen trees can cause short-circuiting and conductor overloading. Wind induced damage to the power system may cut power to customers, be costly to repair, and in some cases cause wild land fires.

California Code

One of the strongest and most widespread existing mitigation strategies pertains to tree clearance. Currently, California State Law requires utility companies to maintain specific clearances – depending on the type of voltage running through the line – between electrical power lines and all vegetation.

The following California Public Resource Code Sections establish tree pruning regulations:

4293: Power Line Clearance Required

4292: Power Line Hazard Reduction

4291: Reduction of Fire Hazards Around Buildings

4171: Public Nuisances

The following pertain to tree pruning regulations and are taken from the California Code of Regulations:

Title 14: Minimum Clearance Provisions • Sections 1250-1258

General Industry Safety Orders

Title 8: Group 3: Articles 12, 13, 36, 37, 38

California Penal Code Section 385

The following California Public Utilities Commission section has additional guidance:

California Public Utilities Commission • General Order 95: Rule 35

Failure to allow a utility company to comply with the law can result in liability to the homeowner for damages or injuries resulting from a vegetation hazard. Many insurance companies do not cover this type of damage if the policy owner has refused to allow the hazard to be eliminated. The power companies, in compliance with the above regulations, collect data about tree failures and their impact on power lines. This mitigation strategy assists the power company in preventing future tree failure.

County of Orange

The County of Orange provided the safety element of the general plan containing a description of the wind hazard within their jurisdiction.

High Wind (Santa Ana's)

Santa Ana winds are generally defined as warm, dry winds that blow from the east or northeast (offshore). These winds occur below the passes and canyons of the coastal ranges of Southern California and in the Los Angeles basin. Santa Ana winds often blow with exceptional speed in the Santa Ana Canyon (the canyon from which it derives its name). Forecasters at the National Weather Service in Oxnard and San Diego usually place speed minimums on these winds and reserve the use of "Santa Ana" for winds greater than 25 knots. Information was obtained form the San Diego National Weather Service website at http://nimbo.wrh.noaa.gov/Sandiego/snawind.html.

The complex topography of Southern California combined with various atmospheric conditions creates numerous scenarios that may cause widespread or isolated Santa Ana events. Commonly, Santa Ana winds develop when a region of high pressure builds over the Great Basin (the high plateau east of the Sierra Mountains and west of the Rocky Mountains including most of Nevada and Utah). Clockwise circulation around the center of this high-pressure area forces air down slope from the high plateau. The air warms as it descends toward the California coast at the rate of5 degrees F per 1000 feet due to compressional heating. Thus, compressional heating provides the primary source of warming. The air is dry since it originated in the desert, and it dries out even more as it is heated.

Santa Ana wind conditions can result in two general disaster conditions. The most common is fire fanned by the high winds. This was the situation in 1993 in Laguna Beach when a massive fire destroyed a number of homes in the hills around Laguna Beach. Wind driven flames again caused the destruction of more than 3,000 homes in Southern California in October, 2003. Other forms of disaster would be direct building damage, damage to utilities and infrastructure as a result of the high winds. This has occurred in the past few years in many southland communities including Orange County.

Santa Ana winds commonly occur between October and February with December having the highest frequency of events. Summer events are rare. Wind speeds are typically north to east at 35 knots through and below passes and canyons with gusts to 50 knots. Stronger Santa Ana winds can have gusts greater than 60 knots over widespread areas and gusts greater than 100 knots in favored areas. Frequently, the strongest winds in the basin occur during the night and morning hours due to the absence of a sea breeze. The sea breeze which typically blows onshore daily, can moderate the Santa Ana winds during the late morning and afternoon hours. Santa Ana winds are an important forecast challenge because of the high fire danger associated with them. Also, unusually high surf conditions on the northeast side of the Channel Islands normally accompany a Santa Ana event. Other hazards include: wind damage to property, turbulence and low-level wind shear for aircraft, and high wind dangers for boaters.

Potential Damage to School Facilities

Damage to school facilities from severe winds has been historically minimal with approximately .07% of the districts facilities affected. It is expected that this estimate will sustain in future severe wind events.

City of Lake Forest

The City of Lake Forest provided the Safety and Noise Element from their General Plan dated June 21, 1994 containing a description of the wind hazard in their jurisdiction.

Emergency Plan

Threat Summary Flood/Storm/Landslides

The City of Lake Forest is subject to atmospheric events and severe weather conditions that could threaten public safety. The potential for catastrophic events such as a tornado is remote. There is greater potential for the city to experience weather patterns leading to flooding and other storm damage.

Planning for the natural disasters for flood/storm is based on information available through programs administered by the Federal Emergency Management Agency. Planning is directed at the four floodways and the coastal flood with velocity hazard area, which have been identified within the City.

Severe Weather

Severe Weather was rated a LOW RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.

El Niňo

On February 9, 1998, President Clinton, in response to a request from Governor Wilson, declared a major disaster for 27 counties in the State of California. The disaster was designated as FEMA-1203-DR-CA. On February 13, 1998 four additional counties were added; on February 26, four more counties were added, and on March 6, 1998, six additional counties were designated, bringing the total to 41.

The National Flood Insurance Program reported a surge in Californians purchasing flood insurance following the El Nino Community Preparedness Summit held in October, 1997. The number of policies went from a pre-summit total of 264,914 to 333, 753 by the end of November. This number climbed to 365,000 by the end of December according to FEMA.

Disasters have unique and defining characteristics. The El Nino '98 Storms are no exception. The most distinct characteristic of FEMA-1203-DR-CA has been the landslides, coastal erosion, and related earth movement problems brought on by rapidly recurring storms which produce heavy rains, high winds, and large waves.

Overview of FEMA-1203-DR-CA

Disaster Declaration

On February 9, 1998, President Clinton signed a major disaster declaration that designated "El Nino '98, FEMA-1203-DR-CA." As a result of the Presidential declaration, section of the Robert T. Stafford Disaster Relief and Emergency Assistance Act were implemented, providing Individual Assistance and Public Assistance to the designated counties. The declaration also activated the Hazard Mitigation Grant Program (HMGP) which is applicable to all counties in the State. After the initial declaration by President Clinton, 14 additional counties requested to receive a federal declaration, bringing the total number of designated counties to 41.

The 41 designated counties were: Alameda, Amador, Butte, Calaveras, Colusa, Contra Costa, Del Norte, Fresno, Glenn, Humboldt, Kern, Lake, Los Angeles, Marin, Mendocino, Merced, Monterey, Napa, **Orange**, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Francis o, San Joaquin, San Luis Obispo, San Mateo, Santa Ba5bara, Santa Clara, Santa Cruz, Solano, Sonoma, Stanislaus, Sutter, Tehema, Trinity, Tulare, Ventura, Yolo, Yuba.

El Nino '98

In the spring of 1997, Pacific Ocean temperatures along the equator from South America to Australia were rising above normal, changing wind patterns in the area. This is phenomenon known as El Nino. As part of the global impact of El Nino, heavy storms for 1997-1998 were predicted for the State of California.

In anticipation of a serious El Nino winter season, emergency services agencies throughout the State started making preparations. During summit convened on October 6, 1997, Governor Pete Wilson directed the State to take a series of actions in to prepare for the severe storms that were predicted to hit California as a result of El Nino. The Governor directed the Office of Emergency Services (OES) and the Department of Water Resources (DWR) to conduct a series of regional briefings over the next two months to assist local communities in their El Nino preparations. In October 1997, the first of six briefings for local and state agencies was held. FEMA held the "El Nino Community Preparedness Summit" in Santa Monica, on October 14, 1997,

Agencies such as DWR and the Corps of Engineers accelerated efforts to complete projects and work which began as a result of the prior year's disastrous flooding. Many local agencies accelerated repairs, cleaned storm channels, and implemented community education efforts, while the State issued environmental permits that allowed repair and mitigation work to move forward prior to the arrival of the storms. Although difficult to quantify, it is clear that without these and a multitude of other efforts, the devastation from the disaster would have been far greater.

About 170% of normal precipitation was experienced in most areas, with several locations receiving 300% or more above normal. Rainstorms occurred continuously in February, ranging in duration from 1 to 3 days, with only a day of rest between cycles. The season's most severe storm occurred on February 2nd, and a series of storms continued until February 24, 1998. A strong jet stream was present across the Pacific during this time and this colder air mass also increased rain and snow. February rains were three times normal, and the mountain snow pack rose from 15% to 185%. The pattern was similar to the winter of 1982-83, the most serious past El Nino year. The El Nino '98 Storms were of average temperature --unlike those of 1997, which were warmer, resulting in rainfall at higher elevations.

Description of Damage and Impact

Damage occurred almost as soon as the first heavy rains began in November, 1997. In Orange County, the damage became serious enough for a local disaster declaration on December 6, 1997. This was followed by a gubernatorial disaster declaration on December 10, 1997.

Casualties included 17 confirmed deaths and 29 confirmed injuries. The total amount of residential damage was estimated at over $120 million. Roads, utilities, and levees were also damaged. As of April 29, 1998, the Disaster Field Office (DFO) estimated damages as follows: 91 homes have been destroyed, 2,303 homes suffered major damages, and 4,252 homes incurred minor damage.

According to the California Coastal Commission, *Storm Summary Report for Coastal California, March 10, 1998,* the El Nino '98 Storms caused extensive damage along Coastal California. In many cases, coastal bluff and mountain soils lost stability due to saturation from copious precipitation and large waves. High river levels caused flooding of several low elevation areas. There was a great deal of beach erosion in Los Angeles, Orange, and San Mateo Counties, as well as other parts of California. Storm waves damaged many low-lying oceanfront structures. The Coastal Commission issued approximately 75 emergency coastal permits, mostly for rip rap and seawall repairs to protect residential structures.

Impacts to Individuals

By April 28, 1998, FEMA's Human Services Division had received over 70,125 tele-registrations for FEMA disaster assistance. The Disaster Housing Program had received a total of 46,730 applications, and had provided $20.6 million in assistance. As of April 15th the Small Business Administration (SBA) had issued 31,509 home and personal property loan applications and had approved more than $16 million in low interest loans. In addition, the SBA had issued 9,699 business loan applications and approved $6,504,400 in business loan funds. The Individual and Family Grant Program (IFGP) had received 37,093 requests as of April 28th. For serious, unmet needs beyond the maximum IFGP award, the State Supplemental Grant (SSG) could provide up to an additional $10,000, and had awarded 17 grants for an additional $82,663 in aid to individuals. The Public Assistance (Infrastructure) Program had received 269 Damage Survey Reports (DSRs) totaling $26,582,560 as of April 28, 1998. According to the preliminary damage assessment, damage to local government facilities was estimated at $300 million.

Shelters

The El Nino '98 Storms created a need to feed and shelter thousands of people. The American Red Cross (ARC), members of the National Volunteer Organizations Active in Disaster (NVOAD), and numerous other voluntary agencies, are usually the first to respond to the needs of disaster victims. The Red Cross provided housing for 5,112 people at 91 shelter locations, more than 140,000 meals were served, and financial assistance was extended to more than 2,300 households. The Red Cross relief efforts for the El Nino winter storms exceeded $4.6 million.

Levees

Unlike the flooding in the previous year (FEMA-1155-DR-CA), California Winter Storms of 1997), there were less widespread floods and levee problems. Due in part top the lower temperatures, the duration of rains, and pre-storm repair efforts to shore-up levees at risk, there were only a few levee breaks and seepage. According to DWR, The Sacramento River was not strained to capacity. The San Joaquin River briefly approached flood stage at the Vernalis Gage, but did not exceed it. Many of the areas that flooded were predictable, such as Rio Linda in Sacramento County and the residential areas along the Pajaro River in Monterey County. The area around Clear Lake in Lake County repeated its flooding history, and set a record for the stage height. The Russian River at Guerneville was above flood stage, as was the Petaluma River.

Landslides

Landslides and debris flows had a greater impact during this disaster than in the federal disasters of 1995 and 1997. The severity of the problems ranged from the catastrophic losses in the Rio Nido community of Sonoma County, to small erosion problems with minor impact. Landslides and erosion also caused residential damage and destruction in Alameda County, Humboldt County, Los Angeles County, San Mateo County, San Francisco County, Santa Cruz County, Ventura County, and various other sites within the state.

Geological Discussion

The frequent storms that occurred in February 1998 saturated soils and triggered numerous debris flows and landslides, resulting in severe damage throughout river valleys

and coastal areas. Eroding cliffs jeopardized homes, and debris flows forced many residents to evacuate their homes. Such headline grabbing events focused attention on the geologic problems produced by the wet season. It should be noted, however, that deep-seated landslide movements could continue after the heavy rains have stopped.

Soil and rock that comprises hill slopes will eventually move downhill. Some of this material will move grain-by-grain thorough erosion and soil creep, and some will move as larger slabs or liquefied masses, commonly called landslides and mudslides. Geologists generally classify landslides on their shape, rate (speed) of movement, type of motion, and material properties. In most classification schemes, there are three distinct types of movement: flow (e.g. debris flows and mudflows); sliding along a discrete plane or failure (e.g. debris slide); and falling (e.g. rock falls and avalanches).

Landslides can be small, involving only a few cubic yards of material, or large, involving more than a square mile of land. Some landslides are shallow, only a few feet deep, while others can be hundreds of feet deep. Landslides can be slow, and move only a few inches a year. It can also be fast and move at tens to hundred of miles per hour.

While most hill slopes are marginally stable under dry conditions, the addition of water from rainfall, snowmelt, or human activities (e.g. watering lawns) can radically alter the character of the soil and weathered rock and lessen the stability of slopes. Generally, all other conditions being equal, if groundwater is at or near the ground surface, there is a great probability that a landslide or debris flow will occur.

Another major factor that may trigger landslides is sudden changes in the shape of the slope. Slope changes that may trigger landslides include, but are not limited to, man-made cuts and fills, undermining of slopes by stream erosion or formation of gullies, or undermining and overloading of slopes due to landslide movement on adjacent land. In fact, landslide movement in one part of a hill slope can radically affect the stability of adjacent slopes. Events at Rio Nido in Sonoma County illustrate how complex the changes in stability can be. In simplified terms, the Rio Nido landslide began when a block of soil and rock, high on a ridge, rotated down and out on the slope. This movement pushed a bulge of material onto the existing steep slope at the toe of the landslide. Fissures opened at both the top of the rotational block and within the toe of the landslide. The rotational movement of the landslide also undermines up-slope areas (decreasing stability), changing the groundwater flow patterns (increasing stability in parts of the slide while decreasing stability in other). Because the toe of the landslide was no longer supported by the surrounding slope (the slope became overly steep), the saturated outside edge failed by toppling and breaking apart. This loose material then mobilized as debris flow down a stream channel, picking up additional debris, including sediment and trees, as it flowed toward the houses on the canyon flow below. Immediate concerns were that the landslide mass would continue to move high on the slope, and as it did, the entire mass would break apart and fail as a massive debris flow that would inundate a much larger down slope area. Currently, the rotational component of the Rio Nido landslide has not shifted since monitoring equipment was installed two weeks after the failure began.

Hillsides may also be more vulnerable to debris flows following wildfires. Removal of vegetation generally makes hillsides more susceptible to erosion and landslides. After a forest fire there is reduction in the amount of vegetation on the hillsides to hold the soil in place. Also, the roots decay over a period of years following the fire. This results in an increased landslide hazard for 3 to 5 years following a large fire. In 1997, Southern California had 27 wildfires greater than 300 acres. At least 22 of those sites had some erosion damage in 1987, and it came in the form of debris flows and minor flooding.

There is evidence to suggest that most landslides and debris flows occur where they have happened in the past. For example, the Rio Nido landslide is next to an existing landslide deposit identified on a CA Division of Mines and Geology (DMG) map.

Though landslides are fairly common in California's hillside areas, there is considerable pressure to construct new homes at these locations. Some communities require site-specific investigations prior to permitting development. Engineers attempt to stabilize slopes by providing drainage, flattening slopes, and filing-in valleys. Sometimes, these modified slopes and fills require maintenance and while many of these modified slopes could last decades, some failures occur. This is what happened to houses in Laguna Niguel, Orange County, which were built on an engineered slope that had shown signs of distress for three years.

Just as there is pressure to develop hill slope areas, the beautiful ocean views from sea cliffs make them desirable places to live. During the recent disaster, accelerated cliff erosion in Pacifica resulted from slightly higher than normal seasonal ground water infiltration. When the ground becomes saturated, wave action can more easily remove materials that have fallen to the bottom of the cliffs, temporarily accelerating cliff retreat in the areas up slope. The rocks in these particular cliffs are highly fractured and nonresistant. They include sandstone, shale, and metamorphic rocks that are prone to rapid erosion during the rainy season. Erosion usually has occurred episodically, not continually at the same time. This year the cliffs locally eroded as much as 10 feet, compared to the frequently noted annual averages of 3 to 4 inches.

Potential Damage to School Facilities

Severe storms, especially rare tropical storms with high winds and drenching winds, can cause severe damage to school facilities by flooding low-lying areas and basements, weakening hillsides and slopes enough for them to fail and slide, stressing drainage systems and damaging roofs and other structures,

A severe tropical storm could affect up to 12% of school district facilities.

Table 5 -- Tropical storms or cyclones that affected Southern California during the 20th Century			
Month-Year	**Date(s)**	**Area(s) Affected**	**Rainfall**
July 1902	20th & 21st	Deserts & Southern Mountains	up to 2"
Aug. 1906	18th & 19th	Deserts & Southern Mountains	up to 5"
Sept. 1910	15th	Mountains of Santa Barbara County	2"
Aug. 1921	20th & 21st	Deserts & Southern Mountains	up to 2"
Sept. 1921	30th	Deserts	up to 4"
Sept. 1929	18th	Southern Mountains & Deserts	up to 4"
Sept. 1932	28th to Oct 1st	Mountains & Deserts, 15 Fatalities	up to 7
Aug. 1935	25th	Southern Valleys, Mountains & Deserts	up to 2"
Sept. 1939	4th - 7th	Southern Mountains, Southern & Eastern Deserts	up to 7
	11th & 12th	Deserts, Central & Southern Mountains	up to 4"
	19th - 21st	Deserts, Central & Southern Mountains	up to 3"
	25th	Long Beach, W/ Sustained Winds of 50 Mph	5"
		Surrounding Mountains	6 to 12"
Sept. 1945	9th & 10th	Central & Southern Mountains	up to 2"
Sept. 1946	30th- Oct 1st	Southern Mountains	up to 4"
Aug. 1951	27th - 29th	Southern Mountains & Deserts	2 to 5"
Sept. 1952	19th - 21st	Central & Southern Mountains	up to 2"
July 1954	17th - 19th	Deserts & Southern Mountains	up to 2"
July 1958	28th & 29th	Deserts & Southern Mountains	up to 2"
Sept. 1960	9th & 10th	Julian	3.40"
Sept. 1963	17th - 19th	Central & Southern Mountains	up to 7"
Sept. 1967	1st - 3rd	Southern Mountains & Deserts	2"
Oct. 1972	6th	Southeast Deserts	up to 2"
Sept. 1976	10th & 11th	In Central and Southern Mountains. Ocotillo, CA was destroyed and there were 3 fatalities	6 to 12"
Aug. 1977	n/a	Los Angeles	2"
		Mountains	up to 8"
Oct. 1977	6th & 7th	Southern Mountains & Deserts	up to 2
Sept. 1978	5th & 6th	Mountains	3"

Table 5 -- Tropical storms or cyclones that affected Southern California during the 20th Century			
Sept. 1982	24th - 26th	Mountains	up to 4"
Sept. 1983	20th & 21st	Southern Mountains & Deserts	up to 3"
http://www.fema.gov/nwz97/ein_scal.shtm			

Moderate Risk Priority Hazards

Data/Telecommunications

Data/Telecommunications were rated as a MODERATE RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.

Orange County depends upon information systems and communications networks to carry out nearly all aspects of day to day business. In this digital era, as we use automated information technology (IT) systems to process information for better support of our missions, risk management plays a critical role in protecting an our information assets, and therefore our missions, from IT-related risk.

An effective risk management process is an important component of a successful IT security program. The principal goal of an organization's risk management process should be to protect the *organization and its ability to perform their mission*, not just its IT assets. Therefore, the risk management process should not be treated primarily as a technical function carried out by the IT experts who operate and manage the IT system, but as an essential management function of the organization.

Computer Security Breaches

Computer breach incidents have risen sharply since the 1980s. These include viruses, worms, Trojan horses, break–ins, and other damaging breaches. Whereas only six incidents were reported in 1988, the number rose gradually during the late 1980s and 1990s, they made a sharp rise beginning in 1998, and have risen exponentially since. To date, there have been over 142, 500 computer breaches.

The 2002 Computer Security Institute (CSI) Computer Crime and Security Survey revealed that each year, over half of all databases have some kind of breach and that the average breach amounts to nearly $4 million in losses. This percentage is staggeringly high given that these are the security problems that companies are reporting. Organizations don't want to advertise the fact that their internal people have access to customer data, can steal that data, cover their tracks, give the data to anybody and stay undetected and employed while a crime is committed.

California recently enacted a law mandating the public disclosure of computer security breaches involving confidential information. The law covers not just state agencies but all private enterprises doing business in California. Starting July 1, 2003, any entity that fails to disclose that a breach has occurred could be liable for civil damages or face class action suits.

Cyber Crime

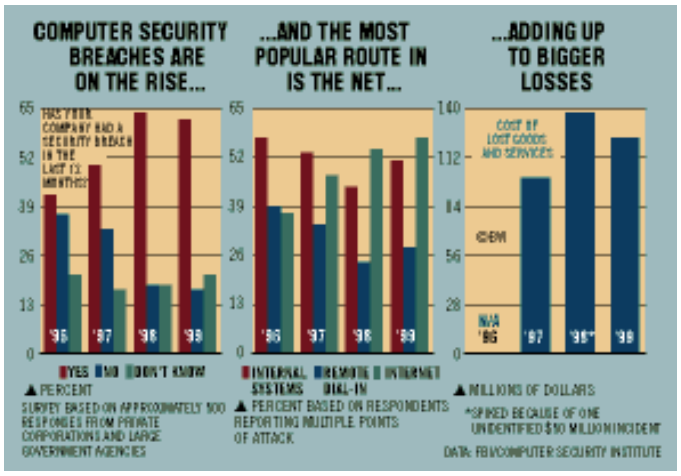
"…Cyber crime is becoming one of the Net's growth businesses. The recent spate of attacks that gummed up Web sites for hours--known as "denial of service"--is only one type. Today, criminals are doing everything from stealing intellectual property and committing fraud to unleashing viruses and committing acts of cyber terrorism in which political groups or unfriendly governments nab crucial information. Indeed, the tactic used to create mayhem in the past few days is actually one of the more innocuous ones. Cyber

thieves have at their fingertips a dozen dangerous tools, from "scans" that ferret out weaknesses in Web site software programs to "sniffers" that snatch passwords. All told, the FBI estimates computer losses at up to $10 billion a year.

As grim as the security picture may appear today, it could actually get worse as broadband connections catch on. Then the Web will go from being the occasional dial-up service to being "always on," much as the phone is. That concept may be nirvana to e-tailers, but could pose a real danger to consumers if cyber crooks can come and go into their computer systems at will. Says Bruce Schneier, chief technical officer at Counterpane Internet Security Inc. in San Jose, Calif.: "They'll keep knocking on doors until they find computers that aren't protected."

Sadly, the biggest threat is from within. Law enforcement officials estimate that up to 60% of break-ins are from employees. Take the experience of William C. Boni, a digital detective for PricewaterhouseCoopers in Los Angeles. Last year, he was called in by an entertainment company that was suspicious about an employee. The employee, it turns out, was under some financial pressure and had installed a program called Back Orifice on three of the company's servers. The program, which is widely available on the Internet, allowed him to take over those machines, gaining passwords and all the company's financial data. The employee was terminated before any damage could be done.

The dirty little secret is that computer networks offer ready points of access for disgruntled employees, spies, thieves, sociopaths, and bored teens. Once they are in a corporate network, they can lift intellectual property, destroy data, sabotage operations, and even subvert a particular deal or career. "Any business on the Internet is a target as far as I'm concerned," says Paul Field, a reformed hacker who is now a security consultant.



Its point and click, then stick 'em up. Interested in a little mayhem? Security experts estimate that there are 1,900 Web sites that offer the digital tools--for free--that will let people snoop, crash computers, hijack control of a machine, or retrieve a copy of every keystroke. Steve O'Brien, vice-president for information operation assessments at Info-Ops.com, an Annapolis (Md.)-based company that provides intrusion detection services and security solutions, says the number of ways to hack into computers is rising fast. He tracks potential threats both from hacker groups and from the proliferation of programs. Once a rare find, he now discovers at least three new nasty software programs or

vulnerabilities every day. And those tools aren't just for the intellectually curious. "Anyone can get them off the Internet--just point and click away," says Robert N. Weaver, a Secret Service agent in charge of the New York Area Electronic Crimes Task Force.

Experts say the first step for companies is to secure their systems by searching for hacker programs that might be used in such attacks. They also suggest formal security policies that can be distributed to employees letting them know how often to change passwords or what to do in case of an attack. An added help: Constantly updating software with the latest versions and security patches. Down the road, techniques that can filter and trace malicious software sent over the Web may make it harder to knock businesses off the Net. Says Novell Inc. CEO Eric Schmidt: "Security is a race between the lock makers and the lock pickers.'' Regulators say that cyber crime thrives because people accord thee Internet far more credibility than it deserves. "You can get a lot of good information from the Internet--95% of what you do there is bona fide," says G. Philip Rutledge, deputy chief counsel of the Pennsylvania Securities Commission. "Unfortunately, that creates openings for fraud."…"

Excerpts from "Business Week Online, Ira Sager in New York, with Steve Hamm and Neil Gross in New York, John Carey in Washington, D.C., and Robert D. Hof in San Mateo, Calif.

Top Ten Computer Security Breaches

Systems affected: All system and network devices

BIND weaknesses: The Berkeley Internet Name Domain (BIND) package is the most widely used implementation of Domain Name Service (DNS) by which we locate systems on the Internet by name, without having to know specific IP addresses. In a typical example of a BIND attack, intruders erase system logs, and install tools to gain administrative access. They then compile and install IRC utilities and network scanning tools, which are used to scan more than a dozen class-B networks in search of additional systems running vulnerable versions of BIND. In a matter of minutes, they can use the compromised system to attack hundreds of remote systems.

Systems affected: Multiple UNIX and Linux systems

Vulnerable CGI (Common Gateway Interface) programs and application extensions (e.g., Cold Fusion) installed on Web servers: Most Web servers support CGI for data collection and verification. Intruders are known to have exploited vulnerable CGI programs to vandalize Web pages, steal credit card information, and set up back doors to enable future intrusions, even if the CGI programs are secured. As a general rule, sample programs should always be removed from production systems.

Systems affected: All Web servers

Remote procedure call (RPC) weaknesses: Remote procedure calls (RPC) allow programs on one computer to execute programs on a second computer. They are widely used to access network services such as shared files in NFS. There is compelling evidence that the vast majority of distributed denial of service attacks launched during 1999 and early 2000 were executed by systems that had been victimized because they had RPC vulnerabilities. The broadly successful attack on US military systems during the Solar Sunrise incident also exploited an RPC flaw found on hundreds of Department of Defense systems.

Systems affected: Multiple UNIX and Linux systems

RDS security hole in Microsoft Internet Information Server (IIS): Programming flaws in Microsoft's Internet Information Server (IIS) used to host websites deployed on Microsoft Windows NT and Windows 2000 are employed by malicious users to run remote commands with administrator privileges. Some participants who developed the "Top Ten" list believe that exploits of other IIS flaws, such as .HTR files, are at least as common as exploits of RDS.

Systems affected: Microsoft Windows NT systems using Internet Information Server

Send mail: Send mail is the program that handles most e-mail on the Internet. Its widespread use makes it a prime target. In one of the most common exploits, the attacker sends a crafted mail message to the machine running Sendmail, and Sendmail reads the message as instructions requiring the victim machine to send its password file to the attacker's machine (or to another victim) where the passwords can be cracked.

Systems affected: Multiple UNIX and Linux systems

Sadmind and mounted: Sadmind allows remote administration access to Solaris systems, providing graphical access to system administration functions. Mounted controls and arbitrates access to NFS mounts on UNIX hosts. Buffer overflows in these applications can be exploited, allowing attackers to gain control with root access.

Systems affected: Multiple UNIX and Linux systems; Sadmind: Solaris machines only

Global file sharing and inappropriate information sharing via NetBIOS and Windows NT ports: These services allow file sharing over networks. When improperly configured, they can expose critical system files or give full file system access to hostile parties.

Systems affected: UNIX, Windows and Macintosh systems.

User IDs, especially root/administrator with no passwords or weak passwords: Some systems come with "demo" or "guest" accounts with no passwords or with widely-known default passwords. Service workers often leave maintenance accounts with no passwords, while some database management systems install administration accounts with default passwords. In addition, busy system administrators often select system passwords that are easily guessable ("love," "money," "wizard" are common) or just use a blank password. Many attackers try default passwords and then try to guess passwords before resorting to more sophisticated methods.

Systems affected: All systems.

IMAP and POP buffer overflow vulnerabilities or incorrect configuration: IMAP and POP are popular remote access mail protocols, allowing users to access their e-mail accounts. The "open access" nature of these services makes them especially vulnerable to exploitation because openings are frequently left in firewalls to allow for external e-mail access. Attackers who exploit flaws in IMAP or POP often gain instant root-level control.

Systems affected: Multiple UNIX and Linux systems

Default SNMP community strings set to 'public' and 'private': The Simple Network Management Protocol (SNMP) is widely used by network administrators to monitor and administer all types of network-connected devices, ranging from routers to printers to computers. SNMP uses an unencrypted "community string" as its only authentication mechanism. Lack of encryption is bad enough, but the default community string used by the vast majority of SNMP devices is "public", with a few clever network equipment vendors changing the string to "private". Attackers can use this vulnerability in SNMP to reconfigure or shut down devices remotely.

Express Computer Business Weekly

Information Technology Security Practices

Computer Security Policy

The term *computer security policy* has more than one meaning. Policy is senior management's directives to create a computer security program, establish its goals, and assign responsibilities. The term policy is also used to refer to the specific security rules for particular systems. Additionally, policy may refer to entirely different matters, such as the specific managerial decisions setting an organization's e-mail privacy policy or fax security policy.

Program Management

Managing computer security at multiple levels brings many benefits. Each level contributes to the overall computer security program with different types of expertise, authority, and resources. In general, executive managers (such as those at the headquarters level) better understand the organization as a whole and have more authority. On the other hand, front-line managers (at the computer facility and applications levels) are more familiar with the specific requirements, both technical and procedural, and problems of the systems and the users. The levels of computer security program management should be complementary; each can help the other be more effective. Many organizations have at least two levels of computer security management; the *central* level and the *system* level.

Risk Management

Risk is the possibility of something adverse happening. Risk management is the process of assessing risk, taking steps to reduce risk to an acceptable level and maintaining that level of risk. Risk management requires the analysis of risk, relative to potential benefits, consideration of alternatives, and, finally, implementation of what management determines to be the best course of action. Risk management consists of two primary, one underlying activity; risk assessment and risk mitigation are the primary activities, and uncertainty analysis is the underlying one. An organization should consider the following when assessing risks.

Life Cycle Planning

Security, like other aspects of an IT system, is best managed if planned for *throughout* the IT system life cycle. There are many models for the IT system life cycle but most contain

five basic phases: initiation, development/acquisition, implementation, operation, and disposal.

Personnel/User Issues

Many important issues in computer security involve users, designers, implementers, and managers. A broad range of security issues relate to how these individuals interact with computers and the access and authorities they need to do their job. No IT system can be secured without properly addressing these security issues.

Preparing for Contingencies and Disasters

Contingency planning directly supports an organization's goal of continued operations. Organizations should practice contingency planning because it makes good business sense. Contingency planning addresses how to keep an organization's critical functions operating in the event of disruptions, both large and small. This broad perspective on contingency planning is based on the distribution of computer support throughout an organization. The following six steps describe the basic functions an organization should employ when developing contingency plans.

Computer Security Incident Handling

A computer security incident can result from a computer virus, other malicious code, or a system intruder, either an insider or an outsider. The definition of a computer security incident is somewhat flexible and may vary by organization and computing environment. An incident handling capability may be viewed as a component of contingency planning, because it provides the ability to react quickly and efficiently to disruptions in normal processing. Incident handling can be considered that portion of contingency planning that responds to malicious technical threats.

Awareness and Training

An effective computer security awareness and training program requires proper planning, implementation, maintenance, and periodic evaluation.

Security Considerations in Computer Support and Operations

Computer support and operations refers to system administration and tasks external to the system that support its operation (e.g., maintaining documentation). Failure to consider security as part of the support and operations of IT systems is, for many organizations, a significant weakness. Computer security system literature includes many examples of how organizations undermined their often expensive security measures because of poor documentation, no control of maintenance accounts, or other shoddy practices.

Physical and Environmental Security

Physical and environmental security controls are implemented to protect the facility housing system resources, the system resources themselves, and the facilities used to support their operation. An organization's physical and environmental security program should address the following seven topics. In doing so, it can help prevent interruptions in computer services, physical damage, unauthorized disclosure of information, loss of control over system integrity, and theft.

Identification and Authentication

Identification and Authentication is a critical building block of computer security since it is the basis for most types of access control and for establishing user accountability. Identification [6] and Authentication is a technical measure that prevents unauthorized people (or unauthorized processes) from entering an IT system. Access control usually requires that the system be able to identify and differentiate among users. For example, access control is often based on *least privilege*, which refers to the granting to users of only those accesses minimally required to perform their duties. User accountability requires the linking of activities on an IT system to specific individuals and, therefore, requires the system to identify users.

Logical Access Control

Access is the ability to do something with a computer resource (e.g., use, change, or view). Logical access controls are the system-based means by which the ability is explicitly enabled or restricted in some way. Logical access controls can prescribe not only who or what (e.g., in the case of a process) is to have access to a specific system resource but also the type of access that is permitted.

Audit Trails

Audit trails maintain a record of system activity by system or application processes and by user activity. In conjunction with appropriate tools and procedures, audit trails can provide a means to help accomplish *several* security-related objectives, including individual accountability, reconstruction of events, intrusion detection, and problem identification.

Cryptography

Cryptography is a branch of mathematics based on the transformation of data. It provides an important tool for protecting information and is used in many aspects of computer security. Cryptography is traditionally associated only with keeping data secret. However, modern cryptography can be used to provide many security services, such as electronic signatures and ensuring that data has not been modified. Several important issues should be considered when designing, implementing, and integrating cryptography in an IT system.

Utility Loss/Disruption

Utility Loss/Disruption was rated a MODERATE RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.

The 2000-2001 California electricity crisis brought to light many critical issues surrounding the state's power generation and distribution system, including its dependency on out-of-state resources. Although California has implemented effective energy conservation programs, the state continues to experience both population growth and weather cycles that contribute to a heavy demand for power.

Hydro-generation provides approximately 25 percent of California's electric power, with the balance coming from fossil fuels, nuclear, and green sources. As experienced in 2000 and 2001, blackouts can occur due to losses in transmission or generation and/or extremely severe temperatures that lead to heavy electric power consumption.

The Impact of Loss of Power on Water & Sewer Systems

California is a populous state that receives minimal rainfall. Approximately 70% of the population obtains its drinking water from surface sources with the remainder relying on ground water supplies. The basic types of system used by the water companies are pressurized (pressure fed) and non-pressurized (gravity fed) systems. The basic types of system used by the sewer companies are collection and treatment systems that use force pumps to move sewerage.

