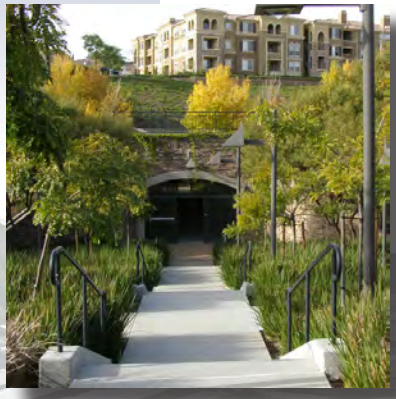
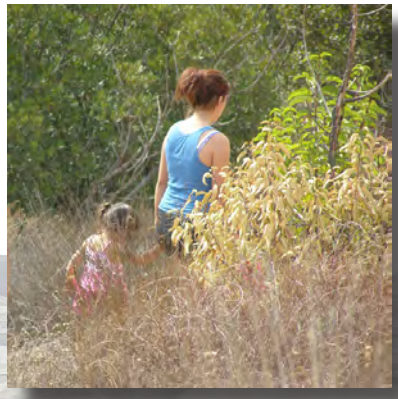
San Diego River Tributary Canyons Project





PROJECT FEASIBILITY REPORT

FINAL REPORT

APRIL 27, 2010

PREPARED FOR
San Diego River Conservancy and
California Coastal Conservancy

San Diego River
Tributary Canyons Project

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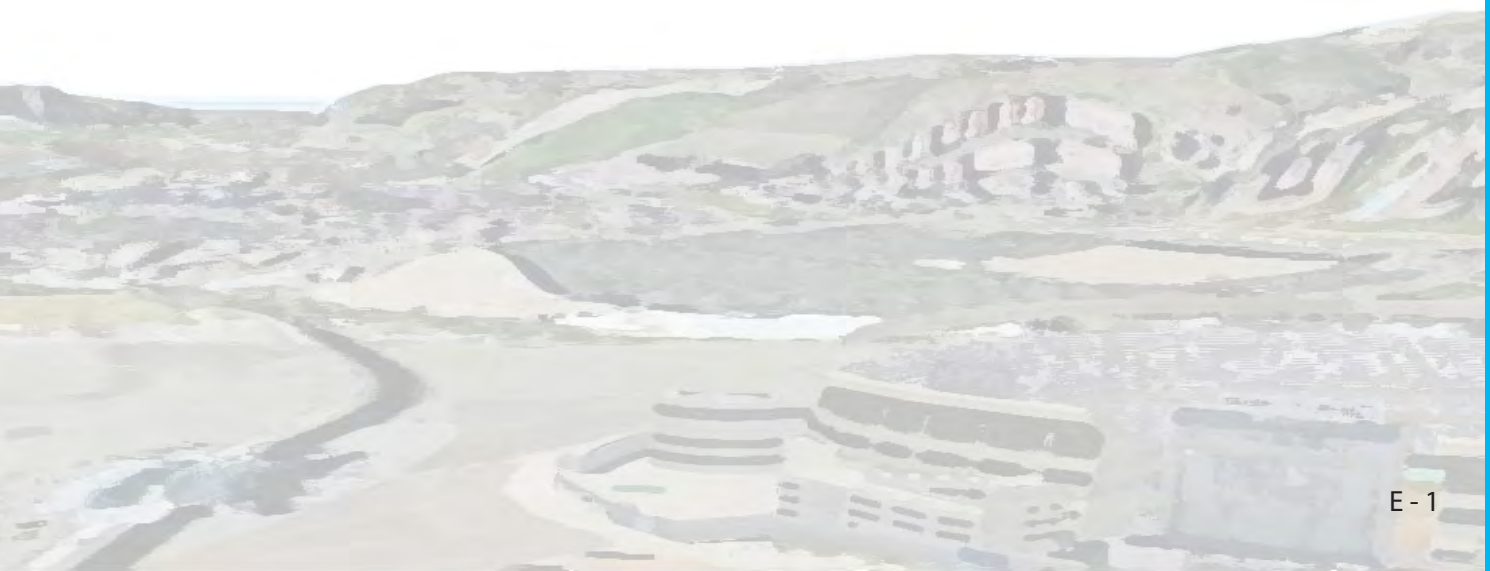
The San Diego River Tributary Canyons Project proposes a trail connection from Normal Heights, across Mission Valley, and into Serra Mesa. The trail would create critical pedestrian and bicycle connections between the three communities; connections that have long been desired by each community and which have been recommended by a number of community scale and City-wide planning documents. The proposed trail would provide direct non-vehicular access from the adjacent communities to the major recreational backbone being created along the San Diego River corridor. It would also provide an important opportunity for residents in each neighborhood to experience and learn about the natural areas that define much of San Diego's character. Finally, it would make critical new connections that open up access for thousands of residents and commuters to the MTS Trolley system and the shopping opportunities in Fenton Marketplace. The trail would advance progress toward the vision for the San Diego River Park as well as progress toward regional goals of sustainability, healthy lifestyles, environmental awareness, and overall quality of life in San Diego.

The proposed route begins in Normal Heights at the intersection of North Mountain View Drive and 33rd Street. It proceeds for a total length of 17,476 feet as it passes through Ellison Canyon, across I-8 using the Mission City Parkway bridge, across the San Diego River via a proposed non-vehicular bridge, through Fenton Marketplace and the Escala Development via the existing Mission City Trail, and to the end of Sandrock Road via Sandrock Canyon. Approximately 12,909 feet of the route follows existing trails or SDG&E canyon access roads that would require little to no improvement. Approximately 4,567 feet of new trail is proposed to ensure a sustainable trail route or to fill gaps in the route. Additional features proposed include a new non-vehicular bridge over the San Diego River, a plaza or park space adjacent to the river, modest trailhead facilities, habitat restoration within the canyons and along the river, and interpretive elements.

The proposed trail alignment was chosen after an exhaustive search of possible trail routes and the evaluation of alternative alignments within the selected overall route corridor. The proposed alignment is preferred primarily because it 1) provides the most direct possible connection between key destinations along the trail, 2) provides the desired quality and character of experience to the trail user, and 3) results in the least possible environmental impact of all alternatives considered. However, significant challenges are presented by the need to acquire public access rights for the trail to cross numerous privately owned properties.



Implementation of the trail is recommended to occur in three parts:

- Part 1: Implement the Canyon Trails recommended in Ellison and Sandrock canyons
- Part 2: Implement the Mission Valley Urban Trail elements needed within Mission Valley
- Part 3: Collaborate with other stakeholders and planning processes to identify the best solution for a non-vehicular bridge and associated park space at the San Diego River crossing.

This study recommends that the San Diego River Conservancy Board and the California Coastal Conservancy Board move forward with the recommended work, as outlined in Section 4 of this report, as quickly as funding and land acquisition efforts allows.

Section 1 of this study provides background information relevant to the project area and outlines specific goals and objectives for the Tributary Canyons Project.

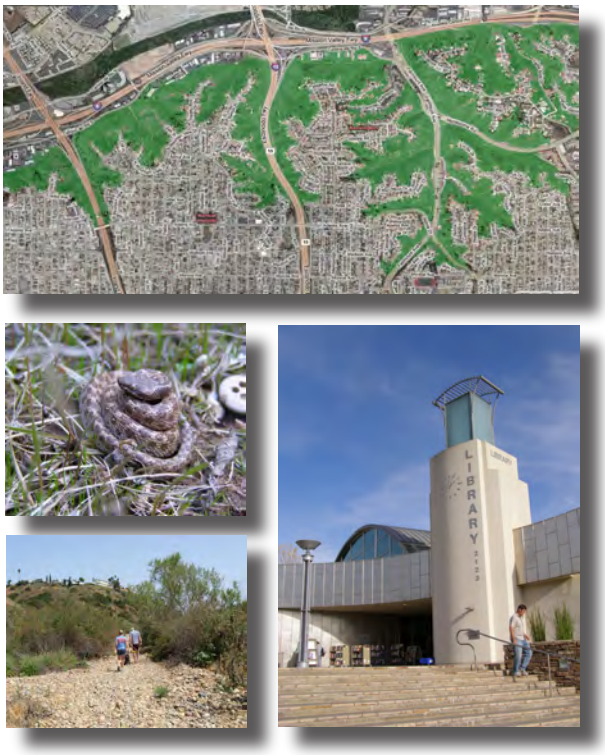
Section 2 provides an overview of the existing conditions within the project area, including natural resources, ownership patterns, existing trails, and similar information.

Section 3 presents a detailed view of the recommended alignment and associated amenities, such as trailhead, wayfinding, habitat restoration, and interpretive elements. It also includes a discussion of possible solutions for the proposed non-vehicular bridge over the San Diego River.

Section 4 summarizes the implementation strategy for the project. It includes recommendations for phasing of work and obtaining special studies, construction drawings, permits, public access agreements, and CEQA approval. It also includes preliminary cost estimates and funding strategies for the project.

introduction & background 1

The City of San Diego has a relatively unique urban structure, defined in large part by an extensive network of open space canyons interwoven with developed urban neighborhoods. The canyons afford the City and its residents a variety of benefits, including visual interest, a sense of definition for the boundaries of neighborhoods, environmental values (water quality, flora and fauna habitats, wildlife corridors, etc.), and opportunities for recreation and an intimate connection with nature. Much attention and effort has been given to identifying ways to preserve and enhance each of these benefits, from regional habitat management plans such as the Multiple Species Conservation Plan (MSCP) to watershed-level plans, County-wide trail planning, and site-specific projects.



1.1 San Diego River Corridor Vision

As one of the region's major river corridors, the San Diego River has been the focus of a substantial planning effort over the past decade. The San Diego River Park Foundation (SDRPF), San Diego River Conservancy (SDRC), San Diego River Coalition, and City of San Diego (City) have completed a number of plans and projects that have both set a vision for the San Diego River corridor and taken great strides toward realization of that vision. The vision developed by each of these organizations shares several general goals:

- Preserve and enhance cultural history
- Maintain and improve the river's flood plain for flood capacity and water quality
- Preserve and enhance natural habitat
- Expand and connect recreational opportunities
- Enhance public awareness through education and interpretation

The planning work completed to date focuses most heavily on the 52-mile river corridor itself as a major regional linear open space backbone. However, each of the plans recognizes that the full value of the river corridor can only be realized by also establishing lateral connections from the river to its adjacent neighborhoods. Within the City of San Diego, the San Diego River Park Master Plan articulates the need to "look beyond the river itself and extend efforts to the creation of natural habitat and recreation spaces" that are "interwoven with adjacent neighborhoods" and "reach into the canyons and uplands that are linked to" the river corridor.

The need for such lateral connections is strongly evident in the Lower Mission Valley segment of the river, which is the study area for the San Diego River Tributary Canyons Project (Figure 2.1). Though finger canyons regularly punctuate the valley rim on both the north and south, creating an interwoven

edge between Mission Valley and its adjoining neighborhoods, very few pedestrian or bike-friendly connections exist today. On the south rim, between the neighborhoods of Kensington and Old Town (approximately 6 miles), there are three routes officially designated as Class 2 or 3 bike routes: Aldine Street, Texas Street, and Bachman Place. Of the three, only Bachman Place accommodates safe pedestrian travel. On the north rim, between the neighborhoods of Serra Mesa and Bay Park, pedestrian and bike routes exist in Murphy Canyon, Mission Center Road, and Ulric Street. A Class 2 bike lane is also provided on Mission Village Drive. Of all the existing connections to Mission Valley from either rim, only the Murphy Canyon connection provides an off-street trail, and that trail is squeezed into a narrow corridor between a freeway and a major petroleum tank facility.

It is clear that new pedestrian and bicycle friendly connections between the river and its adjacent communities are badly needed, particularly connections that provide an opportunity to experience San Diego's natural resources. It is equally clear that the shared interagency vision for the future of the river corridor is to create such connections and that public enthusiasm for the concept is high.

1.2 Tributary Canyons Vision

Even before river-centric planning efforts gained momentum, the communities of Normal Heights and Serra Mesa had established their own vision for the role open space plays in the community and how pedestrians and cyclists are able to move within and between communities. Opportunities for pedestrian access into the canyons has long been a part of the open space and recreation goals in each community plan. Each also emphasizes the importance of enhancing safe pedestrian routes, including connections to Mission Valley. As time has progressed, and significant progress has been made on the implementation of a river trail, the trolley line, and other amenities along the San Diego River, such connections have become even more desirable to Normal Heights and Serra Mesa.

In recent years, various organizations within each community have been leading or supporting planning efforts for trail connections to Mission Valley. The Friends of Normal Heights Canyons began in 2007 to explore opportunities for off-street trail connections to Mission Valley as a way to generate awareness and interest in San Diego's urban ecology, provide environmentally-oriented recreational activities in the neighborhood, and to provide environmentally-friendly non-vehicular access to the San Diego River and other Mission Valley amenities. The Friends of Ruffin Canyon have been installing hands-on improvements to the trailheads, trail routes, and environmental resources within Ruffin Canyon for several years. These groups' efforts have been supported by the Normal Heights Community Planning Committee and Serra Mesa Community Planning Committee as well as the City of San Diego Open Space Division and the San Diego Canyonlands nonprofit organization.

In summer 2007, the San Diego River Conservancy began a study of the lower reach of the river and its tributaries and, in 2008, adopted a framework for a project that would advance its public programs. The framework plan identified an axis west of the stadium connecting Ruffin Canyon with the Normal Heights Canyons as the most promosing for achieving lateral connections to the river park through canyon open spaces. In 2008, the San Diego River Conservancy was joined by the State Coastal Conservancy in authorizing a feasibility study for a project named the San Diego River Tributary Canyons Project that would study opportunities to create a trail crossing the full width of Mission Valley, connecting the San Diego River to communities on the north and the south rim. The project scope includes other elements central to the programs of the two conservancies including education and natural resource enhancement. This Feasibility Report represents an important step in advancing the conservancies' effort to design and implement a project that meets long-established organizational and community goals.

The interest of the Coastal Conservancy in the Tributary Canyons Project lies with the project's potential for contributing to a public access network that connects inland communities with the coast by way of connections to the San Diego River Trail. The two conservancies, both State-chartered organizations within the Resources Agency, are natural partners for the project. For simplicity, in this report, the San Diego River Conservancy will be identified as the project proponent because the project lies within its immediate area of jurisdiction and is central to the agency's mission and mandate.

Why Here?

There are several reasons why the Normal Heights to Serra Mesa alignment emerged as the focus for a cross-valley trail route. Any cross-valley trail must overcome numerous barriers. It should also make meaningful connections to points of interest along the way. The selected project area offers an ideal mix of such points of interest while also offering existing solutions to many the valley's barriers. Specifically, this is the only place in Mission Valley where:

- existing informal canyon trails exist on each side of the valley, providing a low-impact opportunity to traverse the steep valley slopes to each neighborhood.

- an existing bridge crosses I-8 with no freeway ramps, providing a safe and comfortable crossing of the freeway.

- an existing tunnel under Friar's Road provides a separated and safe pedestrian crossing of Friar's Road.

- an existing network of sidewalks and urban trails provides public routes through residential and commercial areas on the valley floor (the Mission City Trail).

Each of these items individually provides major advantages as compared to other parts of the valley, but the fact that they all occur along one cross-section of the valley is a very fortuitous combination. That fortune is further enhanced by the land uses, ownership patterns, and amenities that exist along the route. Specifically,

- The Normal Heights and Serra Mesa neighborhood business districts anchor each end of the route, and Fenton Marketplace provides a major commercial/retail node at the proposed trail's connection to the San Diego River Trail.

- The route connects directly to major residential populations in each of the three communities.

- The route connects directly to the Fenton Parkway trolley station, allowing optimal connectivity between pedestrian networks and public transit and posing new transit-enhanced recreational opportunities.

- The Mission Valley Library, Serra Mesa Library, Adams Recreation Center, Serra Mesa Recreation Center, Adams Elementary School, Normal Heights Elementary School, Taft Middle School, Wegeforth Elementary School, and future San Diego River Discovery Center lie directly on or near the route.

- No other location in the valley has the extent of City-owned land found on and around the Qualcomm Stadium site, which is directly adjacent to the proposed trail route. A probable future redevelopment of the stadium site is likely to include new amenities that could transform this portion of the valley into a major hub of recreational activity along the San Diego River.

Project Vision

The San Diego River Tributary Canyons Project is envisioned to build on the vision and goals established for the San Diego River corridor and its surrounding communities, and to respond to the environmental, social, recreational, and transportation needs of the river and residents. A strategic conceptual plan and feasibility report for the cross-valley trail concept is the first step. The trail is to be part of an inter-neighborhood pedestrian network, consisting of designated neighborhood routes and canyon trails that will link upland neighborhoods north and south of the San Diego River to the river and its related amenities. The project will achieve community planning goals and reflect the Conservancy's multiple interests: land conservation, recreation and education, natural and cultural resource preservation and restoration, and maintenance of water quality and natural flood conveyance.

1.3 Goals and Objectives

The Conservancy's mission is based on a balanced approach to providing for preservation, conservation, and restoration of natural and cultural resources along with enhancing opportunities for recreation and education. Goals and objectives for the Tributary Canyons Project are structured to reflect the Conservancy's mission. Goals provide broad vision and definition of purpose for the project, whereas objectives articulate specific measures that support one or more goals.

Goal #1 – Recreation: Improve recreational access to the San Diego River and its tributary canyons.

- Objective 1-1: Provide canyon trails that maximize the users' ability to view and experience natural open space responsibly.
- Objective 1-2: Provide a trail experience that appeals to a wide cross-section of the public.
- Objective 1-3: Maximize functional connections to the San Diego River Trail, urban pedestrian routes, and other trails.

Goal #2 – **Transportation:** Improve non-vehicular transportation options for movement within and between neighborhoods.

- Objective 2-1: Connect Normal Heights and Serra Mesa to Mission Valley by way of the most direct, safe, and logical pedestrian routes possible.
- Objective 2-2: Maximize functional connections to residential, commercial, office, recreational, community destination points and the trolley.
- Objective 2-3: Maximize functionality for pedestrian users, while incorporating multimodal accessibility for bicycles and disabled access as much as possible.

Goal #3 – Environmental: Preserve and enhance natural resources and processes.

- Objective 3-1: Avoid and minimize biological, cultural, water quality, and other environmental impacts of trails to the maximum possible extent.
- Objective 3-2: Restore existing degraded habitats near the trail corridor.
- Objective 3-3: Improve water quality through proper trail design, use of permeable surfaces, and incorporation of bioswales and similar BMP's.
- Objective 3-4: Demonstrate sustainable development through maximizing use of recycled and green materials.

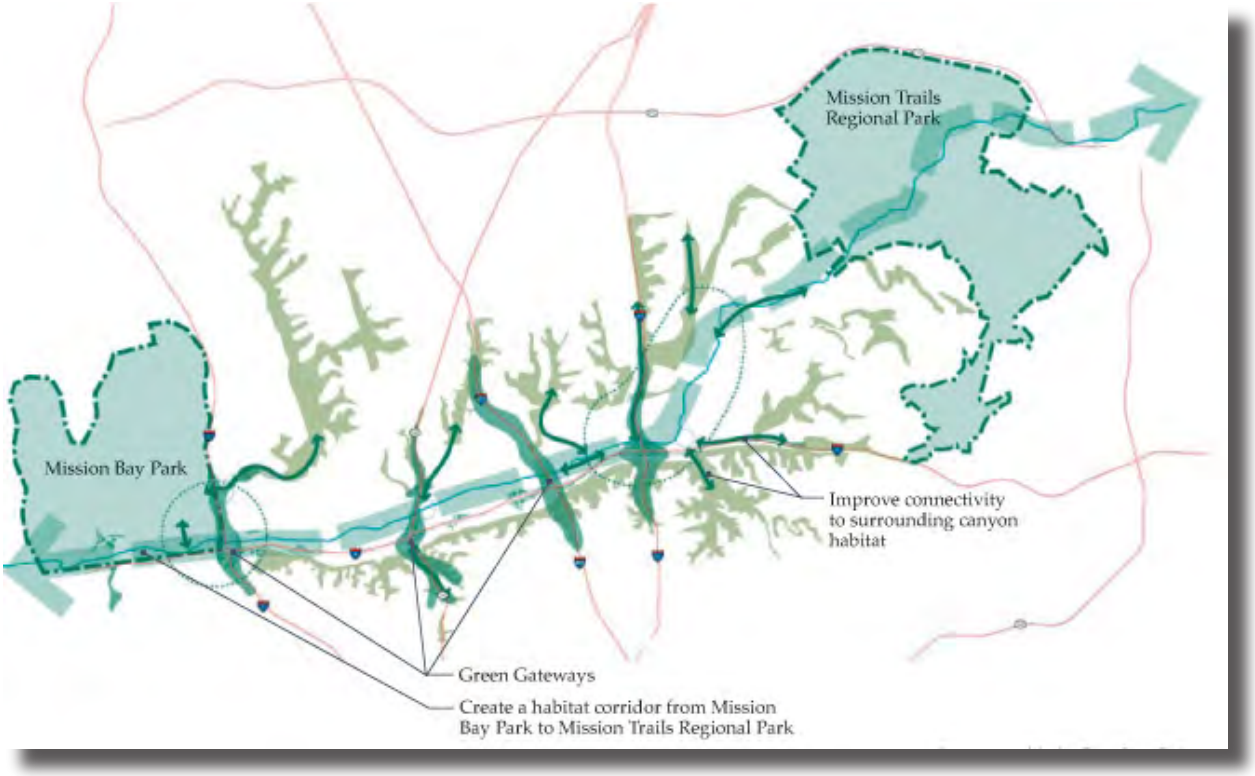
Goal #4 – Education: Promote environmental awareness and learning.

- Objective 4-1: Implement comprehensive interpretive programs that address San Diego's natural and cultural resources, green building practices, fire-safe and water-wise landscape design, and environmental conservation initiatives.
- Objective 4-2: Incorporate interpretive elements into all aspects of the trail corridor for fully integrated appeal.

The goal of this report is to summarize the process followed during the planning of the project, to articulate the proposed designs for the trail route and its related amenities, and to outline a strategic plan for the implementation of the project that the Conservancy can use to prepare for the next steps in the process.

1.4 Project Benefits

Implementation of the project described later in this report will benefit the City of San Diego and its residents in several ways.



Planning benefits: Considerable funding and effort has been dedicated to articulating a strong vision for the future of the San Diego River. Every piece of the overall vision that is implemented makes it easier to achieve the remaining pieces and helps justify the effort spent on the visionary plans. As the first cross-valley trail in the system, the Tributary Canyons Project would be a major milestone in the realization of the River Park goals and a model for similar efforts to follow.

Recreation/Livability benefits: The early 20th century neighborhoods of San Diego, including Normal Heights and Serra Mesa, suffer from a severe deficit of park and recreation facilities. And though major regional recreation amenities, such as the San Diego River Park and Qualcomm Stadium, lie tantalizingly close, those amenities are accessible only by car for most residents. The Tributary Canyons Project would connect these amenities to adjacent communities, improving the type and extent of recreation opportunities available to residents. It would provide opportunities for short nature hikes within each community as well as longer experiences into adjacent communities as the San Diego River Trail is developed.

Transportation benefits: Transit and alternative transportation options become more important to the sustainability of our communities with each passing year, and San Diegans become more interested in those options each year as well. A trail connection from Normal Heights and Serra Mesa to Mission Valley would increase accessibility to the trolley line. It would also connect thousands of office workers on the south side of the River to the trolley system and the retail businesses on the north side of the River, effectively

opening a robust pedestrian and alternative transportation network to a substantial portion of Mission Valley that currently lacks such benefits, even though they are just a stone's throw away. It's interesting to note that Normal Heights was founded with a trolley line linking it to the rest of the City. The Tributary Canyons Project could re-establish a link to the ideas that founded the community.

Ecological benefits: The Tributary Canyons Project proposes to implement meaningful habitat restoration along the River and within the tributary canyons. Restoration in the tributary canyons would include removal of large populations of invasive plant species, which benefits the ecology of the San Diego River by removing upstream seeds and propagules of such species. Other planned activities will improve water quality and expand habitat along the River.

Education benefits: Though Serra Mesa and Normal Heights host extensive open space networks, and though the San Diego River lies at the feet of both communities, these resources are largely disconnected from the daily lives of residents because they are inaccessible. Implementation of the Tributary Canyons Project would provide residents an invitation to explore the open spaces that lie literally in their back yards. The interpretive program envisioned for the trail will bring the rich natural and cultural history of the area to life and help residents gain a deeper connection with their City. With four schools within walking distance of the trail network, opportunities for outdoor classroom events become possible as well.

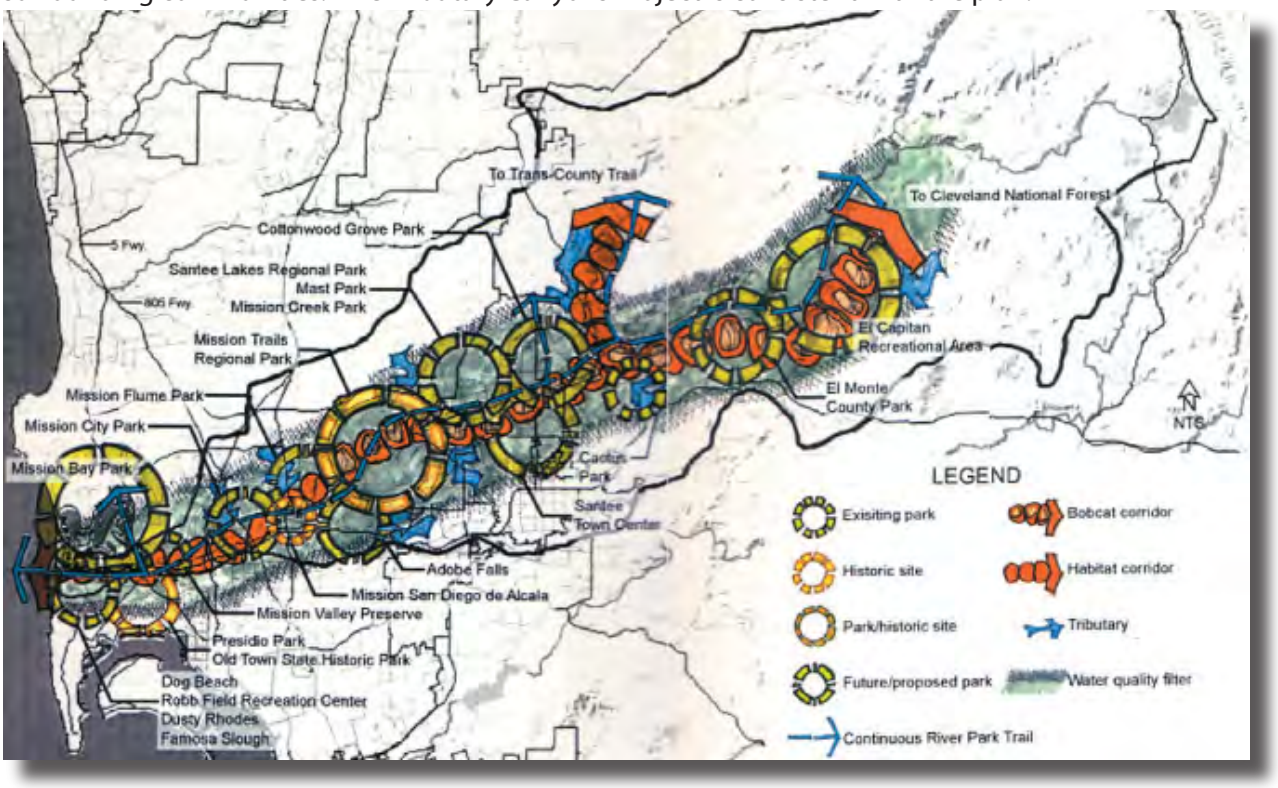
Economic benefits: Trails are fast becoming one of the most desired amenities in communities across the country. With increasing interest in healthy lifestyles, nature exploration, and alternative transportation options, trails provide a single solution for multiple needs. They are also one of the most inexpensive park and recreation amenities, making them an incredible value to park providers. Trails also offer direct economic benefits to nearby residents. Although some residents may be concerned that trails will be a conduit for crime, a liability for neighbors, and a drain on property values, the opposite is consistently shown to be true upon implementation of trails projects. Studies across the country show that trails tend to reduce criminal activity, are typically seen as a major benefit by neighbors, and increase property values. Further economic benefit is realized by those who make regular use of the trails, improving their physical and mental health. Trails provide an important opportunity to relieve stress and re-establish a positive frame of mind. Stress relief and physical activity have a direct effect on health care costs. The City of San Jose found that "people who exercise regularly have 14 percent lower claims against their medical insurance, 30 percent fewer days in the hospital, and have 41 percent fewer claims greater than $5000." A National Park Service study found that "every year, premature deaths cost American companies an estimated 132 million lost work days at a price tag of $25 billion. Finding and training replacements costs industry more than $700 million each year. In addition, American businesses lose an estimated $3 billion every year because of employee health problems." The study was done in 1983, and the totals are undoubtedly much higher today. Trails give Americans an easy and enjoyable way to bring these costs down.

