APPENDIX C

EXISTING CONDITIONS

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EXISTING CONDITIONS

TABLE OF CONTENTS

1.0 LAND USE

1.1 GEOGRAPHICAL SETTING

The City of Monrovia (City) was incorporated in 1887 and has a current population of 39,327 (California Department of Finance, 2008). The City is located approximately 20 miles northeast of downtown Los Angeles, nestled against the foothills of the San Gabriel Mountains. The San Gabriel Valley lies south of the Project Area (Figure 1). Of the 13.75 square miles under the City's jurisdiction, 1,416 acres of hillside land are designated as open space. This open space land has been zoned as Hillside Wilderness Preserve and Hillside Recreation Area (Figure 2). The Project Area extends in a west-easterly direction from the Monrovia/Arcadia city boundary to the Monrovia/Bradbury boundary, and north from existing Monrovia residential neighborhoods to the Angeles National Forest.

1.2 LAND USE – OWNERSHIP, JURISDICTION AND EASEMENTS

The 1,416-acre Project Area is contained within the undeveloped land along the hillsides that separate the residential neighborhoods of Monrovia from the Angeles National Forest. This land area encompasses Canyon Park, Trask Boy Scouts Camp, Sawpit Reservoir and several private in-holdings within the Specific Plan areas that were incorporated into the wilderness area as a result of the passage of Measures A and B in July 2000. The City has acquired a number of parcels extending between the Arcadia city limits and Canyon Boulevard, including two properties in the eastern section of the Project Area: the Bowden property accessed from Norumbega Drive, which expands the Hillside Wilderness Preserve planning area eastward; and the Sawpit Dam site, which enhances the overall acreage of Canyon Park (Figure 3). Figure 3, Land Ownership, also shows the properties that have State access requirements, as described in Chapter 2.0 of the RMP.

The City also has access easement rights over the entire Lower Clamshell Motorway. In addition, the Project Area contains a number of private in-holdings that need to be considered in developing management strategies.

Although contained within the City's boundaries, the Project Area is subject to other jurisdictional requirements. A summary of these agency responsibilities and easements and private land holdings follows.

1.2.1 United States Forest Service

The Angeles National Forest was established by an Executive Order in December 1892, and today it covers over 650,000 acres of the San Gabriel Mountains north of the City of Los Angeles. Elevations range from 1,200 to 10,064 feet. Much of the forest is covered with dense chaparral that changes to pine and fir-covered slopes near the peaks of the higher elevations.

The U.S. Forest Service and the City of Monrovia share a common property boundary that extends the entire length of the northern limits of the Project Area. Portions of the Angeles National Forest extend into what many consider part of Canyon Park. These areas include the popular Waterfall and the Ben Overturff Trail, which leads to Twin Springs and the historic Deer Park Resort.

Access to the Ben Overturff Trail is provided from Monrovia Canyon Park via the Sawpit Canyon Fire Road. The trail staging area for the Ben Overturff Trail, the Sawpit Canyon Fire Road, and the Deer Park Resort are all located on former City property that was purchased by the Trust for Public Lands and then dedicated to the U.S. Forest Service. In exchange for the property, the City received funds that were used to develop facilities within Canyon Park.

Sawpit Canyon Fire Road, Lower Clamshell Motorway, and the fire station at the terminus of Cloverleaf Drive are maintained under joint use agreements between the U.S. Forest Service, the Consolidated Fire Protection District of Los Angeles County, and the City for fire management purposes.

To effectively manage these contiguous lands, the City of Monrovia and the U.S. Forest Service (Angeles National Forest) have developed two joint management agreements. One relates to fire management and the other to public access. Refer to Section 6.0 of the RMP, for a summary of the U.S. Forest Service's role in managing the Project Area.

1.2.2 County of Los Angeles

The Consolidated Fire Protection District of Los Angeles County (District) shares fire management responsibilities for the Project Area with the City of Monrovia. Refer to Section 6.0 of the RMP, for a summary of the provisions of the Fire Road Maintenance Agreement between the District and the City. Los Angeles County also owns the land associated with Canyon Park Reservoir, but the City pumps water to and from this tank and maintains the reservoir.

1.2.3 City of Arcadia

Chantry Flats Road in the City of Arcadia provides access to the 8.5-acre Chantry Flats Recreation Area contained within the Arcadia Wilderness Area, a 120-acre nature preserve located below Big Santa Anita Canyon. Chantry Flats provides opportunities to create a regional, public access trail corridor that could connect the Hillside Wilderness Area with the Santa Anita Wash in the City of Arcadia. Lower Clamshell Motorway could provide access for hikers to this area.

1.2.4 Lower Clamshell Motorway

The Consolidated Fire Protection District of Los Angeles County (District) and the U.S. Forest Service have access rights to the Lower Clamshell Motorway for fire management purposes.

Private property owners with title to lands within the Project Area have access rights along the Lower Clamshell Motorway from Cloverleaf Drive. These properties also have emergency egress rights from the Lower Clamshell Motorway to Ridgeside Drive.

With the passage of Measures A and B, the trail plans delineated in the Specific Plan areas have been approved. Based on the trail descriptions given in the Specific Plans, public access for hiking and biking is permitted on the Lower Clamshell Motorway. The City has an easement over the Lower Clamshell Motorway for access. In fact, the Motorway is open for hiking and biking from Ridgeside Drive to the middle gate. Occasionally, bikers and hikers also use the entire Motorway to Arcadia and throughout private property to Hidden Valley Road.

1.2.5 Private In-Holdings

Several private parcels are located within the Hillside Wilderness Preserve west of Canyon Drive including three landlocked parcels (Weseloh, Suess, Fors) with residential dwellings and two undeveloped properties (Suess, Leonard). The only access to these parcels is the Lower Clamshell Motorway via Cloverleaf Drive. Emergency egress for the private landowners is provided from Ridgeside Drive.

1.3 URBAN WILDERNESS INTERFACE

The proximity of the San Gabriel hillsides to the Los Angeles metropolitan region of nearly 20 million people, and immediate adjacency to several communities, including Monrovia, provides visitors the opportunity to experience natural resources in a setting not commonly found in the highly urbanized Los Angeles metropolitan region.

Preservation of the San Gabriel Mountains began with the designation of the Angeles National Forest in 1892. For Monrovia, more recent open space preservation measures included the passage of Measures A and B in 2000 designating the hillside area within the City's boundaries as Hillside Wilderness Preserve and Hillside Recreation (Project Area). The City now owns and maintains 1416 acres of hillside land contiguous to the larger regional ecosystem that includes the Angeles National Forest (650,000 acres).

The proximity of the Project Area to larger regional wilderness areas creates a rare opportunity to preserve a functional wildland with unimpeded corridors along the major drainages and foothill faces. Preservation of these City lands will enhance the connectivity of the area, while development would have resulted in isolated islands of habitat that would have inhibited the movement of wildlife and increased the risk for local extirpation.

Due to its location between the U.S. Forest Service lands and the developed San Gabriel Valley, the Project Area functions as an urban wilderness interface edge or buffer zone. As a result, the City faces the management challenges of maintaining the ecological integrity and aesthetic quality of the land, while providing for both passive recreational experiences and consideration of the residents adjoining the foothills. Moreover, existing residential areas located in proximity to this wildland area have the potential to cause negative effects. Some of these potential effects on the Project Area include the introduction of light pollution, exotic pests, feral pets, exotic plants, diseases, fire, and air pollution. Conflicts may also occur along the urban edge from wild animals moving into the residential areas to roam and forage.

Another key management challenge associated with the urban interface area is the potential for wildland fires. The wet, mild winters and dry, hot summers provide the ideal climate conditions for fire as evidenced in the repeat fires that have occurred in the San Gabriel Mountains throughout the years. Today, the greatest potential for fire damage exists at the interface between the Project Area and adjacent residential development where homes meet the 30-50 year brush growth.

2.0 PHYSICAL RESOURCES

2.1 PHYSICAL SETTING

The Project Area is located in the foothills of the San Gabriel Mountains at elevations ranging from 600 to 2,000 feet above sea level and is primarily composed of undeveloped land that has been subject to little disturbance due to its steep and rugged terrain. The land is characterized by a varied topography containing a complex system of major drainages and canyon watercourses and is bound by urban development to the south and to the west, the Angeles National Forest to the north, and undeveloped land to the east and west. Although the Project Area is largely comprised of pristine native habitat, the site also includes a developed park, disturbed areas dominated by ornamental and agricultural plantings, an old nursery, nonnative weed species, and unpaved roads and trails that are currently used by pedestrians, bicyclists, and a few motorized fire, utility and private vehicles.

The foothills are characterized by steep slopes comprised of fractured and unstable materials that have a high erosion potential. The soils are typically shallow, poorly developed, relatively young and highly permeable (San Gabriel Valley Primer June 2000).

These hillside areas form part of the watershed that feeds the Rio Hondo and Los Angeles Rivers. Natural habitat consists predominately of native coastal sage scrub and chaparral vegetation communities. These large open areas of highly combustible vegetation combined with the dry climate, rugged terrain and close proximity to developed residential areas have resulted in the area being designated as a High Fire Zone by the State of California Department of Forestry (A:/MonroviaIII/EIR, May 2007).

The riparian corridors associated with these areas generally extend south from the Angeles National Forest to the edges of the developed residential areas of the City. The stream banks within these narrow canyons are heavily vegetated with mature stands of coast live oaks, bigleaf maple and other woodland species. These woodland canyons offer a respite from the exposed, south facing coastal sage scrub and chaparral native vegetation communities.

Access to these canyons is generally restricted to trails along the hillside faces found throughout the Project Area, with the exception of Monrovia Canyon, which is accessible via established trails that initiate from Monrovia Canyon Park. The Lower Clamshell Motorway is an unpaved road that runs east to west through the western and central portions of the Project Area and provides recreational use opportunities for pedestrians and bicyclists, as well as vehicular access to privately owned residences on isolated parcels within the Project Area. This road is maintained and utilized by the Consolidated Fire Protection District of Los Angeles County and the U.S. Forest Service for fire management purposes.

2.2 GEOLOGY AND SOILS

2.2.1 Geologic Setting

The City of Monrovia is located in the northern San Gabriel Valley at the southern face of the San Gabriel Mountains. The Project Area is located in the geologically hazardous terrain of the foothills at the northern edge of the valley.

The San Gabriel Mountains to the north of the City, as opposed to the valley basin, consist of relatively hard, igneous and metamorphic rocks, which support the steep slopes and major canyons. The less steep San Rafael Hills, to the northwest of the City, are composed of the same substance. The western San Gabriel Valley is underlain by Holocene and Pleistocene alluvium up to 5,000 to 6,000 feet in thickness. The valley floor, south of the Raymond Hill fault, is underlain by tertiary rocks. While to the north, the valley floor is underlain by granite and metamorphic rocks comparable to those in the hills to the west and north.

This difference in terrain of the valley basin and surrounding hills suggests the past uplift along the front of the San Gabriel Mountains.

2.2.2 Soils

The soils within the Project Area are closely aligned with the topography. The canyon floors contain alluvial soils that are designated as being prone to liquefaction by the California Division of Mines and Geology, while the steep ridges are made up of crystalline bedrock that have been designated for seismically induced landslides. Figure 4 – Geology and Major Faults (Dibble 1998), shows the different locations of the various soil types within the Project Area.

Review of geologic maps (Dibble 1998) indicates that the two dominant exposures of rock within the Project Area are Mesozoic granitic rocks and Precambrian metamorphic rocks. Neither of these rocks contains paleontological remains. There are also a few exposures of Quaternary alluvium (stream deposits) in the bottom of the canyons and canyon mouths and Quaternary non-marine terrace deposits on the sides of the valleys.

Quaternary Alluvium is a geologically recent deposit of gravel, sand, silt or mud that was deposited by flowing water in a stream or river. It is found along old and active stream and river drainages and is usually loosely consolidated. Sand grains are generally sub-angular to sub-rounded, while the gravels and cobbles are rounded to well rounded. Color is usually light grey to light yellow. These deposits were usually deposited during the Holocene (from the recent to 10,000 years ago).

Quaternary non-marine terrace deposits are the sediments contained within stream terraces. Stream terraces are relatively level surfaces in a valley or canyon, flanking and more or less parallel to the stream channel. They are generally located above the level of the stream and represent the remnants of an abandoned flood plain, stream bed or valley/canyon floor produced during an earlier stage of deposition or erosion that the current active stream is cutting into and exposing. These deposits consist of interbedded silt, clayey sand, and conglomeratic coarse grained sands. These deposits are usually somewhat consolidated and will have a developed soil horizon. Colors can vary from light yellows to browns to reds. These sediments were deposited during the Pleistocene (between 10,000 to 2 million years ago).

The Duarte Conglomerate unit is a Pliocene or Miocene terrestrial alluvial deposit from the San Gabriel Mountain, and has very limited exposures in the area. It contains no know fossils (Morton and Miller 2003). However, based on the composition of some of its sandier and siltier interbeds, there is a slight potential for the preservation of fossil remains. However, most geologic formations that contain an abundance of conglomerate in their matrix are not conductive to the preservation of fossils. Therefore it is considered to have a low sensitivity to contain paleontological remains.

Erosion Potential. The steep slopes, intermittent streams and rapid rate of degradation found in the San Gabriel Mountains combine to produce large amounts of debris. The debris carried down from the mountains erodes waterways, accumulates and blocks the channels and storm drains, and causes flooding. Water moving into blocked channels has the potential to seek other courses, leading to more erosion and possible slope wasting.

Surface water runoff has the potential to contribute to debris flows during storm events, which causes erosion of canyon swales and leads to potential slope stability problems. Due to high erosion rates, flood hazards and potential mudflow problems, the City of Monrovia and the Los Angeles County Flood Control District (LACFCD) have determined that the area has a "drainage deficiency" (potential to experience flooding during a storm event). The Project Area is subject to potential flood, mud, and erosion hazards, which could pose a threat to the health and safety of the public.

2.2.3 Geologic Hazards

Mud and Debris Flows. The effects of a fire in the Project Area could create a potential for rapid downhill movement of mud and debris flows as the lack of vegetation, resulting from fire, lowers the stability of exposed soils and decreases the water-holding capacity of the local watershed. These flows would typically occur in hillside areas where the soil horizon is well developed and the soil has poor drainage characteristics.

Landslide Activity. A previous study of landslides in the Monrovia hillside areas identifies many landslides of various sizes and types within the foothills (City of Monrovia General Plan – Safety Element 2002). The majority of the landslides are primarily in the steep northern area, which is underlain by granite bedrock. The reasons for this activity are weakened bedrock by fracturing, faulting and weathering, as well as abnormally high seismic forces and rapid uplift of the mountain range. Most of the previous landslides appear to be shallow rock falls. However, several of the larger slide areas involved massive volumes of bedrock.

Major Faults. The most prominent faults in close proximity to the City of Monrovia are the Sierra Madre Fault Zone (includes the Duarte Fault), the San Andreas Fault, and the Raymond Hill Fault. The Sierra Madre Fault is located in the San Gabriel Mountains, while the Raymond Hill Fault is situated in the foothills in the northern portion of the City of Monrovia within the Project Area boundaries. The San Andreas Fault, which is located twenty miles to the north of the City, is also important as a major source of shaking at the base.

The Raymond Hill Fault is an active fault with a maximum moment magnitude of 6.5. The Raymond Hill Fault and the seismogenically active Sierra Madre Fault are both classified as Type "B" Faults by

the 1997 California Building Code. Presence of these two faults implies that the potential earthquake ground motion for the Project Area is substantial (U.S. Department of Conservation 1999) (Figure 4).

The Alquist-Priolo Earthquake Fault Zone Act. The State of California passed the Alquist-Priolo Earthquake Fault Zone Act in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The main purpose of the Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards, such as ground shaking or liquefaction.

The Act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and issue appropriate maps. These maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate development projects within the zones. The Project Area is located close to an Alquist-Priolo Earthquake Fault Zone (Raymond Hill).

Liquefaction and Landslide Potential. The alluvial canyon areas of the Project Area are subject to liquefaction, while many of the steep ridges in the crystalline bedrock are prone to seismically induced landslides (City of Monrovia 1993).

2.3 HYDROLOGY AND WATER SUPPLY

2.3.1 Hydrologic Unit

The Project Area is located in the Lower Canyon Hydrologic Unit of the Los Angeles Basin which includes the watershed of the San Gabriel River. This watershed encompasses the steep slopes and canyons that drain the San Gabriel Mountains with water generally flowing north to south into the San Gabriel River. Within the Project Area there are several large canyons containing "blue line"[6] streams (Figure 5). These include Clamshell and Ruby Canyons in the western portion of the Project Area, and Spanish, Monrovia, Maple, Sawpit, Sycamore and Twin Springs Canyons in the eastern portion of the Project Area. A small, unnamed canyon at the western edge of the Project Area contains a blue line stream that drains into the Santa Anita Wash. All the waterways, with the exception of Monrovia Canyon Creek and Sawpit Canyon Creek, are intermittent (e.g., occur only during periods of rainfall).

The floodplain of Santa Anita Creek is located on the northwest edge of the Project Area forming a common boundary with the City of Arcadia. This floodplain includes a broad, shallow man-made pond that is contained behind a concrete channel and drop structure. With the exception of some willows (*Salix* spp.) and mulefat along the edges of this open water area, there is little to no vegetation associated with this area.

[6] A "Blue line" stream is defined as any stream shown as a solid or broken blue line on 7.5-minute series quadrangle maps prepared by the U.S. Geological Survey (USGS). A blue line stream may be any creek, stream, or other flowing water feature, perennial or ephemeral, indicated on USGS quadrangle maps, with the exception of man-made watercourses. The United States Army Corps of Engineers uses USGS blue line stream markings as a preliminary indicator of waters of the United States.

The San Gabriel River extends from the headwaters of the San Gabriel Mountains 75 miles south of the City of Monrovia through the San Gabriel Valley and drains into the Pacific Ocean at the City of Long Beach.

The Federal Emergency Management Agency (FEMA) maintains and updates the National Flood Insurance Program (NFIP) maps, which identify community flood hazard zone designations. The entire community (City of Monrovia) has been placed in Zone D, "an area of possible but undetermined flood hazard" (FEMA 2000).

2.3.2 Municipal Water Distribution System

The water distribution system is maintained and operated by the City of Monrovia Utilities Division, Public Works Department. Three (3) City-owned reservoirs sites are located within the boundary of the Project Area (Figure 5). The City owns the underlying property for each reservoir with either easement rights or dedicated right-of-way for access. These reservoirs include:

- The *Upper Cloverleaf Reservoir*, a two million gallon reservoir located approximately 0.3 mile north of Highland Place at an elevation of 1,075 feet.
- The *Emerson Flats Reservoir*, a 0.5 million gallon reservoir located 0.3 mile north of Ridgeside Drive.
- The *Norumbega Reservoir*, a one million gallon reservoir located 0.1 mile west of Norumbega Drive at elevation 1,075 feet.

The City's well field site located at 2655 S. Myrtle Avenue supplies all of the water contained within the reservoirs. Each of the reservoirs has access roadway easements for maintenance purposes that traverse the Project Area. Additional easements accommodate the underground pipelines that convey water from the distribution system to and from the reservoirs.

Sawpit Reservoir (no longer active), contained behind Sawpit Dam and Trask Boy Scouts Camp Reservoir, is sustained by Sawpit Canyon Creek. Canyon Park Reservoir, a 0.1 million gallon steel tank located $^{1}/_{10}$ mile east of North Canyon Boulevard at an elevation of 1,543 feet, is owned by Los Angeles County, but the City pumps water to and from this tank and maintains the reservoir that feeds a portion of Canyon Park.

None of the water supply sources within the Project Area currently serve City residences except for one house inside the Project Area. The Monrovia Fire Department in partnership with the Angeles National Forest Service renovated the former caretaker's house to serve as the Monrovia Wilderness Fire Station.

A connection with the Municipal Water District supplements the system in case the City requires an emergency water supply. This connection has never been used, as the City currently has more available water supply than their demand.