Drinking water is supplied to California residents through a myriad of governmental agencies, cities, districts, private utilities, mutual water companies, private businesses, and individually owned wells. There are over 10,000 public water suppliers in the state serving water to approximately 29 million consumers. Less than 10% of the public water systems in the state serve collectively more than 95% of the state's population. The remaining 90% of the systems serves less than 5% of the population. D.01-05-089 added Category M (limited other customers as necessary to protect public health and safety, to the extent exempted by the Commission) to the list of essential customers normally exempt from rotating outages.

Due to the energy situation and rolling blackouts that occurred earlier in the year, the Water Division has conducted an informal inquiry into the impact of the rolling blackouts and has concluded that during the first four months of the year, California energy situation and rolling blackouts have had no significant impact upon the California Water and Sewer System Industries, in part due to the "Y2K" efforts in 1999. Water utilities and sewer system utilities appear to have the matter well under control with little to no impact on customer service at this time.

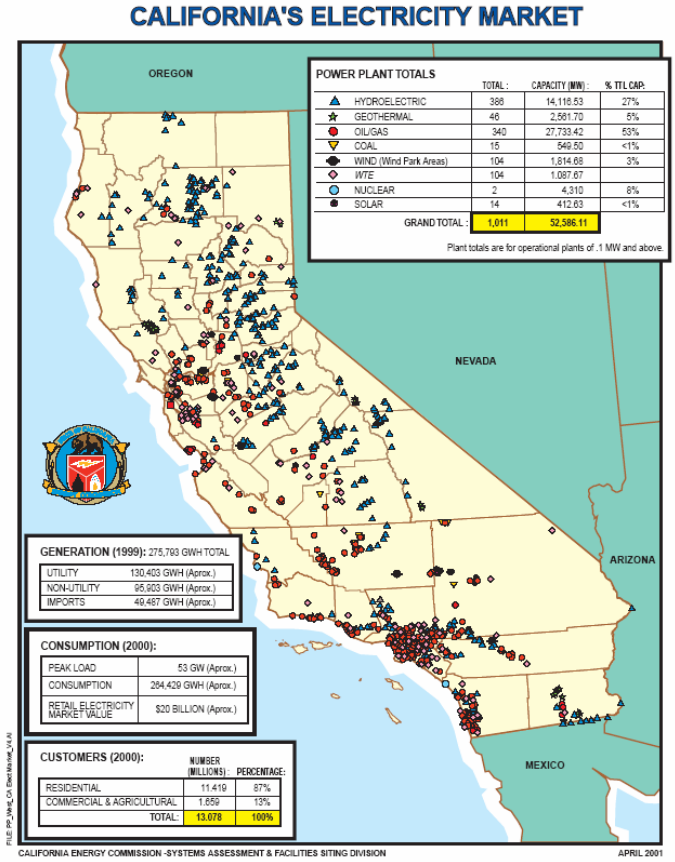
The Effects on Public Health & Safety

Public health and safety must be the primary factor used to evaluate a customer's eligibility for exemption from rotating outages. Exempting a fire department from rotating outages is of little value if the water resources needed to fight these fires are not available to it, particular during the high fire season. Fires that start during extreme fire weather conditions are a high risk to the safety of the residents and firefighters, and have a high probability of spreading rapidly and inflicting major property loss, if water pumping facilities are compromised.

California has experienced many power outages from natural disasters such as fires, floods, earthquakes, and rainstorms. This means that water and sewer systems must have adequate back up

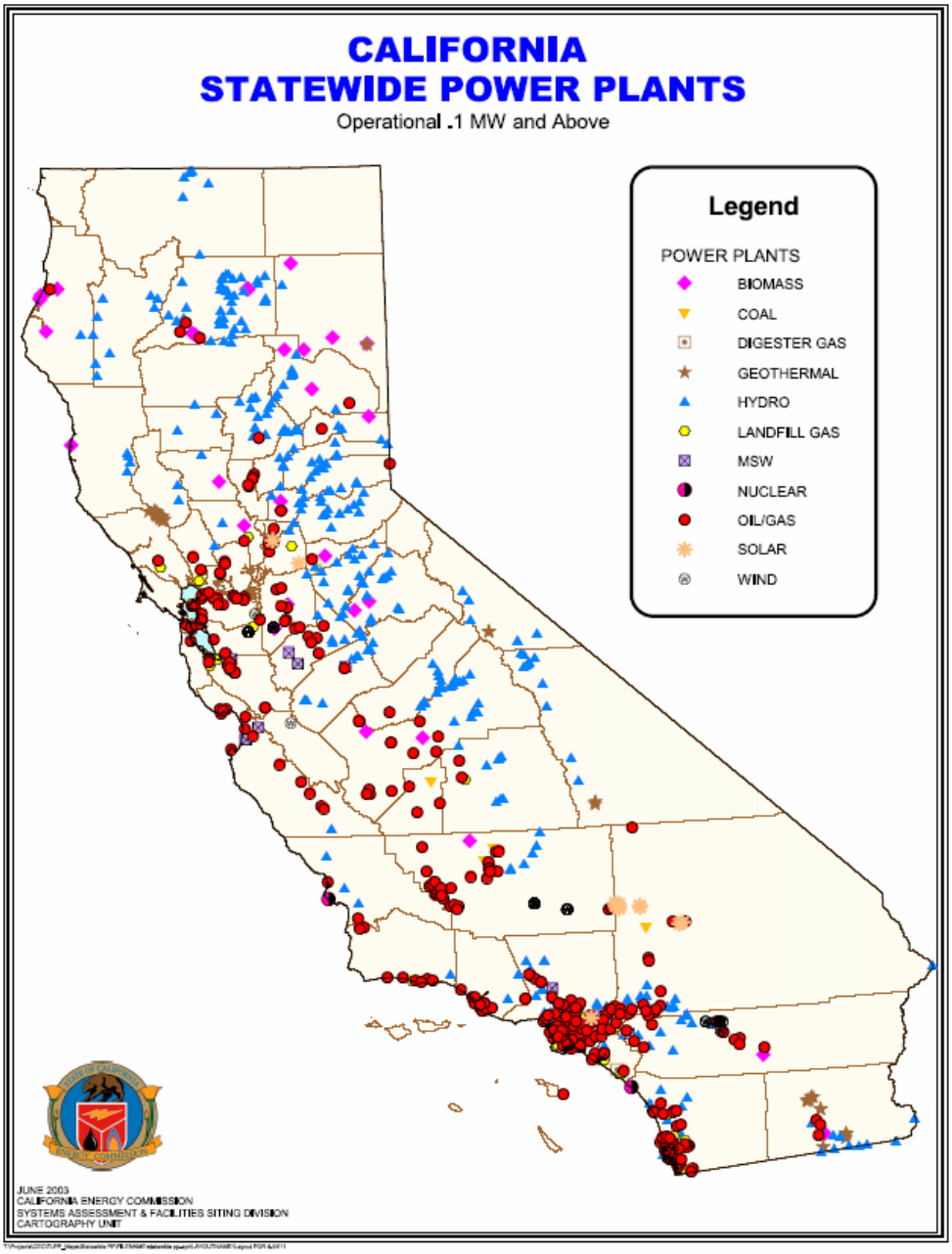
power for extended electric outages independent of rolling blackouts. Many large water systems have adequate storage facilities and have installed backup generators to maintain system pressures during power failure due to "Y2K" efforts. Rotating power outage duration is usually less than two hours or between two to four hours. Therefore, rolling blackouts have little impact on customer service.

In addition, water and sewer treatment utilities may request partial or complete rotating outage exemption from electric utilities in times of emergency identified as requiring their service, such as fire fighting. The Water Division believes that it is reasonable to order electric companies to notify all of their water and sewer customers and test the emergency restoration procedures to minimize the effects on public health and safety. The Water Division recommends that water and sewer companies be excluded from the Category M.

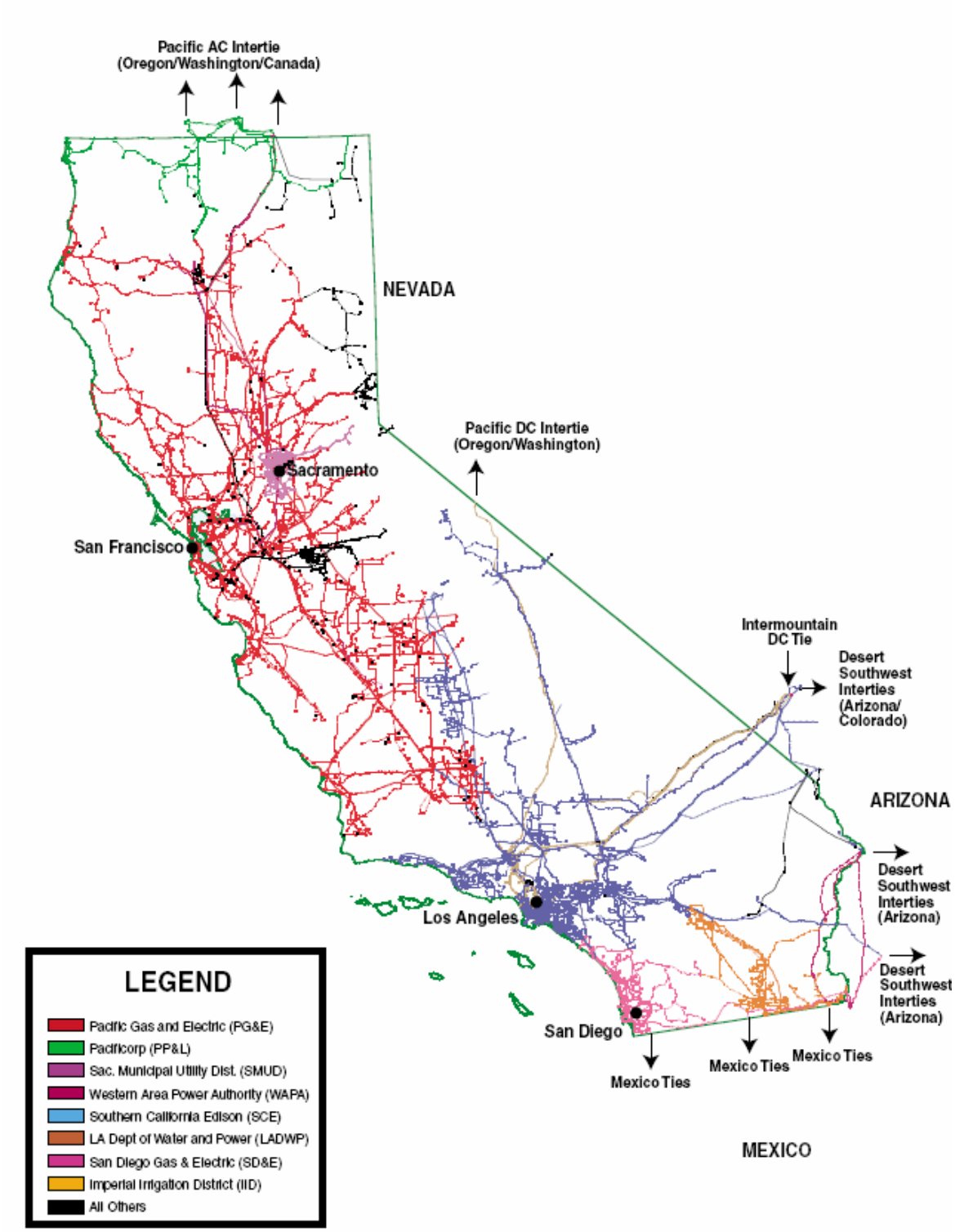


Mitigation measures available for these systems

Backup power was a big issue due to the energy situation and rolling blackouts that occurred this summer. Many water systems have argued that backup power was not necessary since they received electrical power from more than one substation, but the power shortage has negated that argument. Many large water systems have adequate storage facilities and have installed backup generators to maintain system pressures during power failures due to "Y2K" efforts. It is the smaller systems that generally do not have backup power. To mitigate possible public health and safety impacts due to a loss of power, the Water Division recommends that all water companies with pressurized systems and sewer companies install backup generators on the wells with the largest pumping capacity or the lead wells. This will assure system integrity.



Power Transmissions Lines in Southern California



California Department of Energy

Water/Wastewater Disruption

Water/Wastewater Disruption was rated a MODERATE RISK PRIORITY HAZARD in the Saddleback Unified School District.

Water

With a growing population and economy, increasing environmental concerns and vibrant agriculture industry at play, how we choose to collect, store, distribute, use and dispose of water has never been more critical.

Every drop of water not used by a household, farm or business can be used to create higher river flows to benefit fisheries and floodways. Likewise, recycled water stored in new reservoirs can be used to recharge over-drafted groundwater aquifers. In short, new and innovative ideas are on the table that will help California rework its waterworks so that it is not necessary to choose between the environment, the economy, and people's livelihoods and lifestyles.

From the northern reaches to the San Joaquin Delta, which provides two-thirds of the state's residents with their drinking water, California is under the gun to reconstruct and rehabilitate its water and wastewater systems. The challenge is being met on many fronts. On these pages you will find a summary of the water and wastewater challenges California faces today, along with the lowdown on solutions in the works.

Problems

Our groundwater basins are over-drafted and our existing surface storage cannot meet future water demands, particularly in times of drought.

The gap between water supply and demand in California is predicted to total 2.4 million acre feet during drought years and up to 6.2 million acre feet in drought years by 2020. (An acre foot is enough to meet the annual needs of between one and two households.) Six million feet is roughly triple the amount of water the Bay Area uses in a year. At the same time, growers, manufactures and businesses are demanding more reliable and better quality water.

It can take 20 years or longer to develop and finance a supplemental water supply for new developments.

About 894 gallons of water are needed to grow the food for the daily diet of an average person. On an annual basis, an individual's water use is about 326, 310 gallons.

Some of our cities rely on water mains and sewers that are more than 100 years old.

In 2001 California officials issued more than 2,000 beach closings and health advisories because of sewer spills and overflows. Spills and overflows typically happen because wastewater systems have not been upgraded to facilitate new growth, and sewer pipes have not been replaced in time to avert a main break.

When it rains, at times as little as one-quarter inch, the volume of combined runoff and wastewater becomes too great for sewage treatment plants to handle, and the flow is

diverted to outfall points that discharge raw sewage, toxic industrial waste and floatable such as garbage and syringes.

California needs an estimated $8.4 billion for local wastewater treatment improvements.

Solutions - Water

Through a state/federal partnership known as CALFED, for example, some $10 billion in expanded storage, increased recycling and conservation, ecological restoration of key watersheds, and improved water distribution and conveyance has been identified that over the next few decades help meet some of these challenges. Cities are expanding wastewater treatment systems, improving water distribution infrastructure, and developing local recycling programs as well, some using funds from the CALFED program.

To offset water shortages, the state's water recycling program needs more investment. In 1998, the last year it revised its state Water Plan, the California Department of Water Resources issued a 10-year capital improvement forecast calling for more than $1.6 billion in spending to ensure delivery of clean water. In addition, a state/federal partnership known as CALFED is overseeing a vast reworking of the state's water storage and distribution system. The CALFED program as it is known foresees $10 billion in environmental and ecological restoration projects, new storage facilities, recycling programs, water transfer arrangements to help strike a balance the state's competing water needs.

Solutions - Wastewater

State and federal water quality regulations require cities and other municipalities to upgrade wastewater treatment and distribution systems to prevent overflows during wet weather no later than 2014. Pipe replacement projects, construction of new retention ponds, increased recycling and conservation programs, and expanded treatment facilities are all part of the mix of solutions.

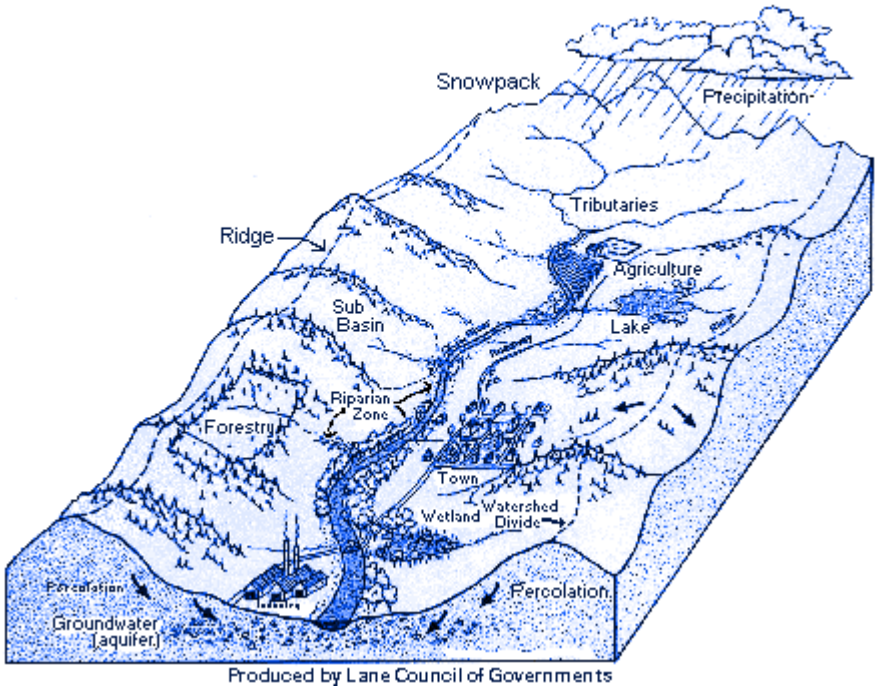
California Dept. of Water Resources, Water Education Foundation, Natural Resources Defense Council

Water Sheds

A watershed is the area of land where all of the water that is under it or drains off of it goes into the same place. John Wesley Powell, scientist geographer, put it best when he said that a watershed is:

"that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community."

Watersheds come in all shapes and sizes. They cross county, state, and national boundaries. No matter where you are, you're in a watershed!



South Coast Watersheds

The Small Watershed Program in California - PL 83-566 and PL 73-534

The USDA's Small Watershed Program assists local organizations in conducting watershed surveys and investigations, and in planning and installing structural and land treatment measures for watershed protection and flood prevention. In California, the Watershed Planning and Engineering staffs are responsible for implementation of these programs.

The watershed is the unit of landscape and framework around which to think together about the land and its role in peoples' lives. The lessons learned through the implementation of PL 78-534 and PL 83-566 - the ability to work with private landowners and communities to plan and install conservation measures on a watershed scale - forms the foundation upon which locally-led conservation is built and supported by NRCS.

Background

USDA's Small Watershed Program was authorized by the Flood Control Act of 1944, Public Law 78-534, and the Watershed Protection and Flood Prevention Act of 1954, Public Law 83-566. The original program, PL 78-534, was established for 11 selected watersheds throughout the country, including the Los Angeles River and Santa Ynez River in California. The subsequent legislation, PL 83-566, was passed to expand the program to all of the nation's watersheds.

USDA's Small Watershed Program has three general purposes: 1) preventing damage from erosion, floodwater and sediment, 2) furthering the conservation development, utilization, and disposal of water, and 3) further the conservation and proper utilization of land.

The program applies to watersheds 250,000 acres and smaller. At least 20 percent of any project benefits must related directly to agriculture, including rural communities. A local sponsoring organization is needed to carry out, maintain, and operate works of improvement.

The program has two main components, each of which is funded separately: 1) watershed surveys and planning; and 2) watershed and flood prevention operations and construction.

Status of the Program in California

The Small Watershed Program in California has been used primarily for flood control, agricultural water management, and watershed protection work. There are 30 completed watershed projects in California and 15 operational projects. About 30 watersheds are currently receiving technical assistance for local planning activities.

From 1978 through 2002, over $100 million was spent in California under PL83-566 operations to install conservation measures. During this same time period, over $120 million was spent in 45 counties in California under Emergency Watershed Protection to provide emergency flood and fire repair work.

In fiscal year 2002, California received PL83-566 annual appropriations of $950,000 for watershed planning, $1,390,000 for technical assistance, and $3,351, 136 for installing practices.

Emergency Response Plans

All water systems serving a population of 3,300 or more (1,000 connections or more) must update their Emergency Response Plan (ERP) and send a completed certification form to EPA within 6 months of completing their Security Vulnerability Assessment (Security VA). All water systems are required to have an Emergency Notification Plan (ENP). CRWA is putting on a series of FREE ERP classes, which will include a free manual and a free CD that will assist you in updating or creating an Emergency Response Plan for your water system. It also includes a special section on how to prepare a Drought Response Plan as a key component of your ERP. All systems no matter what size are invited to attend and will benefit from this class, and attendees will earn contact hours for Distribution and Water Treatment certification renewal.

Ground Water

Ground water is an important component of our nation’s fresh water resources. The use of ground water is of fundamental importance to human life and is also significant to

economic vitality. Inventories of ground water and surface water use patterns in the United States emphasize the importance of ground water. The United States Geological Survey (USGS) compiles national water use information every 5 years and publishes a report that summarizes this information.

Groundwater is a hidden resource. At one time, its purity and availability were taken for granted. Now contamination and availability are serious issues. The following should be considered:

Scientists estimate groundwater accounts for more than 95% of all fresh water available for use.

Approximately 50% of Americans obtain all or part of their drinking water from groundwater.

Nearly 95% of rural residents rely on groundwater for their drinking supply.

About half of irrigated cropland uses groundwater.

Approximately one third of industrial water needs are fulfilled by using groundwater.

About 40% of river flow nationwide (on average) depends on groundwater.

Thus, groundwater is a critical component of management plans developed by an increasing number of watershed partnerships.

Definition

Groundwater is the water that saturates the tiny spaces between alluvial material (sand, gravel, silt, clay) or the crevices or fractures in rocks.

Aeration zone: The zone above the water table is known as the zone of aeration (unsaturated or vadose zone). Water in the soil (in the ground but above the water table) is referred to as soil moisture. Spaces between soil, gravel and rock are filled with water (suspended) and air.

Capillary water: Just above the water table, in the aeration zone, is capillary water that moves upward from the water table by capillary action. This water can move slowly in any direction, from a wet particle to a dry one. While most plants rely on moisture from precipitation that is present in the unsaturated zone, their roots may also tap into capillary water or into the underlying saturated zone.

Aquifer: Most groundwater is found in aquifers-underground layers of porous rock that are saturated from above or from structures sloping toward it. Aquifer capacity is determined by the porosity of the subsurface material and its area. Under most of the United States, there are two major types of aquifers: confined and unconfined.

Confined aquifers (also known as artesian or pressure aquifers) exist where the groundwater system is between layers of clay, dense rock or other materials with very low permeability.

Water in confined aquifers may be very old, arriving millions of years ago. It's also under more pressure than unconfined aquifers. Thus, when tapped by a well, water is forced up, sometimes above the soil surface. This is how a flowing artesian well is formed.

Unconfined aquifers are more common and do not have a low-permeability deposit above it. Water in unconfined aquifers may have arrived recently by percolating through the land surface. This is why water in unconfined aquifers is often considered very young, in geologic time. The top layer of an unconfined aquifer is the water table. It's affected by atmospheric pressure and changing hydrologic conditions. Discharge and recharge rates depend on the hydrologic conditions above them.

Saturation zone: The portion that's saturated with water is called the zone of saturation. The upper surface of this zone, open to atmospheric pressure, is known as the water table (phreatic surface).

Water-bearing rocks: Several types of rocks can hold water, including:

Sedimentary deposits (i.e. sand and gravel)

Channels in carbonate rocks (i.e. limestone)

Lava tubes or cooling fractures in igneous rocks

Fractures in hard rocks

Groundwater and Surface Water Connection

Groundwater and surface water are fundamentally interconnected. It is often difficult to separate the two because they "feed" each other. This is why one can contaminate the other.

Hydrologic (water) Cycle

As rain or snow falls to the earth's surface:

Some water runs off the land to rivers, lakes, streams and oceans (surface water).

Water also can move into those bodies by percolation below ground.

Water entering the soil can infiltrate deeper to reach groundwater which can discharge to surface water or return to the surface through wells, springs and marshes. Here it becomes surface water again. And, upon evaporation, it completes the cycle. This movement of water between the earth and the atmosphere through evaporation, precipitation, infiltration and runoff is continuous.

How Groundwater "Feeds" Surface Water.

One of the most commonly used forms of groundwater comes from unconfined shallow water table aquifers. These aquifers are major sources of drinking and irrigation water. They also interact closely with streams, sometimes flowing (discharging) water into a stream or lake and sometimes receiving water from the stream or lake.

An unconfined aquifer that feeds streams is said to provide the stream's base flow. (This is called a gaining stream.) In fact, groundwater can be responsible for maintaining the hydrologic balance of surface streams, springs, lakes, wetlands and marshes.

This is why successful watershed partnerships with a special interest in a particular stream, lake or other surface water body always have a special interest in the unconfined aquifer, adjacent to the water body.

How Surface Water "Feeds" Groundwater

The source of groundwater (recharge) is through precipitation or surface water that percolates downward. Approximately 5-50% (depending on climate, land use, soil type, geology and many other factors) of annual precipitation results in groundwater recharge. In some areas, streams literally recharge the aquifer through stream bed infiltration, called losing streams. Left untouched, groundwater naturally arrives at a balance, discharging and recharging depending on hydrologic conditions.

Defining Combined Boundaries

Partnerships using the watershed approach to protect natural resources identify and understand the individual resources-water, soil, air, plants, animals and people-early in the process. This is why watershed partnerships select or define boundaries to address all natural resources - not just one. They realize that groundwater, surface water, air quality, and wildlife and human activities all affect each other.

Occasionally watershed partnerships run into difficulty combining boundaries of surface water (watersheds) and recharge areas (groundwater). If this occurs, consider combining surface and groundwater into a single, larger area. In other situations-for example if water is being transferred from one watershed or aquifer to distant users-there can be, and should be, two distinct areas. Thus, watershed partnerships' boundaries may combine the wellhead area, aquifer, watershed, or many other areas depending on the issue(s).

Common Boundaries

Aquifers are often difficult to delineate. It requires someone with an understanding of the aquifer, the geology, the surface above it, and the land that drains toward the surface.

An unconfined aquifer area often extends to the surface water body's (i.e. lake, river, estuary) watershed. When determining an aquifer protection area, pumping (working) wells are not considered. The biggest risk to an unconfined aquifer is contaminated water moving through the permeable materials directly above it. This area is known as the primary recharge area. Depending on the depth and overlying geologic characteristics, travel time from the surface to the aquifer can be relatively short.

Less permeable deposits located at higher elevations than the aquifer form a secondary recharge area. These areas also recharge the aquifer through both overland runoff and groundwater flow. Because they are less permeable and tend to be a greater distance from the aquifer, they often filter out contaminants.

Additional recharge areas to consider include an adjacent stream that potentially contributes to the aquifer through infiltration. When pumping wells are located near a stream or lake, infiltration can be increased. Infiltrating streams typically provide an aquifer with large quantities of water and a pathway for bacteria, viruses and other contaminants.

A confined aquifer area may be limited to the outcrop of the aquifer unit and its immediate contributing area. This area may actually be isolated from the location of water supply wells within the aquifer.

Semi-confined aquifers may receive water from both outcrop areas and overlying aquifers. Delineating the aquifer protection area can be extensive and complex.

Sole-source aquifers are delineated based on aquifer type - confined, semi - confined or unconfined - and local geologic and hydrologic conditions. Defined as providing a

minimum of 50% of the water for its users, sole-source aquifers usually exist only where there simply are no viable alternative water sources.

Wellhead protection areas (also known as zone of contribution and contributing areas) are the surface and subsurface areas surrounding a well or field of wells (well field) supplying a public water system.

The area is calculated by determining the distance contaminants are reasonably likely to move before reaching a well. Some common methods for determining the wellhead protection area include:

Arbitrary fixed radius

Calculated fixed radius

Simplified variable shapes

Analytical method

Numerical method

Hydro-geologic mapping

When selecting the best method, consider available funds and the level of concern. Other factors to consider include the cone of depression and drawdown.

Surface watersheds are defined by a simple process of identifying the highest elevations in land that drains to the surface water body (i.e. lake, pond, river, estuary, etc.). Watersheds are all shapes and sizes, ranging from just a few acres to several million acres ... many smaller watersheds "nested" inside a larger watershed.

Most successful watershed partnerships work with a manageable size yet encompass all the different, but integrated, areas. This enables faster measurable progress and stronger ties between stakeholders and the water body they affect.

Threats to Groundwater

Threats To Quantity

An increased quantity of groundwater is being withdrawn to meet the demands of a growing population. Some of the typical threats associated with this include overdraft, drawdown and subsidence.

Overdraft occurs when groundwater is removed faster than recharge can replace it. This can result in

A permanent loss of a portion of its storage capacity

Changes that can cause water of unusable quality contaminate good watering coastal basins, salt-water intrusion can occur.

Generally, any withdrawal in excess of safe yield (the amount that can be withdrawn without producing an undesirable result) is an overdraft.

Drawdown differs significantly from overdraft. It results in a temporarily lowered water table generally caused by pumping. In this situation, the water table recovers when the supply is replenished.

Subsidence is one of the dramatic results from over-pumping. As the water table declines, water pressure is reduced. This causes the fine particles that held water to become compacted. In addition to permanently reducing storage capacity, the land above the aquifer can sink ... from a few inches to several feet ... causing a sinkhole. This can damage property and fields.

Inorganic compounds, pathogens and organic compounds can harm water quality, affecting the health of humans, fish and wildlife. Scientists continually learn more about contaminants, their sources and prevention practices.

Each state is responsible for designating uses for groundwater, surface waters, wetlands, etc. Designated uses include fishable, swim able, drinkable, recreational, agricultural, aquatic life, and more. Each state is also responsible for developing water quality standards for each use. For example, while most rivers are designated to be used for fishing, a few river sections are designated to be used for drinking water. The same is true for groundwater. Uses are defined and standards identified. A few groundwater uses and standards are:

Drinking water

Meet MCL* for pollutants

Industrial process

Quality & quantity criteria

Stream base flow

Discharge quantity & quality

*MCL: Maximum Contaminant Level

Note that, for most groundwater uses, quality and quantity are important, while for surface water uses, generally quality is the primary concern (with the realization the quantity affects quality).

Inorganic Compounds include all compounds that do not contain carbon. Nutrients (nitrogen and phosphorus) and heavy metals are two examples.

Nitrates can cause problems in drinking water or marine waters

Phosphorus can reduce uses of fresh surface waters

Heavy metals include selenium, arsenic, iron, manganese, sulfur, cadmium and chromium and others. Some (iron, manganese and arsenic) occur naturally

Pathogens, including bacteria and viruses, have been credited with causing more than 50% of the waterborne disease outbreaks in the U.S. *Cryptosporidium Parvum* and *Giardia* both commonly cause illnesses when consumed.

Organic Compounds include Volatile Organic Compounds (VOCs) like benzene, toluene, xylene; semi-volatile compounds like napthaline and phenol; PCBs and pesticides.

Potential Sources

Point sources are easily identified because they usually come out of a "pipe." Examples include sewage treatment plants, large injection wells, industrial plants, livestock facilities, landfills, and others. Regulated by the state water quality agency and the U.S. EPA, point sources are issued a National Pollutant Discharge Elimination System (NPDES) permit when they meet regulations.

Many point sources were established generations ago, before the threat they posed was understood. Some of these sources have been "grandfathered" into compliance with some regulations. Thus, you may find some point sources located in areas that would be considered inappropriate now.

Nonpoint sources refer to widespread, seemingly insignificant amounts of pollutants, which, cumulatively, threaten water quality and natural systems. Examples of nonpoint sources include septic systems, agriculture, construction, grazing, forestry, recreational activities, careless household management, lawn care, and parking lot and other urban runoff.

Nonpoint sources are not required to have a permit. Individually, each may not be a serious threat, but together they may be a significant threat.

Other sources that are not classified under point or nonpoint sources include underground petroleum storage systems and many large and small businesses like dry cleaners, restaurants, and automotive repair shops. Although a large number of underground storage tanks have been removed or upgraded, a significant number remain. Businesses can threaten groundwater with a wide variety of potentially contaminating substances.

Groundwater Contaminant Sources

Source	Contaminant
Salting practices & storage	Chlorides
Snow dumping	Chlorides
Agricultural fertilizers	Nitrates
Manure handling	Nitrates, pathogens
Home fertilizer	Nitrates
Septic systems	Nitrates, pathogens
Urban landscapes	Hydrocarbons, pesticides, pathogens
Agricultural dealers	Hydrocarbons, pesticides, nitrates
Agricultural feedlots	Nitrates, pathogens
Solid waste landfills	Hazardous materials
Industrial uses RCRA 'C'	Hazardous materials
Industrial uses RCRA 'D'	Hazardous materials
Small quantity generators	Hazardous materials
Households	Hazardous materials
Gas stations	Hydrocarbons
Auto repair shops	Hydrocarbons
Recycling facilities	Hydrocarbons
Auto salvage yards	Hydrocarbons
Underground storage tanks	Hydrocarbons
Industrial floor drains	Hydrocarbons
Injection wells	Hydrocarbons
Junkyards	Hydrocarbons

Mitigation

The Watershed Management Approach

A quick review of key components of the local, voluntary watershed approach to protecting natural resources will help you evaluate groundwater management approaches and how they may be used in your particular situation. The most critical component to the watershed management approach is the involvement and consensus of all key stakeholders (or organizations representing them) at each step in the process. Other key components include:

Assess natural resources-soil, water (including groundwater), air, plants, animals, and people.

Identify and prioritize problems.

Develop measurable objectives-based on local environmental, economic and social goals.

Identify and agree upon strategies for reaching objectives.

Implement strategies and assess results.

Some of the activities, as they pertain to groundwater, are described in this guide. For example:

Determining boundaries of the groundwater and watershed areas is typically part of assessment.

Discussing existing and future uses of water is part of setting goals.

Defining pollutants and sources is part of assessment, goal setting and solution identification.

Understanding various tools is part of identifying and implementing solutions.

Existing Groundwater Programs

Over the past 20 years many federal and state programs have been developed to improve management of groundwater. Four of the most useful can also easily be incorporated into your watershed plan. These include:

Comprehensive State Groundwater Protection Program

Sole Source Aquifer Program

Source Water Protection Program

Wellhead Protection Program

These approaches can be used in a complementary fashion to manage all resources, including groundwater, for multiple uses-ranging from human consumption to industrial processes to maintaining ecological integrity within a wetland.

Comprehensive State Groundwater Protection Program is a statewide program that looks at groundwater's uses, including drinking water, and its role in sustaining the health of surface water bodies (rivers, streams, wetlands, marshes).

The Sole Source Aquifer Program, Source Water Protection Program, and Wellhead Protection Program all are intended to protect a drinking water supply. The programs generally are compatible with the *Comprehensive State Groundwater Protection Program,* but are applied to very definite geographic areas:

The Sole Source Aquifer Program applies to the aquifer boundaries.

The Source Water Protection Program applies to water that drains into a reservoir (used as a drinking water source) or intake.

The Wellhead Protection Program applies to defined wellhead areas.

Special Issues

Although groundwater programs are often used within the watershed framework, there are some issues that may arise as you attempt to integrate them. These issues have been listed to simply make you aware of them. Each is best addressed through cooperation and consensus. Water quality use designations often do not reflect the presence of groundwater intakes for drinking water. Water quality criteria and drinking water maximum contaminant levels (MCLs) often are not consistent in terms of chemical specific values and parameters.

Minor dischargers and permitted management measures under the NPDES program may not sufficiently reduce the risk to drinking water intakes. Where agriculture activities are reducing drinking water quality, changes in management practices may or may not take a long time to result in water quality improvements depending on weather, geography etc. Source water areas for groundwater drinking supplies (wellhead areas) generally do not coincide with surface water drainage areas. Long-term drinking water treatment may be necessary for certain public water supply systems because of the nature of the contaminant sources and the size of the contributing area.