1.5 Planning Context

Numerous planning documents provide direction or context for this project. Some provide guidance and vision specific to the San Diego River corridor; others provide City-wide context or standards for the provision of trails or the protection of resources.

San Diego River Park Concept Plan

The Concept Plan was prepared for the San Diego River Park Foundation in 2002 to establish an initial vision and planning framework for the efforts of the Foundation and others within the San Diego River corridor. The plan outlines goals for protection and celebration of the River's cultural and natural resources as well as the provision of recreation activities throughout the park. It specifically calls for connection of existing disjointed recreation facilities and for connections between the river and its surrounding communities. The Tributary Canyons Project is consistent with the plan.



City of San Diego River Park Master Plan

The City of San Diego's Parks and Recreation Department prepared the draft Master Plan in 2005, and it has not yet been finalized and formally adopted. The Master Plan lays out a complete vision for the River Park with specific recommendations, guidelines, and implementation actions. The Tributary Canyons Project is consistent with the

spirit of the City of San Diego River Park Master Plan as well as several of the specific goals stated in the plan, specifically:

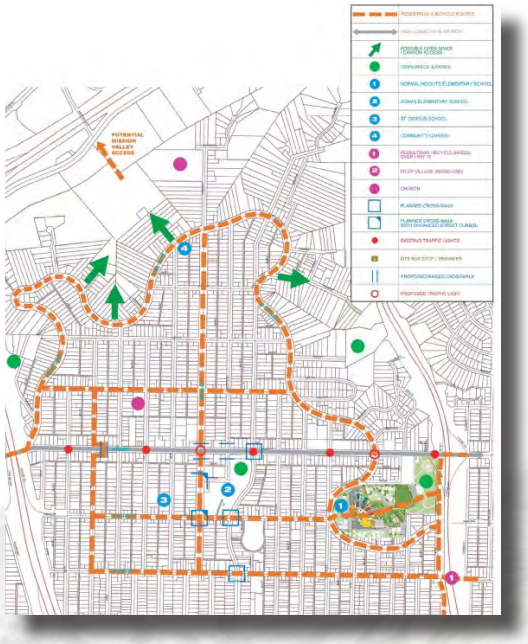
- Create lateral links for bicycles and pedestrians to all communities, transit, recreation, interpretive, public and private facilities adjacent to the river corridors.
- Provide staging areas and conveniences such as bicycle parking, rest areas, and overlooks to encourage use of the trails.
- Locate trails where they provide convenient access and an enjoyable setting.
- Locate trails where they conflict least with habitat and river hydrology.
- Expand wetland and upland habitat through restoration.
- Integrate art into the San Diego River Park experience.
- Improve Mission City Parkway bridge over I-8 to provide improved access to "uplands".

City of San Diego Trails Master Plan

The City's Trails Master Plan is currently in production and is not available publicly. The City's Open Space Division is actively working on trail improvements and habitat restoration in Ruffin Canyon. Preliminary discussions with the City's Trails Coordinator were held to discuss the City's intentions and options within Normal Heights and Serra Mesa. The City shares the desire to establish the trail connections proposed by this project. All work proposed by the project has been coordinated with the City throughout the planning process in an effort to be consistent with City goals.

Normal Heights Mobility Study

The mobility study, completed in 2006, identifies issues and needs for non-vehicular mobility within Normal Heights. It indicates the potential for a pedestrian/bicycle connection to Mission Valley within Ellison Canyon. It also highlights North Mountain View Drive and Hawley Street as major existing pedestrian and bicycle routes within the community. These observations and recommendations are consistent with the goals of the Tributary Canyons Project and provide strong support for the selected connection to Normal Heights. The pedestrian and bicycle routes noted in the study connect the trail project to the rest of the community and to major urban trail routes that extend beyond Normal Heights into North Park and City Heights.



City of San Diego Pedestrian Master Plan

The City of San Diego Pedestrian Master Plan (Phase 1 completed in 2006) was developed as a guide for the City to plan and implement new or enhanced pedestrian projects. The plan aims to help the City enhance neighborhood quality and mobility options by identifying and prioritizing pedestrian projects based on technical analysis and community input. The vision identified in the plan is to create a safe, accessible, connected and walkable pedestrian environment that enhances neighborhood quality and promotes walking as a practical and attractive means of transportation in a cost-effective manner. The Tributary Canyons Project is consistent with the vision and goals of this plan by providing safe, accessible pedestrian connectivity between neighborhood, transportation and commercial infrastructure.

City of San Diego Bike Master Plan

The City of San Diego Bike Master Plan calls for a bicycle network that is continuous, safe, closes gaps in existing infrastructure, and serves important destinations. It pursues improvements to the quality of life in San Diego, creating a more sustainable environment, and reducing traffic congestion, emissions, noise, and energy consumption. The plan notes the importance of a bicycle system that is attractive and inviting as a key element in preserving San Diego as a place where people want to live, work, and visit. The Tributary Canyons Project is consistent with the direction and philosophy of this plan in its efforts to provide enjoyable non-vehicular connections between communities and create a more integrated regional trail network. Connections created by the trail project would dramatically improve bicycle route options for recreationalists and commuters alike.

City of San Diego General Plan

The Tributary Canyons Project is consistent with the Recreation Element and Mobility Element of the City of San Diego General Plan as well as the City of Villages Plan component of the Strategic Framework Element. The Recreation Element calls for the preservation and enhancement of City open space as well as improving public access to open space and parks through development of, and improvements to, multi-use trails within urban canyons and other open space areas. The Recreation Element also calls for "a system of pedestrian, bicycle and equestrian paths linking communities, neighborhoods, parks and the open space system". The Mobility Element encourages walking and transit use, and calls for the linking of sidewalks, pedestrian paths and trails into a continuous regional network. The City of Villages Plan is designed to guide the future of neighborhoods toward multi-use "Villages" that are more walkable and better served by transit. Open space and pedestrian/biking connections between communities is an important component of the City of Villages strategy.

Mid-City Communities Plan

The Mid-City Communities plan includes the neighborhood of Normal Heights and articulates a vision of "an integrated open space system of linked natural canyons, creeks, parks, trails and joint use areas." The Land Form – Canyons and Creeks section of the open space element of the communities plan states the following goals:

- Permanently link and preserve all canyons, slopes and floodways, designated as such in this Plan, as open space.
- Develop passive recreational space in undeveloped canyons, where the natural integrity of the canyon can be preserved.
- Preserve sensitive hillside areas.
- Preserve areas of native vegetation.

These goals are consistent with the goals set for the Tributary Canyons Project. In addition, the Tributary Canyons Project is consistent with the overall expressed sentiment of the Mid-City Communities Plan to provide access to parks and open space within and outside of the community.

Mission Valley Community Plan

While the Mission Valley Community Plan does not call for specific linkages to the surrounding communities, it focuses heavily on providing better pedestrian circulation within Mission Valley and making connections to regional trail and transit systems. The plan suggests improving pedestrian circulation by providing safe foot travel and access to gathering places and recreational facilities.

In addition, the plan expresses a clear desire to maintain and improve the habitat of the San Diego River and Mission Valley's surrounding canyons in an effort to maintain water quality and manage flooding problems. These goals and objectives are consistent with the Tributary Canyons Project.

The Mission Valley Community Plan also identifies the connection of Fenton Parkway with Mission City Parkway, which requires a crossing of the San Diego River at the same general alignment proposed by the San Diego Tributary Canyons Project for a trail crossing of the River. Though the goal of each plan is essentially the same (i.e. providing for traffic across the river at this location), the two plans propose different solutions. The Community Plan calls for a vehicular crossing, presumably by way of a bridge, and the Tributary Canyons Project calls for a pedestrian and bicycle bridge. An update of the Mission Valley Community Plan was initiated in 2009, offering opportunity for review of its major elements, including the proposed river crossing. Until the completion of the Community Plan update, proposing a pedestrian bridge in a manner that precludes the future construction of an automotive bridge is likely to be considered inconsistent with adopted land use plans and generate strong opposition from automotive bridge proponents.

San Diego Multiple Species Conservation Plan

The Multiple Species Conservation Plan (MSCP), adopted in 1997, outlines a comprehensive conservation strategy for the San Diego region and establishes a variety of policies aimed at implementing the strategy. The plan created the Multiple Habitat Planning Area (MHPA) which functions as the core system of preserve and linkages targeted for long-term conservation and management. Trails and passive recreation are allowed within the MHPA, and must conform to Section 1.5.2 of the City's MSCP Subarea Plan, which outlines general management directives for public access, trails, and recreation. The directives, in short, call for the minimization of trail widths, locating trails and associated amenities in the least sensitive areas, following existing roads or routes as much as possible, providing signage, and providing monitoring and maintenance of the trail to counter potential problems. The proposed Tributary Canyons Project is designed to be consistent with the MSCP guidelines.

San Diego River Conservancy Act

The San Diego River Conservancy Act expresses goals focused on land conservation, recreation and education, natural and cultural resource preservation and restoration and maintenance of water quality and natural flood conveyance. The Tributary Canyons Project is conceived specifically to achieve these goals.

1.6 Planning Process

Planning for the proposed project followed an organized process, which was divided into four main Phases as summarized below.

- **Phase 1 – Normal Heights Preliminary Planning:** Ruffin/Sandrock Canyon was selected as the general preferred route to Serra Mesa by the Conservancy in 2008 based on research and outreach completed as part of developing the project's Framework Plan. Identification of a route to Normal Heights, however, was deferred pending further study. Phase 1 focused primarily on identifying all possible routes from Normal Heights to Mission Valley, evaluating the identified routes, and selecting one route as the focus for more detailed analysis and conceptual plan development. Four possible routes were identified and evaluated: 1) I-15 Canyon, Ellison Canyon, I-805 Canyon, and Texas Street Canyon. Ellison Canyon was ultimately selected as the most appropriate route for inclusion in the project.

- **Phase 2 – Inventory and Analysis:** Phase 1 was followed by a detailed inventory and analysis for the entire project alignment. The primary goal of this task was to gain a complete understanding of the factors involved in identifying possible trail alignments, including existing public/private land, slopes, soils, biological resources, cultural resources, routing factors, etc. A detailed account of the results of this phase is included in Section 2 of this report.

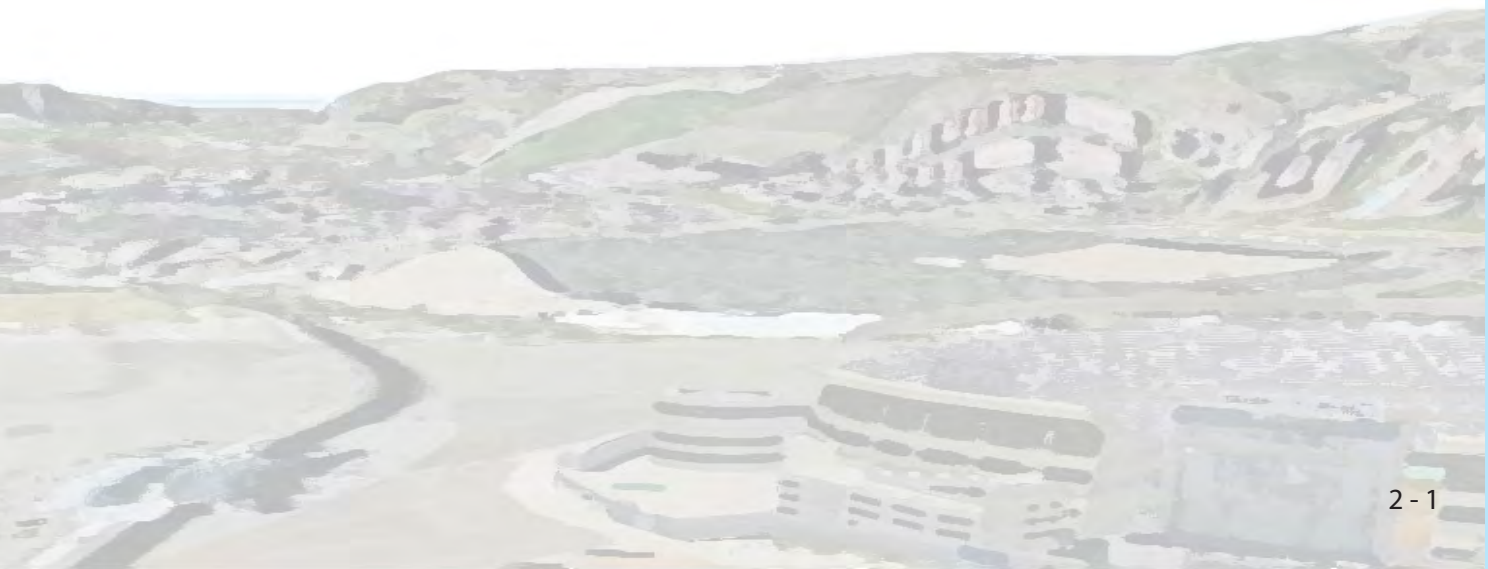
- **Phase 3 – Concept Design:** Using Phase 2 information, three conceptual alignment alternatives were developed for each of the canyon trail segments, and a preferred alternative for both the Ruffin/Sandrock canyon trail and the Normal Heights canyon trail was selected. This phase also evaluated alternatives for a pedestrian/bicycle bridge across the river, associated plaza/park space, urban trails through Mission Valley, intepretive features, and potential restoration areas. The results of this phase of work are presented in Section 3 of this report.

- **Phase 4 – Report Preparation:** The final task was to prepare this feasibility report, summarizing the information gathered, process followed, and alignments selected. This report also identifies projected biological impacts from project implementation as well as the anticipated permits, mitigation, special studies, and land acquisition needed to implement the project. Section 4 presents this information, along with project phasing, projected costs for planning and implementation, and maintenance strategies.

existing conditions 2

Planning undertaken for this study investigated natural resources, cultural resources, ownership, and other relevant factors, and the findings became the basis upon which conceptual designs are based. Each issue is evaluated at a general scale, using primarily existing data sources. More detailed investigation of some issues will be necessary during subsequent phases of design as specific projects are implemented.

The overall project area is composed of three main segments: 1) the Ellison Canyon segment connects Normal Heights to Mission Valley, 2) the Ruffin/Sandrock Canyon segment connects Serra Mesa to Mission Valley, and 3) the Mission Valley segment crosses the valley from the mouth of Ellison Canyon to the mouth of Ruffin Canyon. Existing conditions assessments are summarized by these main project segments throughout the remainder of this section, as appropriate.



2.1 Existing Trails and Uses

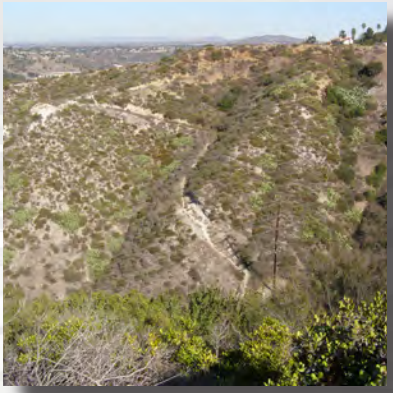
The project study area contains a network of existing formal and informal trails, as well as urban paths. Use of existing routes for the project where possible would minimize impacts to natural and cultural resources. It also would reduce design, permitting, and construction costs and improve likelihood for landowner and public support. Some of the existing routes are usable in their current condition, and others would need improvement to be suitable for use.

Ellison Canyon

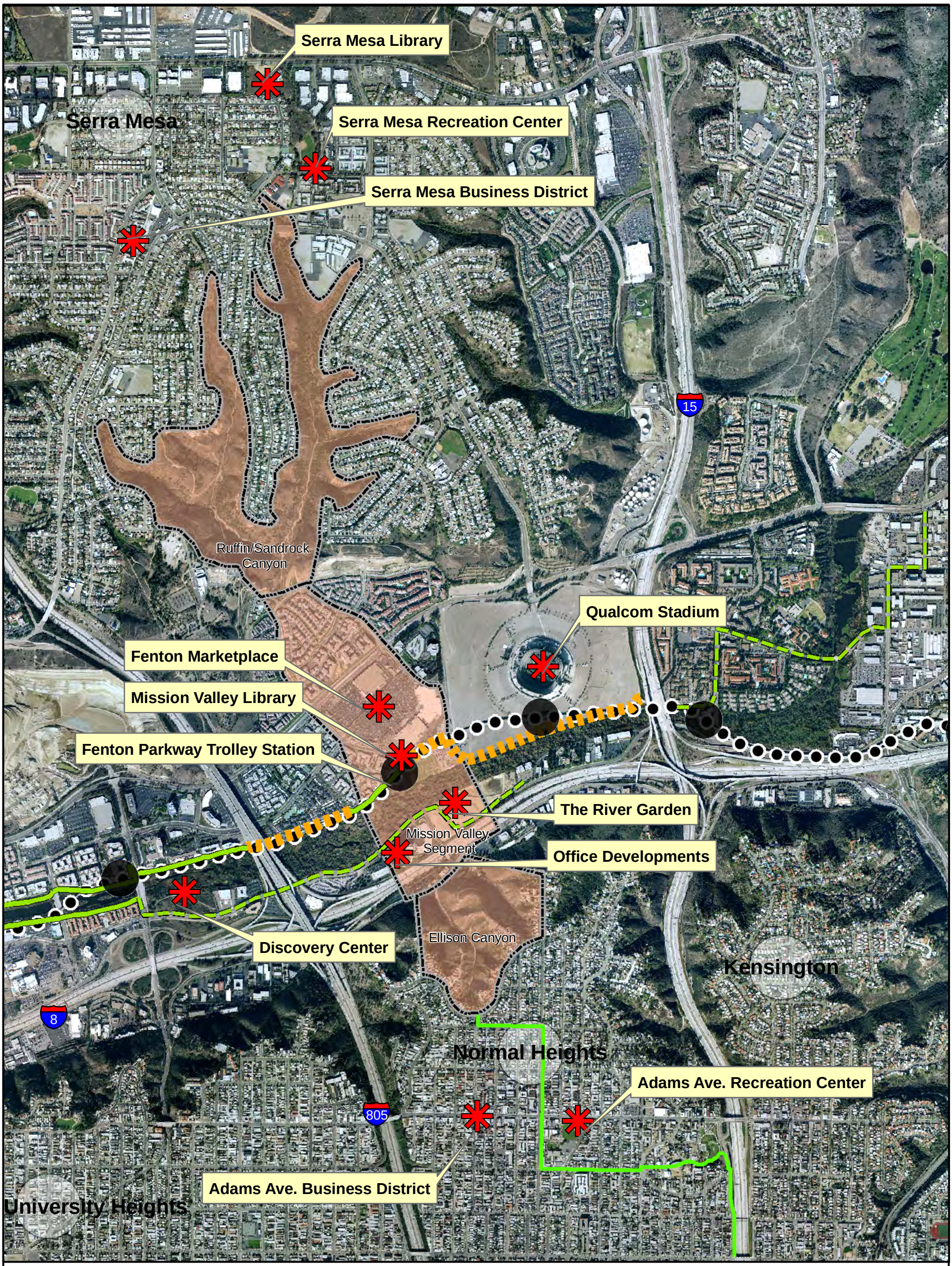
Figure 2.2 depicts existing trails and access points in Ellison Canyon. All are informal unpaved trails. Informal names are assigned to aid discussion of the options.

***Ridge Trail**:* An existing informal trail follows the ridgeline extending from the end of Ellison Place. The trail begins on City of San Diego open space property and then crosses back and forth between private property and City property until it reaches the SDG&E maintenance road located on a utility easement in the floor of the canyon. The trail is poorly sited with grades well in excess of 60%, significant erosion problems, and dangerous steps and drops. For these reasons, it is inappropriate for consideration as a formal permanent trail and is not considered a viable option for use with this project.

Monastery Trail: An existing informal trail extends from the end of 34th Street to the end of the ridge that extends north from 34th Street. It then follows an old road bench cut into the slope facing Mission Valley. The lower end of the trail terminates at a steep drop-off at the edge of an office development. The drop-off would require construction of steps to make a passable connection to Mission Valley. The overall grade of the trail is good, though it does approach 20% along much of its length. It may be somewhat difficult to incorporate trailhead facilities at the lower end of the trail, but excellent trailhead opportunities exist at the upper end on a flat grassy ridge top. Access to the ridge top and informal trail at the end of the 34th Street is currently fenced and signed to prevent trespass. From the perspective of trail users, this alignment provides superior views across Mission Valley and beyond, but it does not provide as much interaction with canyon resources as does the existing trail and service road along the floor of Ellison Canyon. The upper portion of this trail could readily be made wheelchair accessible, but the entire route could not. Most of the route would be passable for cyclists. Thirty-fourth Street is a quiet cul de sac street with limited parking. It could accommodate a few parked cars from trail users, but such parking would likely be a nuisance to residents. North Mountain View Drive, roughly one block to the south, could accommodate parking with less impact on residents.



Monastery Trail 2: A second old road grade connects the 34th Street ridge to the existing trail and SDG&E service road in the bottom of Ellison Canyon. This trail offers spectacular views of Mission Valley and of the canyon topography and habitats. It is, however, very steep along most of its length (up to 45% in the two steepest stretches) and would require significant trail building on steep sections to meet public trail standards. This trail could not be made wheelchair accessible and is unlikely to be ridable by most cyclists.



Legend

- Trolley Station
- Trolley
- Normal Heights Urban Trail
- Project Study Area

Missiont Valley Trails

- Existing - Open
- Existing - Temporary Route
- Planned - Preliminary

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PROJECT SEGMENTS AND COMMUNITY CONTEXT
COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 500 1000
SCALE IN FEET

FIGURE
2.1

Date: 03/17/10 Drawn by: CMR

I-8 WB
I-8 EB
CAM DEL RIO SOUTH
Monastery Trail
SDG&E Trail
Monastery Trail 2
Ridge Trail
34TH
N. Mountain View Mini Park
LIMIT OF STUDY
ALLEY
ALLEY
ALLEY
ARTHUR
CLIFF
ELLISON
SDG&E Trail
ALLEY
PANAMA
ALLEY
WEST MTN VIEW
NORTH MTN VIEW
33RD
COPLEY

Legend

Access Point
Existing Trail
Sewer Main
Sewer Manhole
SDG&E Utility Corridor - Approximate
MHPA
Parcels

Ownership
SDG&E
Caltrans
City
Private
School Districts

Trail Conditions
Steep

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ELLISON CANYON EXISTING TRAILS & OWNERSHIP

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

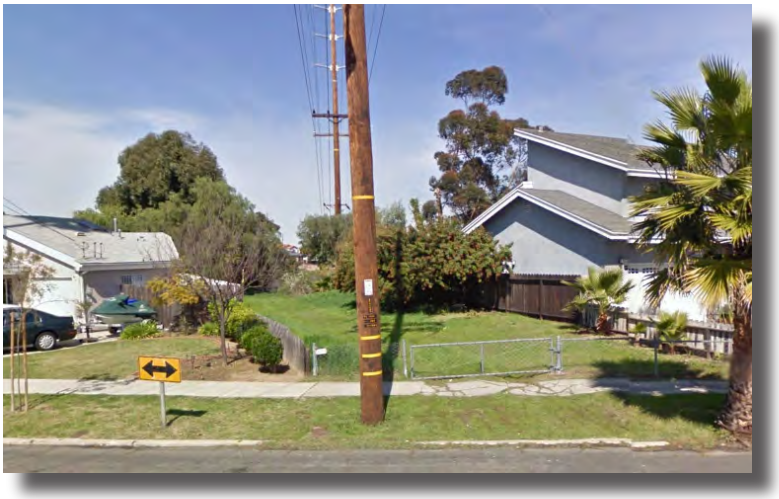
0 200
SCALE IN FEET

FIGURE
2.2

Date: 03/16/10 Drawn by: CMR

SDG&E Trail: The most substantial trail alignment in Ellison Canyon follows an existing SDG&E easement and access road along the bottom of the canyon from Camino Del Rio South at the lower end to North Mountain View Drive on the upper end. Approximately 80% of the length of this alignment follows the existing SDG&E maintenance road, which is approximately 10-12' wide with an average gradient of approximately 10%. The lower end of the maintenance road connects directly to Camino del Rio South and offers ample opportunity for trailhead amenities.

From the upper end of the maintenance road, there are two options to reach the canyon rim. The first follows an existing informal trail that traverses roughly northwest up the canyon slope to the end of Ellison Place where it terminates on a City owned open space parcel with excellent potential for trailhead amenities such as signage, interpretive features, overlooks, benches, and similar amenities. This trail segment is crudely built by casual use, and though the overall alignment would be usable for a permanent trail, it would require improvements to eliminate overly steep sections, narrow tread, and poor side slopes. The trailhead area offers significant opportunity to provide for a wheelchair accessible experience of the canyon, though it would not be feasible to make the trail to the canyon bottom accessible. Bicycle use of the trail may be possible. Ellison Place is an extremely narrow cul de sac street with very little parking. Any parking or traffic from trail users on this street would likely be a nuisance to residents. North Mountain View Drive, roughly one block to the south, could accommodate parking with less impact on residents.



The second option to reach the canyon rim from the upper end of the SDG&E maintenance road follows the remainder of the SDG&E easement southeast until it reaches North Mountain View Drive. The first 100-200 feet follow an informal trail along the canyon bottom to the base of a short but very steep slope to the canyon rim. This short slope is approximately 50-60 ft high and very steep (>60%). It is commonly traveled, but would require the construction of switchbacks or stairs to make it suitable for use as an adopted public trail. The remaining 150 feet to the street right-of-way is flat and well-suited for trailhead amenities, including signage, interpretive features, overlooks, benches, etc. and could easily be made wheelchair accessible. Cyclists would likely need to walk their bikes up the steep slope section. Convenient street parking is available along North Mountain View Drive and other nearby neighborhood streets. Trail user parking would likely be a nuisance to the neighborhood if it occurred at high rates; however, most trail users are expected to approach the trail on foot or bicycle, and parking is not expected at high rates.

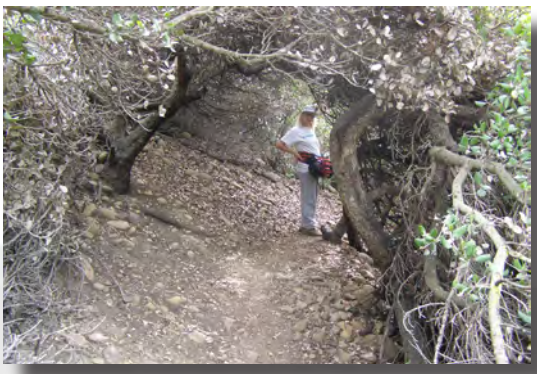
Ruffin/Sandrock Canyon

Figure 2.3 depicts existing trails and access points in the Ruffin/Sandrock Canyon complex. All are informal unpaved trails though portions of each are maintained by the City Open Space Division. Informal names are assigned to aid discussion of the options.

Ruffin Canyon Trail: An existing trail runs the length of Ruffin Canyon from its southern terminus to each of the two northern arms of the canyon that terminate to the east and west of Taft Middle School. The majority of the trail is used by the City of San Diego's sewer maintenance crews as an access road to sewer infrastructure located in the canyon. Grades are generally excellent, averaging 3% in many areas, with short sections of steeper slopes. Trail width varies from 10-12' in the lower portions to 2-3' in the upper reaches of the canyon. The Friends of Ruffin Canyon and the City's Open Space Division provide regular maintenance and improvements for portions of the trail as necessary.

The southern trailhead lies at the mouth of Ruffin Canyon where a sewer access path extends into the canyon from the adjacent community at Northside Drive. It is a convenient and pleasant starting point with room for basic trailhead signage. There is no parking available nearby as the canyon mouth lies in the midst of a controlled-access development accessible to the public only by way of a pedestrian corridor; however, parking is not anticipated to be in high demand. From this point, the trail follows the streambed north through Ruffin Canyon. The first 2,000 feet of this trail occurs within a seasonal streambed composed of large loosely-compacted stones that is passable for adventurous hikers but presents dangerous footing for the average urban trail user. The route would not be capable of accommodating wheelchair access, primarily due to its cobbly surface, and bicycle passage would be difficult.

The second (northern) half of the Ruffin Canyon Trail lies adjacent to the streambed, and passes through a mixture of disturbed, riparian, coastal sage scrub and chaparral habitats. The majority of this portion of trail is in good condition and is safe for walking. A portion of the trail segment follows an existing concrete drainage ditch. The ditch makes a reasonable trail surface and is in good condition except for one point of failure that would need repair. Several sections of this trail segment pass through very old stands of lemonade berry and other large chaparral shrubs. City Open Space managers have carefully pruned trail passages through the large shrubs, giving the trail a canopied and intimate character not found anywhere else along the project alignment. The last ¼ of the trail traveling north presents the user with the option of continuing on to either the Ruffin Road trailhead, or the Gramercy Drive trailhead.

