

## **I. Introduction**

The Upland Basin System, when completed, will be composed of a 58 acre basin (Basin A), 8 acres of floodway to connect Basin A to Basin B and an additional 5 acre basin (Basin B). The system is designed to detain regional flood flows, recharge water into the Cucamonga Basin, and connect regional trails through a passive recreational area planted with native upland vegetation and various riparian habitats. The riparian vegetation will be re-established to create a pocket of habitat for migratory water fowl. The basin system, when completed, will allow for the continued flood protection for the cities of Upland, Ontario, and Chino.

Basin A can be broken into 4 functional components: Water treatment facilities, detention facilities, inlet structures, and outlet structures.

The water treatment facilities were designed using best management practices recommended by the California Regional Water Quality Control Board. The treatment facilities include braided channels and riparian vegetation.

Braided channels are a streambed that will be constructed with local and artificial rock. The purpose of the streambed is to control the low flow waters and, by incorporating drop structures and scouring basins, cleanse the water as it passes through the channel.

Riparian vegetation, which will be protected and maintained through a conservation easement in favor of the Department of Fish and Game, will be the second level of treatment for the water. After traversing the braided channel, the water enters the first of two separate riparian areas. After the water is filtered through the plant material within the riparian areas, it enters the main recharge basin.

The recharge basin is designed to capture and detain large volume storm flows and recharge the water to the Cucamonga Basin. The water is captured in a basin that is designed with three sub-basins. Two of these sub-basins will be completely covered with vegetation and the third sub-basin will function like a sand trap. This third sub-basin is kept free of vegetation and serves as the final filtration device as the water percolates through to the Cucamonga Basin. The main basin has a dead storage capacity of about 540 acre-feet of water. This improved capacity, and subsequent recharge, in the full basin will contribute a greater level than the historical amount of storm water that has been recharged within basin 6 of the Cucamonga Wash.

There are two inlet structures at the west end of the property. Combining the volume of the two inlets, during a 100-year storm event, Basin A will receive over 4,000 cubic feet of water per second.

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The outlet structures for the Basins allow the water to pass through the Basins to the Cucamonga Creek Channel. The structures include a 12' x 27' box culvert almost 1,000 feet long and a 7' x 6' box culvert. The path of flow controls large storm flows, directing the water into the Cucamonga Creek Channel. During major storms, up to the 100-year storm event, the outlet from Basin B meters water into the Channel at a rate of 658 cubic feet per second.

### II. General Information

Project Name: Upland Recharge and Detention Basin System

Project Location: Northeastern portion of Upland, near the Upland-Rancho Cucamonga city boundary.

County: San Bernardino

Sponsoring Agency: City of Upland

Project Manager: Mike Thornton, Civil Engineer

Phone Number: (909) 931-4230      Email: [mthornton@ci.upland.ca.us](mailto:mthornton@ci.upland.ca.us)

Grant Request Amount: \$5,000,000

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Authorized Agent

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Mayor  
Title

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Date

## Upland Recharge and Detention Basin System Project

**Project Objective(s):** This Project will include the acquisition of 28 acres of real property that has been used as a flood detention and recharge basin for decades. The proposed acquisition is a portion of the 70 acre Upland Detention Basin System. Improvements and restoration of the detention basin system will also serve to enhance wildlife and riparian habitats.

The system is designed to detain regional flood flows, recharge water into the Cucamonga Basin, and connect regional trails through a passive recreational area planted with native upland vegetation. The riparian vegetation will be re-established to recreate a pocket of habitat for wildlife activities. The basin system will also continue to provide flood protection for the Cities of Upland, Ontario, and Chino as intended by the Army Corps of Engineers when they constructed the Cucamonga Creek Channel in the 1970s.

See Figures 1 and 2 for maps of the project site.