Mitigation & Management Tools

There are many, many tools that can be used to manage groundwater resources:

Zoning: Regulations are used to segregate different, and possibly conflicting, activities into different areas of a community. This approach can be limited in its ability to protect groundwater due to "grandfather" provisions.

Overlay Water Resource Protection Districts: Similar to zoning regulations in their goals of defining the resource, these ordinances and bylaws map zones of contributing boundaries and enact specific legislation for land uses and development within these boundaries.

Prohibition of Some Land Uses: These are not typically considered very creative tools. However, prohibition of land uses such as gas stations, sewage treatment plants, landfills, or the use/storage/transport of toxic materials is a first step towards the development of a comprehensive groundwater protection strategy.

Special Permitting: The special permitting process can be used to regulate uses and structures that may potentially degrade water and land quality.

Large Lot Zoning: Large lot zoning seeks to limit groundwater resource degradation by reducing the number of buildings and septic systems within a groundwater protection area.

Eliminating/Modifying Septic Systems: Septic system problems can be reduced or eliminated by extending or developing community sewage treatment systems. Other options include specifying minimum design requirements like mound systems.

Transfer of Development Rights: A government entity prepares a plan designating land parcels from which development rights can be transferred to other areas. This allows land uses to be protected (i.e. for a gas station) while assuring that these uses are outside sensitive areas.

Growth Control/Timing: Growth controls are used to slow or guide a community's growth, ideally in concert with its ability to support growth. One important consideration is the availability of groundwater.

Performance Standards: This assumes that any given resource has a threshold, beyond which it deteriorates to an unacceptable level. Performance standards assume that most uses are allowable in a designated area, provided that the use or uses do not and will not overload the resource. With performance standards, it is important to establish critical threshold limits as the bottom line for acceptability.

Underground Storage Tanks: Three additional protection measures are often adopted to enhance local water resource protection. They include:

Prohibit new residential underground storage tanks

Remove existing residential underground storage tanks

Prohibit all new underground storage tank installation in groundwater and surface water management areas

Septic System Maintenance: Septic system maintenance is frequently overlooked. Many times the system will not function properly, causing "breakout" of solids at the surface, which can lead to bacterial contamination. In addition, when systems fail, any additives used can become contaminants.

Land Donations: Land owners are often in the position of being able to donate some land to the community or to a local land trust.

Conservation Easements: Conservation easements allow for a limited right to use the land. Easements can effectively protect critical lands from development.

Purchase Lands: Many communities purchase selected parcels of land that are deemed significant for resource protection.

Well Construction/Closure Standards: Wells are a direct conduit to groundwater. Standards for new well construction, as well as identification and closure of abandoned wells, can prevent groundwater from being contaminated.

Groundwater Protection Tools

Technique	Tool
Zoning Districts	Overlay Groundwater Protection
Prohibit Various Land Uses	Special Permitting
Large Lot Zoning	Transfer of Development Rights
Cluster/PUD Design	Growth Controls/Timing
Performance Standards	Geographic Information Systems
Overlay Wetlands	Identify Local Wellhead Protection Areas
Subdivision Control	Drainage Requirements
Growth Management in Sensitive Areas	Health Regulations
Underground Fuel Storage Systems	Small Sewage Treatment Plants
Septic Cleaner Bans	Septic System Upgrades
Toxic & Hazardous Material Regulations	Private Well Protection
Voluntary Restrictions	Sale, Donation or Trust
Conservation Easements	Limited Development
Other non-regulatory	Monitoring
Contingency Plans Hazardous Waste Collection	
Public Education Land Banking	

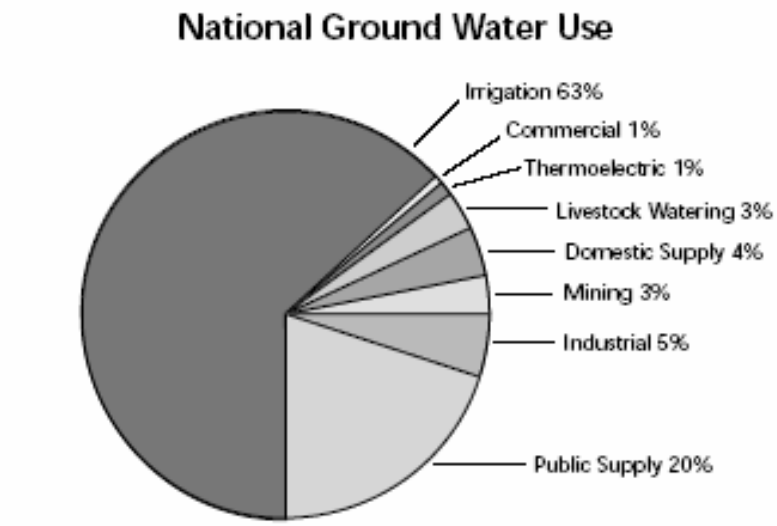
Groundwater Management Practices

Zoning Districts	Practices
Groundwater recharge	Impervious area restriction
Artificial wetlands	Grass lined channels
Impoundment structures (ponds)	Subsurface drains (tiles)
Infiltration trenches	Native tree and shrub plantings
Pollutant reduction	Buffer strips
Filter strips	Riparian zones
Pollution prevention	Soil nitrate testing
Integrated pest management	Manure testing
Variable rate applications	Abandoned well closure

The latest USGS report was issued in October 1998 for the 1995 water year. The USGS report shows that ground water provides water for drinking and bathing, irrigation of crop lands, livestock watering, mining, industrial and commercial uses, and thermoelectric cooling applications.

Figure 1 illustrates how ground water use is proportioned among these categories. As shown, irrigation (63%) and public water supply (20%) are the largest uses of ground water. About 77,500 million gallons of ground water are withdrawn daily.

Figure 1



Source: *Estimated Use of Water in the United States in 1995.* U.S. Geological Survey Circular 1200, 1998.

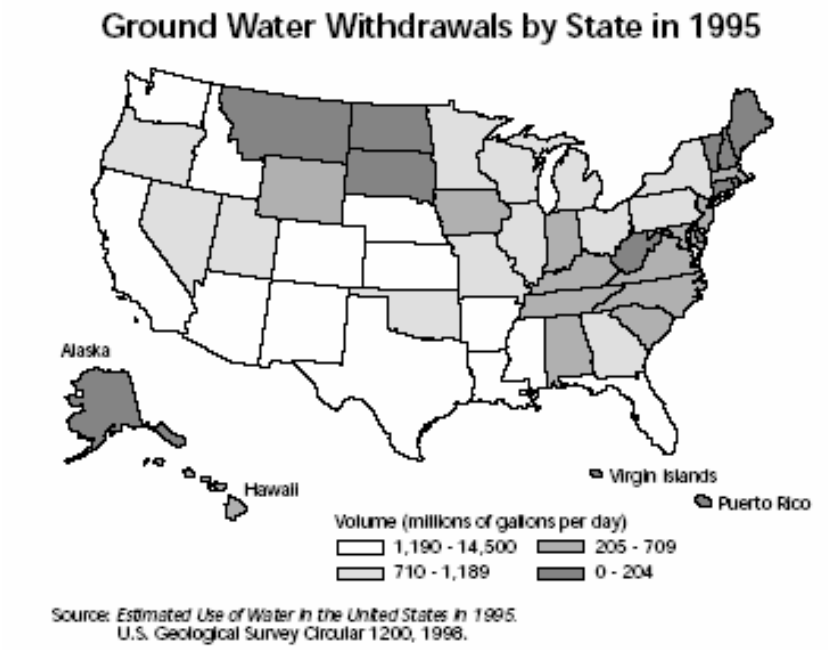
In 1995, the USGS reported that ground water supplied 46% of the nation's overall population and 99% of the population in rural areas with drinking water. Our nation's dependence on this valuable resource is clear.

Every state uses some amount of ground water. Nineteen states obtain more than 25% of their overall water supply from ground water. Ten states obtain more than 50% of their total water supply from ground water.

Each state uses its ground water differently. Ground water use in individual states is a result of numerous interrelated factors generally associated with geography and climate, the principal types of business activities occurring in the state, and population distribution. Fresh ground water withdrawals during 1995 were highest generally in the western states, primarily to supply an increasing population and to sustain important agricultural activities.

Figure 2 shows the volume of ground water withdrawn by states. The 13 states that have the greatest withdrawals account for 69% of all ground water that is withdrawn nationally.

Figure 2



Sources of Ground Water Contamination

Ground water quality may be adversely impacted by a variety of potential contaminant sources. It can be difficult to identify which sources have the greatest impact on ground water quality because each source varies in the amount of ground water it contaminates. In addition, each source impacts water quality differently.

An EPA/state workgroup developed a list of potential contaminant sources and requested each state to indicate the 10 top sources that potentially threaten their ground water resources. States added sources as was necessary based on state-specific concerns. When selecting sources, states considered numerous factors, including _

The number of each type of contaminant source in the state

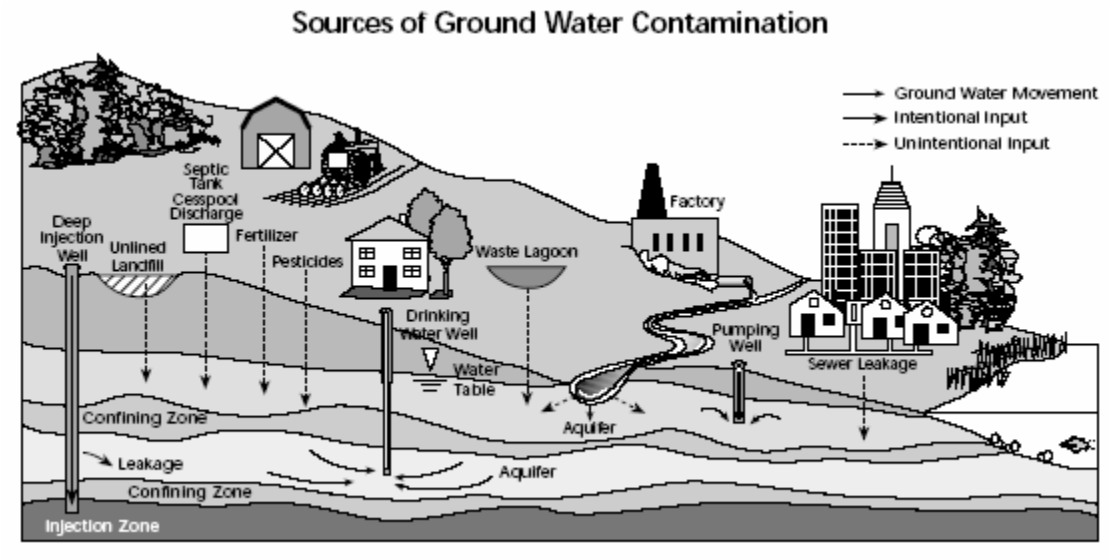
The location relative to ground water sources used for drinking water purposes

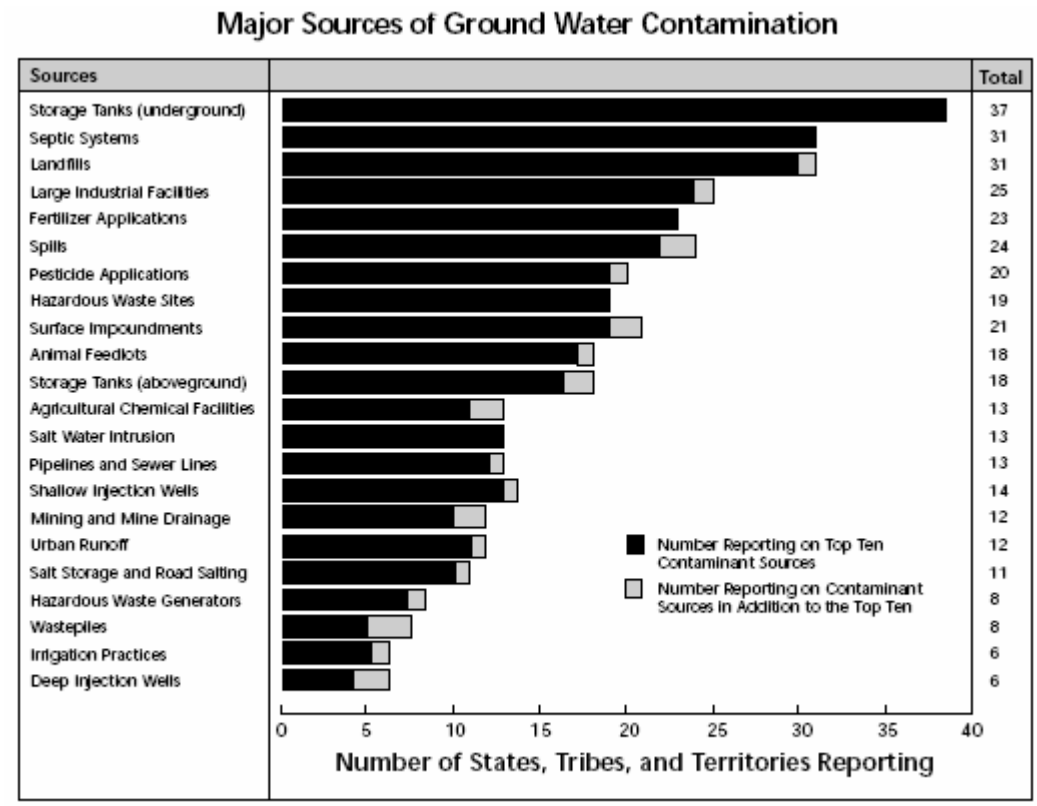
The size of the population at risk from contaminated drinking water

The risk posed to human health and/or the environment from releases

Hydrogeologic sensitivity (the ease with which contaminants enter and travel through soil and reach aquifers)

The findings of the state have ground water assessments and/or related studies.





EPA,

"National Water Quality Inventory"

Methyl Tertiary Butyl Ether (MTBE)

Senate Bill 521 was introduced February 24, 1997 in response to a growing awareness of the possible environmental and health effects associated with the use of Methyl Tertiary Butyl Ether (MTBE) as an oxygenate blending agent in gasoline fuels throughout California (Appendix A). Since 1979, MTBE had been used in the State as a replacement for tetraethyl lead and as an octane booster. Although used in California since 1979 in volumes ranging from 0.5 to 3.5 percent, the volumes of MTBE in gasoline have increased to 11 percent since 1996. SB 521, which became effective January 1, 1998, called for the University of California to perform an assessment of the benefits and risks associated with the uses of MTBE in California.

This assessment report addresses: 1) the current impacts of MTBE to the state's groundwater used for drinking; 2) risks to the state's groundwater resources associated with MTBE leaking from storage tanks and other petroleum storage and conveyance facilities; and 3) potential future risks to the state's groundwater should MTBE continued to be used.

The general approach was to compile statewide data on the occurrence of MTBE groundwater contamination. The data consisted of MTBE detections and concentrations at leaking underground storage tank sites from Regional Water Quality Control Boards and MTBE detections and concentrations in water supply wells based on information from the Department of Health Services, Local Primacy Agencies, and Regional Water Quality Control Boards. We used various modeling approaches to then assess potential future impacts of MTBE on groundwater resources, focusing primarily on plume behavior in aquifer systems consisting of alluvial materials (i.e., sand, gravel, silt and clay). This report also includes specific information on MTBE impacts on groundwater in the Tahoe Basin.

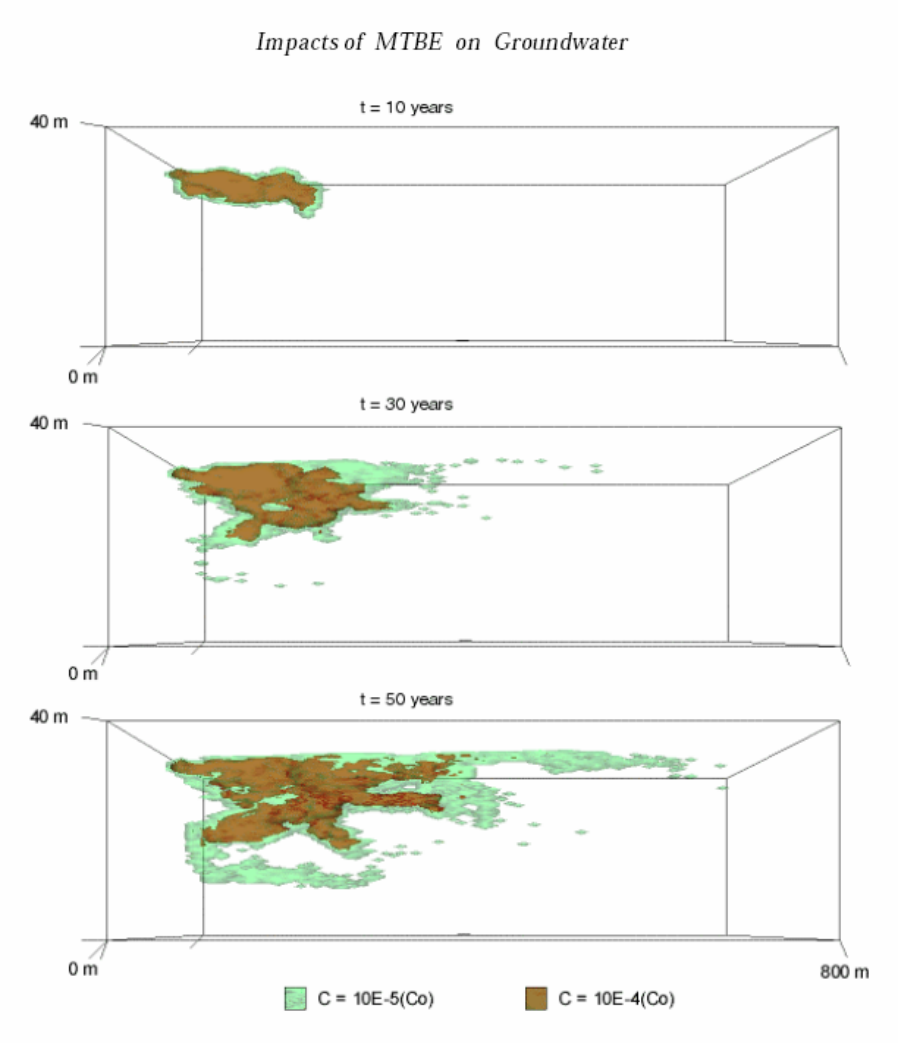
A recent investigation into the impacts of MTBE on California groundwater by Happel et al. (1998) provided an important foundation for this study. The analysis of groundwater impacts contained herein complements the work of Happel et al. (1998) by accumulating more recent statewide information with broader geographic coverage. Moreover, we use plume length statistics compiled by Happel et al. (1998) as a basis for calibrating models that simulate future MTBE plume growth.

The use of MTBE in gasoline has increased steadily since it was first approved for use in gasoline by the United States Environmental Protection Agency (USEPA) in 1979. MTBE is produced from isobutene, a waste product of the petroleum refining process. In 1994, MTBE was ranked as the eighteenth most produced chemical in the United States. By 1995 it was ranked twelfth, and by 1997 it was ranked second (OEHHA, 1998). MTBE was used in California's lead phase out program in 1979 at volumes up to 2 percent as a lead substitute and octane booster.

The US EPA approved use of MTBE in 1981 up to 10 percent and in 1988 approved its use up to 15 percent by volume (CAEPA, 1998). As early as 1988, MTBE use in southern California had begun to increase. In 1988, a refiner introduced an environmentally clean fuel in California that included 6 to 8 percent MTBE by volume. This refiner reportedly supplied 30 percent of the fuel in California of which approximately 20 percent of this refiner's sales was the environmentally clean fuel. This fuel was sold principally in southern California (D. Simeroth, personal communication, 1998).

The complete phase out of lead in fuel occurred in 1992, at which time the Winter Time Oxygenate Program began in California. There was an increased use of MTBE in the southern part of the state, with longer wintertime intervals and an earlier commencement of the year-round oxygenate program starting in 1995 rather than 1996. After March 1, 1996, all gasoline sold in California was Phase 2 reformulated gas containing 11 percent by volume MTBE. Approximately, 92 billion gallons of MTBE was produced in 1997 (Zogorski et al., 1998). California is reportedly the third largest worldwide

consumer of MTBE, second only to the rest of the United States and the former Soviet Union (OEHHA, 1998).



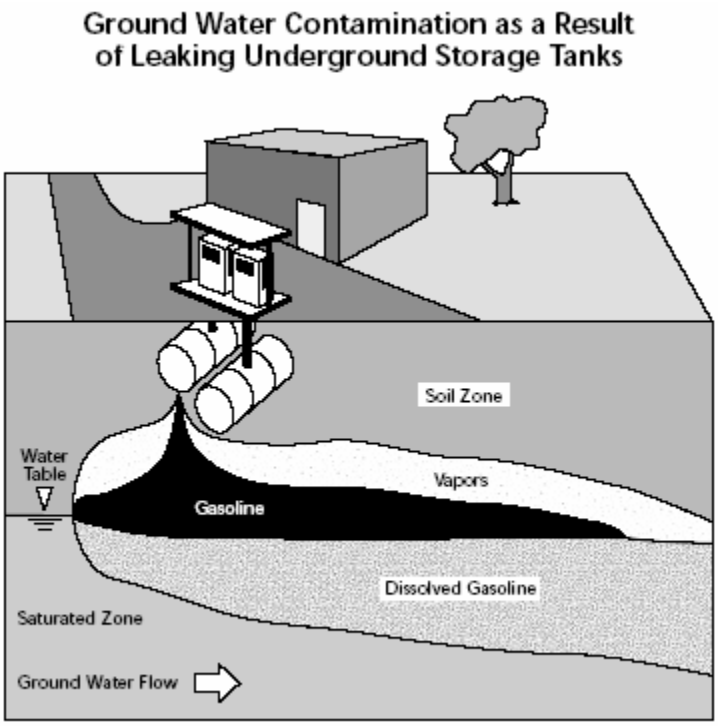
3-D simulated MTBE plume snap shots at (top to bottom) 10, 30, and 50 yr. Total thickness of the box is 40.5 m, and total length is 810 m. Regional flow is left to right. Screened interval of the pumping well is located in the center of the domain at a depth of 20 m.

University of California at Davis; "Impacts of MTBE on California Groundwater"

Sources of MTBE in Groundwater

MTBE sources of groundwater contamination include leaking underground fuel tanks (LUFT's), above ground storage tanks, farm tanks, leaking petroleum fuel pipelines, underground storage tanks containing fuels other than gasoline, surface spills due to automobile or tanker truck accidents, surface spills due to abandoned or parked vehicles, MTBE contaminated surface water, and precipitation. The LUFT sites are numerous, widely dispersed, proportional to the state's population, and involve enormous volumes of fuel products. As of June 30, 1998 there were 32,779 known sites where chemical compounds, including gasoline and non-gasoline products, were discharged to the environment from underground storage tanks. Ninety percent of these discharges involve petroleum products.

University of California at Davis; "Impacts of MTBE on California Groundwater"



Ground Water Protection

The responsibility for ground water protection collectively belongs to government agencies at the federal, state, and local levels. Federal and state governments regulate ground water through laws, regulations, and policies. In many cases, state and local laws are stricter versions of federal legislation, which serves as a valuable baseline on which state and local laws can build.

At the federal level, the Clean Water Act (CWA) ensures protection of surface waters designated, in part, for use as drinking water. Other environmental laws—the Safe Drinking Water Act (SDWA) (which includes the Wellhead Protection [WHP] Program, the Sole Source Aquifer [SSA] Program, and the Underground Injection Program); the Resource Conservation and Recovery Act (RCRA); the

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)—provide authorities, financial support, and technical assistance to protect sources of drinking water, especially ground water.

EPA is developing a regulation on ground water that specifies the appropriate use of disinfection and addresses other components of ground water systems to ensure public health protection. Various studies seem to indicate that the number of ground water sources with evidence of fecal contamination is significant. EPA is analyzing the data to determine if they represent public wells nationally. The proposed rule also encourages the use of alternative approaches, including best management practices and source control.

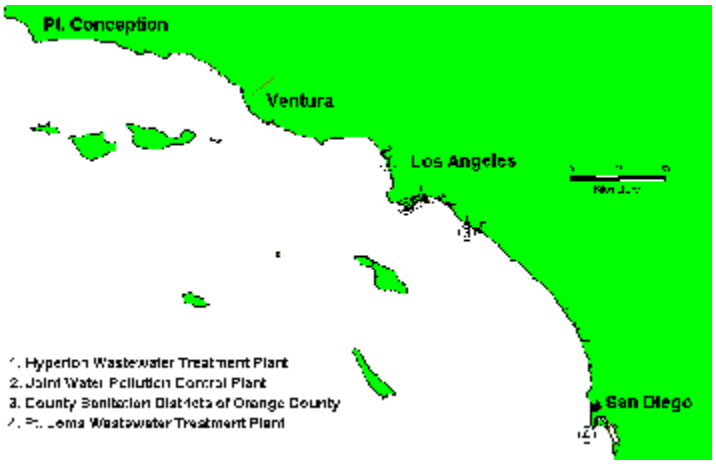
EPA, "National Water Quality Inventory"

Ground Water Protection

Waste Water

Characteristics Of Effluents From Large Municipal Wastewater Treatment Facilities

Effluents from the Hyperion Treatment Plant (HTP) of the City of Los Angeles, the Joint Water Pollution Control Plant (JWPCP) of County Sanitation Districts of Los Angeles County (CSDLAC), Wastewater Treatment Plants 1 and 2 of County Sanitation Districts of Orange County (CSDOC), and Point Loma Wastewater Treatment Plant (PLWTP) of the City of San Diego comprise 90% of municipal wastewater discharged directly to the Southern California Bight (Figure 1). These agencies have routinely measured the characteristics of their effluents for at least two decades. Each year during this period, the Southern California Coastal Water Research Project (SCCWRP) has summarized these measurements and reported on discharge and constituent trends. In this report, we summarize the concentrations of effluent constituents and estimate the mass emissions for these four agencies for 1993; we also discuss trends in the mass emissions of contaminants from 1971 to 1993.



Inherent Danger to Waste Water Systems

CALIFORNIA WASTEWATER TREATMENT OPERATOR ADMITS TO WATER TAMPERING

FOR RELEASE: FRIDAY, APRIL 9, 1999

Bernardino Lopez, former wastewater treatment plant operator for the Niland Sanitary District, pleaded guilty on March 29 in U.S. District Court for the Southern District of California in San Diego, to violating the Clean Water Act (CWA). Lopez admitted that in August and September of 1998, he repeatedly added chlorine to wastewater samples that were to be tested for E. coli. bacteria. The samples were used to develop monthly reports to the Regional Water Quality Control Board. Adding chlorine to the samples concealed the fact that both treatment plants were discharging wastewater with E. coli. levels that exceeded the limits allowed in their CWA National Point Discharge Elimination System permits. Human exposure to wastewater containing excessive levels of E. coli. can cause skin and intestinal infections. Wastewater from both plants flows into the Salton Sea. When sentenced, Lopez faces a maximum penalty of two years imprisonment and/or a $10,000 fine. This case was investigated by the Imperial County Environmental Task Force, which includes EPA's Criminal Investigation Division, and was prosecuted by the U.S. Department of Justice.

CITY OF LAGUNA HILLS • URBAN WATER RUNOFF UPDATE

NEW Storm Water Best Management Practices Affects Every Resident, Business, and Homeowner Association

Tough new storm water rules require all residents, businesses, and homeowner associations in our community to increase their efforts to keep polluted urban runoff water from entering local creeks and reaching the Pacific Ocean.

In January and February 2002, the Santa Ana and San Diego Regional Water Quality Control Boards adopted new five-year Storm Water Permits for the City of Laguna Hills, our neighboring South County Cities and the County of Orange.

ecofact

Urban storm water is one of the top three sources of pollution of our nation's rivers, lakes, and oceans.

The Permits impose new regulations and restrictions that require stronger pollution prevention efforts by residents and businesses, and places limits on non-storm water discharges into gutters and storm drains. The new Permits require the City of Laguna Hills to:

- Adopt stronger water quality and watershed protection laws, policies, and principles;
- Impose pollution prevention and treatment requirements on new development projects;
- Inspect construction sites and business areas to ensure compliance with Permit requirements;
- Require Homeowner Associations to employ pollution prevention practices in the maintenance of their property;
- Expand urban runoff and water quality public education programs; and
- Monitor storm drain discharges, and identify and eliminate sources of water pollution.

Additionally, the San Diego Regional Water Quality Control Board mandated in November 2003 that cities in South Orange County specifically identify the required minimum Best Management Practices (actions that may be implemented to help reduce pollution in creeks and the ocean) for all activities and areas in the City that can be enforced on existing residential, commercial, industrial, municipal, and HOA properties.

In response to these requirements, the City developed a series of minimum designated Best Management Practices (BMPs) for all existing development areas and activities and provided two opportunities for the public to comment on them. The City Council approved the minimum designated BMPs at the February 24, 2004 City Council Meeting. These minimum BMPs may be viewed at www.ci.laguna-hills.ca.us under "Download Forms and Documents".

Every resident and business owner needs to help prevent urban runoff pollution. Failure to do so may subject the City, residents and businesses to enforcement actions by the Regional Board, including heavy fines, which affect all of us.

What Can I Do?

If I see illegal dumping...

During business hours, 8 a.m. to 5 p.m. weekdays, call Public Services at 707-2650. After hours, call (714) 567-6363.

For dangerous or toxic chemicals dumped illegally, call 9-1-1.

Want to Learn More?

Call Joe Ames, Assistant Engineer, at 707-2657, or call Joe Castro, Water Quality Inspector, at 707-2665.

You may also visit the City's Frequently Asked Questions website section at

www.ci.laguna-hills.ca.us

or the Orange County's Water Runoff Program website www.ocwatersheds.com

Note: All phone numbers are in the 949 area code unless otherwise indicated.

What Can I Do to Keep Our Water Clean?

- **KEEP THE GUTTER CLEAN**
  Sweep your driveways and sidewalks. Put trash in the can instead of the gutter. Use your lawn clippings to fertilize your lawn.
- **PULL YOUR OWN WEEDS**
  The less herbicides and pesticides you spray, the less you will swim in on the weekend.
- **PLANT, DON'T PAVE**
  Let the runoff water soak into the ground. Landscaping looks better and creates oxygen.
- **SCOOP THE POOP**
  Unless you like to swim in animal poop, make sure you and your neighbor pick up the droppings.
- **REPORT FULL CATCH BASINS**
  Notify the City of Laguna Hills' Department of Public Services and they will clean it as soon as possible. Call 707-2650.
- **FIX YOUR CAR LEAKS**
  More oil enters the beach from urban runoff than from tanker spills. If your car drips, the oil will find its way to the ocean.
- **DON'T BE A DRIP**
  Low-flow showerheads, drip irrigation and low-flow toilets conserve water. Repair any leaks.
- **MINIMIZE WATER LOSS**
  Water lawns in the mornings or evenings. Water deeply and less often for happier plants.
- **USE NON-TOXICS**
  Vinegar and baking soda clean very well. Buy eco-sensitive products now available on the market.

ecofact

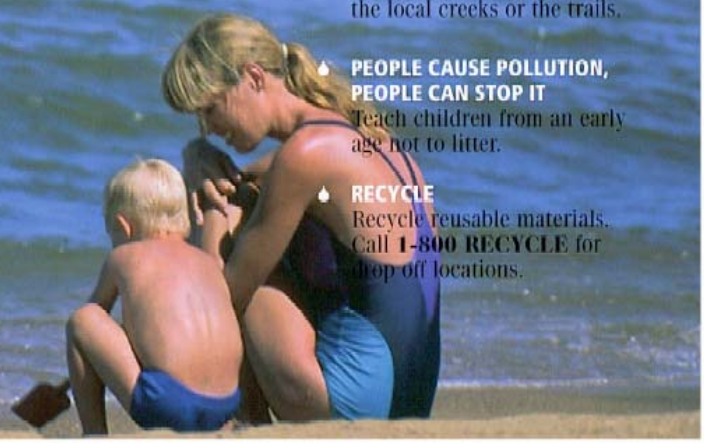
Everything that enters a storm drain goes directly to the ocean (litter, used oil, antifreeze, animal droppings, chemicals, etc.)

- **OIL'S WELL THAT ENDS WELL**
  Recycle your motor oil at a car repair shop or a used oil recycling facility.

ecofact

Dumping one quart of motor oil down a storm drain contaminates 250,000 gallons of water.

- **REPORT ILLEGAL ACTIVITIES**
  If you see someone dumping any pollutant, call and report it. See page 4.
- **DON'T WATER THE DRIVEWAY**
  It won't grow. All that water washes pollutants to the beach.
- **CONSIDER, CONTROL, CONSERVE**
  Recycle reusable materials. Throw litter into trashcans and keep cans tightly covered to prevent foraging by animals.
- **BE AWARE OF STORM DRAINS**
  Trash and toxins that are dumped on the street run straight to the beaches. By reducing the amount of pollutants that go into storm drains, our coastal waters and creeks will be protected.
- **DISPOSE OF HOUSEHOLD HAZARDOUS WASTES PROPERLY**
  Take your excess household hazardous waste to the collection center at the Prima Deshecha landfill in San Juan Capistrano.
- **COVER YOUR TRAILS**
  Join a volunteer group to clean the local creeks or the trails.
- **PEOPLE CAUSE POLLUTION, PEOPLE CAN STOP IT**
  Teach children from an early age not to litter.
- **RECYCLE**
  Recycle reusable materials. Call **1-800 RECYCLE** for drop off locations.



Dam Failure

Dam Failure was rated a MODERATE RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.

US Army Corps of Engineers
Los Angeles District
Reservoir Regulation Section

Prado Dam

Background

Prado Dam is a flood control and water conservation project constructed and operated by the U.S. Army Corps of Engineers, Los Angeles District. Construction of the project was completed in April 1941. The project is located at the upper end of the Lower Santa Ana River Canyon, which is a natural constriction controlling 2,255 square miles (5,840 square kilometers) of the 2,450 square mile (6345 square kilometer) Santa Ana River watershed. The dam is located on the Santa Ana River approximately 30.5 miles (49 kilometers) upstream of the Pacific Ocean. The dam embankment is located in Riverside County, California approximately 2 miles (3.2 kilometers) west of the City of Corona. Portions of the reservoir are in both Riverside and San Bernardino Counties. Authorization for the project construction is contained in the Flood Control Act of June 22, 1936 (PL 74-738).

Prado Dam provides flood control and water conservation storage for Orange County, California. It is the downstream element of the Santa Ana River flood control system. The purpose of the project is to collect runoff from the uncontrolled drainage areas upstream along with releases from other storage facilities. Generally, when the water surface elevation in the reservoir pool is below the top of the buffer pool elevation (494.0 feet NGVD during the flood season, 505.0 feet NGVD during the non-flood season), water conservation releases are made. These releases are coordinated with the Orange County Water District and are based upon the capacity of their groundwater recharge facilities and agreements with other agencies. If the water surface in the reservoir exceeds the top of the buffer pool, flood control releases commence. The objective of the flood control operation is to drain the reservoir back to the top of the buffer pool as quickly as possible without exceeding the capacity of the channel downstream. In current practice, when the water surface in the reservoir exceeds the top of the buffer pool, releases are increased to match inflow up to 5000 cfs (142 cms). When inflows exceed 5000 cfs, the excess water is stored in the reservoir. When the water surface elevation in the reservoir reaches 543.0 feet NGVD uncontrolled releases from the spillway will commence.