The maintenance of this water system of reservoirs, pipelines and access roads is the priority of the City and is required by the Department of Health Services. As such, the Monrovia Public Works

Department requires ongoing access to their facilities for routine and emergency maintenance and inspection.

2.4 CLIMATE

The Project Area is located within the South Coast Air Basin, bounded by the Pacific Ocean on the west and the San Gabriel, San Bernardino, and San Jacinto Mountains on the north and east. The regional climate in the South Coast Air Basin is classified as Mediterranean, characterized by warm, dry summers and mild, moist winters. The warmest month of the year is July and the coldest is January. Although the climate is considered semiarid, the marine layer keeps the air near the land surface moist on most days. Annual average relative humidity is 71 percent along the coast and 59 percent inland.

More than 90 percent of rainfall in the South Coast Air Basin occurs from November through April. The majority of precipitation is in the form of rain. Monthly and yearly precipitation is extremely variable. Average annual rainfall along the San Gabriel River corridor varies from approximately 28 inches in the San Gabriel Mountains, to 18 inches in the San Gabriel Valley, to approximately 14 inches on the coastal plain. Average annual precipitation in the City of Monrovia is approximately 20 inches.

2.5 AESTHETIC RESOURCES

Natural features within the Project Area provide a significant viewshed amenity to the residents of the City of Monrovia. Views within the Project Area range from intimate, secluded spaces to panoramic vistas. The diversity of the landscape and topography provides opportunities for a variety of visitor experiences. Key aesthetic features include extensive ridgelines which serve as a backdrop to the city, scenic vistas that provide substantial panoramic views, and deep canyons cut by “blue line” streams that provide respite from the exposed ridgelines.

2.5.1 Vista Points/Panoramic Views

Due to the varied topography within the Project Area, several points offer views of the area’s scenic resources. Vista points along the Lower Clamshell Motorway provide high quality panoramic views of the surrounding urban development in the San Gabriel Valley to the south and the undeveloped wilderness of the San Gabriel Mountains to the north, including “Four Palms.”

2.5.2 Secluded Environments

The Project Area landscape is characterized by rugged topography consisting of steep hillsides surrounding deep canyons. In the upper reaches of these canyons, canyon walls and trees create enclosed spaces where viewers can focus on details such as rock formations, plants, and water features. The water fall in Canyon Park provides an example of a secluded, shaded canyon environment.

2.5.3 Built Features within the Project Area

Several of the structures in the Project Area include distinctive features that reflect the unique history of the area. These features include the remnants of the historic Deer Park Resort, remnants of an historic water conveyance system, and the Rankin family grave site. In addition, Canyon Park contains a number of structures, such as the Canyon Park Nature Center, that were designed to fit into the overall setting of the park. Each of these structures was developed to serve the park visitors and augment the recreational experience. Other built features include the cabin and support facilities associated with the Outdoor Discovery School at the Trask Boy Scouts Camp, Sawpit Dam, utility corridors, the Caretaker Cottage, and other infrastructure including water tanks, as well as three private residences.

3.0 BIOLOGICAL RESOURCES

3.1 VEGETATION DYNAMICS

Natural vegetation is not static. It changes and shifts from one type to another over time based on prevailing physical, biological, and human-caused conditions or influences. The process of change in vegetation community composition and structure is termed *succession* (Gurevitch et al. 2002). The broader term "vegetation dynamics" refers to this process of succession and the associated influences that promote such changes. A description of the plant communities as they currently occur, along with a discussion of the factors (e.g., exotic plant species and fire) influencing the structure and composition of the habitat in the Project Area are discussed in the sections that follow.

3.2 VEGETATION COMMUNITIES

LSA Associates, Inc. (LSA) biologists conducted habitat mapping and general reconnaissance surveys in June and July 2006. Off-trail pedestrian access was difficult and limited due to the terrain and prevalence of poison oak. Surveys were conducted on foot where feasible; where access was not possible, areas were mapped by viewing the vegetation through binoculars from various vantage points and through the use of aerial photographs. The minimum polygon mapping unit was one acre. All plant and animal species observed during the surveys were recorded for inclusion in a species list.

The plant communities were classified referencing the Preliminary Descriptions of Terrestrial Natural Communities of California (Holland 1986), which provides specific criteria for distinguishing among habitat types. Where available, LSA reviewed existing habitat vegetation maps and classification data for the study area in the literature search. Documents prepared by other consultants for biological surveys conducted in portions of the study area were utilized; these data have been combined with data collected during LSA's surveys in 2006 to generate these habitat classifications and descriptions, as well as to create comprehensive plant and animal species lists. The mapped vegetation communities are illustrated in Figure 7 – Vegetation Communities.

The vegetation within the Project Area is a complex mosaic of eight (8) major vegetation types composed of eighteen (18) distinct vegetation communities. Three of these communities are considered sensitive by State and/or local agencies. The primary vegetation types in the study area, listed with total acreage, are as follows:

- Scrub, 211 acres
- Chaparral, 679 acres
- Grassland, 2.7 acres
- Riparian, 27 acres
- Southern Coast Live Woodland, 520 acres
- Pine spp., 5 acres
- Developed and/or Disturbed, 38 acres
- Ornamental Landscaping, 28 acres

Table B – Existing Vegetation Communities within the Project Area, provides a detailed listing of the eighteen (18) identified vegetation communities accompanied by acreage totals. Appendix A lists the plant species observed within the boundaries of the Project Area by LSA biologists and in other studies, plant species with a high potential to occur, and plant species identified in other studies conducted in the Project Area. A description of each of the vegetation communities mapped in the Project Area follows.

3.2.1 Scrub

Scrub vegetation consists primarily of low-growing, drought-tolerant native shrubland communities, including coastal sage scrub and alluvial fan scrub. Urbanization and agricultural land conversion have resulted in a dramatic loss of scrub habitat in southern California, which makes this remaining habitat in the Project Area especially important. Coastal sage scrub communities are scattered throughout the site in relatively small patches on ridge tops and hillsides. These communities are interspersed with the more common chaparral habitat, while alluvial fan scrub is typically restricted to alluvial fans and flood plains, which tend to be altered by flood control activities that circumvent the periodic flooding necessary to maintain the habitat.

Coastal Sage Scrub. Coastal sage scrub is found in the vicinity of the Cloverleaf Tank Reservoir in the western portion of the Project Area. Although this scrub is in a degraded state due to disturbance from human activity, including an old borrow area located in a saddle on the ridgeline to the west of the tank, it is the only area of coastal sage scrub vegetation large enough to be mapped distinctly from the surrounding chaparral habitat. The dominant vegetation consists of California sagebrush *(Artemisia californica)*, interior flat-topped buckwheat, and laurel sumac *(Malosma laurina)*. Other native species observed in this area during biological surveys include California encelia *(Encelia californica)*, saw-toothed goldenbush *(Hazardia squarrosa* subsp. *grindelioides)*, California filago *(Filago californica)*, and checkers *(Sidalcea malvaeflora* subsp. *sparsifolia)*.

Alluvial Fan Scrub. This vegetation type consists of deep-rooted and upland shrubs that occupy infrequently flooded and scoured habitats. Within the Project Area this vegetation type is largely restricted to the Santa Anita Wash area on the extreme western periphery of the site, although historical records indicate that it was present in the Sawpit Wash near the confluence of Ruby Canyon. This area is disturbed by flood control activities and has been scoured in some areas by substantial flooding events. Scale-broom *(Lepidospartum squamatum)* and sand-wash butterweed *(Senecio flaccidus)* are dominant and indicative of this habitat type; low-lying interior flat-topped buckwheat *(Eriogonum fasciculatum* subsp. *foliolosum)* is also present throughout this area.

3.2.2 Chaparral

Chaparral vegetation consists of evergreen, dark-green leaved, medium-height to tall shrubs that are pre-adapted to occasional wildfires. As the community grows, it becomes woody and senescent, producing fuel loads that, combined with the oily resins exuded from the plants, create a highly flammable environment. Fires remove this senescent material and allow forbs and grasses to regenerate in the fertile ash. Chaparral plants respond to fire by crown sprouting and seed germination. The seeds of many chaparral species must be scarified by fire, or they will not sprout. If a community does not burn within 25 to 30 years, the fuel load becomes so heavy that fires are much more devastating, destroying root crowns and seeds.

Table B: Existing Vegetation Communities within the Study Area

Vegetation Type	Acreage
Scrub	
Coastal Sage Scrub (CSS)	14.11
Alluvial Fan Scrub (ALL)	10.24
Coastal Sage Scrub / Chaparral Ecotone (CSS/CH)	130.00
Subtotal Coastal Sage Scrub	**154.57**
Chaparral	
Southern Mixed Chaparral (CH)	659.97
Subtotal Chaparral	**659.97**
Grassland	
Grassland (G)	2.71
Subtotal Grassland	**2.71**
Riparian	
Sycamore Riparian Woodland (S)	2.42
Sycamore / Alder Riparian Woodland (S/ALD)	5.30
Alder Riparian Forest (ALD)	19.24
Willows (WIL)	0.96
Subtotal Riparian	**27.92**
Southern Coast Live Oak Woodland	
Southern Coast Live Oak Woodland (O)	394.59
Oak / Chaparral Ecotone (O/CH)	57.33
Mixed Oak / Ornamental Landscape Ecotone (O/ORN)	9.83
Oak / Sambucus Ecotone (O/SAM)	0.52
Oak / Sycamore Woodland (O/S)	36.94
Subtotal Woodland	**499.21**
Pine Spp.	
Pine spp. (P)	5.39
Subtotal Pine	**5.39**
Developed and/or Disturbed Areas	
Developed (DEV)	26.05
Disturbed (DIS)	11.81
Subtotal Developed and/or Disturbed	**37.86**
Ornamental Landscaping	
Disturbed / Ornamental Landscaping (DIS/ORN)	28.37
Subtotal Ornamental Landscaping	**28.37**
TOTAL ACRES	**1,416**[7]

[7] While the vegetation mapping on previous pages includes the Arcadia Wilderness Park; the total acres indicated in Table B do not include this area. Arcadia Wilderness Park is located outside the City limits, and is not part of the Project Area and will not be managed under this RMP.

Chaparral is found on steep slopes of all aspects in the Project Area. In some areas, the coastal sage scrub elements exist in patchy association with chaparral. Scrub oak *(Quercus berberidifolia)* also occurs sporadically throughout this community. The two types of chaparral communities found within the study area are described below.

Coastal Sage Scrub/Chaparral Ecotone. A large portion of the Project Area consists of a gradation and intermingling of sage scrub and chaparral vegetation elements. These represent ecotonal areas between chaparral and scrub communities with component species of both and are usually patches of scrub with a strong component of chaparral species within a chaparral matrix. These areas typically occur on xeric south- and west-facing slopes and are characterized by sage scrub vegetation consisting primarily of low-growing, drought-tolerant native shrubland species interspersed with chamise and other chaparral shrubs.

Although the plant composition varies to differing degrees between the communities, the dominant shrubs tend to be California sagebrush, California buckwheat *(Eriogonum fasciculatum)*, and black sage *(Salvia mellifera)* well interspersed with laurel sumac, holly-leaved redberry *(Rhamnus ilicifolia)*, and chamise *(Adenostoma fasciculatum)*. Other common species include poison oak *(Toxicodendron diversilobum),* saw-toothed goldenbush, California filago, heart-leaved penstemon *(Keckiella cordifolia),* and orange bush monkey flower *(Mimulus aurantiacus)*. The rare Plummer's mariposa lily[8] *(Calochortus plummerae)* and federally listed Endangered Braunton's milk-vetch *(Astragalus brauntonii)* were also observed in this vegetation community.

Southern Mixed Chaparral. Southern mixed chaparral is found throughout the Project Area on steep slopes of all aspects and is typically composed of a diverse mixture of chaparral species that vary throughout the Project Area based on elevation, slope, and aspect. Characteristic shrub species that were observed in the Project Area include laurel sumac, toyon *(Heteromeles arbutifolia),* scrub oak, holly-leaved redberry, sugar bush *(Rhus ovata)*, mountain mahogany *(Cercocarpus betuloides)*, whitebark lilac *(Ceanothus leucodermis)*, buck bush *(Ceanothus cuneatus)*, hairy lilac *(Ceanothus oliganthus)*, and several species of related currants and gooseberries (*Ribes* spp.). California peony *(Paeonia californica)* occurs sporadically. At the higher elevations, Parish's goldenbush *(Ericameria parishii)* and manzanita (*Arctostaphylos* spp.) are present. Annual bulbs and herbaceous perennials observed in this habitat type during the 1999 (Pacific Southwest) and 2006 (LSA) surveys included lacepod *(Thysanocarpus curvipes)*, sweet pea *(Lathyrus vestitus)*, collar lupine *(Lupinus truncatus)*, scarlet larkspur *(Delphinium cardinale),* and blue dicks *(Dichelostemma capitatum* subsp. *capitatum)*. Two regional oak species, Engelmann oak *(Quercus engelmannii)* and leather oak *(Quercus durata* var. *gabrielensis),* were also observed within or along the edges of this community. Chaparral is mapped in large areas throughout the Project Area across all soil associations and all aspects within the study area.

[8] Although this species does not have an official federal or State listing, it is designated as rare throughout its range in the California Native Plant Society (CNPS) inventory of rare and endangered plants (2006).

3.2.3 Grassland

The Project Area contains a small area of annual grassland in the vicinity of the Cloverleaf Tank Reservoir, generally located on flat or mildly sloping areas where maximum sunlight occurs and is principally characterized by nonnative annual grasses of exotic origin. These grasslands were created by disturbances including grading for firebreaks. The most common grass species include ripgut brome *(Bromus diandrus)*, slender wild oat *(Avena barbata),* foxtail barley *(Hordeum murinum* ssp. *leporinum)*, red brome *(Bromus madritensis* ssp. *rubens)*, soft chess *(Bromus hordeaceus)*, wild oat *(Avena fatua)*, and foxtail fescue *(Vulpia myuros)*. Sub-shrubs and shrubs, including coastal goldenbush *(Isocoma menziesii* var. *vernonioides)*, common sand aster *(Corethrogyne filaginifolia)*, and California sagebrush, are occasional in this grassland.

3.2.4 Riparian

Riparian habitats consist of trees, shrubs, or herbs that occur along watercourses and bodies of water. The vegetation is adapted to flooding and soil saturation during at least a portion of its growing season. Riparian communities are considered sensitive by the California Department of Fish and Game (CDFG) (Holland 1986). Of the two riparian vegetation communities that were mapped during this assessment, white alder riparian woodland was the most widespread. Occasionally, small stands of mulefat scrub habitat, which is typically composed of dense, monotypic stands of mulefat *(Baccharis salicifolia)* often accompanied by coyote brush *(Baccharis pilularis)*, Mexican elderberry *(Sambucus mexicana),* poison oak, and coastal goldenbush were observed; however, these small areas were sporadic and considerably smaller than the 1-acre polygon mapping size used for this study. These were mapped according to the surrounding dominant habitat. Each of the riparian communities found in the Project Area are discussed below.

Sycamore/Alder Riparian Woodland. Sycamore/alder riparian woodland habitat occurs along the perennial or ephemeral stream channels; within the Project Area, this community is found along Clamshell Creek, Ruby Creek, a downstream portion of Monrovia Creek, and the tributary to Santa Anita Creek. Sycamore tends to be the dominant riparian canopy species throughout the project area except in Clamshell Canyon, where the canopy also consists of a significant amount of white alder *(Alnus rhombifolia)*, California bay laurel *(Umbellularia californica)*, and coast live oak *(Quercus agrifolia).* Southern California black walnut *(Juglans californica)* and black cottonwood *(Populus balsamifera* var. *trichocaly*x*)* also occur sporadically throughout the Project Area.

Other trees or large shrubs observed beneath the canopy include big-leaf maple *(Acer macrophyllum)*, western choke cherry *(Prunus virginiana* var. *demissa)*, and California coffee berry *(Rhamnus californica)*. California blackberry *(Rubus ursinus)* and currant (*Ribes* spp.) are also present. Ferns such as California polypody *(Polypodium californicum)* and bracken *(Pteridium aquilinum* var. *pubescens)* are common throughout understory in this habitat. In addition, poison oak is abundant both on the ground and within the canopy of this community.

White Alder Riparian Forest. This riparian habitat, composed primarily of white alder and bay laurel with occasional sycamores and canyon oaks, occurs along the perennial streams in Monrovia Canyon, Sawpit Canyon, and their associated tributaries and canyons. The understory consists of large monotypic stands of common eupatory *(Ageratina adenaphora)*, an invasive exotic perennial species, as well as native species such as currant (*Ribes* spp.), phacelia (*Phacelia* sp.), elderberry,

stinging nettle *(Urtica dioica)*, honeysuckle *(Lonicera subspicata* var. *denudata)*, mugwort *(Artemisia douglasiana)*, Douglas' nightshade *(Solanum douglasii)*, and California blackberry. In portions of Monrovia Canyon downstream of the waterfall, nonnative common fig *(Ficus carica)* occurs sporadically.

3.2.5 Southern Coast Live Oak Woodland

Coast live oak, the dominant woodland community tree species in the Project Area, is typically located on the north-facing slopes where dense stands of oaks form a closed canopy. These woodlands are present on upper slopes with chaparral community as well as in drainages where it intermingles with riparian vegetation. Southern coast live oak woodland is dominated by coast live oak with associated shrubs such as scrub oak, holly-leaved redberry, lemonade berry, golden currant *(Ribes aureum)*, California coffee berry, toyon, fuchsia-flowered gooseberry *(Ribes speciosum)*, Mexican elderberry, and heart-leaved penstemon. Poison oak is strongly represented in this habitat type. In moister areas, ferns and deep leaf litter were common components of the understory, while in parts of this community found upslope from drainages, the understory is similar to that found in chaparral.

Engelmann oaks have been observed during multiple biological surveys near the Lower Clamshell Motorway along the north slopes of Lower Clamshell Canyon. This species is considered regionally significant and declining throughout southern California; this population occurs at the extreme northern end of its geographic range.

In 1993, Pacific Southwest Biological Consulting conducted an oak tree survey in the portion of the Project Area that was formerly part of the Madison and Cloverleaf Specific Plan areas proposed for development prior to purchase by the City. A total of 202 oak trees were mapped and evaluated for size and health. Individual trees sampled were generally of moderate size and good to excellent health.

3.2.6 Developed and/or Disturbed Areas

This category describes the developed and/or disturbed areas along the edges and within the Project Area boundaries. Disturbed sites are those that have been graded or cleared of natural vegetation by human or natural means, including those cleared for fuel modification or graded as roads or trails. Large graded areas along the eastern and western boundaries of the Project Area are also included in this category. Developed areas within the Project Area include disturbed sites that have been further modified through construction activities. These developed sites include: developed areas within Canyon Park and the Trask Boy Scouts Camp, historic sites that were formerly developed, private residences and the associated landscaping on the privately held parcels along the Lower Clamshell Motorway and paved and unpaved roads, and water tanks and reservoirs.

3.2.7 Ornamental Landscaping

This category refers to ornamental landscaping consisting of introduced trees, shrubs and turf grass found in Canyon Park adjacent to the parking lots and the nature center. It also includes the agricultural vegetation found in disturbed areas that have been modified by humans for agricultural purposes, but are no longer maintained or used in that capacity; specifically, the former San Lorenzo

Nursery and the Bowden property, where many ornamental trees and shrubs are prevalent. At the former nursery sites and in areas adjacent to urban development, landscaping and agricultural ornamentals such as macadamia *(Macadamia integrifolia)*, avocado *(Persea americana),* lemon *(Citrus limon)*, pomegranate *(Punica granatum)*, passion fruit vine *(Passiflora edulis)*, edible fig, bougainvillea (*Bougainvillea* sp.), Brazilian pepper *(Schinus terebinthifolius)*, oleander *(Nerium oleander)*, Peruvian pepper *(Schinus molle)*, queen palm *(Syagrus romanzoffiana)*, Mexican fan palm *(Washingtonia robusta)*, and bottle tree *(Brachychiton populneus)* are present. Some of these species are escaping from the previously cultivated areas and spreading into surrounding native habitat.