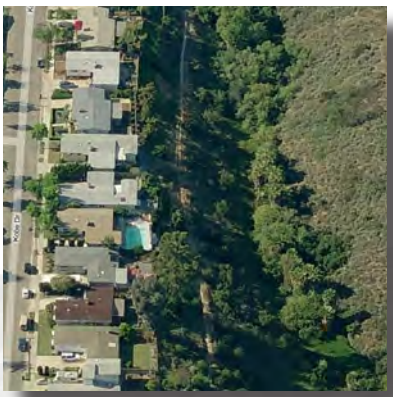


The Gramercy Drive route is an existing trail in good condition. It crosses the streambed in four locations and would require a small puncheon bridge at one of the crossings. Improvements are necessary in the last several hundred feet of the trail as it ascends the final slope to the street. The slope and the trail surface are eroding and in disrepair. The trailhead connects to the sidewalk along Gramercy Drive and provides limited opportunity for trailhead amenities. Bicycle use is possible, but wheelchair use would require substantial improvements.

The route to Ruffin Road is also an existing trail that begins in a series of steep switchbacks with existing wooden stairs installed by the City Open Space Division. The stairs provide an effective solution for the problematic switchbacks; however, some of these stairs are beginning to fail and will need repair. The remainder of the trail follows a gentle slope along the canyon rim. The majority of this existing trail is in good condition. A short portion of this trail segment is accessible to wheelchair users. Cyclists must walk their bikes in several places. The trailhead is well-developed and includes an informational kiosk and a native plant garden installed by the Friends of Ruffin Canyon. The Friends of Ruffin Canyon have made significant improvements for wheelchair accessibility, and more could be done to provide accessible experiences at the trailhead and to a longer portion of the trail.

Shawn Canyon Trail: An existing trail connects the Ruffin Canyon Trail to the end of Shawn Avenue to the east. The trail is a well-developed unpaved road, roughly 8-10' in width and is used by the City for sewer maintenance access. Grades average 8-10%. The trail is in excellent condition for most of its length; however, there is a section near the bottom of the trail where the canyon drainage follows the road, causing minor erosion and muddy conditions throughout the year. The City's Open Space Division has been implementing restoration and trailhead improvement projects in Shawn Canyon for several years.

Sandrock Canyon Bottom Trail: An existing trail runs most of the length of Sandrock Canyon from its connection with Ruffin Canyon to Mobley Street, primarily on property owned by SDG&E. The southern end of the trail follows the cobbly streambed (similar to the lower portion of the Ruffin Canyon trail) for approximately 1000', where it connects with an existing SDG&E access road. The road is 8-10' wide and is an excellent trail surface that would require no improvement for approximately 1000', after which it becomes extremely cobbly and difficult to walk. The road continues for another 1000' to the base of a very steep section of road that exits the canyon to Mobley Street. The steep exit is not suitable for use as a trail.



Sandrock Canyon Rim Trail: An existing trail follows the western rim of Sandrock Canyon from the end of Sandrock Road to a promontory on the northern edge of a large block of SDG&E owned property. A large flat area is located beyond the initial trail entry and presents substantial opportunities for trailhead amenities such as seating areas, interpretive elements, native plant demonstration gardens, and similar elements. This area is roughly 1 acre in size. The entirety of the flat trailhead area area could easily be made wheelchair accessible.

The upper third of this trail is an existing dirt trail that is generally in very good condition and would need little to no improvement for hikers or bikers. The middle third follows an existing concrete drainage ditch. The ditch makes a reasonable trail surface, though it would need some repair and modification to be suitable for a public hiking and biking trail. The last third of this segment follows existing dirt trails that would require minor to moderate improvement. The exception is a point at the northern edge of the SDG&E property that is experiencing significant hillslope erosion, which has washed out 50-75 feet of trail. This point of failure would require substantial trail building to re-establish a trail bench and prevent further erosion. The rim trail could easily be made suitable for bicycle use.

Three informal trails extend straight downhill from various places on the Sandrock Canyon Rim Trail to connect to the Sandrock Canyon Bottom Trail. All three connections are too steep and erodible to be considered for a permanent trail.

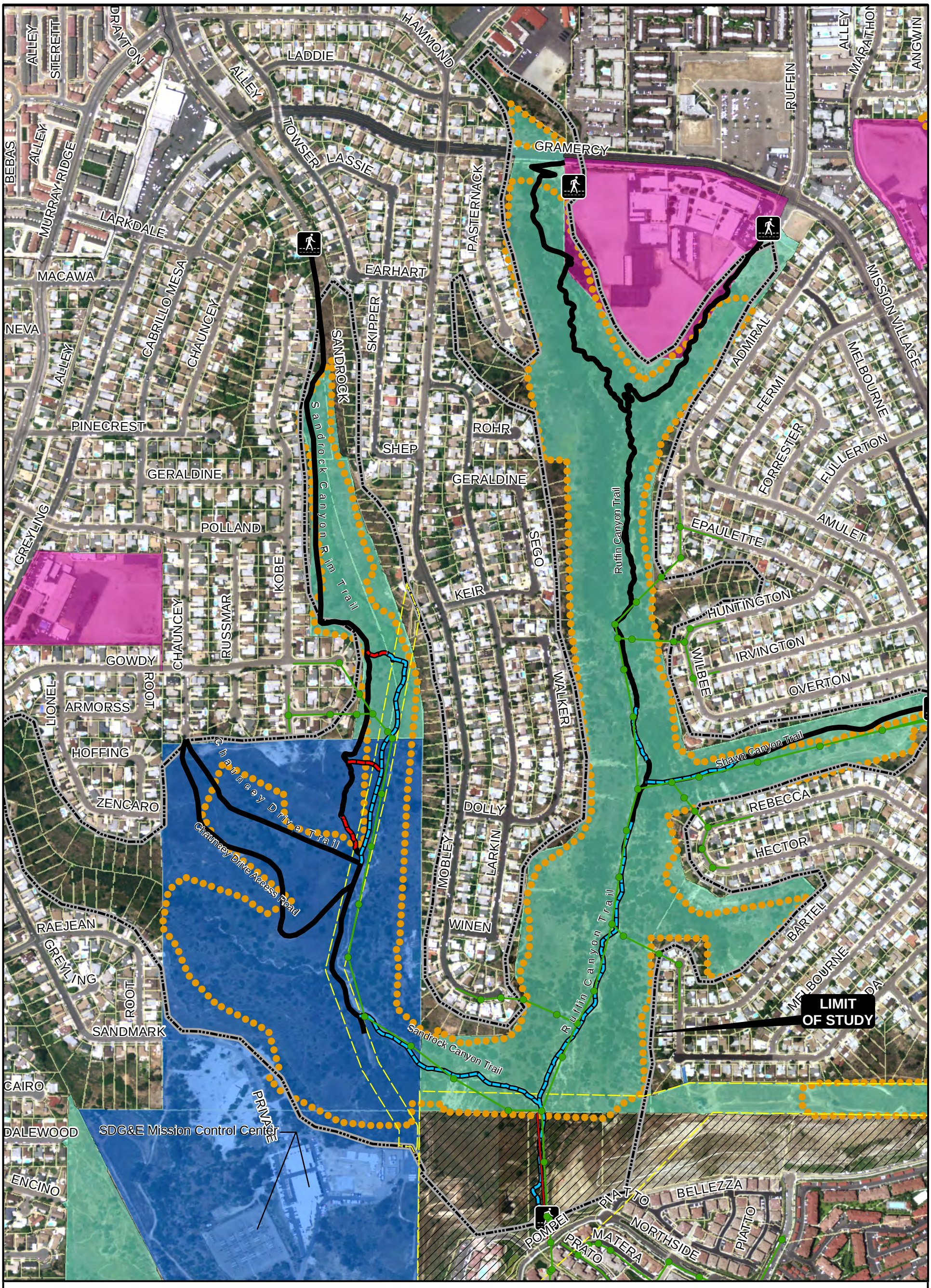
Chauncey Drive Access Road: An existing SDG&E access road connects the end of Chauncey Drive to the Sandrock Canyon Bottom Trail (which is also SDG&E access road at that point). The access road is typically in excellent condition due to the maintenance efforts of SDG&E and is well suited for trail use, though it exceeds 20% slope along much of its length. Public access from the end of Chauncey Drive is currently possible, but is not allowed by SDG&E. This route, however, does not provide a path to the northern extent of Sandrock Canyon and is therefore not compatible with project goals.

Chauncey Drive Trail: An existing informal single-track trail connects the end of Chauncey Drive to the Sandrock Canyon Bottom Trail, using a more direct route than the Chauncey Drive Access Road. It is generally an excellent trail route, with grades sometimes as high as 10-15%. A large flat area at the end of Chauncey Drive would accommodate trailhead amenities well. Public access from the end of Chauncey Drive is currently possible, but is not allowed by SDG&E. This route, however, does not provide a path to the northern extent of Sandrock Canyon and is therefore not compatible with project goals.

Mission Valley

Mission Valley, in general, has been developed as an automobile-centric community, with relatively few pedestrian circulation elements.

Major effort is being invested in developing trails that follow the north and south edge of the San Diego River as a part of the regional San Diego River Trail within the City's San Diego River Park. Connections between the river trail system and the canyon trails being studied in this report are critical to the success of the city's evolving trail network. Major portions of the north and south bank river trails are complete further west in Mission Valley. Only a short section of the north bank trail is complete between I-805 and I-15, but that segment does connect with the proposed alignment for the Tributary Canyons Trail (see Figure 2.4). No trails are complete on the south side of the river in this area, but a usable pedestrian route exists along existing sidewalks and dirt paths between Qualcomm Way (Texas St) and the project study area. Implementation of a complete network of trails on this reach of the river and beyond is expected in future years. Additional informal volunteer trails are found throughout the river corridor. Due to the environmental sensitivity of the area, these trails are not considered suitable for development.



Legend

- Sewer Main
- Sewer Manhole
- SDG&E Utility Corridor - Approximate
- 8' Wide Pedestrian Public R.O.W
- Open Space Easement
- MHPA
- Parcels
- Existing Trail
- Access Points

Trail Conditions
- Cobbly
- Steep

Ownership
- City
- Private
- School Districts
- SDG&E

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RUFFIN/SANDROCK CANYON EXISTING TRAILS & OWNERSHIP

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 500
SCALE IN FEET

FIGURE
2.3

Date: 11/02/09 Drawn by: CMR

Legend

- Sewer Manhole
- Sewer Main
- SDG&E Utility Corridor - Approximate
- Open Space Easement
- Public Pedestrian R.O.W
- SDMTS Trolley Right of Way
- Access Point
- Existing Trail
- MHPA
- Parcels

Ownership

- Caltrans
- Private
- School Districts
- SDG&E
- City

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MISSION VALLEY EXISTING TRAILS AND OWNERSHIP

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 400
SCALE IN FEET

FIGURE
2.4

Date: 03/17/10 Drawn by: CMR

Three major linear barriers exist to foot or bicycle traffic traveling across the valley: 1) Interstate 8, 2) the San Diego River, and 3) Friar's Road. Additional barriers to movement across the valley are presented by the various developments present, which have, in general, blocked pedestrian movement through them. The portion of Mission Valley being studied is unique in that solutions for each of these typical issues (except a San Diego River crossing) are already in place, and they happen to lie precisely in line with the trail alignment proposed by this study. These solutions include:

Interstate 8: Pedestrian traffic can cross I-8 in several places in Mission Valley, however, the Mission City Parkway overpass bridge is the only place where pedestrians can cross the freeway without being forced to cross numerous freeway ramps or associated busy surface streets.

Friar's Road: During the development of Fenton Marketplace and the Escala residential community, an old truck tunnel used by gravel mining operations in the area was converted to a pedestrian undercrossing of Friar's Road. The tunnel was closed for several years following its construction, but was finally opened for public use in the summer of 2009.

Development: Fenton Marketplace was planned in the 1990's, guided by the Mission City Specific Plan, and construction began in late 1999. The Specific Plan called for a circulation system that promoted pedestrian and bicycle travel as well as access to City open space in Ruffin Canyon. Fenton Marketplace includes a pedestrian promenade with a row of pedestrian-oriented shops on its western edge. The existing sidewalk and pedestrian experience is well-suited to foot traffic and provides an efficient and safe route from the San Diego River to the Friar's Road tunnel. The Escala development was designed with a pedestrian path called the Mission City Trail connecting the Friar's Road tunnel to various points within the development and to the mouth of Ruffin Canyon. The intent of the Mission City Trail was that it be open to the public to allow public access from Ruffin Canyon through Escala and Fenton Marketplace to the light rail station along the river.

Project Guidelines

The following principles guide the use of the existing trail information through the remainder of the project:

1. Existing trails shall be used to the maximum extent possible.
2. Existing trails shall not be used where they present safety hazards to users, create unnecessary long-term environmental impacts, or conflict with adopted land use policies.
3. Existing trails not needed for implementation of this project and not considered suitable for future trail projects shall be closed.

2.2 Ownership, Easements, And Utilities

Ownership within the study area is a mix of public right-of-way, private ownership, and public ownership. The study area also includes several easements and utilities of various types. Tables 2.1 and 2.2 summarize the utilities and easements found in each project segment.

Ellison Canyon

Though Ellison Canyon does include a large open space parcel owned by the City of San Diego, the parcel offers few opportunities for the Tributary Canyons project. The City parcel connects to the end of Ellison Place, which is the location of one potential trailhead for Ellison Canyon. The remainder of the canyon is privately owned (see Figure 2.2). The lower half of the canyon is comprised of large parcels owned by the Carmelite Monastery, with its main residential facility located on Hawley Boulevard overlooking Mission Valley and the canyon areas to the west. The upper half is owned by over 30 owners of residential lots that front North Mountain View Drive, Ellison Place, Panama Place, or 34th Street. The Friends of Normal Heights Canyons held information and outreach sessions with the residents in the immediate vicinity of the canyon prior to the start of this study. Support for trail development from those who attended was high, but not unanimous. One property owner expressed strong opposition to the project, citing concerns over crime, fire, and insurance issues. Others in attendance indicated some level of concern over the same issues as well as concerns about impacts to wildlife and habitat. The Friends group also held early discussions with the Carmelite Monastery, which indicated conditional support (dependent upon the support of the surrounding neighborhood) for trails located in the bottom of Ellison Canyon, but no support for trails located on top of the 34th Street ridge.

SDG&E has both ownership and easement interests in the canyon. They have fee-title ownership of a vacant urban lot fronting North Mountain View Drive that provides access to the canyon from the upper end and could be used as a trailhead. An SDG&E easement and associated natural gas and electrical infrastructure run the full length of the canyon. The inclusion of a maintenance access road in the SDG&E easement makes the easement alignment an attractive route for trails. Preliminary discussions with SDG&E indicate potential for reaching agreement on trail uses on their fee-title property and within their easement corridor, subject to the approval of the underlying fee title property owners

Table 2.1: Existing Ownership Acreages

Ownership	Ruffin/Sandrock Canyon Segment		Ellison Canyon Segment		Mission Valley Segment	
	Acreage	# of Properties	Acreage	# of Properties	Acreage	# of Properties
City - Fee Title	114.99	4			137.14	3
City - Right of Way						
San Diego Gas & Electric	65.92	1				
Escala Master Assoc.					43.37	7
Fenton Market Place					30.97	7
Other Private			38.02	23		

* Includes only those parcels through which potential trail alignments pass

Table 2.2: Existing Easement Interests

Easement	Ruffin/Sandrock Canyon Segment	Ellison Canyon Segment	Mission Valley Segment
San Diego Gas & Electric		X	
Sewer Utilities & Access	X		X
San Diego MTS			X
Open Space Easement	X		
Public Access Easement	X		

Ruffin/Sandrock Canyon

The southern entry into Ruffin Canyon is comprised of three large parcels owned by the Escala Master Association (see Figure 2.3). Each of these large parcels was created and placed in an open space easement held by the City of San Diego as a condition of approval for the Escala development. In addition, an 8' wide pedestrian and non-motor vehicle right-of-way is dedicated within Lot D, which allows for access through the parcel into the publicly owned portions of the canyon.

The remainder of Ruffin Canyon is owned by the City of San Diego as dedicated open space, as is the upper half of Sandrock Canyon. Public access is a desired use of both parcels. SDG&E owns a large portion of lower Sandrock Canyon.

SDG&E also holds a utility easement over the Escala open space parcels for transmission lines that extend from west to east and a major gas pipeline runs through Sandrock Canyon. Early discussions with SDG&E highlighted a high level of concern for formalizing trails that cross their property in Sandrock Canyon. Concern centers primarily on security needs for the SDG&E Mission Control Center located on the canyon rim. The facility is a regional control center for SDG&E utility infrastructure and requires intensive security protections. While SDG&E has indicated serious concern over the prospect of a public trail being developed on their property in the canyon bottom, they indicated a willingness to discuss issues and engage in finding possible solutions once a more detailed proposal is developed.

Both Ruffin and Sandrock Canyons include utility easements for sewer infrastructure located in the canyons. The easements include maintenance access, which generally occurs along the stream channel and existing paths in the canyons.

Mission Valley

The Mission Valley segment of the project crosses privately owned land, commercial/retail properties, City right-of-way, and City owned land (see Figure 2.4). The Escala development is a private development located between the mouth of Ruffin Canyon and Friar's Road. The Mission City Trail was intended to provide public access via a combination of public right-of-way and pedestrian walks from Ruffin Canyon through Escala, beneath Friars Road, through the Fenton Marketplace to the Fenton Parkway rail station. Public right-of-way and easements have been recorded over most of the Mission City Trail alignment. More investigation is needed to determine if public access easements were recorded on the segment immediately north of the tunnel.



The Mission Valley trail segment would cross trolley tracks within public right-of-way controlled by the San Diego Metropolitan Transit System (SDMTS) and the Public Utilities Commission (PUC). Though at-grade pedestrian crossings are generally discouraged, examples exist in the City and elsewhere. Approval of an at-grade crossing would be required or options for routing the trail under the trolley tracks either to the east or west of the trolley platform could be employed. However, these options would diminish user experience and result in circuitous routing which may reduce use of the trail, particularly for office workers on the south side of the river trying to reach the trolley station or destinations in Fenton Marketplace.



The remainder of the Mission Valley study area from the trolley tracks to the mouth of Ellison Canyon is a combination of City ownership and City right-of-way. City ownership along the San Diego River is a combination of land managed by the Real Estate Assets Department, the Stormwater Department, the Park and Recreation Department, and the Public Utilities Department. Detailed discussions with these departments have not yet been held, pending approval of a more detailed level of project planning for the Mission Valley segment of the trail route.

Project Guidelines

The following principles guide the use of ownership and easement information through the remainder of the project:

1. Trails shall follow City right-of-way, public access easements, and publicly owned parcels where practical.

2. Trails located on private property shall be located to minimize conflicts with existing or planned uses of the property.

2.3 Community Context

Connections to community and recreational amenities are a critical component of the proposed project. An ideal trail makes functional connections between residential areas and a variety of possible destinations, including commercial and office centers, community and recreation facilities, other trails, transit, and open space areas. The overall trail corridor evaluated in this study accomplishes all of these connections and implements public policy outlined in the community plans for each of the three planning areas traversed.

The following areas and features are all connected by the canyon trail project directly or are within a short walking distance from the proposed trail route (see Figure 2.1).

- Residential neighborhoods in Normal Heights, Mission Valley, and Serra Mesa

- Canyon open space in Ellison Canyon and Ruffin/Sandrock Canyon.

- San Diego River Trail

- Mission Valley office complexes hosting thousands of workers

- Normal Heights neighborhood business district

- Serra Mesa neighborhood business district

- Fenton Marketplace

- Mission Valley Library

- Serra Mesa Library

- Adams Avenue Recreation Center

- Serra Mesa Recreation Center

- The Discovery Center at Grant Park

- San Diego River Garden

- Qualcomm Stadium

- Normal Heights Urban Trail

- Fenton Parkway Trolley Station

Additional connections are provided to more distant destinations via the San Diego River Trail and the City's expanding designated pedestrian and bicycle trail network. No other cross-section across Mission Valley provides the extent and variety of community connections as those found along the proposed trail route.

Project Guidelines

The following principles guide the use of community connection information through the remainder of the project:

1. Trail routing shall maximize the efficiency of connections between destinations along the trail corridor.

2. Trail amenities shall include wayfinding information that informs and directs users to community connections.

3. Trails shall compliment the function and style of existing and planned facilities.

2.4 Biological Resources

San Diego's coastal, mountain, and desert areas are home to a unique array of ecosystems. The varying topographies, climates, and soils create habitats that are home to an incredible number of endemic species, many of which are at risk and protected by federal, state, and local regulations.

The coastal plain in which the project area lies hosts a variety of such habitats and the species that depend upon them. These habitats include coastal sage scrub (CSS), southern mixed chaparral (SMC), oak woodland, and a variety of riparian communities. Coastal sage scrub once was the dominant vegetation along the coastal shores, mesas and valleys. Numerous threatened and endangered (T&E) species rely upon it for survival. Riparian habitats occupy canyon bottoms and drainages where water is more available. Such habitats provide a variety of functions and benefits, including water quality filtration, wildlife movement corridors, and habitat for T&E species. Chaparral, oak woodland, and other habitats are also important to the habitat mosaic in San Diego, with each occupying its own niche in the system. The value of each habitat is important, but the value provided by the regional assemblage of native habitats, with a high degree of connectivity between habitat patches, is larger than the sum of its parts.

The City of San Diego's Multiple Species Conservation Plan (MSCP) classifies upland habitat as Tier I, II, IIIA, IIIB or IV. Classification is dependant on rarity and ecological importance. Tier I is the most sensitive, and Tier IV is the least sensitive. Mitigation and permitting for impacts to habitats are based on this tiered system; the higher the tier, the more difficult to permit and mitigate for impacts. The classification for each habitat within the project area is noted in habitat descriptions provided below. The MSCP also establishes the Multi-Habitat Planning Area (MHPA), which serves as the core habitat preserve for the City and aims to protect and manage those areas considered most important to biological preservation based on the type and quality of habitats present, presence of T&E species, and degree of connection to adjacent habitats. The MHPA provides an added degree of protection against impacts to biological resources. The majority of the canyon segments lie within the MHPA, as does the San Diego River corridor in the Mission Valley project segment.

The presence of sensitive habitats within the project's study area presents both opportunities and constraints, all of which are critical to the goals of this project. It is essential to have an understanding of these habitats and their importance, in order for the project to be designed in a way that avoids unnecessary impacts while providing the users with an opportunity to experience San Diego's unique ecosystems.

Project Area Habitat

The project area includes a variety of native upland and wetland habitat types, each of which is discussed below and mapped on Figures 2.5 – 2.7. Each of these habitat types has potential to include a variety of plant species protected by the State and/or Federal endangered species acts, the MSCP, or other conservation regulations. Detailed site-specific vegetative surveys have not yet been conducted for the project planning area, so this report relies upon readily available public mapping from SanGIS (2006 spatial data) and other data sources. SanGIS data is used throughout the study area, with the exception of the San Diego River crossing. Data for the river crossing was compiled from the Mission City Parkway Bridge EIR (2002), with updates added by Foothill staff to reflect changes made since the publishing of that document. Detailed biological surveys will be required at the design phase of the project.

Chaparral (Tier IIIA): Chaparral is widely distributed throughout California. It is composed of shrubs with stiff woody stems that form a dense canopy up to 13 feet high. It is a fire-adapted community that is found primarily on east and north facing slopes of the canyons being studied. In the project area, the community is characterized by toyon (Heteromeles arbutifolia), laurel sumac (Malosma laurina), chamise (Adenostoma fasciculatum), scrub oak (Quercus berberidifolia), and lemonadeberry (Rhus integrifolia). Chaparral is the preferred habitat of the orange throated whiptail (Cnemidophorus hyperythrus beldingi), which is a California Department of Fish and Game Species of Concern. Approximately 20 acres of Chaparral are mapped within Ruffin Canyon, and none is mapped in Ellison Canyon. More detailed vegetation surveys are likely to categorize eastern and northern slopes in Ellison Canyon as chaparral.

Diegan Coastal Sage Scrub (Tier II): Diegan coastal sage scrub is comprised of low, soft-woody subshrubs from ground level to about 3 feet high, many of which are facultatively drought-deciduous (i.e. they go dormant and lose their leaves in the summer to survive drought conditions). Dominant shrub species include California sagebrush (Artemisia californica), deerweed (Lotus scoparius), flat-top buckwheat (Eriogonum fasciculatum), and black sage (Salvia mellifera). Diegan coastal sage scrub is considered a sensitive habitat type by state and local agencies as it provides habitat for numerous special-status plant and wildlife species such as the coastal California gnatcatcher (Polioptila californica) and the coast (San Diego) horned lizard (Phrynosoma coronatum blainville). The majority of both canyons is mapped as Diegan Coastal Sage Scrub (approximately 179 acres; however, a substantial portion of that acreage will likely be determined to be either chaparral or non-native grassland upon completion of more detailed vegetation surveys.

Valley and Foothill Grassland (Tier I): Valley and Foothill grasslands include areas dominated by herbaceous plants, grasses being most common. They occur in semiarid areas and often are interwoven with coastal sage scrub and chaparral habitats. Grasslands today are a highly disturbed habitat comprised of mostly invasive species. In fact, it is probable that much of the area mapped as Valley and Foothill Grassland will ultimately be determined to be Non-Native Grassland upon completion of detailed biological surveys. The distinction is very important in the degree of protection given to the two respective habitats. City of San Diego regulations classify Valley and Foothill Grassland as Tier I habitat, but classify Non-Native Grasslands as Tier IV habitat. This feasibility report will assume grasslands in the project area to be Tier I habitat, as mapped. Some invasive species found in valley grasslands include mustard (Brassica nigra), filaree (Erodium cicutarium), wild oat (Avena fatua), and bromes (Bromus spp). Native species often include needlegrasses (Nassella pulchra), sandberg bluegrass (Poa secunda), fescue (Vulpia octoflora), fiddleneck (Amsinckia spp), phacelia (Phacelia spp), and many others. Valley and Foothill grasslands are the preferred habitat of special status specie San Diego black-tailed jack rabbit (Lepus californicus bennettii). Approximately 25 acres of Valley and Foothill Grassland are mapped within the project area.

Southern Cottonwood Willow Riparian Forest: This riparian forest habitat type is a densely vegetated assemblage of tree, shrub, and herbaceous species with more vertical structure than riparian scrub habitats. The southern cottonwood willow riparian forest within the project area occurs within the San Diego River floodplain corridor, where it is the primary and most abundant habitat type. The on-site habitat is dominated by Fremont cottonwood (Populus fremontii ssp. fremontii) and several willow species, including Goodding's black willow (Salix gooddingii), and arroyo willow (Salix lasiolepis). The understory is densely populated with shrubby willows and a herbaceous layer that includes great marsh evening primrose (Oenothera elata Kunth ssp. hirsutissima). Several exotic species are also present, including castor bean (Ricinus communis), giant reed (Arundo donax), pampas grass (Cortaderia selloana), and walnut (Juglans regia). This habitat type is typically considered a wetland and is regulated as jurisdictional by federal, state, and/or local agencies.

Southern Willow Scrub: Southern willow scrub is a dense vegetation community dominated by broad-leafed winter deciduous riparian species typically associated with streams and other drainage features. The understory of this community is typically poorly developed. This community is typically classified as a wetland and regulated as jurisdictional by federal, state, and/or local agencies. On the property, this community is dominated by arroyo willow (Salix lasiolepis). MSCP habitat mapping does not capture the full extent of Southern Willow Scrub habitats within the two canyon areas. is mapped in Ruffin Canyon. Substantial additional acreage beyond what is mapped is present in Ruffin, Sandrock, and Ellison Canyon. Most of the constructed storm channel that extends from the end of Fenton Parkway to the river is also Southern Willow Scrub habitat.

I-8 WB
I-8 EB
CAM DEL RIO SOUTH
Exotic species removal and restoration along stream
Restoration of mountain bike impacts
LIMIT OF STUDY
Concrete debris to be removed - Area Restored
Arundo Removal/Restoration
34TH
CLIFF
ELLISON
ALLEY
ALLEY
ALLEY
ALLEY
ARTHUR
PANAMA
WEST MTN VIEW
NORTH MTN VIEW
33RD
COPLEY

Legend

- Restoration Areas
- Mtn. Bike Impacts
- Existing Trail
- MHPA
- Parcels
- Ephemeral Creek

Vegetation

- Diegan Coastal Sage Scrub
- Urban/Developed

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ELLISON CANYON NATURAL RESOURCES

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 100 200
SCALE IN FEET

FIGURE
2.5

Date: 03/17/10 Drawn by: CMR

LIMIT OF STUDY

Legend

- Existing Trail
- MHPA
- Streams
- Parcels

Vegetation

- Chaparral
- Diegan Coastal Sage Scrub
- Disturbed Habitat
- Southern Riparian Scrub
- Valley and Foothill Grassland
- Urban/Developed

CNDDB Points

- Orange-throated Whiptail
- Western Spadefoot
- San Diego Fairy Shrimp
- San Diego Goldenstar

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RUFFIN/SANDROCK CANYON NATURAL RESOURCES

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 500
SCALE IN FEET

FIGURE
2.6

Date: 11/02/09 Drawn by: CMR

Legend

- Existing Trail
- Access Point
- MHPA
- Parcels

Hydrology

- 100 yr Flood Plain
- 100 yr Floodway
- Rivers

Vegetation

- Disturbed Diegan Coastal Sage Scrub
- Southern Cottonwood Willow Riparian Forest
- Open Water
- MWWD Wetland Mitigation
- MWWD Coastal Sage Scrub Restoration
- Southern Riparian Scrub
- Urban/Developed

CNDDB Points

- Least Bell's Vireo
- Western Mastiff Bat
- San Diego Ambrosia

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MISSION VALLEY NATURAL RESOURCES

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 400
SCALE IN FEET

FIGURE
2.7

Date: 03/17/10 Drawn by: CMR

Freshwater Marsh: Freshwater marsh habitat occurs in consistently inundated areas near the San Diego River channel and is dominated by grass-like wetland species that form a dense, closed canopy six to eight feet in height. Species are likely to include broad-leaved cattail (Typha latifolia) and California bulrush (Scirpus californicus). Freshwater marsh is a wetland habitat and is regulated as jurisdictional by state, federal, and local agencies.