The 5000 cfs limit on controlled releases from Prado Dam is based upon the old non-damaging capacity of the downstream channel. When the downstream channel improvements which are part of the Corps of Engineers' Santa Ana River project are completed the downstream channel capacity will increase dramatically to over 30,000 cfs (850 cms). Plans are also underway to improve Prado Dam itself to increase its storage and release capacities. These improvements will enable the dam to take full advantage of the improved channel capacity downstream and will greatly increase the level of flood protection to the communities of Orange County in the Santa Ana River floodplain. When these improvements near completion, a new water control plan and manual for the project will be developed.

The current water control manual for Prado Dam was approved in September 1994.

Physical Data

Embankment		
Type	**Earth Fill**	
Crest Elevation	566 feet NGVD	172.5 meters NGVD
Maximum height above streambed	106 feet	32.3 meters
Crest Length	2,280 feet	695 meters
Freeboard during PMF	(-4.3) feet	(-1.3) meters
Spillway		
Type	**Concrete Ogee Crest with Converging Chute**	
Spillway Crest	543.0 feet NGVD	165.5 meters NGVD
Crest Length	1000 feet	305 meters
Outletworks		
Number of Passages	6	
Gate Type	Vertical Lift	
Height x Width (each)	12 x 7 feet	3.7 x 2.1 meters
Entrance Invert Elevation	460.0 feet NGVD	140.2 meters NGVD
Maximum Capacity	17,000 cfs	481 cms
Reservoir		
Debris Pool		
Elevation of top of Pool	490.0 feet NGVD	149.4 meters NGVD
Area at top of Pool	768 Acres	311 ha
Gross Storage at top of Pool	4,689 Acre-feet	5.8 MCM
Flood Season Buffer Pool		
Elevation of top of Pool	494.0 feet NGVD	150.6 meters NGVD
Area at top of Pool	1,081 Acres	438 ha
Gross Storage at top of Pool	8,437 Acre-feet	10.4 MCM
Non-Flood Season Buffer Pool		
Elevation of top of Pool	505.0 feet NGVD	153.9 meters NGVD
Area at top of Pool	2,123 Acres	859 ha
Gross Storage at top of Pool	25,760 Acre-feet	31.8 MCM
Top of Dam		
Elevation of top of Pool	566.0 feet NGVD	172.5 meters NGVD
Area at top of Pool	11,030 Acres	4,468 ha
Gross Storage at top of Pool	383,500 Acre-feet	473.0 MCM
Historic Maximum Water Surface		
Date	22 February 1980	
Maximum Elevation	528.0 feet NGVD	160.9 meters NGVD
Historic Maximum Release		
Date	22 February 1980	
Maximum Release	5,992 cfs	169.7 cms

Notes:

NGVD = National Geodetic Vertical Datum of 1929.

MCM = million cubic meters

cfs = cubic feet per second

cms = cubic meters per second

ha = hectare

Last Updated on January 1, 1998 by B. Tracy

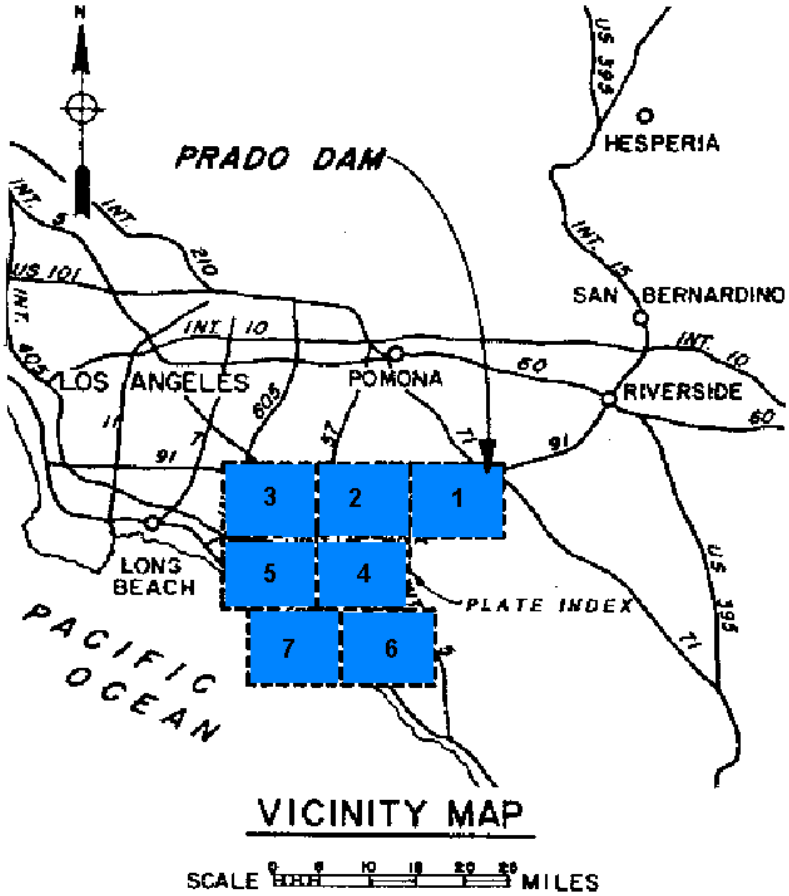
Prado Dam Facility-Elevation Table

This page contains a table of facilities inside the Prado Dam Flood Control Basin and their elevations in feet.

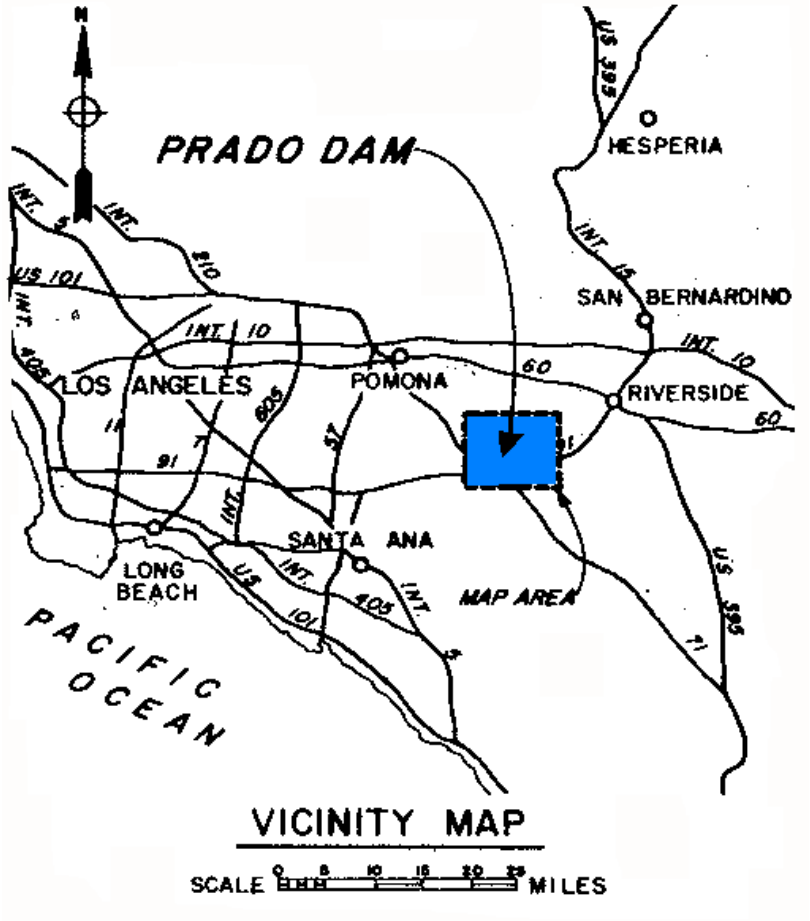
Prado Dam Facility-Elevation Table	
Facility	**Elevation(s) (feet NGVD)**
Invert of Outlet Works	460.0
Least Bell's Vireo Nesting Habitat	460 - 566
Archeological and Historic Sites	480 - 566
Raahauge's Hunting Club	485 - 525
Raahauge's Club House	611
Splatter S Duck Club	485 - 520
Splatter S Club House	520
Top of Debris Pool	490.0
Prado Recreation Inc. (Dog Training Facility)	490 - 504
Prado Recreation Inc. Kennel/Trailer	554
Oil Wells	492 - 508
Top of Buffer Pool (Flood Season)	494.0
El Prado Golf Course	510 - 567
El Prado Golf Course Club House	554
City of Corona Municipal Airport	514 - 534
Tiro Shooting Range	516 - 518
Prado Regional Park (San Bernardino County)	520 - 560
Prado Regional Park Camping Area	550 - 552
Archery Range	520 - 560
Prado Basin Park - Developed Area (Riverside County)	525 - 573
Prado Basin Park Interpretation Center	573
Butterfield Park (City of Corona)	527 - 550
Bandini Adobe	534
Kobe Power Fluid Station	536
Chino Basin Water District Waste Water Treatment Plant #2	537 - 546
City of Corona Waste Water Percolation Ponds Perimeter Levee	540
Spillway Crest	543.0
12 Unauthorized dwellings	550 - 554
City of Corona Waste Water Treatment Plant Road Entrance	556
Oil Treating Facilities	560
California Institution for Women (State Prison)	560 - 572
Yorba Slaughter Adobe	560.2
2 Dwellings within the Corona National Tract	561 - 566
Top of Dam	566.0

Prado Dam Flood Inundation Maps

Downstream Inundation Maps



Upstream Inundation Map



Explanation of Maps

The maps indicate the areas which would be flooded under the assumed condition of a dam breach with the reservoir water surface at the spillway crest elevation of 543.0 feet, NGVD. Preparation of the maps does not reflect on the safety or integrity of Prado Dam. These maps have prepared as part of a national program to prepare similar maps for all Federal Dams.

Use of Maps

The maps provide a basis for evaluation existing evacuation plans for the affected areas and development of any further plans which are needed. The Corps of Engineers recommends that such evaluation be made and any needed supplemental plans be developed. Information on evacuation planning is available from the Corps of Engineers.

Definition of Terms

Arrival Time - Elapsed time assumed dam breach for water depth at location to increase approximately 0.25 feet.

NGVD - National Geodetic Vertical Datum

Peak Elevation - The computed maximum water surface elevation that would be reached at a location due to assumed conditions.

Time of Peak Elevation - Elapsed time after assumed dam breach until peak water elevation occurs.

Cross Section - Point at which the shape of a stream channel is measured, usually in a direction perpendicular to flow.

Fullerton Dam

Background

Fullerton Dam, constructed, operated and maintained by the Corps of Engineers (COE), is a single purpose flood control project. The dam is located in the eastern part of the city of Fullerton just west of the 57 Freeway and Bastanchury Road crossing. Construction on the dam began in June 1940 and was completed in May 1941. Fullerton Dam, one of the units of the flood-control project for the San Gabriel River Basin and Orange County, California, was conceived under authorization of the Flood Control Act of 22 June 1936.

Fullerton Dam controls 5.0 square miles of drainage area of Fullerton Creek and its tributaries. Fullerton Creek generally flows southwesterly into the reservoir. Below the dam, the creek flows southwesterly through the southeast portion of the city of Fullerton, then turns due west near Harbor Boulevard. The creek continues to flow westward through the city of Buena Park and La Palma until joining Coyote Creek, a tributary of the San Gabriel river.

Fullerton Dam consists of : (1) an earth filled embankment; (2) a reinforced concrete outlet works; (3) an ungated outlet; (4) a detached spillway; and (5) reservoir.

The stand-by gate setting for the dam is currently 2 gates open at 1.1 feet. The regulation schedule at the dam during flood events is based on a combination of precipitation at the Fullerton Dam station during the preceding 30-minute period, current water surface elevation and the downstream channel capacity at Richmond Avenue. Each parameter is evaluated as to its magnitude, correlated to the regulation schedule, thus resulting in a desired discharge from the dam.

The downstream channel reach is about 11 miles long and drains 15.9 square miles of generally urban area. The channel capacity immediately downstream of the dam is 500 cfs as provided by a rectangular reinforced concrete channel. Downstream channel capacity varies widely throughout the reach to Coyote Creek. The capacities range from 500 cfs to 7,500 cfs with channel configurations varying from a box to rectangular to trapezoidal. The channel capacity at Richmond Avenue is 2,900 cfs.

The current water control manual for Fullerton Dam was approved in May 1989.

Physical Data

Embankment		
Type	**Earth Fill**	
Crest Elevation	307 feet NGVD	93.57 meters NGVD
Maximum height above streambed	46 feet	14.02 meters
Crest Length	575 feet	175 meters
Freeboard	8.6 feet	2.6 meters
Spillway		
Type	**Concrete Ogee**	
Spillway Crest	290 feet NGVD	88.39 meters NGVD
Crest Length	40 feet	12.2 meters
Outlet Works		
Uncontrolled		
Number of Passages	1	
Height x Width (each)	3' W x 2' H	0.9H x 0.6W meters
Entrance Invert Elevation	275 feet NGVD	83.82 meters NGVD
Controlled		
Number of Passages	2	
Height x Width (each)	3 ' H x 5' H	0.9H x 1.5W meters
Entrance Invert Elevation	261 feet NGVD	79.55 meters NGVD
Conduits		
Number and Size	1 - 4' W x 6' H	1 - 1.2 x 1.8 meters
Length of Conduits	346 feet	106 meters
Maximum Capacity (at spillway)	590 cfs	17 cms
Maximum Capacity (regulated)	500 cfs	14 cms
Reservoir		
Area at Top Flood Control Pool	62 acres	250,905 sm
Gross Storage at Spillway Crest	764 acre-feet	0.9 MCM
Flood Control Allocation	764 acre-feet	0.9 MCM
Sedimentation Allocation	230 acre-feet	0.3 MCM
Spillway Design Flood		
Peak Inflow (6-hours)	16,000 cfs	453 cms
Peak Outflow	5,650 cfs	160 cms
Maximum Water Surface Elevation	301.44 feet	91.88 meters
Historic Maximum Flood		
Maximum Elevation (1/31/79)	285.6 feet NGVD	87.05 meters NGVD
Peak Inflow (3/14/41)	3,800 cfs	108 cms
Peak Outflow (3/1/83)	444 cfs	13 cms

Notes:

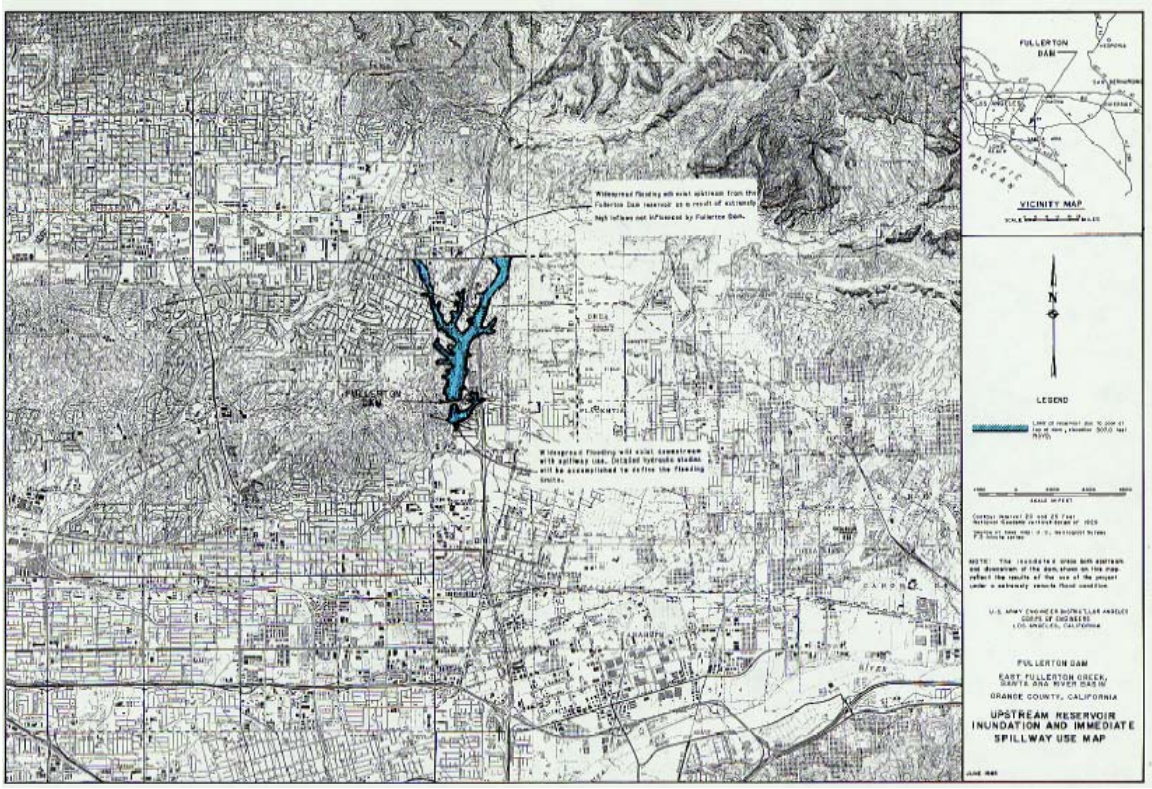
NGVD = National Geodetic Vertical Datum of 1929.

MCM = million cubic meters

cfs = cubic feet per second

cms = cubic meters per second

sm = square meters



Floods

Floods were rated a MODERATE PRIORITY HAZARD in the Saddleback Valley Unified School District.

Flood/Storm

The following discussion addresses the threat of storm related flooding updated from material found in the Safety Element of the County's General Plan.

Orange County's 510,000 acres are comprised of mountain terrain (on the northeast and southeast) and floodplain (in the central and western section). The County's rapid growth and transformation from an agricultural community to an urban community has changed flood control of large flows from mountains and hills to include control of additional runoff produced by development of the plains. Although there is a countywide system of flood control facilities, the majority of these are inadequate for conveying runoff from major storms, such as the Standard Project Flood or the 100-year flood.

The infrequency of very large floods further obscures the County's flood hazard. Storms labeled "severe" have occurred in less than 10 of the past 175 years. In particularly disastrous storms, a false sense of security prevailed following long periods of mild semi-arid years.

Map 5 provides locations of the various watersheds throughout Orange County. Maps of the FEMA Q3 flood data (approximate floodplain boundaries scanned from existing Flood Insurance Rate Maps) for Orange County, are provided on the CD of Mapsincluded with the hardcopy of this plan.

Map 5 - Watersheds of Orange County
(Source: Orange County Resources Development and Management Department, Watershed & Coastal Resources Division. http://www.ocrdmd.com/fl_stormops.asp)

A = Coyote Creek
B = Carbon Canyon
C = Westminster
D = Talbert
E = Santa Ana River
F = San Diego Creek
G = Newport Bay
H = Los Trancos/Muddy Creek
I = Laguna Canyon
J = Aliso Creek
K = Salt Creek
L = San Juan Creek
M = Prima Deshecha/Segunda Deshecha

To provide quantitative information for flood warning and detection, Orange County began installing its ALERT (Automated Local Evaluation in Real Time) system in 1983. Operated by the County's Environmental Resources Section of the Resource Development and Management Department (RDMD) in cooperation with the National

Weather Service, ALERT uses remote sensors located in rivers, channels and creeks to transmit environmental data to a central computer in real time. Sensors are installed along the Santa Ana River, San Juan Creek, Arroyo Trabuco Creek, Oso Creek, Aliso Creek, as well as flood control channels and basins. The field sensors transmit hydrologic and other data (e.g., precipitation data, water levels, temperature, wind speed, etc.) to base station computers for display and analysis. In addition, seven pump stations (Huntington Beach, Cypress, Seal Beach, Los Alamitos, Rossmoor, Harbor-Edinger, and South Park) regulating storm water discharge to flood control channels are also instrumented. Their monitoring system includes automated call-out of operations personnel in the event of a crisis[1].

Activation of the Storm Operations Center (SOC) operated by the RDMD takes place when heavy rainfall occurs or is predicted, and/or when storm runoff conditions indicate probable flood damage. The SOC monitors the situation on a 24-hour basis. Response may include patrols of flood control channels and deployment of equipment and personnel to reinforce levees when needed. SOC activation and various emergency response actions are based on the following Emergency Readiness Stages:

- Stage I - Mild rainfall (watch stage)
- Stage II - Heavy rainfall or potential thereof. RDMD Storm Operations Center activated and surveillance of flood control facilities in effect.
- Stage III - Continued heavy rainfall or deterioration of facilities. County RDMD Director in charge. County's personnel assume assigned emergency duties.
- Stage IV - Conditions are or are likely to be beyond County control. Board of Supervisors, or DES when the Board is not in session, proclaims Local Emergency and assumes special powers. Mutual Aid requested.
- Stage V - Damage beyond control of all local resources. State forces are required. Governor requested to proclaim State of Emergency.
- Stage VI - Damage beyond control of local and State resources. Federal forces are required. President requested to declare Major Disaster.

References:

Gold, Scott, "Disaster Prompted $1.3 billion Effort to Tame Santa River, Protect Basin," Los Angeles Times, October 3, 1999.

United States Army Corps of Engineers, Standard Project Flood Determinations, U.S. Army Corps of Engineers, Publication number EM 1110-2-141 (1965).

[1] For more information, see: http://www.oc.ca.gov/pfrd/envres/Rainfall/alert_system.asp

Floods as a Threat to the County of Orange

The Santa Ana River, flowing through the heart of Orange County to the Pacific Ocean is the county's greatest flood threat. Research of flooding in Orange County illustrates these flood hazard issues, sighting loss of life as well as damage to personal and public property.

One such flood occurred in 1938, wiping out roads, bridges, and railroads near the river when an 8-foot wall of water swept out of the Santa Ana Canyon. Anaheim, Santa Ana, and Garden Grove were hardest hit and 34 lives were lost because of the flood. The flood and its damage were a catalyst for construction of Prado Dam, developed as part of the Army Corps of Engineers flood control protection plan. Government officials estimate that today without the protection of Prado Dam, a flood of this magnitude would cause as many as 3,000 deaths and top $25 billion in damages. More than 110 acres would be flooded with 3 feet of water and 255,000 structures damaged as documented by S. Gold, in the Los Angeles Times, in 1999.

The Army Corp of Engineers, tasked with the project of increasing the level of protection at Prado Dam from the current 70-year level to a 190-year level of protection, has slated completion for January 2008 (see: http://www.spl.usace.army.mil/Pradodam/prododam.htm). Further, portions of the County not inundated by river overflow during a 100-year event could be subject to flooding from overflow of water drainage facilities currently inadequate for carrying the 100-year discharge.

Other areas subject to flooding during severe storms include areas adjacent to Atwood Channel, Brea Creek Channel, Fullerton Creek Channel, Carbon Creek Channel, San Juan Creek Channel, and East Garden Grove-Wintersburg Channel. Areas adjacent to Santiago Creek and Collins Channel in the central portion of the County and large portions of the San Diego Creek watershed in the City of Irvine and unincorporated areas of the County are also subject to inundation. In the southern portion of the county, canyon areas are subject to flooding. However, with increased in development in these areas the flood hazard becomes even greater.

Historic Data for Orange County

Residents reported damaging floods caused by the Santa Ana River, known as "Great Floods," as early as 1770. A massive flood recorded on January 7, 1770 is in the Notes of Father John Crespi. Major floods in Orange County on the Santa Ana River have occurred in 1810, 1815, 1825, 1884, 1891, 1916, 1927, 1938, 1969, 1983, and 1993. The greatest flood in terms of water flow was in 1862 with an estimated flow rate of 317,000 cubic feet per second (cfs). This was three times greater than the Great Flood of 1938 estimated at 110,000 cfs. The most damaging flood in terms of cost was the Great Flood of 1969. The County's population had significantly increased by this time creating greater potential for loss.

Great Flood of 1862- The storm and flood of January 1862, called the NOACHIAN deluge of California, were unusual in two ways: 1) the storm occurred during the very severe drought of 1856-1864 and 2) the flooding was extremely long, lasting 20 days. Under normal circumstances, major floods last no longer than a few days. The only structure left standing was a chapel called Aqua Mansa on high ground above the river. The priest rang the chapel bell and the settlers fled the rising waters. Small villages along the Santa Ana River were completely destroyed. Miraculously, there were no

MAP 6: 100-Year Floodplain in the County of Orange

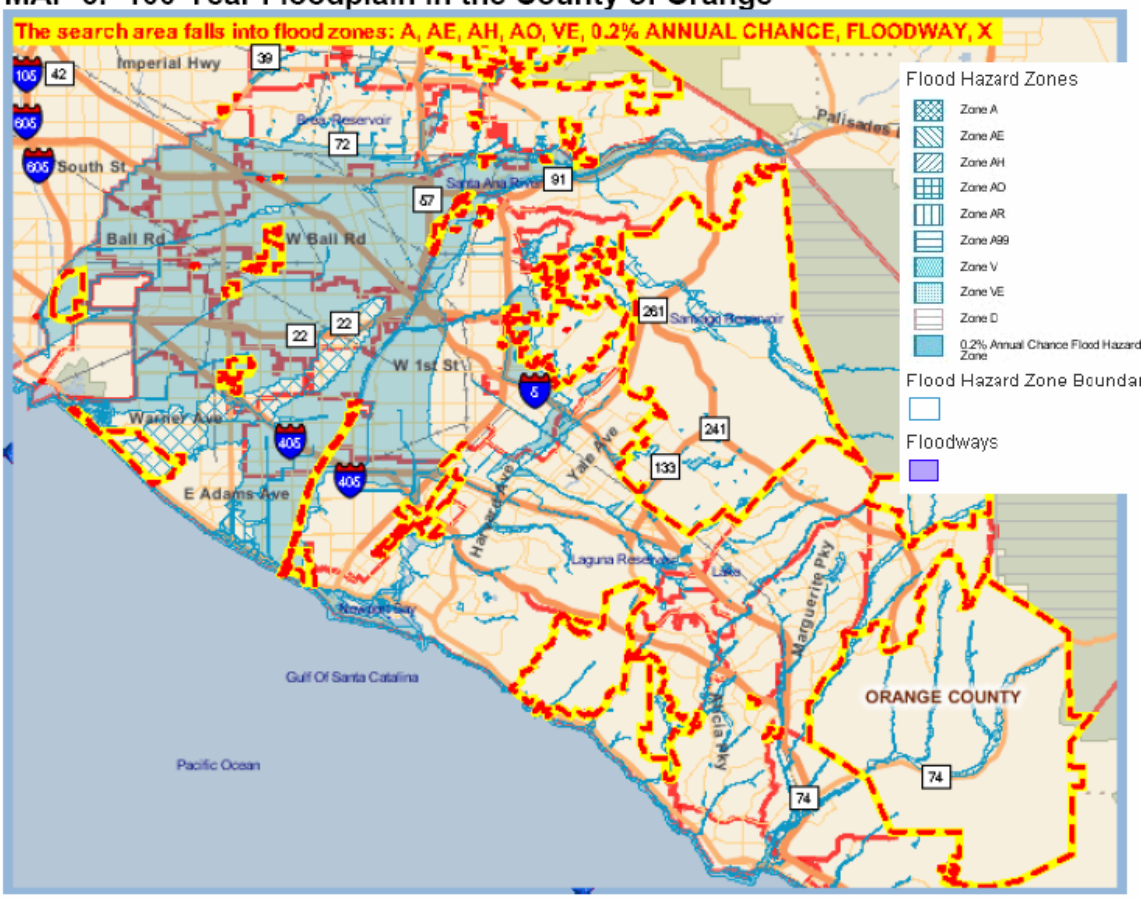


Table 4-- Great Floods in the past in Orange County	
1770, Jan.	Information regarding this flood is gathered from Father Juan Crespi's diary
1780, Dec.	Information regarding gathered from Father Junipero Serra's diary.
1825	▪ Greatest flood of previous 100 years. ▪ Santa Ana River changed main course from Anaheim Bay to Newport Bay.
1862, Jan.	▪ The greatest flood in California's history. ▪ The rain began on Christmas Eve 1861 continuing for 30 days. The sun shone a total of 45 minutes in that thirty day period. ▪ Fifty inches of rain fell during December and January. ▪ Water ran four feet deep through downtown Anaheim.
1862	Agua Mansa Story ▪ The entire population of Agua Mansa survived the great flood in a small church. Granite monuments were placed on the steps of the church to mark the place where waters stopped rising. ▪ In 1967, archeologists and the Riverside County Surveyor located the ruined foundation of the Agua Mansa Mission near the present day Route 60 bridge in Riverside. ▪ The water surface established by the mission monuments and other data from old irrigation works enabled the calculation of flow at Agua Mansa to be 315,000 cfs. Nearly 700 square miles are tributary to Prado Dam downstream of Agua Mansa, estimated flow in the Santa Ana Canyon was 400,000 cfs. ▪ Current Santa Ana River capacity in Orange County is 20,000 to 40,000 cfs. ▪ NOTE: the enormous magnitude of the 1862 flood was unknown in 1939-1941 at the time of the design and building of Prado Dam. ▪ Santa Ana River Basin parameters. ▪ 2253 square miles tributary to Prado (768 square miles behind Lake Elsinore). ▪ The fall of the Santa Ana River from Orange County line to the Pacific Ocean (30 miles) is greater than the fall in the Mississippi River from Cairo, Illinois to the Gulf of Mexico (600 miles). The steep watercourse makes hydraulic design difficult. The rapid response of the watershed to rainfall makes warning of over bank flow difficult. ▪ Computer based radio telemetry is used to gather data for flood warnings. ▪ Sediment deposits near the ocean chokes channel capacity. ▪ Scour around bridges and channel lining caused by high velocity flows. ▪ Drop structures (small dams) are required to slow the water and stabilize the soft bottom portions of the channel. ▪ Villa Park Dam impounds the flow from 81 square miles.
1884 Feb.	The Santa Ana River created a new ocean outlet
1888-1891	Annual floods
1914	Heavy flooding
1916	▪ Hundreds of square miles inundated Orange County. The flow in the Santa Ana River was about 75,000 cfs., overflowing into Anaheim Bay. ▪ Santiago Creek overflowed into El Modena and Tustin.
1921	Flooding
1927	Moderate flood

Table 4	**Great Floods in the past in Orange County**
1938 Mar	Devastation to all of Orange County. ▪ Greatest flood since 1862 – about 100,000 cfs in Santa Ana River. ▪ 22" of rain fell in 5 days in the San Bernardino Mountains. ▪ Santa Ana River levees failed in many places and waters flowed into Anaheim Bay. ▪ 34 lives lost in Orange County. ▪ Damage reached $14 million (1938).
1969	Great damage, especially to governmental infrastructure. ▪ The January storm was the greatest since 1938. There was one heavy flood after 9 day storm and another moderate flood. ▪ February storm greater than January but both were moderate intensity, long duration (i.e., large volume) events. 1-hour intensity <10 year and 24-hour volume ~40 year. ▪ Prado Dam inflow : 77,000 cfs, outflow 6,000 cfs. ▪ Maximum Santa Ana river capacity is 40,000 cfs. ▪ 1 ½ million cubic yards of sediment carried by Santa Ana River nearly caused levee failure due to the invert rising over five feet near the river mouth. ▪ Prado Dam was 60% filled. ▪ Villa Park Dam inflow – 11,000 cfs, outflow – 6,000 cfs. ▪ $5 million – private property damage. ▪ $2.6 million – district property damage. ▪ $9 million – other public property damage (roads and parks). ▪ Federal Dams in and near Orange County cost $640 million over a 30 year period. ▪ The Federal dams prevented $1million in damage during one week in February 1969. Smaller but more numerous local facilities by district, cities and county had a comparable cost-benefit effect. ▪ 1969 was a wake up call to flood protection engineers from the Corps of Engineers to City Engineer level in Orange County.
1974	100-year rainfall along the coast of Orange County. Damage limited by substantial flood control improvements and 3-hour duration of high intensity rainfall.
1983	A very damaging record-breaking storm. ▪ 6-hours in duration covering about 100 square miles of western Orange County. ▪ Severe property damage in Huntington Beach, Fountain Valley, and Costa Mesa. ▪ The storm influenced the criteria published in the 1986 Orange County Hydrology Manual.
1995	A very damaging storm with record breaking intensities for 2 and 3 hour duration. Flooded homes in Los Alamitos, Seal Beach, and Garden Grove.
1997	The most severe storm ever measured in Orange County. ▪ New records set for 30 minutes, 1 hour, 2 hour, 3 hour, 6 hour, 12 hour, and 24-hour rainfall. ▪ There was severe damage to Laguna Beach, Lake Forest, Irvine, and to the I-5 Freeway. ▪ 100-year rainfall covered over 200 square miles of our 800 square mile county. ▪ This storm and the similar, but slightly less severe 1983 and 1995 events, revealed vulnerability of older flood control facilities built. It was thought this type of intense storm was too rare to consider protective measures. ▪ Too many record-breaking storms hit in too short a period. ▪ Our methods of assessing storm severity were rendered inadequate by global warming evidenced by the relentless return of "El Nino" to southern California.
Sources: Santa Ana River Mainstream Project – PW/Flood Control Division/Santa Ana River Group	

Flood Terminology

Floodplain

A floodplain is a land area adjacent to a river, stream, lake, estuary, or other water body that is subject to flooding. This area, if left undisturbed, acts to store excess flood water. The floodplain is made up of two sections: the floodway and the flood fringe.

100-Year Flood

The 100-year flooding event is the flood having a one percent chance of being equaled or exceeded in magnitude in any given year. Contrary to popular belief, it is not a flood occurring once every 100 years. The 100-year floodplain is the area adjoining a river, stream, or watercourse covered by water in the event of a 100-year flood.

Floodway

The floodway is one of two main sections that make up the floodplain. Floodways are defined for regulatory purposes. Unlike floodplains, floodways do not reflect a recognizable geologic feature. For NFIP purposes, floodways are defined as the channel of a river or stream, and the over-bank areas adjacent to the channel. The floodway carries the bulk of the flood water downstream and is usually the area where water velocities and forces are the greatest. NFIP regulations require that the floodway be kept open and free from development or other structures that would obstruct or divert flood flows onto other properties.

The NFIP floodway definition is "the channel of a river or other watercourse and adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. *Floodways are not mapped for all rivers and streams but are generally mapped in developed areas.*

Flood Fringe

The flood fringe refers to the outer portions of the floodplain, beginning at the edge of the floodway and continuing outward.

Base Flood Elevation (BFE)

The term "Base Flood Elevation" refers to the elevation (normally measured in feet above sea level) that the base flood is expected to reach. Base flood elevations can be set at levels other than the 100-year flood. Some communities choose to use higher frequency flood events as their base flood elevation for certain activities, while using lower frequency events for others. For example, for the purpose of storm water management, a 25-year flood event might serve as the base flood elevation; while the 500-year flood event may serve as base flood elevation for the tie down of mobile homes. The regulations of the NFIP focus on development in the 100-year floodplain.

Development and Flooding

When structures or fill are placed in the floodway or floodplain, water is displaced. Development raises the river levels by forcing the river to compensate for the flow space obstructed by the inserted structures and/or fill. When structures or materials are added to

the floodway or floodplain and no fill is removed to compensate, serious problems can arise. Flood waters may be forced away from historic floodplain areas. As a result, other existing floodplain areas may experience flood waters that rise above historic levels. *Local governments must require engineer certification to ensure that proposed developments will not adversely affect the flood carrying capacity of the Special Flood Hazard Area (SFHA).*

Displacement of only a few inches of water can mean the difference between no structural damage occurring in a given flood event, and the inundation of many homes, businesses, and other facilities. Careful attention should be given to development that occurs within the floodway to ensure that structures are prepared to withstand base flood events. In highly urbanized areas, increased paving can lead to an increase in volume and velocity of runoff after a rainfall event, exacerbating the potential flood hazards. Care should be taken in the development and implementation of storm water management systems to ensure that these runoff waters are dealt with effectively.

