

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 5



LOS ANGELES COUNTY, CALIFORNIA AND INCORPORATED AREAS

Notice

This preliminary FIS report includes only revised Flood Profiles and Floodway Data tables. See “Notice to Flood Insurance Study Users” page for additional details.

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
CITY OF AGOURA HILLS	065072	CITY OF COMMERCE	060110
CITY OF ALHAMBRA*	060095	CITY OF COMPTON	060111
CITY OF ARCADIA*	065014	CITY OF COVINA*	065024
CITY OF ARTESIA*	060097	CITY OF CUDAHY	060657
CITY OF AVALON	060098	CITY OF CULVER CITY	060114
CITY OF AZUSA	065015	CITY OF DIAMOND BAR	060741
CITY OF BALDWIN PARK*	060100	CITY OF DOWNEY	060645
CITY OF BELL*	060101	CITY OF DUARTE*	065026
CITY OF BELL GARDENS	060656	CITY OF EL MONTE*	060658
CITY OF BELLFLOWER	060102	CITY OF EL SEGUNDO	060118
CITY OF BEVERLY HILLS*	060655	CITY OF GARDENA	060119
CITY OF BRADBURY*	065017	CITY OF GLENDALE*	065030
CITY OF BURBANK	065018	CITY OF GLEN DORA	065031
CITY OF CALABASAS	060749	CITY OF HAWAIIAN GARDENS*	065032
CITY OF CARSON	060107	CITY OF HAWTHORNE*	060123
CITY OF CERRITOS	060108	CITY OF HERMOSA BEACH	060124
CITY OF CLAREMONT*	060109	CITY OF HIDDEN HILLS	060125

*No Special Flood Hazard Areas Identified

PRELIMINARY 03/25/2016

FLOOD INSURANCE STUDY NUMBER

06037CV001C

Version Number 2.3.3.2



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COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
CITY OF HUNTINGTON PARK*	060126	CITY OF POMONA*	060149
CITY OF INDUSTRY*	065035	CITY OF RACHO PALOS VERDES	060464
CITY OF INGLEWOOD*	065036	CITY OF REDONDO BEACH	060150
CITY OF IRWINDALE*	060129	CITY OF ROLLING HILLS*	060151
CITY OF LA CANADA FLINTRIDGE*	060669	CITY OF ROLLING HILLS ESTATES*	065054
CITY OF LA HABRA HEIGHTS*	060701	CITY OF ROSEMEAD*	060153
CITY OF LA MIRADA	060131	CITY OF SAN DIMAS	060154
CITY OF LA PUENTE*	065039	CITY OF SAN FERNANDO*	060628
CITY OF LA VERNE	060133	CITY OF SAN GABRIEL*	065055
CITY OF LAKEWOOD	060130	CITY OF SAN MARINO*	065057
CITY OF LANCASTER	060672	CITY OF SANTA CLARITA	060729
CITY OF LAWNSDALE*	060134	CITY OF SANTA FE SPRINGS	060158
CITY OF LOMITA*	060135	CITY OF SANTA MONICA	060159
CITY OF LONG BEACH	060136	CITY OF SIERRA MADRE*	065059
CITY OF LOS ANGELES	060137	CITY OF SIGNAL HILL*	060161
CITY OF LYNWOOD	060635	CITY OF SOUTH EL MONTE*	060162
CITY OF MALIBU	060745	CITY OF SOUTH GATE	060163
CITY OF MANHATTAN BEACH	060138	CITY OF SOUTH PASADENA*	065061
CITY OF MAYWOOD*	060651	CITY OF TEMPLE CITY*	060653
CITY OF MONROVIA*	065046	CITY OF TORRANCE	060165
CITY OF MONTEBELLO	060141	CITY OF VERNON*	060166
CITY OF MONTEREY PARK*	065047	CITY OF WALNUT*	065069
CITY OF NORWALK	060652	CITY OF WEST COVINA	060666
CITY OF PALMDALE	060144	CITY OF WEST HOLLYWOOD	060720
CITY OF PALOS VERDES ESTATES	060145	CITY OF WESTLAKE VILLAGE	060744
CITY OF PARAMOUNT	065049	CITY OF WHITTIER	060169
CITY OF PASADENA*	065050	LOS ANGELES COUNTY UNINCORPORATED AREAS	065043
CITY OF PICO RIVERA	060148		

*No Special Flood Hazard Areas Identified

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Published Separately

Flood Insurance Rate Map (FIRM)

FLOOD INSURANCE STUDY REPORT LOS ANGELES COUNTY, CALIFORNIA

SECTION 1.0 – INTRODUCTION

1.1 The National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a voluntary Federal program that enables property owners in participating communities to purchase insurance protection against losses from flooding. This insurance is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods.

For decades, the national response to flood disasters was generally limited to constructing flood-control works such as dams, levees, sea-walls, and the like, and providing disaster relief to flood victims. This approach did not reduce losses nor did it discourage unwise development. In some instances, it may have actually encouraged additional development. To compound the problem, the public generally could not buy flood coverage from insurance companies, and building techniques to reduce flood damage were often overlooked.

In the face of mounting flood losses and escalating costs of disaster relief to the general taxpayers, the U.S. Congress created the NFIP. The intent was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection.

The U.S. Congress established the NFIP on August 1, 1968, with the passage of the National Flood Insurance Act of 1968. The NFIP was broadened and modified with the passage of the Flood Disaster Protection Act of 1973 and other legislative measures. It was further modified by the National Flood Insurance Reform Act of 1994 and the Flood Insurance Reform Act of 2004. The NFIP is administered by the Federal Emergency Management Agency (FEMA), which is a component of the Department of Homeland Security (DHS).

Participation in the NFIP is based on an agreement between local communities and the Federal Government. If a community adopts and enforces floodplain management regulations to reduce future flood risks to new construction and substantially improved structures in Special Flood Hazard Areas (SFHAs), the Federal Government will make flood insurance available within the community as a financial protection against flood losses. The community's floodplain management regulations must meet or exceed criteria established in accordance with Title 44 Code of Federal Regulations (CFR) Part 60.3, *Criteria for land Management and Use*.

SFHAs are delineated on the community's Flood Insurance Rate Maps (FIRMs). Under the NFIP, buildings that were built before the flood hazard was identified on the community's FIRMs are generally referred to as "Pre-FIRM" buildings. When the NFIP was created, the U.S. Congress recognized that insurance for Pre-FIRM buildings would be prohibitively expensive if the premiums were not subsidized by the Federal Government. Congress also recognized that most of these floodprone buildings were built by individuals who did not have sufficient knowledge of the flood hazard to make informed decisions. The NFIP requires that full actuarial rates reflecting the complete flood risk be charged on all buildings constructed or substantially improved on or after

the effective date of the initial FIRM for the community or after December 31, 1974, whichever is later. These buildings are generally referred to as “Post-FIRM” buildings.

1.2 Purpose of this Flood Insurance Study Report

This Flood Insurance Study (FIS) report revises and updates information on the existence and severity of flood hazards for the study area. The studies described in this report developed flood hazard data that will be used to establish actuarial flood insurance rates and to assist communities in efforts to implement sound floodplain management.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive than the minimum Federal requirements. Contact your State NFIP Coordinator to ensure that any higher State standards are included in the community’s regulations.

1.3 Jurisdictions Included in the Flood Insurance Study Project

This FIS Report covers the entire geographic area of Los Angeles County, California.

The jurisdictions that are included in this project area, along with the Community Identification Number (CID) for each community and the 8-digit Hydrologic Unit Codes (HUC-8) sub-basins affecting each, are shown in Table 1. The Flood Insurance Rate Map (FIRM) panel numbers that affect each community are listed. If the flood hazard data for the community is not included in this FIS Report, the location of that data is identified.

The location of flood hazard data for participating communities in multiple jurisdictions is also indicated in the table.

Jurisdictions that have no identified SFHAs as of the effective date of this study are indicated in the table. Changed conditions in these communities (such as urbanization or annexation) or the availability of new scientific or technical data about flood hazards could make it necessary to determine SFHAs in these jurisdictions in the future.

Table 1: Listing of NFIP Jurisdictions

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Agoura Hills	065072	18070104	06037C1241F 06037C1242F 06037C1243F 06037C1244F 06037C1261F 06037C1263F	
City of Alhambra ¹	060095	18070105	06037C1635F ² 06037C1641F ² 06037C1645F 06037C1675F ²	
City of Arcadia ¹	065014	18070105 18070106	06037C1400F 06037C1675F ² 06037C1700F	
City of Artesia ¹	060097	18070106	06037C1839F 06037C1980F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Avalon	060098	18070107	06037C2202F 06037C2203F ² 06037C2204F 06037C2210F ²	
City of Azusa	065015	18070106	06037C1415F 06037C1420F 06037C1700F	
City of Baldwin Park ¹	060100	18070106	06037C1670F 06037C1675F ² 06037C1700F	
City of Bell ¹	060101	18070105	06037C1805F 06037C1810F	
City of Bell Gardens	060656	18070105	06037C1810F	
City of Bellflower	060102	18070106	06037C1820F 06037C1840F 06037C1960F 06037C1980F	
City of Beverly Hills ¹	060655	18070104	06037C1585F 06037C1595F 06037C1605F 06037C1611G ²	
City of Bradbury ¹	065017	18070105 18070106	06037C1415F	
City of Burbank	065018	18070105	06037C1328F 06037C1329F 06037C1330F 06037C1335F 06037C1337F 06037C1339F 06037C1340F ² 06037C1345F	
City of Calabasas	060749	18070104 18070105	06037C1262F 06037C1263F 06037C1264G 06037C1267F 06037C1268F 06037C1269F 06037C1288F 06037C1527G 06037C1531F 06037C1532F	
City of Carson	060107	18070105 18070106	06037C1795F 06037C1815F 06037C1935F 06037C1945F 06037C1955F 06037C1965F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Cerritos	060108	18070106	06037C1839F 06037C1840F 06037C1843F 06037C1844F 06037C1980F 06037C2000F	
City of Claremont ¹	060109	18070106 18070203	06037C1475F 06037C1750F	
City of Commerce	060110	18070105	06037C1639F ² 06037C1643F ² 06037C1645F 06037C1810F 06037C1830F	
City of Compton	060111	18070105 18070106	06037C1795F 06037C1815F 06037C1820F 06037C1955F	
City of Covina ¹	065024	18070106	06037C1700F 06037C1725F	
City of Cudahy	060657	18070105	06037C1805F 06037C1810F	
City of Culver City	060114	18070104	06037C1595F 06037C1615F 06037C1752F 06037C1760F	
City of Diamond Bar	060741	18070106 18070203	06037C1725F 06037C1880F 06037C1900F ²	
City of Downey	060645	18070105 18070106	06037C1810F 06037C1820F 06037C1829F 06037C1830F 06037C1837F 06037C1840F	
City of Duarte ¹	065026	18070105 18070106	06037C1405F ² 06037C1410F ² 06037C1415F 06037C1420F 06037C1700F	
City of El Monte ¹	060658	18070105 18070106	06037C1670F 06037C1675F ² 06037C1700F	
City of El Segundo	060118	18070104 18070106	06037C1770F 06037C1790F	
City of Gardena	060119	18070106	06037C1790F 06037C1795F 06037C1930F 06037C1935F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Glendale ¹	065030	18070105	06037C1095F 06037C1125F ² 06037C1335F 06037C1345F 06037C1375F 06037C1610F 06037C1626F	
City of Glendora	065031	18070106	06037C1420F 06037C1440F 06037C1445F 06037C1700F 06037C1725F	
City of Hawaiian Gardens ¹	065032	18070106	06037C1980F 06037C2000F	
City of Hawthorne ¹	060123	18070106	06037C1770F 06037C1790F	
City of Hermosa Beach	060124	18070104 18070106	06037C1770F 06037C1907F 06037C1910F	
City of Hidden Hills	060125	18070104 18070105	06037C1266F 06037C1267F 06037C1268F	
City of Huntington Park ¹	060126	18070105	06037C1805F	
City of Industry ¹	065035	18070106	06037C1668F 06037C1670F 06037C1675F ² 06037C1695F 06037C1700F 06037C1725F 06037C1875F 06037C1880F	
City of Inglewood ¹	065036	18070104 18070105 18070106	06037C1760F 06037C1780F 06037C1790F	
City of Irwindale ¹	060129	18070105 18070106	06037C1415F 06037C1420F 06037C1675F ² 06037C1700F	
City of La Canada Flintridge ¹	060669	18070105	06037C1375F	
City of La Habra Heights ¹	060701	18070106	06037C1851F 06037C1853F 06037C1875F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of La Mirada	060131	18070106	06037C1841F 06037C1842F 06037C1843F 06037C1844F 06037C1861F 06037C1875F 06037C2000F	
City of La Puente ¹	065039	18070106	06037C1695F 06037C1700F	
City of La Verne	060133	18070106	06037C1445F 06037C1475F 06037C1725F	
City of Lakewood	060130	18070105 18070106	06037C1960F 06037C1980F 06037C2000F	
City of Lancaster	060672	18090206	06037C0150F 06037C0175F 06037C0400F 06037C0405F 06037C0410F 06037C0415F 06037C0420F 06037C0442F 06037C0450F 06037C0462F 06037C0465F 06037C0475F	
City of Lawndale ¹	060134	18070106	06037C1790F 06037C1930F	
City of Lomita ¹	060135	18070106	06037C1940F 06037C1945F	
City of Long Beach	060136	18070105 18070106	06037C1815F 06037C1820F 06037C1955F 06037C1960F 06037C1962F 06037C1964F 06037C1965F 06037C1970F 06037C1980F 06037C1988F 06037C1990F 06037C2055F 06037C2060F 06037C2076F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Los Angeles	060137	18070103 18070104 18070105 18070106	06037C1025F ² 06037C1033F ² 06037C1034F 06037C1040F 06037C1045F 06037C1067F 06037C1069F 06037C1075F 06037C1086F 06037C1087F ² 06037C1088F 06037C1089F 06037C1095F 06037C1125F ² 06037C1266F 06037C1267F 06037C1269F 06037C1275F 06037C1280F 06037C1285F 06037C1288F 06037C1290F 06037C1295F 06037C1305F 06037C1310F 06037C1315F 06037C1320F ² 06037C1328F 06037C1329F 06037C1330F 06037C1335F 06037C1337F 06037C1339F 06037C1340F ² 06037C1345F 06037C1375F 06037C1552F 06037C1553F 06037C1554F 06037C1556F ² 06037C1557F 06037C1558F ² 06037C1559F 06037C1562F 06037C1566F 06037C1567F 06037C1569F 06037C1580F 06037C1585F 06037C1590F 06037C1595F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Los Angeles, continued	060137	18070103 18070104 18070105 18070106	06037C1605F 06037C1610F 06037C1615F 06037C1620F 06037C1626F 06037C1627F ² 06037C1628F 06037C1629F 06037C1635F ² 06037C1636F 06037C1637F 06037C1638F 06037C1639F ² 06037C1641F ² 06037C1751F 06037C1752F 06037C1754F 06037C1760F 06037C1765F 06037C1770F 06037C1780F 06037C1785F 06037C1790F 06037C1795F 06037C1805F 06037C1815F 06037C1935F 06037C1945F 06037C1955F 06037C1965F 06037C2027F 06037C2029F 06037C2031F 06037C2032F 06037C2033F 06037C2034F 06037C2055F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Los Angeles County, Unincorporated Areas	065043	18030003 18070102 18070103 18070104 18070105 18070106 18070107 18070203 18090206 18090208	06037C0025F ² 06037C0036F 06037C0040F 06037C0050F 06037C0075F 06037C0100F 06037C0125F 06037C0150F 06037C0175F 06037C0200F 06037C0225F 06037C0250F ² 06037C0275F 06037C0300F 06037C0325F 06037C0350F 06037C0365F 06037C0370F 06037C0375F 06037C0400F 06037C0410F 06037C0415F 06037C0420F 06037C0442F 06037C0444F 06037C0450F 06037C0462F 06037C0464F 06037C0465F 06037C0466F 06037C0468F 06037C0470F 06037C0475F 06037C0500F 06037C0525F 06037C0550F ² 06037C0575F 06037C0600F 06037C0610F 06037C0625F 06037C0630F 06037C0635F 06037C0640F 06037C0645F 06037C0651F 06037C0652F ²	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Los Angeles County, Unincorporated Areas, continued	065043	18030003 18070102 18070103 18070104 18070105 18070106 18070107 18070203 18090206 18090208	06037C0656F 06037C0657F 06037C0658F 06037C0659F 06037C0665F 06037C0670F 06037C0694F 06037C0700F 06037C0701F 06037C0702F 06037C0703F 06037C0704F 06037C0706F 06037C0710F 06037C0711F 06037C0713F 06037C0715F 06037C0720F 06037C0750F 06037C0775F 06037C0800F 06037C0805F 06037C0810F 06037C0815F 06037C0830F 06037C0835F 06037C0840F 06037C0845F 06037C0875F 06037C0900F 06037C0925F 06037C0950F 06037C0975F 06037C1000F 06037C1025F ² 06037C1030F 06037C1031F 06037C1032F 06037C1033F ² 06037C1034F 06037C1040F 06037C1045F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Los Angeles County, Unincorporated Areas, continued	065043	18030003 18070102 18070103 18070104 18070105 18070106 18070107 18070203 18090206 18090208	06037C1067F 06037C1075F 06037C1086F 06037C1087F ² 06037C1088F 06037C1095F 06037C1100F ² 06037C1109F 06037C1125F ² 06037C1150F ² 06037C1175F ² 06037C1200F ² 06037C1225F ² 06037C1239G 06037C1240F ² 06037C1243G 06037C1244F 06037C1261F 06037C1262F 06037C1263F 06037C1264G 06037C1266F 06037C1267F 06037C1268F 06037C1269F 06037C1275F 06037C1288F 06037C1290F 06037C1339F 06037C1340F ² 06037C1375F 06037C1400F 06037C1405F ² 06037C1410F ² 06037C1415F 06037C1420F 06037C1430F 06037C1435F ² 06037C1440F 06037C1445F 06037C1475F 06037C1480F ² 06037C1485F 06037C1490F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Los Angeles County, Unincorporated Areas, continued	065043	18030003 18070102 18070103 18070104 18070105 18070106 18070107 18070203 18090206 18090208	06037C1491F 06037C1492F 06037C1502F 06037C1505F ² 06037C1506G 06037C1507G 06037C1508F ² 06037C1509F ² 06037C1511F 06037C1512F 06037C1516F 06037C1517F 06037C1526G 06037C1527G 06037C1528F 06037C1529F 06037C1531F 06037C1532F 06037C1533F 06037C1534F ² 06037C1536F 06037C1537F 06037C1541F 06037C1542F 06037C1551F 06037C1552F 06037C1553F 06037C1554F 06037C1561F 06037C1562F 06037C1580F 06037C1585F 06037C1590F 06037C1595F 06037C1605F 06037C1615F 06037C1637F 06037C1639F ² 06037C1641F ² 06037C1643F ² 06037C1645F 06037C1664F 06037C1665F 06037C1668F 06037C1670F 06037C1675F ² 06037C1695F 06037C1700F 06037C1725F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
Los Angeles County, Unincorporated Areas, continued	065043	18030003 18070102 18070103 18070104 18070105 18070106 18070107 18070203 18090206 18090208	06037C1750F 06037C1752F 06037C1754F 06037C1760F 06037C1770F 06037C1780F 06037C1785F 06037C1790F 06037C1795F 06037C1805F 06037C1815F 06037C1820F 06037C1829F 06037C1830F 06037C1835F 06037C1839F 06037C1840F 06037C1841F 06037C1842F 06037C1851F 06037C1861F 06037C1875F 06037C1880F 06037C1900F ² 06037C1935F 06037C1940F 06037C1945F 06037C1955F 06037C1980F 06037C2000F 06037C2031F 06037C2125F ² 06037C2150F ² 06037C2175F ² 06037C2200F ² 06037C2201F ² 06037C2202F 06037C2203F ² 06037C2204F 06037C2210F ² 06037C2215F ² 06037C2220F ² 06037C2250F 06037C2275F 06037C2300F 06037C2325F 06037C2350F	
City of Lynwood	060635	18070105	06037C1805F 06037C1815F 06037C1820F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Malibu	060745	18070104	06037C1485F 06037C1491F 06037C1492F 06037C1511F 06037C1512F 06037C1513F 06037C1514F 06037C1516F 06037C1517F 06037C1518F 06037C1519F 06037C1536F 06037C1537F 06037C1538F 06037C1539F 06037C1541F 06037C1542F 06037C1543F 06037C1561F 06037C1562F	
City of Manhattan Beach	060138	18070104 18070106	06037C1770F 06037C1907F	
City of Maywood ¹	060651	18070105	06037C1805F 06037C1810F	
City of Monrovia ¹	065046	18070105 18070106	06037C1400F 06037C1405F ² 06037C1415F 06037C1675F ² 06037C1700F	
City of Montebello	060141	18070105	06037C1645F 06037C1663F 06037C1664F 06037C1665F 06037C1810F 06037C1830F	
City of Monterey Park ¹	065047	18070105	06037C1635F ² 06037C1641F ² 06037C1645F 06037C1663F 06037C1665F 06037C1675F ²	
City of Norwalk	060652	18070106	06037C1837F 06037C1839F 06037C1840F 06037C1841F 06037C1843F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Palmdale	060144	18070102 18090206	06037C0400F 06037C0415F 06037C0420F 06037C0442F 06037C0444F 06037C0450F 06037C0462F 06037C0464F 06037C0465F 06037C0466F 06037C0468F 06037C0635F 06037C0645F 06037C0651F 06037C0652F ² 06037C0653F 06037C0654F 06037C0656F 06037C0657F 06037C0658F 06037C0659F 06037C0665F 06037C0670F 06037C0694F 06037C0700F 06037C0701F 06037C0702F 06037C0703F 06037C0704F 06037C0706F 06037C0710F 06037C0711F 06037C0713F	
City of Palos Verdes Estates	060145	18070104 18070106	06037C1916G 06037C1917G 06037C1918G 06037C1919G 06037C1940F	
City of Paramount	065049	18070105 18070106	06037C1815F 06037C1820F	
City of Pasadena ¹	065050	18070105	06037C1125F ² 06037C1375F 06037C1400F 06037C1635F ²	
City of Pico Rivera	060148	18070105 18070106	06037C1663F 06037C1664F 06037C1668F 06037C1829F 06037C1830F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Pomona ¹	060149	18070106 18070203	06037C1725F 06037C1750F	
City of Rancho Palos Verdes	060464	18070104 18070106	06037C1917G 06037C1918G 06037C1919G 06037C1940F 06037C1945F 06037C2025F 06037C2026F 06037C2027F 06037C2031F	
City of Redondo Beach	060150	18070104 18070106	06037C1770F 06037C1790F 06037C1907F 06037C1909F 06037C1928F 06037C1930F	
City of Rolling Hills ¹	060151	18070104 18070106	06037C1940F 06037C2026F 06037C2027F	
City of Rolling Hills Estates ¹	065054	18070104 18070106	06037C1919G 06037C1940F	
City of Rosemead ¹	060153	18070105	06037C1665F 06037C1675F	
City of San Dimas	060154	18070106	06037C1440F 06037C1445F 06037C1725F	
City of San Fernando ¹	060628	18070105	06037C1075F	
City of San Gabriel ¹	065055	18070105	06037C1675F ²	
City of San Marino ¹	065057	18070105	06037C1375F 06037C1400F 06037C1635F ² 06037C1675F ²	
City of Santa Clarita	060729	18070102 18070105	06037C0805F 06037C0810F 06037C0815F 06037C0820F 06037C0830F 06037C0835F 06037C0840F 06037C0845F 06037C1030F 06037C1031F 06037C1032F 06037C1034F 06037C1075F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Santa Fe Springs	060158	18070106	06037C1829F 06037C1830F 06037C1835F 06037C1837F 06037C1839F 06037C1840F 06037C1841F 06037C1843F 06037C1844F	
City of Santa Monica	060159	18070104	06037C1567F 06037C1569F 06037C1590F 06037C1751F	
City of Sierra Madre ¹	065059	18070105	06037C1400F	
City of Signal Hill ¹	060161	18070105 18070106	06037C1960F 06037C1970F	
City of South El Monte ¹	060162	18070105 18070106	06037C1665F 06037C1670F 06037C1675F ²	
City of South Gate	060163	18070105 18070106	06037C1805F 06037C1810F 06037C1815F 06037C1820F	
City of South Pasadena ¹	065061	18070105	06037C1375F 06037C1635F ²	
City of Temple City ¹	060653	18070105	06037C1675F ²	
City of Torrance	060165	18070104 18070106	06037C1790F 06037C1907F 06037C1909F 06037C1917G 06037C1928F 06037C1930F 06037C1935F 06037C1940F 06037C1945F	
City of Vernon ¹	060166	18070105	06037C1638F 06037C1639F ² 06037C1643F ² 06037C1805F 06037C1810F	
City of Walnut ¹	065069	18070106	06037C1695F 06037C1725F	
City of West Covina	060666	18070106	06037C1695F 06037C1700F 06037C1725F	
City of West Hollywood	060720	18070104	06037C1585F 06037C1605F	