Open Water: The San Diego River channel weaves through the riparian habitat surrounding it. It is an unvegetated open water habitat type regulated as jurisdictional by federal, state, and local agencies. The channel's width varies seasonally, but is typically eight to ten feet wide in the project area.

Possible Restoration Areas

The Tributary Canyons Project goals include restoration of degraded habitats found along the trail corridor. Several opportunities exist for habitat restoration in each of the three project segments. Each is discussed below and illustrated on Figures 2.5-2.7.

Ellison Canyon

Though the canyon is predominantly high quality native habitat, there are several opportunities for restoration in Ellison Canyon. A large pile of old concrete construction debris lies at the uphill terminus of the SDG&E maintenance road. The pile could be removed, making trail passage easier, and allowing for restoration of native habitats in place of the pile. Past illegal grading along the maintenance road has left habitat impacts on the hillsides and in the drainage. Approximately a dozen patches are in need of restoration. Several invasive species have established in the canyon and would be relatively easily eradicated. A small patch of *Arundo donax* (giant reed) is located next to the concrete rubble pile. Several small palms (*Washingtonia robusta*), castor bean (*Ricinus communis*), tree tobacco (*Nicotiana glauca*), mustard (*Brassica spp*), and other invasive species can be found scattered throughout the canyon. Their eradication would contribute to the City's MHCP conservation goals and would help prevent the spread of weeds to the San Diego River corridor. Restoration opportunities in this canyon are roughly estimated at 0.5 – 1.0 acre.

Ruffin/Sandrock Canyon

The lower portions of Sandrock and Ruffin canyons are in a more natural condition than the upper portions. The upper portions of the canyons are heavily impacted by invasive exotic species and offer excellent restoration opportunities. The majority of the length of the canyon bottom in the upper half of both canyons is dominated by fan palm (*Washingtonia robusta)*, pepper tree (*Schinus terebinthifolia*), and other exotic species. Willows (*Salix spp*.), mulefat (*Baccharis salicifolia*), and other wetland species are present, which indicates appropriate hydrology for riparian restoration. Much of the upland slopes adjacent to the drainage are dominated by iceplant and could be restored to CSS or CH habitats. Elimination of this large source of exotic species in the upper reaches of the drainage would eliminate a long-term threat to downstream degradation of natural habitats in the MHPA and the San Diego River corridor. Detailed mapping of restoration areas was not completed during this phase of the project, but preliminary mapping indicates a minimum of 2 acres of restoration area available in Sandrock Canyon and at least 1 acre is available in Ruffin Canyon (see Figure 2.4). While the actual extent of upland restoration that is possible needs to be verified with detailed surveys, this estimate could double. Additional restoration opportunities exist elsewhere in the canyon, including a badly eroding hillside located on the northern edge of the SDG&E parcel in Sandrock Canyon. Restoration of this area would be challenging, but highly beneficial to water quality, habitat quality, and trail stability.

Some opposition from adjacent residents to restoration of CSS and CH habitats may be encountered due to concerns over incresed fire and erosion hazards percieved to be associated with the work. Technical approaches to address these concerns are available, but assuaging the associated fear of neighboring property owners may be more difficult.

Mission Valley

Restoration areas within the study area of Mission Valley include the eradication of invasive exotic species within the existing riparian corridor and the possible expansion of riparian habitat. Without detailed biological surveys, it is not possible to quantify the extent of exotic species to be removed. Such detail could be developed during future planning phases.

Expansion of the floodplain and riparian habitat could potentially be achieved on the north side of the river through regrading the existing storm channel extending from the end of Fenton Parkway. This channel delivers stormwater from Ruffin Canyon to the San Diego River and is currently relatively narrow. Portions of the small undeveloped parcel immediately south of the Fenton Parkway trolley station could be graded to lower elevations to establish new riparian habitat. Similar efforts could potentially be applied to the old practice field site located directly to the east of Fenton Parkway. It is important to note that these areas have limited capacity to balance cut and fill grading on site, and exporting excess cut material is often prohibitively expensive. These issues may place practical limits on the extent of riparian expansion that can be accomplished ; however, its recommended that such actions be considered in association with the more detailed planning required for a river crossing.

Wildlife Resources

Native habitats in the project area support a wide variety of wildlife species, many of which are protected by the California or Federal endangered species acts and/or the MSCP. Wildlife rely upon native habitats and canyon areas for food, shelter, and breeding purposes, but also rely on them as movement corridors from one habitat area to another.

The Mission City Bridge EIR contains a detailed analysis of wildlife species observed or likely to occur along the San Diego River. In-depth analysis of the potential for occurrence of wildlife species will be conducted during the design phase of the project; however, a few prominent issues stand out during this preliminary planning effort.

***Least Bells vireo* (*Vireo bellii pusillus*):** The reach of the San Diego River riparian corridor through which the project travels is a known breeding location for the least Bells vireo, which is listed as a federal endangered species. Siting of a pedestrian bridge in this area has potential to impact the habitat and breeding behavior of this species and will require careful consideration. Bridge designs that are 1) narrower in width, 2) higher in relation to the riparian habitat, and 3) require less construction phase impacts will be required for successful permitting of the project. Noise associated with bridge use or any other related activity areas will be a significant concern to be reconciled in the design and permitting phase as well.

Coastal California Gnatcatcher (Polioptila californica californica): The gnatcatcher is a federally listed threatened species that relies upon coastal sage scrub habitat for survival. Coastal sage scrub is the most common habitat type within Ellison and Ruffin/Sandrock Canyons. Direct impacts to gnatcatcher habitat as well as potential noise impacts from trail use are important considerations for trail alignments.

Project Guidelines

The following principles guide the use of the biological resource information through the remainder of the project:

1. Existing trails and disturbed areas shall be used to the maximum extent possible to avoid and minimize direct impacts to habitats.

2. Noise, lighting, and drainage modifications associated with proposed trail amenities shall be avoided or minimized.

3. All trail alignments and amenities shall avoid interruption of wildlife movement corridors.

4. Interpretive elements and signage shall be incorporated to promote awareness of biological resources and appropriate trail behavior.

5. Restoration of areas disturbed by project construction shall be implemented, along with additional restoration of degraded habitats present in the canyons.

2.5 Archeological/Cultural Resources

The Mission Valley area of San Diego has been occupied by Native Americans for nearly 10,000 years. That occupation left various artifacts in the landscape including tools, ornaments, and human remains. Records searches were completed by ASM Affiliates for historical, cultural, archaeological, and Native American resources within the project area. Some historical resources exist in the surrounding neighborhoods; however, no documented resources were identified within the canyon areas. Because it is common for historical or archaeological artifacts to be discovered during grading of previously undisturbed areas, further investigation into these issues may be necessary during later stages of the project.

Project Guidelines

The following approach regarding the archaeological/cultural resource information should guide the remainder of the project:

1. Cultural resources found through investigations associated with more detailed design and project development shall be protected to the greatest practical extent.

2. Cultural history and use of the San Diego River area shall be highlighted in educational and interpretive elements of the project.

2.6 Water Resources

The project area is located within the San Diego River watershed. The watershed has a land area of approximately 440 square miles and includes portions of the cities of San Diego, El Cajon, La Mesa, Poway, and Santee, as well as several unincorporated jurisdictions, making it the second largest watershed in San Diego County. The San Diego River, as the heart of the watershed, flows for approximately 52 miles through rural and urban landscapes. According to the San Diego River Watershed Urban Runoff Management Program Annual Report, January 2009, prepared by the City of San Diego, priority pollutants of the San Diego River watershed include bacteria indicators, phosphorous, total dissolved liquids (TDS), Low Dissolved Oxygen (DO), and Turbidity.

A well planned project will avoid impacts to streams and the introduction of pollutants into the watershed, while increasing awareness of water resource issues to those using the trail system. The following information briefly characterizes water resources in the study area.

Ellison Canyon

The Ellison Canyon corridor, located to the south of the San Diego River, contains one major drainage (see Figure 2.5). This drainage runs the length of the canyon bottom, and like Ruffin and Sandrock Canyons to the north, its primary flows are associated with urban runoff collected from the surrounding neighborhood streets. No water quality sampling was conducted for this study, but it is assumed that typical urban pollutants enter the canyon from the neighborhood above. In-canyon problem areas exist in various locations along the drainage where erosion and sedimentation is caused by the access road that runs alongside it and by unauthorized recreational use. Surface runoff is conveyed from the mouth of the canyon to the San Diego River via the City's storm drain system.

Ruffin/Sandrock Canyon

The Serra Mesa canyon complex to the north of the river contains two major drainages; Sandrock Canyon and Ruffin Canyon (see Figure 2.6). The primary flow associated with these intermittent drainages is urban runoff which is collected from surrounding neighborhood streets and deposited into the drainages via stormdrain outfalls. Additional runoff, erosion and sedimentation likely occurs in the Sandrock Canyon drainage from utility maintenance access paths where they lie on steep slopes or are coincident with the drainage itself. No other water quality issues are known at this time. Surface runoff enters a 96" culvert at the mouth of Ruffin Canyon, travels under the developed area of Mission Valley and enters the San Diego River floodplain in a constructed earthen channel at the southeast end of the Fenton Parkway trolley station platform.

Mission Valley

Mission Valley is a densely developed area within the historic floodplain of the San Diego River. The Escala residential development, Fenton Marketplace commercial development, and various other office and residential developments cover most of the project area within Mission Valley. Typical urban pollutants are expected in the runoff from these developments.

The river itself has been confined by development to a narrow corridor within the project area (see Figure 2.7). The river is a perennial stream with very low flow for most of the year, but potentially very large and damaging flood events. The Mission City Parkway Bridge EIR identified the peak 100-year flood flow to be 49,000 cfs, with an associated water surface elevation of 53.4 feet, which is approximately 13 feet above the floodplain soil surface. Alterations to the hydrology of the San Diego River, as well as the placement and deck height of any proposed pedestrian bridges, must be studied carefully.

Project Guidelines

The following principles guide the use of hydrological resource information through the remainder of the project:

1. Trails shall be located outside of drainage ways and shall be designed to minimize erosion of the trail surface.

2. Trail uses shall be managed to avoid introduction of pollutants into the San Diego River watershed.

3. Creek and river crossings shall be designed to avoid and minimize necessary modifications to drainages and floodplains

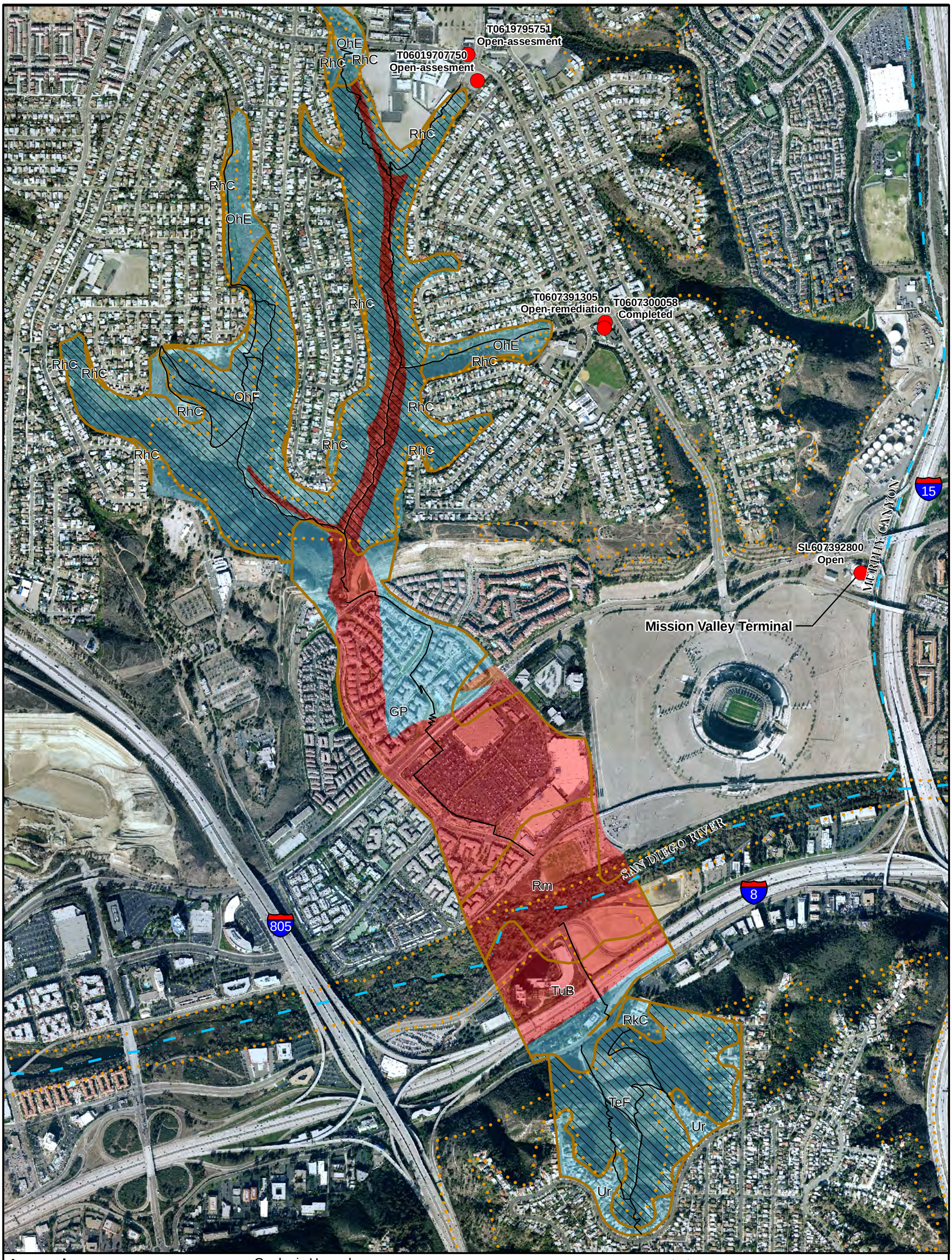
2.7 Geology and Soils

The San Diego Seismic Hazard maps provide information on geologic hazards for development. Much of the project area, including all of Ellison Canyon and the upper portions of Ruffin and Sandrock Canyons, occurs within two geologic hazard codes that carry little geologic risk; Hazard code 52 (ALL OTHER CONDITIONS: other level areas; gently sloping to steep terrain, favorable geologic structure to low risk); and Hazard code 53 (ALL OTHER CONDITIONS: Level or sloping terrain, unfavorable geologic structure, low to moderate risk). See Figure 2.8.

All of the Mission Valley segment, most of the canyon floor of Ruffin Canyon and a small portion of floor of Sandrock Canyon occur within Hazard code 32 (LIQUIFACTION-Low Potential-fluctuating groundwater minor drainages, hydraulic fills) or Hazard code 31 (LIQUEFACTION – High potential-shallow groundwater major drainages, hydraulic fills). Trails, in general, do not present substantial concern in relation to seismic hazards, but bridges or other more substantial structures must be designed to withstand liquefaction and other geologic hazards.

According to the Web Soil Survey provided by the National Resources Conservation Service (NRCS), nine soil types exist within the project area where trail construction would occur (see Figure 2.8). According to the Path and Trail Suitability Analysis from the NRCS, each of these soil types is classified as having limitations with regard to path/trail suitability due to steep slopes and/or large soil fragment size. Field visits verified that certain locations exist within the project area where erosion and large areas of cobble size rock occur. Existing trails in some portions of these areas, such as trails located within large-cobble drainages, are clearly not performing well due to soil and hydrology issues. Trails in other areas, however, remain in good condition even when located on soils with limitations. Overall, soils in the project area are suitable for trail development, provided the trail is designed and maintained to address soil limitations.

Table 2.3 lists each of the soil types found within the potential trail alignment and their corresponding ratings for "erosion hazard" and "path and trail suitability" as developed by the NRCS Web Soil Survey website. Olivenhain cobbly loams on steep slopes (map code OhE) and Terrace Escarpments (map code TeF) are the most severely limited soils. The former is a highly erodible soil with high amounts of cobble. When this type of soil exists on very steep slopes, it is severely erodible. It is also severely erodible on lesser slopes when high volumes of water flow over it (i.e. streams). These limitations were observed in the field where existing casual trails on this soil cross steep slopes at too steep a trail gradient, or where they are coincident with stream channels. Existing trails located on these soils that are more appropriately configured, even when on steep slopes, are not exhibiting major erosion problems. The vast majority of potential trail alignments in Ruffin Canyon are on this soil type. Well-planned trails with appropriate gradients and drainage will not be problematic on Olivenhain soils. Terrace Escarpments, which are the dominant soil type in Ellison Canyon are also highly erodible. As with Olivenhain soils in Ruffin Canyon, well planned trails on Terrace Escarpments soils



Legend

- Hazardous Material Sites
- Existing Trails
- MHPA
- Streams

Geologic Hazards

- Liquefaction
- Slide Prone Formations
- All Other Conditions (Low Hazard)

Soils

- Soils with severe limitations
- All other soil types

GP - Gravel Pits
OhE - Olivenhain cobbly loam, 9 to 30 percent slopes
OhF - Olivenhain cobbly loam, 30-50 percent slopes
RhC - Redding-Urban land complex, 2 to 9 percent slopes
RkC - Reiff fine sandy loam, 5 to 9 percent slopes
Rm - Riverwash
TeF - Terrace escarpments
TuB - Tujunga sand, 0 to 5 percent slopes
Ur - Urban Land

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SOILS, GEOLOGIC HAZARDS AND HAZARDOUS MATERIAL SITES
COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 500 1000
SCALE IN FEET

FIGURE
2.8

Date: 03/17/10 Drawn by: CMR

that appropriately manage drainage will no be problematic. Because the ultimate viability of a trail project through canyon areas is highly dependent on the minimization of biological resources, project alignments are expected to follow existing trails as much as possible, even when those trails lie within problematic soils. Careful attention to trail drainage and slopes will be necessary to ensure a low-maintenance trail into the future. Portions of existing trails that are too steep or too cobbly for long-term use and should be re-routed (see Figures 2.2 and 2.3).

Table 2.3: Soils

Soils Within Alternative Trail Alignments			
Map Unit Symbol	**Map Unit Name**	**Erosion Hazard Rating***	**Path and Trails Limitation Rating (numeric values)***
GP	Chesterton Urban land complex, 2 to 9 percent slopes	Moderate (0.50)	
OhE	Olivenhain cobbly loam, 9 to 30 percent slopes	Moderate (0.50)	Slopes 15-25% (0.50) Dusty (0.50) Fragments >3" 25-75% (0.05)
OhF	Olivenhain cobbly loam, 30 to 50 percent slopes	Severe (0.95)	Slopes > 25% (1.00) Dusty (0.50) Fragments >3" 25-75% (0.05)
RhC	Redding-Urban land complex, 2 to 9 percent slopes	Moderate (0.50)	Dusty (0.50)
RkC	Reiff fine sandy loam, 5 to 9 percent slopes	Moderate (0.50)	
Rm	Riverwash	Slight	
TeF	Terrace escarpments	Severe (0.95)	Slopes > 25% (1.00)
TuB	Tujunga sand, 0 to 5 percent slopes	Slight	Suface sand fractions > 90% by wt. (1.00)
Ur	Urban land	Moderate (0.50)	

*Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which a soil feature is not a limitation (0.00). (Source: NRCS Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov)

Project Guidelines

The following principles guide the use of geology and soils information through the remainder of the project:

1. Trails located in problematic soils shall be designed to counteract soil problems and shall be relocated to different areas when such design solutions are not possible.

2. Major structures shall be designed to respond to soil and geologic hazards.

2.8 Hazardous Materials

Based on the County of San Diego's Site Assessment and Mitigation (SAM) Listing, there are four sites located within 1000 feet of the project that are, or were, potentially contaminated (see Table 2.4). One of the sites has been deemed remediated and has the status of "case closed". The other three sites have a cleanup status of "open", which indicates ongoing activities (i.e. site assessment or remediation in progress). Two of the open sites have a status of "site assessment". The "site assessment" status indicates that the scope and severity of contamination of groundwater and/or soil is being assessed in order to pursue the correct mitigation measures. The remaining "open" site has the status of "site remediation", indicating mitigation measures have begun. Potential contaminates vary by site but include gasoline, diesel, and fuel oxygenates. These four sites are unlikely to pose problems for possible trail alignments, but their status should be further investigated during the design phase as a public safety precaution.

Table 2.4: Hazardous Material Sites

Address	Site Name	Global ID	Cleanup Status	Potential Contaminate	Media Affected	Case Date
2696 Mission Village Dr. San Diego, CA 92123	ARCO	T0607391305	Open - Remediation	Gasoline	Other Groudwater (uses other than drinking water), Soil	2/1/2001
2696 Mission Village Dr. San Diego, CA 92123	Smog Pros	T0607300058	Completed - Case Closed	Gasoline	Other Groudwater (uses other than drinking water), Soil	9/12/1988
9294 Gramercy Dr. San Diego, CA 92123	Gramercy Unocal	T0619795751	Open - Site Assesment	Diesel, Fuel Oxygenates, Gasoline	Other Groudwater (uses other than drinking water), Soil	8/28/2006
3222 Mission Village Dr. San Diego, CA 92123	Tom Russel Chevron	T0601970775	Open - Site Assesment	Gasoline	Soil	6/10/2004
9950 Mission Road San Diego, CA 92108	Mission Valley Terminal	SL607392800	Open - Assesment & Remedial Action	Diesel, Petroleum - Automotive Gasolines, Petrolium-Diesal Fuels	Other Groudwater (uses other than drinking water), Soil, Surface Water, Under Investigation	1/1/1992

One additional known site exists outside of the project area. The site centers on the Mission Valley Terminal (MVT) petroleum tank facility located near the north east corner of the Qualcomm stadium property. A contamination plume of various petroleum-based chemicals from the MVT site is known to extend through the Qualcomm Stadium site and to the San Diego River in the vicinity of the proposed bridge crossing for this project. The depth of the contamination is generally at least 15-20 feet below river elevation, but there may still be some implications for design and construction of a pedestrian bridge or other facilities in this area. The County Department of Environmental Health (SAM Division 619-338-2222) should be contacted during the design phase to determine the exact nature of the listed sites. Further investigation may be needed to determine the potential for project excavation to encounter contaminated soil and/or groundwater, and whether any special safety measures are necessary for project implementation.

2.9 Slopes

In general, slopes on the floor of Mission Valley are gentle and the slopes of the valley walls are extremely steep. Selection of feasible trail routes from the valley floor to the mesa tops requires detailed investigation of the topography of various possible routes (see Figure 2.9).

Ruffin/Sandrock Canyon

Ruffin and Sandrock canyons are characterized by low slopes along the canyon bottom (3-10% in most areas) surrounded by steep side slopes on the canyon walls ranging as high as 50 to 100%. Trails placed on canyon walls will require careful siting and construction to achieve appropriate footing, benching, and tread stability. It will be necessary for at least a portion of the trail to be placed on the steep canyon walls in order to connect the trail the full length of the canyon from its lower outlet to its upper extremities.

Ellison Canyon

Slopes in Ellison Canyon are similar to those found in Ruffin Canyon; however, the slope of the overall canyon floor is substantially steeper, ranging from 10-15% on average. As with Ruffin Canyon, it will be necessary for at least a short portion of a trail through Ellison Canyon to be placed on the steep canyon walls in order to connect the trail to the canyon rim. Trail segments that cross steep sideslopes in the canyons may require special treatment such as retaining walls or stairs to minimize potential for erosion and other problems.

Mission Valley

The Mission Valley segment is characterized by slopes less than 8% in most areas, and less than 15% in all areas. The Escala development contains the steepest slopes found along the trail route in Mission Valley, but it has been designed with appropriate trail grades integrated into the development. No significant slope issues are anticipated within the Mission Valley segment.

Project Guidelines

The following principles guide the use of slope information through the remainder of the project:

1. Trails shall be located on slopes that conform to the City of San Diego Trail Standards where-ever possible.

2. Trails shall be designed to maximize safety and minimize maintenance and erosion problems where they must be placed on steep slopes.

2.10 Scenic Resources

Mission Valley is a community with significant scenic resources including the river, valley walls, canyons, and mesa tops. Each of these features can be seen from public vantage points as identified in Figure 2.9. Mission Valley and its scenic resources are among the first things that visitors see when traveling from the east to the City of San Diego and are valued by San Diego residents as part of the beauty of San Diego. Any proposed changes to the scenic character of Mission Valley should be carefully considered.

The visual character of Mission Valley can be described in response to its basic landforms, as outlined below.

San Diego River

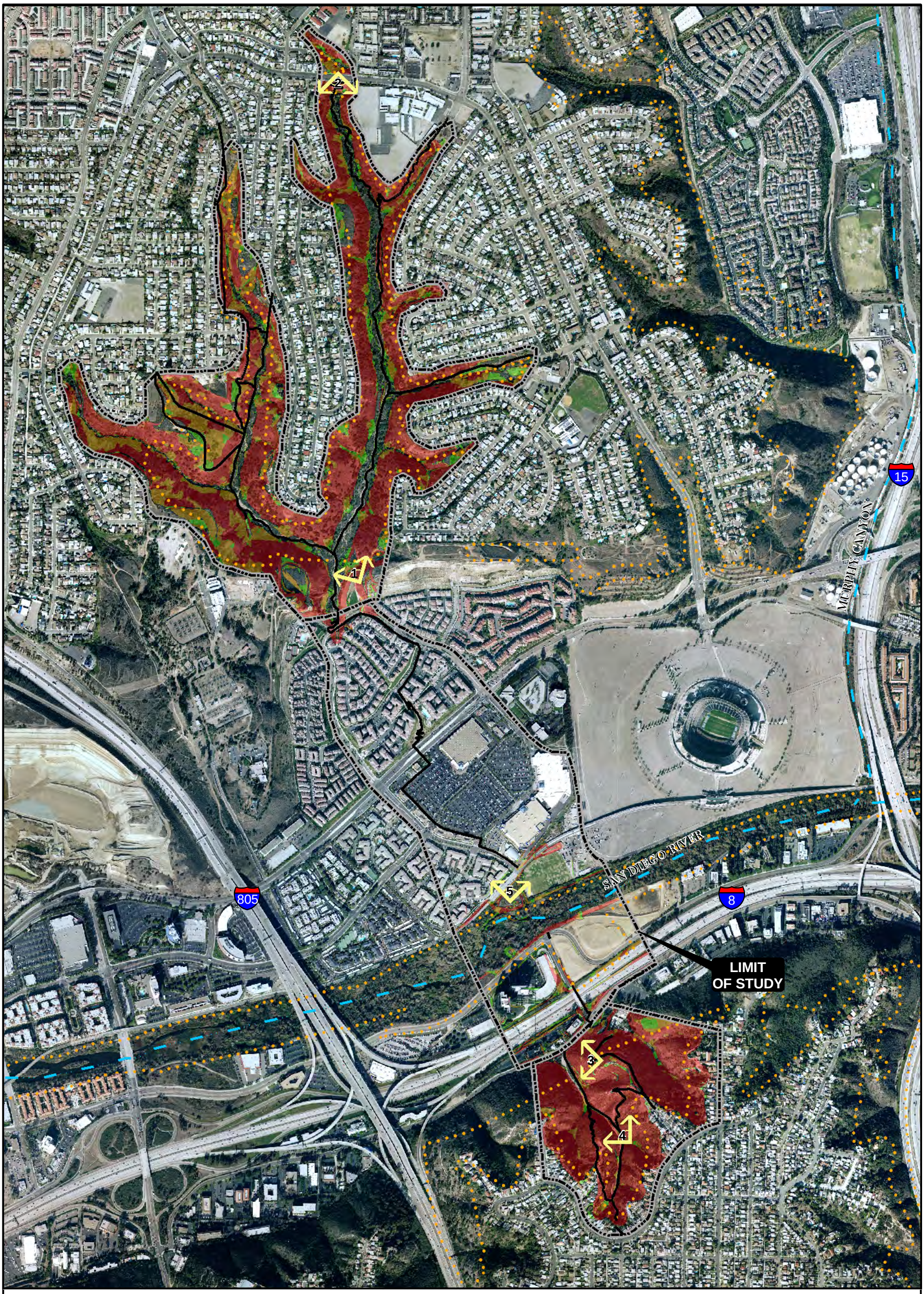
The river's riparian vegetation provides a softening visual effect that contrasts the hard edges of the urban environment surrounding it. Within the project area, the river as a scenic resource has been adversely affected by development that limits the width and visibility of the riparian corridor, but open views of the river are still available, particularly from the south side. Many residents and visitors are sensitive to changes in the scenic resources characteristics of the river, and any development along or near the river, such as the pedestrian bridge and plaza proposed by this project, must be completed in a way that responds to the visual character of the river. Views of the riparian corridor should be preserved and highlighted from viewpoints both near to and distant from the river.