Flood Prone Area Identification

Flood maps and Flood Insurance Studies (FIS) are often used to identify flood-prone areas. The NFIP was established in 1968 as a means of providing low-cost flood insurance to the nation's flood-prone communities. The NFIP also reduces flood losses through regulations that focus on building codes and sound floodplain management. NFIP regulations (44 Code of Federal Regulations (CFR) Chapter 1, Section 60, 3) require that all new construction in floodplains must be elevated at or above base flood level.

Flood Insurance Rate Maps (FIRM) and Flood Insurance Studies (FIS) Floodplain maps are the basis for implementing floodplain regulations and for delineating flood insurance purchase requirements. A Flood Insurance Rate Map (FIRM) is the official map produced by FEMA which delineates SFHA in communities where NFIP regulations apply. FIRMs are also used by insurance agents and mortgage lenders to determine if flood insurance is required and what insurance rates should apply.

Water surface elevations are combined with topographic data to develop FIRMs. FIRMs illustrate areas that would be inundated during a 100-year flood, floodway areas, and elevations marking the 100-year-flood level. In some cases they also include base flood elevations (BFEs) and areas located within the 500-year floodplain. Flood Insurance Studies and FIRMs produced for the NFIP provide assessments of the probability of flooding at a given location. FEMA conducted many Flood Insurance Studies in the late 1970s and early 1980s. These studies and maps represent flood risk at the point in time when FEMA completed the studies. However, it is important to note that not all 100-year or 500-year floodplains have been mapped by FEMA.

FEMA flood maps are not entirely accurate. These studies and maps represent flood risk at the point in time when FEMA completed the studies, and does not incorporate planning for floodplain changes in the future due to new development. Although FEMA is considering changing that policy, it is optional for local communities. Man-made and natural changes to the environment have changed the dynamics of storm water run-off since then.

Michael E. Martinet, 2004

Flood Loss Information

California has a chronic and destructive flood history. Of seventy-two federally declared disasters in the state between 1950 and 2000, half were flood related.

While the "Great Flood" of 1861-62 may be unmatched in scope, the devastating effects of recent floods far exceed the damage of a century ago. Despite the construction of massive and relatively effective flood control projects, California remains vulnerable to flooding. A steady rise in population and accompanying development contribute to increased flood risks throughout the state.

Between 1992 and 2002, every county in California was declared a federal disaster area at least once for a flooding event. The counties of Los Angeles, Orange, and San Bernardino were declared federal flood disaster areas five times, and sixteen other counties were declared disaster areas four times.

The South Coast hydrologic region extends up from the U.S.-Mexico border to the Tehachapi, San Bernardino, San Gabriel, and San Jacinto mountains. Nearly one-third of the area is coastal plain.

Major stream systems in the South Coast region include:

Calleguas Creek Basin
Malibu and Santa Monica Bay streams
Ventura River
Santa Clara River
Los Angeles River
San Gabriel River
Santa Ana River
Santa Margarita River
San Luis Rey River
San Dieguito River
San Diego River
Sweetwater River
Otay-Tijuana River

This region contains major urban centers, including the counties of Los Angeles, Orange, and San Diego. Much of the flooding is sudden and severe, resulting in massive slides, debris flows, and mudflows. Typical of the flooding that occurs in this area were the 1969 winter storms that killed forty-seven and resulted in $300 million in property damage. During these storms, an alluvial flood and debris flow on Deer Creek in San Bernardino County killed eleven. Normally Deer Creek is dry and is not considered a special flood hazard area on the National FIRMs. However, the region has experienced tremendous population growth since 1969 and the area of the Deer Creek alluvial fan is now home to several public schools and Ontario International Airport.

Types of Flooding in California

Flood Type

Alluvial Fan

Alluvial fan flooding occurs in the steep arid or semiarid mountains found throughout the state. Alluvial fans are fan-shaped deposits of eroded rock and soil carried out of mountains and into valley floors by landslides, mudslides, mudflows, and surface runoff (sheet flows and stream flows.) At the beginning of the valley, alluvial fans are steep and narrow with boulders and other course material. The deposited material becomes increasingly fine as the gradient decreases and the material, mainly gravels, sand and mud, spreads.

When rain falls, runoff from the canyon walls flows as a high-velocity sheet that channels into rivulets, and then to natural drainage courses. The rapidly moving water often carries large boulders and other material from the watershed depositing them into runoff channels, blocking the flow of water. Floodwater then spills out onto the fan, with each event finding a new channel that soon fills up with deposits and overflows. Flooding in alluvial fans often can cause greater damage than clear-water flooding.

Coastal

Coastal flooding and erosion present some of the most complex and serious high-risk problems. In California, coastal erosion is most often caused by a combination of factors: winter storms, rising sea levels, tidal action, currents and waves, and high winds.

Flash

Flash floods are quick events, particularly where the topography enhances rainfall from Pacific or Gulf storms and thunderstorms. Flash floods are caused by the rapid buildup of runoff after high-intensity rainfall. The precipitation is often so intense that both perennial streams and dry watercourses are rapidly transformed into torrents, sweeping away whatever lies in their path. Loss of life in such a flooding is common because of the suddenness of high flows.

A flash flood can occur in mountainous regions and urban areas. In the mountains, a stream level may rise quickly in a heavy rainstorm. Dry desert washes, especially those near mountains, can reach flood stage within minutes as a result of thunderstorms miles away.

Urban flash flooding can occur in any terrain. It is particularly aggravated where natural cover has been removed to construct buildings, roads and parking lots. Streets become rivers, inundating vehicles and causing heavy damage to residential and industrial properties situated along stream channels.

Fluvial

California rivers generally flow west to the Pacific Ocean and may fall as much as 5,000 feet within the first 20 miles. This relatively steep slope creates a high-velocity flow that carries eroded material. As the slope of the river flattens, the velocity slows and the material is deposited. As a result, the lower reaches of many streams pass through the sandy alluvial plains they have formed.

Flood flows can cause these streams to migrate, resulting in a higher and wider floodplain. Developed areas on land originally outside the defined floodplain can later flood.

Lake

Lake level fluctuations primarily concern shore-land property owners, but impact local, state and federal agencies with regulatory or financial responsibilities for water and related land use associated with lakes. Both natural and human actions cause changing lake levels. Natural factors include direct precipitation, surface runoff, evaporation, ground water inflow, ice formation, aquatic growth, meteorological disturbances, and, in larger lakes, tidal and crustal movement. Human factors include dredging, diversion, consumptive uses and intruding structures.

Levee

Levees are a basic means of providing flood protection along rivers and waterways in regions where development exists, or is planned, and in agricultural areas. Levees confine floodwaters to the main river channel or protect inland areas from high tides.

The causes of levee problems are structural failures, foundation failures of underlying soils, and overtopping by flood flows, tides and waves. Contributing factors include poor construction materials, erosion by current and wave action, seepage through or under the levee, burrowing rodents, and improper repairs. Lack of adequate and regular maintenance to correct these problems also contributes to levee failure. Most failures are composites of several of these factors.

Mudslides

Mud floods and mudflows cause several types of flood damage that are not characteristic of clear-water flooding. These include:

The force of debris-laden water, which can be tens or hundreds of times greater than that generated by clear water, destroys retaining walls and other protective works;

Mud and debris may fill drainage channels, river or stream channels, and sediment basins, causing otherwise normal runoff to suddenly inundate areas outside the floodplains; and

Sediment and debris are more damaging to houses and their contents than clear water. Frame structures are often total losses, and if they remain intact, sediment and mud must be removed and washed out. Stains, mildew and dry rot often result.

Major floods almost always involve heavy intrusions of mud, sediment and debris. Such conditions are caused or worsened by forest and brush fires. Once the hills have been denuded of vegetation, there is more runoff and less infiltration. Even light rainfall can develop into rapid runoff with severe erosion occurring in such areas.

Riverine

Riverine flooding, the most common type of flooding in the state, occurs when a stream channel fills with more water than it can carry. The water rises and flows over the channel banks onto the adjacent floodplain.

Seiche and Tsunami

Tsunamis, or seismic sea waves, are usually created by undersea earthquakes or landslides. Seiches are similar, large waves in lakes. Waves are generated by a crustal disturbance giving a vertical impulse to the sea surface. These are long-period waves that travel long distances at speeds of up to 600 miles per hour with little or no loss of energy. When tsunami waves approach a coastal region in which water depth decreases rapidly, their height is increased by refraction, shoaling, and local bay or harbor conditions, and speed is creased. Tsunamis frequently arrive in a series of spaced intervals.

Local Flood Information

Federal Flood Disaster Declarations (Local County Comparison)

County	Total Pop in FIRM Zone	Pop in Zone A - 100YR	Population of County	# PA Applicants	PA Amt Eligible	% PA Amt Eligible	% IA Damage Locations
LOS ANGELES	390,305	98,371	9,519,338	2,908	$61,466,583	10.35	45.36
ORANGE	**1,384,403**	**428,779**	**2,846,289**	**1,391**	**$32,167,618**	**5.42**	**2.39**
RIVERSIDE	295,081	72,628	1,545,387	615	$7,846,555	1.32	1.00
SAN BERNARDINO	196,945	61,247	1,709,434	951	$10,734,165	1.81	1.63
SAN DIEGO	181,757	82,807	2,813,833	798	$11,163,308	1.88	1.54
SANTA BARBARA	54,731	24,772	399,347	1,465	$36,227,678	6.10	1.82
SANTA CLARA	304,511	143,822	1,682,585	712	$23,463,356	3.95	2.80
VENTURA	187,179	56,113	753,197	1,120	$33,556,411	5.65	1.38
STATEWIDE Non-Specific	**5,227,897**	**1,973,712**	**33,871,648**	**30,713**	**$593,611,817**	**100.00%**	**100.00%**

Potential Damage to School Facilities

Historically, during major flood events, damages to school facilities align with those suffered by the adjacent communities. A catastrophic flood event could affect an estimated .12% of SVUSD facilities affected.

Explosions

Explosions were rated a MODERATE RISK PRIORITY HAZARD in the Saddleback Valley Unified School District.

An explosion is a rapid release of stored energy characterized by a bright flash and an audible blast. Part o f the energy is released as thermal radiation (flash); and part is coupled into the air as air blast and into the soil (ground) as ground shock, both as radically expanding shock waves.

To be explosive, the material:

Must contain a substance or mixture of substances that remains unchanged under ordinary conditions, but undergoes a fast chemical change upon stimulation.

This reaction must yield gases whose volume—under normal pressure, but at the high temperature resulting from an explosion—is much greater than that of the original substance.

The change must be exothermic in order to heat the products of the reaction and thus to increase their pressure.

Common types of explosions include construction blasting to break up rock or to demolish buildings and their foundations, and accidental explosions resulting from natural gas leaks or other chemical/explosive materials.

The rapid expansion of hot gases resulting from the detonation of an explosive charge gives rise to a compression wave called a **shock wave,** which propagates through the air. The front of the shock wave can be considered infinitely steep, for all practical purposes. That is, the time required for compression of the undisturbed air just ahead of the wave to full pressure just behind the wave is essentially zero.

If the explosive source is spherical, the resulting shock wave will be spherical. Since its surface is continually increasing, the energy per unit area continually decreases. Consequently, as the shock wave travels outward from the charge, the pressure in the front of the wave, called the **peak pressure**, steadily decreases. At great distances from the charge, the peak pressure is infinitesimal, and the wave can be treated as a sound wave.

Behind the shock wave front, the pressure in the wave decreases from its initial peak value. At some distance from the charge, the pressure behind the shock front falls to a value below that of the atmosphere and then rises again to a steady value equal to that of the atmosphere. The part of the shock wave in which the pressure is greater than that of the atmosphere is called the **positive phase**, and, immediately following it, the part in which the pressure is less than that of the atmosphere is called the **negative or suction phase**.

Conventional structures, in particular those above grade, are susceptible to damage from explosions, because the magnitudes of design loads are significantly lower than those produced by most explosions. The peak pressure in the blast pulse produced by 10 lb of TNT at a range of about 50’ is approximately 2.4 psi (which is 348 psf!) with a duration of the positive phase of 7.7 ms. Conventional structures are not normally designed to resist blast loads.

Recent terrorist attacks demonstrate the types of damage that can be produced. The 1993 terrorist attack on the World Trade Center in New York City removed several thousand square feet of concrete floor slabs in the general area of the explosion and severely damaged several buildings' communication, transportation and utility systems. Due to the inherent redundancy of the steel frames, the structures did not collapse.

The 1995 attack on the Alfred P. Murrah Federal Building in Oklahoma City revealed the vulnerability of conventional structural designs when subjected to blast loads. When a source is located at street level, the blast shock wave acts up against the underside of the floor slabs at upper stories. Floor slabs are not designed for this magnitude and direction of load—for this direction of load, the reinforcement is in the wrong place.

Explosion Hazards

There are many potential explosion hazards in Los Angeles County. Catastrophic explosions could be caused by:

Exotic Chemicals and Substances
Natural Gas and Propane
Methane Gas
Gasoline and other liquid fuels
Manufactured and Military Explosives

The origin of a catastrophic explosion may be:

Stationary pressure vessels and tanks
Rail tank cars
Truck tanks
Pipelines
Cargo ships carrying explosive materials

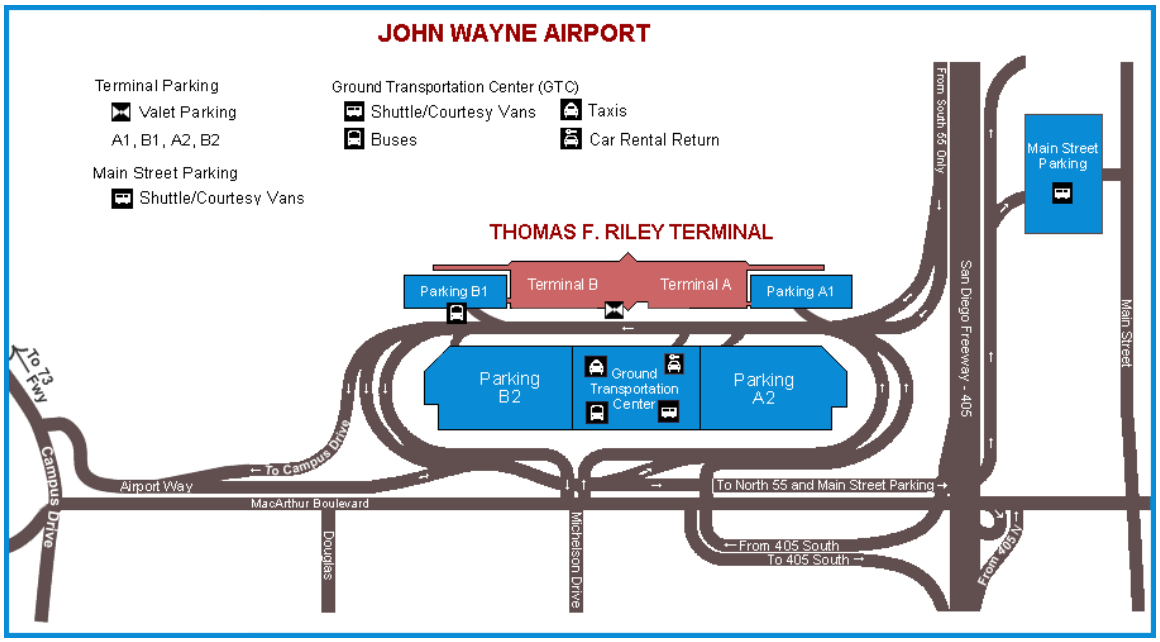
Explosions can be triggered by:

Manual of Accidental Detonation of Explosives
Fire/Open Flame
Electrical Discharge
Chemical Interaction
Radiological Reaction
Faulty Containment
Equipment Malfunctions
Explosion Consequences
A catastrophic explosion could challenge responders to deal with:
Mass casualties
Fires
Building and property destruction
Infrastructure failure (telecommunications, transportation, etc.)
Lifeline interruption
Chemical or radiation contamination
Debris removal

Low Risk Priority Hazards

Aviation Disasters

Aviation Disasters were rated a LOW RISK PRIORIYT HAZARD in the Saddleback Valley Unified School District.



City of Lake Forest

The City of Lake Forest Provided the Safety and Noise Element from their General Plan dated June 21, 1994 containing a description of the Aviation Hazards in their jurisdiction.

The City of Lake Forest has one major airfield located in close proximity to the City: John Wayne Airport. John Wayne is a combined commercial and general aviation facility.

The Orange County Fire Authority has the primary responsibility for responding to aircraft accidents within its jurisdiction. The Orange County Fire Authority provides aircraft accident training and specialized equipment to Fire Authority personnel.

There are various scenarios that could involve an aircraft disaster in the City of Lake Forest

Commercial aircraft accident
Private aircraft accident

Sinkholes

Sinkholes were rated a LOW RISK PRIORITY HAZARD by Saddleback Valley Unified School District.

Sinkholes

There are three types of sinkholes, each of which forms in a different way. Collapse sinkholes are by far the most hazardous because of how suddenly they can form.

SOLUTION SINKHOLES

Solution sinkholes form where soluble bedrock (i.e., limestone, dolomite, marble, or rock salt) is exposed at the land surface and therefore subject to dissolution by surface water. Runoff collects in natural depressions (often where bedrock fractures intersect) and slowly dissolves a sinkhole.

SUBSIDENCE SINKHOLES

Subsidence sinkholes are similar to solution sinkholes, except the soluble bedrock is covered by a thin layer of unconsolidated material (e.g., soil and/or sediment). Surface water infiltration dissolves cavities where the bedrock is most intensely fractured, and the overlying sediments gradually move downward into the expanding cavity.

COLLAPSE SINKHOLES

Collapse sinkholes form when surface materials suddenly sink into a subsurface cavity or cave. Cavities form slowly over time as groundwater moves along fractures in soluble bedrock and enlarge them through dissolution. Collapse can occur in two different ways:

When a cavity gets sufficiently large, the "roof" becomes too thin to support its own weight and the weight of any overlying rock or sediment, so it collapses into the cavity.

Sometimes cavities are able to support the weight of overlying materials (usually sediments) by virtue of being completely filled with groundwater. If the groundwater level is lowered, then the overburden will first erode and then collapse into the dewatered cavity.

Hydro-compaction

Hydro-compaction is the subsidence of shallow soils and sediments as a result of adding water to the land surface. Typically this occurs in dry regions where agriculture relies on extensive irrigation) is notable not for the magnitude of the subsidence that occurs but for the fact that much of the western United States has the type of geologic conditions which are susceptible to this phenomenon.

The sediments that are susceptible to hydro-compaction were loosely deposited in an arid or semi-arid environment by processes that left them with a very high porosity (> 45%). As these sediments dry out, their high-porosity structure is preserved by clay particles that

act as "bridges" to cement the larger particles together. If water is added, the clay "cement" loses its strength, and the sediment subsides under its own weight.

Biological/Health

Biological & Health Hazards were rated a LOW RISK PRIORITY HAZARD by Saddle Back Valley Unified School District.

Biological/Health Disasters often result in the need for health and human services as part of the immediate and long-term recovery period. Some disasters are localized with service needs focused in a single location; other disasters, such as earthquakes and civil unrest, result in geographically widespread health and human services needs.

It is essential following a disaster to identify locations where large numbers of people are gathered in open areas. These areas will require evaluation in order to assess health and human service needs. The recovery period may be shortened if health, mental health, and housing problems can be addressed quickly.

Health Hazards

West Nile Virus

Humans

As of August 17, 2004 , a total of 189 WNV infections have been reported from the following local health jurisdictions: San Bernardino (76), Los Angeles (59), Riverside (40), Orange (6), Imperial (1), Kern (2), Fresno (2), Tulare (1), Ventura (1) and Yolo (1) counties. Thirteen of these WNV infections were initially detected in asymptomatic individuals through screening done at blood banks- one of these individuals later became symptomatic. Of the 177 WNV cases with symptoms, 80 are classified as West Nile fever cases, 74 are classified as West Nile neuroinvasive disease, and 23 are of unknown status. The median age for all cases where data was available = 50 years (range: 9 – 91 years). Median age for West Nile fever cases = 46 years (range: 9 – 82 years). Median age for West Nile neuroinvasive disease cases = 59 years (range: 15 – 91 years). 115/177 (65%) of the cases are male. There have been five fatalities to date in California in Orange (1), San Bernardino (2) and Los Angeles (2) counties.

Equines

The California Department of Food and Agriculture confirmed 30 WNV equine cases from the counties of Alpine(1), Butte (1), Fresno (1), Orange (1), Riverside (12), Sacramento (4), San Bernardino (2), San Diego (1), Tehama (1), and Ventura (1) last week. This represents the first equine cases in the counties of Alpine, Butte, Orange, San Diego, and Ventura and the first indication of WNV in Alpine County-. Forty-eight horses have been euthanized or have died after being infected with WNV.

Dead Birds

The following eleven new counties detected WNV in dead birds last week: Calaveras (1), Lake (1), Lassen (1), Mariposa (1), Plumas (1), San Luis Obispo (1), San Mateo (1), Sierra (1), Sutter (2), Yolo (1), and Yuba (3). An additional 183 WNV positive dead birds were reported last week from Alameda (1), Butte (48), Contra Costa (1), El Dorado (2),

Fresno (9), Glenn (5), Kern (3), Los Angeles (37), Mendocino (1), Orange (20), Placer (1), Riverside (1), Sacramento (16), San Diego (1), San Joaquin (2), Santa Barbara (1), Shasta (4), Solano (1), Sonoma (7), Stanislaus (3), Tehama (18), and Tulare (1). In 2004, a total of 1,447 WNV positive dead birds have been detected in California.

Mosquito Pools and Sentinel Chickens:

A total of 109 mosquito pools tested positive for WNV last week from Los Angeles (43), Orange (30), San Bernardino (26), Kern (4), Shasta (3), Riverside (1), Sacramento (1), and San Luis Obispo (1) counties, thus bringing the yearly total to 523. This represents the first positive mosquito activity reported in San Luis Obispo County. Fourteen chickens from Imperial (4), Los Angeles (3), and San Bernardino (7) counties seroconvert to WNV last week, bringing the yearly total to 214.

Summary of West Nile Virus Activity in California, 2004

County	Summary of West Nile Virus Activity in California, 2004				
	Humans	Equines	Dead Birds	Mosquito Pools	Sentinel Chickens
Los Angeles	124	4	763	240	37
Orange	**19**	**1**	**127**	**95**	**-**
Riverside	63	59	130	94	121
San Bernardino	119	25	284	121	95
San Diego	1	1	10	-	-
Santa Barbara	-	-	3	-	-
Santa Clara	-	-	21	-	-
Ventura	1	1	9	-	-
State Totals	**343**	**158**	**1,922**	**685**	**313**

California West Nile Virus Surveillance Information Center

Severe Acute Respiratory Syndrome (SARS)

Severe acute respiratory syndrome (SARS), a recently recognized, contagious febrile lower respiratory infection caused by a novel corona virus called SARS-CoV, is an example of a potential threat to a port city.

The worldwide outbreak of SARS that occurred between November 2002 and July 2003 most likely originated in China and then spread through travel. During this outbreak 22 potential SARS cases were investigated in Los Angeles. Seven were considered probable SARS but none of these cases had a specimen that was positive for SARS-CoV infection. The investigation and monitoring required for 22 potential cases was considerable.

It is possible that SARS may re-emerge; therefore, it is important that jurisdictions be prepared to immediately identify cases and contain the disease.

SARS Case Count

During November 2002-July 2003, a total of 8,098 probable SARS cases were reported to the World Health Organization (WHO) from 29 countries. In the United States, only 8 cases had laboratory evidence of infection with SARS-CoV. Since July 2003, when SARS-CoV transmission was declared contained, active global surveillance for SARS-CoV disease has detected no person-to-person transmission of SARS-CoV. CDC has therefore archived the case report summaries for the 2003 outbreak.

During the 2003 epidemic, CDC and the Council of State and Territorial Epidemiologists (CSTE) developed surveillance criteria to identify persons with SARS in the United States. The surveillance case definition changed throughout the epidemic, to reflect increased understanding of SARS-CoV disease.

In California, there were a total of 29 cases, 22 of which were suspect, 5 were probably SARS and 2 were confirmed.

SARS Surveillance

The key to controlling a SARS outbreak is prompt detection of cases and their contacts, followed by rapid implementation of control measures. Identification of SARS cases is the basic step in prevention efforts, whereas contact tracing provides a means to focus case-finding and containment efforts on persons who are at greatest risk of SARS-CoV disease. Two features of SARS-CoV disease pose challenges for case surveillance. First, the early signs and symptoms are not specific enough to reliably distinguish SARS-CoV disease from other common respiratory illnesses. Second, existing laboratory diagnostic tests are not adequately sensitive early in the course of illness. Therefore, risk of exposure (i.e., to another case of SARS-CoV disease or to a setting where SARS-CoV transmission is occurring) is key to considering the likelihood of a diagnosis of SARS-CoV disease.

Potential sources of SARS-CoV for future exposures include persistent infection in previously ill persons or reintroduction to humans from an animal reservoir. In the absence of SARS-CoV transmission worldwide, the most likely sites of recurrence are the original site of introduction of SARS-CoV from animals to humans and locations where person-to-person SARS-CoV transmission previously occurred. Laboratories that

contain live SARS-CoV could be a source of further transmission if compromised laboratory techniques result in laboratory-acquired infections and report from the Department of Health, Taiwan Because persons with SARS-CoV disease tended to appear in clusters (e.g., in healthcare facilities, households, and a few special settings) during the 2003 outbreaks, early signals of the reappearance of the illness in U.S. communities could include unusual clusters of unexplained pneumonia.

In the presence of person-to-person SARS-CoV transmission anywhere in the world, patients with SARS-CoV disease or sites of SARS-CoV transmission become the most likely sources of exposure. Contact tracing, the identification of persons who had contact with a potential case of SARS-CoV disease or may have been exposed while present in locations (e.g., hospitals) with known SARS-CoV transmission, is essential for the implementation of appropriate measures to reduce further spread of the disease.

The overall goals of SARS surveillance are to:

Maximize early detection of cases and clusters of respiratory infections that might signal the re-emergence of SARS-CoV disease while minimizing unnecessary laboratory testing, concerns about SARS-CoV, implementation of control measures, and social disruption.

If person-to-person SARS-CoV transmission recurs, maintain prompt and complete identification and reporting of potential cases to facilitate outbreak control and management.

Identify and monitor contacts of cases of SARS-CoV disease to enable early detection of illness in persons at greatest risk.

Mad Cow Disease (Creutzfeldt-Jakob disease (vCJD))

New variant CJD (vCJD) is a rare, degenerative, fatal brain disorder in humans. Although experience with this new disease is limited, evidence to date indicates that there has never been a case of vCJD transmitted through direct contact of one person with another. However, a case of probable transmission of vCJD through transfusion of blood components from an asymptomatic donor who subsequently developed the disease has been reported.

As of December 1, 2003, a total of 153 cases of vCJD had been reported in the world: 143 from the United Kingdom, six from France, and one each from Canada, Ireland, Italy, and the United States (note: the Canadian, Irish, and U.S. cases were reported in persons who resided in the United Kingdom during a key exposure period of the U.K. population to the BSE agent).

Almost all the 153 vCJD patients had multiple-year exposures in the United Kingdom between 1980 and 1996 during the occurrence of a large UK outbreak of bovine spongiform encephalopathy (BSE, commonly known as mad cow disease) among cattle.

There has never been a case of vCJD that did not have a history of exposure within a country where this cattle disease, BSE, was occurring.

It is believed that the persons who have developed vCJD became infected through their consumption of cattle products contaminated with the agent of BSE. There is no known treatment of vCJD and it is invariably fatal.

Since 1996, evidence has been increasing for a causal relationship between ongoing outbreaks in Europe of a disease in cattle, called bovine spongiform encephalopathy (BSE, or "mad cow disease"), and a disease in humans, called variant Creutzfeldt-Jakob disease (vCJD). Both disorders are invariably fatal brain diseases with unusually long incubation periods measured in years, and are caused by an unconventional transmissible agent.

On December 23, 2003, the U.S. Department of Agriculture (USDA) announced a presumptive diagnosis of bovine spongiform encephalopathy (BSE, or "mad cow" disease) in an adult Holstein cow from Washington State. The diagnosis was confirmed by an international reference laboratory in Weybridge, England, on December 25. Preliminary trace-back based on an ear-tag identification number suggests that the BSE-infected cow was imported into the United States from Canada in August 2001.

Description

Since 1996, strong evidence has accumulated for a causal relationship between ongoing outbreaks in Europe of disease in cattle called bovine spongiform encephalopathy (BSE, or "mad cow disease") and a disease in humans originally called new variant Creutzfeldt-Jakob disease or more recently simply variant CJD (vCJD). Both disorders are invariably fatal brain diseases with unusually long incubation periods measured in years and are caused by an unconventional transmissible agent. Although there is very strong evidence that the agent responsible for the human disease is the same agent responsible for the BSE outbreaks in cattle, the specific foods that might be associated with the transmission of this agent from cattle to humans are unknown. However, bioassays have identified the presence of the BSE agent in the brain, spinal cord, retina, dorsal root ganglia (nervous tissue located near the backbone), distal ileum, and the bone marrow of cattle experimentally infected with this agent by the oral route.

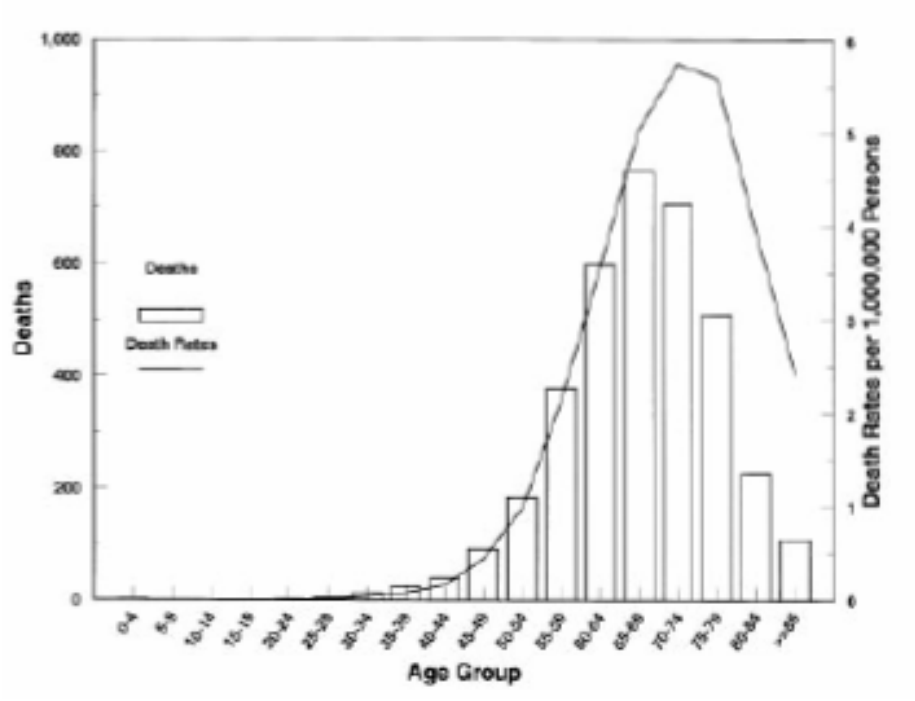
In addition to cattle, sheep are susceptible to experimental infection with the BSE agent by the oral route. Thus, in countries where flocks of sheep and goats may have been exposed to the BSE agent through contaminated feed, a theoretical risk exists that these animals might have developed infections caused by the BSE agent and that these infections are being maintained in the flocks, even in the absence of continued exposure to contaminated feed (for example, through maternal transmission). Regardless, as of July 2002, cattle remain the only known food animal species with disease caused by the BSE agent.

U.S. Surveillance for CJD

The Centers for Disease Control and Prevention (CDC) monitors the trends and current incidence of CJD in the United States by analyzing death certificate information from U.S. multiple cause-of-death data, compiled by the National Center for Health Statistics, CDC. By 3- or 4-year periods from 1987 through 2001, the average annual death rates of CJD (not vCJD) have remained relatively constant, ranging from 0.95 cases per 1 million in 1999-2001 to 1.14 cases per 1 million in 1995-1998. In addition, deaths from non-iatrogenic CJD in persons aged <30 years in the United States remain extremely rare (<5 cases per 1 billion per year). In contrast, in the United Kingdom, over half of the patients who died with vCJD were in this young age group.

In addition, CDC collects, reviews and, when indicated, actively investigates reports by health care personnel or institutions of possible CJD or vCJD cases. Also, in 1996-97, CDC established, in collaboration with the American Association of Neuro-pathologists, the National Prion Disease Pathology Surveillance Center at Case Western Reserve

University, which performs special diagnostic tests for prion diseases, including post-mortem tests for vCJD.



Creutzfeldt-Jakob disease deaths and death rates by age group. United States, 1979 through 1994.

California Creutzfeldt-Jakob Disease (CJD) Surveillance Project

The California Creutzfeldt-Jakob Disease Surveillance Project is funded by the federal Centers for Disease Control and Prevention (CDC) through the California Emerging Infections Program (EIP) to improve the public health capacity to detect cases of CJD. In 1996, the first cases of variant CJD occurring in unusually young persons and resulting from ingestion of bovine spongiform encephalopathy (BSE)-contaminated beef were identified in the United Kingdom. Since then, the CDC and the EIP have conducted enhanced surveillance and death certificate reviews. National surveillance has indicated that the incidence of CJD in the United States is about 1 case per million population per year (JAMA, Vol. 284, No. 18, November 8, 2000). Recently, one confirmed case of variant CJD was identified in a Florida resident and another in a Canadian resident, both of whom resided in the United Kingdom during the height of the BSE epidemic. In addition, the identification of chronic wasting disease (CWD), a form of transmissible spongiform encephalopathy affecting deer and elk in the mid-western United States, has led to heightened awareness and surveillance efforts for any associated potential human public health risks.

CDC Dispatch, Vol. 2, No. 4—October-December 1996 Emerging Infectious Diseases

Influenza (Flu)

Epidemics of influenza typically occur during the winter months and have been responsible for an average of approximately 36,000 deaths/year in the United States during 1990–1999. Influenza viruses

also can cause pandemics, during which rates of illness and death from influenza-related complications can increase dramatically worldwide. Influenza viruses cause disease among all age groups. Rates of infection are highest among children, but rates of serious illness and death are highest among persons aged ≥ 65 years and persons of any age who have medical conditions that place them at increased risk for complications from influenza.

Influenza vaccination is the primary method for preventing influenza and its severe complications. In this report from the Advisory Committee on Immunization Practices (ACIP), the primary target groups recommended for annual vaccination are 1) groups that are at increased risk for influenza-related complications (e.g., persons aged ≥ 65 years and persons of any age with certain chronic medical conditions); 2) the group aged 50–64 years because this group has an elevated prevalence of certain chronic medical conditions; and 3) persons who live with or care for persons at high risk (e.g., health-care workers and household contacts who have frequent contact with persons at high risk and who can transmit influenza to persons at high risk). Vaccination is associated with reductions in influenza-related respiratory illness and physician visits among all age groups, hospitalization and death among persons at high risk, otitis media among children, and work absenteeism among adults. Although influenza vaccination levels increased substantially during the 1990s, further improvements in vaccine coverage levels are needed, chiefly among persons aged <65 years who are at increased risk for influenza-related complications among all racial and ethnic groups and among blacks and Hispanics aged ≥ 65 years. ACIP recommends using strategies to improve vaccination levels, including using reminder/recall systems and standing orders programs. Although influenza vaccination remains the cornerstone for the control and treatment of influenza, information is also presented regarding antiviral medications, because these agents are an adjunct to vaccine.