Table 1: Listing of NFIP Jurisdictions, Continued

Community	CID	HUC-8 Sub-Basin(s)	Located on FIRM Panel(s)	If Not Included, Location of Flood Hazard Data
City of Westlake Village	060744	18070104	06037C1239G 06037C1240F ² 06037C1241F 06037C1243G 06037C1502F 06037C1505F ²	
City of Whittier	060169	18070105 18070106	06037C1664F 06037C1668F 06037C1670F 06037C1830F 06037C1835F 06037C1842F 06037C1851F 06037C1853F 06037C1861F 06037C1875F	

¹ No Special Flood Hazard Areas Identified

² Panel Not Printed

1.4 Considerations for using this Flood Insurance Study Report

The NFIP encourages State and local governments to implement sound floodplain management programs. To assist in this endeavor, each FIS Report provides floodplain data, which may include a combination of the following: 10-, 4-, 2-, 1-, and 0.2-percent annual chance flood elevations (the 1% annual chance flood elevation is also referred to as the Base Flood Elevation (BFE)); delineations of the 1% annual chance and 0.2% annual chance floodplains; and 1% annual chance floodway. This information is presented on the FIRM and/or in many components of the FIS Report, including Flood Profiles, Floodway Data tables, Summary of Non-Coastal Stillwater Elevations tables, and Coastal Transect Parameters tables (not all components may be provided for a specific FIS).

This section presents important considerations for using the information contained in this FIS Report and the FIRM, including changes in format and content. Figures 1, 2, and 3 present information that applies to using the FIRM with the FIS Report.

- Part or all of this FIS Report may be revised and republished at any time. In addition, part of this FIS Report may be revised by a Letter of Map Revision (LOMR), which does not involve republication or redistribution of the FIS Report. Refer to Section 6.5 of this FIS Report for information about the process to revise the FIS Report and/or FIRM.

It is, therefore, the responsibility of the user to consult with community officials by contacting the community repository to obtain the most current FIS Report components. Communities participating in the NFIP have established repositories of flood hazard data for floodplain management and flood insurance purposes. Community map repository addresses are provided in Table 31, “Map Repositories,” within this FIS Report.

- New FIS Reports are frequently developed for multiple communities, such as entire counties. A countywide FIS Report incorporates previous FIS Reports for individual communities and the unincorporated area of the county (if not jurisdictional) into a single document and supersedes those documents for the purposes of the NFIP.

The initial Countywide FIS Report for Los Angeles County became effective on September 26, 2008. Refer to Table 28 for information about subsequent revisions to the FIRMs.

- Selected FIRM panels for the community may contain information (such as floodways and cross sections) that was previously shown separately on the corresponding Flood Boundary and Floodway Map panels. In addition, former flood hazard zone designations have been changed as follows:

<u>Old Zone</u>	<u>New Zone</u>
A1 through A30	AE
V1 through V30	VE
B	X (shaded)
C	X (unshaded)

- FEMA does not impose floodplain management requirements or special insurance ratings based on Limit of Moderate Wave Action (LiMWA) delineations at this time. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. If the LiMWA is shown on the FIRM, it is being provided by FEMA as information only. For communities that do adopt Zone VE building standards in the area defined by the LiMWA, additional Community Rating System (CRS) credits are available. Refer to Section 2.5.4 for additional information about the LiMWA.

The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Visit the FEMA Web site at <http://www.fema.gov> or contact your appropriate FEMA Regional Office for more information about this program.

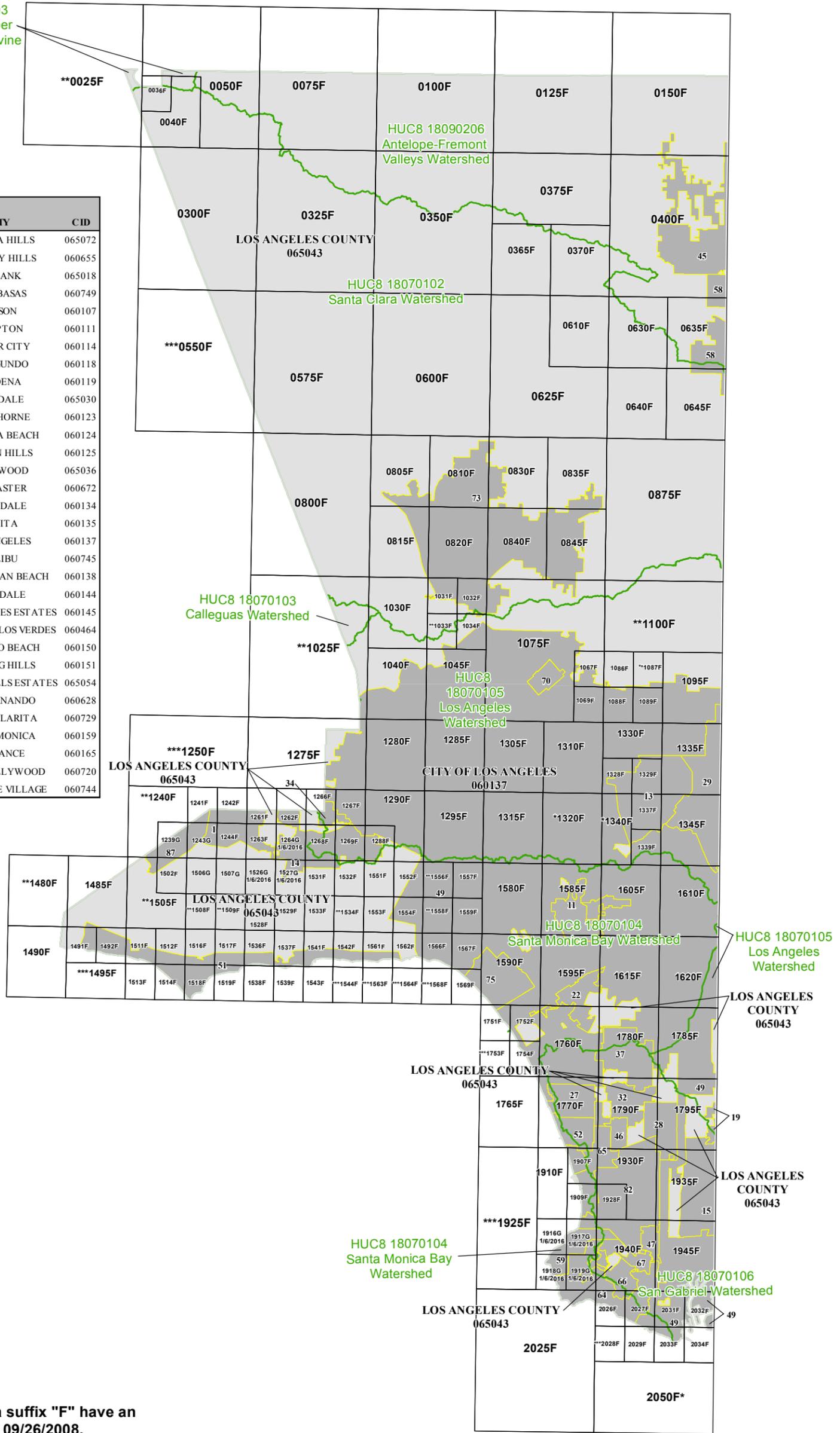
- Previous FIS Reports and FIRMs may have included levees that were accredited as reducing the risk associated with the 1% annual chance flood based on the information available and the mapping standards of the NFIP at that time. For FEMA to continue to accredit the identified levees, the levees must meet the criteria of the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10), titled “Mapping of Areas Protected by Levee Systems.”

Since the status of levees is subject to change at any time, the user should contact the appropriate agency for the latest information regarding levees presented in Table 9 of this FIS Report. For levees owned or operated by the U.S. Army Corps of Engineers (USACE), information may be obtained from the USACE national levee database. For all other levees, the user is encouraged to contact the appropriate local community.

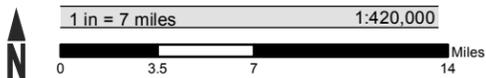
- FEMA has developed a *Guide to Flood Maps* (FEMA 258) and online tutorials to assist users in accessing the information contained on the FIRM. These include how to read panels and step-by-step instructions to obtain specific information. To obtain this guide and other assistance in using the FIRM, visit the FEMA Web site at <http://www.fema.gov>.

HUC8 18030003
Middle Kern-Upper
Tehachapi-Grapevine

KEY NUMBER	COMMUNITY	CID
1	CITY OF AGOURA HILLS	065072
11	CITY OF BEVERLY HILLS	060655
13	CITY OF BURBANK	065018
14	CITY OF CALABASAS	060749
15	CITY OF CARSON	060107
19	CITY OF COMPTON	060111
22	CITY OF CULVER CITY	060114
27	CITY OF EL SEGUNDO	060118
28	CITY OF GARDENA	060119
29	CITY OF GLENDALE	065030
32	CITY OF HAWTHORNE	060123
33	CITY OF HERMOSA BEACH	060124
34	CITY OF HIDDEN HILLS	060125
37	CITY OF INGLEWOOD	065036
45	CITY OF LANCASTER	060672
46	CITY OF LAWDALE	060134
47	CITY OF LOMITA	060135
49	CITY OF LOS ANGELES	060137
51	CITY OF MALIBU	060745
52	CITY OF MANHATTAN BEACH	060138
58	CITY OF PALMDALE	060144
59	CITY OF PALOS VERDES ESTATES	060145
64	CITY OF RANCHO PALOS VERDES	060464
65	CITY OF REDONDO BEACH	060150
66	CITY OF ROLLING HILLS	060151
67	CITY OF ROLLING HILLS ESTATES	065054
70	CITY OF SAN FERNANDO	060628
73	CITY OF SANTA CLARITA	060729
75	CITY OF SANTA MONICA	060159
82	CITY OF TORRANCE	060165
86	CITY OF WEST HOLLYWOOD	060720
87	CITY OF WESTLAKE VILLAGE	060744



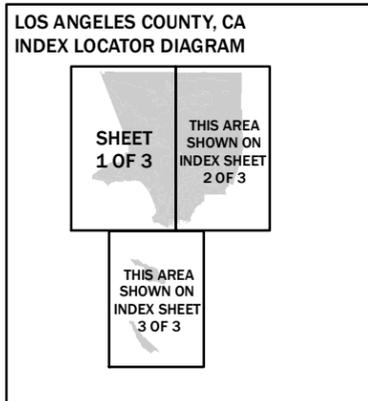
All panels with a suffix "F" have an effective date of 09/26/2008.