Valley Walls

Valley walls meet the valley floor to define the historic river floodplain and the community of Mission Valley. Portions of the valley walls have been severely altered by development or quarry activity. Other locations maintain a more natural character of steep slopes covered in primarily native vegetation. The valley walls are integral to defining Mission Valley as a community and are highly visible from most viewpoints within the valley. They are therefore of high value as a scenic resource and many residents are sensitive to changes in their visual character. No changes are proposed to valley walls by this project, but opportunities to view them from various points along the trail corridor should be incorporated as plans develop.

Canyons

The tributary canyons of Mission Valley define neighborhoods by providing a visual and spatial separation between them. They offer a visual softening of the urban landscape and are a defining visual element of the character of Mission Valley and of San Diego as a whole. Many residents have a very strong emotional connection to these urban canyons and are sensitive to changes in their scenic resource characteristics. Work proposed by the Tributary Canyons Project will occur within the canyon areas and should be designed to preserve and highlight the scenic character of the canyons.



Legend

- MHPA
- Rivers
- Existing Trail
- Key Observation Point

Slopes

- 0-15%
- 15-25%
- 25-40%
- >40%

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

SLOPES AND OBERVATION POINTS

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 500 1000
SCALE IN FEET

FIGURE
2.9

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Key Observation Points

The user experience' of an individual traveling the proposed trail route includes a progression of views near and far including both natural and built elements. Trail elements should be designed paying attention to form, line, color, texture, and scale of these elements so that trail features complement the existing scenery and avoid detracting from it. Key observation points for the scenic resources within the project area exist in various locations along the proposed trail route (see Figure 2.10). Representative views are discussed below.

Observation Point 1 – Observation point 1, located on the Missioni City Trail within Escala, provides an extensive view of the project area. From this viewpoint users can see south to the river and the Ellison corridor beyond. Other portions of the Mission City Trail provide views north into Ruffin Canyon. The trail corridor is an attractive urban amenity.

Observation Point 2 – Observation point 2 is located in Serra Mesa on Gramercy Drive just west of Taft Middle School. From this viewpoint users have an excellent view of much of Ruffin Canyon, however, longer views to Mission Valley or Ellison Canyon do not exist. This viewpoint is representative of views from the rim of Ruffin and Sandrock Canyons.

Observation Point 3 – Observation Point 3 is located on the rim of Ellison Canyon and Mission Valley at the end of 34th Street in Normal Heights. This viewpoint provides an outlook from the mesa tops of Normal Heights that looks across the valley to Serra Mesa. It provides panoramic views of Mission Valley all the way to the Pacific Ocean. Similar views are provided at several places along the valley rim.

Observation Point 4 – Observation Point 4 is located in the heart of Ellison Canyon on the canyon floor. This viewpoint gives the user a view of the entire canyon and a portion of Mission Valley from the elevation of the canyon floor. The line of sight is constricted by the canyon walls, but an increasingly expansive view of Mission Valley and the north valley wall emerges as the viewer proceeds to the mouth of the canyon.

Observation Point 5 – Observation Point 5 is located within the proposed plaza/bridge site. At this central node of the project, the viewer has foreground views of the San Diego River corridor and more distant views of both the north and south valley walls and the tributary canyons. It serves as a central scenic viewpoint for the entire project.

Project Guidelines

The following principles guide the use of scenic resource information through the remainder of the project:

1. Trail routing shall maximize scenic viewing opportunities along the trail corridor.
2. Trail routing and design shall minimize alteration of natural landforms, habitats, and other valued scenic elements.
3. Trail facilities shall be designed to compliment their natural and built surroundings in scale, color, and materials.

2.11 Crime

ARJIS (Automated Regional Justice Information System) data for the project area shows relatively high crime rates in the urban core of the Normal Heights neighborhood, relatively low crime rates in Mission Valley and the northern portions of Normal Heights near the proposed trail, and relatively moderate crime rates in Serra Mesa. Crime rates generally increase with proximity to urban centers, roads, and highways, and decrease closer to canyons and open space. See Figure 2.10

For the successful implementation of any trail project, it is critical to establish what effect, if any, trail construction has on crime. Crime is a common issue of concern for residents with homes or property adjacent to, or near a proposed trail. Although it is a common concern, research indicates that trails typically have a neutral to positive effect on crime and vandalism. This is generally attributed to the fact that well-planned public trails attract a user group of responsible citizens. This "eyes on the street" effect is shown to discourage crime, vandalism, and homeless encampments along a trail corridor. Attracting responsible users to trails can be accomplished by providing the proper amenities such as quality trail construction, trash cans, benches, and kiosks. It is also accomplished through patrolling by rangers and encouraging community stewardship of public rights-of-way, particularly events such as nature walks, environmental cleanups, and trail maintenance parties.

One good example of the interplay between trails and crime is found in Seattle. A study conducted by the Seattle Engineering Department's Office for Planning found the existence of the Burke-Gilman Trail in Seattle has little, if any, effect on crime and vandalism near and adjacent to the trail corridor. Police officers interviewed found no greater incidence of burglaries and vandalism of homes along the trail. Residents interviewed reported that the establishment of the trail has helped to decrease the amount of litter, and discourage vagrants within the corridor. Real estate agents who buy and sell homes in areas near and adjacent to the trail found the trail brought an increase in property values and provided an added selling point. Similar experiences have been documented in cities throughout the country.

Project Guidelines

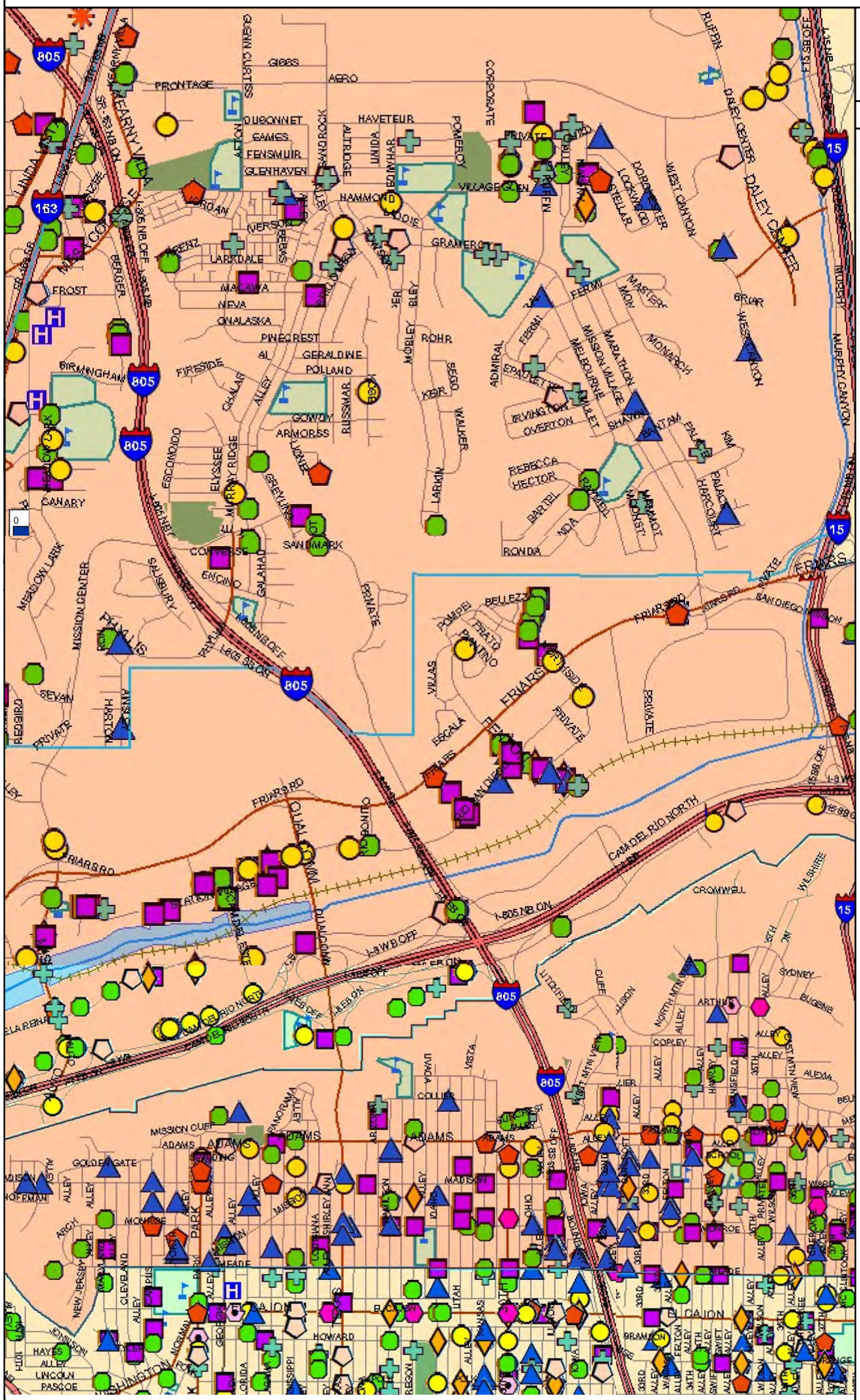
The following principles guide the use of crime information through the remainder of the project:

1. Trails shall be designed to maximize visibility along the trail.
2. Trailheads shall be designed to discourage unwanted loitering and shall include user safety information.
3. Patrols shall be provided for trail areas on a random schedule. Contact information for rangers or other patrolling groups shall be posted at trailheads.

Figure 2.10

Criminal Activity in the San Diego Tributary Canyons Project Vicinity

ARJIS
Automated Regional Justice Information Systems



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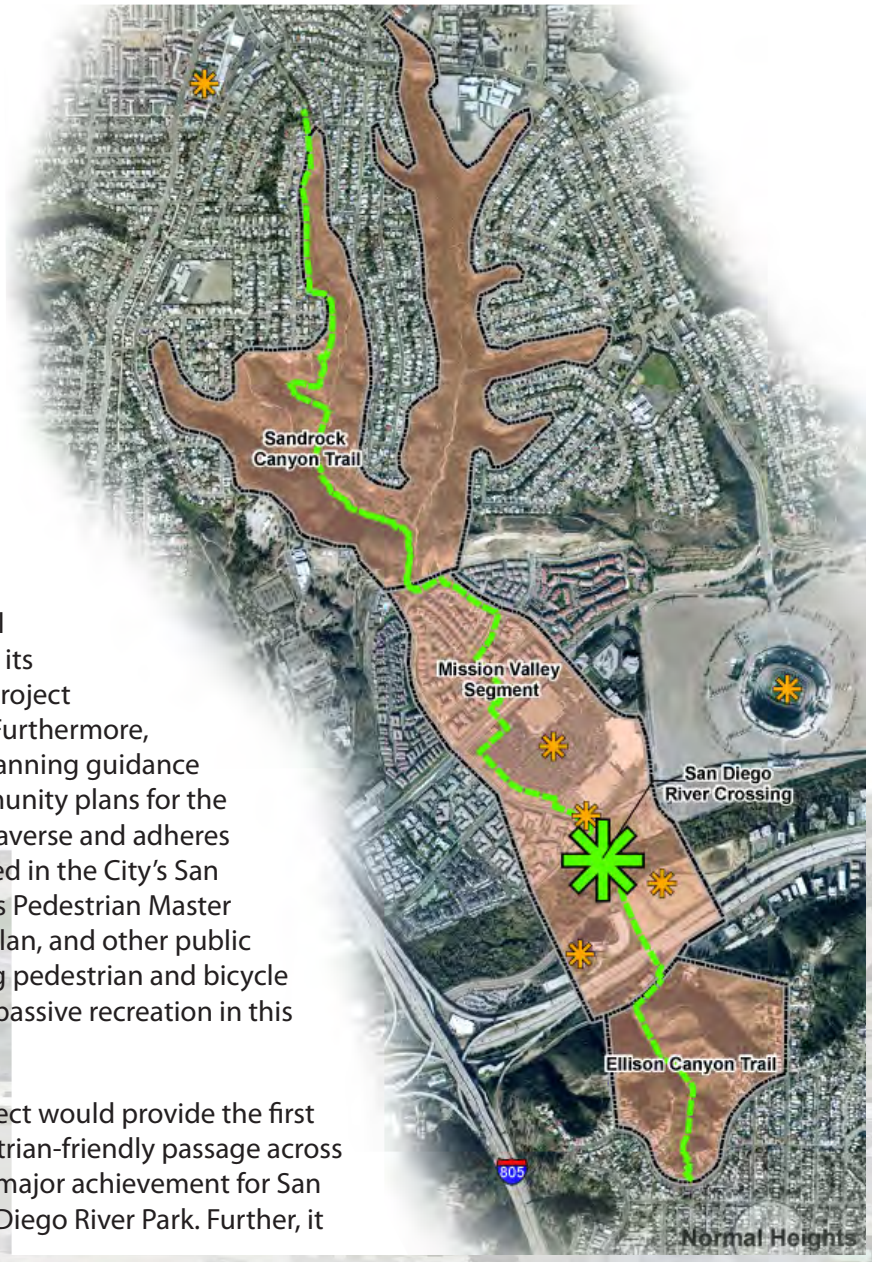
San Diego County Regional Crime MAPS

concept plan - recommendations 3

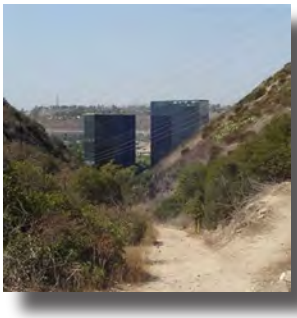
Section 1 of this document outlined goals for the project, along with a summary of relevant existing planning documents and other information that guided project development. Section 2 summarized the existing conditions for key aspects of the project. That information, combined with extensive field evaluation and coordination with project stakeholders, forms the basis for concepts presented below. This section begins with an overview of the recommended trail route. It continues with a review of the process by which alignment alternatives were identified and then provides a detailed description of the recommended alignments in each major project segment. Alternative alignments considered by the study are detailed in Appendix A. Primary focus is given to the canyon trail segments of the project; however, a preliminary evaluation of the issues and alternatives for the Mission Valley segment is also presented.

3.1 Recommended Trail Route - Overview

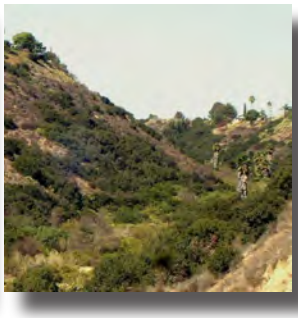
The illustration at right presents the recommended alignment for trails to be developed as part of the Tributary Canyons Project. The alignment achieves the San Diego River Conservancy's vision of connecting communities to each other, to the San Diego River and its regional trail, and to the naturalness and calm of the canyons that shape neighborhoods. It successfully makes use of existing trails and takes advantage of existing infrastructure, where possible, to overcome substantial natural and urban barriers found along its length, thereby achieving the project goals articulated in Section 1. Furthermore, it responds to the vision and planning guidance articulated in the various community plans for the neighborhoods that it would traverse and adheres to important concepts presented in the City's San Diego River Park Master Plan, its Pedestrian Master Plan, the Mission City Specific Plan, and other public policy documents by improving pedestrian and bicycle mobility and opportunities for passive recreation in this part of San Diego.



Implementation of the full project would provide the first continuous, north-south pedestrian-friendly passage across Mission Valley, and would be a major achievement for San Diego and the developing San Diego River Park. Further, it







would begin a process of linking neighborhoods to the developing network of regional trails, including both the San Diego River Trail and the California Coastal Trail.

Very little new trail length is needed to achieve the project vision. However, property interests would need to be negotiated for much of its length and parts of the existing trail would require substantial improvement to guarantee proper safety, drainage, and grades The recommended trail alignment begins in Normal Heights at the intersection of North Mountain View Drive and 33rd Street. It closely follows a utility easement through Ellison Canyon to Camino Del Rio South, crossing private parcels throughout. At the canyon mouth it follows City R.O.W. and City owned parcels to Mission City Parkway and then turns north (across I-8) to the river. A pedestrian and bicycle bridge (referred to subsequently as a "footbridge") and associated plaza/park space is proposed to connect across the river to the Fenton Parkway trolley station, the Mission Valley Library and Fenton Marketplace. The river crossing is a major node along the trail route, providing connections to the San Diego River Trail and the trolley system. The proposed trail route continues north through Fenton Marketplace, reaching the Escala community via a tunnel beneath Friar's Road. It proceeds north to the mouth of Ruffin Canyon via a trail designated the "Mission City Trail" during the initial planning for this newly-developed district. The trail then continues into the Ruffin Canyon complex, then shortly bears west and follows the Sandrock Canyon arm to the end of Sandrock Road at the tip of the canyon. It passes through City of San Diego open space, a large SDG&E owned parcel, and an open space easement on private property as it progresses to Sandrock Road. More detailed descriptions of each of the recommended trail segments follows later in this Section.

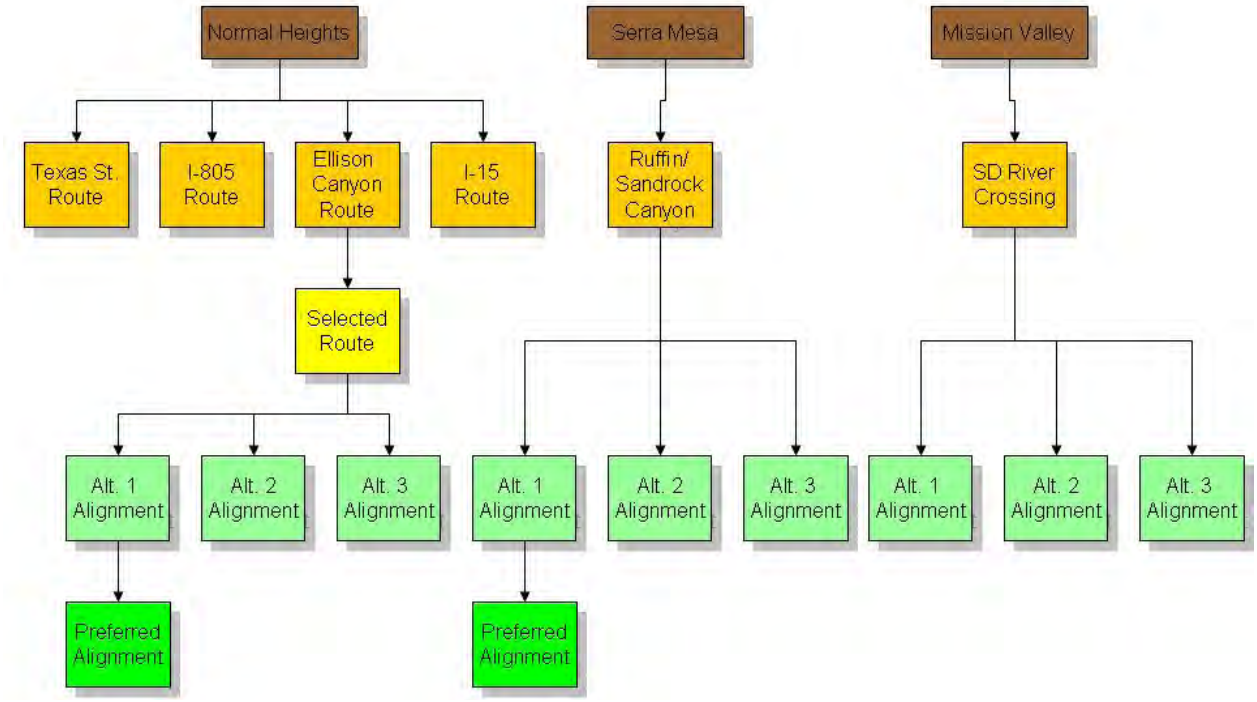
3.2 Planning Process

Selection of preferred trail alignments recommended in this study proceeded in two main phases, as depicted in the following process diagram. First a regional scale investigation was initiated to identify all possible canyon connections from Normal Heights to Mission Valley and select one canyon as the focus for developing the project. The second phase evaluated alternative trail alignments within both the selected Normal Heights canyon and the Ruffin/Sandrock Canyon complex and identified the preferred alignment for each. Alternative approaches to a San Diego River crossing were evaluated as well; however, a more in-depth exploration of these alternatives as they relate to a number of planning initiatives is needed for an informed decision to be made about the merits of each as they might relate to future developments.

Normal Heights Preliminary Planning

Ruffin/Sandrock Canyon was selected as the preferred connection to Serra Mesa by the Conservancy based on research and outreach completed prior to the beginning of this study. The best connection to Normal Heights, however, had not yet been selected. Phase 1 of the of this study identified all possible routes from Normal Heights to Mission Valley, evaluated the identified routes, and selected a preferred route for continued planning.

The study area for the Normal Heights Preliminary Planning Phase is defined by Texas Street to the west, Camino Del Rio South to the north, Interstate 15 to the east, and the rim of Mission Valley to



the south. The evaluation of alternative routes from Normal Heights to Mission Valley followed an organized and objective approach that relied on investigating multiple information sources in light of a series of evaluation criteria. The evaluation process followed three basic steps:

1. *Aerial Photography Review:* Foothill Associates acquired U.S. Geological Survey High Resolution Orthoimagery for the San Diego, California Urban Area (1 foot resolution, 2008) for the Normal Heights portion of the project and visually reviewed the south rim of Mission Valley searching for signs of existing trails. Potential trails were digitized into the project GIS. Each of the routes identified during this process was thoroughly investigated during the field investigation process.

2. *Background Research:* Foothill Associates researched existing planning documents and the efforts of various organizations for information on existing or desired trail routes meeting the Tributary Canyon Project's goals. The City of San Diego's Open Space Division, the Normal Heights Community Planning Committee, and the Friends of Normal Heights Canyons (FONHC) were the primary organizations with relevant information to offer.

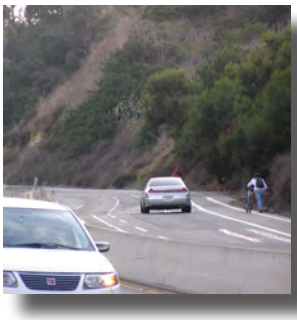
3. *Field Investigation and Mapping:* Foothill Associates staff conducted a thorough field investigation of the entire Normal Heights study area. Potential routes highlighted by aerial photography and planning documents were fully investigated. The remainder of the area was surveyed as closely as possible by driving or walking the entire valley rim and the foot of the slope in Mission Valley. Existing and/or potential trail alignments were entered into the project GIS database. Detailed notes and photographs were collected for each route and alignment.

Potential routes were found in four canyons. Foothill Associates prepared an evaluation matrix for use in making objective comparisons between the routes being considered. The matrix included evaluation criteria in each of three major categories:

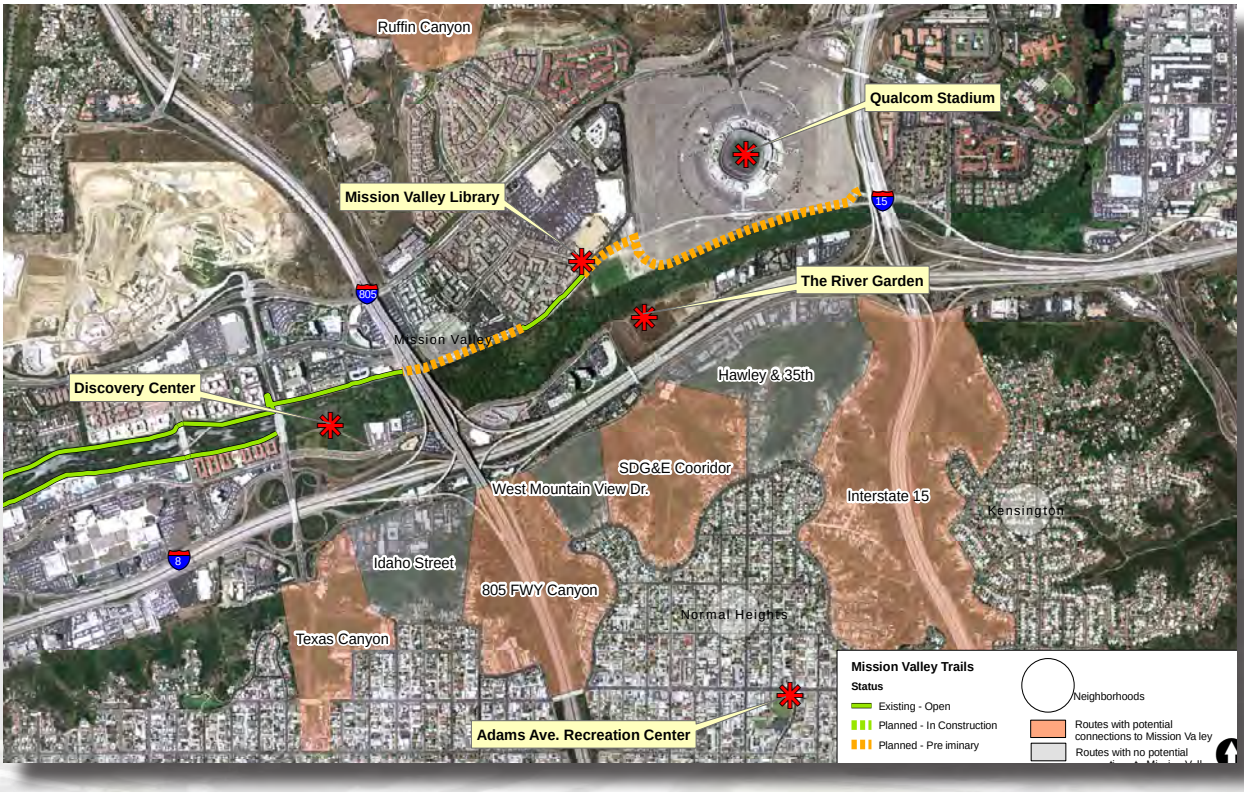
1. User Experience and Trail System Functionality Factors

2. Environmental Sensitivity Factors

3. Landowner, Neighborhood, and Permitting Factors



Several factors were identified in each category that reflect the essence of the issues associated with that category and the overall project goals. The matrix was not intended to be an exhaustive list of possible issues or planning needs for the project. It was intended to be an objective and balanced decision making tool that captures the fundamental representative issues at a level sufficient to make an informed selection of a Normal Heights route for the Tributary Canyons Project.



The canyons were evaluated based on the factors in the matrix. For each factor, each canyon was rated on a scale from (0) to (3), (3) being highly suitable and (0) being not suitable. Table 3.1 outlines the factors considered in each category and provides basic guidance on how to apply scores to routes. Table 3.2 presents the scoring matrix results. The scoring matrix is divided into three sections. The first applies raw scores for each factor for each route and provides the mathematical results of raw scoring. Higher totals indicate higher suitability of the route.