### III. Minimum Qualifications

- A. This project proposes to use any granted funds for the protection and enhancement of flood protection corridors as required by Water Code Section 79038(b) through the acquisition privately owned real property in order to continue the property's use as a flood detention basin and to make non-structural improvements to improve the riparian habitat and improve the holdings of the detention basin to accommodate the expected increases in diverted water as a result of the new State Route 210.
- B. The City of Upland, a local public agency, is proposing this project.
- C. The proposed improvements and/or ongoing maintenance of the Upland Basin System will include the services of the California Conservation Corps whenever feasible.
- D. As a regional facility, this basin system should be owned and maintained by a public agency.
- E. The current holder of the property interests is The Colonies Partners, LP. This Partnership is willing to sell the property required to complete the proposed project (see Appendix A, letter from property owner).
- F. A plan has already been developed that evaluated and minimized the impacts on adjacent landowners including water surface elevations and flow velocities associated with floodwaters, the structural integrity of affected levees, diversion facilities, and the riparian habitat (see Appendices D and E for the Detention System Study and the Environmental Impact Report respectively). The levees will be removed and replaced with a jurisdictional dam structure that will possess a discharge valve that will be operated by the water agencies and/or the San Bernardino County Flood Control District. This valve would remain in a closed

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state 90% of the time, promoting improved detention capacity and recharged water.

- G. The project site is located within a locally designated flood detention and recharge basin that has functioned as such for decades. The current basin and the Cucamonga Creek Channel were designed by the Army Corps of Engineers in the 1970's to prevent the ongoing flooding that was occurring in this area.

### **IV. Flood Protection Benefits**

#### *A. Existing and Potential Development in the Floodplain*

The Uplands Recharge and Detention Basin System Project is located on the southern portion of the Cucamonga Creek alluvial fan in a newly developing area in northeastern Upland, near the Upland/Rancho Cucamonga boundary. The alluvial fan overlies the Cucamonga Groundwater Basin, which covers approximately 12,200 surface acres, and has historically been used for water conservation. The fan has been improved by the San Bernardino County Flood Control District to provide the flood control facilities with the construction of artificial weirs and levees to allow for the spreading and conservation of floodwater. Levees were built on this site in the 1930s, and after the flood of 1969, the Army Corps of Engineers constructed the Cucamonga Creek Channel, which this basin drains into.

This area is zoned to remain an open space; therefore, there is no potential for this area to be developed.

This site is immediately bordered by the Colonies Crossroads Commercial and Residential Development Project and the I-210 Freeway, the existing detention basin was sufficiently sized and maintained to contain the water flows generated during 100 year storm events, and was used by the San Antonio Water Company to recharge the Cucamonga Groundwater Basin; but with the recent completion of section two of the I-210 Freeway and the installation of a new storm drain in Campus Avenue and a new culvert near the east boundary of the site, the current basin (Basin 6) is not large enough to accommodate the increased water flows resulting from the storm drain improvements associated with the freeway. The designed improvements and the associated required maintenance are needed to support continued flood protection to the surrounding communities of 300,000 people by ensuring that the Cucamonga Creek Channel's capacity will not be exceeded.

#### *B. Flood Damage Reduction Benefits of the Project*

The proposed project watershed (Northeast Upland) encompasses a total of 2,563 acres. Flows from over 1,755 acres are conveyed to the project site via the County's recently completed 20<sup>th</sup> Street Storm Drain, a new storm drain in Campus Avenue, a new culvert near the east boundary of the site, and intercepted flows from 73 acres to

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the 19<sup>th</sup> Street drain that flows to the project site as a result of the completion of segment two of the State Route 210.

Under the Upland Recharge and Detention Basin System Project, water runoff is divided into two detention basins designated as Basin A and Basin B. Basin B is designed with a storage capacity of 35 acre-feet, and outlets to the Cucamonga Creek Channel located on the east property line. The peak rate of discharge from Basin B is limited by the Army Corps of Engineers to a maximum of 658 cfs during a 100-year storm. To ensure that the rate of discharge is not exceeded, the majority of the water is directed into Basin A.

Considered in the design of the storm drain concept layout is the collection and safe discharge of 100-year storm flows from the 19<sup>th</sup> Street Storm Drain, 20<sup>th</sup> Street Storm Drain and drainage infrastructure constructed as part of the State Rote 210. The proposed project detention basin system would serve a watershed covering 2,563 acres.