Map Projection:
Universal Transverse Mercator Zone 11 North;
North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION
* PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS
** PANEL NOT PRINTED - AREA ALL IN ZONE D
*** PANEL NOT PRINTED - AREA OUTSIDE COUNTY BOUNDARY



NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP INDEX

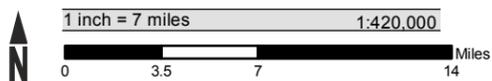
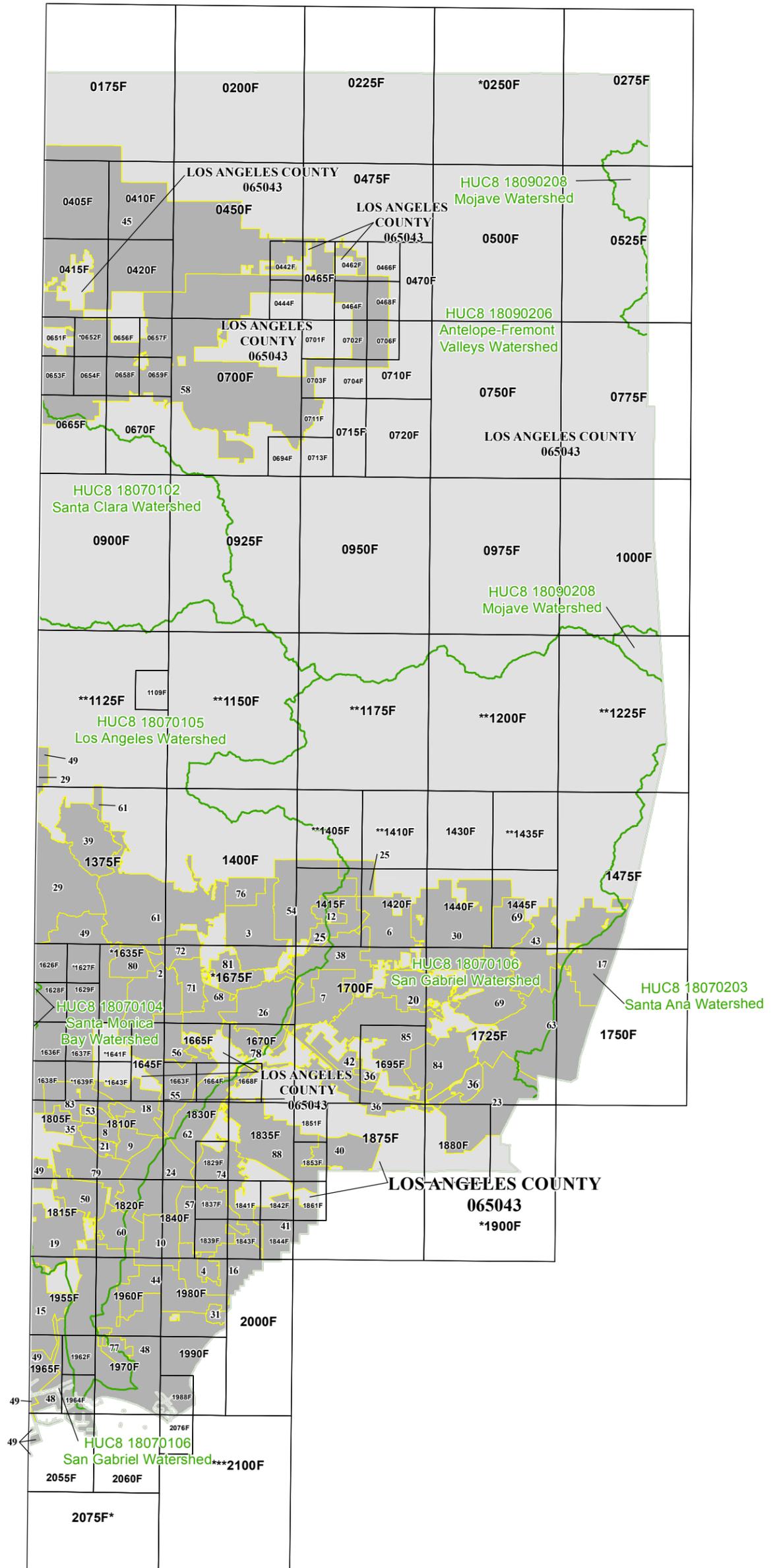
LOS ANGELES COUNTY, CALIFORNIA and Incorporated Areas
SHEET 1 OF 3

PANELS PRINTED:
0036, 0040, 0050, 0075, 0100, 0125, 0150, 0300, 0325, 0350, 0365, 0370, 0375, 0400, 0575, 0600, 0610, 0625, 0630, 0635, 0640, 0645, 0800, 0805, 0810, 0815, 0820, 0830, 0835, 0840, 0845, 0875, 1030, 1031, 1032, 1033, 1034, 1040, 1045, 1067, 1069, 1075, 1086, 1088, 1089, 1095, 1239, 1241, 1242, 1243, 1244, 1261, 1262, 1263, 1264, 1266, 1267, 1268, 1269, 1275, 1280, 1285, 1288, 1290, 1295, 1305, 1310, 1315, 1328, 1329, 1330, 1335, 1337, 1339, 1345, 1485, 1490, 1491, 1492, 1502, 1506, 1507, 1511, 1512, 1513, 1514, 1516, 1517, 1518, 1519, 1526, 1527, 1528, 1529, 1531, 1532, 1533, 1536, 1537, 1538, 1539, 1541, 1542, 1543, 1551, 1552, 1553, 1554, 1557, 1559, 1561, 1562, 1566, 1567, 1569, 1580, 1585, 1595, 1596, 1598, 1599, 1605, 1610, 1615, 1620, 1751, 1752, 1754, 1760, 1765, 1770, 1775, 1780, 1785, 1790, 1795, 1910, 1917, 1918, 1919, 1928, 1930, 1935, 1940, 1945, 1947, 1949, 2026, 2027, 2029, 2031, 2032, 2033, 2034



FEMA
PRELIMINARY
MAP NUMBER
06037CIND1C
MAP REVISED

KEY NUMBER	COMMUNITY	CID
2	CITY OF ALHAMBRA	060095
3	CITY OF ARCADIA	065014
4	CITY OF ARTESIA	060097
6	CITY OF AZUSA	065015
7	CITY OF BALDWIN PARK	060100
8	CITY OF BELL	060101
9	CITY OF BELL GARDENS	060656
10	CITY OF BELLFLOWER	060102
12	CITY OF BRADBURY	065017
15	CITY OF CARSON	060107
16	CITY OF CERRITOS	060108
17	CITY OF CLAREMONT	060109
18	CITY OF COMMERCE	060110
19	CITY OF COMPTON	060111
20	CITY OF COVINA	065024
21	CITY OF CUDAHY	060657
23	CITY OF DIAMOND BAR	060741
24	CITY OF DOWNEY	060645
25	CITY OF DUARTE	065026
26	CITY OF EL MONTE	060658
29	CITY OF GLENDALE	065030
30	CITY OF GLENORA	065031
31	CITY OF HAWAIIAN GARDENS	065032
35	CITY OF HUNTINGTON PARK	060126
36	CITY OF INDUSTRY	065035
38	CITY OF IRVINDALE	060129
39	CITY OF LA CANADA FLINTRIDGE	060669
40	CITY OF LA HABRA HEIGHTS	060701
41	CITY OF LA MIRADA	060131
42	CITY OF LA PUENTE	065039
43	CITY OF LA VERNE	060133
44	CITY OF LAKEWOOD	060130
45	CITY OF LANCASTER	060672
48	CITY OF LONG BEACH	060136
49	CITY OF LOS ANGELES	060137
50	CITY OF LYNWOOD	060635
53	CITY OF MAYWOOD	060651
54	CITY OF MONROVIA	065046
55	CITY OF MONTEBELLO	060141
56	CITY OF MONTEREY PARK	065047
57	CITY OF NORWALK	060652
58	CITY OF PALMDALE	060144
60	CITY OF PARAMOUNT	065049
61	CITY OF PASADENA	065050
62	CITY OF PICO RIVERA	060148
63	CITY OF POMONA	060149
68	CITY OF ROSEMEAD	060153
69	CITY OF SAN DIMAS	060154
71	CITY OF SAN GABRIEL	065055
72	CITY OF SAN MARINO	065057
74	CITY OF SANTA FE SPRINGS	060158
76	CITY OF SIERRA MADRE	065059
77	CITY OF SIGNAL HILL	060161
78	CITY OF SOUTH EL MONTE	060162
79	CITY OF SOUTH GATE	060163
80	CITY OF SOUTH PASADENA	065061
81	CITY OF TEMPLE CITY	060653
83	CITY OF VERNON	060166
84	CITY OF WALNUT	065069
85	CITY OF WEST COVINA	060666
88	CITY OF WHITTIER	060169

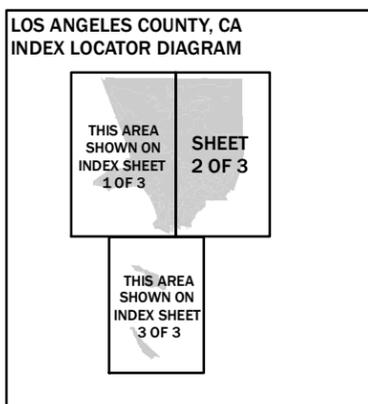


Map Projection:
 Universal Transverse Mercator Zone 12 North;
 North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

*PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS
 **PANEL NOT PRINTED - AREA ALL IN ZONE D
 ***PANEL NOT PRINTED - AREA OUTSIDE COUNTY BOUNDARY



NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP INDEX

LOS ANGELES COUNTY, CALIFORNIA and Incorporated Areas
 SHEET 2 OF 3

PANELS PRINTED:

0175, 0200, 0225, 0275, 0405, 0410, 0415, 0420, 0442, 0444, 0450, 0462, 0464, 0465, 0466, 0468, 0470, 0475, 0500, 0525, 0651, 0653, 0654, 0656, 0657, 0658, 0659, 0665, 0670, 0694, 0700, 0701, 0702, 0703, 0704, 0706, 0710, 0711, 0713, 0715, 0720, 0750, 0775, 0900, 0925, 0950, 0975, 1000, 1109, 1375, 1400, 1415, 1420, 1430, 1440, 1445, 1475, 1626, 1628, 1629, 1636, 1637, 1638, 1645, 1663, 1664, 1665, 1668, 1670, 1695, 1700, 1725, 1750, 1805, 1810, 1815, 1820, 1829, 1830, 1835, 1837, 1839, 1840, 1841, 1842, 1843, 1844, 1851, 1853, 1861, 1875, 1880, 1955, 1960, 1962, 1964, 1965, 1970, 1980, 1988, 1990, 2000, 2055, 2060, 2076

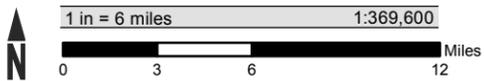
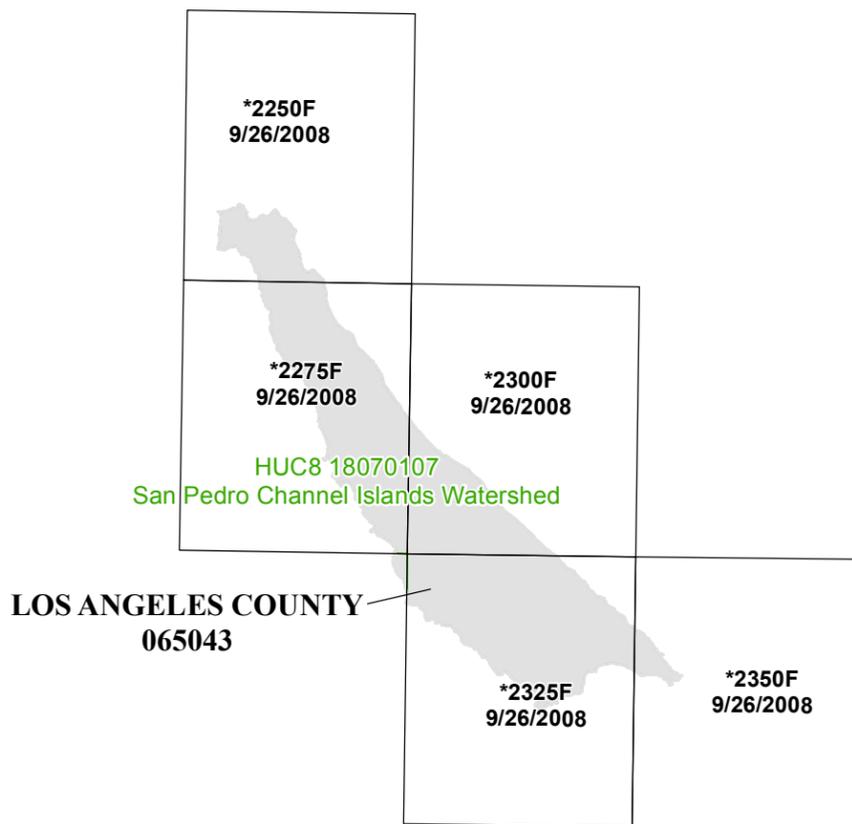
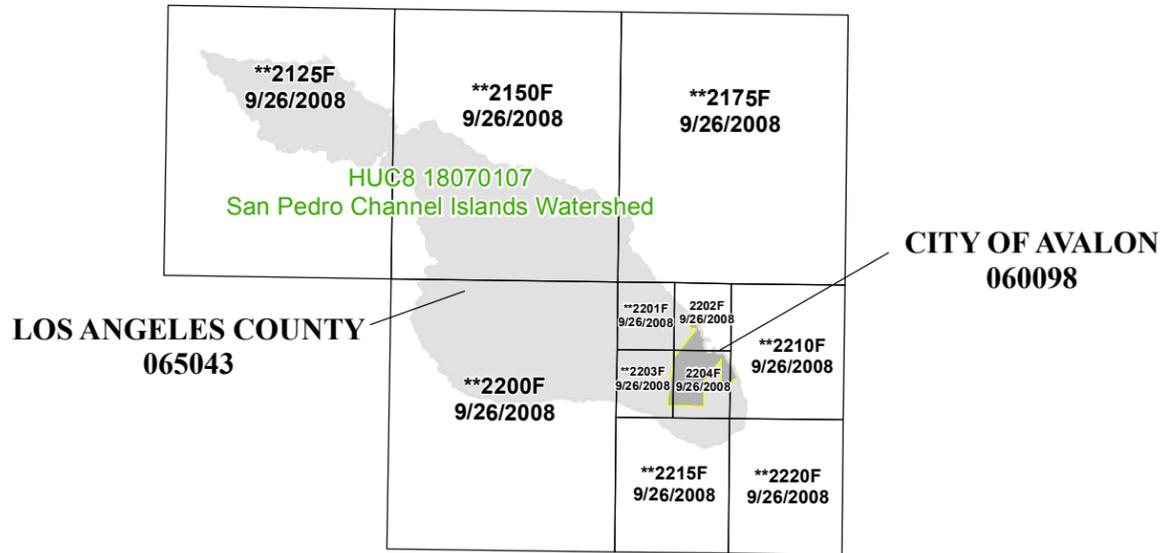


FEMA

PRELIMINARY

MAP NUMBER
 06037CIND2C

MAP REVISED



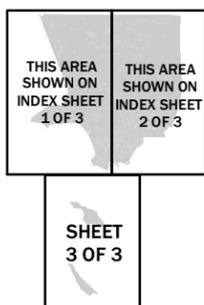
Map Projection:
 Universal Transverse Mercator Zone 12 North;
 North American Datum 1983

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT [HTTP://MSC.FEMA.GOV](http://MSC.FEMA.GOV)

SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION

*PANEL NOT PRINTED - NO SPECIAL FLOOD HAZARD AREAS
 **PANEL NOT PRINTED - AREA ALL IN ZONE D

LOS ANGELES COUNTY, CA
 INDEX LOCATOR DIAGRAM



NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP INDEX

LOS ANGELES COUNTY, CALIFORNIA and Incorporated Areas
 SHEET 3 OF 3

PANELS PRINTED:
 2202, 2204



FEMA

PRELIMINARY

MAP NUMBER
 06037CIND3C

MAP REVISED

Figure 2: FIRM Notes to Users

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to Table 28 in this FIS Report.

To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

PRELIMINARY FIS REPORT: FEMA maintains information about map features, such as street locations and names, in or near designated flood hazard areas. Requests to revise information in or near designated flood hazard areas may be provided to FEMA during the community review period, at the final Consultation Coordination Officer's meeting, or during the statutory 90-day appeal period. Approved requests for changes will be shown on the final printed FIRM.

The map is for use in administering the NFIP. It may not identify all areas subject to flooding, particularly from local drainage sources of small size. Consult the community map repository to find updated or additional flood hazard information.

BASE FLOOD ELEVATIONS: For more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables within this FIS Report. Use the flood elevation data within the FIS Report in conjunction with the FIRM for construction and/or floodplain management.

Coastal Base Flood Elevations shown on the map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD88). Coastal flood elevations are also provided in the Coastal Transect Parameters table in the FIS Report for this jurisdiction. Elevations shown in the Coastal Transect Parameters table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on the FIRM.

FLOODWAY INFORMATION: Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the FIS Report for this jurisdiction.

FLOOD CONTROL STRUCTURE INFORMATION: Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 4.3 "Non-Levee Flood Protection Measures" of this FIS Report for information on flood control structures for this jurisdiction.

Figure 2: FIRM Notes to Users, Continued

PROJECTION INFORMATION: The projection used in the preparation of the map was Universal Transverse Mercator (UTM) Zone 11N. The horizontal datum was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

ELEVATION DATUM: Flood elevations on the FIRM are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

*NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242*

Local vertical monuments may have been used to create the map. To obtain current monument information, please contact the appropriate local community listed in Table 31 of this FIS Report.

BASE MAP INFORMATION: Base map information shown on this FIRM was derived from multiple sources. Vector base map data was provided by the Los Angeles County Department of Public Works and the Los Angeles County GIS Department. Digital ortho imagery was collected by the U.S. Department of Agriculture National Agriculture Imagery Program (NAIP). This imagery was flown in 2014 and was produced with a 1-meter ground sample distance. For information about base maps, refer to Section 6.2 “Base Map” in this FIS Report.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map.

Corporate limits shown on the map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after the map was published, map users should contact appropriate community officials to verify current corporate limit locations.

NOTES FOR FIRM INDEX

REVISIONS TO INDEX: As new studies are performed and FIRM panels are updated within Los Angeles County, California, corresponding revisions to the FIRM Index will be incorporated within the FIS Report to reflect the effective dates of those panels. Please refer to Table 28 of this FIS Report to determine the most recent FIRM revision date for each community. The most recent FIRM panel effective date will correspond to the most recent index date.

Figure 2: FIRM Notes to Users, Continued

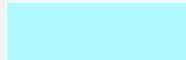
SPECIAL NOTES FOR SPECIFIC FIRM PANELS

This Notes to Users section was created specifically for Los Angeles County, California, effective TBD.

FLOOD RISK REPORT: A Flood Risk Report (FRR) may be available for many of the flooding sources and communities referenced in this FIS Report. The FRR is provided to increase public awareness of flood risk by helping communities identify the areas within their jurisdictions that have the greatest risks. Although non-regulatory, the information provided within the FRR can assist communities in assessing and evaluating mitigation opportunities to reduce these risks. It can also be used by communities developing or updating flood risk mitigation plans. These plans allow communities to identify and evaluate opportunities to reduce potential loss of life and property. However, the FRR is not intended to be the final authoritative source of all flood risk data for a project area; rather, it should be used with other data sources to paint a comprehensive picture of flood risk.

Figure 3: Map Legend for FIRM

SPECIAL FLOOD HAZARD AREAS: *The 1% annual chance flood, also known as the base flood or 100-year flood, has a 1% chance of happening or being exceeded each year. Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. See note for specific types. If the floodway is too narrow to be shown, a note is shown.*



Special Flood Hazard Areas subject to inundation by the 1% annual chance flood (Zones A, AE, AH, AO, AR, A99, V and VE)

- Zone A The flood insurance rate zone that corresponds to the 1% annual chance floodplains. No base (1% annual chance) flood elevations (BFEs) or depths are shown within this zone.
- Zone AE The flood insurance rate zone that corresponds to the 1% annual chance floodplains. Base flood elevations derived from the hydraulic analyses are shown within this zone, either at cross section locations or as static whole-foot elevations that apply throughout the zone.
- Zone AH The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the hydraulic analyses are shown at selected intervals within this zone.
- Zone AO The flood insurance rate zone that corresponds to the areas of 1% annual chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-foot depths derived from the hydraulic analyses are shown within this zone.
- Zone AR The flood insurance rate zone that corresponds to areas that were formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- Zone A99 The flood insurance rate zone that corresponds to areas of the 1% annual chance floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or flood depths are shown within this zone.
- Zone V The flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are not shown within this zone.
- Zone VE Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Base flood elevations derived from the coastal analyses are shown within this zone as static whole-foot elevations that apply throughout the zone.