A small portion of this category also refers to the exotic species associated with landscaping activities at the residences within and along the edges of the Project Area. Many of these ornamental plantings, including pines (*Pinus* spp.), cypress (*Calocedrus* sp.), fir (*Abies* sp.), common fig, jade plant *(Crassula argentea),* tree of heaven *(Ailanthus altissima)*, Chinese elm *(Ulmus parviflora),* blue periwinkle *(Vinca major)*, oleander, black locust trees *(Robinia pseudo-acacia)*, lantana (*Lantana* sp.), and century plant *(Agave americana)* are interspersed with native species at the Project Area boundaries.

3.3 EXOTIC PLANT SPECIES

California has become the adopted home of over one thousand plant species from other parts of the world. Most of these originated in the Mediterranean area, where the climate is similar to that of California. These plants change the landscape and the relationships between plant cover, the soil, and wildlife by out-competing native plants. Most of California's exotic species are fast-growing annuals that prefer disturbed habitats and are prolific seed producers (Barbour et al. 1993).

The California Invasive Plant Council (CalIPC) provides a list of exotic pest plants of greatest ecological concern in California. The list highlights nonnative plants that present serious problems in wildlands (natural areas that support native ecosystems including national, State, and local parks; ecological reserves; wildlife areas; national forests; BLM lands, etc.). The list of invasive plants is constantly under revision by land managers, botanists, and researchers throughout the State. An updated list is available at the CalIPC Web site: www.cal-ipc.org. During field surveys conducted in 2006, LSA developed a list and mapped the locations of concentrations of highly invasive exotic species that are present and pose the highest threat to native habitat in the Project Area. These areas containing invasive plant species infestations will be potential candidates for habitat restoration programs in the future. The observed invasive species are shown in Table C – Invasive Species Identified in the Project Area, along with the CalIPC classifications (CalIPC website 2006).

CalIPC classifications are described below.

- **High:** These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
- **Moderate:** These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal,

though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

- **Limited:** These species are invasive, but their ecological impacts are minor on a statewide level, or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.
- **Evaluated but not Listed:** These are species for which there is currently a lack of sufficient information to assign a rating, or the available information indicates that the species does not have significant impacts at the present time.

Table C: Invasive Species Identified in the Project Area

Scientific Name	Common Name	CAL-IPC
Ageratina adenaphora	eupatory	Moderate
Arundo donax	giant reed	High
Avena sp.	oat	Moderate
Brassica nigra	black mustard	Moderate
Bromus diandrus	ripgut brome	Moderate
Carduus pycnocephalus	Italian thistle	Moderate
Carpobrotus edulis	Hottentot-fig	High
Centaurea melitensis	tocalote	Moderate
Cirsium vulgare	bull thistle	Moderate
Convolvulus arvensis	field bindweed	Evaluated, Not Listed
Cortaderia selloana	pampas grass	High
Cynodon dactylon	Bermuda grass	Moderate
Erodium brachycarpum	short-fruited filaree	Evaluated, Not Listed
Erodium cicutarium	red-stemmed filaree	Limited
Erodium moschatum	white-stemmed filaree	Evaluated, Not Listed
Eucalyptus spp.	eucalyptus	Moderate
Hirschfeldia incana	shortpod mustard	Moderate
Hordeum murinum	foxtail barley	Moderate
Nicotiana glauca	tree tobacco	Moderate
Olea europea	common olive	Limited
Pennisetum setaceum	African fountain grass	Moderate
Ricinus communis	castor bean	Limited
Robinia pseudoacacia	black locust	Limited
Salsola tragus	Russian thistle	Limited
Schinus molle	Peruvian pepper	Limited
Schinus terebinthifolius	Brazilian pepper	Limited
Silybum marianum	milk thistle	Limited
Sisymbrium irio	London rocket	Moderate
Spartium junceum	Spanish broom	High
Vinca major	blue periwinkle	Moderate

Exotic Species Mapping Methodology. By using existing vegetation maps and collecting additional data during field surveys, LSA was able to create a list of exotic species present as well as map areas of exotic plant species infestations for future eradication and potential restoration efforts. Mapping was conducted in June and July of 2006.

Weed polygons were delineated based on the type of exotic species and their cover in a given area. Native species occurring within the weed polygons were noted where applicable. Photographs were also taken.

Exotic Plant Species Distribution Results. Figure 8 – Distribution of Exotic Species, shows the distribution of exotic species problem areas within the Project Area; a complete list of exotic species observed is included within the comprehensive plant list in Appendix A. The most abundant dominant exotic species occurring within the project area are annual grasses and Spanish broom *(Spartium junceum).* The exotic species were almost exclusively located adjacent to developed areas such as residential landscaping, former agriculture and nursery sites, firebreaks, or roads and trails. In parts of the Monrovia Canyon portion of Canyon Park, eupatory (*Ageratina adenophora*) is the dominant understory species and likely displaces native herbs; this invasive species is also found sporadically along the Lower Clamshell Motorway. Castor bean *(Ricinus communis)*, tree tobacco *(Nicotiana glauca)*, and periwinkle *(Vinca major)* are invasive species found in some areas, and though they are localized and not abundant throughout the Project Area, could be a potential management problem in the future if allowed to spread.

Other exotic species found throughout the Project Area include summer mustard *(Hirschfeldia incana),* filaree (*Erodium* spp.), bull thistle *(Cirsium vulgare), Eucalyptus* sp., milk thistle *(Silybum marianum)*, and Italian thistle *(Carduus pycnocephalus)*.

At the former nursery sites and in areas adjacent to urban development, ornamental and agricultural species such as macadamia, avocado, lemon, pomegranate, passion fruit vine, edible fig, bougainvillea, Brazilian pepper, oleander, Peruvian pepper, queen palm, Mexican fan palm, and bottle tree are present. Passion fruit vine is not classified on the CalIPC invasive plant list and is currently restricted to the vicinity of the Bowden property in the southeastern portion of the Project Area; however, this species is known to be an aggressive invader of habitats and may potentially spread. Some of these species are already escaping from where they were formerly cultivated into surrounding native habitat.

3.4 WILDLIFE HABITATS

The vegetation within the Project Area is a complex mosaic of different habitat types. Soils, aspect, slope, hydrology, fire, and other factors influence the distribution of vegetation communities and habitats. These factors, along with the Mediterranean climate of Southern California, allow a large degree of vegetation complexity within a relatively small area. In addition, a substantial number of the vegetation communities within the Project Area are unique to coastal Southern California and are considered globally sensitive. These vegetation communities often support sensitive, threatened, or endangered wildlife species threatened by urban development in the Southern California region. These habitats represent a substantial addition to protected lands regionwide and significantly

contribute to the conservation of biodiversity. Some areas impacted by human activities represent important habitat for many native species, while other areas need management to improve the habitat quality of the vegetation.

Biological assessments have identified five natural wildlife habitat types: Scrub, Chaparral, Grassland, Riparian, and Southern Coast Live Oak Woodland. Appendix C provides a list of all animals observed or that could potentially occur in the Project Area. The five wildlife habitat types that occur in the Project Area are discussed below.

3.4.1 Scrub

Coastal sage scrub is a structurally diverse vegetation community where animals have increased opportunities to find food and shelter. Approximately 14 acres of coastal sage scrub have been identified in the Project Area. Because coastal sage scrub generally occurs in low-lying areas subject to development, this habitat has been disproportionately reduced in acreage in southwestern California and is widely associated with sensitive species such as the coastal cactus wren *(Campylorhynchus brunneicapillus)* and federally threatened coastal California gnatcatcher *(Polioptila californica californica)*. Although there are no recent records of their presence and these sensitive species appear to be absent from the Project Area, other resident species such as the California quail *(Callipepla californica)*, Anna's hummingbird *(Calypte anna)*, bushtit *(Psaltriparus minimus)*, and spotted towhee *(Pipilo maculatus)* are more common and widespread. From fall through spring, additional species such as the yellow-rumped warbler *(Dendroica coronata)* and white-crowned sparrow *(Zonotrichia leucophrys)* are common in this and other habitats.

Rodents can be especially common in coastal sage scrub, with species such as the deer mouse *(Peromyscus maniculatus)* and California pocket mouse *(Chaetodipus californicus)* probably among the most widespread species locally. Desert cottontails *(Sylvilagus audubonii)* are often abundant in this habitat, and a range of larger mammals such as mountain lion *(Puma concolor)*, black bear *(Ursus americanus)*, bobcat *(Lynx rufus)*, mule deer *(Odocoileus hemionus)*, and coyote *(Canis latrans)* roam here as well.

Reptiles are well represented in coastal sage scrub, with species such as the western fence lizard *(Sceloporus occidentalis)*, coastal whiptail *(Cnemidophorus tigris multiscutatus)*, southern alligator lizard *(Elgaria multicarinata)*, California striped racer *(Masticophis lateralis lateralis)*, western rattlesnake *(Crotalus viridis)*, and gopher snake *(Pituophis melanoleucus)* probably among the most common in the Project Area. Moisture is still limited, but western toads *(Bufo boreas halophilus),* Pacific chorus frogs *(Pseudacris regilla)*, and slender salamanders *(Batrachoseps attenuatus)* are among the amphibian species present, at least seasonally.

A small area of alluvial fan scrub habitat containing scattered low-lying shrubs and occasional sycamores occurs within the Santa Anita Wash. This area is relatively open and somewhat degraded by human activity and contains evidence of scouring by seasonal rains typically associated with this habitat. The open nature of alluvial fan scrub habitat precludes the existence of riparian wildlife species, which typically require greater amounts of vegetative cover. The avian species that utilize this type of habitat are similar to those occurring in the chaparral and open space areas within the Project Area; however, breeding riparian birds such as the northern Bullock's oriole *(Icterus galbula)* are still expected to be present.

Rodent species expected to occur in this habitat include the sensitive Los Angeles pocket mouse *(Perognathus longimembris brevinasus).* Large mammals such as coyotes and bobcats likely forage in this area. The Pacific chorus frog *(Pseudacris regilla)* is a potential amphibian inhabitant; however, much of this area is quite sandy and dry.

3.4.2 Chaparral

Chaparral is generally transitional between coastal sage scrub and woodland habitats in terms of structure and moisture content. Approximately 192 acres of sage scrub/chaparral ecotone have been identified in the Project Area, most of which is relatively undisturbed due to the steep topography and lack of access. Most of the bird species found in coastal sage scrub also occur here, but some species become almost nonexistent due to the small number of suitable breeding sites. Other species like the wrentit *(Chamaea fasciata)*, spotted towhee, and California thrasher *(Toxostoma redivivum)* reach maximum abundance in chaparral. The hermit thrush *(Catharus guttatus)* and yellow-rumped warbler are among the common species that migrate into the area for the nonbreeding seasons.

The mixed chaparral found within the Project Area is generally denser and more difficult to penetrate than the chaparral containing coastal sage scrub elements as described above, diminishing the ability of hawks and large mammals to fully exploit this habitat for food and movement. In ecotonal areas or along roads and trails, where vegetation is less dense, wildlife species are able to utilize the habitat. Avian species such as the dark-eyed junco *(Junco hyemalis*) and white-crowned sparrow, as well as several reptile and rodent species, appear abundant in this habitat.

Rodents are common in chaparral, while species such as the California pocket mouse and dusky-footed woodrat *(Neotoma fuscipes)* are likely especially numerous in the Project Area. Most of the larger wide-ranging mammals also occur in chaparral, with species such as the bobcat and gray fox *(Uorcyon cinereoargeneus)* potentially reaching maximum densities.

Reptiles and amphibians of the chaparral are similar to those of coastal sage scrub, with certain species more or less common depending upon their preference for more or less cover. A few species observed during the biological surveys include western rattlesnake, California striped racer, and California night snake *(Hypsiglena torquata).*

3.4.3 Grassland

Although the lack of vegetative structure generally results in fewer species and fewer individuals than in more structurally diverse habitats, many wildlife species utilize grassland habitat. As in most habitats, birds are the most conspicuous inhabitants of grasslands. Approximately 3 acres of grassland have been identified in the Project Area. Birds of prey (raptors) are commonly associated with grasslands, where they primarily feed upon rodents, birds, reptiles, insects, and other invertebrates. In the Project Area, the turkey vulture *(Cathartes aura)*, red-tailed hawk *(Buteo jamaicensis)*, American kestrel *(Falco sparverius)*, and great horned owl *(Bubo virginiensis)* are the most common species in this group. Passerine birds are generally less common during the nesting season but may be very common during the rest of the year, when species such as the mourning dove *(Zenaida macroura)*, American crow *(Corvus brachyrhynchos)*, European starling *(Sturnus vulgaris)*, and house finch

(Carpodacus mexicanus) disperse from nearby areas. Grasslands are also the preferred habitat of the sensitive loggerhead shrike *(Lanius ludovicianus).*

Rodent species, such as the California ground squirrel *(Spermophilus beechyi)*, Botta's pocket gopher *(Thomomys bottae)*, deer mouse, and California vole *(Microtus californicus)*, are probably the most numerous mammal species of this grassland area. These rodents serve as food for the raptors discussed above as well as for snakes and larger mammals such as coyotes.

Snakes such as the gopher snake and western rattlesnake are the reptiles most commonly associated with local grasslands. The western fence lizard is common in grasslands, and amphibian species such as the western toad and Pacific chorus frog may also be found in the grassland community.

3.4.4 Southern Coast Live Oak Woodland

Approximately 564 acres of southern coast live oak woodland have been identified in the Project Area. They occur in association with scrub/chaparral habitat along the upper slopes as well as intermingling with riparian vegetation in drainages. This habitat type provides structural and vertical diversity as well as food and cover for a myriad avian and mammalian species in areas where it occurs with scrub/chaparral habitats. Habitat value is also greatly enhanced for wildlife in areas where southern coast live oak woodland occurs in conjunction with riparian woodland. The presence of trees allows many additional species such as the acorn woodpecker *(Melanerpes formicivorus)* and western scrub jay *(Aphelocoma californica)*, which do not occur in the less structurally diverse habitats, to occur in woodlands.

The southern coast live oak woodland is considered a significant plant community, with a canopy that forms important habitat for a number of bird species, especially raptors. The oak tree acorns are an important food source for a number of animal species. Among the animal species supported by the oak woodland are mule deer, mountain lion *(Puma concolor)*, red-tailed hawk, red-shouldered hawk *(Buteo lineatus)*, and several species of owl. Additionally, bat species such as pallid bats *(Antrozous pallidus)* and hoary bats *(Lasiurus cinereus)* are known to roost in oak trees; these species are also expected to forage in areas where the oak woodland canopy is more open.

Rodent numbers and diversity are probably reduced in woodlands compared to brushy habitats, but species such as the brush mouse *(Peromyscus boylii)* are largely dependent upon oaks. Tree squirrels such as the western gray squirrel *(Sciurus griseus)* are also found in woodlands.

Like the rodents, reptile numbers and diversity are probably reduced in woodlands with few species reaching maximum density. In contrast, increased moisture retention allows for greater amphibian activity in woodlands; the arboreal salamander *(Aneides lububris)*, toads, and tree frogs are generally most common in this habitat.

3.4.5 Riparian

This designation includes approximately 2 acres of sycamore/alder riparian woodland, and 5 acres of alder riparian woodland. Riparian areas generally attract a higher number and diversity of wildlife species than the chaparral and other xeric habitats found in the Project Area. Numerous wildlife

species utilize riparian areas for water and vegetation, and the large sycamores can be valuable for nesting raptors such as Cooper's hawk *(Accipiter cooperii)*, red-shouldered hawk, red-tailed hawk, and great horned owl. Riparian areas and adjacent habitats often serve as corridors for the local and regional movement of wildlife species, particularly large mammals.

The highest quality riparian habitat in the Project Area is located within Clamshell and Ruby Canyons, though smaller areas of high-quality riparian habitat exist throughout the Project Area in various other canyons. Contributing to the high habitat value of these undisturbed areas is the common presence of adjacent southern coast live oak woodland adding a varied structure and diversity that enhances its utility for a wide variety of wildlife species. Monrovia Canyon also contains high-quality riparian woodland habitat despite a number of drop structures that have been constructed within the creek channel and decades of human use and impacts.

More moisture-reliant bird species such as the common yellowthroat *(Geothlypis trichas)* and song sparrow *(Melospiza melodia)* are largely restricted to riparian areas, and many avian species that utilize riparian habitats in southern California are present only during the breeding season. Birds of the riparian woodland and forest are similar to those of the more widespread oak woodland habitat, but sycamores are the largest native trees in the Project Area and provide excellent roosting and nesting sites for raptors and other species. Woodlands typically lack a denser understory that is necessary for some riparian species such as the least Bell's vireo *(Vireo bellii pusillus)*, making the presence of this species unlikely; however, this species may utilize a small area of degraded willow riparian habitat in the eastern portion of the Project Area, particularly during migration.

Mammals of the riparian habitats are likely to be similar to those of woodland habitats, but the raccoon *(Procyon lotor)*, opossum *(Didelphis virginiana)*, and various bat species prefer these wetter habitats. Pallid bats, in particular, utilize riparian woodlands for foraging, and western red bats *(Lasiurus blossevillii)* are known to roost in the foliage of large riparian trees. The same is true of reptiles and amphibians, with amphibians responding especially favorably to the moister conditions.

3.5 GENERAL WILDLIFE

General information pertaining to wildlife found within the Project Area is provided below, with a complete list of each species occurring or potentially occurring listed in Appendix C. Appendix D contains information on the status of sensitive species.

3.5.1 Birds

Numerous migratory and resident bird species are known or expected to utilize the foothill slopes of the Project Area. The blending of oak woodlands with riparian canyon bottoms provides food, water, and nesting habitat for a wide variety of avian species. A cumulative list of these species by biological consultant Michael Long in 2002; Pacific Southwest Biological Consulting (1999) and those observed during LSA's 2006 surveys is included in Appendix B.

The majority of the bird species that were observed in the biological surveys are associated with chaparral/sage scrub habitats. California quail, western scrub jay, Bewick's wren *(Thryomanes bewickii)*, California thrasher, and spotted towhee are year-round residents associated with these

habitat types. Winter visitors include yellow-rumped warbler, as well as the dark-eyed junco, white-crowned sparrow, golden-crowned sparrow *(Zonotrichia atricapilla)*, ruby-crowned kinglet *(Regulus calendula)*, solitary vireo *(Vireo solitarius)*, Lawrence's goldfinch *(Carduelis lawrencei)*, blue-gray gnatcatcher *(Polioptila caerulea)*, Townsend's warbler *(Dendroica townsendii)*, lazuli bunting *(Passerina amoena)*, and cedar waxwing *(Bombycilla cedrorum)*. A rufous hummingbird *(Selasphorous sufus)*, blue grosbeak *(Guiraca caerulea)*, and Hutton's vireo *(Vireo huttoni)* were observed in oak woodland during the surveys. The black swift *(Cypseloides niger)*, which is a State species of concern, has not been observed within the Project Area but historically has nested to the northwest in the Santa Anita Canyon drainage.

Although coastal sage scrub and chaparral can be used for foraging by most raptors, none of the species is expected to nest there. Instead, the trees present in riparian and woodland habitats are essential to many of these species for nesting and roosting. The red-shouldered hawk, sharp-shinned hawk *(Accipiter striatus)* and Cooper's hawk are predominantly winter visitors to southern California; however, Cooper's hawks are known to breed occasionally in the Monrovia area, and potential breeding habitat is present within the Project Area. The red-tailed hawk is the most abundant raptor in the Project Area, and high-quality nesting habitat exists in Monrovia Canyon, Ruby Canyon, and Clamshell Canyon. The American kestrel has been observed in Clamshell Canyon; suitable nesting habitat is present for this species as well. Golden eagles *(Aquila chrysaetos)* were not observed during any surveys but reportedly nest in Sawpit Canyon, and northern pygmy owls *(Glaucidium gnoma)* were detected during a survey in 1999. The red-shouldered hawk and the great horned owl are also expected to occur within the Project Area.