Biology of Influenza

Influenza A and B are the two types of influenza viruses that cause epidemic human disease. Influenza A viruses are further categorized into subtypes on the basis of two surface antigens: hemagglutinin (H) and neuraminidase (N). Influenza B viruses are not categorized into subtypes. Since 1977, influenza A (H1N1) viruses, influenza A (H3N2) viruses, and influenza B viruses have been in global circulation. In 2001, influenza A (H1N2) viruses that probably emerged after genetic re-assortment between human A (H3N2) and A (H1N1) viruses began circulating widely. Both influenza A and B viruses are further separated into groups on the basis of antigenic characteristics. New influenza virus variants result from frequent antigenic change (i.e., antigenic drift) resulting from point mutations that occur during viral replication. Influenza B viruses undergo antigenic drift less rapidly than influenza A viruses.

A person's immunity to the surface antigens, including hemagglutinin, reduces the likelihood of infection and severity of disease if infection occurs. Antibody against one influenza virus type or subtype confers limited or no protection against another. Furthermore, antibody to one antigenic variant of influenza virus might not protect against a new antigenic variant of the same type or subtype. Frequent development of antigenic variants through antigenic drift is the virologic basis for seasonal epidemics and the reason for the usual incorporation of ≥ 1 new strains in each year's influenza vaccine.

Influenza Epidemic

The influenza (flu) epidemics that happen nearly every year are important events. Influenza is a respiratory illness that makes hundreds of thousands of people sick each year. The illness can cause severe health problems for the elderly and younger people with diseases, such as diabetes, heart or lung disease, and illness that can weaken the immune system. Typical primary influenza illness lasts about a week and is characterized by abrupt onset of fever, muscle aches, sore throat, and nonproductive cough. In some persons, severe malaise and cough can persist for several days or weeks.

Influenza infection not only causes primary illness but also can lead to severe secondary medical complications, including influenza viral pneumonia, secondary bacterial pneumonia, worsening of underlying medical conditions, such as congestive heart failure, asthma, or diabetes, or other complications such as ear infections (i.e., otitis media) in children.

Elderly persons (i.e., those 65 years and over) and persons with certain underlying medical conditions, such as chronic heart or lung disease, are at increased risk for developing complications from influenza infection. These complications increase the risk for hospitalization or death.

One of the most important features about influenza viruses is that their structure changes slightly but frequently over time (a process known as “drift”), and that this process results in the appearance of different strains that circulate each year. The composition of the flu vaccine is changed each year to help protect people from the strains of influenza virus that are expected to be the most common ones circulating during the coming flu season.

The ability of the vaccine to protect against influenza during a particular season depends on several factors, but particularly 1) the match between influenza strains in the vaccine and strains circulating in the community, and 2) the ability of each person's immune system to mount a protective response as a result of the vaccination. Although the vaccine may not prevent everyone who takes it from getting sick, it does reduce the risk of severe illness, hospitalization, and death. That's why it is so important for anyone who wants to reduce his or her risk of getting severely ill from influenza to receive the vaccine each year.

Influenza Pandemic

By contrast to the more gradual process of drift, in some years, the influenza virus changes dramatically and unexpectedly through a process known as “shift.” Shift results in the appearance of a new influenza virus to which few (if any) people are immune. If this new virus spreads easily from person to person, it could quickly travel around the world and cause increased levels of serious illness and death, affecting millions of people. **This is called an influenza pandemic.**

Fortunately, pandemics don't occur very often. There has not been an influenza pandemic since 1968. In 1997, however, a flu virus, that had previously infected only birds, caused an outbreak of illness in humans. This virus, known as the “avian flu,” resulted in 18 illnesses and six deaths in Hong Kong but did not easily spread from person to person. Still, it provided a frightening reminder that the next pandemic could occur at any time. Governments around the world took notice. The U.S. government worked with State and local governments, and private-sector partners, to develop strategies and programs that would prepare our country for a pandemic.

Influenza Pandemic Start

There are three main types of influenza viruses: A, B, and C. Influenza C causes only mild disease and has not been associated with widespread outbreaks. Influenza types A and B, however, cause epidemics nearly every year. Influenza A viruses are divided into subtypes, based on differences in two surface proteins: hemagglutinin (H) and neuraminidase (N). Influenza B viruses are not divided into subtypes. During an influenza flu season, usually one or more influenza A subtype and B viruses circulate at the same time.

A pandemic is possible when an influenza A virus makes a dramatic change (i.e., "shift") and acquires a new H or H+N. This shift results in a new or "novel" virus to which the general population has no immunity. The appearance of a novel virus is the first step toward a pandemic. However, the novel influenza A virus also must spread easily from person to person (and cause serious disease) for a pandemic to occur. Influenza B viruses do not undergo shift and do not cause influenza pandemics.

The reservoir for Type A influenza viruses is wild birds, but influenza A viruses also infect animals such as pigs and horses, as well as people. The last two pandemic viruses were combinations of bird and human influenza viruses. Many persons believe that these new viruses emerged when an intermediate host, such as a pig, was infected by both human and bird influenza A viruses at the same time. A new virus was created. Events in Hong Kong in 1997, however, showed that this is not the only way that humans can become infected with a novel virus. Sometimes, an avian influenza virus can "jump the species barrier" and move directly from chickens to humans and cause disease.

Since, by definition, a novel virus is a virus that has never previously infected humans, or hasn't infected humans for a long time, it's likely that almost no one will have immunity, or antibody to protect them against the novel virus. Therefore, anyone exposed to the virus--young or old, healthy or weak--could become infected and get sick. If the novel virus is related to a virus that circulated long ago, older people might have some level of immunity. It is possible that the novel virus may be especially dangerous to some age groups that are not usually at risk of severe illness or death from annual influenza (such as healthy young adults). Such widespread vulnerability makes a pandemic possible and allows it to have potentially devastating impact.

Influenza Pandemic Impact

There's no simple answer to the question of how serious a pandemic might be. It all depends on how virulent (severe) the virus is, how rapidly it can spread from population to population, and the effectiveness of pandemic prevention and response efforts. The 1918 Spanish flu is an example of a worst-case scenario because the strain was highly contagious and quite deadly. This pandemic killed more Americans than all the wars of the 20th century. Since our world today is vastly more populated, and people travel the globe with ease, the spread of a next pandemic could be more rapid than that of previous pandemics.

The impact of a pandemic isn't measured only by how many people will die. If millions of people get sick at the same time, major social consequences will occur. If many doctors and nurses become ill, it will be difficult to care for the sick. If the majority of a local police force is infected, the safety of the community might be at risk. If air traffic controllers are all sick at once, air travel could grind to a halt, interrupting not only business and personal travel, but also the transport of life-saving vaccines or anti-viral drugs. Therefore, a vital

part of pandemic planning is the development of strategies and tactics to address all these potential problems.

Avian Influenza (Bird Flu)

Influenza viruses that infect birds are called " avian influenza viruses". Only influenza A viruses infects birds. All known subtypes of influenza A virus can infect birds. However, there are substantial genetic differences between the subtypes that typically infect both people and birds. Within subtypes of avian influenza viruses there also are different strains (described in "Strains").

Avian influenza H5 and H7 viruses can be distinguished as "low pathogenic" and "high pathogenic" forms on the basis of genetic features of the virus and the severity of the illness they cause in poultry; influenza H9 virus has been identified only in a "low pathogenicity" form. Each of these three avian influenza viruses (H5, H7, and H9) can theoretically be partnered with any one of nine neuraminidase surface proteins; thus, there are potentially nine different forms of each subtype (e.g., H5N1, H5N2, H5N3 …H5N9).

Below is summary information about these three prominent subtypes of avian influenza virus:

Influenza A H5

Potentially nine different subtypes

Can be highly pathogenic or low pathogenic

H5 infections have been documented among humans, sometimes causing severe illness and death

Influenza A H7

Potentially nine different subtypes

Can be highly pathogenic or low pathogenic

H7 infection in humans is rare, but can occur among persons who have close contact with infected birds; symptoms may include conjunctivitis and/or upper respiratory symptoms

Influenza A H9

Potentially nine different subtypes

Documented only in low pathogenic form

Three H9 infections in humans have been confirmed.

Spread of Avian Influenza Viruses among Birds

Avian influenza viruses circulate among birds worldwide. Certain birds, particularly water birds, act as hosts for influenza viruses by carrying the virus in their intestines and shedding it. Infected birds shed virus in saliva, nasal secretions, and feces. Susceptible birds can become infected with avian influenza virus when they have contact with contaminated nasal, respiratory, or fecal material from infected birds. Fecal-to-oral transmission is the most common mode of spread between birds.

Most often, the wild birds that are host to the virus do not get sick, but they can spread influenza to other birds. Infection with certain avian influenza A viruses (for example, some H5 and H7 strains) can cause widespread disease and death among some species of domesticated birds.

Avian Influenza Infection in Humans

Although avian influenza A viruses does not usually infect humans, several instances of human infections and outbreaks of avian influenza have been reported since 1997. Most cases of avian influenza infection in humans are thought to have resulted from contact with infected poultry or contaminated surfaces. However, there is still a lot to learn about how different subtypes and strains of avian influenza virus might affect humans. For example, it is not known how the distinction between low pathogenic and highly pathogenic strains might impact the health risk to humans. Of the documented cases of human infection with avian influenza viruses, illnesses caused by highly pathogenic viruses appear to be more severe.

Because of concerns about the potential for more widespread infection in the human population, public health authorities closely monitor outbreaks of human illness associated with avian influenza. To date, human infections with avian influenza viruses detected since 1997 have not resulted in sustained human-to-human transmission. However, because influenza viruses have the potential to change and gain the ability to spread easily between people, monitoring for human infection and person-to-person transmission is important.

To date, there have been no recorded cases of Avian Influenza in California. Documented cases in North America include: British Columbia, Canada; The Eastern United States; and Texas.

Small Pox

Smallpox virus is a high-priority “Category A” agent that poses a risk to Los Angeles County, California and national security because it can be easily disseminated and transmitted from person to person, results in high mortality rates and has the potential for major public health impact, might cause public panic and social disruption, and requires special action for public health preparedness.

The Los Angeles County Department of Health Services (LAC DHS) developed this Smallpox Preparedness, Response and Recovery Plan for the County to prepare for the possibility of an outbreak of smallpox in the County.

If an outbreak of smallpox were to occur, several factors could contribute to a more rapid spread of smallpox than was routinely seen before this disease was eradicated in 1977. These factors include: 1) virtually non-existent immunity to smallpox in the absence of naturally occurring disease and the discontinuation of routine vaccination in the United States in the early 1970’s, 2) potentially delayed recognition of smallpox by health personnel who are unfamiliar with the disease, 3) increased mobility and crowding of the population, and 4) potential use of higher virulence “weaponized” viruses with decreased incubation periods. Because of these factors, a single case of smallpox would require an immediate and coordinated public health and medical response to contain the outbreak and prevent further infection of susceptible individuals.

Vaccination

The federal government has not yet provided definitive guidance on the extent of preparedness vaccination (smallpox vaccination of persons prior to a confirmed case of smallpox). It is anticipated that the guidance will be forthcoming in the near future. Such guidance, and release of sufficient quantities of smallpox vaccine, may be for: (1) specified first responders only, (2) a larger group of health care workers, law enforcement, and emergency responders, or (3) the entire population on a voluntary basis. Guidance may be provided in a phased manner for these, or other, groups over time.

The LAC DHS is prepared to implement the guidance received from the federal government on preparedness vaccination. Since this vaccination will take place prior to a smallpox emergency and there will be no urgency to complete vaccination within a few days (as required in a smallpox emergency), existing facilities and staff are deemed sufficient to carry out preparedness vaccination of the first two groups. It may even be that federal personnel will be utilized for this preparedness vaccination of limited numbers of persons. LAC DHS has developed its own recommendations for preparedness smallpox vaccination prioritization.

Los Angeles County Smallpox Preparedness Plan

Monkey Pox

The Centers for Disease Control and Prevention (CDC) and state and local health departments continue to investigate cases of monkeypox among persons who had close contact with wild or exotic mammalian pets or persons with monkeypox. Results of serologic testing, polymerase-chain-reaction analysis, viral culture and gene sequencing performed at the CDC indicate that the causative agent is monkeypox virus, a member of the orthopoxvirus group of viruses. CDC is updating previous interim guidance concerning infection control precautions and exposure management in the health-care and community settings. The guidance will be further updated as additional information about the epidemiology of disease transmission is better understood.

Limited data on transmission of monkeypox virus are available from studies conducted in Africa. Person-to-person transmission is believed to occur primarily through direct contact and also by respiratory droplet spread. Transmission of monkeypox within hospitals has been described, albeit rarely. Extrapolating from smallpox for which airborne transmission has been clearly described, airborne transmission of monkeypox virus cannot be excluded, especially in patients presenting with cough.

To date in the United States there has been no evidence of person-to-person transmission of monkeypox. However, recovery of monkeypox virus from skin lesions and tonsillar tissue demonstrates the potential for contact and droplet transmission, and at least a theoretical risk for airborne transmission.

A recent modification of CDC.s infection control guidance is based on the accumulating experience in the United States that suggests a relatively low risk of person-to-person transmission. All health-care settings, i.e., hospitals, emergency departments, physician offices, have the capacity to care for monkeypox patients and protect health-care workers and other patients from exposure.

Centers for Disease Control and Prevention

Hoof & Mouth Disease

In the United States we usually call it "Hoof and Mouth Disease." In the U.K. they call it "Foot and Mouth Disease." But, wherever it appears, and whatever it's called, this highly contagious livestock disease means trouble. The outbreak of the disease in Great Britain quickly spread to the European continent, and British officials even considered eradicating that country's entire livestock population. The last major outbreak in the U.S. was in 1929.

Hoof and mouth disease is a viral infection that afflicts animals with cloven hooves such as cattle, pigs, and sheep. Onset of the disease is characterized by fever, which is followed by the development of blisters inside the mouth and on the feet. It is transmitted easily among animals through fluids such as blood, saliva, and milk. Fluid from broken blisters has especially high concentrations of the virus. The disease is not necessarily fatal, and symptoms can clear up after several weeks, but the disease generally leaves animals underweight and sometimes disabled. Because of the highly infectious nature of the disease, and the condition in which it leaves animals even after they have recovered, farmers almost always destroy infected animals and burn their carcasses.

While not susceptible to the hoof and mouth, humans can carry and transmit the disease without even realizing it. This makes an already highly contagious disease even more difficult to contain. Governments can control the export and import of farm animals, and can destroy animals possibly exposed to the disease, but confining the human carriers of the virus is much more difficult.

Hepatitis

Hepatitis is inflammation of the liver. Several different viruses cause viral hepatitis. They are named the hepatitis A, B, C, D, and E viruses.

All of these viruses cause acute, or short-term, viral hepatitis. The hepatitis B, C, and D viruses can also cause chronic hepatitis, in which the infection is prolonged, sometimes lifelong.

Other viruses may also cause hepatitis, but they have yet to be discovered and they are obviously rare causes of the disease.

Hepatitis Incidence/Epidemiology

Hepatitis A occurs sporadically and epidemically worldwide, with a tendency to cyclic recurrences.

Epidemics are uncommon in developing countries where adults are generally immune. Improved sanitation and hygiene conditions in different parts of the world leave large segments of the population susceptible to infection, and outbreaks may result whenever the virus is introduced.

Common-source epidemics, related to contaminated food or water, may evolve explosively, as did the largest mollusk-linked epidemic in Shanghai, in 1988, involving about 300 000 people.

Worldwide, HAV infections account for 1.4 million cases annually.

Strain	Disease Spread	People at Risk	Prevention	Treatment
Hepatitis A	Primarily through food or water contaminated by feces from an infected person. Rarely, it spreads through contact with infected blood	International travelers; people living in areas where hepatitis A outbreaks are common; people who live with or have sex with an infected person; during outbreaks, day care children and employees, men who have sex with men, and injection drug users	The hepatitis A vaccine, also, avoiding tap water when traveling internationally and practicing good hygiene and sanitation	Hepatitis A usually resolves on its own over several weeks
Hepatitis B	Through contact with infected blood, through sex with an infected person, and from mother to child during childbirth	People who have sex with an infected person, men who have sex with men, injection drug users, children of immigrants from disease-epidemic areas, infants born to infected mothers, people who live with an infected person, health care workers, hemodialysis patients, people who received a transfusion of blood or blood products before July 1992 or clotting factors made before 1987, and international travelers	Hepatitis B vaccine	For chronic hepatitis B: drug treatment with alpha interferon, peginterferon, lamivudine, or adefovir dipivoxil. Acute hepatitis B usually resolves on its own. Very severe cases can be treated with lamivudine
Hepatitis C	Primarily through contact with infected blood, less commonly, through sexual contact and childbirth	Injection drug users, people who have sex with an infected person, people who have multiple sex partners, health care workers, infants born to infected women, hemodyalysis patients, and people who received a transfusion of blood or blood products before July 1992 or clotting factors made before 1987	There is no vaccine for hepatitis C; the only way to prevent the disease is to reduce the risk of exposure to the virus. This means avoiding behaviors like sharing drug needles or sharing personal items like toothbrushes, razors, and nail clippers with an infected person	Chronic hepatitis C: drug treatment with perginterferon alone or combination treatment with peginterferon and the drug ribavirin. Acute hepatitis C: treatment is recommended if it does not resolve within 2 to 3 months
Hepatitis D	Through contact with infected blood. This disease occurs only in people who are already infected with hepatitis B	Anyone infected with hepatitis B: injection drug users who have hepatitis B have the highest risk. People who have hepatitis B are also at risk if they have sex with a person infected with hepatitis D or if they live with an infected person. Also at risk are people who received a transfusion of blood or blood products before July 1992 or clotting factors made before 1987	Immunization against hepatitis B for those not already infected; also. avoiding exposure to infected blood, contaminated needles, and an infected person's personal items.	Chronic hepatitis D: drug treatment with alpha interferon
Hepatitis E	Through food or water contaminated by feces from an infected person. This disease in uncommon in the United States	International travelers; people living in areas where hepatitis E outbreaks are common; and people who live or have sex with an infected person	There is no vaccine for hepatitis E; the only way to prevent the disease is to reduce the risk of exposure to the virus. This means avoiding tap water when traveling internationally and practicing good hygiene and sanitation	Hepatitis E usually resolves on its own over several weeks or months

Hepatitis Facts

An estimated 40,000 people were infected with the hepatitis C virus (HCV) in 1998.

There are an estimated 3.9 million people who are or have been infected with hepatitis C, 2.7 of whom are chronically infected; approximately 70% of people infected do not know they have the virus.

8,000 – 10,000 people die of hepatitis C each year. The Centers for Disease Control and Prevention (CDC) estimate that the number of annual deaths from hepatitis C will triple in the next 10 –20 years.

Hepatitis B is responsible for 5,000 deaths annually, including 3,000 – 4,000 from cirrhosis and approximately 1,000 – 1,500 from primary liver cancer.

One out of every 250 people is a carrier of hepatitis B and can pass it on to others, often unknowingly.

There were approximately 80,000 estimated new infections of hepatitis B in the United States in 1999.

Up to 90% of pregnant women who are carriers of the hepatitis b virus could transmit the virus to their children. Vaccinations of the newborns would prevent them from becoming carriers.

Due to the screening of pregnant women for HBV and vaccinations of newborns with the hepatitis B vaccine, there has been a decline in that number of infected newborns.

Hepatitis B is 100 times more infectious than HIV, the virus that causes AIDS. There are 500 million hepatitis B viral particles in one teaspoon of blood compared to 5-10 HIV particles.

The estimated medical and work loss cost per year of hepatitis B is $700 million; the estimated medical and work loss cost per year of hepatitis C is $600 million.

One out of every 20 people will be infected with hepatitis B in his/her lifetime.

Approximately 5,000 liver transplants were performed in 2000. Because of the shortage of organs, it is estimated that nearly 1,700 prospective recipients died in 2001 while waiting for a liver for transplantation. There are currently over 18,000 people waiting for a liver transplant.

Non-Hispanic African Americans have the highest infection rate for hepatitis C; Asian and Pacific Islanders have the highest rate for hepatitis B infection.

Other Diseases

Plague

Plague is transmitted to humans by fleas or by direct exposure to infected tissues or respiratory droplets; the disease is characterized by fever, chills, headache, malaise, prostration, and leukocytosis that manifests in one or more of the following principal clinical forms:

Regional lymphadenitis (bubonic plague)

Septicemia without an evident bubo (septicemic plague)

Plague pneumonia, resulting from hematogenous spread in bubonic or septicemic cases (secondary pneumonic plague) or inhalation of infectious droplets (primary pneumonic plague)

Pharyngitis and cervical lymphadenitis resulting from exposure to larger infectious droplets or ingestion of infected tissues (pharyngeal plague)

Brucellosis

Brucellosis is an infectious disease caused by the bacteria of the genus *Brucella*. These bacteria are primarily passed among animals, and they cause disease in many different vertebrates. Various *Brucella* species affect sheep, goats, cattle, deer, elk, pigs, dogs, and several other animals. Humans become infected by coming in contact with animals or animal products that are contaminated with these bacteria. In humans brucellosis can cause a range of symptoms that are similar to the flu and may include fever, sweats, headaches, back pains, and physical weakness. Sever infections of the central nervous systems or lining of the heart may occur. Brucellosis can also cause long-lasting or chronic symptoms that include recurrent fevers, joint pain, and fatigue.

Brucellosis is not very common in the United States, where100 to 200 cases occur each year. But brucellosis can be very common in countries where animal disease control programs have not reduced the amount of disease among animals.

Botulism (Food-borne)

Ingestion of botulinum toxin results in an illness of variable severity. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

Botulism (Wound)

An illness resulting from toxin produced by *Clostridium botulinum* that has infected a wound. Common symptoms are diplopia, blurred vision, and bulbar weakness. Symmetric paralysis may progress rapidly.

Section 5 – Hazard Mitigation Strategies

Mitigation Goals and Objectives

The information in the hazard vulnerability analysis and loss estimation information was used as a basis for developing mitigation goals and objectives. Mitigation goals are defined as general guidelines explaining what Saddleback Valley Unified School District (SVSUD) wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements representing District-wide visions. Objectives are statements that detail how each goal will be achieved, and typically define strategies or implementation steps to attain identified goals. Other important inputs to the development of District-level goals and objectives include performing reviews of existing local plans, policy documents, and regulations for consistency and complementary goals, as well as soliciting input from the public.

Identification and Prioritization of Mitigation Actions

Mitigation actions that address the goals and objectives developed in the previous step were identified, evaluated, and prioritized. These actions form the core of the mitigation plan. SVUSD conducted a capabilities assessment, reviewing existing local plans, policies, and regulations for any other capabilities relevant to hazard mitigation planning. An analysis of their capability to carry out these implementation measures with an eye toward hazard and loss prevention was conducted. The capabilities assessment required an inventory of each jurisdiction's legal, administrative, fiscal and technical capacities to support hazard mitigation planning. After completion of the capabilities assessment, Saddleback Valley Unified School District evaluated and prioritized their proposed mitigations. Social, technical, administrative, political, legal, economic, and environmental opportunities as well as constraints of implementing a particular mitigation action were considered. This step resulted in a list of acceptable and realistic actions that address the hazards identified.

A full suite of goals, objectives and action items for the District is presented in this Plan. The Planning Committee then identified and prioritized actions with the highest short to medium term priorities. An implementation, schedule, funding source and coordinating individual or agency is identified for each prioritized action item.

SVUSD has no funding available at this time for many of their mitigation strategy program/projects. The committee is aware a complete cost benefit analysis is necessary before application of federal and state grants. A cost benefit analysis has been completed for slope mitigation outlined on page 356 and 357.

Strategies and Recommendations

Synopsis of Strategies

The matrix below shows the HIGH and MODERATE RISKS as identified by the Hazard Mitigation Planning Committee. Each of the future strategies specified address one or more of the risks. 'P" shows the primary hazard and "X" shows subsequent hazard(s).

STRATEGY #	Wildland/Urban Conflagration	Weapons of Mass Destruction/Terrorism	Earthquake	Hazardous Materials	Winds	Severe Weather	Data/Telecommunications	Economic Disruption	Utility Loss/Disruption	Water/Wastewater Disruption	Dam Failure	Flood	Biological/Health
	HIGH RISK HAZARDS						MODERATE RISK HAZARDS						
	All Hazards												
AH-1	X	X	X	X	X	X	X	X	X	X	X	X	X
AH-2	X	X	X	X	X	X	X	X	X	X	X	X	X
AH-3	X	X	X	X	X	X	X	X	X	X	X	X	X
AH-4	X	X	X	X	X	X	X	X	X	X	X	X	X
AH-5	X	X	X	X	X	X	X	X	X	X	X	X	X
AH-6	X	X	X	X	X	X	X	X	X	X	X	X	X
	Wild Fire/Urban Conflagration												
WF-1	P												
WF-2	P												
WF-3	P												
WF-4	P												
	Weapons of Mass Destruction/Terrorism												
WT-1	X	P	X	X	X	X	X	X	X	X	X	X	X
	Earthquake												
EQ-1			P										
EQ-2			P										
EQ-3			P										
EQ-4			P			X							
EQ-5			P										
	Hazardous Materials												
HM-1				P			X						
	Winds												
WI-1					P	X							
	Severe Weather												
SW-1					X	P							
SW-2					X	P							
SW-3			X		X	P							
	Data/Telecommunications												
DT-1							P						
	Utility Loss/Disruption												
UL-1								P					

All Hazards (AH)

Strategy AH-1

Program/Project	Emergency Lighting Installation
Cost	$2.2 million
Timeline	Ongoing, As funds become available
Department	Maintenance and Operations, Facilities, Business Services
Financing	Grant
Goal Addressed	Centralized emergency back-up lighting at each campus; enables facility to locate students to prevent injury or loss of life, also assist in rescue and recovery.
Related Hazard	All Hazards
Priority	1

Strategy AH-2

Program/Project	Install lighting fixtures on approximately 10,000 lights throughout District campuses
Cost	$3 million
Timeline	Ongoing, As funds become available
Department	Maintenance and Operations, Facilities, Business Services
Financing	Grant
Goal Addressed	Replace current unsecured lighting fixtures with secured safety light fixtures to prevent injury to students and staff.
Related Hazard	All Hazards
Priority	1

Strategy AH-3

Program/Project	Identification and Assessment Program
Cost	$2.5 million
Timeline	Ongoing, In Progress at all School Sites
Department	Facilities
Financing	Measure B Grants
Goal Addressed	Installation of cameras District wide enables the staff to assess damage and assist in recovery as well as identify students and staff; Staff and Student Safety
Related Hazard	All Hazards
Priority	1

Strategy AH-4

Program/Project	Telecommunication Replace/Upgrade Radios at individual school sites.
Cost	$75,000
Timeline	Ongoing, As funds become available
Department	Business Services
Financing	Grant
Goal Addressed	Replace and upgrade with multiple channels to free up emergency operations frequency and allow for direct, uninterrupted communication with school sites.
Related Hazard	Data/Telecommunications
Priority	1

Strategy AH-5

Program/Project	Biohazard Bags
Cost	$15,000
Timeline	Ongoing, As funds become available
Department	Business Services, Maintenance and Operations
Financing	Grant
Goal Addressed	Provide Bio Hazard bags for all school sites; Health safety.
Related Hazard	All Hazards
Priority	1

Strategy AH-6

Program/Project	Data/Telecommunications Emergency Call System
Cost	$100,000
Timeline	As funds become available
Department	Business Services & Information Services
Financing	Federal and or State Grants
Goal Addressed	Develop a district wide home calling system to contact parents immediately in the event of an emergency situation with critical information.
Related Hazard	All-Hazards
Priority	1

High Risk Priority Hazards

Wildland/Urban Conflagration (WF)

Strategy WF-1

Program/Project	Fuel Modification Project
Cost	$40,000/ year
Timeline	Ongoing, As funds become available 12-24 months
Department	Maintenance and Operations Facilities Business Services
Financing	General Funds
Goal Addressed	Cut and pull up live vegetation in slope areas at 30 schools yearly to reduce the fire fuel risk.
Related Hazard	Wildland/Urban Conflagration
Priority	2

Strategy WF-2

Program/Project	Fuel Modification Project
Cost	$800,000
Timeline	24 months
Department	Business Services
Financing	General Funds
Goal Addressed	Correct irrigation systems on play fields which keeps the vegetation alive and reduces the fire fuel risk.
Related Hazard	Wildland/Urban Conflagration
Priority	1

Strategy WF-3

Program/Project	Fuel Modification Project
Cost	$120,000
Timeline	This mitigation was ongoing until the loss of funding led to the subsequent loss of staff
Department	Business Services
Financing	Grant
Goal Addressed	Replace current vegetation with fire retardant vegetation which reduces the fire fuel risk.
Related Hazard	Wildland/Urban Conflagration
Priority	1

Strategy WF-4

Program/Project	Roof Replacement
Cost	$1.2 million
Timeline	24 months
Department	Business Services
Financing	Grant
Goal Addressed	Replace shake material with fire retardant roofing material
Related Hazard	Wildland/Urban Conflagration
Priority	1

Weapons of Mass Destruction/ Terrorism (WT)

Strategy WT-1

Program/Project	Paint Building Numbers on school roofs for Police Identification from Helicopters
Cost	$150,000
Timeline	Ongoing, As funds become available
Department	Maintenance and Operations, Facilities, Business Services
Financing	Grant
Goal Addressed	Aerial identification for rescue and recovery in a disaster.
Related Hazard	WMD/ Terrorism, All Hazards
Priority	2

Earthquake (EQ)

Strategy (EQ-1)

Program/Project	HVAC Tie down
Cost	$1.2 million
Timeline	Within 12 months
Department	Maintenance and Operations
Financing	State/Federal Grant
Goal Addressed	Bolt down all new HVAC units on school roofs-prevention of injury to students and staff.
Related Hazard	Earthquake
Priority	1

Strategy EQ-2

Program/Project	Building Code Revision
Cost	No Cost
Timeline	In Progress, Two Years
Department	Facilities
Financing	No Financing Necessary
Goal Addressed	Add language to specification for installation of new roofs to bolt down air conditioning units and double nail roofs. Ensure that new roofs are installed properly to prevent injury students and staff.
Related Hazard	Earthquake
Priority	1

Strategy EQ-3

Program/Project	Building Retrofit
Cost	$5,000/wall $500,000
Timeline	Started Last Year
Department	Facilities Maintenance and Operations
Financing	State/Federal Grant
Goal Addressed	Replace old ball walls with block construction approximately (75 walls total).Prevent ball walls from coming down during and earthquake injuring students and staff.
Related Hazard	Earthquake
Priority	2

Strategy EQ-4

Program/Project	Glass Safety
Cost	$2 million
Timeline	Ongoing, As funds become available
Department	Facilities
Financing	State/Federal Grant
Goal Addressed	Install film on glass at 37 schools Prevent glass from shattering and injuring students and staff.
Related Hazard	Earthquake, Severe Weather
Priority	1

Strategy EQ-5

Program/Project	Furniture and office equipment tie down
Cost	$300,000
Timeline	Ongoing, As funds become available
Department	Facilities Maintenance and Operations Business Services
Financing	State/Federal Grant
Goal Addressed	Tie down and secure contents in all new classrooms as well as those classrooms where furniture was moved to prevent classroom and office bookcases, shelves, etc. from falling over in during an earthquake. Student and staff safety.
Related Hazard	Earthquake
Priority	1

Hazardous Materials: Transportation Accidents/Underground Pipelines (HM)

Strategy HM-1

Program/Project	GPS system to buses and base station.
Cost	
Timeline	12 months, as funds become available
Department	Business Services
Financing	Grant
Goal Addressed	Install GPS systems in buses to track the locations of student's in the event of a disaster or safety issue this will ensure immediate, clear communication with transportation and immediate response for student safety.
Related Hazard	Transportation, Data/Telecommunications
Priority	2

Winds (WI)

Strategy WI-1

Program/Project	Roofing Upgrade
Cost	$2.5 million
Timeline	Ongoing, As funds become available. 48 months
Department	Maintenance and Operations Facilities Business Services
Financing	Grant
Goal Addressed	Secure tile roofs at schools sites with in the School District to prevent tiles from falling off the roofs and injuring students and staff.
Related Hazard	Winds, Severe Weather
Priority	1

Severe Weather (SW)

Strategy SW-1

Program/Project	Building Elevation
Cost	$200,000
Timeline	In Progress, Present – January 2006
Department	Facilities, Maintenance and Operations, Business Services
Financing	Measure B Bond
Goal Addressed	Raise two buildings at Trabuco Elementary to prevent classrooms from being flooded. Student and staff safety.
Related Hazard	Severe Weather, Floods
Priority	1

Strategy SW-2

Program/Project	Building Elevation at Trabuco Elementary School
Cost	$50,000
Timeline	As funds become available
Department	Facilities
Financing	Grant
Goal Addressed	Raise new buildings to prevent classrooms from flooding; Student and staff safety.
Related Hazard	Severe Weather, Floods
Priority	1

Strategy SW-3

Program/Project	Slope Mitigation
Cost	$20.000.000
Timeline	As funds become available
Department	Facilities
Financing	Grant
Goal Addressed	Prevent damage to facilities.
Related Hazard	Severe Weather, Floods, Earthquake
Priority	1

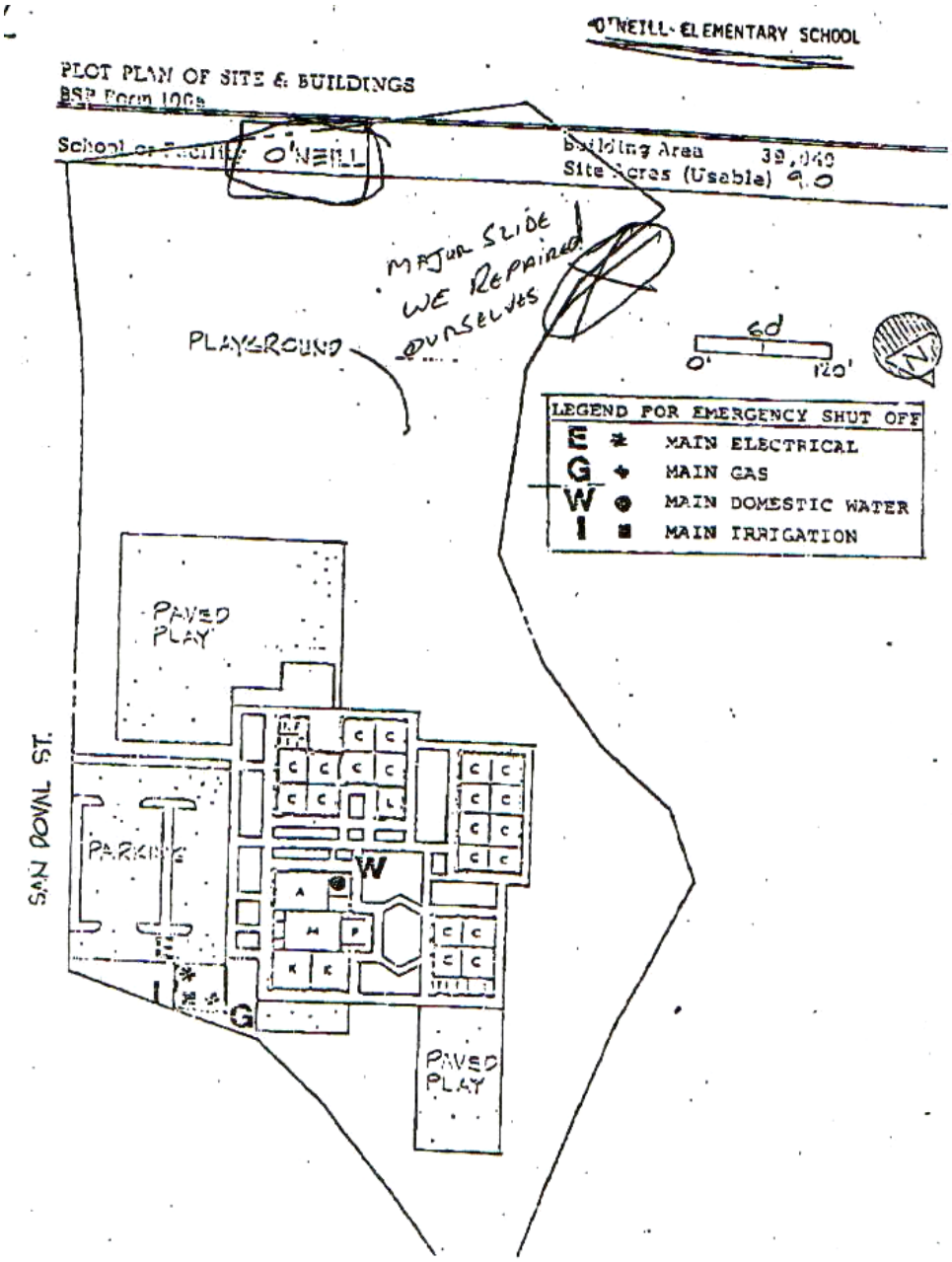
Slope Mitigation is needed at the following sites:

O'Neil Elementary – major slide repaired by Maintenance two years ago
La Paz

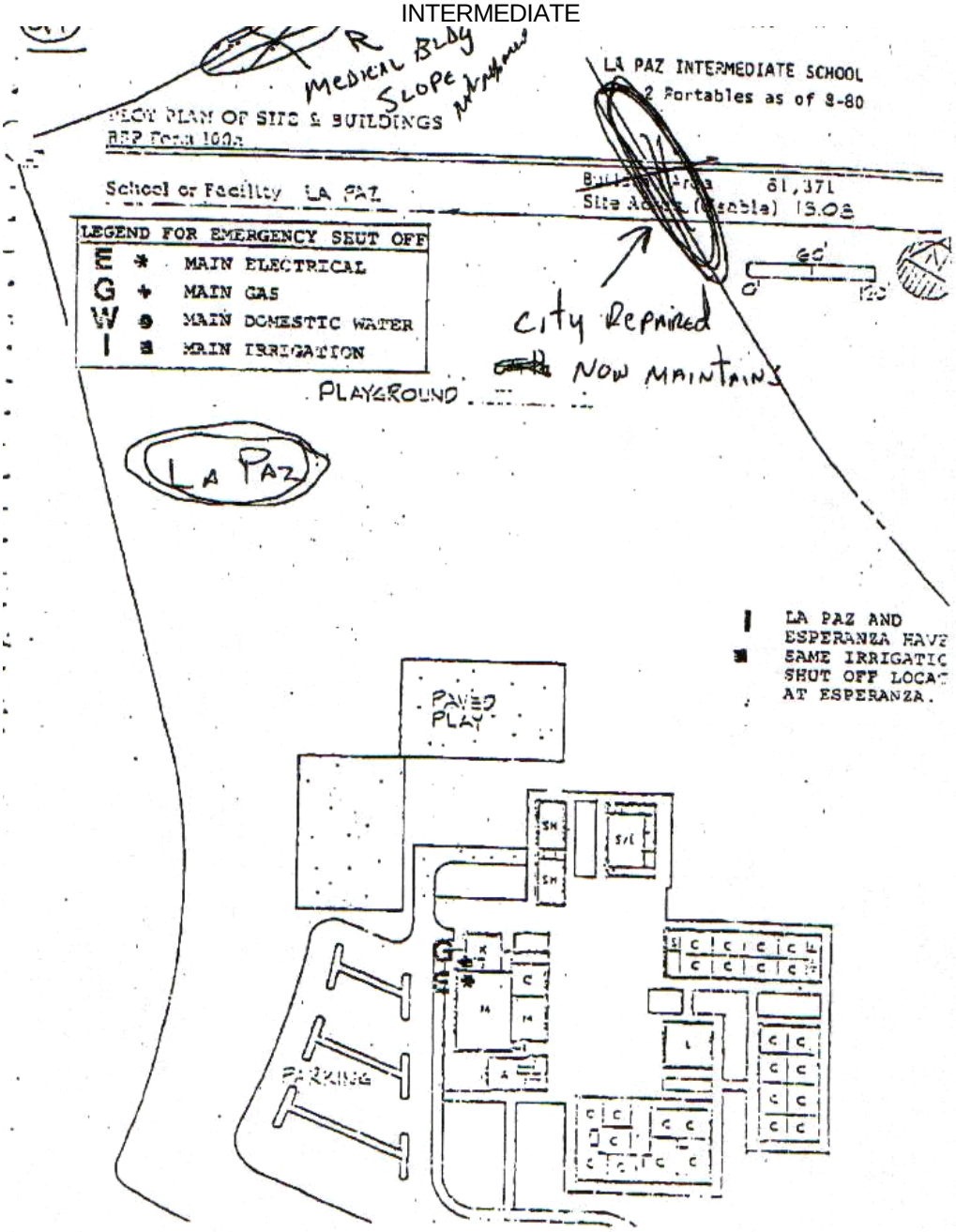
- Medical Slope: Not repaired
- La Paz (street) City Repaired and Maintained

Linda Vista Elementary – two areas of slope failure, only one repaired
Cordillera Elementary – two areas of slope failure, one repaired
De Portola – area next to drain, not repaired
Esperanza – not repaired
Mission Viejo – two areas of slope failure
Glen Yermo – Slope washout – needs repair
La Madera – Slope washout behind portable, not repaired
Serrano – Bike/parking area, repaired
Laguna Hills – Area was redone when the Community Park was constructed,

O'NEIL
ELEMENTARY



LA PAZ
INTERMEDIATE

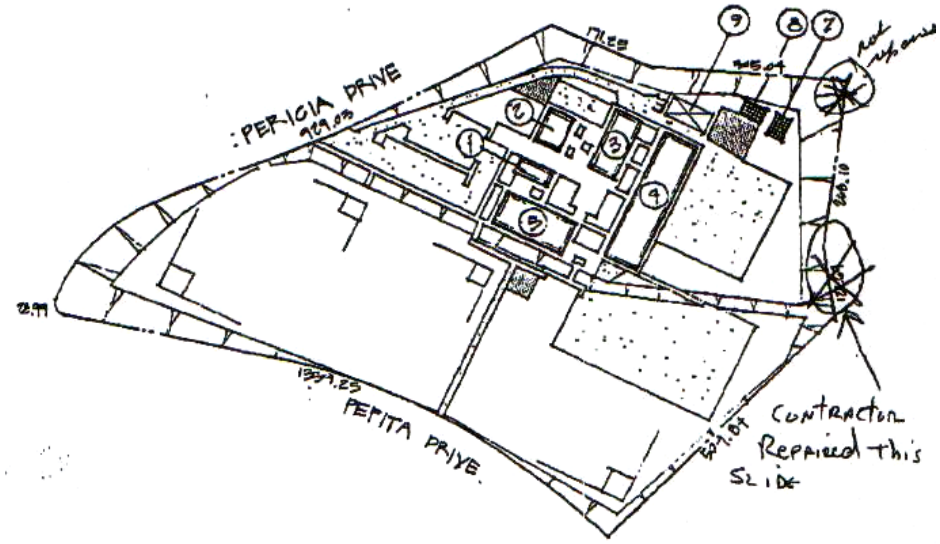


LINDA VISTA
ELEMENTARY

DIAGRAM OF BUILDING AREAS

School: Linda Vista Elementary (Site 8)
Address: 25222 Pericia Dr., Mission Viejo 92691
District: Saddleback Valley Unified
County: Orange

H Exist. Bldgs sp-1A
Basic Plans sp-2A
Final Plans sp-3A



SITE PLAN (10.6 acres)
scale: 1" = 200'

north

LEGEND
- Permanent Building
- Portable Building (owned)
- Portable Building (leased)
- Trailer (leased)
- Concrete Paving/walk
- Asphalt Concrete Paving
- Sand/D.G. Play Area

NOTE: See Sheet 2 for Area Summary

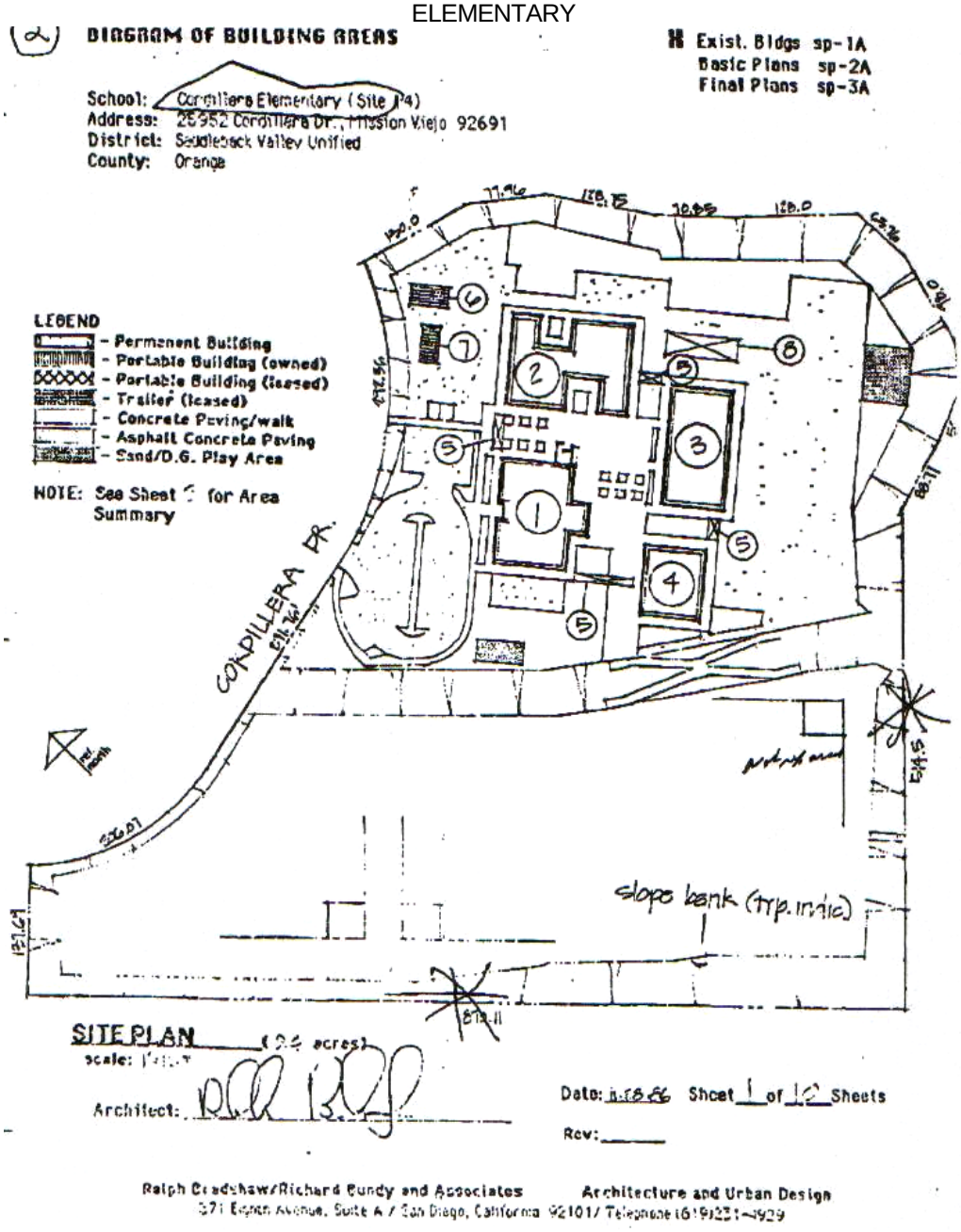
Architect: _____

Date: [illegible] Sheet 1 of 12 Sheets

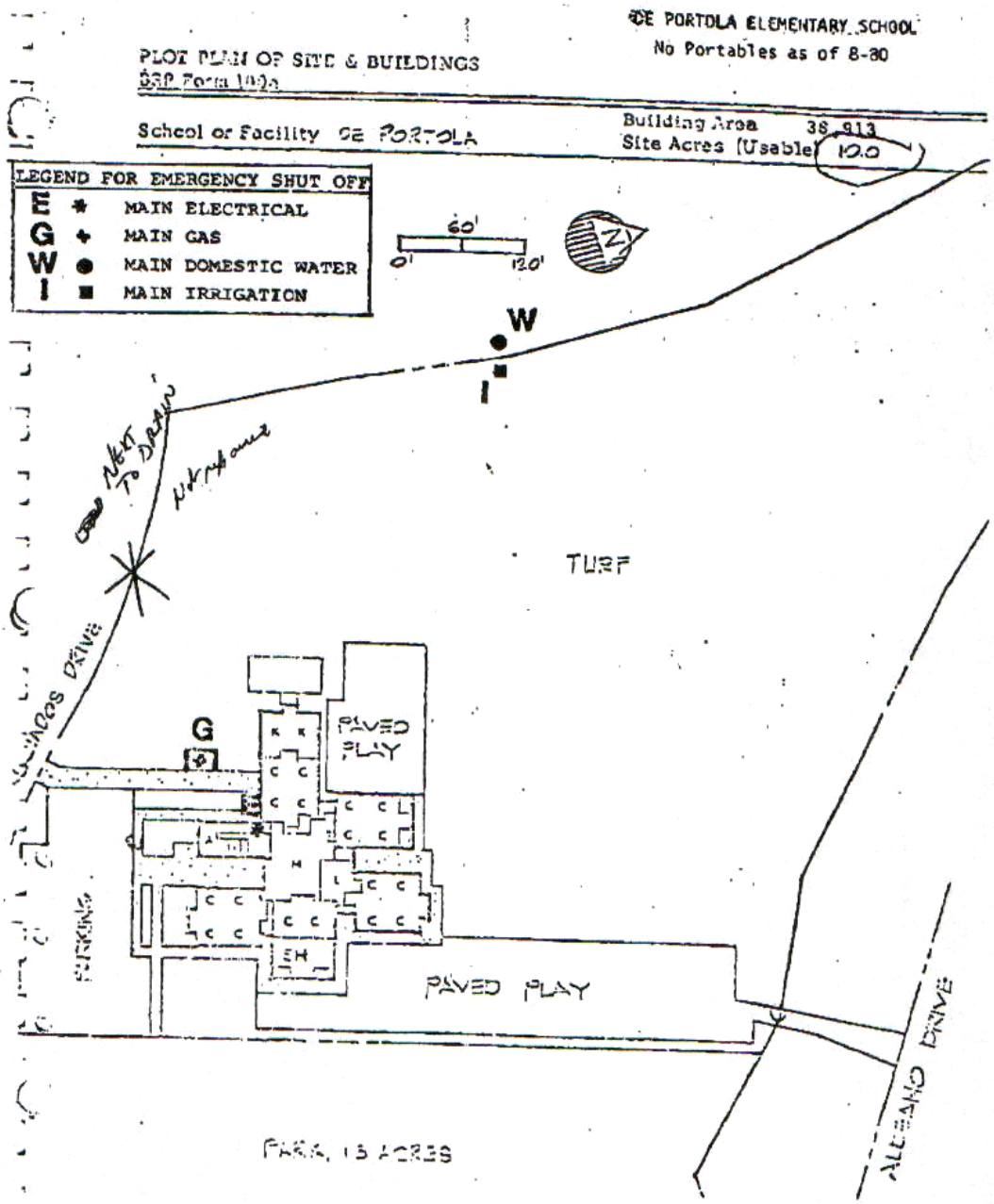
Rev: _____

Ralph Bradshaw/Richard Bundy and Associates — Architecture and Urban Design
371 Eighth Avenue, Suite A / San Diego, California 92101 / Telephone (619)231-4929

CORDILLERA
ELEMENTARY



PORTOLA
ELEMENTARY



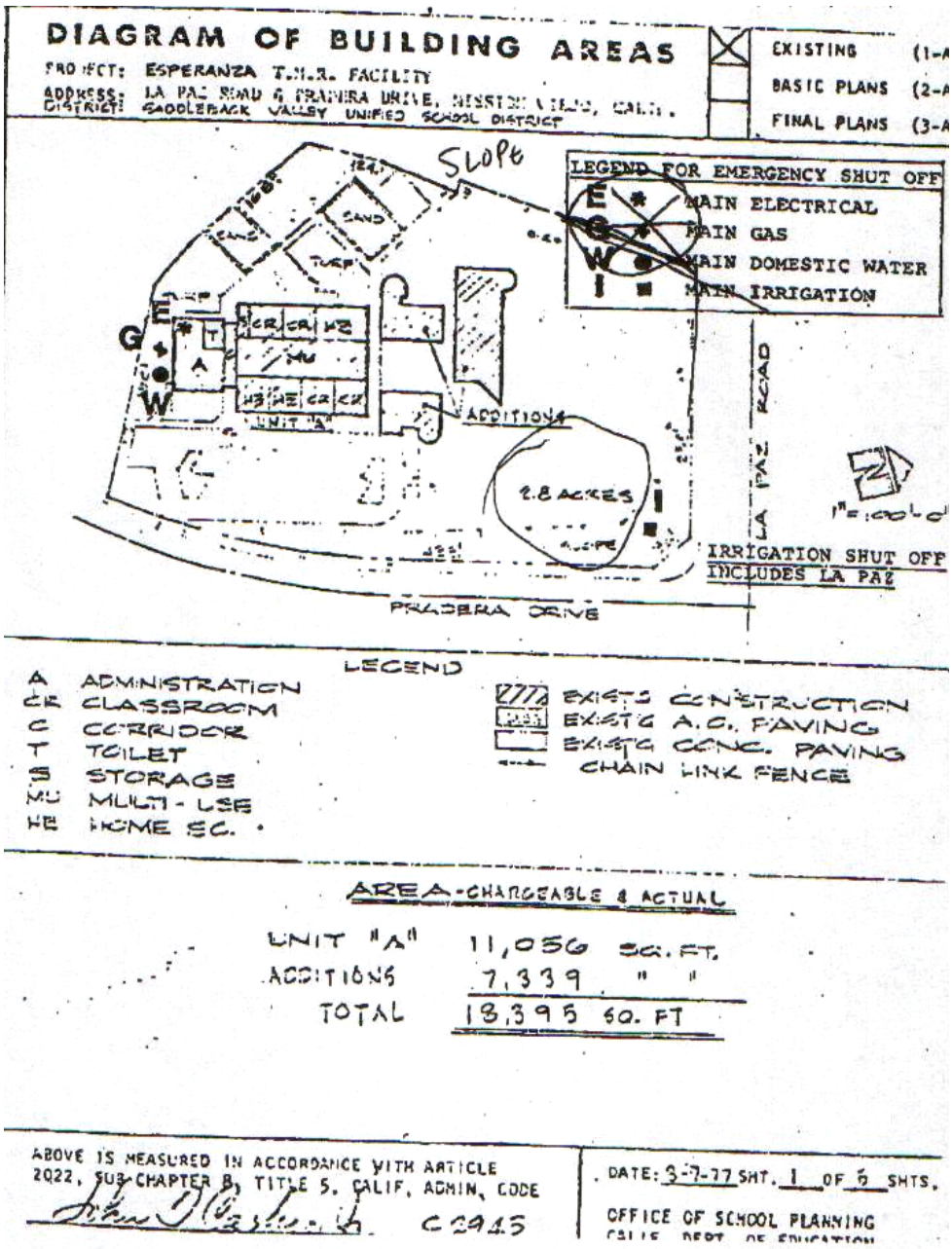
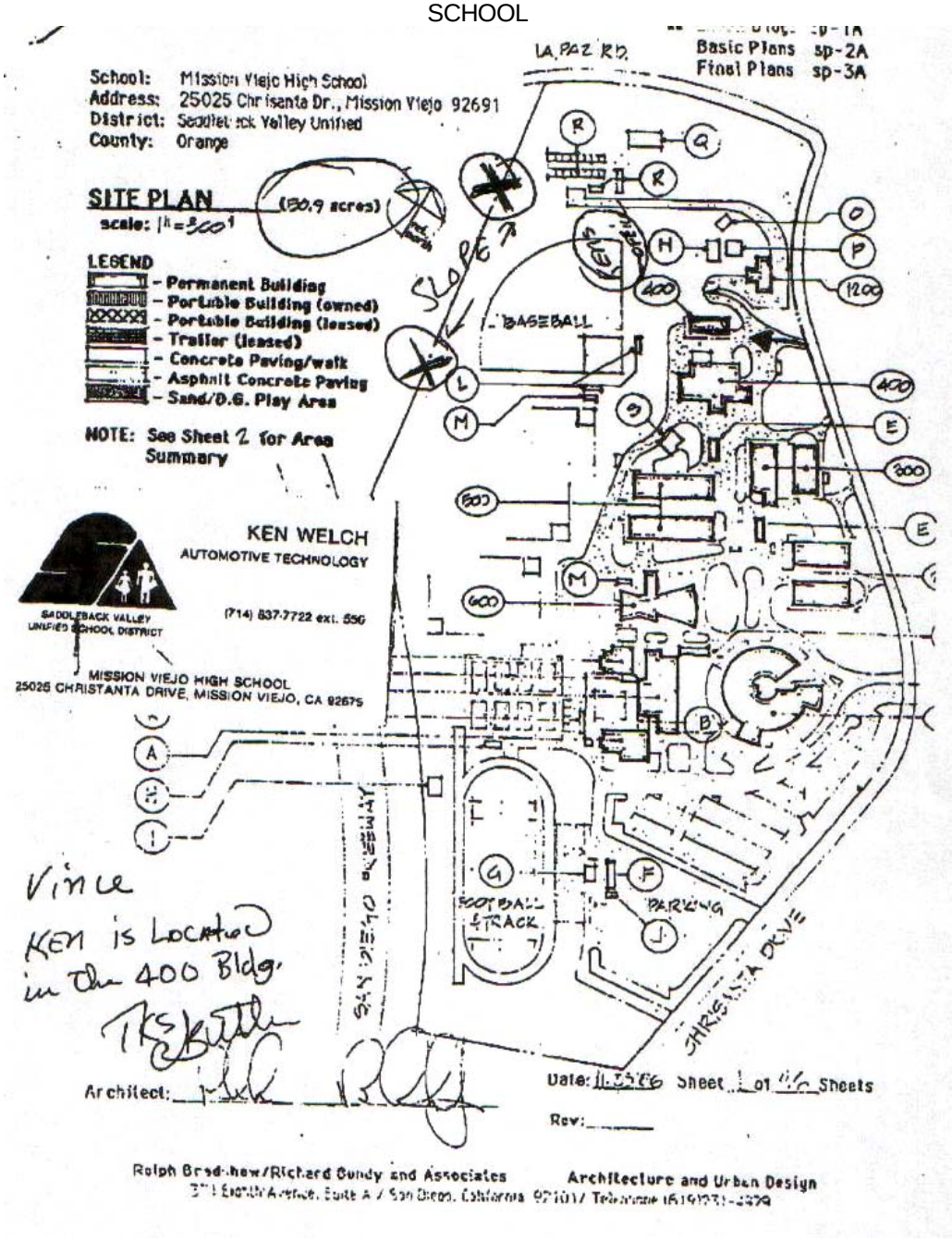


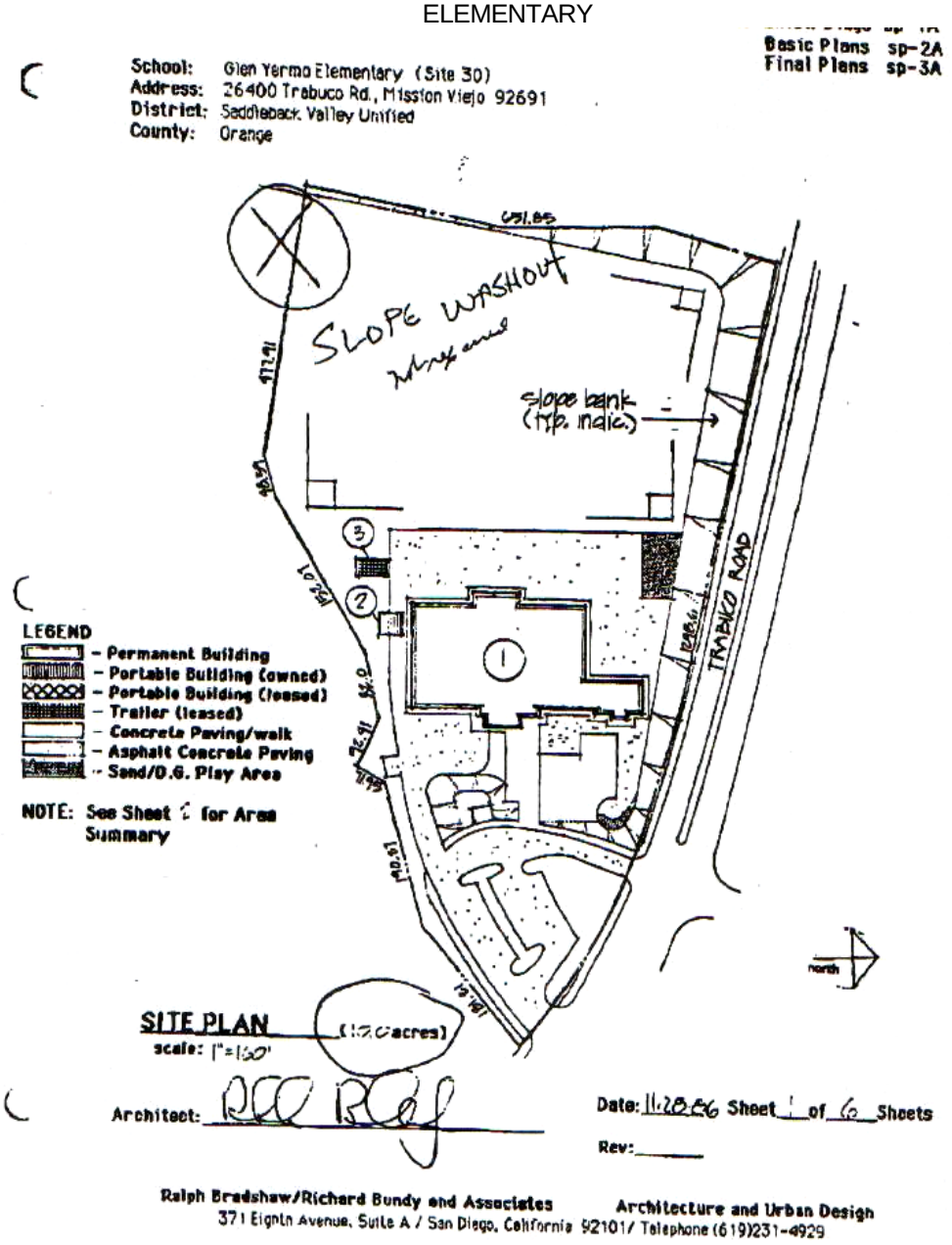
DIAGRAM OF BUILDING AREAS
PROJECT: ESPERANZA T.M.R. FACILITY
ADDRESS: LA PAZ ROAD & PRIMERA DRIVE, MISSION VIEJO, CALIF.
DISTRICT: SADDLEBACK VALLEY UNIFIED SCHOOL DISTRICT
EXISTING
BASIC PLANS
FINAL PLANS
SLOPE
LEGEND FOR EMERGENCY SHUT OFF
MAIN ELECTRICAL
MAIN GAS
MAIN DOMESTIC WATER
MAIN IRRIGATION
SAND
TURF
UNIT "A"
ADDITIONS
2.8 ACRES
LA PAZ ROAD
IRRIGATION SHUT OFF
INCLUDES LA PAZ
PRIMERA DRIVE
LEGEND
A ADMINISTRATION
CR CLASSROOM
C CORRIDOR
T TOILET
S STORAGE
MU MULTI - USE
HE HOME EC.
EXISTG CONSTRUCTION
EXISTG A.C. PAVING
EXISTG CONC. PAVING
CHAIN LINK FENCE
AREA-CHARGEABLE & ACTUAL
UNIT "A" 11,056 SQ. FT.
ADDITIONS 7,339 " "
TOTAL 18,395 SQ. FT
ABOVE IS MEASURED IN ACCORDANCE WITH ARTICLE 2022, SUB-CHAPTER B, TITLE 5, CALIF. ADMIN. CODE
C 2945
DATE: 3-7-77 SHT. 1 OF 5 SHTS.
OFFICE OF SCHOOL PLANNING

ESPERANZA

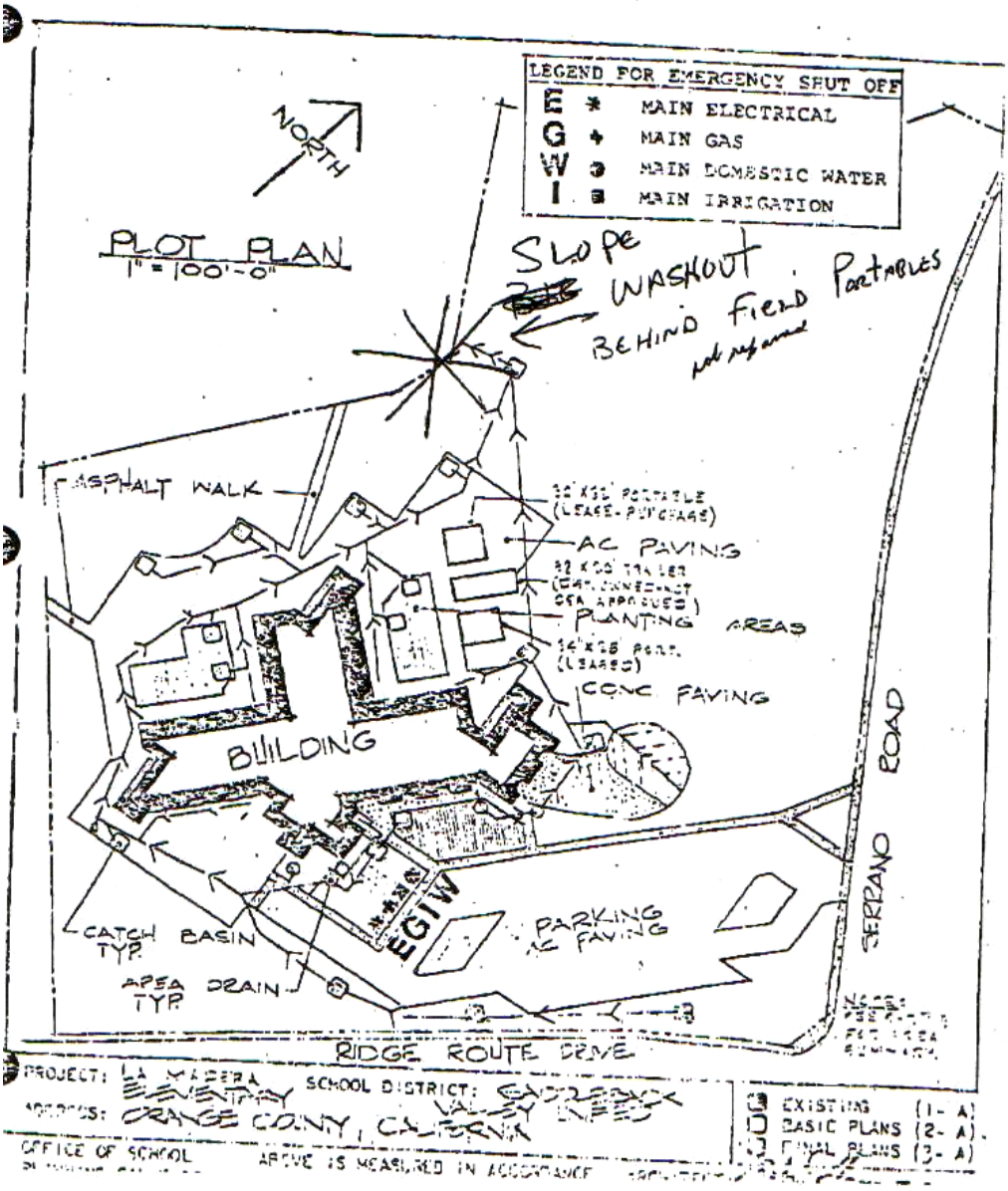
MISSION VIEJO HIGH SCHOOL



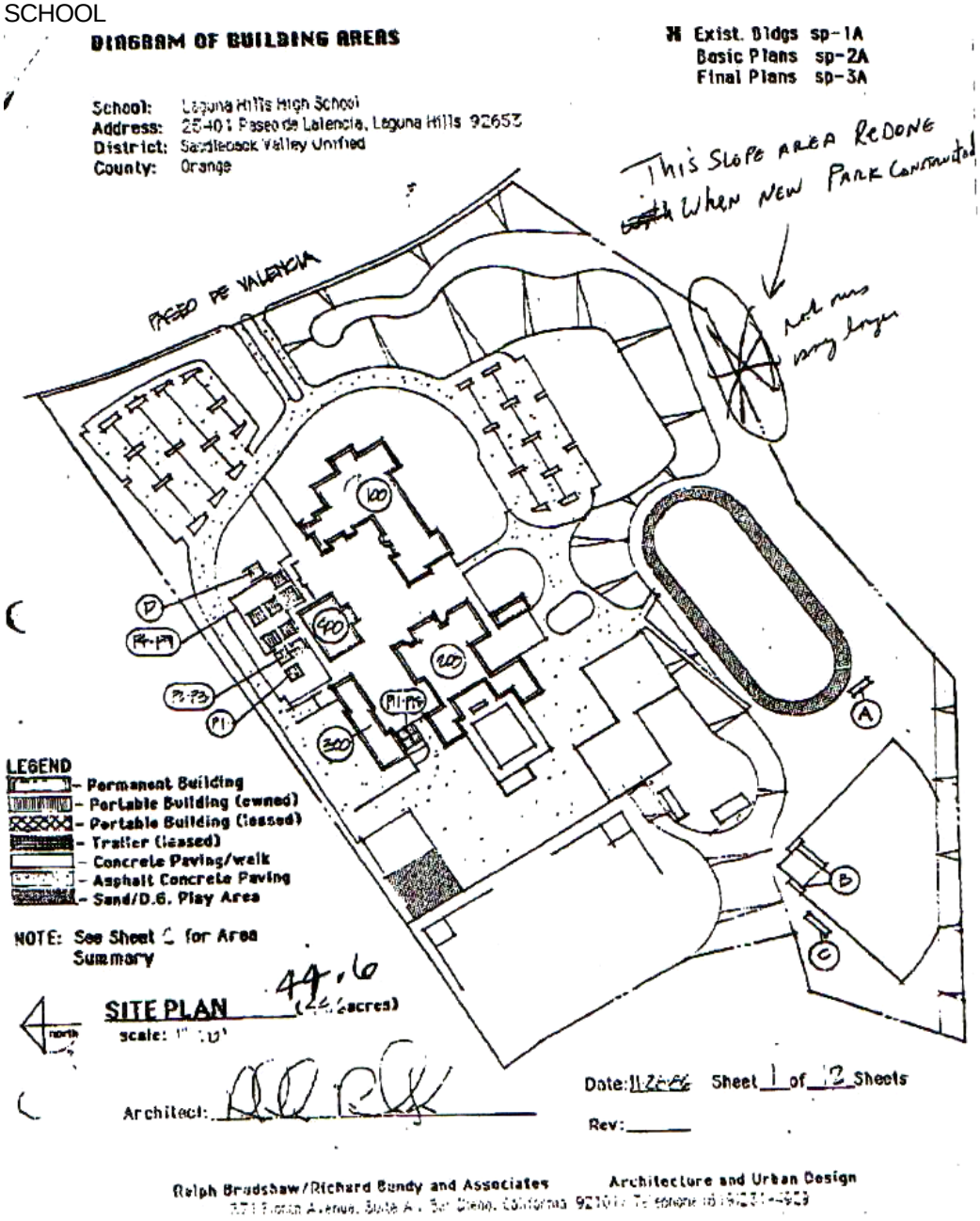
GLEN YERMO
ELEMENTARY



LA MADERA
ELEMENTARY



LAGUNA HILLS HIGH SCHOOL



The following information is from documents submitted by Saddleback Unified School District in 1998 to apply for the Hazard Mitigation Grant Program for slope failures.