Table 1
Normal Heights Alternative Route Evaluation

Table 1: Evaluation Factor Descriptions

User Experience and Trail Network Functionality				
Factor	**0 - Not Suitable**	**1 - Low Suitability**	**2 - Moderate Suitability**	**3 - High Suitability**
Character / Experiential	High traffic, noise, and urban development with few natural elements.	High traffic, noise, and urban development with moderate to high quality natural elements	Low traffic, noise, and urban development with moderate to high quality natural elements	Little or no traffic, noise, and urban development. Abundant and varied high quality natural resources present.
Connections Potential	None	Connections are possible, but relatively distant or inconvenient.	Connections are not direct, but are reasonably close to desired destinations on each end of the trail.	Connections are in a direct, logical line between desired destinations on each end of the trail.
Access Points	Safe and appropriate access points are not present or unlikely	Access does not exist, but is possible. Little to no space for development of trailhead facilities.	Informal or formal access currently exists. Little to no space for development of trailhead facilities.	Informal or formal access currently exists. Good opportunity for development of trailhead facilities.
Trail Route	No existing trails and little to no reasonable opportunity to create a route.	One or more current informal trails exist, but would need significant rerouting to be appropriate as a permanent trail. OR no current route exists but one could be created relatively easily.	One currently passable trail route exists that is generally appropriate as a permanent trail route.	Multiple currently passable trail routes exist that is generally appropriate as a permanent trail. May need some improvements.
User Safety		Poor. Trail users must cross heavy traffic to access trailheads or must travel in close proximity with vehicular traffic along the trail or substantial effort is necessary to create safe separation from traffic. Or other notable hazards exist. Crime concerns may be high.	Good. Trail users must cross heavy traffic at one or more trailheads, but are safely separated from traffic along trail route with moderate effort. Crime concerns are low to moderate.	Very Good. Trail users can access both ends of the trail without vehicular traffic conflicts. Trail route requires no or minimal effort to be safely separated from traffic. Crime concerns are low to moderate.
Environmental Sensitivity Factors				
Factor	**0 - Not Suitable**	**1 - Low Suitability**	**2 - Moderate Suitability**	**3 - High Suitability**
Biological Resources	High. Native habitats are present within likely trail corridor, with no current trail existing. Significant impacts to high quality native vegetation and/or sensitive status species is certain.	Moderate. Native habitats are present within likely trail corridor. Informal trail exists but would need substantial reconstruction that would significantly impact native habitats. No special status species impacts.	Low. Native habitats are present in likely trail corridor, but would receive minor to no impacts from trail construction.	Negligible. Native habitats are either not present in trail corridor or would receive little to no impacts from trail construction.
Restoration Potential	None. Existing native habitats are consistently high quality with no areas in need of restoration or habitats are entirely disturbed to the point that a meaningful restoration effort is outside the scope of the project.	Poor. Restoration is possible but is either relatively insignficant biologically or logistically very difficult.	Good. Restoration areas of a meaningful and manageable size are present. Access, ease of success, or other factors may present challenges.	Very Good. Restoration areas of a meaningful but manageable size are present, easily accessible, and achievable.
Cultural Resources	High. Significant cultural resources would be permanently impacted from trail construction or user activities over time.	Moderate. Potential for cultural resources impacts, but may be avoidable through project design.	Low. Cultural resources are known to exist, but are either easily avoidable or have a low sensitivity to user activity.	Negligible. Potential for cultural resources exists, but the probability is low and no known cultural resources have been recorded.
Water Resources	High. Trail would directly violate water quality protection requirements.	Moderate. Trail requires stream crossings that would require intensively designed solutions that are either very costly or cause problems for hydrology and water quality.	Low. Trail has potential to directly impact water resources, but impacts could be readily avoided or mitigated through proper planning and design.	Very Low. Trail does not cross streams and has minimal opportunity to degrade water resources. Basic design BMP's would resolve concerns.
Landowner, Neighborhood, and Permitting Factors				
Factor	**0 - Not Suitable**	**1 - Low Suitability**	**2 - Moderate Suitability**	**3 - High Suitability**
# of Landowners		More than 15. Quantity of landowners makes access issues potentially very difficult or costly.	2-15. Quantity of landowners makes access issues moderately difficult or costly.	One. Single landowner substantially simplifies negotiations.
Landowner Opposition	High. Majority of neighbors are known to or are likely to be resistant to the project.	Moderate. Some opposition is known, but extent of opposition vs. support is currently unknown.	Low. Majority of immediate neighbors are known to or are suspected to be supportive. Some opposition is known or anticipated.	None. All landowners and neighbors have expressed support for the project.
Permitting/ Clearances	Potentially not approvable.	Approvable with high costs for technical studies and permitting processes. High mitigation costs. Proposal may conflict with some current planning policies.	Approvable with moderate costs and/or difficulty securing permits.	Approvable with minimum technical studies and controversy. Low mitigation costs.
Crime Potential		High potential exists for the trail corridor to facilitate new criminal activity within the surrounding community. Trail is not visible from homes or public places. Homes are easily accessible from the majority of the trail alignment.	Moderate potential exists for the trail corridor to facilitate new criminal activity within the surrounding community. Trail is not visible from homes or public places. Homes are difficult to reach from the trail alignment.	Low to no potential exists for the trail corridor to facilitate new criminal activity within the surrounding community. Trail is readily visible from surrounding homes or public places. Homes are difficult to reach from the trail alignment.
Fire Potential		High potential exists for the trail corridor to create increased risk of wildfire. Fire would be difficult to notice before it was large. Existing risk of wildfire is lower than typical.	Increased fire risk is unlikely. Current authorized uses or unauthorized uses pose a danger that could potentially be mitigated by responsible trail users. Fire may be somewhat difficult to notice quickly. Existing risk of wildfire is typical.	Increased fire risk is unlikely. Current authorized uses or unauthorized uses pose a danger that could potentially be mitigated by responsible trail users. Fire would readily noticed from homes or public places and noticed immediately. Existing risk is typical.

Table 2: Normal Heights Canyons Scoring Matrix Summary

Raw Score

Canyon Route	Character	Connections	Access Pts.	Trail Route	User Safety	User Experience Subtotal	Biology Impacts	Restoration	Cultural	Water Resources	Environmental Suitability Subtotal	# of Landowners	Landowner Opposition	Permitting	Crime Increase	Fire Danger Increase	Landowner, Permitting Subtotal	Total Score
Texas	2	1	2	1	2	**8**	1	2	3	2	**8**	3	2	2	3	3	**13**	**29**
I-805	0	2	1	0	1	**4**	2	1	3	3	**9**	3	1	0	3	3	**10**	**23**
SDG&E	3	3	3	3	3	**15**	2	3	3	3	**11**	1	2	2	3	2	**10**	**36**
I-15	1	2	1	0	1	**5**	0	1	3	3	**7**	3	1	1	3	3	**11**	**23**

Weighting Factors

Canyon Route	Character	Connections	Access Pts.	Trail Route	User Safety		Biology Impacts	Restoration	Cultural	Water Resources		# of Landowners	Landowner Opposition	Permitting	Crime Increases	Fire Danger Increases	
	4	5	2	3	5		3	1	2	3		5	5	3	5	5	

Weighted Score

Canyon Route	Character	Connections	Access Pts.	Trail Route	User Safety	User Experience Subtotal	Biology Impacts	Restoration	Cultural	Water Resources	Environmental Suitability Subtotal	# of Landowners	Landowner Opposition	Permitting	Crime Increase	Fire Danger Increase	Landowner, Permitting Subtotal	Total Weighted Score
Texas	8	5	4	3	10	**30**	3	2	6	6	**17**	15	10	6	15	15	**61**	**108**
I-805	0	10	2	0	5	**17**	6	1	6	9	**22**	15	5	0	15	15	**50**	**89**
SDG&E	12	15	6	9	15	**57**	6	3	6	9	**24**	5	10	6	15	10	**46**	**127**
I-15	4	10	2	0	5	**21**	0	1	6	9	**16**	15	5	3	15	15	**53**	**90**

In reality, not all factors are equal in their importance for the project. For example, potential landowner opposition is far more important in determining the feasibility of a route than is the degree of opportunities for habitat restoration. Similarly, the overall character of a route and the strength of the route's connections to the overall trail corridor are far more important than the size and capacity of access points for trailhead amenities. For this reason, the second section lists a weighting factor used to adjust raw scores into weighted scores. A higher number in the Weighting Factors section of the matrix indicates higher importance being placed on that factor. The third section of Table 3.2 presents the mathematical result of multiplying each raw score by its associated weighting factor. For example, if the Texas Street route has a raw score of 2 for the Character factor, and the Character factor has a weighting factor of 4, the weighted Character score for Texas Street is 2 x 4 = 8. The total weighted score for each canyon route is calculated as well, with higher numbers indicating higher suitability of the route.

The Ellison Canyon Route scored highest in both raw scores and weighted scores by a substantial margin. Its strength as a choice lies primarily in its scores in the User Experience and Environmental Suitability categories. It receives relatively low scores in the Landowner and Permitting category. In other words, it provides the best opportunity for a high quality, safe trail and is the most

environmentally-suitable route, but it may be relatively difficult to successfully establish a trail across numerous privately-owned parcels. The Texas Canyon route scored second place. It may well be the easiest route to gain approval for, given its location within City right-of-way. It is, however, a relatively poor choice when considering the quality of experience offered to the trail user and its connection to the Mission Valley and Ruffin Canyon segments of the overall Tributary Canyons Project alignment. The I-15 and I-805 Canyon routes are both poor options. They provide a poor quality user experience, and it is likely to be very difficult to gain approval from Caltrans.

After careful investigation of the available options, preparation of the scoring matrix, and subsequent consideration of the implications of the data, Phase 1 concluded that the Ellison Canyon Route is the best choice for the Normal Heights segment of the project. If landowner approvals for that route prove to be an insurmountable hurdle, Texas Street presents a feasible option as a workable but decidedly inferior backup selection. The I-805 or I-15 routes are not likely to be feasible and should be pursued only as a last resort.

A thorough discussion of each of the four canyons was included in a Phase 1 report for the project, which is on file with the San Diego River Conservancy and can be made available for review by interested parties upon request.

Alternatives Evaluation

With the selection of Ellison Canyon as the route from Normal Heights to Mission Valley, work progressed to identify three alternative trail alignments for both Ellison Canyon and the Ruffin/ Sandrock Canyon system. The Project Goals enumerated in Section 1 and the Project Guidelines identified with each topic area in Section 2 collectively informed the range of alternatives selected for consideration. Many more potential alignments exist in each canyon; however, nearly all of them are either 1) essentially the same as one of the options being considered, or 2) contrary to project goals and guidelines. For example, an alternative alignment in Ellison Canyon could be routed to lie primarily within the City owned land in the canyon; however, such a route would require construction of extensive new trails on steep hillsides within high quality habitat and would likely fail to gain permit approval from the City of San Diego because several options exist that would have less environmental impact.

The remainder of this section presents the alternative conceptual solutions identified for each project segment, with additional detail provided on the recommended alternatives.

3.3 Segment A: Normal Heights Canyon Trail

Three alternatives were evaluated for making the connection between Normal Heights and Mission Valley through Ellison Canyon. All three alternatives, depicted on Figure 3.1, follow existing trails on privately-owned property. Differences between the three focus on the access points used, the character of the trail experience, and land ownership patterns. The selected alternative is described below. Information concerning the other alternatives is located in Appendix A.

Alternative 1 follows the existing SDG&E utility corridor through the bottom of the canyon from North Mountain View Drive to Camino Del Rio South. Alternative 2 begins at the end of 34th Street, follows the 34th Street ridge, and then descends to the bottom of Ellison Canyon where it joins the Alternative 1 alignment. Alternative 3 begins at the end of 34th Street as well, but follows the ridge to a road grade that traverses the valley wall and terminates at an office complex on Camino Del Rio South.

The recommended trail alignment for the Normal Heights Canyon trail segment is depicted on Figure 3.1 as Alternative 1. Alternative 1 is recommended as the preferred alternative for several reasons:

- As compared to the 34th Street trailhead used for Alternatives 2 and 3, Alternative 1's North Mountain View trailhead provides a more visible access point on a larger neighborhood street that already receives a moderate level of pedestrian traffic.

- Though parking demands are expected to be very low, the North Mountain View trailhead is better suited to handle vehicular access and parking than 34th Street.

- Interaction between project proponents and the Carmelite Monastery, the canyon's largest landowner, indicated strong opposition to trail facilities on Monastery property on the 34th Street ridge, but conditional support for trails located on Monastery property within Ellison Canyon.

- Though biological impacts are low for all three alternatives, Alternative 1 would have the least environmental impact.

Alternatives 2 and 3 are not without merit. Each would provide an interesting and efficient trail experience, with panoramic views of Mission Valley unmatched by Alternative 1. Overall, however, Alternative 1 is the recommended alternative. The discussion below provides detailed information and recommendations for Alternative 1.

Access Points

The southern trailhead for the recommended alignment lies on an undeveloped parcel fronting North Mountain View Drive owned by SDG&E. SDG&E uses the parcel as an infrastructure and access corridor for both electric and gas lines that connect to Normal Heights from Mission Valley by way of Ellison Canyon. The parcel is approximately 30' x 150' in dimension and level, which provides ample room for an improved trail surface, basic trailhead amenities, and buffer plantings without impeding SDG&E's needs for use of the property.

As a parcel fronting North Mountain View Drive, it provides direct access to the neighborhood's main collector road, which was identified in the City of San Diego's Normal Heights Mobility Study (2006) as the highest traveled pedestrian route in the neighborhood. The connection to a collector road provides good visibility to the larger community and minimizes potential nuisances associated with

placing the trailhead at the end of Ellison Place or 34th Street, which are smaller streets lacking outlets. Convenient street parking is available along North Mountain View and other nearby neighborhood streets. Trail user parking would be a nuisance to the neighborhood if it occurred at high rates; however, most trail users are expected to approach the trail on foot or bicycle, and demand for parking is expected to be very low. Development of a North Mountain View trailhead may raise concerns from the immediate neighbors to the east and west of the identified parcel. However, preliminary designs for the trailhead suggest measures to address a variety of concerns that can be anticipated.

The design recommended for the trailhead is based upon 1) SDG&E's continuing need for use of the parcel, 2) potential nuisance factors for neighbors, and 3) visibility and aesthetic considerations from North Mountain View Drive. The recommended design includes the following features:

- To guard against potential trespass, ensure privacy, and provide abatement of noise impacts to neighboring properties, the design recommends installation of a 6-8' tall block wall on the east and west property lines, with large shrubs planted on the inside of the walls.

- An 8' wide trail with a class II road base surface is proposed through the center of the parcel, with the remainder of the ground plane dressed with organic mulch or planted with a dense groundcover.

- A standard informational kiosk (see Design Guidelines section) is recommended near the North Mountain View Drive sidewalk with the intention of concentrating any pausing or conversations held around the kiosk near the public street.

- The entry to the parcel from public right-of-way is marked by a pair of low cairns used consistently throughout the overall project as an identifier for the trail (see the Design Guidelines section for a more detailed discussion of these elements).

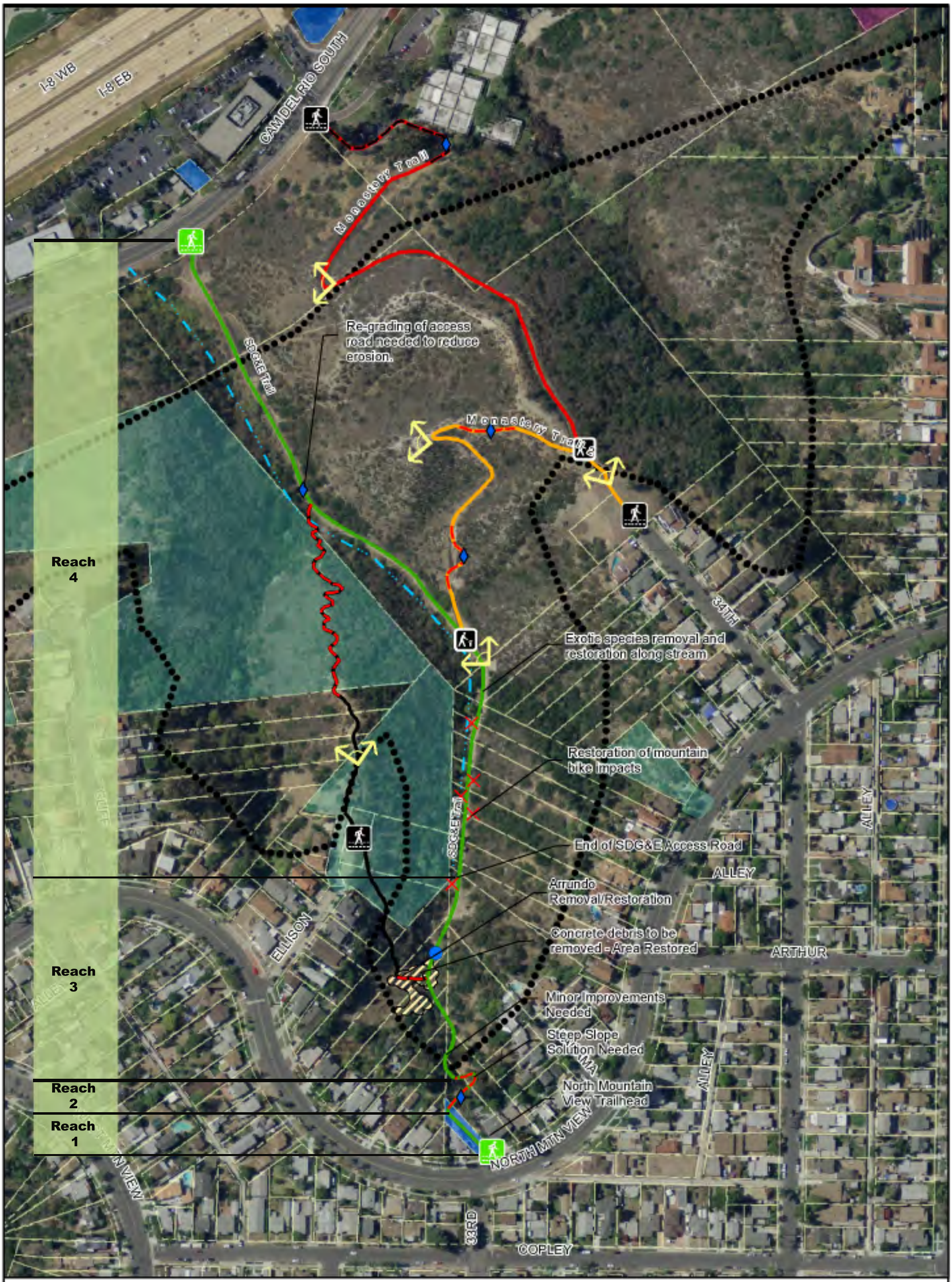
On additional potential trailhead for this trail alignment is located on the City-owned parcel at the end of Ellison Place. It offers excellent potential as a trailhead, complete with panoramic views of Ellison Canyon and much of Mission Valley. Using the Ellison trailhead would require use a different exit trail from the canyon bottom, but would essentially follow the Alternative 1 alignment. The Ellison Place trailhead and canyon exit is a viable option to the proposed use of the North Mountain View trailhead; however, it was ultimately not chosen as the recommended trailhead because of its location at the end of Ellison Place, which is a very narrow cul de sac. A trailhead at the end of Ellison Place would have greater potential to be an inconvenience to immediate neighbors on the street and would be much less visible and "discoverable" than the North Mountain View trailhead.

The Northern Trailhead for the selected alignment (as well as Alternative 2) lies on private property where the canyon outlets to Camino Del Rio South. The canyon bottom widens considerably in this area and is used by SDG&E as a staging area for their maintenance activities in the canyon. There is potential for a variety of trailhead functions and features in the area; however, this study recommends minimal improvements and amenities at this trailhead, including:

- Replacement of the existing chain link gate with an improved entry monument and gate more suited to trail access. The proposed entry includes a pair of entry cairns to visually identify the trailhead. A combination vehicular/pedestrian gate is proposed between the cairns, with a narrow pedestrian opening and a wider vehicular opening blocked by a pipe-gate.

- The existing approach drive could be paved or remain largely in its present state An improved pedestrian approach is recommended to the side of the vehicular approach.

- A standard informational kiosk, located inside the entry gate and in a location that does not conflict with SDG&E activities.



Legend

Trail Alternatives
- Alternative 1 *
- Alternative 2
- Alternative 3
- Other Existing Trails

Trail Condition
- (No Symbol) Useable Existing
- New Trails
- Too Steep

Ownership
- Caltrans
- City
- Private
- School Districts
- SDG&E

Other Features
- Parcels
- MHPA
- Access Point
- Preferred Access Point
- Viewpoint
- Directional Signage
- Grading/Stairs Needed
- Mtn. Bike Impacts

* Recommended Alternative

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ELLISON CANYON ROUTE ALTERNATIVES

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

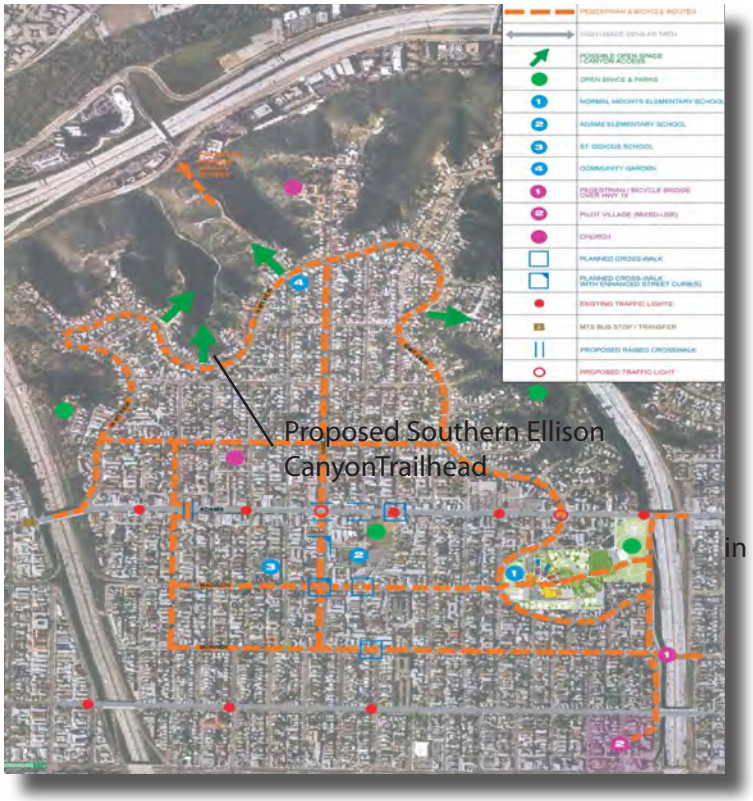
0 200
SCALE IN FEET

FIGURE 3.1

Date: 03/28/10 Drawn by: CMR


CAMINO DEL RIO SOUTH
PROPOSED SIDEWALK
EXISTING CHAINLINK FENCE
VEHICULAR/PEDESTRIAN GATE
ENTRY CAIRN TYP.
KIOSK

Community Connections



The recommended alignment provides a direct, efficient connection between Normal Heights and Mission Valley. Its upper end connects directly to North Mountain View Drive, which was shown to be the most highly used walking route in the neighborhood in the Normal Heights Mobility Study. The Mobility Study also identifies North Mountain View Drive and Hawley Street as the predominant pedestrian and bicycle routes in the neighborhood. Hawley Street is just two blocks away from the proposed North Mountain View trailhead. The trail connects directly to a large residential population, maximizing its accessibility to neighborhood residents without the need for driving and parking. The trailhead is directly in line with 33rd Street, which leads to the heart of the Normal Heights neighborhood commercial center. The route's lower outlet emerges onto Camino Del Rio South just 400' west of the Mission City Parkway bridge which provides a safe crossing of I-8 and is also directly in line with a proposed footbridge over the river, the Fenton Parkway trolley stop, Fenton Marketplace, the Friar's Road pedestrian tunnel, and Ruffin Canyon.

Trail Route

Ellison Canyon offers a predominantly natural and quiet experience to trail users. Housing lines the rim, and SDG&E infrastructure (road and powerlines) is prominent in the canyon bottom, but the remainder of the canyon is natural, with a variety of native habitats and varied topography that provides a high quality interaction with nature. The canyon is slightly sinuous with several small side canyons, which adds a sense of discovery for hikers. Views within the canyon showcase expansive natural scenery as well as more distant views of the City. The proposed trail is sited and designed to preserve the natural character of the canyon. In some areas project plans include repair of disturbances and restoration of degraded habitats as well as enhancing the appearance of trailhead areas.

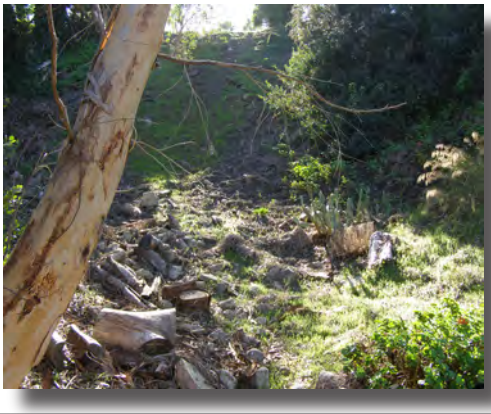
The recommended trail route for Ellison Canyon begins at the North Mountain View Drive trailhead and follows a combination of existing informal trails and the SDG&E access road to the mouth of the canyon at Camino Del Rio South. The portion of trail from North Mountain View Drive to the beginning of the SDG&E access road would most closely match the "Moderate Use Trail" classification outlined in the City of San Diego's Trail Standards, though some short segments may be narrower or steeper than typical for that trail class. The SDG&E access road itself would meet the general description of the "High-Use Recreational Trails" classification because of its width and shared use between recreation and utility uses. Specific design information for each trail reach is presented in the following pages.

Reach 1: North Mountain View Drive Trailhead

New/Existing/Improved:	Improved
Length:	133 ft
Base Width:	6 ft
Trail Grade:	2-3%
Surfacing:	Class II
Current Ownership:	SDG&E
ADA Accessibility:	Yes
Special Solutions:	None

Description: The first trail reach connects North Mountain View Drive to the steep slope at the canyon rim. The trail surface should be raised slightly from existing grade to promote positive drainage off the trail. No significant technical challenges are anticipated.

Reach 2: Steep Slope at Canyon Rim



New/Existing/Improved:	Improved
Length:	165 ft
Base Width:	4 ft
Trail Grade:	15-20%
Surfacing:	Class II
Current Ownership	Private
ADA Accessibility:	No
Special Solutions:	Stairs

Description: As the trail enters the canyon, it must traverse a short, but very steep slope. The slope is approximately 56 vertical feet at approximately 2:1 slope. A variety of solutions are possible, including switchbacks, an inset stone stairway, or a large wooden stairway. The recommended solution is a combination of trail segments benched into the slope at 15-20%, with "switchback" turns accomplished by small stairways to reduce erosion problems typical of switchbacks. The proposed design solution is illustrated below.

Reach 3: Canyon Trail to SDG&E Road

New/Existing/Improved:	Improved
Length:	238 ft
Base Width:	4 ft
Trail Grade:	17-20%
Surfacing:	Native Soil
Current Ownership:	Private
ADA Accessibility:	No
Special Solutions:	None

Description: Existing trails continue along this reach; however, improvements will be needed to achieve standards. The alignment passes through the largest patch of degraded habitat in the canyon – a large pile of concrete rubble next to a patch of giant reed (Arundo donax). A restoration project in this area would present an excellent opportunity for both habitat enhancement and interpretive elements.

Reach 4: SDG&E Access Road To Camino Del Rio South Trailhead

New/Existing/Improved:	Existing
Length:	1,892 ft
Base Width:	12 ft
Trail Grade:	10% avg
Surfacing:	Class II ??
Current Ownership:	Private
ADA Accessibility:	Partial
Special Solutions:	Drainage

Description: The remainder of the proposed trail follows the existing SDG&E maintenance road to its connection with the Camino Del Rio South trailhead. The road is well-suited for trail use in its current condition, though it currently suffers from erosion problems during heavy rains. The erosion problems are primarily caused by runoff that is concentrated within the roadway, rather than being directed as sheet-flow off the road surface. These problems could be dramatically improved by regrading the road with a consistent outslope, eliminating the existing soil berm between the road edge and the drainage, and revegetating the streambanks. This study recommends a partnership between SDG&E and the Conservancy in which the Conservancy prepares a design approved by the City of San Diego that is implemented by SDG&E maintenance crews

Restoration Program

Though the canyon is predominantly high quality native habitat, there are several opportunities for restoration. The following restoration projects are recommended in Ellison Canyon:

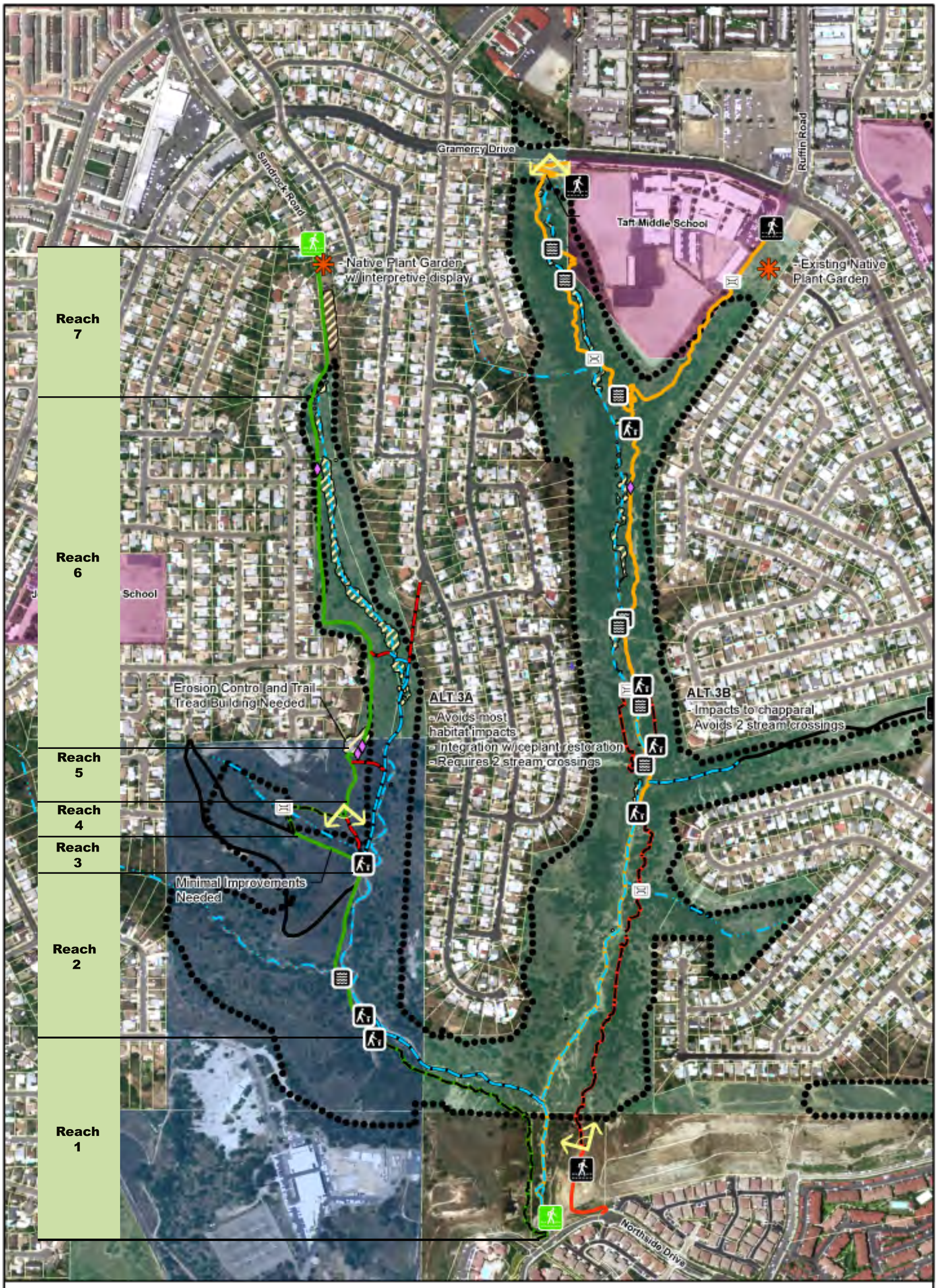
- A large pile of old concrete construction debris lies at the uphill terminus of the SDG&E maintenance road. The pile should be removed, making trail passage easier, and allowing for restoration of native habitats in place of the pile.