3.5.2 Reptiles and Amphibians

Several species of reptiles are expected in the Project Area, including the side-blotched lizard *(Uta stansburiana)*, western fence lizard, western whiptail lizard, southern alligator lizard, gopher snake, California striped racer, two-striped garter snake, western rattlesnake, and Pacific rattlesnake. The side-blotched lizard, western fence lizard, coast horned lizard, coastal whiptail lizard, and night snake were observed during the 2006 survey.

Amphibian species expected to occur in the Project Area include western newt, Pacific tree frog, California tree frog, black-bellied salamander, and western toad. Three sensitive amphibians are not likely to occur due to lack of suitable aquatic/riparian habitat: the arroyo toad *(Bufo californicus)*, which requires open and sandy streamside banks; the California red-legged frog *(Rana aurora draytonii)*, which needs streamside ponds containing emergent vegetation; and the mountain yellow-legged frog *(Rana muscosa)*, which requires rocky, perennial mountain streams.

3.5.3 Mammals

Over 30 species of mammals are known or expected to utilize the natural foothill habitats; many of these species would rely on the riparian woodland community or associated watershed. LSA observed individuals or signs of the presence of gray fox, coyote, black bear, desert cottontail, California ground squirrel, Botta's pocket gopher, and mule deer. Other species observed in previous biological surveys include bobcat, raccoon, opossum, striped skunk *(Mephitis mephitis)*, Merriam's chipmunk *(Eutamias merriami)*, Western gray squirrel, California pocket mouse, brush mouse, dusky-footed

wood rat, and desert wood rat *(Neotoma lepida)*. Both black bears and mountain lions have been seen and photographed within the Project Area. The contiguous nature of the Monrovia foothills and the adjacent Angeles National Forest allow the black bears and mountain lions to access the Project Area, particularly in the slopes and canyons of the Monrovia Canyon Park area. In addition, Pacific Southwest (1999) reported observations of nests and scat belonging to the San Diego desert wood rat *(Neotoma lepida intermedia)*, a State and Federal Species of Concern, in the coastal sage scrub elements of the sage scrub-chaparral ecotone. The Los Angeles pocket mouse *(Perognathus longimembris brevinasus)* and California pocket mouse may also occur in the Project Area.

Although focused bat studies have not been conducted, it is likely that several species, including the western pipistrelle *(Pipistrellus hesperus)*, pallid bat, and big brown bat *(Eptesicus fuscus),* are present. Focused surveys would need to be conducted to verify the presence of these bats within the Project Area, and determine if any additional mammal species are present.

3.6 WILDLIFE MOVEMENT CORRIDOR AND HABITAT FRAGMENTATION

Habitat fragmentation frequently threatens the viability of southern California's remaining natural resources. Large areas of habitat or narrower linkages of habitat between expanses of open space are necessary to provide movement opportunities for wildlife. Movement serves to facilitate the geographic distribution of genetic material, thus maintaining a level of variability in the gene pool of an animal population. Influxes of animals from nearby populations contribute to the genetic diversity of a local population, helping to ensure the population's ability to adapt to changing environmental conditions. Many plant species that depend on relatively sedentary insects for pollination also benefit from habitat linkages that allow for genetic exchange and dispersal. Reduced insect movement due to habitat fragmentation results in reduced genetic vigor in those plants. Likewise, plant seeds and propagules can be transported via the feces, fur, or feathers of birds or mammals.

The Monrovia foothills provide contiguous open habitat with the expansive Angeles National Forest lands, permitting the movement of large mammals such as the black bear and mountain lion into and out of the area. Within the Project Area, unimpeded corridors existing along the major drainages and foothill faces are of tremendous significance in the densely urbanized Los Angeles Basin where open space is very limited. The preservation of these areas will maintain the connectivity of the area comprising the San Gabriel foothills as they extend into the Angeles National Forest, where development would have resulted in isolated islands of habitat that would inhibit the movement of wildlife and plant seeds and increase the risk for local extirpation.

3.7 THREATENED, RARE, OR ENDANGERED SPECIES

Legal protection of sensitive species varies widely, from the relatively comprehensive protection afforded to species listed as Endangered and/or Threatened to no legal status at present. The California Department of Fish and Game (CDFG), United States Fish and Wildlife Service (USFWS), local agencies, and various special interest groups (e.g., California Native Plant Society [CNPS]) publish watchlists of declining species. These lists often describe the nature and perceived severity of the species' decline. Species that are clearly not listed as endangered or threatened either statewide or regionally, but whose local populations are sparse, rapidly dwindling, or otherwise unstable, may be "of local interest."

For purposes of this discussion, the term "sensitive species" refers to those plants and animals occurring, or potentially occurring, on the property and designated as endangered, threatened, or rare by federal or State agencies, or of current local, regional, or State concern. These are species that are rare, locally restricted, or declining in a significant portion of their range. Inclusion in the sensitive species analysis for this property is based on the following criteria: (1) direct observation of the species on the property during one of the biological surveys conducted for this report; (2) sighting by other qualified and reputable observers; (3) record reported by the California Natural Diversity Data Base (CNDDB); or (4) property contains appropriate habitat and is within the known range of a given species.

For this section, sensitive species are detailed as those that are listed as endangered or threatened by the State and/or federal agencies and those not listed as such. Plant communities/habitats of concern are considered separately. Appendix C summarizes the status of those sensitive species known to occur or having the potential to occur on the property. Although surveys included observations of sensitive plant species within the Project Area, they did not include focused surveys for special status plant species; therefore, the data for known occurrences of sensitive plant species included in the discussion below are not exhaustive. Focused sensitive plant surveys would be required to determine the presence, location, and abundance of sensitive plant species within the Project Area.

Based on biological surveys conducted in this Project Area, a number of Rare, Endangered, or Sensitive plant and animal species are known to occur or are potentially supported by the habitats in this extensive area. These species are discussed below.

3.7.1 Plant Species

Listed Species. Listed plant species or species proposed for listing that were identified in the literature review as potentially occurring on site or in the study area were Braunton's milk-vetch *(Astragalus brauntonii)* and slender-horned spineflower *(Dodecahema leptoceras)* (Figure 8).

The federally and State-listed Endangered slender-horned spineflower occurs in alluvial sand in coastal scrub, chaparral, and cismontane woodland and along well-drained slopes in chaparral. Although this species has not been observed during the biological surveys, there is potential for its occurrence within the Project Area.

Braunton's milk-vetch, a federally Endangered species, is found on carbonate soils associated with a variety of habitats including coastal sage scrub, chaparral, and grasslands. Within the Project Area, it was observed along the Lower Clamshell Motorway. The Monrovia area is one of only three (3) known concentrations of Braunton's milk-vetch. This species typically flourishes after recent fires and/or soil disturbances. Critical habitat has been established for this species within the Hillside Wilderness Preserve (Figure 8).

"Critical habitat" as defined by the Endangered Species Act (ESA) is specific geographic area(s) essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include area that is not currently occupied by the species but that will be necessary for the conservation of the species Under Section 7 of the ESA, all federal agencies must ensure that any actions they authorize, fund, or carry out are not likely

to jeopardize the continued existence of a listed species, or destroy or adversely modify its designated critical habitat. In this way, a critical habitat designation protects areas that are necessary for the conservation of the species. A critical habitat designation has no effect on situations where a Federal agency is not involved – for example, a landowner undertaking a project on private land that involves no Federal funding or permit.

An area designated as critical habitat is not a refuge or sanctuary for the species. Listed species and their habitat are protected by the Act whether or not they are in an area designated as critical habitat. To understand the additional protection that critical habitat provides to an area, it is first necessary to understand the protection afforded to any endangered or threatened species, even if critical habitat is not designated for it.

- The Act forbids the import, export, or interstate or foreign sale of endangered and threatened animals and plants without a special permit. It also makes "take" illegal – forbidding the killing, harming, harassing, pursuing, or removing the species from the wild.
- The Act requires that Federal agencies conduct their activities in such a way as to conserve species.
- The Act also requires that Federal agencies must consult with the USFWS to conserve listed species on their lands and to ensure that any activity they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. This is known as consultation.

In consultation for those species with critical habitat, Federal agencies must also ensure that their activities do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is very similar to that already provided to species by the "jeopardy standard." However, areas that are currently unoccupied by the species, but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

Non-listed Species. Sensitive plant species were assessed based on CNPS classification criteria; Table D – CNPS Rare Plant Categories, describes each ranking attributed to the following plant species.

Table D: CNPS Rare Plant Categories

Category	Description
1A	Presumed Extinct in California
1B	Rare or Endangered in California and Elsewhere
2	Rare or Endangered in California, More Common Elsewhere
3	Need More Information; Suggested For Consideration as Endangered
4	Plants of Limited Distribution

LSA identified the presence of Plummer's mariposa lily *(Calochortus plummerae)*, a CNPS 1B species, on a ridge top along the Lower Clamshell Motorway during the 2006 survey within the Project Area. Plummer's mariposa lily is found in open areas in coastal sage scrub and chaparral habitats.

In addition to the occurrence of Plummer's mariposa lily, two sensitive species were identified during biological surveys conducted within the Project Area, including Engelmann oak and leather oak. Engelmann oak was identified in an area along the northern slopes of Lower Clamshell Canyon near the Lower Clamshell Motorway. This species is considered regionally significant and declining throughout southern California; this particular population is located at the extreme northern end of its geographic range. Leather oak, an oak species endemic to the San Gabriel Mountain foothills, was identified on slopes with mixed chaparral and oak woodlands in the Lower Clamshell and Ruby Canyon drainages. However, as focused botanical surveys have not been completed for the majority of the Project Area, the presence of several species that have a moderate to high potential of occurring within the project boundaries cannot be definitively ruled out. The sensitive species table in Appendix C documents the potential occurrence of sensitive species identified in the literature review.

3.7.2 Wildlife Species

Listed Species. Three listed avian species potentially occur in the Project Area: the federal and State Endangered willow flycatcher *(Empidonax traillii extimus)*, the federal and State Endangered least Bell's vireo *(Vireo bellii pusillus)*, and the federally threatened coastal California gnatcatcher. The southwestern willow flycatcher is rare in California and breeds and nests in riparian forest with dense understory. Potential habitat for the least Bell's vireo, though degraded, occurs in a small area of willow woodland south of the confluence of Monrovia Canyon and Sawpit Canyon in the Monrovia Canyon Park portion of the Project Area. The gnatcatcher is the species most closely associated with conservation efforts in southern California's coastal sage scrub community and is most often found in sagebrush-dominated habitat; however, this habitat type is likely too degraded and patchy within the Project Area to support this species.

One listed amphibian, the federally endangered mountain yellow-legged frog, is not likely to occur in the Project Area. Year-round, rocky streams suitable for this species were not observed during surveys, but may exist in an inaccessible canyon. Additionally, the federally listed threatened Santa Ana sucker may be present within the waters of the Project Area, though it is unlikely, given the lack of its preferred habitat: clear, cool rocky pools and runs of creeks and small to medium rivers.

Non-listed Species. A number of the non-listed sensitive species of the Project Area are found in a range of habitats. Reptiles such as the coast horned lizard *(Phrynosoma coronatum)*, coastal whiptail, rosy boa *(Charina trivirgata)*, and two-striped garter snake *(Thamnophis hammondii)* are common in chaparral and coastal sage scrub but also range into woodlands. Birds such as the coastal rufous-crowned sparrow *(Aimophila ruficeps canescens)*, yellow warbler *(Dendroica petechia)*, and blue grosbeak *(Guiraca caerulea)* were observed during the biological surveys. Raptors are generally associated with grasslands, but most require woodlands for nesting. Other raptors, such as Cooper's hawk, are most closely associated with woodlands but also forage in all other habitats. A number of sensitive bat species such as the pallid bat, red bat, big free-tailed bat *(Nyctinomops macrotis),* and western yellow bat *(Lasiurus xanthinus)* potentially occur in the Project Area; most are confined to woodlands, cliffs, or structures for roosting but range more widely when foraging.

A complete list and description of the sensitive wildlife species is given in Appendix C.

3.7.3 Sensitive Habitats

Habitats are considered to be sensitive biological resources based on (1) federal, State, or local laws regulating their development; (2) limited distribution; and/or (3) the habitat requirements of sensitive plants or animals occurring on site. Biologists identified three plant communities considered sensitive by State and/or local agencies; these communities occur with varied abundance and in ecotones, or mixtures, of various other habitat types on site. Regardless of the mixture, or ecotone, these habitats are considered sensitive. In addition, wetlands and waters of the United States are considered sensitive by both federal and State agencies. Each sensitive habitat identified within the Project Area boundary is described in more detail below.

Three plant communities of special interest have been documented within the Project Area. A number of additional communities of special interest have the potential to occur but have not been reported to date. The communities of special interest listed by the CDFG in the CNDDB (2006) as occurring within the Project Area are southern coast live oak woodland, sycamore/alder riparian woodland, and alluvial fan scrub. Communities of special interest that may potentially occur within or in the vicinity of the Project Area are southern California arroyo chub/Santa Ana sucker stream, open Engelmann oak woodland, and canyon live oak ravine forest. With the exception of the southern California arroyo chub/Santa Ana sucker stream, these communities have a moderate probability of occurring within the Project Area. Arroyo chub and Santa Ana sucker are known to occupy portions of the San Gabriel River; however, the stream conditions within the Project Area are not consistent with habitat for these species, and thus the likelihood of a southern California arroyo chub/Santa Ana sucker stream occurring within the Project Area is extremely low.

Southern Coast Live Oak Woodland. This habitat type is considered sensitive by the CDFG because its structural diversity provides high wildlife habitat values. Where this habitat type is associated with a drainage course, it is protected under the State Fish and Game Code because authorization (Lake and Streambed Alteration Agreement) would be required if adverse impacts to this habitat are planned. This habitat as it occurs in the Project Area is largely undisturbed and relatively widespread, intermingling with chaparral on the upper slopes and with riparian vegetation along drainages providing diverse habitat for a wide range of flora and fauna.

Sycamore Riparian Woodland. This habitat is considered Rare by the CDFG. This riparian community generally occurs along very large streambeds that are subject to seasonal high-intensity flooding (Holland 1986). The typical association of this riparian habitat type with drainages means that it is protected under the State Fish and Game Code and to a certain extent by the Clean Water Act. Within the Project Area, there are large, contiguous areas of this community that contribute to the high habitat value of the Project Area as a whole.

Alluvial Fan Scrub. This habitat is considered sensitive by the CDFG. These communities typically occur along floodplains that are subject to seasonal flooding and scouring and contain low-lying scrub vegetation that supports a variety of endemic flora and fauna. Although this community is fairly degraded within the Project Area, it is still considered a sensitive community.

4.0 CULTURAL RESOURCES

4.1 CULTURAL SETTING

4.1.1 Cultural Resources Defined

The Bureau of Land Management (BLM) defines cultural resources as "the fragile and nonrenewable remains of human activity that are found in historic districts, sites, buildings, and artifacts and that are important in past and present human events" (BLM 1999). The California Environmental Quality Act (CEQA) recognizes the potential significance of cultural resources as important components of the natural environment and history of California.

4.1.2 Prehistory – An Overview of the Region

The Project Area contains remnants of the history of human settlement for the region offering opportunities for preserving cultural resources. An overview of the prehistory of the region follows. This overview is placed within the context of how human groups responded to the challenges and opportunities posed by a variable environment (Vellanoweth and Altschul 2002). It summarizes previously published accounts on the subject (Pletka et al. 2002).

Terminal Pleistocene Settlement. The first settlement in southern California occurred at the end of the Pleistocene with the Channel Islands being among the first spots in southern California to be settled more than 10,000 years ago (Erlandson et al. 1996). Very few sites dating from this time period are known along the mainland coast.

Early Holocene Settlement (10,000 – 6,650 years BP). During the Early Holocene, settlement along the mainland coast was common, although evidence for settlement of the San Gabriel Valley is quite sparse (Erlandson 1994; Grenda and Altschul 2002; Jones 1991; Moss and Erlandson 1995). In the Los Angeles Basin, evidence of settlement dates to no earlier than 8,500 years ago, 500 years after settlement appeared in adjacent areas of the mainland coast. In southern California, settlements from this period tend to be concentrated around estuaries, which were highly productive environments (Ketchum 1983).

Middle Holocene Settlement (6,650 – 3,350 years BP). At some point during the Middle Holocene, speakers of languages from the Uto-Aztecan language family migrated from the Great Basin and occupied Los Angeles and Orange Counties (Kroeber 1976). These groups displaced existing groups in the area, speakers of languages from the Hokan language family. Consequently, groups that spoke Hokan languages—presumably the original inhabitants of much of coastal southern and central California—were distributed to the north and south of the Uto-Aztecan speakers at the time of European contact. Various hypotheses have been proposed for the timing of these migrations, which are typically dated to sometime before 3,000 years ago (e.g., Howard and Raab 1993; Vellanoweth 2001). These immigrants apparently brought with them a material culture adapted for the desert (Altschul et al. 1999). The immigrant groups hunted terrestrial game at first. Then they gradually began to procure more coastal resources.

Late Holocene Settlement (3,350 – 1769 A.D.). Population size and density grew considerably during the Late Holocene (Breschini et al. 1992). At the time of European contact, the San Gabriel Valley contained nine prominent settlements (McCawley 1996), which may have fostered the emergence of institutions that could mitigate the effects of population pressure. The need for institutions to solve problems of risk and resource shortfalls can provide opportunities for some individuals to acquire greater power and wealth (Johnson and Earle 1987). The chief was responsible for maintaining trade ties with neighboring communities and also stored surpluses that were given out in times of need. Such institutions may have helped to protect members of the community against unpredictable variation in the environment such as periodic drought or floods.

Ethnography. The Project Area lies within Gabrielino territory. What is known about the Gabrielino was recorded principally during the initial European land expeditions through the southern California area. The reason for this is that the swift decline in native populations made it difficult for even early European explorers and inhabitants to observe endemic southern California peoples traditional lifestyles. This decline in native populations was brought about by the inability of Native Americans to resist European diseases introduced through initial contact and the establishment of the mission system. This section describes previously published accounts of Gabrielino territory.

The name "Gabrielino" describes those native groups living in what is now the Counties of Los Angeles and Orange. The name is attributed to the affiliation of these groups with Mission San Gabriel Archangel. Linguistically, the Gabrielino spoke a Cupan language in the Takic family, which is part of the Uto-Aztecan (formerly Shoshonean) linguistic stock that once extended across the Great Basin region of Utah, Nevada, and California (Bean and Shipek 1978:550; Bean and Smith 1978:538; McCawley 1996:2–3). In California, the northernmost members of this stock are the Mono, while the Chemehuevi are the easternmost, the Cahuilla are the southernmost, and the Luiseño are the southwestern-most California members (Kroeber 1925). These languages have elsewhere been referred to as southern California Shoshonean.

The Gabrielino were hunters and gatherers who used both inland and coastal food resources. They hunted and collected seasonally available food resources and led a semi-sedentary lifestyle, often living in permanent communities along watercourses and near coastal estuaries. Commonly chosen habitation sites included rivers, streams, sheltered coastal bays and estuaries, and the transition zone marking the interface between valleys and foothills (McCawley 1996). The presence of water, a stable food supply, and some measure of protection from flooding were the most important factors relating to the location of habitation sites. Gabrielino communities located in the interior regions maintained permanent geographical territories or use areas that averaged 30 square miles (White 1963:117, 119).

In addition to permanent settlements, native groups occupied temporary campsites used seasonally for hunting, fishing, and gathering plant foods and shellfish (White 1963:120–124; McCawley 1996:25). Rabbit and deer were the most commonly hunted animals, while acorns, buckwheat, chia, berries, and fruits were some of the more commonly collected plant foods. Acorns were the staple food of most indigenous Californians (Kroeber 1925:84) and were the most characteristic feature of the domestic economy of native California (Gifford 1936:87).