The construction improvement schedule and listing of improvements is included under Appendix G.

Construction of the infrastructure and facilities outlined in Appendix G shall be the responsibility of the developer of Colonies at San Antonio. Assessment district financing will be utilized for on-site and off-site public facilities needed to support project development. The project developer will privately finance infrastructure and facilities costs above that which can be financed with a maximum 1.7 percent property tax rate.

### *C. Restoration of Natural Processes*

The landscape restoration of the project site will create a valuable environmental resource that will establish a positive link between the natural environment and the community. The restoration process will include re-vegetation, utilizing both native and non-native plant materials, installation of dramatic rock outcroppings that give the appearance of a natural landscape, and creation of a riparian habitat that will be sustained by storm drain runoff within the basin.

The existing basin, which resulted from past sand and gravel extraction activities, will be graded and re-contoured to provide the necessary capacity for flood control purposes, and to establish suitable areas for the land uses that will surround the basin (Figure 3). Drop structures made up of rock ledges to create waterfalls or “rapids” (Figure 4 and 5). The drop structures will be constructed of local rock, or of artificial rock, to blend with the setting while providing structural functions. The drop structures will reduce the velocity of flood flow entering the basin, and allow for low volume flows to spread laterally and support riparian vegetation. Below the waterfalls, a scouring basin will reduce the velocity of flood flows, and spread the water through the braided channels to increase the effectiveness of uptake ad removal

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of water-borne contaminants from the upstream storm water runoff by riparian vegetation. The braided, sand-bottom channel will be constructed in the basin floor to convey low-volume storm flows and nuisance flows. The sand channel will be a suitable substrate for percolation to improve groundwater recharge. Additionally, the sand channel and adjacent vegetation will function as a “bio-filter,” removing contaminants from below the braided channels where reduced flow velocities will allow sediments to drop out of suspension and groundwater recharge to occur.

Tributary “bio-swales” will be graded to drain into the basin from the surrounding areas. The swales will convey runoff from commercial and residential areas and roadways. The swales will be designed and constructed to remove certain contaminants by water filtration and bio-accumulation (uptake of water through native vegetation). The swales will be constructed of either rip-rap or interlocking erosion control pavers, which allow the infiltration of water into the soil. Native grass vegetation will be planted between the selected material creating water uptake through the plants (Figure 6 and 7).

A controlled outlet and a percolation/sediment basin will be constructed at the downstream end of the basin to detain low-volume flows thereby increasing the length of time for wetland vegetation to remove urban contaminants in storm water runoff (Figure 8).

### *D. Project Effects on the Local Community*

The proposed project will increase the holding capacity of the detention basin to accommodate the increased storm water flows diverted to this basin as a result of the completion of segment two of State Route 210. The continued use and expansion of the detention/retention basin will be designed to accommodate local and regional storm water flows which currently run through the site to ensure that the capacity of the adjacent Cucamonga Creek Channel will not be exceeded. Substantial flood flows from off-site areas will be discharged into the central open space area from the 19<sup>th</sup> and 20<sup>th</sup> Street drainage structures, as well as from other adjacent developments. The adjacent developments are not located within a floodplain, as designated by the Federal Emergency Management Agency, as a direct result of the creation of this detention/retention basin and the Cucamonga Creek Channel.

The City of Upland Fire Department provides fire protection and emergency medical services to the project area from three local stations. The greatest response time from any of these stations is 12 minutes. Access and emergency evacuation routes, and demands with services have been coordinated with the Fire Department and the Police during the completion of the environmental impact report (see Appendix E). This project will not exceed the available services.

This site has never been developed beyond the initial use by the gravel operation facility that ceased operations more than 30 years ago. The foresight of the Army

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Insert 6 and 7

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Corps of Engineers and local planning agencies identified this site to remain undeveloped so that it may operate as a detention basin in conjunction with the Cucamonga Creek Channel to alleviate flooding to this community. This system has proven successful, as the last flood occurrence in this area was in 1969. The designed improvements to the project site shall be in compliance with the criteria specified by all applicable local, state, and federal programs.