- Several invasive species have established in the canyon and would be relatively easily eradicated. A patch of giant reed (*Arundo donax*) is located next to the concrete rubble pile. Several small palms, castor bean, tree tobacco, mustard (*Brassica spp*), and other invasive species are scattered throughout the canyon. Their eradication would contribute to the City's MHCP conservation goals and would help prevent the spread of weeds to the San Diego River corridor.

- Past illegal grading by unauthorized recreational users along the maintenance road has left habitat impacts on the hillsides and in the drainage. Approximately a dozen patches are in need of restoration, which includes minor regrading and installation of coastal sage scrub, chaparral, and riparian scrub habitats.

3.4 Segment B: Serra Mesa Canyon Trail

Three alternative trail alignments were evaluated for making the connection between Serra Mesa and Mission Valley through Ruffin and Sandrock Canyon. All three alternatives, depicted on Figure 3.2, begin on the Escala open space parcels north of Northside Drive. Alternative 1 continues through SDG&E property and City of San Diego open space in Sandrock Canyon to the end of Sandrock Road. Alternatives 2 and 3 continue through City open space in Ruffin Canyon to Gramercy Drive. Differences between the three routes focus on the land ownership patterns, the connection point to Serra Mesa, and the position of the trail in relation to the streambed.



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SERRA MESA ROUTE ALTERNATIVES

COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 500
SCALE IN FEET

FIGURE 3.2

Date: 03/28/10 Drawn by: CMR

Alternative 1 passes through the Escala open space into the Ruffin Canyon Open Space, then follows a mix of existing and new trail alignments in the bottom of Sandrock Canyon to the northern edge of the large SDG&E parcel, where it climbs the canyon wall to the canyon rim. The remainder of the alignment follows existing trails along the canyon rim to the Sandrock trailhead. Alternative 2 begins at the same start point, but follows the existing trail (much of which is coincident with the streambed) to Gramercy Drive. Alternative 3 is the same as Alternative 2 in the northern half of the canyon. Its defining difference is that it places a new trail on the east wall of the canyon in order to avoid using the streambed for the trail, thus avoiding the high costs and environmental implications of maintaining a suitable trail in the streambed.

The recommended trail alignment for the Serra Mesa canyon trail segment is depicted on Figure 3.2 as Alternative 1. Alternative 1 is recommended as the preferred alternative for several reasons:

- Alternative 1 offers users the most diverse experience as compared to Alternatives 2 and 3 and may therefore benefit a larger portion of the community. The northern half of Alternative 1 follows the canyon rim and may invite use by people who don't feel comfortable hiking in the more remote parts of the canyon bottom. The bottom half, however, provides that more remote and immersive experience for those who desire it.
- The northern trailhead for Alternative 1 offers the greatest opportunities for trailhead amenities as compared to Alternatives 2 and 3.
- Alternative 1 connects more directly to the commercial core of Sera Mesa than Alternatives 2 and 3.
- Alternative 1 can be constructed with minimal interaction with the stream channel, which benefits both water quality and trail stability.
- Alternative 1 offers equal or greater opportunity for habitat restoration and interpretive features.
- Alternative 1 offers opportunity for disabled access from both ends of the alignment.
- The Friends of Ruffin Canyon are actively engaged in trail improvements in Ruffin Canyon. Focusing the Tributary Canyons project trail effort on Sandrock Canyon would provide a greater level of improvement in the overall trail system.

Because Alternative 2 follows existing alignments and does not propose alterations to the drainage, it poses the least direct impacts to biological resources and is thus desirable from a near-term biological point of view. Its presence directly within the streambed, however, poses higher long-term threats to water quality than the other alignments. In addition, the cobbly surface of the streambed provides a dangerous walking surface and a diminished user experience, problems that would be difficult to remedy.

Alternative 3 offers solutions to the issues inherent to Alternative 2 by routing the trail away from the streambed. This approach minimizes long term impacts to water quality and stormwater damage to the trail itself, and it eliminates the dangerous walking conditions of Alternative 2. Like Alternative 1, this route would cause impacts to upland vegetation within the MHPA and require new trail construction. However, Alternative 3 offers a less diverse user experience and may therefore appeal to a smaller segment of the community than Alternative 1. For this reason, Alternative 3 is not recommended as the best alternative. It is, however, a very good backup selection if Alternative 1 becomes infeasible.

The discussion below provides detailed information and recommendations for Alternative 1. See Appendix A for similar descriptions of Alternatives 2 and 3.

Access Points

The southern trailhead for the recommended alignment (Alternative 1) begins at the end of an asphalt utility turn-around area just north of Northside Drive and just west of the sewer access path that extends down into the canyon. Basic trailhead signage and a kiosk are proposed, and small interpretive elements could potentially be added. The storm drain inlet that carries all runoff from Ruffin and Sandrock Canyons to the river lies directly adjacent to the proposed trailhead, offering an excellent opportunity for interpretive information focusing on water quality, watershed function, and the ecological connection between the canyons and the San Diego River. The trailhead is

wheelchair accessible. The trailhead would be located on an open space parcel owned by the Escala Master Association. An open space easement and a narrow public right-of-way is recorded on the parcel and may provide sufficient rights for a trailhead in this particular location. An alternative location in the same general vicinity (depicted in association with Alternative 2 on Figure 3.2) could also be suitable for the proposed trailhead if sufficient public access rights do not exist for the first trailhead location. Escala is a restricted-access gated community, and no public parking is available near the proposed southern trailhead. Trail access at this point will be restricted to users who approach the trail on foot or bicycle via the Friar's Road tunnel

and the Mission City Trail from Fenton Marketplace, those who approach from Serra Mesa or those who reside in Escala and neighboring developments and approach the public trail via the internal community pedestrian network.

Recommended design for the trailhead is based upon 1) the need to avoid conflict with stormwater and sewer maintenance activities at the mouth of the canyon, 2) potential nuisance factors for neighbors, and 3) visibility and aesthetic considerations from Northside Drive. The recommended design includes the following features:

- A standard informational kiosk (see Design Guidelines section) is recommended near the start of the trail.
- A pair of low rock cairns (see Design Guidelines section) is recommended at the start of the trail, reinforcing the visual consistency of the trail corridor.
- A watershed and stormwater themed interpretive panel is recommended near the start of the trail, in a position where the large storm drain inlet is visible.

The Northern Trailhead for the recommended alignment (Alternative 1) lies at the end of the Sandrock Road cul de sac. Parking is available for several cars within the turnaround and along Sandrock Road. Parking may be a nuisance to neighbors but is not expected to be heavily needed or used. The trailhead itself is located within City street Right Of Way (ROW). The adjacent property owner has voluntarily installed and maintained fairly extensive landscape improvements, including plantings along Sandrock Road, an entry arch, and plantings at the trail entry. A large flat area roughly 1 acre in size, also City ROW, is located beyond the initial trail entry and presents substantial opportunities for enhanced trailhead amenities. The entirety of the City ROW area is proposed as a wheelchair accessible space.


SAMBROOK ROAD
EXISTING SIDEWALK
ENTRY CAIRN
FLAT ROCK BENCH SEATING
NATIVE DISPLAY GARDEN
KIOSK AND GATHERING AREA
RESTORATION AREA

Recommended design for the trailhead is based upon 1) the park-like qualities of the space, 2) potential nuisance factors for neighbors, and 3) visibility and aesthetic considerations from Sandrock Road. The proposed design provides an enhanced experience beyond basic trailhead amenities, but avoids features that could generate substantial noise or unwanted activity. The recommended design includes the following features:

- An 8' wide improved trail with a class II road base surface is proposed from the end of Sandrock Road through the western edge of the trailhead area.
- The entry path from Sandrock Road is marked by a pair of cairns identifying the trail (see Design Guidelines section).
- Native landscape buffer plantings are proposed on the east and west edges of the space to minimize potential nuisance factors for neighboring properties and improve the aesthetics of the area.
- A native plant and water conservation demonstration garden is proposed in the northern portion of the flat R.O.W. area. The demonstration garden could illustrate fire-safe and water conserving solutions recommended for use on residential lots on canyon edges. The design should include class II gravel surfacing on paths and a well planned mix of groundcovers that require minimum weeding and maintenance. Basic plant identification information should be provided along with sources of additional information.
- The garden includes a central space that could host naturalist presentations or interpretive installations as well as a standard informational kiosk (see Design Guidelines section). The trail side of the kiosk should contain a trail map, trail rules, and similar information. The garden side of the kiosk should contain interpretive information and garden-related facts. Several large rectangular stone seats are proposed within the central space as well.

Community Connections

The recommended alignment (Alternative 1) provides a direct connection between Serra Mesa and Mission Valley through a diverse landscape. The southern end of the trail leaves the Ruffin Canyon natural area and connects to the Escala development, the Mission City Trail and Fenton Marketplace thereby creating the pedestrian corridor envisioned in community plans and reinforced in the specific area plan for eastern Mission Valley. There is no other feasible link between Serra Mesa and Mission Valley meeting the goals of the project other than the alignments that converge at the mouth of Ruffin Canyon.

The northern end of the trail provides a connection to the Serra Mesa business district one block further to the north. The Serra Mesa Recreation Center, Serra Mesa Library, and Taft Middle School are a short walk to the north and east. Though Alternatives 2 and 3 provide a more direct connection to those three facilities, the recommended alignment (Alternative 1) provides a better overall connection to the center of the community.

Trail Route

Sandrock and Ruffin canyons offer an expansive, natural canyon experience for trail users. The recommended alignment through Sandrock Canyon offers a more diverse trail experience than the other two alternatives, which both have a more immersive, rugged character along nearly their entire length. The lower segment (roughly half of the length) of the recommended alignment has the same sort of rugged, immersive natural character, which affords the user a sense of escape from urban development and a view of unaltered native habitats. The canyon is wider, deeper, and generally natural in the lower half, and the trail is located near the canyon floor. The upper segments have a more "urban transitional" character given that the upper end of the canyon is narrower, shallower,

and more disturbed, with residential lots closely bordering the canyon rim. The trail alignment in the upper segments follows the canyon rim closely. This portion of the Sandrock Canyon alternative provides significant advantages over the other alternatives with regard to the community's probable perception of the trail. Some trail users are anxious to escape the City to the greatest possible extent, and are comfortable being immersed in more rugged and remote surroundings. Others, however, are interested in open space experiences but are uncomfortable with perceived dangers of hiking directly into the depths of the canyon. For those users, the northern entry to Sandrock Canyon provides a far more comfortable experience that they may be more willing to explore. By the time a user reaches the point where the trail descends into the bottom of the canyon, they may have become comfortable enough to continue further, but even if they turn around at that point, they have had opportunity for a hike of meaningful length and expansive views of nature. More rugged users are likely to enjoy the upper segments less, but are still rewarded with over half the trail's length in a more rugged setting. Given that this mix of character may appeal to a much broader segment of the community, it is a major reason for recommendation of Alternative 1 as the preferred alternative.

The trail route recommended as Alternative 1 begins at the mouth of Ruffin Canyon and follows a mixture of existing trails, existing SDG&E access roads, and new trail segments to its northern terminus. Specific design information for each trail reach is presented in the following pages.

Reach 1: Lower Sandrock Entrance

New/Existing/Improved:	New Trail
Length:	2,042
Base Width:	4 ft
Trail Grade:	5-15%
Surfacing:	Native soil
Current Ownership:	Escala, City Open Space, SDG&E
ADA Accessibility:	Yes
Special Solutions:	None

Description: From the southern trailhead, Alternative 1 follows a new trail alignment that is deliberately placed on the canyon side-slope, near enough to the toe of the slope to minimize elevation gain and need for grading, but high enough to avoid the danger of being damaged by stormwater flows. The new trail continues through a mixture of disturbed, coastal sage scrub (CSS) and chaparral (CH) habitats, following natural topographic benches as much as possible, as it moves up Ruffin Canyon into Sandrock Canyon and to the existing SDG&E access road. The new trail segment would require creation of a trail bench near the toe of the slope. Preliminary investigation indicates this section of trail could be made wheelchair accessible. See the Design Guidelines section for a typical cross-section.

Reach 2: Sandrock Canyon Bottom Trail

New/Existing/Improved:	Existing
Length:	916
Base Width:	8-10 ft
Trail Grade:	3-5% typical
Surfacing:	Native soil
Current Ownership:	SDG&E
ADA Accessibility:	Potential
Special Solutions:	None

Description: Alternative 1 then follows the SDG&E access road (discussed as "Sandrock Canyon Bottom Trail in Section 2) for several hundred feet. This portion of the access road is high enough to remain undamaged by stormwater under typical conditions and is an excellent trail surface that would require little to no improvement. One potential problem area exists where a side drainage crosses the road to join Sandrock Canyon. In most years, this drainage crossing is stable; however, during heavier rainfall years, this crossing may require significant maintenance to repair damage from stormwater flows. This segment could also potentially be wheelchair accessible, though the road surface contains enough scattered rock to make wheelchair passage challenging and one short segment of road (approximately 20-30') may require regrading to meet acceptable grades

Reach 3: Chauncey Drive Foot Trail

New/Existing/Improved:	Improved
Length:	419 ft
Base Width:	6 ft
Trail Grade:	5-15%
Surfacing:	Native soil
Current Ownership:	SDG&E
ADA Accessibility:	No
Special Solutions:	None

Description: The SDG&E road reach of the trail continues until it reaches the second side drainage, where the proposed alignment turns on to an existing trail into a small side canyon. The existing trail lies on a bench in the slope and needs little to no improvement, though the turnoff from the SDDG&E access road would need to be well-signed.

Reach 4: Canyon Rim Connection

New/Existing/Improved:	New
Length:	497
Base Width:	4 ft
Trail Grade:	5-15%
Surfacing:	Native soil
Current Ownership:	SDG&E
ADA Accessibility:	No
Special Solutions:	Puncheon bridge

Description: In order to make a connection with the remainder of the Alternative 1 alignment along the rim of the canyon, a new trail is proposed that ascends the canyon walls through the small side canyon. The new trail would require a bench cut into the slope as it ascends contours to the rim. It would also require a small puncheon bridge where it crosses the canyon bottom. Side slopes are very steep, and the new trail segment will require careful layout to establish appropriate trail gradients and bench stability. See the Design Guidelines section for a typical cross-section.

Reach 5: Canyon Rim

New/Existing/Improved:	Improved
Length:	405 ft
Base Width:	4 ft
Trail Grade:	2-8%
Surfacing:	Native soil
Current Ownership:	SDG&E and City open space
ADA Accessibility:	No
Special Solutions:	None

Description: Alternative 1 continues north along existing trails on the canyon rim all the way to the northern terminus of Sandrock Canyon. The first third of this segment follows existing dirt trails that require minimal improvement. The exception is a point at the northern edge of the SDG&E property that is experiencing significant hillslope erosion and has washed out the trail. The proposed project includes the repair of this eroding slope. The washed out section of trail will require minor earthwork to rebuild the trail bench and protect it from further erosion. Minor regrading of the trail tread or installation of rock steps may be necessary along short sections of this reach to correct drainage and erosion issues

Reach 6: Brow Ditches

New/Existing/Improved:	Improved
Length:	2,170
Base Width:	4 ft
Trail Grade:	2-20%
Surfacing:	Class II
Current Ownership:	City Open Space
ADA Accessibility:	Yes
Special Solutions:	Brow ditches

Description: The second third of this last trail segment follows an existing concrete drainage ditch. The ditch makes an excellent trail base and is in good shape except for one point of failure that will need repair. Some proactive maintenance work, such as small rock walls supporting the downhill edge of the ditch, is proposed at a few points to prevent future failures. The cross-section of the ditch is concave and thus not an ideal trail surface. The solution would allow for continued function of the ditch for drainage purposes, while providing a stable all-weather trail surface that is wheelchair accessible. See the Design Guidelines section for a typical cross-section

Reach 7: Northern Trailhead

New/Existing/Improved:	Improved
Length:	864 ft
Base Width:	8 ft
Trail Grade:	2-10%
Surfacing:	Native soil, Class II
Current Ownership:	City Open Space and R.O.W.
ADA Accessibility:	Partial
Special Solutions:	

Description: The upper third of this last segment, beginning near Kobe Way, returns to an existing dirt trail that is generally in very good condition and would need little to no improvement for hikers or bikers. Roughly 100' of slope is currently too steep for wheelchair access and would need substantial regrading and/or rerouting to meet standards, which is likely to cause increased biological impacts. That change is not currently recommended. As proposed, this short steep slope will require minor improvements and may require the installation of rock steps to help control erosion. The trail crosses from City-owned open space to City R.O.W. just north of Kobe Way as it ascends to the flat trailhead area discussed earlier. Portions of the trail located on the flat upper bench may require creation of a slightly raised class II road base surface to avoid ponding of water and muddy conditions during the rainy season

Restoration Program

The lower portions of Sandrock Canyon are in a more natural condition than the upper portion. Though restoration opportunities exist, they are relatively subtle. The upper portion of the canyon, however, is heavily impacted by invasive exotic species and offers excellent restoration opportunities. The following restoration projects are recommended in Sandrock Canyon:

- A badly eroding hillside is present on the northern edge of the SDG&E parcel. Restoration of this area would be highly beneficial to water quality, habitat quality, and trail stability. Intensive erosion control treatments and Coastal sage scrub habitat restoration are recommended.

- The majority of the length of the drainage in the City open space parcel at the top of the canyon is dominated by fan palm (*Washingtonia robusta*), pepper tree (*Schinus terebinthifolia*), and other exotic species. Willows (*Salix spp.*), mulefat (*Baccharis salicifolia*), and other wetland species are present, which indicates appropriate hydrology for riparian restoration. Much of the upland slopes adjacent to the drainage are dominated by iceplant and could be restored to coastal sage scrub or chaparral habitats. Elimination of this large source of exotic species in the upper reaches of the drainage would eliminate a major long-term threat to downstream degradation of natural habitats in the MHPA and the San Diego River corridor. However the scale and focus of the actions needs to be determined after detailed mapping of existing invasive populations is complete. Preliminary mapping indicates a minimum of 1.94 acres of restoration area available. Depending on the extent of upland restoration possible, this estimate could double. Because the area is within the MHPA and within the same canyon as proposed trail impacts to native habitats, it is probable that a portion of the proposed restoration work could be used to fulfill the required habitat mitigation for the project. Additional restoration acreage is available on City open space within the Ruffin Canyon arm if more restoration work is desired.

Proposed restoration work must be closely coordinated with the City Open Space Division. Any proposed mitigation must be approved through the City's discretionary permit and CEQA process and cannot be located on top of underground City sewer infrastructure or within necessary access corridors to such infrastructure.

3.5 Segment C: Mission Valley Urban Trail

The Mission Valley Segment of the project is substantially different in nature from the canyon segments. It traverses a densely urbanized portion of the valley and requires a new bridge crossing of the San Diego River to make the final critical connection for the overall trail route. Much of the proposed trail alignment currently exists and requires only wayfinding features to fully meet the goals of the Tributary Canyons Project.

Because portions of the Mission Valley urban trail already exist while other portions require a more in-depth planning process before a preferred solution can be selected, this section provides a lower level of detail than is provided for the canyon segments. Each reach of the Mission Valley urban trail is considered separately.

Mission City Trail

The Mission City Trail was first identified as a planned element in the Mission City Specific Plan to provide a continuous pedestrian route from Ruffin Canyon open space, through residential and commercial developments, to the MTS trolley station beside the San Diego River. The Mission City Trail was implemented as part of the Escala residential community and Fenton Marketplace shopping center. With the opening of the pedestrian tunnel under Friar's road in 2009, the vision of the Mission City Trail was complete. It is a tremendous asset to the community, providing for a safe, pleasant, and wheelchair-accessible route to a variety of destinations, including the pedestrian-oriented shops in Fenton Marketplace, Ruffin Canyon open space, and the Fenton Parkway trolley station.

No changes or improvements are recommended for the existing trail alignment, width, or surfacing. However, additional wayfinding elements are proposed for the Mission City Trail to help create a single identity with the proposed canyon trails and to assist navigation of the trail for new users. The wayfinding elements should be visually compatible with the existing features of Escala and Fenton Marketplace and should be both prominent enough to be noticed by those who are looking for them and subtle enough to go unnoticed by those who are not. The following wayfinding elements are proposed:

- Cairns: Low, arts and crafts themed rock cairns are proposed at key locations along the alignment of the proposed Tributary Canyons Project trail (See Design Guidelines section for details). Cairns are recommended at the locations depicted on Figure 3.3, typically placed in pairs, one on either side of the trail.

- Sidewalk Plaques: The wayfinding cairns are proposed to include a bronze plaque identifying the proposed trail mounted on one or more sides. Figure 3.3 indicates locations where these same plaques are recommended to be embedded in existing sidewalks as wayfinding elements.

- Trail Maps: Maps are recommended at key locations, illustrating the trail route through Fenton Marketplace and Escala to the connecting trail segments as well as the pedestrian points of interest within the Mission City Specific Plan area. Maps are recommended at the Ruffin Canyon trailhead, the tunnel under Friar's Road, and at the Fenton Parkway trolley station. The top surface of the cairns could provide a unique opportunity for displaying a wayfinding map.

Access Points

As an urban trail highly integrated with its adjacent land uses, the Mission City Trail reach of the proposed trail network can be accessed at numerous points along its length. No improved or additional access points are necessary.

Community Connections

Mission Valley is a major hub of activity and transportation connections. The Mission City Trail helps form the epicenter of pedestrian-friendly development in this part of Mission Valley. It provides

a major existing portion of the proposed Tributary Canyons Project trail network, with existing connections between the Fenton Parkway trolley station, the San Diego River Trail, the Mission Valley Library, Fenton Marketplace, the Escala community and neighboring residential areas, and Ruffin Canyon.

Real Estate Issues

The Mission City Trail lies nearly entirely on privately owned property, with small portions crossing street or trolley right-of-way. Due to the forward planning of the Mission City Specific Plan, public access was granted to the Mission City Trail by the conditions of approval for the Escala development and the commercial nature of Fenton Marketplace.

South Valley Trail

As a point of convenience, this study refers to the portion of the Tributary Canyons Project trail route that lies between the south edge of the San Diego River corridor and the mouth of Ellison Canyon as the "South Valley Trail". It is a simple, but critical link in the overall project alignment in that it provides an existing pedestrian crossing of I-8 that avoids complex and dangerous freeway interchanges. Existing sidewalk stretches from Camino Del Rio South to the north end of the bridge over I-8. New sidewalk/trail is proposed along the remaining length of the reach to provide a continuous improved trail from Ellison Canyon to the San Diego River.

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING + PLANNING + LANDSCAPE ARCHITECTURE

MISSION VALLEY CONCEPT PLAN
COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 400
SCALE IN FEET

FIGURE
3.3

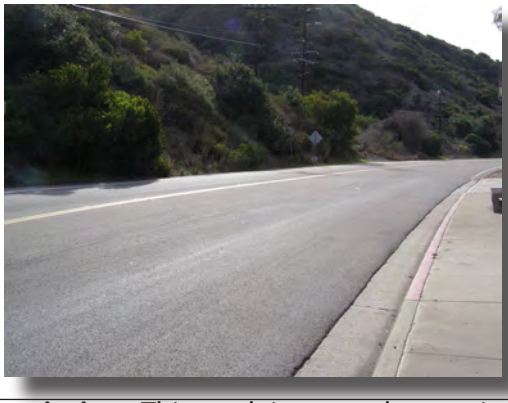
Date: 03/17/10 Drawn by: CMR

Reach 1: Mission City Parkway

Length:	634 ft
Base Width:	8 ft
Trail Grade:	5-8%
Surfacing:	Concrete
Current Ownership:	Street R.O.W. and City land
ADA Accessibility:	Yes
Special Solutions:	None

Description: Ample room is available for construction of a trail within the street right-of-way along Mission City Parkway, from the intersection with Camino Del Rio North to the existing sidewalk that ends at the north edge of the I-8 bridge. The recommended approach, however, is to provide a landscaped buffer between the roadway and the trail by meandering the trail further to the east into the parcel owned by the City's Public Utilities Department. The parcel is included in an upland habitat restoration project installed by the City's former Metropolitan Wastewater Department. More information is needed about the status of the restoration project to evaluate the implications of using it for a trail corridor; however, doing so would provide a substantially improved trail, from both aesthetic and safety perspectives. Any area left between the trail and the road edge is recommended to be replanted with native upland species. The proposed design for this reach, including proposed wayfinding elements, is depicted below.

Reach 2: Camino Del Rio South



Length:	417 ft
Base Width:	8 ft
Trail Grade:	2% avg.
Surfacing:	Class II
Current Ownership:	Street R.O.W.
ADA Accessibility:	Yes
Special Solutions:	None

Description: This reach is currently an unimproved road shoulder with approximately 15 feet between the outer road lane striping and the base of the steep slope that forms the south wall of Mission Valley. The proposed design for the trail is depicted below. It includes installation of curb and gutter to help separate pedestrian space from vehicular space. Additional safety measures such as pedestrian bollards or guardrail may be advisable. Any additional safety measures should be designed to preserve and enhance the aesthetics of the area. The wooden guardrails used in the Highway 163 corridor near Balboa Park are an excellent example of aesthetically appropriate safety barriers.

Access Points

Pedestrian traffic could access the proposed trail along the South Valley Trail segment at both Camino Del Rio North and Camino Del Rio South via the existing City sidewalk system.

Community Connections

The most important connection created by construction of this segment of trail is between the numerous office buildings that line Camino Del Rio South and the recommended pedestrian bridge crossing the San Diego River. The combination of the pedestrian bridge and the South Valley Trail would provide safe and efficient pedestrian access from the office buildings to the Fenton Parkway trolley station, Fenton Marketplace, and other destinations north of the river. See the San Diego River Crossing discussion later in this section for further evaluation of the pedestrian bridge.

Real Estate Issues

The entire length of the South Valley Trail can be implemented within existing street right-of-way; however, the proposed alignment for Reach 1 extends into the parcel owned by the City of San Diego's Public Utilities Department.

San Diego River Crossing

The final segment of the Tributary Canyons Project trail is the crossing of the San Diego River. Though all segments of the proposed trail are extremely important to the overall vision, the river crossing is the most critical connection to be made. The "Why Here?" section of Section 1 outlines the reasons why the proposed trail route offers such a unique and compelling opportunity for a cross-valley trail, and the San Diego River crossing is literally and figuratively at the heart of the project. The critical mass of recreational, commercial, office, and residential uses in the area are waiting for the final connection to tie it all together, and that connection is envisioned by this study as a pedestrian and bicycle bridge (herein referred to as a "footbridge") and associated plaza/park space in the vicinity of Fenton Parkway.

Those even casually familiar with Mission Valley know it as a place that is, overall, very unfriendly to pedestrian traffic. The trolley line and forward-thinking projects like Fenton Marketplace and the Mission City Trail are valuable improvements to the pedestrian network in the Valley; however, major barriers still exist that preclude full realization of the benefits of these amenities. The lack of a pedestrian and bicycle crossing of the San Diego River in this area is one such barrier. By some estimates, approximately 10,000 workers occupy the office buildings located on the south side of the river (between I-15 and I-805) which are within easy walking distance of the Fenton Parkway trolley station and Fenton Marketplace… if there was a way to cross the river. Though many of them are within shouting distance, it is currently functionally impossible for those workers to use the trolley system for their commute, or to walk to Fenton Marketplace for food or shopping. The proposed bridge would dramatically change the options available to workers south of the river.

The footbridge carries an equivalent importance for the larger vision of the Tributary Canyons Project, as it provides the final link allowing uninterrupted trail connections between the three communities in the study area.