Gabrielino villages generally contained populations of 50–100 inhabitants, although larger communities may have existed. Village communities were the focus of family life. Gabrielino communities each included one or more patrilineal extended families or lineal kinship groups, known as clans (Kroeber 1925; Johnston 1962; Bean and Smith 1978; McCawley 1996). Gabrielino clans and villages were apparently exogamous, marrying individuals from outside the clan or village (Reid 1852; White 1963:165).

Gabrielino villages were united under the leadership of a *tomyaar,* or chief, who inherited his position from his father. Each Gabrielino lineage comprised several related nuclear families; membership in a lineage was traced through the father and allowed an individual to claim use rights over the territory owned by that group. The *tomyaar* was the leader of the religious and secular life of the community and served as chief administrator, fiscal officer, war leader, legal arbitrator, and religious leader (Bean and Smith 1978; Harrington 1942:32). The *tomyaar* was aided in his duties by a Council of Elders, which consisted of the leaders of the lineages residing in the community as well as other wealthy and influential individuals. Council positions were hereditary and descended from father to son. Shamans also played an important role in Gabrielino society, serving as the principal doctors, therapists, philosophers, and intellectuals; often, the *tomyaar* himself was an important and influential shaman (Bean and King 1974:25–26).

At the time of European contact, the material wealth and cultural sophistication of the Gabrielino people was exceeded only by their northwestern neighbors, the Chumash. This led Bean and Smith (1978:538) to comment: "With the possible exception of the Chumash, the Gabrielino were the wealthiest, most populous, and most powerful ethnic nationality in southern California, their influence spreading as far north as the San Joaquin Valley Yokuts, as far east as the Colorado River, and south into Baja California."

The San Gabriel Valley was one of the more densely settled areas within the territory of the Gabrielino. Historic accounts document nine significant Gabrielino communities within the boundaries of San Gabriel Valley (McCawley 1996). Four of the Gabrielino communities lie near the Rio Hondo, and one was situated close to the present site of Mission San Gabriel.

Inland Gabrielino communities most likely had permanent territories to which the community controlled access. Each territory had one main settlement, as well as, a number of specialized camps that members of the community occupied for brief periods in order to exploit specific resources.

At the time of contact, ethnohistoric information suggests that the Project Area would have been included in the Gabrielino territory and that the Gabrielino most likely passed in and out of the modern day Project Area. Furthermore, one prehistoric site has been recorded within the Project Area. However, without knowledge of the age of the prehistoric site (there is no date associated with the site), it is problematic to infer that the site is related directly to the Gabrielino. Additionally, it is not known what kind of site(s) may be present within the Project Area because a comprehensive archaeological investigation has not been completed.

4.1.3 Historical Land Use – An Overview of the Region

European exploration of California began in 1542 with the voyage of Spanish explorer Juan Rodriguez Cabrillo who was sent by Pedro de Alvarado, the Governor of Guatemala. Despite the

death of Cabrillo during the voyage, his journey led to the colonization of Alta California (Gutierrez et al. 1998).

The Spanish claim to the Pacific Ocean remained undisputed until 1579, when Sir Francis Drake sailed into San Francisco Bay and claimed the land for Queen Elizabeth of England. To ensure control of Alta California, the Spanish built pueblos, presidios, and missions (Gutierrez et al. 1998). Between 1769 and 1822, the Spanish established a chain of 4 presidios, 2 pueblos, and 21 missions. Each establishment had a particular responsibility within the colonial system.

The Spanish Franciscans established the Mission San Gabriel Archangel in the San Gabriel Valley in 1771. The mission was first located on the banks of the Rio Hondo near present-day Montebello. In 1776, the missionaries abandoned this original location, approximately 5 miles from the current location, after the river flooded (Hoover et al. 1962). The mission forcefully gathered most of the Gabrielino into an agricultural lifestyle. Missions were permitted to occupy and use the land for the benefit of the Indians, but they did not allow the Indians to own land. Once the population was converted, the missions were to become pueblos, ruled over by the indigenous people (Robinson 1948). While the Mission is located outside of the present day Project Area, the mission was a very important occurrence in the general region, and would have surely affected the life of any Native American living or passing through the Monrovia area.

The Spanish built the first civilian farming communities, known as pueblos in Alta California in 1774. The Spanish chose the sites of the pueblos for their proximity to native populations, fertile land, dependable water sources, and safe harbors. The Los Angeles pueblo was founded in 1781 (Robinson 1948).

Cattle Herding. The Spanish Mission period ended when Mexico won its independence from Spain in 1821. The Mexican Republic passed the Secularization Act of 1833, which changed the missions into parish churches and gave the Mexican governor power to redistribute the vast wealth controlled by the missionaries. The San Gabriel Valley was carved up into ranchos between the 1830s and the 1840s. This period is known as the golden age of ranching in California because the Mexican governor gave large land grants during this time. Approximately 700 land grants were given to Mexican citizens and settlers between 1833 and 1846 (Cleland 1975). Two ranchos were granted in the San Gabriel Valley where modern Monrovia lies. Rancho land would have included the foothills, and most likely, it would have included the Project Area as well.

In 1841, California Governor Alvarado gave Rancho Azusa de Duarte to Andres Duarte who was a Mexican soldier, and he gave Rancho Santa Anita to Hugo Reid, a naturalized Mexican citizen of American birth. Monrovia is made of parts of these two ranchos. As a condition of the Mexican land grants, the grantee was required to improve the land in which he was granted, within the first year of the land transfer. Cattle and other domestic animals were always reared on the vast rancho lands, as the very purpose of the land grant was to distribute farm land to "gentleman farmers" who had faithfully served the Mexican government.

Generally, improvements included the addition of a modest adobe residence, either for the actual land owner or for the majordomo, who managed the rancho for the land owner. In the case of these two ranchos, Andres Duarte built an adobe for himself and his family and settled on Rancho Azusa. With the assistance of the local Indians, Duarte planted crops and reared livestock as grazing land was

abundant. Trading of hides and tallow began in the early 1800s, and by the 1840s, livestock ranching was the primary economic resource of California (Cleland 1975). Hugo Reid also established an adobe with the assistance of Indian labor on his Rancho Santa Anita. Reid also begin raising cattle on the ranch and planted thousands of grape vines, and fruit trees, including peaches, lemons, pomegranates, oranges, pears, figs, blood oranges, plums, olives, apples and walnuts.

The Mexican-American War. In the 1840s, tensions between the United States and Mexico mounted. These tensions eventually culminated in the Mexican-American War. Most of the war was fought near the common border of the two countries, although combatants waged several battles in California territory including a battle on January 8, 1847. During this battle, Mexican defenders attempted to block U.S. army and naval troops commanded by General Stephen Watts Kearny and U.S. Navy Captain Robert F. Stockton from advancing from San Diego (Hoover et al. 1962). After two hours of artillery duels and infantry and cavalry charges, the Mexicans conceded the Battle of the San Gabriel River by withdrawing. Two days later, Los Angeles surrendered peacefully to the American military force. Mexican Governor Pio Pico signed the Treaty of Cahuenga, effectively surrendering all of California to the United States (Gutierrez *et al.*1998).

Legitimatizing Land Claims. When the United States took possession of California and other Mexican lands, it was bound by the Treaty of Guadalupe Hidalgo to honor the legitimate land claims of Mexican citizens residing in those captured territories. The Land Act of 1851 established a board of Land Commissioners to review these records and adjudicate claims. It also charged the Surveyor General with surveying confirmed land grants. In order to investigate and confirm titles in California, American officials acquired the provincial records of the Spanish and Mexican governments in Monterey. Those records, most of which were transferred to the U.S. Surveyor General's Office in San Francisco, included land deeds and sketch maps (Gutierrez *et al.* 1998).

While many of the original rancho owners eventually lost their land to the United States as unsurveyed land boundaries created a loophole through which squatters could occupy plots on the fringes of land grants and eventually come to own those plots through squatters' rights following the end of the Mexican-American War, Duarte successfully defended his claim to Rancho Azusa to the Lands Commission appointed by the United States. However, by the mid-1850s back taxes for his land began to accumulate and Duarte was forced to sell off his holdings (Gutierrez *et al.* 1998).

In 1847, the year after the Mexican-American War ended, Reid sold Rancho Santa Anita to his friend, Henry Dalton. Under Dalton ownership, Rancho Santa Anita fell into disrepair. In 1854, Dalton sold the rancho to Joseph A. Rowe for $33,000. In 1858, the grant of Rancho Santa Anita was finally recognized by the United States Land Commission.

4.2 HISTORY OF THE CITY OF MONROVIA

The following section uses several sources for the history of the City of Monrovia (City). Most important are Davis (1943), Ostreye (1986), and Woodward (1988). This section also includes previously published accounts of the history of the San Gabriel Valley (Pletka *et al*. 2002).

4.2.1 Establishment of the City

Ranchos Azusa de Duarte and Santa Anita were both sold in the mid-1800s. The majority of Rancho Azusa de Duarte was subdivided and sold by Andres Duarte to settle his debts. Some of those parcels eventually ended up as part of the ranch of William N. Monroe, the City of Monrovia's namesake. Hugo Reid sold Rancho Santa Anita, and ownership changed hands several times. In 1875, rich silver baron and rancher E.J. "Lucky" Baldwin purchased the Rancho Santa Anita with development in mind. Baldwin immediately began subdividing and selling parcels from the rancho, including 240 acres that were sold to Monroe for $30,000. People who journeyed between Los Angeles and San Bernardino passed through the region via "Monroe's Ranch." Edward F. Spence, John D. Bicknell, James F. Crank, and J.F. Falvey purchased additional parcels of Rancho Santa Anita.

In 1886, Monroe, Spence, Bicknell, Crank, and Falvey combined their land to form the Town of Monrovia Subdivision. Almost immediately, the Town of Monrovia Subdivision was further subdivided into 600 lots and sold. Additionally, these men formed the Monrovia Land and Water Company, with William Monroe heading the company as president. Together, Monroe, Spence, Bicknell, and Crank comprised the town site committee and attracted new settlers to the sparsely developed area with promises of free water for the town residents. To fulfill this promise, intricate systems to harness water were constructed in the foothills of the City, some of which are still visible today.

In 1887, the construction of a steam railroad was completed that passed through the San Gabriel Valley (and specifically through the City of Monrovia) and connected with the Santa Fe Railroad. By 1887, crowded trains were making stops in cities throughout the Valley, including Alhambra, Sierra Madre, Arcadia, Highland Park, Monrovia, Azusa, San Dimas, and Duarte (Dumke 1991). This railroad aided in the development of the town by attracting new residents, and Monrovia was incorporated as a city in 1887. Within Los Angeles County, Monrovia is the fourth oldest general law city.

During the early 20th Century, Monrovia's commercial downtown matured, and residential development continued. Architecture throughout the City reflected the prevailing national trends and also reflected gradual forms appropriate to the California lifestyle. Further developments in transportation technology and infrastructure brought additional settlers to the San Gabriel Valley. Highway (Route) 66 was commissioned in 1926. When completed, it ran from Chicago to Los Angeles, going through the states of Missouri, Kansas, Oklahoma, Texas, New Mexico, and Arizona. By linking these Midwestern states to the seaports of the Pacific coast, Route 66 brought millions of people into California and helped to stimulate the economy. The original historic route crosses through the towns of Monrovia, Arcadia, Duarte, Azusa, Glendora, and San Dimas.

Population and development continued to grow following the end of World War II as American soldiers returned to southern California in search of homes and jobs. Former vacant lots and farm lands were transformed into housing tracts. The population grew steadily in the San Gabriel Valley during the 1940s and 1950s. In 1940, 72 percent of the land in eastern San Gabriel Valley was farm land; by 1960, only 20 percent of the land was farm land (Davis 1998: 79). The 2000 census reports the population of Monrovia to be 36,929.

4.2.2 The Hillside Wilderness Preserve and Hillside Recreation Area

The foothills and canyons located above the City were also inhabited in the late 1800s, albeit sparsely. Several areas were used for agriculture, logging, and bee ranching. Charles Varni developed Cloverleaf Canyon with orchards that contained grapes and a variety of fruit trees. Varni named the property "Clover Crest" (Gregory 1993). In the 1870s, a large manmade saw pit existed in the Monrovia foothills that came to be known as Sawpit Canyon (Wlodarski 1991). Logs were cut by hand on the hillside and hauled down by wagon to be processed in the City. The Rankin family ran one such small logging operation and kept bees for additional income. In 1877, three of the four Rankin children died of typhoid fever, and only a few years later a devastating flood hit the area and destroyed the Rankin home, which was located in present day Canyon Park.

As the City grew in popularity, many people were attracted to the area for the healthful air, plentiful water, and hillside recreational opportunities. It was a well documented popular belief that the air was better in rural areas including the foothills and mountains than in a city environment. The land boom of the 1880s promoted California cities as having healthful air quality (almost every city in the Inland Empire was ironically touted as places with clean air), which is why the trend of vacationing in the mountains started a healthy (and nearby) mountain getaway. Free and plentiful water in Monrovia was an incentive for new "settlers." Water procurement was more complex in other areas since water was being monopolized by agricultural industries (orange groves, etc) and in most other places in California people had to pay for the well and or the connection to the water works.

In 1894, Monroe constructed the first mule trail up Sawpit Canyon to an area called Deer Park. Located near the head of Sawpit Canyon, Deer Park was used by many locals as a camp site during their hunting expeditions. Ben Overturff, a building contractor and deputy sheriff of Los Angeles County, camped out in Deer Park for a hunting trip. Overturff was so impressed with the area that he took a U.S. Forest Service lease for Deer Park in 1907 and spent his weekends bringing building supplies up the canyon on mule-back to build a wooden lodge (Wlodarski 1991). Many Monrovians enjoyed his small cabin, and in 1911, Overturff decided to construct a larger lodge out of local stone. With the new structure in place, the popularity of the resort increased. The old wooden cabin was used as a barn and corrals were built to hold his mule team.

On April 15, 1913, the City incorporated Sawpit Canyon, turning it into the Monrovia Canyon Park. In this year a road was built that led up Sawpit Canyon near Emerson Flat to a picnic spot used by local residents (Wlodarski 1991). This road increased the amount of traffic to the Deer Park Resort. The lodge survived a severe storm in 1914 and a major fire in 1924. The fire resulted in the construction of a dirt fire road up Sawpit Canyon in 1925. The onset of the Depression curtailed weekend tourist excursions to the area, and with the start of World War II, Overturff closed his resort to all but his family and invited friends. The Overturffs abandoned the lodge in 1948, and the Forest Service demolished the buildings associated with the resort in 1958.

The Clover Crest property was sold from Varni to Charles Mason in 1906, and the area was turned into a resort. Mason constructed tent cabins for tourists. Similar to the Deer Park Resort, the Clover Crest Resort became a popular destination for many people from the Los Angeles Basin. In 1925, a dental surgeon named Dr. George P. Lux bought the property from Mason and lived in a cabin on this property before completing his house on Cloverleaf Drive in 1927 (Gregory 1993). Dr. Lux was an amateur horticulturist who terraced 10 acres of this property and planted over 1,000 nonnative species in the area. This terraced area is known as the Lux Arboretum, which was willed to the State of

California and County of Los Angeles upon the death of Dr. Lux. The property was maintained by the County Arboretum until the late 1970s. The property was acquired by the City in 1997 and is in an area designated in the City of Monrovia's Land Use Element of the General Plan as "Hillside Wilderness Land." This designation is for parks, recreation facilities such as hiking and riding trails and public uses such as utility easements and reservoirs. Cloverleaf Drive provides access to the site which is being developed through a joint City, County and U.S. Forest Service agreement for use as a seasonal wildfire station.

4.3 EXISTING ARCHAEOLOGICAL RESOURCES

4.3.1 Records Search

On August 2, 2006, Antonina Delu, M.A., RPA, LSA archaeologist, conducted a records search at the South Central Coastal Information Center (SCCIC), at California State University, Fullerton. This search included a review of all recorded historic and prehistoric archaeological sites, as well as a review of known cultural resource survey and excavation reports within a one-quarter mile radius of the Project Area. In addition, Ms. Delu examined the National Register and documents and inventories from the California Office of Historic Preservation, including the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures. Historic maps of Los Angeles County were also consulted. These maps include United States Department of the Interior Geological Survey maps dating to 1894, 1896, 1900, and 1904.

The purpose of the records search was to establish the status and extent of previously recorded archaeological resources within and adjacent to the project area. With this knowledge, LSA could make an informed assessment of the potential effects on the known archaeological resources of the Project Area and could evaluate the kinds of resources that might be present within the Project Area.

4.3.2 Resources Identified

The records search conducted at the SCCIC indicated that portions of the Monrovia Wilderness Project Area have been previously surveyed 10 different times, although the boundaries have never been completely surveyed. Resources can be grouped into two broad categories: Prehistoric Sites and Historic Resources. The records search identified all of the known cultural resources inside or within one-quarter mile of the Project Area. A total of nine resources within or adjacent to the Project Area have been identified. Of these nine sites, one site is a prehistoric artifact scatter, and eight are historic sites. No resources located within the study area are listed on the National Register, California Register, California Historical Landmarks, California Points of Historical Interest, or Historic Properties Directory. The majority of the cultural resources previously recorded are 20th Century archaeological sites including building foundations, linear features, objects, and trash scatters. These resources are described briefly below.

- **P-19-150017** – the historic "Shinoda Property" consists of three single-story residences located at 610, 615, and 620 Cloverleaf Drive. These three houses, built between 1936 and 1946, belonged to the Shinoda family, early Japanese settlers in the Monrovia area. The property associated with 610 Cloverleaf is commonly called the "Hidden Hills Ranch." In addition to the three houses, this resource includes property that once contained two historic nurseries: the Camellia Capital

Nursery (established in the late 1930s by Joseph Shinoda), and the San Lorenzo Nursery Company (established in 1947 when Shinoda sold the property). This resource has been evaluated and found not eligible for listing in the National Register (status code 5S2).

- **P-19-150018** – is a single family property, located at 1245 Cloverleaf Drive. The Carter family bought the property from Dr. George P. Lux in 1948, and built the structure between 1949 and 1954. It is an "I" shaped building constructed in a California Ranch style. The structure is made of concrete block that was cut in small slabs to resemble adobe brick.
- **P-19-150019** – the historic Clover Crest Resort/Lux Arboretum Annex site. P-19-150019 is comprised of three previously recorded sites: the ruins of a cabin (CA-LAN-2102), a separate area northwest of the cabin ruins that consists of the remains of two extant chimneys (CA-LAN-2103), and located north of the cabin ruins is a poured concrete channel and associated wooden planks (CA-LAN-2109). In the late 1800s, the property was planted with grapes and fruit tree orchards. It was purchased in 1906 by Charles Mason who turned it into a resort with tent cabins available for tourist use. In 1925, the property was purchased by Dr. George P. Lux who lived on a cabin on the property before building his permanent house. It is said that the Lux Cabin Site (CA-LAN-2102) may be built on one of the earlier Mason tent cabin sites. Approximately 10 acres of the surrounding hillside area to the site was terraced by Dr. Lux, an amateur horticulturalist, who planted over 1,100 exotic specimens on the property. The site appears to be eligible for the National Register, but has not been officially determined eligible (National Register status code 3S).
- **P-19-186917** – an historic Linear Feature site that is commonly called the Rincon-Red Box-Sawpit Roads Complex. Linear Features typically include historic roads, trails, fences, windrows, ditches, and railroad grades constructed in a linear fashion. The road complex is composed of four roads: Rincon Red Box Road, Sawpit Truck Trail, Sawpit Road, and Van Tassel Truck Trail. The roads run from Monrovia Canyon into Angeles National Forest Property and the shape forms a large "X".
- **CA-LAN-2104H** – is an historic survey monument dating from 1926. The site is an Object site type, classified as such since it is relatively small in scale, simply constructed, and associated with specific settings or environments. Objects can include sculptures, monuments, boundary markers, statuary, and fountains. It is not eligible for the National or California Registers.
- **CA-LAN-2106H** – is the site of the 1933 "Monrovia" survey monument. The site, similar to CA-LAN-2104H, is also classified as Object site-type. The original monument has been removed and replaced with the current one which was established in 1962. It is not eligible for the National or California Registers.
- **CA-LAN-2107** – a prehistoric archaeological site that is recorded within the Project Area. The site is a small artifact scatter consisting of three artifacts: a bifacial mano, a bifacially flaked "chopper," and a secondary flake. The site is located in an area that has been disturbed by modern construction, and the mano displays modern machine scars.
- **CA-LAN-2108H** – commonly known as the Rankins' Grave Site. The site consists of a tripartite headstone inscribed with the names of the deceased, as well as the name and location of the manufacturer. The headstone was originally positioned vertically and set into a groove cut into a granite boulder, but it was later vandalized (broken at the base level). It currently lies horizontally, set in concrete near ground level, and is bordered by river cobbles. The Rankins came to the area in 1874 and began a small logging operation, shipping the timber to Los Angeles

by wagon. In 1877, three out of four of the Rankin children died of typhoid fever. This is the grave site of those three children. It is not certain whether there are human remains buried at the site, as the fourth Rankin child allegedly returned in 1910 and exhumed the existing remains, moving them to the Mountain View Cemetery in Altadena, California. The Mountain View Cemetery has no record of the burial of the three Rankin children.