Regulatory Floodway determined in Zone AE.

Figure 3: Map Legend for FIRM, Continued

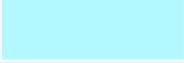
  <p>FLOOD INSURANCE IS NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER APRIL 8, 1987, IN THE DESIGNATED COLORADO RIVER FLOODWAY</p>	<p>Non-encroachment zone (see Section 2.4 of this FIS Report for more information)</p> <p>The Colorado River Floodway was established by Congress in the Colorado River Floodway Protection Act of 1986, Public Law 99-450 (100 Statute 1129). The Act imposes certain restrictions within the Floodway.</p>
<p>OTHER AREAS OF FLOOD HAZARD</p>	
  	<p>Shaded Zone X: Areas of 0.2% annual chance flood hazards and areas of 1% annual chance flood hazards with average depths of less than 1 foot or with drainage areas less than 1 square mile.</p> <p>Future Conditions 1% Annual Chance Flood Hazard – Zone X: The flood insurance rate zone that corresponds to the 1% annual chance floodplains that are determined based on future-conditions hydrology. No base flood elevations or flood depths are shown within this zone.</p> <p>Area with Reduced Flood Risk due to Levee: Areas where an accredited levee, dike, or other flood control structure has reduced the flood risk from the 1% annual chance flood. See Notes to Users for important information.</p>
<p>OTHER AREAS</p>	
 <div style="border: 1px solid black; padding: 2px; display: inline-block;">NO SCREEN</div>	<p>Zone D (Areas of Undetermined Flood Hazard): The flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.</p> <p>Unshaded Zone X: Areas of minimal flood hazard.</p>
<p>FLOOD HAZARD AND OTHER BOUNDARY LINES</p>	
 <p>(ortho) (vector)</p>   	<p>Flood Zone Boundary (white line on ortho-photography-based mapping; gray line on vector-based mapping)</p> <p>Limit of Study</p> <p>Jurisdiction Boundary</p> <p>Limit of Moderate Wave Action (LiMWA): Indicates the inland limit of the area affected by waves greater than 1.5 feet</p>
<p>GENERAL STRUCTURES</p>	
<p>-----</p> <p><i>Aqueduct</i> <i>Channel</i> <i>Culvert</i> <i>Storm Sewer</i></p>	<p>Channel, Culvert, Aqueduct, or Storm Sewer</p>

Figure 3: Map Legend for FIRM, Continued

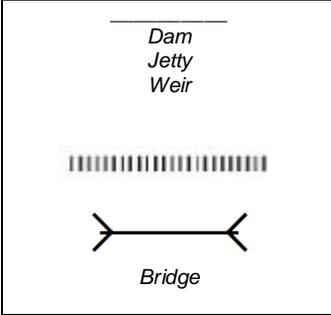
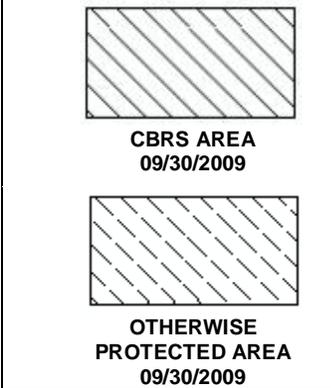
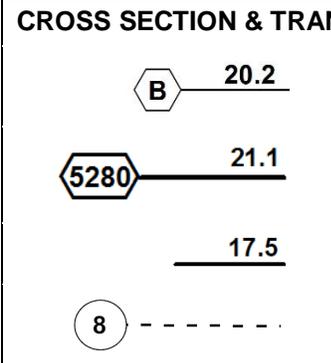
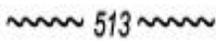
 <p>Dam Jetty Weir</p> <p>Levee, Dike or Floodwall</p> <p>Bridge</p>	<p>Dam, Jetty, Weir</p> <p>Levee, Dike or Floodwall</p> <p>Bridge</p>	
<p>COASTAL BARRIER RESOURCES SYSTEM (CBRS) AND OTHERWISE PROTECTED AREAS (OPA): CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas. See Notes to Users for important information.</p>		
 <p>CBRS AREA 09/30/2009</p> <p>OTHERWISE PROTECTED AREA 09/30/2009</p>	<p>Coastal Barrier Resources System Area: Labels are shown to clarify where this area shares a boundary with an incorporated area or overlaps with the floodway.</p> <p>Otherwise Protected Area</p>	
<p>REFERENCE MARKERS</p>  <p>22.0</p>		<p>River mile Markers</p>
<p>CROSS SECTION & TRANSECT INFORMATION</p>  <p>20.2</p> <p>21.1</p> <p>17.5</p> <p>8</p>		<p>Lettered Cross Section with Regulatory Water Surface Elevation (BFE)</p> <p>Numbered Cross Section with Regulatory Water Surface Elevation (BFE)</p> <p>Unlettered Cross Section with Regulatory Water Surface Elevation (BFE)</p> <p>Coastal Transect</p>
		<p>Profile Baseline: Indicates the modeled flow path of a stream and is shown on FIRM panels for all valid studies with profiles or otherwise established base flood elevation.</p> <p>Coastal Transect Baseline: Used in the coastal flood hazard model to represent the 0.0-foot elevation contour and the starting point for the transect and the measuring point for the coastal mapping.</p>

Figure 3: Map Legend for FIRM, Continued

	Base Flood Elevation Line (shown for flooding sources for which no cross sections or profile are available)
ZONE AE (EL 16)	Static Base Flood Elevation value (shown under zone label)
ZONE AO (DEPTH 2)	Zone designation with Depth
ZONE AO (DEPTH 2) (VEL 15 FPS)	Zone designation with Depth and Velocity
BASE MAP FEATURES	
	River, Stream or Other Hydrographic Feature
	Interstate Highway
	U.S. Highway
	State Highway
	County Highway
	Street, Road, Avenue Name, or Private Drive if shown on Flood Profile
	Railroad
	Horizontal Reference Grid Line
	Horizontal Reference Grid Ticks
	Secondary Grid Crosshairs
Land Grant	Name of Land Grant
7	Section Number
R. 43 W. T. 22 N.	Range, Township Number
⁴²76^{000m}E	Horizontal Reference Grid Coordinates (UTM)
365000 FT	Horizontal Reference Grid Coordinates (State Plane)
80° 16' 52.5"	Corner Coordinates (Latitude, Longitude)

SECTION 2.0 – FLOODPLAIN MANAGEMENT APPLICATIONS

2.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1% annual chance (100-year)

flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2% annual chance (500-year) flood is employed to indicate additional areas of flood hazard in the community.

Each flooding source included in the project scope has been studied and mapped using professional engineering and mapping methodologies that were agreed upon by FEMA and Los Angeles County as appropriate to the risk level. Flood risk is evaluated based on factors such as known flood hazards and projected impact on the built environment. Engineering analyses were performed for each studied flooding source to calculate its 1% annual chance flood elevations; elevations corresponding to other floods (e.g. 10-, 4-, 2-, 0.2-percent annual chance, etc.) may have also been computed for certain flooding sources. Engineering models and methods are described in detail in Section 5.0 of this FIS Report. The modeled elevations at cross sections were used to delineate the floodplain boundaries on the FIRM; between cross sections, the boundaries were interpolated using elevation data from various sources. More information on specific mapping methods is provided in Section 6.0 of this FIS Report.

Depending on the accuracy of available topographic data (Table 23), study methodologies employed (Section 5.0), and flood risk, certain flooding sources may be mapped to show both the 1% and 0.2% annual chance floodplain boundaries, regulatory water surface elevations (BFEs), and/or a regulatory floodway. Similarly, other flooding sources may be mapped to show only the 1% annual chance floodplain boundary on the FIRM, without published water surface elevations. In cases where the 1% and 0.2% annual chance floodplain boundaries are close together, only the 1% annual chance floodplain boundary is shown on the FIRM. Figure 3, “Map Legend for FIRM”, describes the flood zones that are used on the FIRMs to account for the varying levels of flood risk that exist along flooding sources within the project area. Table 2 and Table 3 indicate the flood zone designations for each flooding source and each community within Los Angeles County, CA, respectively.

Table 2, “Flooding Sources Included in this FIS Report,” lists each flooding source, including its study limits, affected communities, mapped zone on the FIRM, and the completion date of its engineering analysis from which the flood elevations on the FIRM and in the FIS Report were derived. Descriptions and dates for the latest hydrologic and hydraulic analyses of the flooding sources are shown in Table 13. Floodplain boundaries for these flooding sources are shown on the FIRM (published separately) using the symbology described in Figure 3. On the map, the 1% annual chance floodplain corresponds to the SFHAs. The 0.2% annual chance floodplain shows areas that, although out of the regulatory floodplain, are still subject to flood hazards.

Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data. The procedures to remove these areas from the SFHA are described in Section 6.5 of this FIS Report.

2.2 Floodways

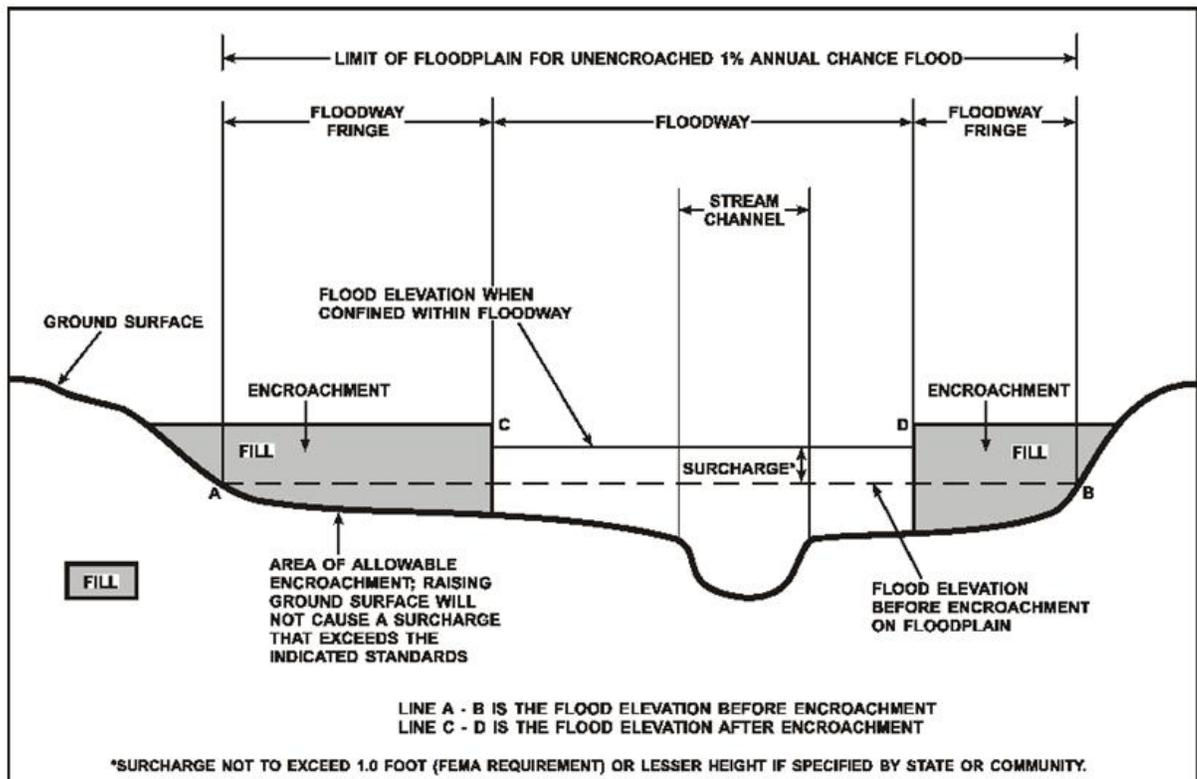
Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard.

For purposes of the NFIP, a floodway is used as a tool to assist local communities in balancing floodplain development against increasing flood hazard. With this approach, the area of the 1%

annual chance floodplain on a river is divided into a floodway and a floodway fringe based on hydraulic modeling. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment in order to carry the 1% annual chance flood. The floodway fringe is the area between the floodway and the 1% annual chance floodplain boundaries where encroachment is permitted. The floodway must be wide enough so that the floodway fringe could be completely obstructed without increasing the water surface elevation of the 1% annual chance flood more than 1 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 4.

To participate in the NFIP, Federal regulations require communities to limit increases caused by encroachment to 1.0 foot, provided that hazardous velocities are not produced. Regulations for California require communities in Los Angeles County to limit increases caused by encroachment to 0.5 foot and several communities have adopted additional restrictions. The floodways in this project are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway projects.

Figure 4: Floodway Schematic



Floodway widths presented in this FIS Report and on the FIRM were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. For certain stream segments, floodways were adjusted so that the amount of floodwaters conveyed on each side of the floodplain would be reduced equally. The results of the floodway computations have been tabulated for selected cross sections and are shown in Table 24, "Floodway Data."