### *E. Value of Improvements Protected*

The functionality of this site is such that entire communities would be affected in the event of the failure of the Cucamonga Creek Channel to provide flood protection due to excess water discharge. Therefore the assessed value of structural improvements protected by the proposed improvement and continued maintenance of the Basin System to ensure that the Cucamonga Creek Channel's capacity is not exceeded are estimated to be hundreds of millions of dollars. The areas downstream from the basin and the channel are all completely developed.

*The estimated replacement value of the Cucamonga Creek Channel flood control structure that would be protected by the project is several million dollars.*

## **V. Wildlife and Agricultural Land Conservation Benefits**

This project known as the Upland Recharge and Detention Basin System Project has significant wildlife and some agricultural land conservation benefits. The construction of the project, including the open space area, will require the grading of entire site. The existing riparian habitat will be altered, but will be replaced through mitigation measure in the project area. A total of 18 acres of riparian habitat shall be created within the project site. The project proposal includes 58 acres of open space area that will provide multiple functions including ground water recharge, flood control, percolation beds, and passive recreation and habitat values. The riparian habitat shall be created within the project area on 58 acres and shall be preserved in perpetuity. Enforceable restriction has been established to ensure the preservation of the riparian mitigation area. These restrictions shall ensure that the 18 acres shall remain as riparian habitat in perpetuity and shall not be developed, altered, nor used for any other purpose. Creation of the riparian habitat shall be implemented as part of the project construction. The long-term management includes the use of a professional biologist to provide for management planning, direction and oversight. The riparian mitigation area will be self-sustaining and will be phased in from a systems approach. The long-term management activities will be minimal, but such activities may include access control, removal of invasive non-native plants and the repair of interpretive elements.

Since the benefits and goals of the Flood Protection Corridor Program are to assist in the acquiring of agricultural conservation, wildlife habitat preservation, and flood flow easements and to restore floodplain functions, floodwaters can safely spread over and in some cases move more quickly through floodplains or can then be detained for later release. Other benefits from the program that tie directly to this proposed project include the

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enhancement of wetland development, water table recharge, wildlife habitat enhancement and the acquisition of land from willing sellers. Benefits may also be related to reduction of peak flows, allowing sediments to be trapped by restored riparian vegetation and the benefits produced to wildlife under the projects proposal are all critically tied to the goals of the program.

The proposed project is located at the southern boundary of the SNA LAX 33. This project site exists with 20 acres of LAX 33 and is included within LAX 33, because it is an area supporting extremely rare species or habitats, or because it is an area supporting associations of concentrations of rare species or habitats. Two of the three sub-basins designed for the proposed project site will also be re-vegetated with a species of the Riversidean alluvial fan sage scrub.

This project will also include passive recreational programs in the open space areas, with interpretive elements that will be incorporated into the 58 acres of the open space areas. Interpretive elements shall include programs to educate residents and visitors about the multiple functions of the open space areas, specific biological, wildlife and plant life values of the riparian habitat. This will be done as part of the project through the use of signs and education materials supplied to community entities from the ultimate management entity of the project. Other community outreach and education will be and can be provided by various San Bernardino County agencies that are responsible for wildlife, agricultural and habitat preservation. The City of Upland will work with non-profit agencies, schools and community groups to further the education of the community about native wildlife in the project area.

### *A. Wildlife Benefits*

This project will have a very significant positive benefit to the wildlife that is native to the area and to those bird species that use this project area for migration purposes. Wildlife movement and habitat fragmentation are important issues when assessing the positive benefits and impacts on a project. Habitat fragmentation occurs when proposed actions result in a single, unified habitat area being divided into two or more areas. Significant Natural Area LAX 33 has already suffered wildlife and habit fragmentation as a result of the construction of State Route 210 through this area. The freeway's bisection of this SNA has effectively eliminated the wildlife corridor from the San Gabriel Mountains. This project area containing the southern portion of LAX 33 will result in the conservation of the remainder of this habitat and its ability to support migratory passerines, as well as provide an opportunity for the habitat to support other species that are not currently present at this site.