- **CA-LAN-2035H** – the historic ruins including the foundations of the Deer Park Lodge, constructed between 1907 and 1911 by Ben Overturff. The lodge was a popular resort destination for local Monrovians until the Depression. The Overturffs vacated the lodge in 1948, and the U.S. Forest Service destroyed the structure in 1958. In addition to the foundations, a corral and other surface artifacts are still visible. It is possible that buried remains in the form of trash pits, privies, and additional foundations may be present within the site area.

The geology and geomorphology of the area suggest that it is possible that undiscovered archaeological sites may exist within portions of the Project Area. Sites may exist buried beneath alluvial sediments within stream drainages or below colluvium beneath hill and ridge landforms. It is also possible that some sites have been destroyed or adversely impacted over the years through the process of erosion in many of the canyons. Due to the steep terrain in portions of the Project Area, some areas may not have been adequately surveyed. However, it is likely that landforms exhibiting steep slopes would not have been favorable for occupation by Native Americans. While information potential for prehistoric settlement and subsistence activities is low, there exist many significant historic resources in the Project Area, as detailed above.

In addition, many unrecorded hydrologic features exist within the Project Area that include numerous metal pipes, cisterns, weirs, and other features that formed a regional water conveyance system. These features appear to be associated with 19th and 20th century efforts to harness water. Also located within the Project Area is the Sawpit Dam, a defunct concrete constant radius arch dam. This dam was built in 1927 to control floodwaters in Sawpit Canyon, and is one of 50 such dams built in this style in existence in California. The United States Department of Agriculture Forest Service has given this resource an internal number (Forest Service Number 05-01-TU-52); however, there is no record at the SCCIC that the Sawpit Dam resource has been recorded on State of California Department of Parks and Recreation 523 Series forms.

Table E: Cultural Resources

Resource	Number
Prehistoric Sites	1
Historic Resources	8
Total Sites	**9**

4.4 PALEONTOLOGY

A paleontological locality search was conducted through the Natural History Museum of Los Angeles County and records maintained at LSA. The locality search included a review of the area geology, any known paleontological resources recovered from the surrounding area, and the geologic units that exist within the project area.

The purpose of this locality search was to establish the status and extent of previously recorded paleontological resources within and adjacent to the project area. With this knowledge, LSA can make an informed assessment of the potential effects on paleontological resources that might occur during any ground-disturbing activities on site and evaluate the kinds of fossils that might be uncovered. In addition, the sensitivity of the rock units within the property to produce paleontological resources can be determined.

Review of geologic maps (Jennings and Strand 1969; Rogers 1967) indicates that the two dominant exposures of rock within the Project Area are Mesozoic granitic rocks and Precambrian metamorphic rocks. Neither of these rocks contains paleontological remains. There are a few exposures of Quaternary Alluvium (stream deposits) in the bottom of the canyons. Often, at depth, these deposits can contain Pleistocene fossils from Ice Age animals such as horses, camels, bison, elephants, saber tooth cats, and dire wolves. However, based on the steep, narrow canyons, the exposures are extremely limited. If there were any fossils present, they would be at depths that would not be reached during any of the ground-disturbing activities associated with maintenance such as trail upkeep, new trail construction, and erosion control measures.

According to records at the Natural History Museum of Los Angeles County (LACM), there are no paleontological localities within the boundaries, or the general vicinity, of the Project Area. The LACM indicated that excavation within the igneous and metamorphic rocks that are exposed throughout the project area had no potential to produce fossil remains. Also, surface grading or shallow excavations within the Quaternary Alluvium, exposed in the canyon bottoms, has a very low potential for encountering fossil remains. However, the LACM indicated that deep excavations into the Quaternary Alluvium always have the possibility of uncovering significant vertebrate remains. Therefore, future excavations should be monitored by a qualified paleontologist to quickly and professionally collect any specimens without impeding development. Any fossils recovered should be deposited into an accredited and scientific institution for the benefit of current and future generations.

5.0 EDUCATION PROGRAMS

The City of Monrovia offers a number of outdoor recreation programs within the context of the Hillside Recreation Area. No formal recreation programs have been developed for the Hillside Wilderness. A description of the existing programs offered by the City follows.

5.1 OUTDOOR EDUCATION PROGRAMS

Canyon Park offers environmental education tours to school classes, youth organizations, clubs, businesses, and the public during free Saturday docent lead hikes. Among the interpretive programs offered are a general orientation to Canyon Park, plant and animal adaptations, and an overview of the San Gabriel Mountains watershed.

5.1.1 Youth School Curriculum Programs

City Park Staff offer a number of outdoor science education programs on the trails and at the Canyon Park Nature Center. The City's Environmental Division conducts non-point source pollution lessons for Monrovia Unified School District (MUSD) 5th graders in the Cabin. The outdoor science education programs were developed to meet the standards of the state science program curriculum for 3rd, 4th, and 5th grade students and are oriented specifically for children with little or no experience with the natural world. The classes offer a unique combination of environmental science, outdoor skills, learning by experience, and stewardship activities. In 1998, this elementary outdoor/science education program won a California Parks and Recreation Association Services award.

Over six thousand students visit Canyon Park each year to participate in these outdoor education programs. Youth programs originated in the MUSD and have expanded to the school districts of Azusa, Glendora, Manhattan Beach, Anaheim, Pasadena, Redondo Beach, Norwalk-La Mirada, and Downey, and throughout the greater Los Angeles and Orange counties.

5.2 GUIDED HIKES

5.2.1 Interpretive Hikes

City Park Staff and volunteers conduct weekend interpretive hikes in Canyon Park. These free hikes introduce visitors to the many natural resources and promote public understanding of the value of the wildlife and vegetation communities found in the Hillside Recreation Area. Topics include safety and informative talks on the native flora and fauna, as well as the cultural and historical presentations.

5.2.2 Special Hike Events

Since 2003, The "Halloween Haunted" hike sponsored by the City Department of Community Services takes place in Canyon Park. The hike is approximately 3/4 of a mile long and takes roughly 45 minutes to complete.

Since 2001, City Park Staff have provided an opportunity for visitors to participate in the annual North American Butterfly Association (NABA) census of the butterflies of North America (United States, Canada and partially Mexico). In June each year, Park staff leads a group of volunteers on a hike to conduct a one-day census of all butterflies sighted along the Sawpit Fire Road between Deer Park and the Canyon Park Entrance Station. The walk takes approximately five hours. The City accepts beginning to expert volunteers to conduct this census.

5.3 CONSERVATION PROGRAMS

Conservation programs have two primary focuses: habitat preservation/restoration and wildfire prevention. A description of these programs follows.

5.3.1 Hillside Wilderness Preserve Milk Vetch Preservation Program

The Brauton's Milk Vetch (*Astragalus adsurgens)* preservation program focuses on community education using a variety of outreach techniques. The outreach programs emphasize the significance of this federally endangered species and documentation of its presence within the Hillside Wilderness Preserve.

Volunteers have mapped the location of milk vetch on two occasions. During the initial mapping exercise in 1999, 57 individual plants were identified. In a second field documentation in 2004, 1,465 milk vetch plants were identified within the Hillside Wilderness Preserve.

For a discussion of the fire management program requirements pertaining to the preservation of milk vetch, refer to Section 6.0 – Fire Safety.

5.3.2 Hillside Recreation Area Creek Restoration Program

The Canyon Creek restoration program is an ongoing volunteer effort that was initiated in 2000. This volunteer program involves work to eradicate non-native invasive species and reestablish native plant species along the Monrovia Canyon Creek riparian corridor.

5.4 STAFFING

5.4.1 Canyon Park Staffing

Currently all Canyon Park staff are stationed at Canyon Park and serve the Hillside Recreation Area. There are no park personnel assigned to the Hillside Wilderness Preserve.

Job classifications (as of Sept 5, 2006) include:

- Park Program and Resource Supervisor (1 full time)
- Park Naturalist (1 full-time)
- Park Specialist (2 part-time – 510 part time hours budgeted for FY2007-08)

- Park Intern (4 part-time – up to 1000 hours a year).

Typically two staff members are on duty from Wednesday to Friday and on Monday. On Tuesdays, two staff members oversee the youth outdoor education programs during the school year. Two staff members are currently on duty on weekends, but one more is needed. The Park Program and Resource Supervisor is generally on duty Monday through Friday.

None of the recreation staff are classified as police officers. When emergency situations arise, the recreation staff assigned to Canyon Park (Hillside Recreation Area) and Hillside Wilderness Preserve contact the police for assistance. Hillside Wilderness Preserve and Hillside Recreation Area staff will address any code violations for use of these areas including fire compliance, leash laws, vandalism, and littering, with an educational public relations approach. Uniformed park employees may enact City Ordinance 12.32.040 which states: "All employees in public parks are hereby given the power and authority to special policeman for the purpose of making arrests for any violation of the provisions of this chapter." This ordinance should be amended to include citation authority in the Hillside Wilderness Preserve.

5.4.2 Police Assistance

Everyday Duties. In addition to its everyday duties, the Police Department plays a pivotal role in public safety in emergency situations. The Department's primary concern is public safety, and they take a proactive approach to minimizing criminal activity through community policing resources.

Disaster Response. The City Police Department maintains the same responsibilities in the event of disaster. The only difference is that the effectiveness of police activity in this situation is a prerequisite for efficient disaster response. The Department, along with Fire and National Guard personnel, assumes responsibility for crowd control, crime prevention, and general recovery operations during emergency situations.

Mutual Aid. The Monrovia Police Department is a member of "Area-D" (with headquarters in Covina). Monrovia in conjunction with thirteen cities: Arcadia, Azusa, Baldwin Park, Claremont, Covina, El Monte, Glendora, Irwindale, La Verne, Pomona, San Marino, Sierra Madre, and West Covina.

In March of 2000, the City of Monrovia, together with the cities of Arcadia, Azusa, Covina, West Covina and Pasadena, approved the establishment of the Foothill Air Support Team (F.A.S.T.) to maintain and operate one helicopter to provide air support for the F.A.S.T. member communities.

5.5 VOLUNTEER PROGRAM

The City has a well-established and supported volunteer program. Originally initiated in 1911, volunteer support has been an integral part of the Canyon Park building, trail maintenance and interpretive programs. A volunteer program has not been developed for the Hillside Wilderness Preserve. A description of the Canyon Park volunteer program follows.

5.5.1 Volunteer Training and Program Activities

All members of the Canyon Park volunteer corps are required to complete the volunteer Human Resource screening and the Park training program to participate. This training does not apply to volunteers participating in one day events. The Canyon Park volunteer training program offers nine volunteer certification categories.

All volunteers must complete the generalist category which includes volunteer protocol and review of policies and procedures. In fulfillment of this program the volunteers are required to:

- Complete a City application.
- Pass a drug test, fingerprint and background check.
- Attend a 3-hour general orientation. The workshop familiarizes the volunteer with Park policies, procedures, natural environments, how to handle emergencies, phone and radio use, volunteer benefits and responsibilities, and the role volunteers play in the accomplishment of Canyon Park's Mission Statement.

The other eight categories are special training certifications that require additional training. These programs are for volunteers who have an interest in a specific role such as:

- **Nature Center Host**: Requires 50 hours of training with a staff person.
- **Park Maintenance Aide**: Requires 50 hours hands-on training with a staff person.
- **Docent Interpreter**: Volunteer shadows staff for 10 hours on a hike and leads 2 hikes with staff in attendance. Requires 25 hours training with staff.
- **Entrance Kiosk**: Requires 25 hours training with staff.
- **Assistant Outdoor Educator**: Requires 50 hours training with staff and must perform as lead instructor for 6 classes.
- **Lead Outdoor Educator**: Must complete Assistant Outdoor Education requirements.
- **Park Patrol**: Requires 12 patrols of park with staff.
- **Miscellaneous Assignments**: Assists with special events, butterfly counts and Eagle Scout projects.

All volunteer hours are tracked and volunteers are recognized at an annual volunteer recognition celebration.

The second Saturday of every month is set aside for trail maintenance work. Established and one time volunteers (e.g., high school groups) can participate. Work can include: clearing brush (including poison oak), creating water bars, removing fallen trees, and repairing erosion problems.

5.5.2 Volunteer Coordination

Staff oversight of the volunteer programs is performed by the Department of Community Services Parks Programs and Resource Supervisor. Staff oversight includes: maintaining the volunteer participation record; holding monthly meetings with volunteers which typically include education

programs; and hosting two social gatherings per year, the Winter Holiday Gathering and the Summer Barbecue.

5.6 INFORMATION, SIGNS AND BROCHURES

5.6.1 Signs

Signs can serve to provide information to trail users about cultural and natural history, use restrictions, regulations, or other important information that affect trail and park use including trail uses, hours of use, use restrictions during the fire season or where special wildlife conditions exist. Signs can include warnings about potential safety hazards from wildlife, such as bears, mountain lions and snakes, as well as poison oak, ticks, and steep slopes. Directional signs will also be used at trail intersections to identify trails and indicate trail lengths.

Information and cultural interpretive signs are posted in Canyon Park at each parking level and along the Ben Overturff Trail. The Forest Service has one information sign posted at the Ridgeside Drive entrance to the Lower Clamshell Motorway Trail. All other signage along the Lower Clamshell Motorway Trail restricts use on the trail. Some of these signs have been posted by private property owners to discourage public access.

5.6.2 Information Brochures

The City's Department of Community Services publishes a number of brochures describing the Canyon Park rules, regulations and opportunities, volunteer programs, bird list, plant identification list, facility rentals, and special events. Park brochures are available to visitors at the Canyon Park Nature Center, Entrance Station, and at the Monrovia Community Center.

5.6.3 Information Kiosks

Information kiosks address a variety of topics including rules and regulations regarding use of roads and trails, maps of the park, and wildlife information. There are informational kiosks at each parking level and at the beginning of the Sawpit Road.

5.6.4 Entrance Station

On weekends, Park volunteers or staff man the entrance station toll booth in Canyon Park collecting vehicle parking fees, controlling the number of vehicles entering the park, conveying information and serving as a point of contact for Park visitors. The entry station is open 8 a.m. to 5 p.m. daily, except Tuesdays when park use is limited to school groups participating in the outdoor education program and walk-in visitors or bicyclists.

6.0 FIRE SAFETY

6.1 FIRE OVERVIEW

Southern California's Mediterranean climate presents the ideal conditions for fire. The wet, mild winters and dry, hot summers provide a long growing season that produces an abundance of plant fuel. Fire suppression, heavy rains, and seasonal or prolonged drought all result in excessive plant fuel accumulation and the potential for catastrophic wildfire.

Throughout history, the San Gabriel Mountains have been subjected to repeat burning. Records maintained by the Los Angeles County Fire Department between the years 1919 and 1999 indicate that large portions of the foothill area have been subject to wildland fires of 100 to 500 acres. A major fire threat exists in the steeper slopes of the San Gabriel Mountains to the north with potential to sweep into the hillsides and residential foothill developments. The Bradbury fire in the summer of 1981; the three 1999 fires known as the Azusa Canyon fire, the La Canada-Flintridge-Glendale-Rafael fire, and the Arcadia-Santa Anita fire; and the 1958 Norumbega Fire, which burned 6,400 acres of open space within the San Gabriel foothills starting in Duarte and extending into Monrovia, all attest to the extensive damage that can take place from brush fires (City of Monrovia 1993).

While vegetation communities in the Project Area are pre-adapted to occasional wildfires, the potential for fire damage and life hazard risk exists at the interface between the Project Area and adjacent residential development. Fire hazard is generally highest during late summer and fall when chaparral becomes tinder dry. Fire, while beneficial over the long term to San Gabriel Mountain plant communities, will, in the short term, denude hillsides and render them susceptible to dirt slippage and rockslides. Moreover, in areas where the plant community does not burn within 2-30 years, the fuel load will become so heavy that wildland fires can also devastate the native habitat. Additionally, if a high rainfall year follows a fire, water erosion can be severe, obliterating large sections of trail on fire-ravaged hillsides.

The two main weather patterns associated with wildfire in this area are lightning, associated with summer thunderstorms, and the Santa Ana Winds, which are foehn-type winds that blow from the north and northeast over the mountains from the desert. These winds, which are dry and often very warm, typically occur in the autumn, further desiccating already tinder-dried vegetation. Lightning tends to increase in frequency with altitude and distance inland. As a result, the majority of the lighting strikes occur in mountain areas. About 40% of the days with lightning strikes in the Angeles National Forest result in a fire ignition, suggesting a strong link between lightning and fire. These ignitions pose a significant fire hazard risk due to the short duration and small quantity of rain, which is often insufficient to extinguish these ignitions before they become wildfires (San Gabriel Valley Primer June 2000).

6.2 EXISTING FUELS AND FIRE HAZARD CONDITIONS

Droughts and high temperatures have caused frequent wildfires in Los Angeles County. Although periodic fires are a natural and essential component of the ecology of certain habitats such as coastal sage scrub and chaparral, an excess of plant fuel may increase the severity of a wildfire and threaten native habitat and neighboring development. Areas most susceptible to fire have three common characteristics: 1) thirty percent slopes or greater; 2) medium to heavy fuel loading of predominantly coastal sage scrub vegetation communities; and 3) frequent critical fire hazard weather conditions.

All of the Project Area is located in the Very High Fire Severity Zone (in accordance with AB337) as shown on Figure 6 – Fire Hazard Classifications. This designation was given to the area by the State of California. The San Gabriel foothills have also been given a high fire classification in the Los Angeles County General Plan and the City of Monrovia Fire Management Plan. In response, the City has developed an active fuel management plan that includes fire prevention and pre-fire suppression measures to control plant fuel loads.

6.3 FIRE MANAGEMENT PROGRAM

The purpose of the All-Hazard Mitigation Plan (2004), which was developed by the City of Monrovia Fire Department with their inter-agency partners, is to evaluate the effectiveness of existing programs and their potential for improvement in addressing fire issues. This plan is important to the management of the Project Area because the greatest fire danger to the City is from the Wildland Urban Interface (WUI) – (e.g., Project Area boundary), where homes meet the 30-50 year brush growth. Applicable Hazard Mitigation Plan objectives and policies follow.

6.3.1 All Hazard Mitigation Plan Goals, Objectives And Policies – Fire Prevention

Objective 3.1 Hillside development policies and standards shall include fire prevention measures.

Policy 3.1.1: Fire suppression access to natural chaparral areas shall be provided and maintained.

Policy 3.1.2: Landscape material for the coverage and stabilization of graded slopes shall be selected to be compatible with surrounding natural vegetation and shall recognize climatic, soil, exposure, and ecological characteristics of the site. Plant materials that require substantial water after becoming established shall be avoided. Native dry climate grasses and other saprophytic materials shall be selected wherever feasible. (Fire Department approval required).