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Acton Canyon	Los Angeles County	—	—	18070102	2.1	—	N	A	—
Acton Canyon Creek Tributary 1	Los Angeles County	—	—	18070102	1.0	—	N	A	—
Acton Canyon Creek Tributary 1-A	Los Angeles County	—	—	18070102	0.2	—	N	A	—
Acton Canyon Creek Tributary 2	Los Angeles County	—	—	18070102	0.7	—	N	A	—
Agua Amarge Canyon Creek	City of Palos Verdes Estates	—	—	18070104	0.7	—	N	A	—
Agua Dulce Canyon Creek	Los Angeles County	Confluence with Santa Clara River	0.8 miles upstream of State Highway 14	18070102	3.2	—	N	A, AO	—
Agua Dulce Canyon Creek	Los Angeles County	Approximately 900 feet upstream of Sierra Highway	0.6 miles upstream of Hierba Road	18070102	1.0	—	N	A	—
Agua Dulce Canyon Creek Lateral	Los Angeles County	Confluence with Agua Dulce Canyon Creek	0.2 miles upstream of confluence with Agua Dulce Canyon Creek	18070102	0.2	—	Y	AE	2008
Alamitos Bay	City of Long Beach	—	—	18070106	1.9	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Aliso Canyon Creek	City of Los Angeles, Los Angeles County	—	—	18070102	10.4	—	N	A	—
Amargosa Creek	City of Lancaster, Los Angeles County, City of Palmdale	—	—	18090206	13.8	—	N	A, AH, AO	1985
Amargosa Creek	Los Angeles County, City of Palmdale	—	—	18090206	6.4	—	N	AE	1985
Amargosa Creek	Los Angeles County, City of Palmdale	—	—	18090206	7.2	—	N	A, AO	1985
Amargosa Creek Tributary	City of Lancaster	—	—	18090206	0.3	—	N	A	—
Anaverde Creek	City of Palmdale	—	—	18090206	3.5	—	Y	AE	1985
Anaverde Creek	City of Palmdale	—	—	18090206	2.0	—	N	A	1985
Arrastre Canyon Creek	Los Angeles County	—	—	18070102	1.0	—	N	A	—
Arroyo Calabasas	City of Los Angeles	—	—	18070105	0.1	—	N	AE	—
Arroyo San Miguel	City of Whittier	—	—	18070106	0.1	—	N	A	1978
Arroyo Sequit	Los Angeles County	—	—	18070104	2.3	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Avalon Bay	City of Avalon	—	—	18070107	0.4	—	N	AE	—
Avalon Canyon	City of Avalon	At confluence with Pacific Ocean	0.9 miles upstream of confluence with Pacific Ocean	18070107	0.9	—	N	AE	—
Back Channel	City of Long Beach	—	—	18070104	0.9	—	N	AE	—
Ballona Creek	City of Los Angeles	—	—	18070104	0.6	—	N	AE	—
Ballona Creek	City of Culver City, City of Los Angeles	—	—	18070104	1.8	—	N	A, AO	—
Bar Creek	City of Diamond Bar	—	—	18070106	0.1	—	N	A, AO	—
Bee Canyon Creek	Los Angeles County	—	—	18070102	0.9	—	N	A	—
Bee Canyon Creek (2)	Los Angeles County	—	—	18070102	0.9	—	N	A	—
Bee Canyon Creek (3)	City of Los Angeles	—	—	18070105	0.6	—	N	A	—
Big Rock Creek	Los Angeles County	—	—	18090206	5.7	—	N	A	—
Big Rock Creek South Fork	Los Angeles County	—	—	18090206	1.2	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Big Rock Wash	City of Lancaster, Los Angeles County	—	—	18090206	25.7	—	N	A	—
Big Rock Wash (Profile Base Line)	City of Palmdale	City of Palmdale Corporate Limits	City of Palmdale Corporate Limits	18090206	4.0	—	N	AE	1985
Big Tujunga Wash	City of Los Angeles	—	—	18070105	6.8	—	N	A, AO	—
Boulder Canyon Creek	Los Angeles County	—	—	18090206	3.8	—	N	A	—
Bouquet Canyon Creek	Los Angeles County	—	—	18070102	0.9	—	N	A	—
Bouquet Reservoir	Los Angeles County	—	—	18070102	2.1	0.9	N	A	—
Broad Canyon Creek	Los Angeles County	—	—	18090206	8.0	—	N	A	—
Browns Creek	City of Los Angeles	—	—	18070105	1.0	—	N	AO	—
California Aqueduct	Los Angeles County	—	—	18090206	6.2	—	N	A	—
Canada De Los Alamos Creek	Los Angeles County	—	—	18070102	3.9	—	N	A	—
Carlos Canyon Creek	Los Angeles County	—	—	18070102	0.1	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Carr Canyon Creek	Los Angeles County	—	—	18090206	0.3	—	N	A	—
Castaic Creek	Los Angeles County	—	—	18070102	6.2	—	N	A	—
Castaic Lagoon	Los Angeles County	—	—	18070102	1.3	0.31	N	A	—
Castaic Lake	Los Angeles County	—	—	18070102	5.7	4.0	N	A	—
Channel No. 2	City of Long Beach	—	—	18070104	0.8	—	N	AE	—
Channel No. 3	City of Long Beach	—	—	18070104	0.7	—	N	AE	—
Charlie Canyon Creek	Los Angeles County	—	—	18070102	2.0	—	N	A	—
Chatsworth Reservoir	City of Los Angeles	—	—	18070105	1.5	0.7	N	A	—
Cherry Canyon Creek	Los Angeles County	—	—	18070102	3.2	—	N	A	—
Cheseboro Creek	City of Agoura Hills, Los Angeles County	—	—	18070104	0.5	—	N	AE	—
Cold Creek	Los Angeles County	—	—	18070104	1.5	—	N	AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Cold Creek	Los Angeles County	—	—	18070104	2.3	—	N	A	—
Colorado Lagoon	City of Long Beach	—	—	18070106	0.4	0.02	N	AE	—
Consolidated Channel	City of Los Angeles	—	—	18070104	0.6	—	N	AE	—
Coyote Canyon Creek	City of Santa Clarita	—	—	18070102	0.7	—	N	A, AO	—
Coyote Creek	City of Long Beach	—	—	18070106	2.6	—	N	A	—
Cruthers Creek	Los Angeles County	—	—	18090206	0.6	—	N	A	—
Dark Canyon	Los Angeles County	—	—	18070104	0.5	—	N	AE	—
Dark Canyon West Branch	Los Angeles County	—	—	18070104	0.2	—	N	A	—
Dewitt Canyon Creek	Los Angeles County	—	—	18070102	0.1	—	N	A	—
Dorr Canyon Creek	Los Angeles County	—	—	18090206	1.1	—	N	A	—
Dowd Canyon Creek	Los Angeles County	—	—	18070102	1.8	—	N	A, AO	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Dry Canyon	Los Angeles County, City of Calabasas City of Santa Clarita	—	—	18070102	3.6	—	N	A, AO, AE	—
East Basin	City of Los Angeles	—	—	18070104	0.8	—	N	AE	—
Elizabeth Canyon Creek	Los Angeles County	—	—	18070102	2.7	—	N	A, AO	—
Elizabeth Lake	Los Angeles County	—	—	18070102	1.7	0.3	N	A	—
Elizabeth Lake Canyon Creek	Los Angeles County	—	—	18070102	5.0	—	N	A	—
Eller Slough	Los Angeles County	—	—	18090206	3.7	—	N	A	—
Elsmere Canyon Creek	City of Santa Clarita	—	—	18070102	0.8	—	N	A	—
Encino Reservoir	City of Los Angeles	—	—	18070105	0.7	0.2	N	A	—
Entrance Channel (Marina Del Ray)	Los Angeles County, City of Los Angeles	—	—	18070104	0.5	—	N	AE	—
Escondido Canyon	City of Malibu, Los Angeles County	—	—	18070102	3.3	—	N	A, AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Fenner Canyon Creek	Los Angeles County	—	—	18090206	0.3	—	N	A	—
Fish Harbor	City of Los Angeles	—	—	18070104	0.6	—	N	AE	—
Flood Control Channel to Aliso Creek	City of Los Angeles	—	—	18070105	0.9	—	N	A	—
Flowline No. 1	City of Santa Fe Springs	—	—	18070106	0.6	—	N	AE	1978
Garapito Creek	Los Angeles County	—	—	18070104	0.7	—	N	AE	—
Gavin Canyon Creek	Los Angeles County, City of Santa Clarita	—	—	18070102	1.0	—	N	A	—
Gorman Creek	Los Angeles County	—	—	18070102	11.5	—	N	A, AH, AO	—
Gorman Canyon Creek	City of Santa Clarita	—	—	18070102	0.9	—	N	A, AO	—
Graham Canyon Creek	Los Angeles County	—	—	18090206	3.0	—	N	A	—
Grandview Canyon Creek	Los Angeles County	—	—	18090206	4.9	—	N	A	—
Grandview Canyon Creek (2)	Los Angeles County	—	—	18090206	2.3	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Harbor Lake	City of Los Angeles	—	—	18070104	0.6	0.1	N	AE	—
Haskell Canyon	Los Angeles County, City of Santa Clarita	—	—	18070102	1.7	—	N	AO	—
Hasley Canyon Creek	Los Angeles County	—	—	18070102	4.6	—	N	A	—
Holcomb Canyon Creek	Los Angeles County	—	—	18090206	0.9	—	N	A	—
Holmes Creek	Los Angeles County	—	—	18090206	0.8	—	N	A	—
Hughes Lake	Los Angeles County	—	—	18070102	0.4	0.05	N	A	—
Iron Canyon	Los Angeles County, City of Santa Clarita	Confluence with Sand Canyon Creek	0.5 miles upstream of North Iron Canyon Road	18070102	1.7	—	Y	AE, AO	2010
Jesus Canyon Creek	Los Angeles County	—	—	18090206	3.3	—	N	A	—
Kagel Canyon Creek	City of Los Angeles	—	—	18070105	0.2	—	Y	AE	—
Kagel Canyon Creek	Los Angeles County	—	—	18070105	1.1	—	N	AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Kentucky Springs Canyon Creek	Los Angeles County	—	—	18070102	3.7	—	N	A	—
La Mirada Creek	City of La Mirada	—	—	18070106	1.5	—	N	AE	—
Lake Lindero	City of Agoura Hills, City of Westlake Village	—	—	18070104	0.3	0.02	N	A	—
Lake Palmdale	Los Angeles County	—	—	18090206	1.1	0.4	N	A	—
Lake Street Overflow	City of Burbank	—	—	18070105	0.2	—	N	AE	—
Las Flores Canyon	Los Angeles County, City of Malibu	—	—	18070104	0.9	—	N	AE	—
Las Flores Canyon	Los Angeles County	—	—	18070104	0.4	—	N	A	—
Las Virgenes Creek	City of Calabasas, Los Angeles County	At confluence with Malibu Creek	Immediately downstream of Las Virgenes Road	18070104	4.8	—	N	AE	2010
Leaming Canyon Creek	Los Angeles County	—	—	18070102	0.2	—	N	A	—
Lemontaine Creek	Los Angeles County	—	—	18090206	2.5	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Liberty Canyon	City of Agoura Hills, Los Angeles County	—	—	18070104	0.4	—	N	AE	—
Limekiln Creek	City of Los Angeles	—	—	18070105	2.4	—	N	A	—
Lindero Canyon	City of Agoura Hills, City of Westlake Village	—	—	18070104	1.9	—	N	AE	—
Little Rock Creek	Los Angeles County	—	—	18090206	6.2	—	N	A	—
Little Rock Reservoir	Los Angeles County	—	—	18090206	0.6	0.08	N	A	—
Little Rock Wash	City of Lancaster, Los Angeles County	—	—	18090206	9.7	—	N	A	—
Little Rock Wash	Los Angeles County	—	—	18090206	4.3	—	N	A	—
Little Rock Wash - Profile A	City of Palmdale	City of Palmdale Corporate Limits	City of Palmdale Corporate Limits	18090206	1.2	—	N	AE	1985
Little Rock Wash - Profile A	City of Palmdale	City of Palmdale Corporate Limits	City of Palmdale Corporate Limits	18090206	0.6	—	N	AE	1985
Little Rock Wash - Profile A	Los Angeles County	—	—	18090206	2.0	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Little Rock Wash - Profile A	Los Angeles County, City of Palmdale	—	—	18090206	3.1	—	N	AE	1985
Little Rock Wash - Profile A	Los Angeles County, City of Palmdale	—	—	18090206	3.0	—	N	A	1985
Little Rock Wash - Profile B	City of Palmdale	City of Palmdale Corporate Limits	City of Palmdale Corporate Limits	18090206	1.4	—	N	AE	1985
Little Rock Wash - Profile C	Los Angeles County, City of Palmdale	—	—	18090206	0.9	—	N	AE	1985
Little Tujunga Wash	Los Angeles County, City of Los Angeles	—	—	18070105	2.1	—	N	A, AO	—
Lobo Canyon	Los Angeles County	—	—	18070104	1.7	—	N	AE	—
Lockheed Drain Channel	City of Burbank, City of Los Angeles	—	—	18070105	2.7	—	N	AE, AO	—
Lopez Canyon Channel	Los Angeles County, City of Los Angeles	—	—	18070105	0.1	—	N	A	—
Lopez Canyon Channel	Los Angeles County, City of Los Angeles	—	—	18070105	0.5	—	N	AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Los Angeles County Flood Control Channel	City of Los Angeles	—	—	18070105	0.9	—	N	A	—
Los Angeles County Flood Control Channel to Aliso Creek	City of Los Angeles	—	—	18070105	2.5	—	N	A	—
Los Angeles County Storm Drain	City of Carson, Los Angeles County	—	—	18070104	1.7	—	N	A	—
Los Angeles County Storm Drain (2)	City of Carson	—	—	18070104	1.4	—	N	A	—
Los Angeles Harbor	City of Los Angeles	—	—	18070104	2.8	—	N	AE	—
Los Angeles Reservoir	City of Los Angeles	—	—	18070105	0.7	0.3	N	A	—
Los Angeles River	City of Compton, City of Cudahy, City of Long Beach, Los Angeles County, City of Paramount, City of South Gate	—	—	18070105	13.3	—	N	A	1991
Los Angeles River Flood Control Channel	City of Burbank	—	—	18070105	0.2	—	N	A	—
Los Angeles River Flood Control Channel	City of Burbank	—	—	18070105	0.3	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Los Cerritos Channel (1)	City of Long Beach, City of Los Angeles	—	—	18070104	3.2	—	N	AE	—
Los Cerritos Channel (2)	City of Long Beach	—	—	18070106	4.7	—	N	AE	—
Lyon Canyon Creek	Los Angeles County, City of Santa Clarita	—	—	18070102	0.2	—	N	A	—
Main Channel	City of Los Angeles	—	—	18070104	2.3	—	N	AE	—
Malaga Canyon Creek	City of Palos Verdes Estates	—	—	18070104	1.4	—	N	A	—
Malibu Creek	City of Malibu	—	—	18070104	0.3	—	N	A	—
Malibu Creek	Los Angeles County, City of Malibu	—	—	18070104	0.6	—	N	AE	—
Malibu Creek	Los Angeles County, City of Malibu	—	—	18070104	8.9	—	N	A	—
Malibu Lake	Los Angeles County	—	—	18070104	0.9	0.06	N	A	—
Marina Del Ray	Los Angeles County, City of Los Angeles	—	—	18070104	1.5	—	N	AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Marine Stadium	City of Long Beach	—	—	18070106	1.8	—	N	AE	—
Medea Creek	City of Agoura Hills, Los Angeles County	—	—	18070104	4.5	—	N	AE	—
Middle Harbor	City of Long Beach	—	—	18070104	1.7	—	N	AE	—
Mill Creek	Los Angeles County	—	—	18070105	1.0	—	N	AE	—
Milton B. Arthur Lakes	City of Long Beach	—	—	18070106	0.5	0.05	N	A	—
Mint Canyon Creek	City of Santa Clarita	Confluence with Santa Clara River	Immediately downstream of Adon Avenue	18070102	0.9	—	N	AE	2010
Mint Canyon Creek	Los Angeles County, City of Santa Clarita	Immediately downstream of Adon Avenue	0.9 miles upstream of Rocking Horse Road	18070102	11.1	—	Y	AE	2010
Mint Canyon Creek Overflow	City of Santa Clarita	Confluence with Santa Clara River	Immediately downstream of Adon Avenue	18070102	1.0	—	N	AE, AO	—
Mint Canyon Spring	Los Angeles County	—	—	18070102	0.3	—	N	A	—
Montebello Municipal Golf Course Pond	City of Montebello	—	—	18070105	0.1	0.001	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Muscal Creek	Los Angeles County	—	—	18090206	5.3	—	N	A	—
Myrick Canyon Creek	Los Angeles County	—	—	18090206	2.1	—	N	A	—
Oak Springs Canyon Creek	Los Angeles County, City of Santa Clarita	—	—	18070102	2.4	—	N	A	—
Oakgrove Canyon Creek	Los Angeles County	—	—	18090206	0.7	—	N	A	—
Old Topanga Canyon	Los Angeles County	—	—	18070104	1.6	—	N	A	—
Old Topanga Canyon	Los Angeles County	—	—	18070104	0.8	—	N	AE	—
Old Topanga Canyon	Los Angeles County	—	—	18070104	0.5	—	N	A	—
Old Topanga Canyon	Los Angeles County	—	—	18070104	0.3	—	N	AE	—
Oro Fino Canyon Creek	City of Santa Clarita	—	—	18070102	0.3	—	N	A	—
Oso Canyon Creek	Los Angeles County	—	—	18090206	3.3	—	N	A	—
Pacific Terrace Harbor	City of Long Beach	—	—	18070106	0.3	—	N	AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Pacoima Channel	City of Los Angeles	—	—	18070105	2.1	—	N	A	—
Pacoima Channel	City of Los Angeles	—	—	18070105	0.8	—	N	A	—
Pacoima Wash	Los Angeles County, City of Los Angeles	—	—	18070105	2.0	—	N	A, AO	—
Pallett Creek	Los Angeles County	—	—	18090206	11.7	—	N	A	—
Pallett Creek	Los Angeles County	—	—	18090206	4.2	—	N	A	—
Palmdale Ditch	Los Angeles County	—	—	18090206	1.4	—	N	A	—
Palo Comando Creek	City of Agoura Hills, Los Angeles County	—	—	18070104	1.3	—	N	AE	—
Palomas Canyon Creek	Los Angeles County	—	—	18070102	0.1	—	N	A	—
Pico Canyon	Los Angeles County, City of Santa Clarita	—	—	18070102	0.6	—	N	A	1984
Pico Canyon	Los Angeles County	—	—	18070102	1.4	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Pine Canyon Creek	Los Angeles County	—	—	18070102	1.8	—	N	A	—
Pine Canyon Creek (3)	City of Palmdale	—	—	18090206	0.7	—	N	A	1985
Pine Canyon Creek (4)	Los Angeles County	—	—	18090206	4.4	—	N	A	—
Piru Creek	Los Angeles County	—	—	18070102	1.7	—	N	A	—
Placerita Creek	Los Angeles County, City of Santa Clarita	—	—	18070102	4.8	—	N	A	—
Plum Canyon	Los Angeles County	—	—	18070102	1.1	—	N	A	—
Portal Ridge Wash	City of Lancaster	—	—	18090206	1.7	—	N	AH	—
Potrero Canyon	Los Angeles County	—	—	18070102	2.7	—	N	A	—
Potrero Valley Creek (Westlake Lake)	City of Westlake Village	—	—	18070104	0.9	—	N	A	—
Puzzle Canyon Creek	Los Angeles County	—	—	18090206	2.4	—	N	A	—
Pyramid Lake	Los Angeles County	—	—	18070102	3.5	2.0	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Quail Lake	Los Angeles County	—	—	18090206	1.6	0.4	N	A	—
Quigley Canyon Creek	City of Santa Clarita	—	—	18070102	1.5	—	N	A	1984
Railroad Canyon	City of Santa Clarita	—	—	18070102	0.9	—	N	A, AO	1984
Ramirez Canyon	Los Angeles County, City of Malibu	—	—	18070104	1.5	—	N	AE	—
Reservoir near UCLA	City of Los Angeles	—	—	18070104	0.1	0.002	N	A	—
Rice Canyon Creek	Los Angeles County	—	—	18070102	0.5	—	N	A	—
Rio Hondo River	City of Bell Gardens, City of Downey, Los Angeles County, City of Montebello, City of Pico Rivera, City of South Gate	—	—	18070105	9.6	—	N	A	1991
Rio Hondo River Tributary	City of Montebello	—	—	18070105	0.4	—	N	AE	1991
Roberts Canyon Creek	City of Azusa	—	—	18070106	0.4	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Rock Creek	Los Angeles County	—	—	18090206	7.0	—	N	A	—
Romero Canyon Creek	Los Angeles County	—	—	18070102	1.4	—	N	A	—
Rustic Canyon	City of Los Angeles	—	—	18070104	4.0	—	N	A	—
Rustic Canyon	City of Los Angeles	—	—	18070104	0.8	—	Y	AE	—
Salt Canyon Creek	Los Angeles County	—	—	18070102	2.4	—	N	A	—
San Dimas Wash	City of San Dimas	—	—	18070106	0.5	—	N	AE	—
San Francisquito Canyon Creek	Los Angeles County	—	—	18070102	14.7	—	N	A, AO	—
San Gabriel River	City of Bellflower, City of Cerritos, City of Lakewood, City of Long Beach	—	—	18070106	9.4	—	N	A	—
San Gabriel River	City of Azusa, Los Angeles County	—	—	18070106	0.4	—	N	A	—
San Martinez Chiquito Canyon	Los Angeles County	—	—	18070102	3.9	—	N	A, AO	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
San Martinez Grande Canyon Creek	Los Angeles County	—	—	18070102	1.1	—	N	A	—
San Pedro Bay	City of Long Beach	—	—	18070104	1.0	—	N	AE	—
Sand Canyon Creek	Los Angeles County, City of Santa Clarita	Confluence with Santa Clara River	0.4 miles upstream of Coyote Canyon Creek	18070102	3.6	—	Y	AE, AO	2010
Sand Canyon Creek (2)	Los Angeles County, City of Santa Clarita	—	—	18070102	0.7	—	N	A, AO	1984
Sand Canyon Creek Tributary 1	City of Santa Clarita	—	—	18070102	0.9	—	N	A, AO	1984
Sand Canyon Creek Tributary 2	City of Santa Clarita	—	—	18070102	0.3	—	N	A, AO	1984
Santa Clara River	Los Angeles County	Approximately 1,200 feet downstream of Southern Pacific Railroad at Capra Road Tunnel	1.0 miles downstream of Arrastre Canyon Road	18070102	10.1	—	N	A	—
Santa Clara River	Los Angeles County	Confluence of Aliso Canyon Creek	1.3 miles upstream of confluence of Soledid Canyon Creek	18070102	3.2	—	N	A	—
Santa Maria Canyon	Los Angeles County	—	—	18070104	0.3	—	N	AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Santa Maria Canyon	Los Angeles County	—	—	18070104	0.4	—	N	A	—
Santa Susana Pass Wash	City of Los Angeles	—	—	18070105	0.1	—	N	A	—
Santa Ynez Canyon Reservoir	City of Los Angeles	—	—	18070104	0.1	0.01	N	A	—
Savage Creek	City of Whittier	—	—	18070106	0.7	—	N	AE	—
Sierra Canyon Creek	Los Angeles County	—	—	18070104	1.3	—	N	A	—
Sloan Canyon Creek	Los Angeles County	—	—	18070102	1.3	—	N	A	—
Soledad Canyon	Los Angeles County	—	—	18070102	1.7	—	N	A	—
South Portal Canyon Creek	Los Angeles County	—	—	18070102	0.4	—	N	A	—
Spade Spring Canyon Creek	Los Angeles County	Confluence with Mint Canyon Creek	2.8 miles upstream of confluence with Mint Canyon Creek	18070102	2.8	—	Y	AE	2010
Stokes Canyon	Los Angeles County	—	—	18070104	1.2	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Stokes Canyon	Los Angeles County	—	—	18070104	0.8	—	N	AE	—
Sullivan Canyon Creek	City of Los Angeles	—	—	18070104	1.7	—	N	A	—
Sunshine Canyon Creek	City of Los Angeles	—	—	18070105	0.1	—	N	A	—
Tacobi Creek	City of Whittier	—	—	18070106	0.1	—	N	A	1978
Tapia Canyon Creek	Los Angeles County	—	—	18070102	1.3	—	N	A	—
Texas Canyon Creek	Los Angeles County	—	—	18070102	0.6	—	N	A, AO	—
Tonner Canyon Creek	Los Angeles County	—	—	18070106	1.2	—	N	A	—
Topanga Canyon	Los Angeles County, City of Los Angeles	—	—	18070104	8.7	—	N	A, AE	—
Towsley Canyon Creek	Los Angeles County, City of Santa Clarita	—	—	18070102	2.6	—	N	A, AO	1984
Trancas Creek	City of Malibu	—	—	18070104	0.3	—	N	AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Triunfo Creek	Los Angeles County, City of Westlake Village	Approximate 200 feet downstream of Crags Drive	At Westlake Dam	18070104	4.9	—	Y	AE	2015
Turnbull Canyon Creek	City of Whittier	—	—	18070106	0.7	—	N	AE, AO	1978
Unnamed Canyon Creek (Serra Retreat Area)	Los Angeles County, City of Malibu	—	—	18070104	0.5	—	N	AE	—
Unnamed Stream Main Reach	City of Palos Verdes Estates	—	—	18070104	1.4	—	Y	AE	2010
Unnamed Stream Tributary 1	City of Palos Verdes Estates	—	—	18070104	0.3	—	Y	AE	2010
Unnamed Stream Tributary 2	City of Palos Verdes Estates	—	—	18070104	0.6	—	Y	AE	2010
Upper Los Angeles River Left Overbank	City of Los Angeles	—	—	18070105	1.6	—	N	AE	—
Vasquez Canyon	Los Angeles County	—	—	18070102	2.6	—	N	A, AO	—
Villa Canyon Creek	Los Angeles County	—	—	18070102	0.1	—	N	A	—
Vine Creek	City of West Covina	—	—	18070106	0.9	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Violin Canyon Creek	Los Angeles County	Confluence with Castaic Creek	At I-5 (Golden State Freeway)	18070102	1.5	—	N	AE, AO	—
Violin Canyon Creek	Los Angeles County	—	—	18070102	1.7	—	N	A	—
Wayside Canyon Creek	Los Angeles County	—	—	18070102	2.2	—	N	A	—
Weldon Canyon	City of Los Angeles	—	—	18070105	0.3	—	Y	AE	—
West Basin	City of Los Angeles	—	—	18070104	1.3	—	N	AE	—
West Channel	City of Los Angeles	—	—	18070104	0.7	—	N	AE	—
Westlake Lake	City of Westlake Village	At the Westlake Lake Dam	At the County Boundary	18070104	—	0.2	N	AE	2015
Whitney Canyon Creek	Los Angeles County, City of Santa Clarita	—	—	18070102	0.4	—	N	A	1984
Wildwood Canyon Creek	City of Santa Clarita	—	—	18070102	0.5	—	N	A, AO	1984
Wiley Canyon Creek	Los Angeles County, City of Santa Clarita	—	—	18070102	0.4	—	N	A	1984