#### A1. Importance of the Site to Regional Ecology

The Upland Recharge and Detention Basin Project is located in a Significant Natural Area Program (SNAP) district that has been established to identify high-priority sites for conservation of California biological diversity and inform resource decision makers about the importance of these sites. One significant and important goal of

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SNAP and of the project area is to provide coordinated efforts for services with public and private agencies that are interested in the protection of natural areas and the regional ecology efforts. This grant proposal includes the acquisition of land for the recharge of ground water and detention of water runoff. It will greatly assist in the preservation of the ecology and habitat in the site location and region.

California's natural diversity has been experiencing a steady decline since the arrival of European settlers. The constant demand for housing and economic development has caused a rapid loss of ecology systems and habitat. This project has identified within the Specific Plan, General Plan and the EIR an effect on both wildlife and plant ecology systems and habitats. The improvements proposed by this grant application will assist the conservation of riparian habitats, the perpetuation of rare and native vegetation by the intentional planting of said species, and promote wildlife habitats.

The project will include the maintenance of the retention basins that will be maintained through a conservation easement that is found to be in favor, as discussed in the EIR by the Department of Fish and Game, with second level treatment for the water. The water is proposed to traverse the braided channel with water entering the first of two separate riparian areas. The water will then be filtered through natural and local plant material within the riparian areas as it enters the recharge basins.

It is commonly known that water in California is at a true premium. The need for conservation and collection of water undoubtedly secures and protects natural ecosystems and habitats.

The Specific Plan, General Plan and EIR list species of all plant life and animal species found, detected and viewed in the project area. This proposed project is located in a previously used wildlife corridor with a demand for natural plant life and ecosystems that are supportive of all plant, mineral and animal species. The proposed project could be used by the City of Upland and the County of San Bernardino as a potential educational ecosystem site that can have long-term educational use to demonstrate how ecosystems can be protected, created and sustained, even in areas of high demand for housing and economic development.

Several species identified are not native to the area, but rather have used and, most importantly, would use this riparian habitat as a migratory resting location. The benefits to the community at large would be that both native and non-native ecosystems would be present for educational purposes.

The granting agency should consider that design and use of this site, for both recharge and detention, will have a significant impact on humans in a positive way (*i.e.* flood protection and ground water recharge), but the preservation and development of both native and non-native ecosystems would have long-lasting positive effects for all members of the community. In only rare situations do we find an opportunity that shelters humans, plants, minerals and wildlife.

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### A2. Diversity of Species and Habitat Types

The project area shows a significant diversity of species and habitat types for animals, and plants that are unique in ecological and or biological diversity, as is indicative of a Significant Natural Area, and the vegetation complexity in the area is unique to Southern California. The EIR, General Plan, and Specific Plan indicate that there is a potential for the occurrence of 71 special interest plants and animal species within the project area and within a 5 to 7 mile radius of the project site. These special interest plant and animal species range from legal protect status species to average local species with a high potential for occurrence in the project area and within the scope of any study area. However, during five years of on-site surveys, only five such species were found within the project area. The improvements planned within the project area are of further significance, because of the potential to attract more of the species native to the area.

The diversity of the species outlined varies widely, from the comprehensive protection extended to listed, threatened endangered species to no legal status at present. The California Department of Fish and Game, along with the United States Forest Services, local agencies, and special interest groups often publish findings and preliminary results of ongoing watch lists for declining species. Species that are important to this area have been listed on local interest lists when species or habitats are potentially threatened.

These projects would dramatically improve the opportunities for success for over 71 listed species in the area, by the encouragement of both ground water recharge and the detention basin storage. Water is a key need for maintaining the diversity of species and habitat in the area and will promote the return and use of this site for migratory habitat, as well as the potential for nesting and or denning areas with close and sustained food and water sources.

This project site and the project team has completed due diligence and found that during the sensitive species analysis of the study area around the actual direct observation of species were recorded along with trapping and observation.