Policy 3.1.8 To provide adequate Fire Department access, foothill neighborhoods shall be linked with a continuous circulation system. Segments of that system may consist of emergency access roads.

Objective 3.2 Adopt and enforce ordinances promoting fire prevention.

Policy 3.2.6: To prevent life hazard and to protect the hillsides and residential, industrial and commercial areas, enforce a ban on the use of all fireworks.

Objective 3.3 Control hazardous or potentially dangerous operations or land uses.

Policy 3.3.2 Enforce ordinances prohibiting the igniting or burning of flammable materials on public or private property.

Policy 3.3.3 Restrict and regulate devices or equipment that could create fire, explosion, or bodily injury.

Policy 3.3.4 Restrict storage of flammable liquids and explosives to manufacturing zones.

Objectives 4.3 Establish fire prevention programs to educate citizens.

Policy 3.4.1 Provide programs for Monrovia's citizens to educate them in fire safety.

6.3.2 Management Program Focus

Fire safety in the City is concentrated on suppression, prevention, and emergency care. Fire prevention is addressed primarily through enforcement of the Uniform Fire and Building Codes and State and City ordinances. Additionally, several other programs concentrate primarily on avoidance or impact reduction strategies. The City, the Consolidated Fire Protection District of Los Angeles County, and the U.S. Forest Service staff focus on the following sites when they are patrolling the Project Area and adjoining lands (urban interface):

- North end of Highland Place and brush country west to City limits.
- Cloverleaf Drive to gate at nursery.
- Gold Hills, Hidden Valley, Briarcliff, Ridgeside and Oakglade area.
- Lower Clamshell Motorway Trail.
- Canyon Park.
- All of the Norumbega Drive area, north of Valle Vista.

Items of concern at access points or within open space brush areas that the fire management team address on a routine basis include:

- Blockage of fire roads by natural overgrowth, vehicles, or illegal dumping.
- Visibility and maintenance of fire danger closure signs.
- Compliance with closed area requirements.
- Complaints or information about a problem reported by any citizens living within the area (these items are handled directly or taken and forwarded to the proper city agency for follow up).
- Suspicious persons in brush areas (this information is reported to the police department, if necessary).

Fire code restrictions that the fire management team addresses in Canyon Park on a routine basis include:

- Proper use of fuel in stationary barbecues – only charcoal is permitted. No propane, natural or paper products are permitted.

- Use of portable barbecues in approved areas adjacent to stationary barbecue units are permitted only with approval of Fire Department (these units are not approved for routine use in the park).
- Enforcement of NO SMOKING policy within all areas of the park.
- Visibility and proper maintenance of posted Fire Department signs.

6.3.3 Procedures for Addressing Fire Code Compliance

Hillside Wilderness Preserve and Hillside Recreation Area City Staff and "Uniformed Volunteers" will address any code violation with an educational public relation approach. If compliance to the code doesn't immediately occur, uniformed park staff may enact City Ordinance 12.32.040. This ordinance states "All employees in public parks are hereby given the power and authority of special policemen, for the purpose of making arrests for any violation of the provisions of this chapter." If a fire code violation occurs that requires legal action, the Captain in Charge of District One is notified. If the staff has immediate need for police assistance, they contact the Police or Fire Department directly, depending on which is needed. The District One Captain then determines if a Duty Battalion Chief is required to deal with the problem.

6.3.4 Fuel Modification Zone Delineation

Existing fuel modification areas and firebreaks are located on some of the edges of the Project Area adjacent to houses or other structures. Fuel modification areas are also located along a few of the paved roads that bisect the Project Area (Figure 12). The current maintenance procedures for the fuel modification zones require that residential properties at preserve boundaries participate in the City's annual weed abatement program by mowing, discing, weed whipping, and/or hand-thinning/clearing 200 feet of defensible space around residential structures and out buildings on properties located in the fire zone. In addition, the City applies fire retardant in the interface zone and manages firebreaks at the following locations on an annual basis:

- Lower Clamshell Motorway (Firebreak).
- Briarcliff.
- Canyon Park Road.

6.3.5 Fire Road Maintenance and Habitat Preservation

The Consolidated Fire Protection District of Los Angeles County (District) is responsible for maintaining the fire roads, including the Lower Clamshell Motorway and Lower Clamshell Motorway and associated culverts. Maintenance on the Lower Clamshell Motorway includes one complete grading operation each fiscal year and brush clearing, as-needed, no less than 10 feet on both sides of the graded road surface in accordance with Fire Management and Fish and Game Code Section 1900-1913. According to the Section 1900 of the Fish and Game Code, the intent of the Legislature and the[ir] purpose in enacting this legislation is to "preserve, protect and enhance endangered or rare native plants of this state …".

6.3.6 Fire Department Fire Fighting Resources - Cooperative Fire Management Agreements

Large wildfires do not respect political or property boundaries. Historically, a strength of California's firefighting agencies is found within a concept of mutual cooperation at the federal, state, and local levels of government. Day-to-day mutual aid for initial attack, as well as a statewide mutual-aid system of fire disasters, is the basis of this cooperation and coordination. The ability to rapidly mobilize, effectively deploy, and support large numbers of specialized firefighting resources is essential in coping with large multiple fires.

The City Fire Department is in the "Area C" region for automatic aid resource assistance. Area C fire response is coordinated through the City of Glendale Fire Department and comprises eleven communities including Monrovia, Arcadia, San Marino, Sierra Madre, Monterey Park, Pasadena, South Pasadena, Glendale, Alhambra, San Gabriel and Burbank.

Since 1990, the U.S. Forest Service, the Consolidated Fire District of Los Angeles County and the cities of Arcadia and Sierra Madre have provided fire-fighting assistance to the City of Monrovia though a cooperative Fire Protection Agreement, and are referred to as the Foothill Fire Departments. These fire fighting departments have defined jurisdiction areas and boundaries, initial response resources for wildfire protection, Initial Action Zones (IAZ) that designate mutual areas where fire would pose a threat to adjoining jurisdictions, and Special Areas Assistance such as roadless wilderness areas and other modified suppression action areas requiring fire response. To keep these agreements, the current fire department partners attend formal meetings, conduct informal consultations, review the conditions of the agreements, and agree on actions to implement the agreement(s) on an annual basis. A summary of each agency's responsibilities follows.

U.S. Forest Service. The City of Monrovia and U.S. Forest Service Angeles National Forest Cooperative Agreement includes development of:

- Fire modeling and strategies for preventing or containing a fire under a worst case scenario, which in Monrovia would be a northwest fire occurring during period of Santa Ana Winds 1- 10 miles distant of urban development.
- A wilderness station within the Project Area north of the terminus of Cloverleaf Drive (former nursery site) that will include joint staffing by City and U.S. Forest Service staff.

Consolidated Fire Protection District of Los Angeles (District). The Fire Road Maintenance Agreement between the Consolidated Fire Protection District of Los Angeles County and the City of Monrovia (July 13, 2004) allocates fire management responsibilities to each of the partners. This division of responsibilities, summarized below, takes into account that the each of the parties will attend to emergency situations as a higher priority than performing routine maintenance.

The Consolidated Fire Protection District of Los Angeles County (District) is responsible for maintaining the fire roads, including the Lower Clamshell Truck Trail, Lower Clamshell Motorway, and the Cloverleaf Drive access. In turn, the City of Monrovia reimburses the District for its costs of providing additional work as stated in District's request for payment.

City of Arcadia. A Memorandum of Understanding (MOU) has also been established between the fire departments of the City of Arcadia and the City of Monrovia. This MOU provides for fire

protection, emergency medical services (EMS), and rescue services through automatic aid dispatch between the two cities. The MOU defines how communication is coordinated to responding units, the joint training exercises that are to be carried out, the assignment of Incident Command when units arrive on scene, and the procedures for sharing information to complete reports (City of Monrovia, General Plan Safety Element, Adopted June 12, 2002, Resolution No. 2002-40).

7.0 EXISTING RECREATION USE

7.1 RECREATION SETTING

7.1.1 Historic Overview

Recreation in the foothills of the San Gabriel Mountains is a long-standing tradition for the residents of the City of Monrovia. Its popularity originated in the early 1900s when Ben Overturff, a Monrovia building contractor and L.A. County deputy sheriff, discovered Deer Park during a hunting trip and then proceeded to develop the area into a popular recreation destination. Subsequently, in 1913, the City dedicated, and has since maintained, Canyon Park as a protected wilderness preserve and passive recreation area for residents throughout Los Angles County. For more detailed information on the history of recreation development in the Project Area, refer to Section 4.0 – Cultural Resources.

7.1.2 Designated Uses

Hillside Wilderness Preserve. This classification is designated for preserving open space left in its natural state including preservation of endangered habitats and species, wildlife habitats, and wildlife corridors; open space for passive recreation uses such as hiking and nature studies; utilities easements and reservoirs; and nature centers and educational facilities. This Hillside Wilderness Preservation designation is only assigned to land owned by or conveyed to a public agency, Public Trust or conservancy, and for lands with irrevocable offers to dedicate to the City.

Hillside Recreation. This classification is designated for public wilderness parks and private recreational camp facilities. Recreational uses such as hiking and riding trails, nature centers, and educational and incidental facilities associated with outdoor recreation are permitted. Monrovia Canyon Park and Trask Boy Scouts Camp are currently within this designation.

7.1.3 Existing Use

In order to establish the current use of the areas, two June 2005 user surveys were conducted and the results were as follows:

- Monrovia Canyon Park visitors were likely to: be non-residents (78%), arrive by car (86%), visit the park on an infrequent basis from 2-4 times a year (31%) up to 5-12 times per year (47%); and come to the park to use the hiking trails (89%).
- Lower Clamshell Motorway Trail visitors were likely to: be residents (90%). The survey of all trail visitors were likely to walk (41%), bike (27%) or drive to the trails (32%).

7.1.4 Existing Trails

Trail system linkage is an important component in: 1) providing access to the destinations within the Preserve; and 2) serving as a component of the outdoor education program. Trails within the Preserve

provide opportunities to experience the rugged topography characteristic of the region as they traverse steep hillsides and deep canyons, cross water features, and provide access to historic sites (Figure 11 – Existing Trails and Entry Points Considered). Existing trails fall into one of two trail classifications: single track and double-track - fire /forest service road, as described below.

Single-track Trails. A single-track trail refers to a trail that is only wide enough for one user to travel, requiring one user to yield the trail to allow another user to pass. Single-track trails generally have a natural surface and are most often found in areas where terrain renders a double-track trail infeasible and/or in natural areas with environmental constraints on trail width. The City's existing practice is to allow pedestrians and dogs on leash to access some single-track trails. The quarter mile single track trail to Deer Park is open to bicyclists as well. A few trails are designated for pedestrian use only. All of the single-track trails are maintained by volunteers under the guidance of Park staff. Single track trails include the Bill Cull Waterfall Trail and the Ben Overturff Trail.

Double-track Trails – Fire /Forest Service Roads. A double-track trail is a trail that is wide enough to allow for two users to travel side by side or to pass without one user having to yield the trail. Double-track trails can accommodate multiple uses at one time or can double as service or emergency access roads for vehicles. These trails typically are not paved. Within the Preserve, double-track trails serve the dual functions of recreation and fire prevention management, and in some cases (e.g., Lower Clamshell Motorway), they also provide access to private, land-locked parcels. Four service roads that fall under this category are: the Lower Clamshell Motorway (Cloverleaf Canyon to Ridgeside Drive) and Upper Cloverleaf Reservoir Utility Road located north of the terminus of Highland Place, which are used by the public; Sawpit Canyon Fire Road, which is authorized for public use; and the utility road located west of Norumbega Drive, which currently has no public access.

7.1.5 Regional Access

Regional access to Canyon Park and the Preserve is via the Foothill Freeway (Interstate I-210) exiting at Myrtle Avenue and Mountain Avenue traveling to Foothill Boulevard and then to Canyon Boulevard and north to Canyon Park. Bicyclists, pedestrians and equestrians can also access Canyon Park via the Sawpit Wash easement from Lemon Avenue to Canyon Park. The access was recently validated by a Los Angeles County Superior Court judge, who found the public had an easement to use the Sawpit Wash Trail. A description of the road system follows.

I-210 Freeway. Regional access is provided by the I-210 freeway, located approximately 2.75 miles south of the Project Area. The east-west I-210 Freeway has interchange facilities within the City at Huntington Drive, Fifth Avenue, Myrtle Avenue and Mountain Avenue. It provides four lanes in each direction of travel.

Foothill Boulevard. Foothill Boulevard is an east-west arterial highway that provides two travel lanes in each direction with left turn pockets for street intersections and major driveways. The Foothill Boulevard intersections at Fifth Avenue, Madison Avenue, Violet Avenue, Mayflower Avenue, Magnolia Avenue, Primrose Avenue, and Myrtle Avenue, Ivy Avenue , Canyon Boulevard, and Shamrock Avenue are signalized.

Myrtle Avenue. (I-210 interchange). Myrtle Avenue is a north-south arterial that provides two travel lanes in each direction narrowing to one lane in each direction at Walnut Avenue with left turn pockets for street intersections from the I-210 interchange to Foothill Boulevard. Myrtle Avenue

serves as the primary route through the downtown commercial district. In the downtown area Myrtle Avenue provides distinctive views of the Project Area and the Angeles National Forest beyond. Myrtle Avenue becomes narrower (one lane in each direction) north of Foothill Boulevard and terminates in a residential neighborhood at Alta Vista Avenue.

Mountain Avenue. Mountain Avenue is a north-south arterial that provides two travel lanes in each direction with left turn pockets for street intersections from the I-210 interchange to Foothill Boulevard. Mountain Avenue is the east terminus of Foothill Boulevard. Mountain Avenue becomes narrower (one lane in each direction) north of Foothill Boulevard, and terminates in a residential neighborhood north of East Greystone Avenue.

7.1.6 Universal Access

According to U.S. Forest Service policy, universal design is defined as "the design of programs and facilities to be usable by all people, to the greatest extent possible, while maintaining the natural setting, providing access to programs and facilities for all, without separate or segregated access for people with disabilities. New or reconstructed buildings, developed recreation sites, associated constructed features and alterations are to comply with the accessibility guidelines" (FSM 2330.5). This definition of universal access stems from the Americans with Disabilities Act (ADA) of 1990. The ADA is civil rights legislation that was enacted to ensure that the design of public infrastructure is usable by all people.

This does not mean that all trails need to be paved, have a grade less than five percent, and eliminate all obstructions, but it does mean that the trail system needs to consider the needs of all citizens. Factors that should be considered in outdoor recreational areas include gate design, trail surfacing and grades, restrooms, curbs, drinking fountains, picnic tables, degree of outsloping, bridges, and other drainage structures.

The intent of universal design is met by maximizing accessibility while maintaining the character and experience of the setting, given the natural constraints of a site and its level of development. Both the Access Board and Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) permit departure where this departure is intended to preserve the uniqueness of the site recognizing that the natural environment is dissimilar in many ways to the built environment, and that people's experiential expectations are different in the outdoor environment.

Design criteria for meeting the ADA access board's trail compliance goals include:

- Clear tread width of 36".
- Tread obstacles: 2" high maximum (up to 3" high where running and cross slopes are less than 5%).
- Cross slope: 5% maximum.
- Running slope: (trail grade) meets one of the following:
    - 5% or less for any distance.
    - Up to 8.33% for 200' maximum, with resting intervals every 30'.
    - Up to 10% for 30' maximum, with resting intervals every 10'.

  - Up to 12.5% for 10' maximum, with resting intervals every 10'.
- Passing space to be provided as least every 1000' where the trail is less than 60" wide.
- 80" of vertical clearance.
- Signs should be provided every 1000' at a minimum where the trail is less than 60" wide.
- Signs should indicate the length of the accessible segments.

7.2 HILLSIDE WILDERNESS PRESERVE FACILITIES

7.2.1 Existing Utility Access

Lower Clamshell Motorway

Design Characteristics. The Lower Clamshell Motorway is a double-track, unpaved fire road. It is nine (9) feet to twelve (12) feet wide, with short sight distances in some areas and a few turn-outs, which create the potential for use conflicts between non-motorized trail uses and motorized uses. The trail includes several steep segments (longer than 200 feet) that exceed an 8.33 percent grade.

Route. The Lower Clamshell Motorway extends between Ridgeside Drive and Cloverleaf Drive in the City of Monrovia. It connects to the Lower Clamshell Truck Trail, which extends east to the Arcadia Wilderness Area and Chantry Flats Road in the City of Arcadia. It is used officially to the remaining middle gate and unofficially for its length both to the Cloverleaf gate and to Arcadia.

Uses/Experience. The Lower Clamshell Motorway is currently used officially for hiking, dog walking, and mountain biking from Ridgeside Drive to the middle gate. It is used unofficially for its entire length both to the Cloverleaf gate and to Arcadia. The Lower Clamshell Motorway also provides vehicle access for fire management purposes and is used by private motor vehicles to access private in-holdings. Generally located along south facing slopes of the San Gabriel foothills, this area has no tree canopy and very little shade. As a result, the trail is conducive to spring and winter use and early morning and evening use, as it is exposed and hot during the summer months. The trail grades exceed the Americans with Disabilities Access Board's recommended standards for outdoor accessibility, thereby potentially limiting access to unskilled and disabled users.

Maintenance. The Lower Clamshell Motorway is maintained by the City of Monrovia Public Works Department, the U.S. Forest Service Angeles Forest Division, and the Consolidated Fire Protection District of Los Angeles County in accordance with cooperative fire management agreements.

Upper Cloverleaf Reservoir Utility Road

Design Characteristics. The Upper Cloverleaf Reservoir Utility Road is a double-track, paved utility service road. It is typically ten (10) to twelve (12) feet wide with turn-outs. It includes steep segments (longer than 200 feet) that exceed an 8.33 percent grade.

Route. The Upper Cloverleaf Reservoir Utility Road begins at the Hillside Wilderness Area boundary at the end of Highland Place. It serves the Upper Cloverleaf Reservoir and is approximately $^{1}/_{3}$ mile long.

Uses/Experience. The primary function of this route is to provide access for the City of Monrovia Public Works Department maintenance vehicles servicing the water tank. Unofficial trail use includes hiking, dog walking, and mountain biking. The alignment is steep and only offers an out and back experience. The trail grades exceed the ADA Access Board's recommended standards for outdoor accessibility, thereby potentially limiting access to unskilled and disabled users.

The utility road generally runs along a north-south axis and is contained within a steep canyon area for two-thirds of its length. The northerly portion of the utility road rises above the canyon as the road continues in an easterly direction to the water tank. The northern section provides views of the Arcadia Wilderness and the Angeles National Forest.

Maintenance. The Upper Cloverleaf Utility Road is maintained by City of Monrovia Public Works Department.

Norumbega Reservoir Utility Road

Design Characteristics. Norumbega Reservoir Utility Road is a double-track, paved utility service road. It is eleven (11) feet wide, with steep, sharp turns resulting in short sight distances.

Route. The Norumbega Reservoir Utility Road begins at the Hillside Wilderness Area boundary. The Utility Road extends approximately $^{1}/_{10}$ mile from the west end of Norumbega Drive to the Norumbega Water Reservoir.

Uses/Experience. Use is limited to utility service although unofficial walking use takes place. The utility road provides a potential public access opportunity to the Hillside Wilderness Preserve (former Bowden Property).

Maintenance. The County of Los Angeles maintains the portion of the road leading up to East Norumbega Reservoir extending from the gate to where the road splits to the right. From that point on up, the utility road to the reservoir is maintained by the City.

7.2.2 Ancillary Recreation Facilities

There are no ancillary facilities supporting recreation within the Hillside Wilderness Preserve.

7.2.3 Utility Infrastructure

Upper Cloverleaf Reservoir, Emerson Flats Reservoir, and Norumbega Reservoir are located within the Hillside Wilderness Preserve. Overhead power lines feed all of the reservoirs and transect the Preserve.