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Willow Springs Canyon Creek	Los Angeles County	—	—	18090206	5.1	—	N	A	—
Young Canyon Creek	Los Angeles County	—	—	18070102	0.2	—	N	A	—
Zuma Canyon	City of Malibu	—	—	18070104	0.2	—	N	A	—
Zuma Canyon	City of Malibu	—	—	18070104	1.8	—	N	AE	—
Zuma Canyon	Los Angeles County, City of Malibu	—	—	18070104	0.6	—	N	A	—
UNKNOWN 1 near W. 3rd Street	City of Los Angeles, City of West Hollywood	—	—	18070104	1.0	—	N	AO	1980, 1985
UNKNOWN 2 near W. 3rd Street	City of Los Angeles	—	—	18070104	0.2	—	N	A	1980, 1985
UNKNOWN 3 near W. 3rd Street	City of Los Angeles	—	—	18070104	0.8	—	N	A	—
UNKNOWN 1 near 4th Street	City of Los Angeles	—	—	18070104	0.2	—	N	A	—
UNKNOWN 1 near Aberdeen Avenue	City of Los Angeles	—	—	18070104	0.9	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1 near Alameda Street	City of Los Angeles	—	—	18070104	0.2	—	N	A	—
UNKNOWN 2 near Alameda Street	City of Los Angeles	—	—	18070104	0.2	—	N	A	—
UNKNOWN 1 near Alaska Avenue	City of Torrance	—	—	18070104	0.2	—	N	AH	1978
UNKNOWN 1 near Amsler Street	City of Torrance	—	—	18070104	0.1	—	N	AH	1978
UNKNOWN 1 to Anaverde Creek	City of Palmdale	—	—	18090206	1.1	—	N	A	1985
UNKNOWN 1 near Anza Avenue	City of Torrance	—	—	18070104	0.1	—	N	AH	1978
UNKNOWN 1 to Arroyo Calabasas	City of Hidden Hills	—	—	18070105	0.7	—	N	A	—
UNKNOWN 2 to Arroyo Calabasas	City of Calabasas	—	—	18070105	0.5	—	N	A	—
UNKNOWN 1 near Baile Avenue	City of Los Angeles	—	—	18070105	0.3	—	N	AE	—
UNKNOWN 2 near Baile Avenue	City of Los Angeles	—	—	18070105	0.1	—	N	AE	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1 near S. Beverley Glen Boulevard	City of Los Angeles	—	—	18070104	0.1	—	N	AH	—
UNKNOWN 1 to Big Rock Wash	Los Angeles County	—	—	18090206	3.6	—	N	A, AO	—
UNKNOWN 1-A to Big Rock Wash	Los Angeles County	—	—	18090206	3.3	—	N	A, AO	—
UNKNOWN 2 to Big Rock Wash	Los Angeles County	—	—	18090206	2.6	—	N	A, AO	—
UNKNOWN 1 near Blinn Avenue	City of Los Angeles	—	—	18070104	0.2	—	N	A	—
UNKNOWN 1 to Broad Canyon Creek	Los Angeles County	—	—	18090206	1.3	—	N	A	—
UNKNOWN 2 to Broad Canyon Creek	Los Angeles County	—	—	18090206	2.3	—	N	A	—
UNKNOWN 3 to Broad Canyon Creek	Los Angeles County	—	—	18090206	0.9	—	N	A	—
UNKNOWN 1 to California Aqueduct	Los Angeles County	—	—	18090206	2.2	—	N	A	—
UNKNOWN 2 to California Aqueduct	Los Angeles County	—	—	18090206	0.9	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 3 to California Aqueduct	Los Angeles County	—	—	18090206	2.1	—	N	A	—
UNKNOWN 4 to California Aqueduct	Los Angeles County	—	—	18090206	1.1	—	N	A	—
UNKNOWN 5 to California Aqueduct	Los Angeles County	—	—	18090206	0.6	—	N	A	—
UNKNOWN 1 near Camino Real Calle	City of Redondo Beach	—	—	18070104	0.2	—	N	AE	1981
UNKNOWN 1 near Chaparal Street	City of Los Angeles	—	—	18070104	0.2	—	N	AH	—
UNKNOWN 1 near Childs Court	City of Los Angeles	—	—	18070104	0.9	—	N	AO	—
UNKNOWN 1 near Club View Drive	City of Los Angeles	—	—	18070104	0.1	—	N	AH	—
UNKNOWN 1 near Denker Avenue	City of Los Angeles	—	—	18070104	0.1	—	N	AH	—
UNKNOWN 1 near Edwards AF Base	Los Angeles County	—	—	18090206	1.8	—	N	A	—
UNKNOWN 2 near Edwards AF Base	Los Angeles County	—	—	18090206	3.0	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 2-A near Edwards AF Base	Los Angeles County	—	—	18090206	0.7	—	N	A	—
UNKNOWN 1 near Eubank Avenue	City of Los Angeles	—	—	18070104	0.1	—	N	A	—
UNKNOWN 1 near Glade Avenue	City of Los Angeles	—	—	18070105	0.1	—	N	AE	—
UNKNOWN 2 near Glade Avenue	City of Los Angeles	—	—	18070105	0.1	—	N	AH	—
UNKNOWN 1 to Glenoaks Boulevard	City of Los Angeles	—	—	18070105	0.5	—	N	A	—
UNKNOWN 2 to Glenoaks Boulevard	City of Los Angeles	—	—	18070105	0.3	—	N	A	—
UNKNOWN 3 to Glenoaks Boulevard	City of Los Angeles	—	—	18070105	0.7	—	N	A	—
UNKNOWN 1 near Gould Avenue	City of Redondo Beach	—	—	18070104	0.1	—	N	AE	1981
UNKNOWN 1 near Grenola Street	City of Los Angeles	—	—	18070104	0.6	—	N	A	—
UNKNOWN 1 near N. Hoover Street	City of Los Angeles	—	—	18070104	0.4	—	N	AH	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1 near S. La Cienega Boulevard	City of Los Angeles	—	—	18070104	0.1	—	N	A	—
UNKNOWN 1 near Lake Palmdale	City of Palmdale	—	—	18090206	0.7	—	N	A	1985
UNKNOWN 1 near Laurel Canyon Boulevard	City of Los Angeles	—	—	18070104	1.0	—	N	AO	—
UNKNOWN 1 to Little Rock Wash	Los Angeles County	—	—	18090206	1.3	—	N	A, AO	—
UNKNOWN 2 to Little Rock Wash	Los Angeles County	—	—	18090206	2.6	—	N	A	—
UNKNOWN 3 to Little Rock Wash	Los Angeles County	—	—	18090206	1.9	—	N	A	—
UNKNOWN 1 near Long Beach Freeway	City of Lynwood	—	—	18070105	0.3	—	N	AH	—
UNKNOWN 1 near Louise Avenue	City of Lynwood	—	—	18070105	0.7	—	N	AH	—
UNKNOWN 1 near Lucerne Boulevard	City of Los Angeles	—	—	18070104	0.3	—	N	AH	—
UNKNOWN 1 near S. Main Street	City of Burbank	—	—	18070105	0.3	—	N	AO	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1 near Magnolia Avenue	City of Los Angeles	—	—	18070105	0.2	—	N	AH	—
UNKNOWN 1 to Malaga Canyon Creek	City of Palos Verdes Estates	—	—	18070104	0.6	—	N	A	—
UNKNOWN 2 to Malaga Canyon Creek	City of Palos Verdes Estates	—	—	18070104	0.7	—	N	A	—
UNKNOWN 2-A to Malaga Canyon Creek	City of Palos Verdes Estates	—	—	18070104	0.1	—	N	A	—
UNKNOWN 1 near Marathon Street	City of Los Angeles	—	—	18070104	0.1	—	N	AH	—
UNKNOWN 1 near Melrose Avenue	City of Los Angeles	—	—	18070104	0.5	—	N	A	—
UNKNOWN 1 near Mines Avenue	City of Montebello	—	—	18070105	0.1	—	N	AE	—
UNKNOWN 1 to Myrick Canyon Creek	Los Angeles County	—	—	18090206	0.7	—	N	A	—
UNKNOWN 1 near Overland Avenue	City of Los Angeles	—	—	18070104	1.4	—	N	AO	—
UNKNOWN 2 near Overland Avenue	City of Los Angeles	—	—	18070104	0.1	—	N	AH	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1 near W. Olympic Boulevard	City of Los Angeles	—	—	18070104	0.1	—	N	AH	—
UNKNOWN 1 to Pallett Creek	Los Angeles County	—	—	18090206	7.6	—	N	A	—
UNKNOWN 1-A to Pallett Creek	Los Angeles County	—	—	18090206	10.2	—	N	A	—
UNKNOWN 1-A-1 to Pallett Creek	Los Angeles County	—	—	18090206	0.4	—	N	A	—
UNKNOWN 1-A-2 to Pallett Creek	Los Angeles County	—	—	18090206	1.4	—	N	A	—
UNKNOWN 1-B to Pallett Creek	Los Angeles County	—	—	18090206	9.6	—	N	A	—
UNKNOWN 1-B-1 to Pallett Creek	Los Angeles County	—	—	18090206	4.4	—	N	A	—
UNKNOWN 1-C to Pallett Creek	Los Angeles County	—	—	18090206	1.4	—	N	A	—
UNKNOWN 1 to Paso Robles Avenue	City of Los Angeles	—	—	18070105	0.4	—	N	AE	—
UNKNOWN 1 near Pershing Drive	City of Los Angeles	—	—	18070104	0.2	—	N	A	—
UNKNOWN 1 to Portal Ridge Wash	Los Angeles County	—	—	18090206	3.0	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1-A to Portal Ridge Wash	Los Angeles County	—	—	18090206	1.1	—	N	A	—
UNKNOWN 1-B to Portal Ridge Wash	Los Angeles County	—	—	18090206	2.2	—	N	A	—
UNKNOWN 1-C to Portal Ridge Wash	Los Angeles County	—	—	18090206	1.0	—	N	A	—
UNKNOWN 1 near Rexbon Road	City of Los Angeles	—	—	18070105	0.2	—	N	AE	—
UNKNOWN 1 near Ripley Avenue	City of Redondo Beach	—	—	18070104	0.1	—	N	AE	1981
UNKNOWN 1 near Roscoe Boulevard	City of Los Angeles	—	—	18070105	0.2	—	N	AH	—
UNKNOWN 1 near San Diego Freeway	City of Los Angeles	—	—	18070105	0.2	—	N	AH	—
UNKNOWN 1 to San Fernando Road	City of Los Angeles	—	—	18070105	0.4	—	N	A	—
UNKNOWN 2 to San Fernando Road	City of Los Angeles	—	—	18070105	0.5	—	N	A	—
UNKNOWN 1 to San Gabriel River	City of Long Beach	—	—	18070106	1.2	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1 to Santa Susana Creek	City of Los Angeles	—	—	18070105	0.4	—	N	A, AO	—
UNKNOWN 1-A to Santa Susana Creek	City of Los Angeles	—	—	18070105	0.2	—	N	A	—
UNKNOWN 2 to Santa Susana Creek	City of Los Angeles	—	—	18070105	0.4	—	N	A	—
UNKNOWN 1 near Sesnon Boulevard	City of Los Angeles	—	—	18070105	0.1	—	N	AE	—
UNKNOWN 1 near Sheldon Street	City of Los Angeles	—	—	18070105	0.6	—	N	A	—
UNKNOWN 1 near W. Slausson Avenue	Los Angeles County	—	—	18070104	0.2	—	N	AH	—
UNKNOWN 2 near W. Slausson Avenue	Los Angeles County	—	—	18070104	0.2	—	N	AH	—
UNKNOWN 1 near State Highway 110	City of Los Angeles	—	—	18070105	0.2	—	N	A	—
UNKNOWN 1 near W. Sunset Boulevard	City of Los Angeles	—	—	18070104	0.1	—	N	A	—
UNKNOWN 1 near Sunset Canyon Drive	City of Burbank	—	—	18070105	0.8	—	N	AO	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1 near Susanna Place	City of Los Angeles	—	—	18070105	0.1	—	N	AH	—
UNKNOWN 1 near W. Temple Street	City of Los Angeles	—	—	18070104	0.3	—	N	AH	—
UNKNOWN 1 near Toledo Street	City of Torrance	—	—	18070104	0.1	—	N	AE	1978
UNKNOWN 2 near Toledo Street	City of Torrance	—	—	18070104	0.3	—	N	AH	1978
UNKNOWN 1 near UCLA	City of Los Angeles	—	—	18070104	2.4	—	N	AH	—
UNKNOWN 1 near Vail Avenue	City of Montebello	—	—	18070105	0.3	—	N	A	—
UNKNOWN 1 near S. Van Ness Avenue	City of Los Angeles	—	—	18070104	1.2	—	N	A, AH, AO	—
UNKNOWN 1 near Via Valmonte	City of Torrance	—	—	18070104	0.1	—	N	A	1978
UNKNOWN 1 near Victory Boulevard	City of Los Angeles	—	—	18070105	0.6	—	N	AH	—
UNKNOWN 1 near Vincent Street	City of Redondo Beach	—	—	18070104	0.1	—	N	AE	1981

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 2 near Vincent Street	City of Redondo Beach	—	—	18070104	0.1	—	N	AE	1981
UNKNOWN 1 to Vine Creek	City of West Covina	—	—	18070106	0.4	—	N	A	—
UNKNOWN 2 to Vine Creek	City of West Covina	—	—	18070106	0.3	—	N	A	—
UNKNOWN 1 near Walker Avenue	City of Los Angeles	—	—	18070104	0.1	—	N	A	—
UNKNOWN 1 to Weldon Canyon Creek	City of Los Angeles	—	—	18070105	0.1	—	N	AE	—
UNKNOWN 1-A to Weldon Canyon Creek	City of Los Angeles	—	—	18070105	0.1	—	N	AE	—
UNKNOWN WEST of Edwards AF Base	Los Angeles County	—	—	18090206	7.5	—	N	A	—
UNKNOWN WEST of Edwards AF Base	Los Angeles County	—	—	18090206	3.9	—	N	A	—
UNKNOWN WEST of Edwards AF Base	Los Angeles County	—	—	18090206	2.4	—	N	A	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 1 to UNKNOWN WEST	Los Angeles County	—	—	18090206	2.5	—	N	A	—
UNKNOWN 1-A to UNKNOWN WEST	Los Angeles County	—	—	18090206	1.9	—	N	A	—
UNKNOWN 2 to UNKNOWN WEST	Los Angeles County	—	—	18090206	1.5	—	N	A	—
UNKNOWN 2-A to UNKNOWN WEST	Los Angeles County	—	—	18090206	1.0	—	N	A	—
UNKNOWN 3 to UNKNOWN WEST	Los Angeles County	—	—	18090206	1.6	—	N	A	—
UNKNOWN 3-A to UNKNOWN WEST	Los Angeles County	—	—	18090206	0.7	—	N	A	—
UNKNOWN 4 to UNKNOWN WEST	Los Angeles County	—	—	18090206	0.6	—	N	A	—
UNKNOWN 5 to UNKNOWN WEST	Los Angeles County	—	—	18090206	0.5	—	N	A	—
UNKNOWN 6 to UNKNOWN WEST	Los Angeles County	—	—	18090206	0.5	—	N	A	—
UNKNOWN 1 near Wilshire Boulevard	City of Los Angeles	—	—	18070104	2.6	—	N	AH, AO	—

Table 2: Flooding Sources Included in this FIS Report, Continued

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi ²) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
UNKNOWN 2 near Wilshire Boulevard	City of Los Angeles	—	—	18070104	0.2	—	N	AH	—
UNKNOWN 3 near Wilshire Boulevard	City of Los Angeles	—	—	18070104	0.2	—	N	A	—
UNKNOWN 1 near Woodman Place	City of Los Angeles	—	—	18070105	1.2	—	N	A	—

All floodways that were developed for this Flood Risk Project are shown on the FIRM using the symbology described in Figure 3. In cases where the floodway and 1% annual chance floodplain boundaries are either close together or collinear, only the floodway boundary has been shown on the FIRM. For information about the delineation of floodways on the FIRM, refer to Section 6.3.