NOTE: those dollars listed to mitigate these areas are no longer valid; the costs are far greater.

As noted on the Quarterly Report Saddleback Valley USD did not use the money FEMA given to mitigate these slopes. The School District used the money to Brace Contents in Classrooms instead. FEMA approved the use of these dollars for bracing of contents.

Project Description

The four school sites listed below experienced slope damage during winter storms.

A more complete repair and reinforcement of these slopes will greatly reduce the threat of future damage and erosion.

La Paz Intermediate School slope affects a Medical Center directly below the slope. The immediate repair was just to return the slope to the state it was in prior to the failure. We now would like to propose, installing drainage structures which will carry all runoff and will prevent future failures. We were fortunate that the last storm damage occurred at night and therefore no cars were parked in the Medical Center parking lot or they would have been damaged by the dirt and mud.

Laguna Hills High School's slope could affect the student parking lot and endanger student safety. We propose connecting drains to the main drainage feature at the base of the slope.

The Cordillera site would impact the railroad directly below the slope. We propose installing an interceptor drain.

The O'Neill site slope threatens the private homes directly below the area and we would propose installing interceptor drains here also.

These proposed repairs would save the School District additional dollars in maintenance.

Alternatives Considered

There are no other logical alternatives to what we have already done. Because of the amount of land, we can't cut back theses slopes. We are confined to these existing slopes. The proposal we have submitted we believe is the most effective.

There are no viable alternatives at any of these sites.

A "do nothing" alternative could possibly result in damage sustained by either homeowners at O'Neill site, a Medical Center at the La Paz site, a rail road at the Cordillera site or student safety is threatened at the Laguna Hills High School site

Cost Estimate/Project Budget

Reminder: Please exclude administrative costs from the project cost breakdown. The state will automatically calculate administrative costs based on the criteria discussed in the instructions. Four Sites:

1. La Paz Intermediate. School slope construct interceptor drains = approximately $26,000

2. Laguna Hills High School, connect drains to main drainage feature at the base of slope = $15,000

3. Cordillera Elementary School, install three separate interceptor drains at three sites on this campus = $27,400

4. O'Neill Elementary School, install interceptor drains on slope = $12,500

There are rough estimates, as the School District is obligated to go out to formal bid on all projects more than $15,000 each.

Risk Assessment Costs

1. Cordillera	Primary damage would be dirt/mud on railroad tracks stopping trains for minimum of two days. Potentially 6 feet of mud would fall.
	A. Clean up Costs = $20,000
	B. Potential train delay liability @ 2 days @ $50,000/Day = $100,000
	Cordillera Total = $120,000
2. O'Neil	Primary damage would be dirt/mud in houses below slope. Potentially 6 feet of mud would fall. Estimate 4 houses involved 3-two story houses valued at $250,000, 1-one story valued at $225,000
	A. Cleanup Cost @ $5000/each = $20,000
	B. Damage to home @ 10% of value: 3 @ $25,000 1 @ $22,500 $97,500
	O'Neill total: $119,500
3. La Paz	Primary damage would be dirt/mud in parking area damaging cars and entering back of office/medical building estimate 6 cars involved dirt/mud in 10 office spaces. Potentially 10 feet of mud would fall.
	Cars @ $2,000 each = $12,000 Offices @ $4,000 each = $40,000
	La Paz total: $52,000
4. Laguna Hills H.S.	Primary damage would be the undermining construction of new student parking lot possibly damaging 20 vehicles and endanger to student safety. Potentially 8 feet of mud would fall.
	Repair of Parking Lot = $15,000 20 Vehicles = 100,000
	Laguna Hills High School total: $115,000
Grand total for all slopes	$406,500

Work Schedule

By law, the School District is required to go out to public bid on all projects over $15,000, therefore, it is quite possible that we would need to go to bid on all four projects.

Typically this process would take approximately 6-8 weeks. The dollar amount submitted is just an estimate from our Maintenance and Operations Department.

Each project would require the following timeline:

Hire Engineering Consultant	1 month
Prepare Bid Specifications	3 weeks
Advertise for Bids	2 weeks
Job walk	1 week
Award Bid	2 weeks – 1 month
Notice to proceed	2 weeks

Project Schedule:

La Paz Site	60 days to complete
Laguna Hills High School	30 days to complete
Cordillera	60 days to complete
O'Neill	30 days to complete
File Notice of Completion 1 month	

The four projects could be done simultaneously if multiple contractors were utilized.

Benefit/Cost Analysis

We would expect the repair to these slopes would have a useful life of approximately 20-30 years. The following sites required repairs at least two times and the costs are indicated below:

Cordillera: $5,800 1/93 $18,350 4/94 $15,287 3/95

La Paz: $43,300 10/94 $1,600 10/95 $2,200 10/95

LHHS: $29,000 4/94 $3,810 10/95 $1,400 3/95 $3,000 1/95

The direct benefit to the Cordillera site is that a major slide would impact the railroad below and possibly cause damage or delays to train schedules.

The benefit at the La Paz site would be to protect the Medical Center and its occupants directly below this slope. If a failure occurred during hours of operation cars and or people could be at risk.

The benefit at the O'Neill site is the direct relation to homes situated directly below this slope. Again the District would be liable and these repairs would eliminate the possibility of litigation against the District.

The benefit at the Laguna Hills Site would insure the safety of students and their cars as the parking lot would be affected.

If any of these slopes fail, it is difficult to estimate the potential for personal injury

Portola Hills Elementary

The Portola Report

The information regarding slope failure at Portola Hills Elementary is pending, but is an ongoing concern and mitigation measures are being dealt with at this time. This issue will continually be updated in the Plan as more information is gathered.

Moderate Risk Priority Hazards

Data/Telecommunications (DT)

Strategy DT-1

Program/Project	Radio Upgrade
Cost	$10,000
Timeline	As funds become available 12 months
Department	Business Services
Financing	Grant
Goal Addressed	Replace equipment base stations to eliminate dead spots and increase reception; Student Safety in the event of a disaster or safety issue this will ensure immediate, clear communication with transportation and immediate response for student safety.
Related Hazard	Data/Telecommunications Transportation
Priority	2

Utility Loss/Disruption (UT)

Strategy UT-1

Program/Project	Install back up generator for data network.
Cost	$30-40 thousand
Timeline	Ongoing, As funds become available
Department	Business Services
Financing	Grant
Goal Addressed	Prevent loss of information that is vital to the function of the school district. Maintain data resources for ability to notify parents and staff of emergency conditions. (automated phone notification system, phone lists, web servers.
Related Hazard	Utility Failure
Priority	1

Section 6 – Future Actions & Goals

Preliminary Specific Goals & Actions

Listed below are Saddleback Valley Unified School District's specific hazard mitigation goals and related potential actions. For each goal, one or more action items have been identified that provide strategies to attain the goal. Where appropriate, the District has identified a range of specific actions to achieve the long term objective and goal.

The goals and actions were developed by considering the risk assessment findings, localized hazard identification and loss/exposure estimates, and an analysis of the jurisdiction's current Capabilities Assessment. These preliminary goals and actions were developed to represent a vision of long-term hazard reduction or enhancement of capabilities.

Saddleback Valley Unified School District has developed the following Long Term Goals for their Hazard Mitigation Plan Program.

Development of Specific Goals

Goal 1 - Promote Disaster-resistant Schools

Goal 2. - Increase public understanding and support for effective hazard mitigation.

Goal 3 - Build and maintain schools making a concerted commitment to become less vulnerable to hazards.

Goal - Enhance hazard mitigation coordination and communication with federal, state, and local governments. Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and District-owned facilities, due to the following HIGH RISK hazards::

- Wildland Fire/Urban Conflagration
- Earthquake.
- Hazardous Materials/Pipeline Incident.
- Winds
- Severe Weather
- Data/Telecommunications Loss
- Utility Loss or Disruption
- Water/Wastewater Disruption
- Dam Failure
- Floods
- Explosion

Prioritization and Implementation of Action Items

Once the specific list of SVUSD goals listed above was developed, the proposed mitigation actions items were prioritized by the Planning Executive Committee. This step resulted in a list of acceptable and realistic specific actions that address the hazards identified in the SVUSD Service Area.

The Disaster Mitigation Action of 2000 (at 44 CFR Parts 201 and 206) requires the development of an action plan that not only includes prioritized actions but one that includes information on how the prioritized actions will be implemented.

Implementation consists of identifying who is responsible for which action, what kind of funding mechanisms and other resources are available or will be pursued, and when the action will be completed.

The top 8 prioritized mitigation action items as well as an implementation strategy for each are:

Action Item #1 - Continue development and maintenance of the Multi-Hazard DMA 2000 plan by coordinating all SVUSD Departments as well as all other Stakeholders.

- Potential Funding Source: FEMA Grants / General Funds.
- Implementation Timeline: 1 Year

Action Item #2 - Review and update plans that would include coordination with cities, special districts and the County.

- Potential Funding Source: SVUSD General Fund/ State and Federal Grants

Action Item #3 - Update the SVUSD Safety Plan every three years.

- Implementation Timeline: 1 - 3 years
- Potential Funding Source: State Grants

Action Item #4 - Publicize and encourage the adoption of appropriate hazard mitigation actions.

- Potential Funding Source: General Fund/Federal or State grants.
- Implementation Timeline: 1 - 3 years

Action Item #5 - Implement all new facility specifications and inspection guidelines to reflect current earthquake standards.

- Implementation Timeline: 2 - 5 years

Action Item #6 - Review and compare existing flood control standards, zoning and building requirements with existing and planned facilities.

- Coordinating Individual school sites and school departments
- Potential Funding Source: General Fund/Federal or State Grants
- Implementation Timeline: 1 - 3 years

Action Item #7 - Develop a Business Continuity Plan for SVUSD District Office,.

- Potential Funding Source: General Fund/Federal or State Grants.

- Implementation Timeline: 1 - 3 years

Action Item #8 - Encourage every school to prepare and maintain a 3-day preparedness kit for the classroom and personal kits for home and work.

- Coordinating Individual/Organization: Public Relations / IT Departments.
- Potential Funding Source: General Fund/Federal or State grants
- Implementation Timeline: 1 - 3 years

Long-term Goals, Objectives Actions

The Saddleback Valley Unified School District (SVUSD) developed the following broad list of objectives and actions to assist in the implementation of each of their identified long term goals. The District developed objectives to assist in achieving their hazard mitigation goals. For each of these objectives, specific actions were developed that would assist in their implementation.

Goal 1: Promote disaster-resistant future construction.

Objective 1.: Facilitate the development or updating of disaster related plans, which relate to hazard mitigation.

Action 1. - Update

Action.2 - Attract and retain qualified, professional and experienced staff.

Action 3 - Identify high hazard areas and facilities.

Objective 1.A: *Facilitate the implementation inspection standards and practices that protect existing assets and restrict placing new facilities in hazard areas.*

Action 4 - Review hazard mitigation strategies every 3 years.

Objective 2: Facilitate consistent implementation of plans,, safe school guidelines, and inspection standards.

Objective 3: Limit facility placement in hazardous areas

Action 1 - Placement should be in harmony with existing topography.

Action 2 - Placement patterns should respect environmental characteristics.

Action 3 - Placement should be limited in areas of known geologic hazards.

Action 4 - Ensure that jurisdictions in high fire hazard areas provide adequate access for emergency vehicles and the evacuation of students and staff

Objective 4: Address identified data limitations regarding the lack of information about facility placement and build-out potential in hazard areas.

Action 1 - Coordinate existing Geographic Information Systems (GIS) capabilities to identify hazards throughout the SVUSD.

Action 2 - Develop the data sets that are necessary to test hazard scenarios and Mitigation tools including HAZUS MH

Action 3 - Utilize the Internet as a communication tool, as well as an educational tool.

Objective 5: Increase public understanding, support and demand for hazard mitigation for placement of new facilities.

Action 1 - Gain public acceptance for avoidance policies in high hazard areas.

Goal 2: Increase public understanding and support for effective hazard mitigation.

Objective 1: Educate the public to increase awareness of hazards and opportunities for mitigation actions.

Action 1 - Publicize and encourage the adoption of appropriate hazard mitigation actions.

Action 2 - Provide information to the public on the SVUSD website.

Action 3 - Heighten public awareness of hazards by using the SVUSD Public Relations Officer.

Action 4 - Gain public acceptance for avoidance policies in high hazard areas.

Objective 2: Gain public interest by supporting already existing public programs.

Action 1 - Identify hazard specific issues and needs.

Action 2 - Help create demand for hazard resistant construction and site planning.

Objective 3: Promote partnerships between the SVUSD, County Office of Education, Federal, state, county, cities and local governments to identify, prioritize, and implement mitigation actions.

Action 1 - Develop, maintain and improve lasting partnerships.

Action 2 - Support jurisdictional Safety Councils.

Objective 5 Monitor and publicize the effectiveness of mitigation actions Implemented district-wide.

Action 1 - Use the SVUSD website to publicize mitigation actions.

Action 2 - Utilize existing risk data.

Action 3 - Establish budgets and identify funding sources for mitigation outreach.

Action 4 - Develop and distribute brochures, CDs and other publications promoting safe schools and mitigation actions.

Objective 6: Provide education on hazardous conditions.

Action 1 - Support public and private sector symposiums.

Action 2 - Coordinate production of brochures, informational packets and other handouts.

Goal 3: Enhance hazard mitigation coordination and communication with federal, state, and local governments.

Objective 1 Encourage other organizations to incorporate hazard mitigation activities.

Action 1 - Leverage resources and expertise that will further hazard mitigation efforts.

Action 2 - Update the SVUSD multi-hazard mitigation plan on a regular basis

Action 3 - Encourage all school sites to implement Multi-Hazard Mitigation Plan Strategies

Action 4 - Streamline policies to eliminate conflicts and duplication of effort where feasible

Objective 2: Improve SVUSD's capability and efficiency at administering pre- and post-disaster mitigation.

Action 1 - Maintain coordination, communication and cooperation with the Local Operational Area. in. administering recovery programs.

Action 2 - Continue to exchange resources and work with local and regional partners.

Objective 3. Coordinate with the County Operational Area to enhance recovery activities while restoring and maintaining school services.

Objective 4. Utilize the newly-developed Paramount Unified School District Business Continuity Plan to prioritize the restoration and maintenance of PUSD services.

Goal 4: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to Severe Weather.

Objective 1: Develop a comprehensive approach to reducing the possibility of damage and losses due to severe weather conditions

Action 1 - Encourage and require water conservation where ever feasible

Action 2 - Explore the development of new water resources

Action 3 - Encourage the Federal Government to complete the decontamination of all underground water resources currently identified as Superfund sites

Objective 2: Encourage district-wide participation in mitigation strategies

Goal 5: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to earthquakes.

Objective 1: Develop a comprehensive approach to reducing the possibility of damage and losses due to earthquakes.

Action 1 - Maintain Inspection Standards to reflect current earthquake standards.

Action 2 - Encourage and participate in community awareness meetings.

Action 3 - Distribute printed publications to the schools concerning hazards.

Objective 2: Protect existing assets with the highest relative vulnerability to the effects of earthquakes.

Action 1 - Identify hazard-prone structures through GIS modeling.

Action 2 - Design critical facilities to ensure that they function after a major earthquake.

Action 3 - Encourage and continue the study of ground motion, landslide, and liquefaction relative to existing and new facilities.

Objective3: Coordinate with and support existing efforts to mitigate earthquake hazards

Action 1 - Identify projects for pre-disaster mitigation funding.

Action 2 - Design and implement an ongoing district-wide seismic risk assessment program.

Action 3 - Collaborate with Federal, State, universities and local agencies' mapping efforts.

Objective 4: Address identified data limitations regarding the lack of information about the relative vulnerability of assets from earthquakes.

Action 1 - Assess utility infrastructure with regard to facilities and earthquake risk, including public and private utilities.

Action 2 - Encourage district-wide preparation and maintenance of a 3-day preparedness kit for home and classroom for all hazards

Goal 6: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to floods.

Objective 1: Develop a comprehensive approach to reducing the possibility of damage and losses due to floods.

Action 1 - Review and compare existing flood control standards, zoning and building requirements with existing and new facilities.

Action 2 - Identify and update flood-prone areas by using GIS.

Objective 2: Protect existing assets with the highest relative vulnerability to the effects of floods within the 100-year floodplain.

Action 1 - Assure adequate funding where feasible to restore damaged facilities to 100-year flood design.

Action 2 - Update storm water system plans and improve storm water facilities that affect high-risk assets.

Action 3 - Ensure adequate evacuation time in case of major hazard event.

Objective 3: Minimize repetitive losses caused by flooding.

Action 1 - Identify those facilities that have recurring losses.

Action 2 - Develop project proposals to reduce flood damage and improve control of facilities in flood prone areas.

Action 3 - Seek pre-disaster mitigation funding.

Objective 4: Address identified data limitations regarding the lack of information about the relative vulnerability of assets from flooding.

Action 1 - Encourage district-wide preparation and maintenance of a 3-day preparedness kit for home and classroom.

Action 2 - Maintain, develop and implement hazard awareness programs.

Goal 7: Reduce the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to structural fire/wildfire.

Objective 1: Develop a comprehensive approach to reducing the possibility of damage and losses due to structural fire/wildfire.

Action 1 - Meet the Fire Code .

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Action 2 - Utilize GIS and the Internet as information tools.

Objective 2: Protect existing assets with the highest relative vulnerability to the effects of structural fire/wildfire.

Action 1 - Maintain Standardized Defensible Space Clearance distances.

Objective 3: Coordinate with and support existing efforts to mitigate structural fire/wildfire.

Objective 4: Address identified data limitations regarding the lack of information about the relative vulnerability of assets from structural fire/wildfire.

Action 1 - Continue to identify and update facilities within Urban/wildland fire interface areas.

Action 2 - Use GIS to map facilities in fire risk areas.

Action 3 - Implement district-wide education programs to address fire dangers and corrective measures.

Goal 8: Reduce risk of injury and damage from all hazards by continually striving to mitigate hazards through general construction and improvement initiatives and measures.

Measure B

A goal of the Board of Education is to provide an optimal learning environment for all of its students. Accomplishment of this goal includes improving student safety and upgrading District school facilities in order to meet current and future needs. District and site staff has worked collaboratively with the District's architect and have authored the District's Facilities Master Plan. In total, it is estimated that the District requires $180,000,000 in local bond funds to meet its current and future facilities needs. Because Measure B was approved by voters on March 2, 2004, our local schools will now qualify for $102 million in state matching funds.

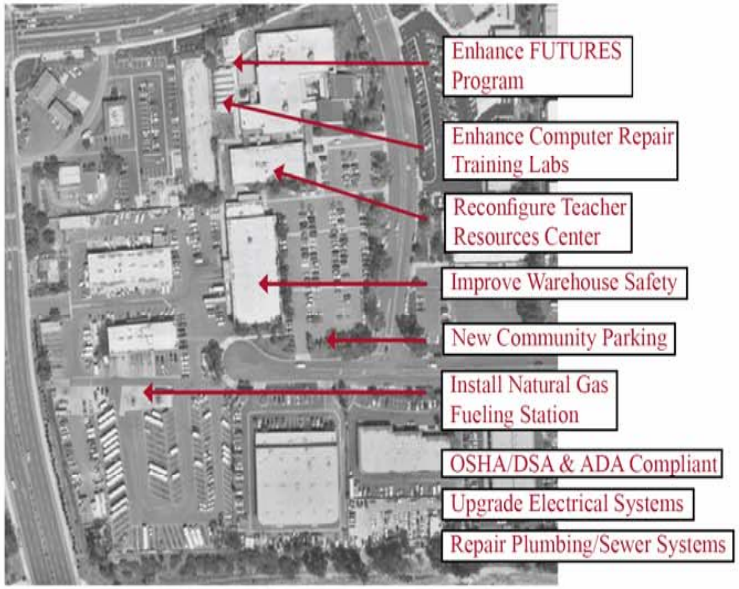
Given the uncertain nature of the State's economy and its inability to provide the District with the funds necessary to construct, improve and equip our schools; the Board of Education, based on independent polling research, found it feasible to pursue a local general obligation bond to meet these needs. The average tax levy incurred by the community to secure the bonds of this election will be $37.14 per $100,000 (per year) of assessed taxable property (not market value) located within the District.

Approved Board Resolutions: All proceeds from the sale of the bonds will stay within the community and be used only for school district facilities. No money will be spent on administrators' or other employee's salaries. In order to ensure that the proceeds are used as intended, a Citizens' Oversight Committee has been appointed by the Board of Education. This committee will monitor all funds and prepare independent financial and performance audits annually.

Action Items

SCHOOL SITE	PROJECT DESCRIPTION	BOND CATEGORY	STATUS
Aliso	Playground Equipment Installation	Upgrade Playing Surface	Ordered
Cielo Vista	Replace Interior Hardscape	Hardscape Upgrade	Complete
Cordillera	Playground Equipment Installation	Upgrade Playing Surface	In Progress
	New Fencing Lower Field	Safety & Security	Complete
Del Cerro	Add 4 Exterior Drinking Fountains	Additional Drinking Fountains	Complete
	Exterior Lighting	Post Modernization Enhancement	Complete
Del Lago	Asphalt Resurface Playground	Safety & Security	Complete
De Portola	Exterior Lighting	Post Modernization Enhancement	Complete
	Add 4 Exterior Drinking Fountains	Post Modernization Enhancement	Complete
Foothill Ranch	Playground Equipment Installation	Upgrade Playing Surface	Ordered
	Lighting	Safety & Security	Complete
Gates	Install 3 Ball Walls	Upgrade Playing Surface	Complete
	Install 6 HVAC Units	Enhanced HVAC System	Complete
	Install Carpet in 8 Rooms	Post Modernization Enhancement	Complete
Glen Yermo	Install Fencing Rear of School	Safety & Security	Complete
La Tierra	Replacement of 1 HVAC Unit	Modernization	In progress
	Install 4 Ball Walls	Upgrade Playing Surface	Complete
Lake Forest	Carpet Replacement	Safety & Security	Complete
	Playground Equipment Installation	Upgrade Playing Surface	Complete
Linda Vista	Asphalt /Game striping	Modernization	Complete
	Playground Equipment Installation	Upgrade Playing Surface	Complete
	Install 3 Ball Walls	Upgrade Playing Surface	Complete
Lomarena	Electric upgrade/computer lab	Modernization	Complete
Melinda Heights	Rework 5 HVAC Unite	Reconfigure HVAC	Complete
Montevideo	Install 1 Ball Wall	Upgrade Playing Surface	Complete
Olivewood	Playground Equipment Installation	Upgrade Playing Surface	Complete
O'Neill	Install Fencing at Playground	Safety & Security	Complete
San Joaquin	Playground Equipment Installation	Upgrade Playing Surface	Complete
Santiago	Install Fencing at Playground	Safety & Security	Complete
	Install 4 Ball Walls	Upgrade Playing Surface	Complete
Trabuco Mesa	New Shade Cover to Existing Lunch Cover	Shade Structure	Complete
	Replace Interior Hardscape	Safety & Security	Complete
Los Alisos	Security System Cameras	Safety & Security	In Progress
RSM	2 Irrigation Controllers for Fields	Renovate Sports Field	Complete
Serrano	Install Fencing Rear of Site	Safety & Security	Complete
ETHS	Install 1 HVAC in ASB Room	Modernization	Complete
	Install 1 HVAC in Library	Modernization	Complete
MVHS	Install 5 HVAC Units	Post Modernization	Complete
District Warehouse	Install New Storage Racks	Warehouse Safety	In Progress

District Education Center



EDUCATION CENTER	STATUS
Additional Community Parking	
Reconfigure Teacher Resource Center	
Enhance FUTURES Program Area	
TECHNOLOGY CENTER	
Enhance Computer Repair/Training Lab	
MAINTENANCE / OPERATIONS / TRANSPORTATION	
Install Natural Gas Fueling Station	
Upgrade Electrical System	
Repair Plumbing & Sewer Systems	
Improve Warehouse Safety	Installed New Warehouse Racks
OSHA, DSA, ADA Compliant	

Aliso Elementary School

Saddleback Valley Unified School District - Facility Master Plan

Aliso Elementary School
Proposed

	STATUS
MODERNIZATION	
Site has been modernized	
Post Modernization enhancement	
NEW CONSTRUCTION	
Safety and Security Enhancements	
Field Restroom Building	
New MPR Building	
Enhance Existing Parking	
New Community Parking	
Enhance Existing Educational Spaces	
New Staff Support Space	
Additional Staff Restrooms	
Upgrade Primary Power System	
Lunch Area Improvements	
New Shade Structure	
Upgrade Library / Media Center	
HEALTH & SAFETY	
Renovate Field Areas	
Upgrade Playing Surfaces	New Playground Equipment Ordered
TECHNOLOGY	

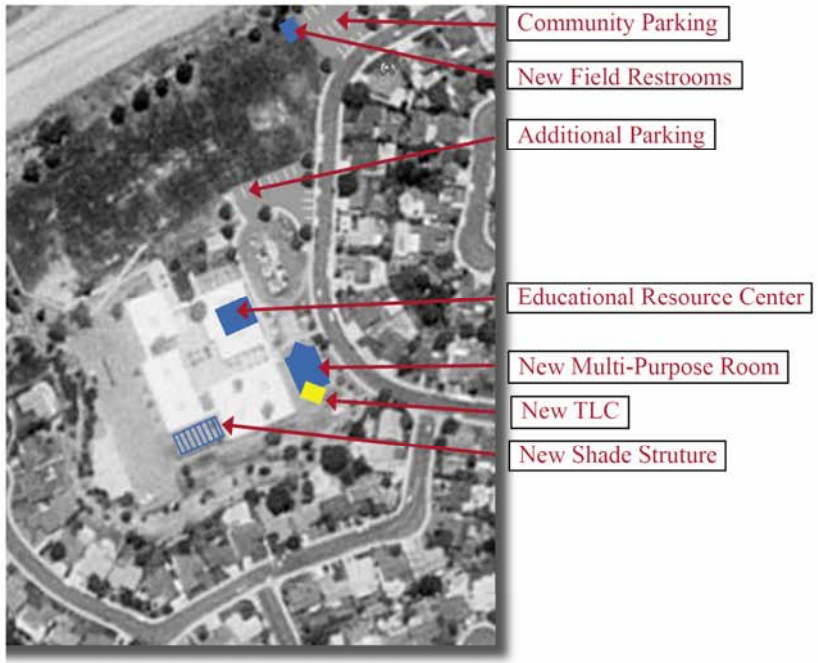
Cielo Vista Elementary School

Cielo Vista Elementary School
Proposed

	STATUS
MODERNIZATION	
Site is eligible in 2014	
NEW CONSTRUCTION	
Safety and Security Enhancements	
Field Restroom Building	
Enlarge / Reconfigure Parking	
New Community Parking	
New Shade Structure	
Enlarge Staff Support Spaces	
Additional Staff Restrooms	
Enhance Existing Educational Spaces	
Enlarge Multipurpose Room Building	
Enlarge/Enhance Library Media Center	
HEALTH & SAFETY	
New Shade Trees	
Renovate Field Areas	
Upgrade Playing Surfaces	
Hardscape Upgrade	Completed
TECHNOLOGY	

Cordillera Elementary School

Cordillera Elementary School
Proposed



MODERNIZATION	STATUS
Site has been modernized	
Post modernization enhancement	
NEW CONSTRUCTION	
Safety and Security Enhancements	Installed new fencing
Field Restroom Building	
Enlarge Existing Parking	
Relocate TLC	
New MPR Building	
Enhance Existing Educational Spaces	
Additional Staff Restrooms	
New Community Parking	
Enhance Library / Media Center	
HEALTH & SAFETY	
Renovate Field Areas	
Upgrade Playing Surfaces	Playground Equipment Ordered
TECHNOLOGY	

Capabilities Assessment

The Saddleback Valley Unified School District (SVUSD) identified current capabilities available for implementing hazard mitigation activities. The Capability Assessment portion of the SVUSD mitigation plan identifies administrative, technical, legal, and fiscal capabilities. This includes a summary of offices, divisions and departments and their responsibilities associated to hazard mitigation planning as well as codes, ordinances, and plans already in place associated to hazard mitigation planning. The second part of the assessment provides fiscal capabilities that may be applicable to providing financial resources to implement identified mitigation action items.

Existing Institutions, Plans, Policies and Ordinances

The following is (1) a summary of existing positions their responsibilities related to hazard mitigation planning and implementation; and (2) a list of existing planning documents and regulations related to mitigation efforts within SVUSD. The administrative and technical capabilities of each jurisdiction, as shown in the table below, provides an identification of the staff, personnel, and department resources available to implement the actions identified in the mitigation section of the Plan. Specific resources reviewed include those involving technical personnel such as planners/engineers with knowledge of land management practices, engineers trained in construction practices related to building and infrastructure, planners and engineers with an understanding of natural or human-caused hazards, floodplain managers, surveyors, personnel with GIS skills and scientists familiar with hazards in the community.

Administrative & Technical Capacity

Position	Y/N	Department/Agency
Planner(s) or engineer(s) with knowledge of land development and land management practices	Y	Facilities
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Facilities Maintenance & Operations
Planners or Engineer(s) with an understanding of natural and/or human-caused hazards	N	The District would contact the county for contractors and consultants
Floodplain manager	N	The District would use county resources
Surveyors	N	The District would use county resources
Staff with education or expertise to assess the community's vulnerability to hazards	N	County Resources
Personnel skilled in GIS and/or HAZUS	Y	The district staffs personnel skilled in GIS, but not HAZUS, Facilities Department
Scientists familiar with the hazards of the community	N	The District would hire outside for these services
Emergency manager	Y	Facilities and Business Services
Grant writers	Y	Instructional Services

Regulatory Tools

The legal and regulatory capabilities are shown in the table below, which presents the existing ordinances and codes that affect the physical or built environment of each jurisdiction where school district facilities are built and maintained.

Regulatory Tools (ordinances, codes, plans)	Y/N	Comments
Building code	Y	
Zoning ordinance	Y	
Subdivision ordinance or regulations	Y	
Special purpose ordinances (floodplain management, storm water management, hillside or steep slope ordinances, wildfire ordinances, hazard setback requirements)	Y	
Growth management ordinances (also called “smart growth” or anti-sprawl programs)	Y	
Site plan review requirements	Y	
General or comprehensive plan	Y	
A capital improvements plan	Y	
An economic development plan	Y	Budget
An emergency response plan	Y	
A post-disaster recovery plan	Y	
A post-disaster recovery plan	Y	
Real estate disclosure requirements	N	
Habitat Management Plan	N	
Master Drainage, Sewer, Water, & Reclaimed Water	Y	
Redevelopment Master Plan	Y	Measure B Modernization

Fiscal Resources

The table below shows specific financial and budgetary tools available to the school district such as block grants; capital improvements project funding; authority to levy taxes for specific purposes;; impact fees for homebuyers or developers for new development; ability to incur debt through general obligations bonds; and withholding spending in hazard-prone areas.

Financial Resources	Y/N	Comments
Community Development Block Grants	N	
Capital improvements project funding	Y	
Authority to levy taxes for specific purposes	Y	
Fees for water, sewer, gas, or electric service	N	
Impact fees for homebuyers or developers for new developments/homes	Y	
Incur debt through general obligation bonds	Y	
Incur debt through special tax and revenue bonds	Y	
Incur debt through private activity bonds	N	
Withhold spending in hazard-prone areas	N	

* Subject to grant from State
** Subject to voter approval

Section 7 – Plan Maintenance

Monitoring, Evaluating & Updating

Plan Maintenance

This section of the Plan describes the formal process that will ensure that the Plan remains an active and relevant document. The plan maintenance process includes a schedule for monitoring and evaluating the Plan annually and producing a plan revision every five years.

This section describes how the Saddleback Valley Unified School District will integrate public participation throughout the plan maintenance process. Finally, this section includes an explanation of how jurisdictions intend to make considerations for the mitigation strategies outlined in this Plan into existing planning mechanisms.

SVUSD will be responsible for monitoring the plan annually for updates to jurisdictional goals, objectives, and action items. If needed, these will be coordinated through the SVUSD Hazard Mitigation Steering Committee to integrate these updates into the Plan. The Chairman of the Hazard Mitigation Steering Committee will be responsible for monitoring the overall Plan for updates on an annual basis. The Chairman will reconvene the Steering Committee as needed to make these updates.

The Plan will be evaluated by Saddleback Valley Unified School District at least every two years to determine the effectiveness of programs, and to reflect changes in land development or programs that may affect mitigation priorities. The Plan will also be re-evaluated by SVUSD representative based upon the initial Plan criteria used to draft goals, objectives, and action items for this Plan.

Action items will be reviewed to determine their relevance to changing situations in the District, Orange County Operational Area, as well as changes in State or Federal regulations and policy. SVUSD Committee Members will conduct an assessment of each portion of the Plan to determine if this information should be updated or modified, given any new available data.

SVUSD committee members will be the responsible group for updates to the Plan. All participants will be responsible to provide the Committee Chairperson with department-level updates to the Plan when/if necessary as described above. Every five years the updated plan will be submitted to the State of California and FEMA for review.

SVUSD will have the opportunity to implement recommended action items through existing programs and procedures whenever feasible. The Chairman will review new programs and law for possible integration of mitigation strategies. SVUSD will tie in mitigation with the Williams Act pertaining to "Keep school in safe repair." Upon adoption, the Plan will become the baseline of information on the hazards that impact the District.

Continued Public Involvement

The Saddleback Valley Unified School District is dedicated to involving the public directly in review and updates of the Plan.

A representative from the Planning Committee will be responsible for monitoring, evaluating, and updating the Plan as described above. During all phases of plan maintenance the public will have the opportunity to provide feedback.

A copy of the Plan will be publicized and available for review on the Saddleback Valley Unified School District website. In addition, copies of the plan will be catalogued and kept at appropriate locations in the District. The existence and location of these copies will also be posted on the District website. The site will contain contact information for the Paramount Unified School District Hazard Mitigation Planning Committee to which people can direct their comments and concerns.

A press release requesting public comments will also be issued after each evaluation or when deemed necessary by the Planning Committee. The press release will direct people to the website or appropriate location where the public can review proposed updated versions of the Plan. This will provide the public an outlet for which they can express their concerns, opinions, or ideas about any updates/changes that are proposed to the Plan. Committee members will assure the resources are available to publicize the press releases and maintain public involvement through web pages and other appropriate means.