7.2.4 Local Street Access

Access to the Hillside Wilderness Preserve is provided by residential neighborhood roads that terminate at the southern Preserve boundary. These roads include Highland Place, Ridgeside Drive, Cloverleaf Drive and Norumbega Drive. All roads into the Hillside Wilderness Preserve are gated to prevent public vehicular access. Roadway characteristics are described below.

Highland Place

Design Characteristics. Highland Place is a local residential roadway that extends north from Foothill Boulevard and terminates in the foothill area at the southern boundary of the Hillside Wilderness Preserve. Highland Place is 30 feet wide north of Hillcrest Avenue. Parking is permitted on both sides of the street. No sidewalks or bike facilities (e.g., bike lane striping or bike route designations) are incorporated into the road right-of-way.

Access Provisions. The access point from Highland Place (Figure 11) is a utility service access for the City's Public Works Department. It is located at the north end of the street and is gated to prevent motorized public vehicle use. The utility road is used unofficially by pedestrians and mountain bicyclists.

Cloverleaf Drive

Design Characteristics. Cloverleaf Drive is a local residential road that extends north from the intersection of Alta Vista Avenue and Scenic Drive. No sidewalks or bike facilities (e.g., bike lane striping or bike route designations) are incorporated into the road right-of-way. Cloverleaf Drive is 32 feet wide south of Lotone Street. Parking is permitted on both sides of the street. Cloverleaf Drive narrows to between 14 feet and 16 feet between Lotone Street and Hidden Valley Road. Between Hidden Valley Road and the Preserve boundary, Cloverleaf Drive is between 11 feet and 16 feet wide. No parking signs are posted along the two narrower roadway sections.

Access Provisions. Cloverleaf Drive provides access to private residences on the roadway; the private in-holdings within the Preserve; and the City, County and U.S. Forest Service for fire protection, emergency response and park management patrol purposes, including access to the wilderness fire station. Access to the Hillside Wilderness Preserve from Cloverleaf Drive is controlled by a gate (Figure 11).

Ridgeside Drive

Design Characteristics. Ridgeside Drive is a local residential road that extends northwesterly from a junction with Canyon Boulevard. The road is 34 feet wide. Parking is permitted on both sides of the street. No sidewalks or bike facilities (e.g., bike lane striping or bike route designations) are incorporated into the road right-of-way. The paved driveway serving two private residences at a vacant lot that leads from Ridgeside Drive to the Lower Clamshell Motorway is between 12 and 13 feet wide.

Access Provisions. Ridgeside Drive provides secondary emergency egress for the private in-holdings with primary access from Cloverleaf Drive within the Preserve and access by the City, County and U.S. Forest Service for fire protection, emergency response and park management patrol vehicles. Vehicular access to the Hillside Wilderness Preserve from Ridgeside Drive is controlled by a gate. Pedestrian and bicycle trail use along the Lower Clamshell Motorway occurs from this access point (Figure 11, Ridgeside Drive).

Norumbega Drive

Design Characteristics. Norumbega Drive is a local street that meanders along the base of the foothills in the upper northeast residential corner of the City. It begins at Foothill Boulevard and runs in a northerly direction where it terminates into the foothills. The road is 21 feet wide. No sidewalks or bike facilities (e.g., bike lane striping or bike route designations) are incorporated into the road right-of-way. Along Norumbega Drive there are two potential access points (Figure 11, Norumbega Drive 1 and Norumbega Drive 3), both from easements. In Sleepy Hollow, there is an existing pedestrian trail that is currently used (Figure 11, Norumbega Drive 2).

Access Provisions. The first access point from Norumbega Drive is an 11-foot wide private way west of Bradoaks Avenue (Norumbega Drive 1). Access is limited to those residences that have an ingress/egress easement across the private way. The second access point is the Sleepy Hollow Trail located around the first bend on Norumbega Drive, east of Bradoaks Avenue (Norumbega Drive 2). This access point is located between two private residences. The third access point is at the north end of Norumbega Drive where it terminates near the base of the foothills (Norumbega Drive 3). There is a gated utility road that provides access to the Norumbega Drive Reservoir. Parking is permitted on both sides of Norumbega Drive in this area.

Norumbega Terminus

Design Characteristics. Norumbega Drive ends at a local residential cul-de-sac. No sidewalks or bike facilities (e.g., bike lane striping or bike route designations) are incorporated into the road right-of-way.

Access Provisions. Norumbega Drive provides access to private residences along Norumbega and utility service access to the Norumbega Reservoir from the terminus of the street. Access to the utility road is gated to prevent public access.

Transit Service. There is no fixed route transit service to any of the potential Hillside Wilderness Preserve access points. However, Monrovia Transit provide curb-to-curb service to the general public anywhere in the City and unincorporated County area south of the City seven days a week for $1.00 for the general public and 75¢ for seniors and disabled riders.

7.3 HILLSIDE RECREATION AREA FACILITIES

The Hillside Recreation Planning Area contains two developed areas: Canyon Park and Trask Boy Scouts Camp. The planning area also provides access via the Canyon Park trail system to the Deer Park Cabin historic resort site located within the Angeles National Forest.

Canyon Park is an 80-acre, developed public recreation area located at the terminus of Canyon Boulevard. Developed facilities include a nature center; a rental cabin/conference center for special occasions and meetings; picnic areas with picnic tables and barbecue grills; irrigated turf areas; three restrooms; a three tiered parking lot with eighty (80) parking spaces available, including seven (7) handicapped spaces; a 20,000 gallon water tank that serves the park; and a native plant garden and hiking trails. The trails, which are located in the upper portions of Canyon Park, provide access to creeks and the canyon falls. Ancillary amenities include: drinking fountains, benches and trash receptacles.

Canyon Park's north-south orientation and year-round creek create a comfortable, shady microclimate conducive to summer use. The Waterfall in Canyon Park (actually located on U.S. Forest Service land) serves as a spiritual, educational, and meditation destination for park visitors.

The Trask Boy Scouts Camp is a private in-holding belonging to the San Gabriel Valley Council of the Boy Scouts of America (BSA). In 1982, the City entered into an agreement with the San Gabriel Valley Council to lease 320 acres. In 1990, this property was included in the Option Agreement that the City executed with the Trust for Public Land (TPL). The TPL transferred the property to the United States Forest Service who created a twenty-year special use permit with the BSA.

The Trask Boy Scouts Camp contains a number of small camp cabins, cafeteria, swimming pool, amphitheater, fort and support facilities. A small reservoir is also located on this site. Limited vehicle access is provided via Sawpit Canyon Fire Road, which is paved from the Canyon Park entrance to the Trask Boy Scouts Camp grounds.

The Trask Boy Scouts Camp offers youth and men and women of all ages, a unique learning experience within the 400-acre camp grounds. Programs are designed to foster a better understanding of the earth's natural systems and a deeper respect and appreciation for the environment

The Deer Park Cabin Site was established by Ben Overturff in 1907 after discovering the site in 1905 during a hunting trip. The lodge was open from approximately 1911 until the 1930s depression. Visitation ceased when the Great Flood of March 1938 washed out the trail to Deer Park. Use resumed when the trail was rebuilt by the early 1940s and then closed during World War II. The Overturffs abandoned the lodge in 1948, and the Forest Service demolished the buildings associated with the resort in 1958. Remains of the cabin, waterlines and horse corral can still be viewed by park visitors who access the site from the Ben Overturff Trail. For more historic information regarding this site, refer to Section 4.0 – Cultural Resources.

7.3.1 Cabin Conference Center

A 1,400 square foot rental cabin/conference center can be rented by the public for business functions, family gatherings, social events, and weddings.

7.3.2 Canyon Park Nature Center

The 2,000 square foot Nature Center, renovated in 1997, received a "green design" award for use of recycled materials. The center displays local flora and wildlife indigenous to Canyon Park along with information about the early history of the Canyon residents and the present day natural hazards of a wilderness environment. The facility serves as an interpretive center for the general public. Refer to Section 5.0 – Education Programs, for a discussion of programs offered at the Canyon Park Nature Center.

7.3.3 Picnic Grounds

Four formal picnic areas allow barbecuing (only with charcoal). The Cabin and Fireman's Flat picnic areas are rented hourly or for day/night use for conferences, birthday parties, or family activities.

Visitors may also picnic on the trail or along the creek, as long as they pack out their trash. No barbecuing is allowed on the trails near the creek. Trash receptacles are provided at all designated picnic areas.

Fireman's Flat. Fireman's Flat is a 2,000-square foot picnic area dedicated to the City's firefighters. This area has six picnic tables and four barbecues. The area is available to rent for private group events such as family parties, reunions, and small weddings. Prices vary with non-profit verification. If Fireman's Flat is not reserved, the area is open on a first come, first served basis, as is the rest of the park.

Mal Packer Mesa. Located behind the Canyon Park Nature Center, Mal Packer Mesa has eight picnic tables and three barbecues. This area is available on a first come, first served basis.

Emerson Flats. Emerson Flats is a small picnic area located above the Cabin Conference Center parking lot. It has three picnic tables, one barbecue, and two long benches for seating to accommodate a small group. The path leading to the "Three Graves" begins from this location.

Additional Picnic Areas. A picnic table by the Cabin parking lot is situated under a large oak tree. Two picnic tables are located by the bus parking area in the middle parking lot overlooking the creek. If the Cabin is not reserved, the public is welcome to use the two picnic tables and two barbecues on the lawn area below the Cabin.

7.3.4 Existing Trails

Monrovia Canyon contains four separate trailheads which lead to the popular Monrovia Canyon Falls; Bill Cull, Americans with Disabilities Act (ADA), Nature Trail and Nature Center to the Falls Portion. Each is described below.

Bill Cull (From Canyon Park entrance station with trail connections to the waterfall)

Design Characteristics. The Bill Cull Trail is a single-track, compacted natural surface foot trail varying from two to four feet wide. While the trail is well maintained by volunteers, the trail contains a number of physical barriers to accessibility including water bars, loose rocks, steps, and casual stream crossings defined by stepping stones.

Route. The Bill Cull Trail starts just above the Entrance Station and runs 3272 feet to the where it meets the half way point of the Self-Guided Nature Trail. A completed loop from the Entrance Station to the Waterfall and back is 3.5 miles.

Uses/Experience. Permitted uses include hiking and dog walking on leash. Canyon Park trails are open to the public daily, except on Tuesdays when use is limited to staff led outdoor youth education programs, bicyclists and pedestrians. The Bill Cull Trail contains a number of physical barriers and therefore does not meet the Americans with Disabilities Access Board's recommended standards for outdoor accessibility.

Maintenance. The trail is maintained by the City of Monrovia volunteer corps.

Americans with Disabilities Act (ADA) Trail (Begins at restrooms adjacent to Cabin with trail connections to the waterfall)

Design Characteristics. The ADA Trail is a single-track, compacted natural surface foot trail varying from three to four feet wide. While the trail is well maintained by volunteers, the trail contains a number of physical barriers to accessibility including some loose rocks and seasonal vegetation growth.

Route. The ADA Trail starts on the south side of the road above the middle restroom. It parallels the stream and then joins the Nature Trail Portion for about 100 feet. The total length of the ADA Trail Portion is 252 feet.

Uses/Experience. Permitted uses include hiking and dog walking on leash. Canyon Park trails are open to the public daily, except on Tuesdays when use is limited to staff led outdoor youth education programs, bicyclists and pedestrians. The trail was designed to meet the Americans with Disabilities Access Board's recommended standards for outdoor accessibility.

Maintenance. The trail is maintained by the City of Monrovia volunteer corps.

Nature Trail (From middle level restrooms to the waterfall)

Design Characteristics. The Nature Trail is a single-track, compacted natural surface foot trail varying from two to four feet wide. Although the trail is maintained by volunteers it contains a number of accessibility barriers including water bars, loose rocks, steps, and intermitted casual stream crossings defined by stepping stones.

Route. The Nature Trail consists of 1093 feet starts at the first road curve above the middle level restrooms. It contains interpretive sign posts which relate to the Self Guided Nature Trail Guide which can be picked up at the either end of the trailheads. A completed loop from the trailhead to the Waterfall and back is 2 miles.

Uses/Experience. Permitted uses include hiking and dog walking on leash. Canyon Park trails are open to the public daily, except on Tuesdays when use is limited to staff led outdoor youth education programs, bicyclists and pedestrians. Because the trail contains a number of physical barriers, it does not meet the Americans with Disabilities Access Board's recommended standards for outdoor accessibility.

Maintenance. The trail is maintained by the City of Monrovia volunteer corps.

Waterfall Trail (From Nature Center to Waterfall)

Design Characteristics. The Nature Center to the Waterfall Trail is a single-track, compacted natural surface foot trail varying from two to four feet wide. Although the trail is maintained by volunteers it contains a number of accessibility barriers including water bars, loose rocks, steps, and casual stream crossings defined by stepping stones.

Route. The Nature Center to the Waterfall Trail runs from 3,590 and climbs approximately 600 feet. The trail starts at the north-west end of the Mal Packer Mesa Picnic area. A completed loop from the trailhead to the Waterfall and back is 1.5 miles.

Uses/Experience. Permitted uses include hiking and dog walking on leash. Canyon Park trails are open to the public daily, except on Tuesdays when use is limited to staff led outdoor youth education programs, bicyclists and pedestrians. Because the trail contains a number of physical barriers, it does not meet the Americans with Disabilities Access Board's recommended standards for outdoor accessibility.

Maintenance. The trail is maintained by the City of Monrovia volunteer corps.

Ben Overturff Trail

The Ben Overturff Trail lies on Untied States Forest Service Land. This trail was closed to the public from 1945 until 1993 when a Memorandum of Understanding to restore the trail was established between the City, Los Angeles County Flood Control District, Trask Boy Scouts Camp and the United States Forest Service (USFS).

Design Characteristics. The Ben Overturff Trail is a single-track, compacted natural surface foot trail varying from two to four feet wide. The trail contains a number of physical barriers to accessibility including water bars, loose rocks, steps and informal stream crossings and grades that exceed 8.33% for distances greater than 200 feet.

Route. The Ben Overturff Trail serves as one of the primary connections to the Angeles National Forest from Monrovia Canyon Park. The trail begins at Overturff Junction on Sawpit Canyon Fire Road, 1.2 miles from the Canyon Park entrance station. The junction is marked with two stone pillars and a map of the trail and fire road. The trail alignment generally follows the historic mule train route from the Sawpit Canyon Fire Road to Twin Springs and the Old Cabin Site in Deer Park which lies on United States Forest Service land. The trail is 7.2 miles roundtrip from the lower parking lot with a 1,850-foot altitude gain. The trail ends at the Old Cabin Site above Deer Park. Staging is available at Canyon Park from 8:00 am to 5:00 pm. Access via the Mt. Bliss and Van Tassel Fire Roads within the Angeles National Forest is not time-restricted.

Uses/Experience. Trail use is limited to hikers. This trail is open everyday except for when the police use the Sawpit Canyon Shooting Range. There is no public vehicle access from either end of the trail. The trail grades exceed the Americans with Disabilities Access Board's recommended standards for outdoor accessibility, thereby potentially limiting access for unskilled and disabled users.

Views are mostly restricted to those within Sawpit Canyon and the surrounding ridges. Attractions include a year-round stream at Deer Park with shady groves of California bay and canyon oak, the Sawpit-Clamshell Fault center of the 1991 Sierra Madre Earthquake, and remnants of the Old Cabin Site in Deer Park.

Maintenance. The trail is maintained by the Monrovia Community Services Department, the California Conservation Corps, and volunteer trail builders.

Sawpit Canyon Fire Road

Design Characteristics. The Sawpit Canyon Fire Road is a double-track U.S. Forest Service maintenance/fire road trail. The road is paved from the Canyon Park entrance to Camp Trask. The remainder is compacted native soil. The trail width is typically ten feet to twelve feet wide, with short sight distances in some areas and few turn outs, creating the potential for use conflicts between non-motorized trail uses and motorized uses primarily in the first ⅓ mile up to the Sawpit Dam. The trail includes several steep segments (longer than 200 feet) that exceed an 8.33 percent grade.

Route. Sawpit Canyon Fire Road is located 0.25 mile from the Monrovia Canyon Park entrance station. The trail is five (5) miles long with a total elevation gain of 2,080 feet, and it ends at White Saddle between Monrovia Peak and Mt. Bliss. White Saddle can be accessed via the Van Tassel Fire Road from Duarte or Azusa or via Upper Clamshell Road from the Rincon - Red Box Truck Trail.

Uses/Experience. The Sawpit Canyon Fire Road is available to all non-motorized users. Vehicle parking is available at Canyon Park everyday except Tuesdays from 8:00 am to 5:00 pm. Access via the Mt. Bliss and Van Tassel Fire Roads is not time-restricted. The road is closed when posted for police use of the shooting range located adjacent to the road.

Although the road is gated at Canyon Park Junction, users of the Trask Boy Scouts Camp have access through the gate. Hence, there is infrequent vehicle traffic in the first mile. Another locked gate at Overturff Junction limits traffic beyond that point to local police departments and City and U.S. Forest Service maintenance and fire vehicles.

Sawpit Canyon Fire Road has many attractions including views of the 150-foot high Sawpit Dam and Sawpit Canyon, canyons filled with big leaf maple and sycamore, narrow rocky recesses with possible seasonal waterfalls, exploration of the lower slopes of Monrovia Peak, and the Sawpit-Clamshell Fault center of the 1991 Sierra Madre Earthquake.

Maintenance. The Sawpit Canyon Fire Road is maintained by the U.S. Forest Service.

7.3.6 Local Street Access

Public vehicular access to Canyon Park is provided via Canyon Boulevard. Limited vehicular access to the Trask Boy Scouts Camp is provided via Canyon Park Road and Sawpit Fire Road.

Canyon Boulevard

Design Characteristics. Canyon Boulevard is a local residential road. The road is 44 feet wide within the residential area. Sidewalks are provided on one side of the road south of the turn off up to the park. Parking is permitted on both sides of the street. The road narrows to 19 feet at the park boundary. Access to the park is controlled by a vehicular gate which is open between 8 a.m. and 5 p.m. Wednesday through Monday. Additional access controls include an entry station where parking fees are collected. There are no pedestrian or bike facilities (e.g., bike lane striping or bike route designations) incorporated into the road right-of-way north of Ridgeside Drive. A 4-foot wide, rock-lined decomposed granite path leads from the park entrance to the lower parking area/park entrance station.

Access Provisions. While motor vehicle access is the primary mode of travel to/from the park, a number of visitors walk or bicycle in from the local residential areas, due in part to the limited number of parking spaces within Canyon Park and the entry fees charged for vehicle entry. The path connects to the Sawpit Wash utility channel easement which extends from the Park to Lemon Avenue.

As a result of the high volume of park use, and the limited number of spaces, Canyon Boulevard is periodically impacted by overflow parking from the Park on the busiest weekends. Park records indicate that parking within Monrovia Canyon Park reached capacity on six weekends between 2005 and 2006. Overflow parking is managed to some degree by designating the section of road on Oakglade Drive immediately adjacent to the park as a "resident permit" parking zone.

Sawpit Fire Road

Design Characteristics. The Sawpit Canyon Fire Road is a double-track U.S. Forest Service maintenance/fire road trail typically ten (10) feet to twelve (12) feet wide. The road is paved from the Canyon Park entrance to Trask Boy Scouts Camp. The remainder of the road is compacted native soil.

Access Provisions. Access to Sawpit Fire Road is controlled by gates in two locations. Combination locks serve to limit motorized vehicle access first to the Trask Boy Scouts Camp and then to City and the U.S. Forest Service staff. This road provides access for non-motorized recreation; the Police Academy and police officers from the City and surrounding communities who use the shooting range; and the City and U.S. Forest Service for fire protection, emergency response, and park management patrol purposes.

Transit Service. There is no fixed transit service to the Hillside Recreation Area, although there are provisions for local school buses (two at any given time) to park in Canyon Park in conjunction with the youth outdoor education programs. Monrovia Transit provides curb-to-curb dial-a-ride service for the general public in Monrovia and the unincorporated County area south of Monrovia seven days a week for $1.00 to the general public and $0.75 for seniors and the disabled.