2.3 Base Flood Elevations

The hydraulic characteristics of flooding sources were analyzed to provide estimates of the elevations of floods of the selected recurrence intervals. The Base Flood Elevation (BFE) is the elevation of the 1% annual chance flood. These BFEs are most commonly rounded to the whole foot, as shown on the FIRM, but in certain circumstances or locations they may be rounded to 0.1 foot. Cross section lines shown on the FIRM may also be labeled with the BFE rounded to 0.1 foot. Whole-foot BFEs derived from engineering analyses that apply to coastal areas, areas of ponding, or other static areas with little elevation change may also be shown at selected intervals on the FIRM.

Cross sections with BFEs shown on the FIRM correspond to the cross sections shown in the Floodway Data table and Flood Profiles in this FIS Report. BFEs are primarily intended for flood insurance rating purposes. For construction and/or floodplain management purposes, users are cautioned to use the flood elevation data presented in this FIS Report in conjunction with the data shown on the FIRM.

2.4 Non-Encroachment Zones

Some States and communities use non-encroachment zones to manage floodplain development. For flooding sources with medium flood risk, field surveys are often not collected and surveyed bridge and culvert geometry is not developed. Standard hydrologic and hydraulic analyses are still performed to determine BFEs in these areas. However, floodways are not typically determined, since specific channel profiles are not developed. To assist communities with managing floodplain development in these areas, a “non-encroachment zone” may be provided. While not a FEMA designated floodway, the non-encroachment zone represents that area around the stream that should be reserved to convey the 1% annual chance flood event. As with a floodway, all surcharges must fall within the acceptable range in the non-encroachment zone.

General setbacks can be used in areas of lower risk (e.g., unnumbered Zone A), but these are not considered sufficient where unnumbered Zone A is replaced by Zone AE. The NFIP requires communities to ensure that any development in a non-encroachment area causes no increase in BFEs. Communities must generally prohibit development within the area defined by the non-encroachment width to meet the NFIP requirement. Regulations for California require communities in Los Angeles County to limit increases caused by encroachment to 0.5 foot and several communities have adopted additional restrictions for non-encroachment areas.

Non-encroachment determinations may be delineated where it is not possible to delineate floodways because specific channel profiles with bridge and culvert geometry were not developed. Any non-encroachment determinations for this Flood Risk Project have been tabulated for selected cross sections and are shown in Table 25, “Flood Hazard and Non-Encroachment Data for Selected Streams.” Areas for which non-encroachment zones are provided show BFEs

and the 1% annual chance floodplain boundaries mapped as zone AE on the FIRM but no floodways.

2.5 Coastal Flood Hazard Areas

For most areas along rivers, streams, and small lakes, BFEs and floodplain boundaries are based on the amount of water expected to enter the area during a 1% annual chance flood and the geometry of the floodplain. Floods in these areas are typically caused by storm events. However, for areas on or near ocean coasts, large rivers, or large bodies of water, BFE and floodplain boundaries may need to be based on additional components, including storm surges and waves. Communities on or near ocean coasts face flood hazards caused by offshore seismic events as well as storm events.

Coastal flooding sources that are included in this Flood Risk Project are shown in Table 2.

2.5.1 Water Elevations and the Effects of Waves

Specific terminology is used in coastal analyses to indicate which components have been included in evaluating flood hazards.

The stillwater elevation (SWEL or still water level) is the surface of the water resulting from astronomical tides, storm surge, and freshwater inputs, but excluding wave setup contribution or the effects of waves.

- *Astronomical tides* are periodic rises and falls in large bodies of water caused by the rotation of the earth and by the gravitational forces exerted by the earth, moon and sun.
- *Storm surge* is the additional water depth that occurs during large storm events. These events can bring air pressure changes and strong winds that force water up against the shore.
- *Freshwater inputs* include rainfall that falls directly on the body of water, runoff from surfaces and overland flow, and inputs from rivers.

The 1% annual chance stillwater elevation is the stillwater elevation that has been calculated for a storm surge from a 1% annual chance storm. The 1% annual chance storm surge can be determined from analyses of tidal gage records, statistical study of regional historical storms, or other modeling approaches. Stillwater elevations for storms of other frequencies can be developed using similar approaches.

The total stillwater elevation (also referred to as the mean water level) is the stillwater elevation plus wave setup contribution but excluding the effects of waves.

- *Wave setup* is the increase in stillwater elevation at the shoreline caused by the reduction of waves in shallow water. It occurs as breaking wave momentum is transferred to the water column.

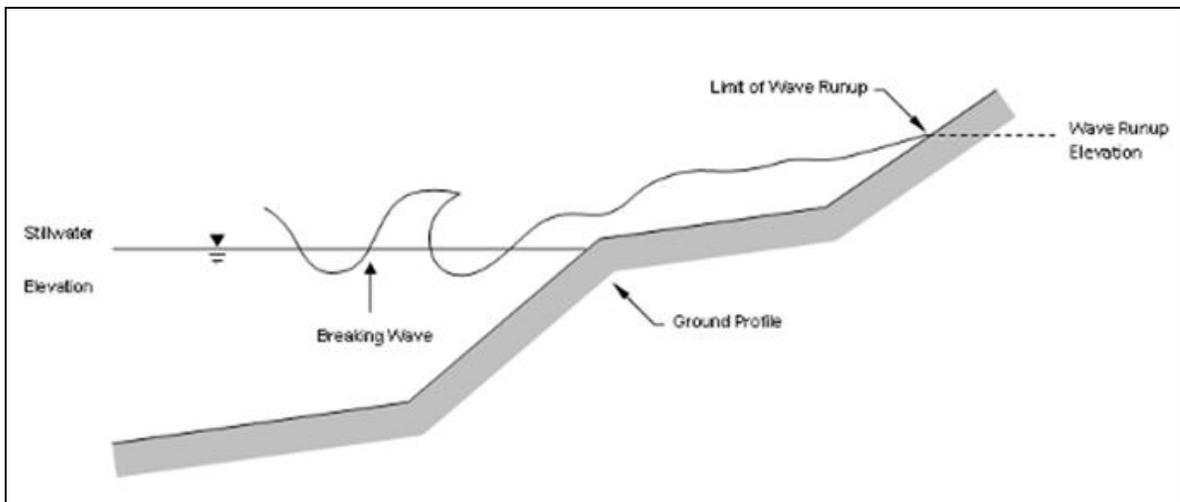
Like the stillwater elevation, the total stillwater elevation is based on a storm of a particular frequency, such as the 1% annual chance storm. Wave setup is typically estimated using standard engineering practices or calculated using models, since tidal gages are often sited in areas

sheltered from wave action and do not capture this information.

Coastal analyses may examine the effects of overland waves by analyzing storm-induced erosion, overland wave propagation, wave runup, and/or wave overtopping.

- *Storm-induced erosion* is the modification of existing topography by erosion caused by a specific storm event, as opposed to general erosion that occurs at a more constant rate
- *Overland wave propagation* describes the combined effects of variation in ground elevation, vegetation, and physical features on wave characteristics as waves move onshore.
- *Wave runup* is the uprush of water from wave action on a shore barrier. It is a function of the roughness and geometry of the shoreline at the point where the stillwater elevation intersects the land.
- *Wave overtopping* refers to wave runup that occurs when waves pass over the crest of a barrier.

Figure 5: Wave Runup Transect Schematic



2.5.2 Floodplain Boundaries and BFEs for Coastal Areas

For coastal communities along the Atlantic and Pacific Oceans, the Gulf of Mexico, the Great Lakes, and the Caribbean Sea, flood hazards must take into account how storm surges, waves, and extreme tides interact with factors such as topography and vegetation. Storm surge and waves must also be considered in assessing flood risk for certain communities on rivers or large inland bodies of water.

Beyond areas that are affected by waves and tides, coastal communities can also have riverine floodplains with designated floodways, as described in previous sections.

Floodplain Boundaries

In many coastal areas, storm surge is the principle component of flooding. The extent of the 1%

annual chance floodplain in these areas is derived from the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1% annual chance storm. The methods that were used for calculation of total stillwater elevations for coastal areas are described in Section 5.3 of this FIS Report. Location of total stillwater elevations for coastal areas are shown in Figure 8, “1% Annual Chance Total Stillwater Levels for Coastal Areas.”

In some areas, the 1% annual chance floodplain is determined based on the limit of wave runup or wave overtopping for the 1% annual chance storm surge. The methods that were used for calculation of wave hazards are described in Section 5.3 of this FIS Report.

Table 26 presents the types of coastal analyses that were used in mapping the 1% annual chance floodplain in coastal areas.

Coastal BFEs

Coastal BFEs are calculated as the total stillwater elevation (stillwater elevation including storm surge plus wave setup) for the 1% annual chance storm plus the additional flood hazard from overland wave effects (storm-induced erosion, overland wave propagation, wave runup and wave overtopping).

Where they apply, coastal BFEs are calculated along transects extending from offshore to the limit of coastal flooding onshore. Results of these analyses are accurate until local topography, vegetation, or development type and density within the community undergoes major changes.

Parameters that were included in calculating coastal BFEs for each transect included in this FIS Report are presented in Table 17, “Coastal Transect Parameters.” The locations of transects are shown in Figure 9, “Transect Location Map.” More detailed information about the methods used in coastal analyses and the results of intermediate steps in the coastal analyses are presented in Section 5.3 of this FIS Report. Additional information on specific mapping methods is provided in Section 6.4 of this FIS Report.

2.5.3 Coastal High Hazard Areas

Certain areas along the open coast and other areas may have higher risk of experiencing structural damage caused by wave action and/or high-velocity water during the 1% annual chance flood. These areas will be identified on the FIRM as Coastal High Hazard Areas.

- *Coastal High Hazard Area (CHHA)* is a SFHA extending from offshore to the inland limit of the primary frontal dune (PFD) or any other area subject to damages caused by wave action and/or high-velocity water during the 1% annual chance flood.
- *Primary Frontal Dune (PFD)* is a continuous or nearly continuous mound or ridge of sand with relatively steep slopes immediately landward and adjacent to the beach. The PFD is subject to erosion and overtopping from high tides and waves during major coastal storms.

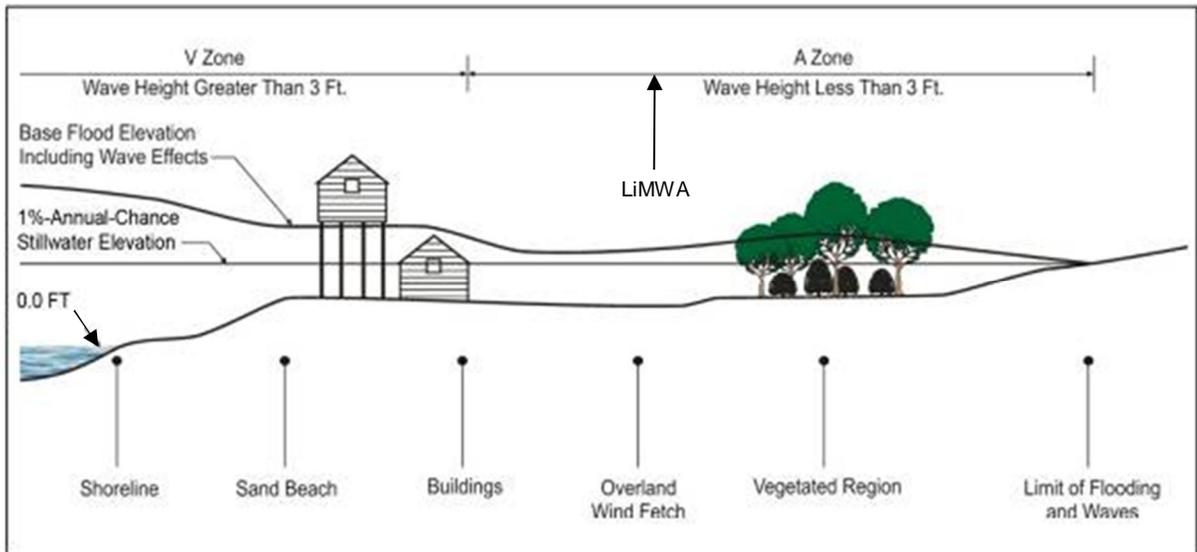
CHHAs are designated as “V” zones (for “velocity wave zones”) and are subject to more stringent regulatory requirements and a different flood insurance rate structure. The areas of greatest risk are shown as VE on the FIRM. Zone VE is further subdivided into elevation zones and shown with BFEs on the FIRM.

The landward limit of the PFD occurs at a point where there is a distinct change from a relatively steep slope to a relatively mild slope; this point represents the landward extension of Zone VE. Areas of lower risk in the CHHA are designated with Zone V on the FIRM. More detailed information about the identification and designation of Zone VE is presented in Section 6.4 of this FIS Report.

Areas that are not within the CHHA but are SFHAs may still be impacted by coastal flooding and damaging waves; these areas are shown as “A” zones on the FIRM.

Figure 6, “Coastal Transect Schematic,” illustrates the relationship between the base flood elevation, the 1% annual chance stillwater elevation, and the ground profile as well as the location of the Zone VE and Zone AE areas in an area without a PFD subject to overland wave propagation. This figure also illustrates energy dissipation and regeneration of a wave as it moves inland.

Figure 6: Coastal Transect Schematic



Methods used in coastal analyses in this Flood Risk Project are presented in Section 5.3 and mapping methods are provided in Section 6.4 of this FIS Report.

Coastal floodplains are shown on the FIRM using the symbology described in Figure 3, “Map Legend for FIRM.” In many cases, the BFE on the FIRM is higher than the stillwater elevations shown in Table 17 due to the presence of wave effects. The higher elevation should be used for construction and/or floodplain management purposes.

2.5.4 Limit of Moderate Wave Action

Laboratory tests and field investigations have shown that wave heights as little as 1.5 feet can cause damage to and failure of typical Zone AE building construction. Wood-frame, light gage steel, or masonry walls on shallow footings or slabs are subject to damage when exposed to waves less than 3 feet in height. Other flood hazards associated with coastal waves (floating debris, high velocity flow, erosion, and scour) can also damage Zone AE construction.

Therefore, a LiMWA boundary may be shown on the FIRM as an informational layer to assist coastal communities in safe rebuilding practices. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The location of the LiMWA relative to Zone VE and Zone AE is shown in Figure 6.

The effects of wave hazards in Zone AE between Zone VE (or the shoreline where Zone VE is not identified) and the limit of the LiMWA boundary are similar to, but less severe than, those in Zone VE where 3-foot or greater breaking waves are projected to occur during the 1% annual chance flooding event. Communities are therefore encouraged to adopt and enforce more stringent floodplain management requirements than the minimum NFIP requirements in the LiMWA. The NFIP Community Rating System provides credits for these actions.

Where wave runup elevations dominate over wave heights, there is no evidence to date of significant damage to residential structures by runup depths less than 3 feet. Examples of these areas include areas with steeply sloped beaches, bluffs, or flood protection structures that lie parallel to the shore. In these areas, the FIRM shows the LiMWA immediately landward of the VE/AE boundary. Similarly, in areas where the zone VE designation is based on the presence of a primary frontal dune or wave overtopping, the LiMWA is delineated immediately landward of the Zone VE/AE boundary.

SECTION 3.0 – INSURANCE APPLICATIONS

3.1 National Flood Insurance Program Insurance Zones

For flood insurance applications, the FIRM designates flood insurance rate zones as described in Figure 3, “Map Legend for FIRM.” Flood insurance zone designations are assigned to flooding sources based on the results of the hydraulic or coastal analyses. Insurance agents use the zones shown on the FIRM and depths and base flood elevations in this FIS Report in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

The 1% annual chance floodplain boundary corresponds to the boundary of the areas of special flood hazards (e.g. Zones A, AE, V, VE, etc.), and the 0.2% annual chance floodplain boundary corresponds to the boundary of areas of additional flood hazards.

Table 3 lists the flood insurance zones in the unincorporated and incorporated areas of Los Angeles County.

Table 3: Flood Zone Designations by Community

Community	Flood Zone(s)
City of Agoura Hills	A, AE, X
City of Alhambra	X
City of Arcadia	D, X
City of Artesia	X
City of Avalon	A, AE, D, VE, X
City of Azusa	A, D, X
City of Baldwin Park	X
City of Bell Gardens	A, X
City of Bell	X
City of Bellflower	AE, X
City of Beverly Hills	D, X
City of Bradbury	D, X
City of Burbank	A, AE, AO, D, X
City of Calabasas	A, AE, D, X
City of Carson	A, X
City of Cerritos	A, AE, X
City of Claremont	D, X
City of Commerce	A, X
City of Compton	A, X
City of Covina	D, X
City of Cudahy	A, X
City of Culver City	A, AE, AO, X
City of Diamond Bar	A, AO, D, X
City of Downey	A, AE, X
City of Duarte	D, X
City of El Monte	X
City of El Segundo	A, AE, VE, X
City of Gardena	A, X
City of Glendale	AE, D, X
City of Glendora	D, X

Table 3: Flood Zone Designations by Community, Continued

Community	Flood Zone(s)
City of Hawaiian Gardens	X
City of Hermosa Beach	A, AE, X
City of Hidden Hills	A, D, X
City of Huntington Park	X
City of Industry	X
City of Inglewood	X
City of Irwindale	D, X
City of La Canada Flintridge	D, X
City of La Habra Heights	D, X
City of La Mirada	AE, X
City of La Puente	D, X
City of La Verne	AE, D, X
City of Lakewood	A, X
City of Lancaster	A, AE, AH, AO, X
City of Lawndale	X
City of Lomita	X
City of Long Beach	A, AE, AH, VE, X
City of Los Angeles	A, AE, AH, AO, D, VE, X
Los Angeles County, Unincorporated Areas	A, AE, AH, AO, D, V, VE, X
City of Lynwood	AH, X
City of Malibu	A, AE, AO, D, VE, X
City of Manhattan Beach	A, X
City of Maywood	X
City of Monrovia	D, X
City of Montebello	A, AE, D, X
City of Monterey Park	D, X
City of Norwalk	AE, X
City of Palmdale	A, AE, AO, D, X
City of Palos Verdes Estates	A, AE, D, X
City of Paramount	A, AH, X
City of Pasadena	D, X
City of Pico Rivera	A, AE, D, X
City of Pomona	D, X
City of Rancho Palos Verdes	A, D, X

Table 3: Flood Zone Designations by Community, Continued

Community	Flood Zone(s)
City of Redondo Beach	A, AE, V, VE, X
City of Rolling Hills	D, X
City of Rolling Hills Estates	X
City of Rosemead	D, X
City of San Dimas	AE, D, X
City of San Fernando	X
City of San Gabriel	X
City of San Marino	X
City of Santa Clarita	A, AE, AH, AO, D, X
City of Santa Fe Springs	AE, AH, X
City of Santa Monica	A, VE, X
City of Sierra Madre	D, X
City of Signal Hill	X
City of South El Monte	X
City of South Gate	A, X
City of South Pasadena	X
City of Temple City	X
City of Torrance	A, AE, AH, V, X
City of Vernon	X
City of Walnut	D, X
City of West Covina	A, D, X
City of West Hollywood	AO, X
City of Westlake Village	A, AE, X
City of Whittier	A, AE, AO, D, X

3.2 Coastal Barrier Resources System

The Coastal Barrier Resources Act (CBRA) of 1982 was established by Congress to create areas along the Atlantic and Gulf coasts and the Great Lakes, where restrictions for Federal financial assistance including flood insurance are prohibited. In 1990, Congress passed the Coastal Barrier Improvement Act (CBIA), which increased the extent of areas established by the CBRA and added “Otherwise Protected Areas” (OPA) to the system. These areas are collectively referred to as the John. H Chafee Coastal Barrier Resources System (CBRS). The CBRS boundaries that have been identified in the project area are in Table 4, “Coastal Barrier Resource System Information.”