One of the key resource areas for this project site that is included within acquisition area is a large quarry pit located near the center of the site. During years of average rainfall, water is present for as much as six or seven months of the year. During periods when no water is present, the water gradually evaporates and recedes leaving behind mudflats that are virtually devoid of vegetation.

Historically, these areas have been used by several species to hunt, nest and den. They create an excellent source of food and water and clearly are supported by the testing and observation data support throughout the General Plan, Specific Plan and the EIR. Presently, there is little such activities; but again, the conservation and improvements proposed for this area may encourage future such activities.

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### A3. Ecological Importance of Species and Habitat Types

Located within the project area is a 16-acre riparian habitat, an abandoned quarry site, and the site is located within a SNA. The riparian habitat will be altered and reconstructed in accordance with the Department of Fish and Game's requirements to promote continued wildlife activities. The abandoned quarry site and surrounding property is currently used for flood control and water spreading/groundwater recharging activities. As a result of this use and water ponds in this area, migrating waterfowl use this site as an overwintering area. Failure to continue to use this area in a similar manner would result in a reduction in the population of this species. By expanding the basin storage capacity and, subsequently, the quantity and/or duration of ponded water, the migrating waterfowl will likely continue to use this area as an overwintering area, as well as encouraging other migrating birds to utilize the area.

Additionally, the conservation of the portion of the SNA LAX 33 that is located in the northern portion of the project area, would be upholding the objectives established by the Department of Fish and Game to identify extremely rare and beneficial habitats and seek long-term perpetuation of these areas. Since World War II, the state's natural areas have been rapidly declining. The continued loss of such areas could likely result in significant adverse affects to our state's water supply, water quality, air quality, horticultural systems, and wildlife populations. The multi-faceted regional benefits of this project are undeniable.

According to the biological resources report completed by LSA and included in the Environmental Impact Report, the following species are of limited distribution in Southern California and ongoing development in the region is further reducing their ranges and numbers:

Intermediate Mariposa Lily	Parry's spineflower
Mesa horkelia	Robinson's peppergrass
California spineflower	California muhly
Coastal western whiptail	San Diego banded gecko
San Diego horned lizard	Silvery legless lizard
Coastal rosy boa	Coast patch-nosed snake
Loggerhead shrike	So. California rufous-crowned sparrow
Bell's sage sparrow	Cooper's hawk
California mastiff	American badger
San Diego Black-tailed jackrabbit	San Diego desert woodrat
Northwestern San Diego pocket mouse	

Of the above sensitive species, the following were observed during focused surveys:

Cooper's hawk	Bell's sage sparrow
San Diego black-tailed jackrabbit	San Diego desert woodrat
Northwestern San Diego pocket mouse	

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This site is situated at the tip of a habitat peninsula extending down from the San Gabriel Mountains. Based on field surveys, it is apparent that large mammals regularly foraged in and through the project area. This area was an important local site for migrant passerines, but with the completion of the new section of the freeway, it may cease to function as a migratory corridor; a perfect example of the effects of the expanding developments.

Approximately one-fourth of the 70 acre basin system will include the restoration of a riparian habitat, and accounts for nearly 35 percent of the land (28 acres) that will be eligible for acquisition.

### A4. Public Benefits Accrued from Expected Habitat Improvements

In addition to providing flood control, recharge benefits, and wildlife conservation, this project will provide a central open space area that will allow for passive recreation through the creation of hiking trails that will provide interpretative opportunities and access to the basin during non-storm periods. Overlooks and rest areas will be located along the top of the basin at key vista points (see Figure 9).

The landscape restoration will create a valuable environmental resource that will establish a positive link between the natural environment and the community. The community trails throughout the neighborhood will provide links to the community open space hiking trail located within the restored central basin, providing access to the riparian and native upland habitat. Integration of the site's natural resources into the community will provide opportunities for hiking, jogging, wildlife viewing, as well as interpretive signs to describe the natural systems, native vegetation, and wildlife habitat. The trail will be ADA and Title 24 compliant, and will accommodate emergency and maintenance vehicles at convenient locations throughout the trail system. Distance markers and interpretive trail signage to encourage trail usage and interaction will be placed along the trails. Site furnishings will also be located within the open space area and along trails providing seating at view areas, rest areas, picnic locations, conveniences such as trash receptacles, and pedestrian walkway lighting at approximately 80 feet on center (see Figure 10).