Table 4: Coastal Barrier Resources System Information

[Not Applicable to this Flood Risk Project]

SECTION 4.0 – AREA STUDIED

4.1 Basin Description

Table 5 contains a description of the characteristics of the HUC-8 sub-basins within which each community falls. The table includes the main flooding sources within each basin, a brief description of the basin, and its drainage area.

Table 5: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Santa Clara	18070102	Santa Clara River	Encompasses majority of Los Angeles County and Ventura County, as well as Cities of Fillmore, San Buenaventura, Santa Clarita, and Santa Paula	1,610
Santa Monica Bay	18070104	Malibu Creek / Ballona Creek	Mostly highly urbanized areas. Major communities include the Cities of Agoura Hills, Calabasas, Culver City, Inglewood, Los Angeles, Malibu, Santa Monica, and West Hollywood	575
Los Angeles	18070105	Los Angeles River	Majority of the upper portion is covered by forest and open space. Cities of Long Beach and Los Angeles are highly developed with residential and urban use	819
San Gabriel	18070106	San Gabriel River	Majority of areas are not developed. It runs through Angeles National Forest and Cities of Covina, Long Beach, Los Angeles, Pomona, and Whittier	713
San Pedro Channel Islands	18070107	Pacific Ocean	Minor islands off the coast	154
Antelope-Fremont Valleys	18090206	Big Rock Creek / Little Rock Creek	Extended into Los Angeles County and Cities of Lancaster, and Palmdale. Development in the east is generally commercial and industrial.	12,000

4.2 Principal Flood Problems

Table 6 contains a description of the principal flood problems that have been noted for Los Angeles County by flooding source.

Table 6: Principal Flood Problems

Flooding Source	Description of Flood Problems
All sources	Los Angeles County has a long history of destructive flooding. In the Los Angeles basin area, an extensive flood control system eliminated much of the flood hazard experienced in years past. However, in the less densely populated areas of Malibu, Santa Clarita Valley, and Antelope Valley, relatively few flood controls have been constructed. These areas remain subject to flood hazard during major storms.
Los Angeles River	The cities of Bellflower, Carson, Compton, Downey, Gardena, Lakewood, Long Beach, Los Angeles, Lynwood, Montebello, Paramount, Pico Rivera, Santa Fe Springs, South Gate, and Whittier have a history of flooding roughly parallel to that of the larger Los Angeles River watershed. Prior to the construction of the extensive storm drain and flood control channel system protecting numerous communities within the county, these cities suffered the continual damage wrought by overflow of the Los Angeles River and/or its tributaries. Following completion of this system, and due to the lack of a very large flood event during the intervening period, the major cause of flood damage within these cities has been flooding by overflow of local drainage systems and smaller tributaries to the Los Angeles River system. Of particular concern are mudflows that frequently occur in the foothill areas during intense rainfall, usually following wildfires in the upstream watershed.
Pacific Ocean	<p>The Southern California coastline is exposed to waves generated by winter and summer storms originating in the Pacific Ocean. It is not uncommon for these storms to cause 15-foot breakers. The occurrence of such a storm event in combination with high astronomical tides and strong winds can cause a significant wave runup and allow storm waves to attack higher than normal elevations along the coastline. When this occurs, shoreline erosion and coastal flooding frequently results in damage to inadequately protected structures and facilities located along low-lying portions of the shoreline.</p> <p>Oil pumping in past years has caused subsidence along the ocean front areas of Long Beach. Settlements of up to 30 feet have occurred in some areas of the Long Beach Harbor subjecting many locations along the coast to damage from direct wave action. Much of Naples Island and Belmont Shores in southeastern Long Beach, lie at elevations less than the maximum recorded tide.</p>
Ballona Creek	Sources of flooding include the Ballona Creek channel and associated tributaries, as well as drainage channels originating in the Baldwin Hills and surrounding cities. The Los Angeles County Flood Control District's flood overflow maps also indicate a history of flooded streets and low-lying areas along the streams of Culver City.

Table 6: Principal Flood Problems, Continued

Flooding Source	Description of Flood Problems
La Mirada Creek	<p>La Mirada Creek is an unimproved watercourse that flows southwest through the La Mirada. Overflow maps indicate a history of flooded streets and natural watercourses in the city. Between Santa Gertrudes Avenue and Stamy Road, the channel runs into La Mirada Creek Park. The park has been designed as a greenbelt flood plain management area and the 1-Percent Annual Chance discharge is contained within city-owned park property. Downstream of Stamy Road, the flood flows follow the natural watercourse alignment of La Mirada Creek. Between Stamy Road and Imperial Highway, the existing development is rural-residential and the flood plain is occupied by horse corrals and small barns. The water ponds upstream of Imperial Highway inundate approximately 3 acres of undeveloped property. Between Imperial Highway and La Mirada Boulevard, the flows continue through a miniature golf course and a residential development. The residential structures are located on high ground substantially above the flood plain. Downstream of La Mirada Boulevard, the watercourse traverses an open field that is part of Biola College. An existing flood control channel, downstream of the field, collects floodwaters, which are ultimately conveyed to North Fork Coyote Creek.</p> <p>Watersheds of less than one square mile within the city have historically caused flooding in developed low-lying areas. These areas are located in the vicinity of the intersection of Valeda Drive and De Alcala Drive, between Goldendale Drive and Telegraph Road, the eastern end of Capella Street, the intersection of San Feliciano Drive and Figueras Road, the intersection of Crosswood Road and Pemberton Drive, the intersection of Borda Drive and San Ardo Drive, and north of the Atchison, Topeka, and Santa Fe Railway near Castellon Road.</p>
Antelope Valley	<p>The city of Lancaster is on the alluvial floodplain of the Antelope Valley. Consequently, the type of flooding experienced in the city is typical of that experienced by communities developed on alluvial fans. Flood flows discharge from the mountainous canyons onto the desert floor, where, due to the lack of well-incised streambeds, it spreads out in uncontrolled patterns.</p> <p>Flood discharges have overflowed in normally dry streambeds, resulting in heavy damage as floodwaters pass through developed areas. Flooding from Little Rock Creek was experienced in the eastern portion of the city.</p>

Table 6: Principal Flood Problems, Continued

Flooding Source	Description of Flood Problems
Alluvial Fans	<p>The type of flooding in the city of Palmdale is typical of that experienced by communities developed on alluvial fans. Flood flows discharge from the mountainous canyons onto the desert floor, where, due to the lack of well incised streambeds, water spreads out in uncontrolled patterns. Intense, short-duration summer thunderstorms are not uncommon and have created flooding in downstream areas.</p> <p>The principal flood problems for both the Little Rock and Big Rock Washes can be attributed to three factors: the very flat topography, the absence of well-defined natural channels, and the lack of a developed flood control system. In the steeper upstream reaches of both washes, water is confined mostly to the main channel. Flooding problems occur when the flows reach the valley floor where the channels flatten out. This allows the flows to spread over great distances, inundating the surrounding areas.</p> <p>In some instances, flooding from different sources converges in specific drainage areas of the city. In the east-central part of the city, flooding studied by approximate methods originates in the north, east of Amargosa Creek, and converges with flooding studied by detailed methods that originate in the foothills to the south.</p> <p>Flood discharges have overflowed normally dry streambeds, resulting in heavy damage as floodwaters travel through developed areas. During the period of comparatively recent record, floods of major proportions have occurred. The office of the County Engineer has identified the areas in which moderate to severe flooding was observed during heavy storms in 1938, 1965, and 1969 on flood overflow maps. During these floods, widespread damage to orchards, irrigation systems, buildings, and roads occurred.</p>
Redondo Beach Watersheds	<p>The watersheds of Redondo Beach are relatively small with storm flows either draining directly into the ocean or accumulating in numerous small sumps. The Los Angeles County Flood Control District flood overflow maps indicate a history of flooded streets and sumps in the community which resulted from the major storms of 1938, 1965, 1969, 1978, 1980, 1983, and 1994.</p> <p>Flooding caused by the 1-percent annual chance flood is limited to street rights of way, areas of shallow flooding less than one foot deep, and ponding areas. Shallow flooding occurs along Avenue I between South Elena and Esplanade Avenues; along Julia Avenue between Camino Real and South Juanita Avenue; between Del Amo, Diamond, Garnsey, and Vincent Streets; between Vincent Street, South Irena Avenue, Spencer Street, and El Rondo; between Anita Street, North Prospect Avenue, Agate Street, and Harkness Lane; along Carnegie Lane between Blossom and Green Lanes; between Aviation Way and Artesia and Aviation Boulevards; between Gibson Avenue, Deland Boulevard, Dow Avenue, and Manhattan Beach Boulevard; at the intersection of the Atchinson, Topeka, and Santa Fe Railway and Inglewood Avenue; and along Compton Boulevard between Freeman and Aviation Boulevards.</p>

Table 6: Principal Flood Problems, Continued

Flooding Source	Description of Flood Problems
Foothills of Santa Clarita	Los Angeles County Flood Control District flood-overflow maps indicate a history of flooding in this area from major storms. These events demonstrate that the city of Santa Clarita is susceptible to flood damage. Of particular concern are mudflows that frequently occur in the foothill areas during intense rainfall, usually following brush fires in the upstream watershed. This hazard has not been addressed in this study.

Table 7 contains information about historic flood elevations in the communities within Los Angeles County.

Table 7: Historic Flooding Elevations

Flooding Source	Location	Historic Peak (Feet NAVD88)	Event Date	Approximate Recurrence Interval (years)	Source of Data
Big Rock Creek	Near Valyermo, CA	4053.3	1/25/1969	N/A	USGS gage
Big Tujunga Creek	Near Sunland, CA	1574.6	1/23/1943	N/A	USGS gage
Malibu Creek	At Crater Camp near Calabasas, CA	433.0	1/25/1969	N/A	USGS gage
Santa Clara River	450 feet downstream of I-5	797.5	11/15/1952	N/A	USGS gage
Santa Clara River	At Los Angeles County/Ventura County Line	1046.2	1/9/2005	N/A	USGS gage
Topanga Canyon	Near Topanga Beach, CA	268.2	1/25/1969	N/A	USGS gage

4.3 Non-Levee Flood Protection Measures

Table 8 contains information about non-levee flood protection measures within Los Angeles County. Levees are addressed in Section 4.4 of this FIS Report.

Table 8 : Non-Levee Flood Protection Measures

Flooding Source	Structure Name	Type of Measure	Location	Description of Measure
Tujunga Wash	Hansen Flood Control Reservoir	Earthen Dam	Los Angeles, California	Flood control facility built in 1939 in response to significant flooding along the Tujunga Wash.
Los Angeles River	Sepulveda Flood Control Basin	Earthen Dam	Los Angeles, California	Flood control facility that was constructed in response to the historic 1938 floods. It is designed to withhold winter flood waters along the Los Angeles River
San Gabriel River	Whittier Narrows Flood Control Basin	Earthen Dam	Montebello, California	Flood control facility that controls runoff originating in the northeastern portion of Los Angeles County. The Rio Hondo originates at Whittier Narrows Dam

4.4 Levees

For purposes of the NFIP, FEMA only recognizes levee systems that meet, and continue to meet, minimum design, operation, and maintenance standards that are consistent with comprehensive floodplain management criteria. The Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10) describes the information needed for FEMA to determine if a levee system reduces the risk from the 1% annual chance flood. This information must be supplied to FEMA by the community or other party when a flood risk study or restudy is conducted, when FIRMs are revised, or upon FEMA request. FEMA reviews the information for the purpose of establishing the appropriate FIRM flood zone.

Levee systems that are determined to reduce the risk from the 1% annual chance flood are accredited by FEMA. FEMA can also grant provisional accreditation to a levee system that was previously accredited on an effective FIRM and for which FEMA is awaiting data and/or documentation to demonstrate compliance with Section 65.10. These levee systems are referred to as Provisionally Accredited Levees, or PALs. Provisional accreditation provides communities and levee owners with a specified timeframe to obtain the necessary data to confirm the levee's certification status. Accredited levee systems and PALs are shown on the FIRM using the symbology shown in Figure 3 and in Table 9. If the required information for a PAL is not submitted within the required timeframe, or if information indicates that a levee system no longer meets Section 65.10, FEMA will de-accredit the levee system and issue an effective FIRM showing the levee-impacted area as a SFHA.

FEMA coordinates its programs with USACE, who may inspect, maintain, and repair levee systems. The USACE has authority under Public Law 84-99 to supplement local efforts to repair flood control projects that are damaged by floods. Like FEMA, the USACE provides a program to allow public sponsors or operators to address levee system maintenance deficiencies. Failure to do so within the required timeframe results in the levee system being placed in an inactive status

in the USACE Rehabilitation and Inspection Program. Levee systems in an inactive status are ineligible for rehabilitation assistance under Public Law 84-99.

FEMA coordinated with the USACE, the local communities, and other organizations to compile a list of levees that exist within Los Angeles County. Table 9, "Levees," lists all accredited levees, PALs, and de-accredited levees shown on the FIRM for this FIS Report. Other categories of levees may also be included in the table. The Levee ID shown in this table may not match numbers based on other identification systems that were listed in previous FIS Reports. Levees identified as PALs in the table are labeled on the FIRM to indicate their provisional status.

Please note that the information presented in Table 9 is subject to change at any time. For that reason, the latest information regarding any USACE structure presented in the table should be obtained by contacting USACE and accessing the USACE national levee database. For levees owned and/or operated by someone other than the USACE, contact the local community shown in Table 31.

Table 9 : Levees

Community	Flooding Source	Levee Location	Levee Owner	USACE Levee	Levee ID	Covered Under PL84-99 Program?	FIRM Panel(s)
City of Bell	Los Angeles River	Left Bank	USACE, LA District	Yes	1901057931	Yes	06037C1810F
City of Bell	Los Angeles River	Right Bank	USACE, LA District	Yes	1901057921	Yes	06037C1810F
City of Bell Gardens	Rio Hondo Channel	Right Bank	County of Los Angeles	Yes	1901057060	Yes	06037C1664F
City of Carson	Compton Creek	Left Bank	County of Los Angeles	Yes	1901057139	Yes	06037C1815F
City of Carson	Compton Creek	Right Bank	County of Los Angeles	Yes	1901057158	Yes	06037C1815F
City of Carson	Dominguez Channel	Left Bank	County of Los Angeles	Yes	1901057016	No	06037C1935F
City of Carson	Dominguez Channel	Right Bank	County of Los Angeles	Yes	1901057114	No	06037C1935F
City of Carson	Dominguez Channel	Left Bank	County of Los Angeles	Yes	1901057202	No	06037C1935F
City of Carson	Dominguez Channel	Right Bank	County of Los Angeles	Yes	1901057132	No	06037C1935F
City of Long Beach	Los Angeles River	Right Bank	County of Los Angeles	Yes	1901057176	Yes	06037C1962F
City of Montebello	Rio Hondo Channel	Right Bank	County of Los Angeles	Yes	1901057052	Yes	06037C1664F
City of Santa Clarita	Bouquet Canyon Creek	Left Bank	County of Los Angeles	Yes	1901057140	No	06037C0820F
City of Santa Clarita	Bouquet Canyon Creek	Right Bank	County of Los Angeles	Yes	1901057131	No	06037C0820F
City of Santa Clarita	Santa Clara River	Left Bank	County of Los Angeles	Yes	1901057092	No	06037C0820F

Table 9: Levees (continued)

Community	Flooding Source	Levee Location	Levee Owner	USACE Levee	Levee ID	Covered Under PL84-99 Program?	FIRM Panel(s)
City of Santa Clarita	Santa Clara River	Right Bank	County of Los Angeles	Yes	1901057115	No	06037C0840F
City of Santa Clarita	Santa Clara River	Left Bank	County of Los Angeles	Yes	1901057148	No	06037C0820F
City of Santa Clarita	Santa Clara River	Right Bank	County of Los Angeles	Yes	1901057135	No	06037C0840F
City of Santa Clarita	Santa Clara River	Right Bank	County of Los Angeles	Yes	1901057199	No	06037C0820F
City of Santa Clarita	Santa Clara River	Right Bank	County of Los Angeles	Yes	1901057906	No	06037C0840F
City of South Gate	Los Angeles River	Left Bank	County of Los Angeles	Yes	1901057053	Yes	06037C1815F
City of South Gate	Los Angeles River	Right Bank	County of Los Angeles	Yes	1901057054	Yes	06037C1815F
City of South Gate	Los Angeles River	Left Bank	USACE, LA District	Yes	1901057064	Yes	06037C1810F
City of Long Beach	Coyote Creek	Right Bank	USACE, LA District	Yes	1901057050	Yes	06037C1990F
City of Santa Clarita	Santa Clara River	Right Bank	USACE, LA District	No	1901057908	Unknown	06037C0840G
City of Long Beach	San Gabriel River	Right Bank	USACE, LA District	Yes	1901057051	Yes	06037C1990F
City of Santa Clarita	Bouquet Canyon Creek	Right Bank	USACE, LA District	No	1901057909	Unknown	06037C0817G
City of Santa Clarita	Santa Clara River	Left Bank	USACE, LA District	No	1901057183	No	06037C0840G
City of Santa Clarita	Santa Clara River	Left Bank	USACE, LA District	No	1901057911	Unknown	06037C0840G
City of Santa Clarita	South Fork Santa Clara River	Left Bank	USACE, LA District	No	1901058269	No	06037C0818G