The Colonies at San Antonio Specific Plan specifies residential and commercial development, and the preservation of open areas, and complies with the City of Upland General Plan.

Adjacent land uses are zoned residential and commercial, and once built-out, will result in significant increases in storm water runoff that will be diverted to the proposed basin system. With the construction of State Route 210 along the northern portion of the project area; bisection of Significant Natural Area Lax 33; and the expanding development, conservation of this basin system is extremely important.

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Insert 9 and 10.

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### A5. Viability/Sustainability of Habitat Improvements

The maintenance of the central open space area, basin system, trails, and lettered lots is still being determined and will be finalized prior to the distribution of any awarded grant funds. Current discussions regarding this issue are such that the public agency(s) would maintain infrastructure below the watermark and the homeowner's association would maintain the improvements located above the watermark.

Maintenance of the public street outlets discharging into the project area and on-site basins will also be maintained by the City, while maintenance of the flood control facilities shall be the responsibility of one or more public agencies.

This cooperative approach to maintaining this area incorporates a regional commitment to the riparian and wildlife habitats, flood protection, groundwater recharge and recreation and educational opportunities.

Twenty acres of the project area are located within Significant Natural Area (SNA) Lax 33. While this area does not contain large oak stands, the vegetation and hydrology provide an extremely rare ecosystem, by designation, that supports wildlife activities. Conservation of this area is especially important, with the loss of 26.5 acres of this SNA as a result of the construction of segment two of State Route 210.

#### *B. Agricultural Land Conservation Benefits*

The surrounding vicinity and communities have been historically agricultural, but during the past 50 years the geographical area of west San Bernardino County has shown dramatic increased used for large urban development with rapid development occurring over the past 10 years. Communities that surrounded the project area at one time were almost exclusively used for agricultural production, but now have limited agricultural use and/or benefit. The site of this project could supply water to such residential agricultural properties as community vineyards, with the recharged groundwater or from below ground water storage basins. The need for preservation of past agricultural land conservation practices is an important part of the history of Upland. There is a significant need for open space areas that promote native vegetation and native landscaping.

## **VI. Miscellaneous Benefits and Quality of Proposal**

### *A. Size of Request, Other Contributions, Number of Persons Benefiting, Cost of Grant per Benefited Person*

See Appendix G.

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### *B. Quality of Effects on Water Supply or Water Quality*

The State of California is currently facing several difficult issues with regard to the general quality and quantity of water available in the state. We, as a state are in the worst drought in over 100 years. The specific site of this project area is in the heart of the drought area. These drought conditions are reaching critical conditions because of the forced reduction of water to communities and to the state as a result of the reduction of the availability of water from the Colorado River, in addition to reductions in the amount of state project water available and the ever pressing agricultural demands on water from Northern and Central California.

Several communities in Southern California, and specifically within San Bernardino County, are facing serious water reduction and impacts on the quality of water because of ground water pollution. Approximately 70% of the water within the project area and within western San Bernardino County is derived from ground water sources. Recharge of these wells is essential for communities to secure water needed to meet the needs of current customers, and considering the fact that water suppliers, both private and public, must guarantee water supplies and sources for five years prior to the issuing of building permits, while working to supply and support water guarantees for the next twenty years under their Urban Water Master Plans.

The proposed project has significant benefits for flood control purposes, ground water recharge purposes and for water supply opportunities. Beneficiaries from this project will receive flood control benefits; recreational benefits; habitat preservation benefits; and the protection of water resources by groundwater recharge, offsite (Cucamonga Creek Channel) and onsite surface storage, and groundwater retention storage. Being surrounded by residential and commercial development, this area will not be accessible by any livestock, and domestic animals will be required to be leashed.

The project's design and natural gradient flow from west to east through gravel and excavated property will assist in the natural trapping and stripping away of sediments that may be harmful to groundwater recharge system, and this same gravitational flow through the area will greatly enhance the flow of natural sediments needed to increase water quality in the basin and into the natural recharge areas. The project acre feet of water that could be recharge back into the water supply chain is equal to 5,300 acre feet per year. This recharge and supply capability should be noted as a strong benefit to the project and the regional significant efforts of this project.

### *C. Quality of Impact on Underrepresented Populations or Historic or Cultural Resources*

The project area and surrounding area consists of 448 acres zoned for residential and commercial use, as well as State Route 210 and open space areas. State Route 210 has been completed through the City of Upland, and is now open to Sierra Avenue in the City of Fontana.

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The current demographics of the area are as follows:

Percentage of Minority Populations	30%
Average income for a family of four	\$69,393
Current Native American Population	238

The proposed project does not provide direct benefits to underrepresented populations; however, the recharge benefits of the basin system will result in regional benefits that will be beneficial to both the majority and minority ethnic groups of the City of Upland and the County of San Bernardino.

According to Section 12 of the 1988 Environmental Impact Report (See Appendix F) no prehistoric, historic, or paleontological sites have been identified within or adjacent to the project area. Furthermore, on-site surveys of the project area only identified one artifact located within the streambed that was likely deposited from a site upstream and outside the project area. Cultural Resources identified outside the project area are not of significant value, and would not be impacted by the proposed project. The project site has been significantly altered (70-100 %) by previous human activities, including the removal of large amounts of earth. Considering the topography and hydrology of the project area, it is unlikely that any cultural resource remains are present.

Although the proposed development will result in major alteration of the landscape, no impacts will occur and the project area warrants no further investigation or management with regard to historic or prehistoric resources.

### *D. Technical and Fiscal Capability of the Project Team*

VI. Michael P. Thornton will manage the project on behalf of the City of Upland. Mr. Thornton holds bachelors and master degrees in civil engineering. He is a registered Professional Civil Engineer, California No. 44226 and Licensed Professional Land Surveyor, California No. 6867. Mr. Thornton has over 17 years of experience in engineering and surveying primarily working with public agencies on capital improvement projects. Mr. Thornton has managed numerous projects with use of State or Federal funding including the City's recently complete Metrolink Enhancements Project (TEA 21 funding). In addition to that project, the City is currently receiving Federal/State grant funding (TEA 21 and CMAC funding) for the City's Rails to Trails Project, and Roberti-Z' Berg-Harris (RZH) grant for improvements to existing parks. In addition, Mr. Thornton has been managing the Colonias at San Antonio development project on behalf of the City for the last 2 and one-half years and is very familiar with the issues related to the basin and the proposed basin improvements. A resume for Mr. Thornton is enclosed as Appendix I.

## Upland Recharge and Detention Basin System Project

### *A. Coordination and Cooperation with other Projects, Partner Agencies, and Affected Organizations and Individuals*

The City of Upland and its Public Works Department will coordinate this project. The community at large will be one of many stakeholders in the project to due to the nature and ability of the community to receive benefit from flood control, recharge capabilities, natural percolation of ground water, and the preservation of wildlife and/or plant habitat for generations into the future.

Partnering agencies on this project will include the County of San Bernardino, cities in the county, special districts, public and private water companies and the Santa Ana Regional Water Quality Control Board. Private developers will play a significant role in cost sharing and development of the project along with a significant amount of community interaction focused on the education of the community of flood control, water conservation, drought protection and design, and habitat preservation for both wildlife and plant species.

This project has potential for significant overlap and/or will complement ongoing activities being carried out by CALFED in the region. The development and use of this project area will assist in the control of flood plain corridors for the specific site, but also for significant areas within the western sections of San Bernardino County and the adjacent counties to the south and west.

The City of Upland, in coordination with San Bernardino County Flood Control “Zone 1”, has taken the role of lead agency with respect to meeting the multiple objectives of the regional significance regarding flood control, ground water recharge, and habitat preservation.

Attached to this application are demonstrated letters of support by private and public organizations that show not only a willingness to cooperate, but also a dedication to community improvement, resource preservation and conservation methods that should be used as an example of true public/private partnerships.