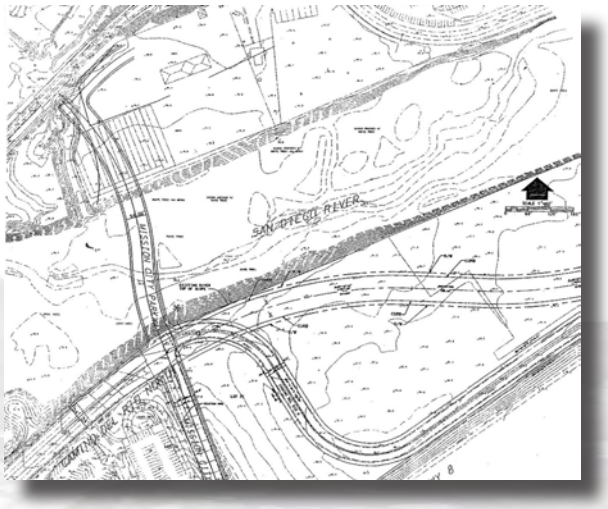
The remainder of this section outlines several alternative solutions for the footbridge and the plaza/park space envisioned for the north bank of the river, along with proposed elements for integrating the project with the San Diego River Trail and trolley system.

Background

As important as the river crossing is to the pedestrian network and the proposed trail, it is also the most difficult component of the project to develop and the most expensive element to implement. The difficulty centers on three main issues:

1) **Environmental Sensitivity:** The San Diego River, and its associated riparian corridor and floodway, are highly sensitive and highly protected resources. The river corridor in this area is in the City's Multi-Habitat Planning Area, contains high quality mature riparian habitat, and is a known nesting location for the federally endangered least Bell's vireo. Impacts from constructing the bridge, or shading, noise, lighting, or similar indirect impacts caused by the bridge would be major issues requiring intensive study and specialized design solutions. Acquiring permits from the USACE, CDFG, RWQCB, and City of San Diego will require equally intensive work.

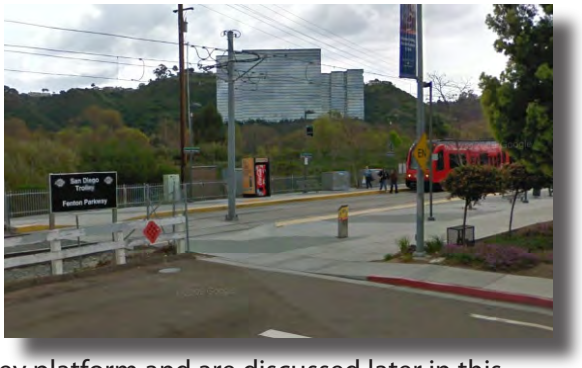
2) **Vehicular Bridge Plans:** The 1985 Mission Valley Community Plan and its subsequent amendments call for a vehicular bridge connecting Fenton Parkway to Mission City Parkway over the river. A two-lane bridge was proposed by the City in 2002, but was the subject of controversy among various stakeholders and was ultimately not approved by City Council. It is unclear at this point when the vehicular bridge proposal may be revived, however, sentiments among stakeholders are likely to be gauged in an update of the Mission Valley Community Plan now underway.



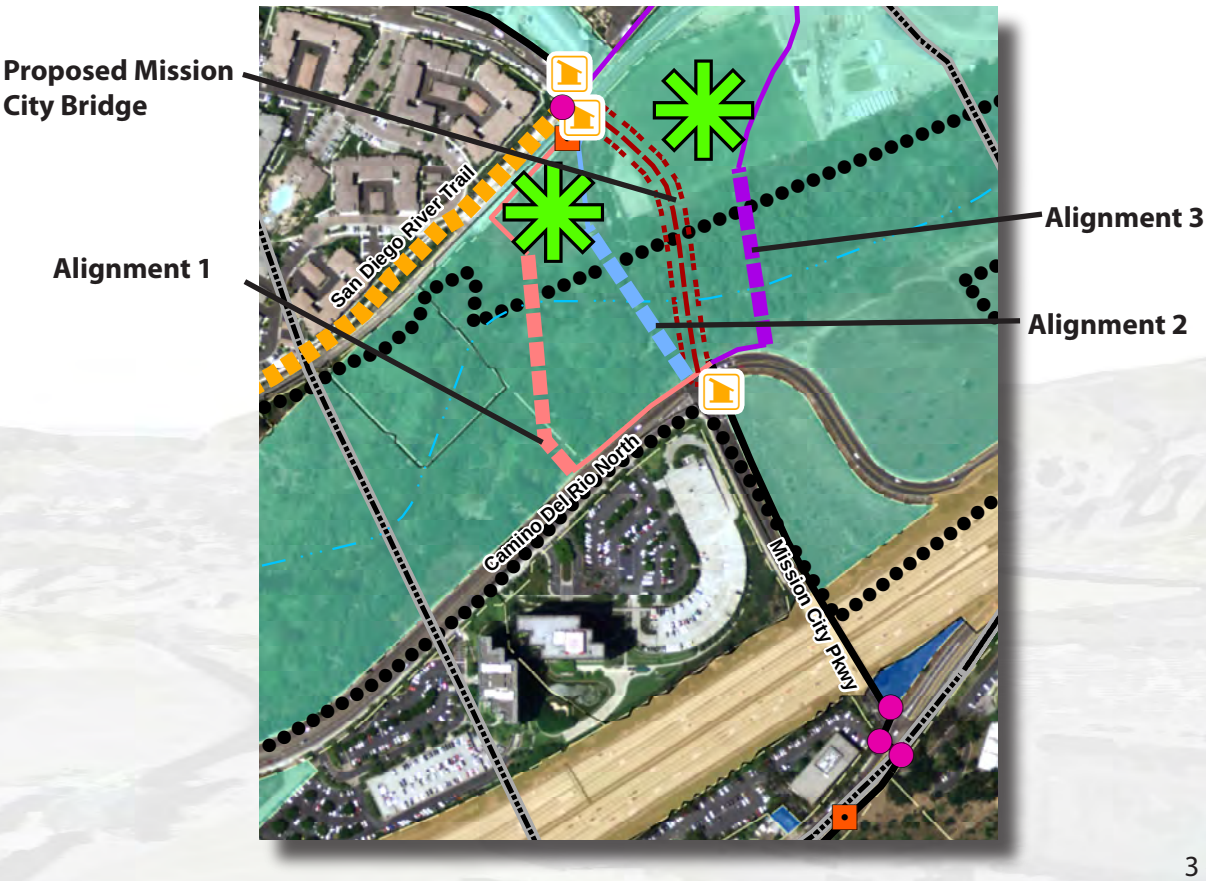
The ultimate fate of the vehicular bridge is interwoven with any proposal for a footbridge in the area. Some supporters of the vehicular bridge are also generally supportive of a footbridge, as long as it does not preclude the possibility of constructing the vehicular bridge. However, environmental stakeholder groups and the state and federal resource agencies from whom permits must be obtained are opposed to a vehicular bridge and would be even more opposed to both a vehicular and a footbridge because of impacts to the river corridor.

Furthermore, the CEQA process requires the analysis of cumulative impacts, and it is likely that the cumulative analysis of biological impacts will force a decision between either a pedestrian/bicycle only bridge or a combination vehicular/pedestrian/bicycle bridge. Finally, when users of the proposed trail are faced with the decision of whether to continue in a straight line across a vehicular bridge or go out of their way to use a footbridge sited to one side or another, they are likely to choose the more direct route, leaving the footbridge as an under-used facility. Three alternative alignments for a footbridge are presented later in this section.

3) **At-Grade Trolley Crossing**: The MTS trolley tracks lie just north of the river, and the proposed trail would have to cross the tracks shortly after crossing the river. The tracks lie within public right-of-way controlled by the San Diego Metropolitan Transit System (SDMTS) and the Public Utilities Commission (PUC), and an at-grade crossing of the tracks would require approval from these groups. Though at-grade pedestrian crossings are generally discouraged, examples exist in the City and elsewhere. Options exist for routing the trail under the trolle tracks either to the east or west of the trolley platform and are discussed later in this section These options, however, would diminish user experience and present potentially serious concerns regarding trail routing overall. These concerns (which include significantly in reased trail length, and circuitous routing that passes through maintenance yards and the back side of Ikea) may reduce use of the trail, particularly for office workers on the south side of the river trying to reach the trolley station or shopping destinations in Fenton Marketplace.



Because of the magnitude of these three issues, this study recommends the initiation of a separate planning effort fo used exclusively on the San Diego River crossing. The primary alternatives are discussed in the remainder of this section, along with example designs for bridge and plaza elements; however, no preferred alignmen s r designs are recommended at this time.



Alternative Alignments Evaluation

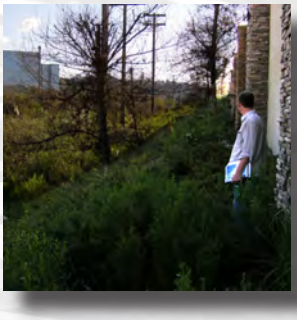
There are three general options for siting a footbridge over the San Diego River. Although numerous variations of these three basic options are possible, the options shown effectively illustrate the advantages and disadvantages of each.

- **Option 1** extends from the intersection of Mission City Parkway and Camino Del Rio North to a plaza/park space envisioned between the riparian zone and the trolley station, (example designs provided later in this section). This bridge option is directly in line with the recommended trail alignment for the Tributary Canyons Project and is the most desirable of the three options for the purposes of the project. However, it is likely to preclude the possibility of a vehicular bridge.

  The most efficient and logical crossing of the trolley tracks would be to use the existing pedestrian crossing at the east end of the Fenton Parkway station. However, it may be possible to avoid an at-grade crossing by routing the trail around the west end of the trolley station platform and under the tracks where they transition back into an elevated platform. Either route is reasonable from a trail alignment perspective and both would connect directly to the existing River Trail.

- **Option 2** crosses the river to the west of Option 1 and connects to the same potential plaza/park space next to the trolley platform on the north side of the river. This option avoids conflicts with a vehicular bridge alignment and provides a reasonably direct route for users of the proposed trail. Options for an at-grade crossing or under-crossing of the trolley tracks are identical to Option 1.

- **Option 3** crosses the river to the east of Option 1. Its southern terminus would ideally be placed far enough east to avoid the vehicular bridge footprint and far enough west to avoid encroaching on the wetland mitigation area implemented by the former Metropolitan Wastewater Department. The northern bridge terminus would connect to the "practice field site", which is envisioned to be a park space in the future. This option would also avoid conflicts with a vehicular bridge. The trail route associated with this option could potentially continue through the park directly toward Fenton Parkway and reconnect with the rest of the project alignment. That route would be a reasonably direct route for users of the



proposed canyon trail, but it would require an at-grade crossing of the trolley tracks. To avoid an at-grade crossing, the trail route would have to continue to the northeast through a City maintenance yard, under the trolley tracks, through a trash and recycling equipment yard for the stadium, past the garage/shop currently used by Race Legal, past a fenced utility area (presumably a power station for the trolley), and through a remnant vegetated area between the trolley tracks and the back of Ikea to ultimately reconnect with the main canyon trail alignment. Without a major reconfiguration of the maintenance/industrial uses along the route, this alignment would be unpleasant and potentially dangerous. If the area were redesigned as a landscaped park or trail corridor, the experience could be dramatically improved; however, the significantly increased trail length and circuitous routing may still reduce use of the trail, particularly for office workers on the south side of the river trying to reach the trolley station or Fenton Marketplace.

Further investigation of the at-grade crossing issue and the potential conflict between vehicular and pedestrian bridges is necessary to determine the most appropriate solutions for the San Diego River crossing.

Bridge Concept Designs

The alignment and design possibilities for a footbridge are virtually infinite. Design options range from the very traditional to highly artistic signature structures that would lend an iconic identity to the area. The potential cost range is equally large. Frieder Seible, Dean of the Jacobs School oj Engineering at UCSD, and Gernot Komar of David Evans and Associates provided the San Diego River Conservancy with a range of possible footbridge concepts at a September 2009 Conservancy Board meeting. Each illustrates use of a different structural approach that could be applied to the site. Their designs are illustrated below, with the associated preliminary cost estimates. Additional designs are possible, including a straight (as opposed to three-legged) cable-stay bridge.


STRESS RIBBON BRIDGE
Estimated Construction Cost
$5.3 Million (at $700/sqft)


EXTRADOSED BRIDGE
Estimated Construction Cost
$5.3 Million (at $700/sqft)


ROUNDABOUT BRIDGE
Estimated Construction Cost
$6.6 Million (at $400/sqft)


CABLE STAY BRIDGE
Estimated Construction Cost
$8.8 Million for 3-armed design (at $700/sqft)
$5.8 Million for straight design (at $700/sqft)

The design of the bridge will be driven by several key factors:

• Biological Resources: the bridge will pass through high quality native riparian habitats known to host nesting least Bell's vireo. Designs that maximize the deck height above habitat, minimize deck width, minimize the number of piers needed, and minimize lighting impacts to habitats below will have less biological impacts and will be easier to permit.

• Aesthetics: traditional utilitarian designs vs. iconic designs that contribute in a large way to the urban structure.

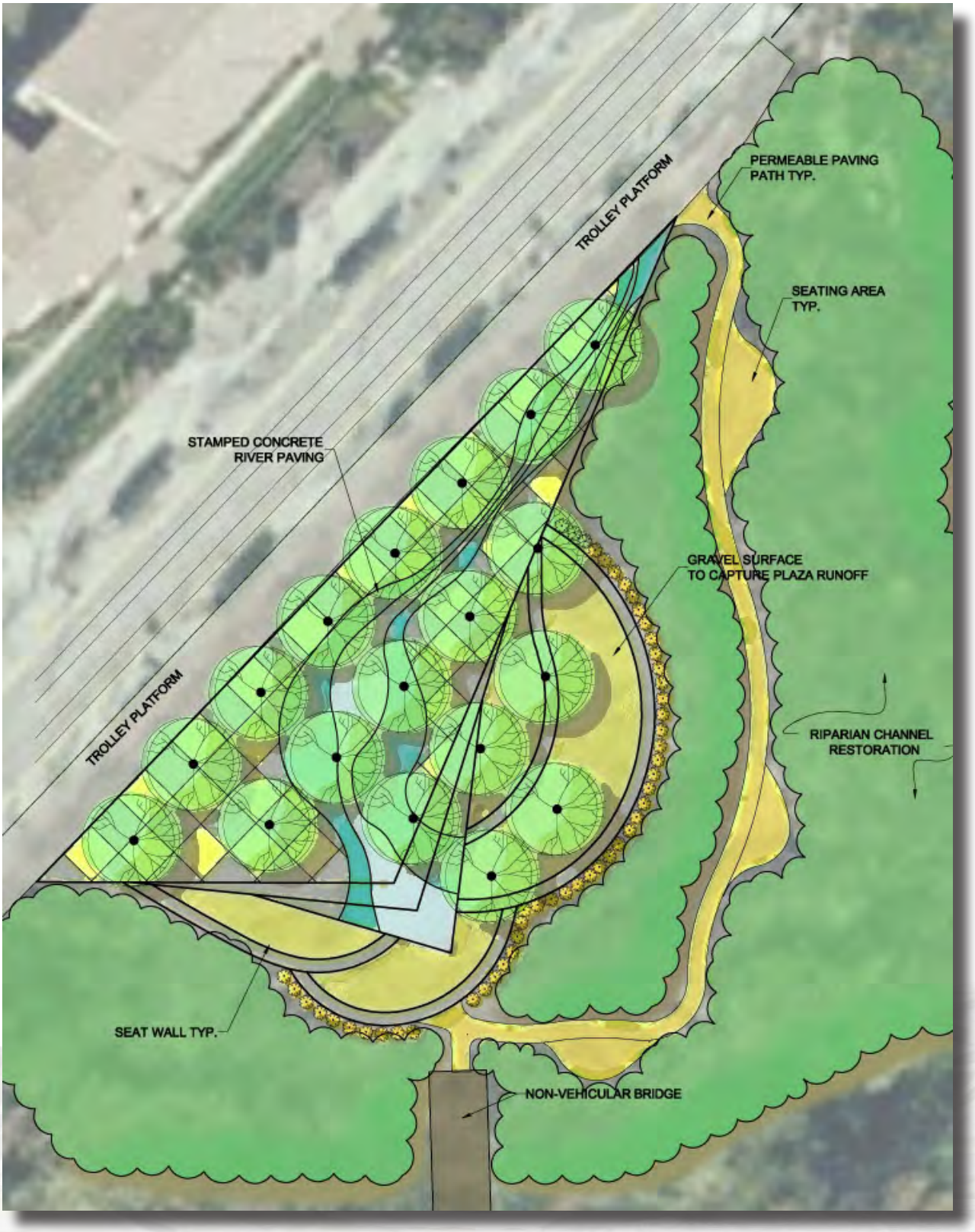
• Cost: specialized designs that minimize biological impacts (such as the cable-stay bridge that requires just one pier within the riparian zone) or designs that are highly artistic typically increase costs.

More detailed exploration of bridge designs, stakeholder preferences, environmental issues, and costs is necessary before a proposed bridge design can be recommended.

Plazas

Two areas on the north side of the river lend themselves well to the creation of a plaza or park space associated with the footbridge over the river. As with bridge designs, the possible design solutions for these areas is virtually limitless. The San Diego River Park Concept Plan (2002), prepared for the San Diego River Park Foundation includes a conceptual design for a park at the practice field site. The design assumes the construction of a vehicular bridge connecting Mission City Parkway and Fenton Parkway. An adaptation of that design is included below. Two additional designs are included in this study for the area between the Fenton Parkway trolley station and the riparian zone of the river. Each represents a different possible approach to the spaces

- **Option 1** is an example of a highly natural and subdued space. The riparian habitat associated with the Ruffin Canyon storm drain outfall would be expanded, and the majority of the site would be planted in demonstration gardens showcasing natural habitats found in the nearby canyons. A single central seating area provides a space for quiet contemplation, eating lunch, nature watching, and similar activities. The space could also function as an amphitheatre for naturalist groups or outdoor classroom events. Materials used should exemplify green building practices, including use of recycled materials and porous paving. Interpretive installations might provide information on green building practices, waterwise landscaping, low-impact development (LID) practices, habitat restoration, and the river's natural resources. The hydrological connection to Ruffin Canyon provided by the storm drain outlet creates an excellent opportunity to highlight watershed and water quality issues.


PERMEABLE PAVING
PATH TYP.
TROLLEY PLATFORM
SEATING AREA
TYP.
STAMPED CONCRETE
RIVER PAVING
GRAVEL SURFACE
TO CAPTURE PLAZA RUNOFF
TROLLEY PLATFORM
RIPARIAN CHANNEL
RESTORATION
SEAT WALL TYP.
NON-VEHICULAR BRIDGE

- **Option 2** is an example of a more urban and artistic space that is fully integrated with the existing trolley platform. The design concentrates the most intensive use areas nearer the trolley platform, with the character of the space becoming more natural as it approaches the riparian zone. Numerous grade changes provide a variety of sub-spaces that could accommodate a large group, several smaller groups, or scattered individuals as they wait for the trolley, read a book, eat lunch, or observe nature. Green building and LID practices should be applied throughout the design, with interpretive installations similar to those described for Option 1.

- **Option 3** is an adaptation of the design for the practice field area that was included in the San Diego River Park Concept Plan. The design stresses native plantings and includes a network of pedestrian paths, a small turf area, and an amphitheatre. It's a larger space that provides opportunity for a wider range of activities, but it focuses on an environmentally sensitive and relatively quiet park space.

Any proposed activity center, such as plazas or parks, next to the riparian zone will raise important questions about the potential indirect impacts (noise, human presence, lighting, drainage, etc.) to wildlife and habitat within the riparian area. Such concerns are likely to shape the character and intensity of proposed uses.

Because significant issues regarding the bridge alignment, stakeholder preferences, and potential biological impacts remain to be solved, further investigation of these issues and further design exploration is recommended for the plaza/park areas, to be conducted as an integral component of the bridge planning effort.

Real Estate Issues

All potential bridge alignments and plaza/park spaces are located on property owned by various departments in the City. Trolley right-of-way issues must be coordinated with MTS and the PUC.

3.6 Design Guidelines/Standards

Several existing planning documents provide relevant and appropriate design guidelines for the proposed Tributary Canyons Project. This section summarizes that guidance and provides examples of important design details proposed for the project.

Existing Guidelines and Standards

The proposed trail is intended to comply with all relevant standards and guidelines to the greatest possible extent. The main existing guidelines and standards are provided by the following documents:

- The San Diego River Park Concept Plan includes a variety of recommendations, including:
    - Maintain and improve the natural aesthetics of the river corridor.
    - Use only native species for landscaping within the River Park.
    - Provide security, fencing and other features to be unobtrusive and blend with the landscape.
    - Use benches and design elements that reflect the character of the River Park, using natural materials as much as possible.
    - Kiosk and signage design should be consistent and blend with natural surroundings.
    - Use a consistent distinctive logo to create a visual identity.
    - Design interpretive signage and themes to be focused, easily understood, and compelling, with consistent visual styles.
    - Use solar lighting and limit lighting in habitat areas.
    - Design amphitheatres and similar elements for flexible use, with designs that reflect the river and the natural environment.
    - Material, form, and color suggestions are provided as well (see inset box at right)

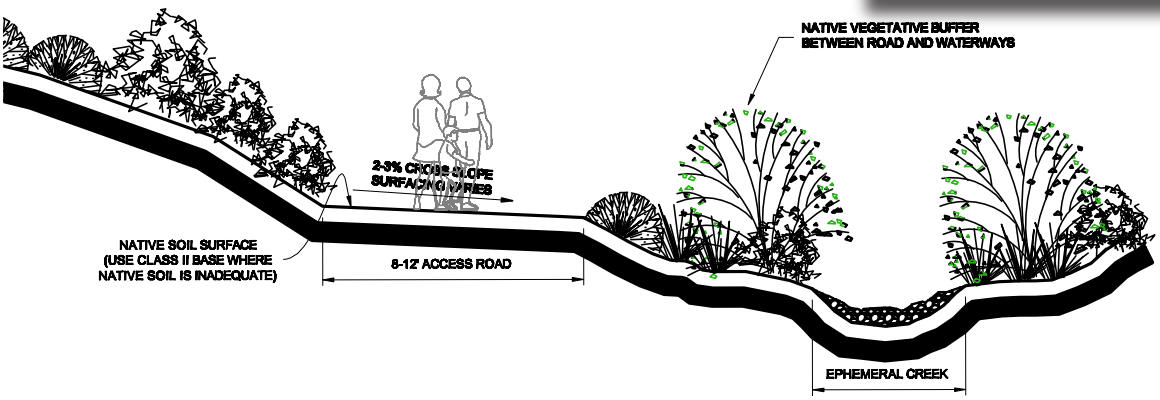
- The Draft San Diego River Park Master Plan includes detailed standards for trail widths, surfacing, benches, signage, kiosks, lighting, plants, and maintenance (see Section V of the plan for details). Specific examples relevant to the Tributary Canyons Project include:
    - Recommends compliance with existing City standards
    - Connecting Multi-Use Paths should be 8' wide minimum
    - Hike/Bike Trails should be gravel surfaced and should conform to the landscape for minimal impacts and grading.
    - Sustainable materials are encouraged.
    - Native plants should be used for planting areas.
    - The standard City Park and Rec Department kiosk design should be used.
- The City of San Diego Trail Standards provides grade, width, surfacing, and signage guidelines for trails, including Barrier Free Trail Design standards. However, it notes flexibility in the standards when conditions warrant deviations.
- The City of San Diego MSCP Subarea Plan identifies public access and trails as an allowable use within the MHPA, but provides a variety of Priority 1 Management Directives in Section 1.5.2. Directives include:
    - Providing signage, barriers, and access limitations to keep public access only in approved areas.
    - Locating trails in the least sensitive areas of the MHPA – along edges of urban land or on existing dirt roads as much as possible.
    - Avoiding paving of trails, but providing regular monitoring and maintenance to control erosion.
    - Minimizing trail widths (4' or less except where safety or disabled access requires more), and installing trail fences to protect sensitive resources.
    - Limiting recreational uses to passive uses and requiring pets to be on leashes.

The intention of the Tributary Canyons Project is to follow the guidelines and standards outlined in the above documents. That intention is embodied in the project specific guidelines outlined at the end of each issue area discussion in Section 2 and the overall project goals presented in Section 1.

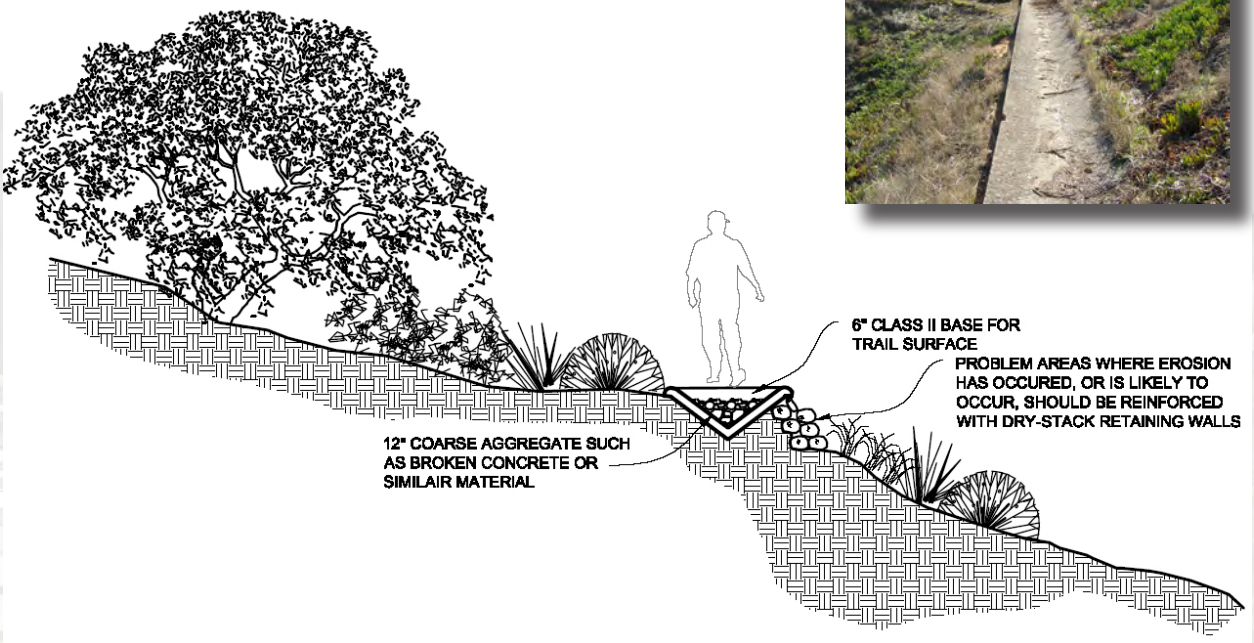
Typical Trail Cross-Sections

The proposed trail includes a wide variety of trail types, from narrow unpaved canyon trails to wide, paved urban pathways. Typical cross-sections proposed for various types of trails along the route are illustrated below.

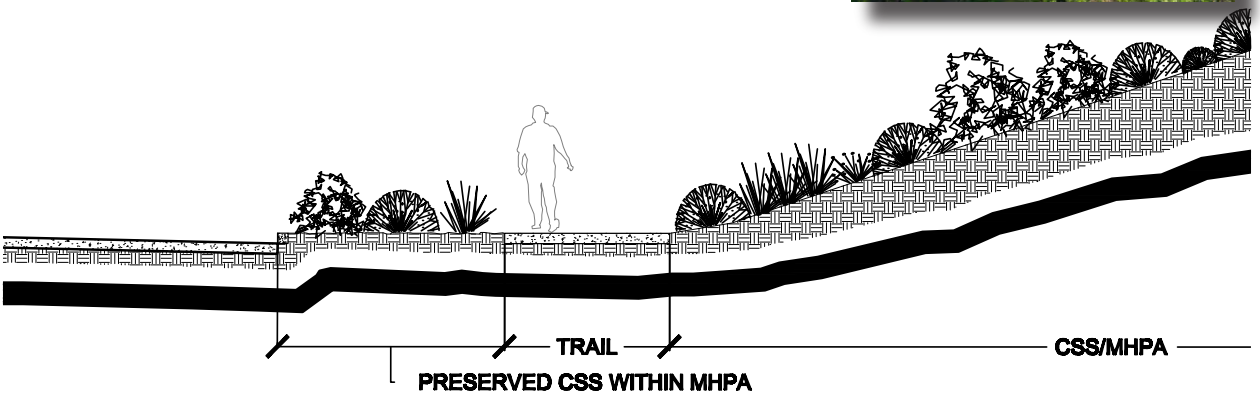
SDG&E Access Roads: The majority of the proposed route in Ellison Canyon, and a portion of the proposed route in Sandrock Canyon follow existing SDG&E access roads. These roads are proposed for use as-is, with the exception of changes necessary to minimize erosion (e.g. changing an insloped road to an outsloped road, or creating rolling dips).



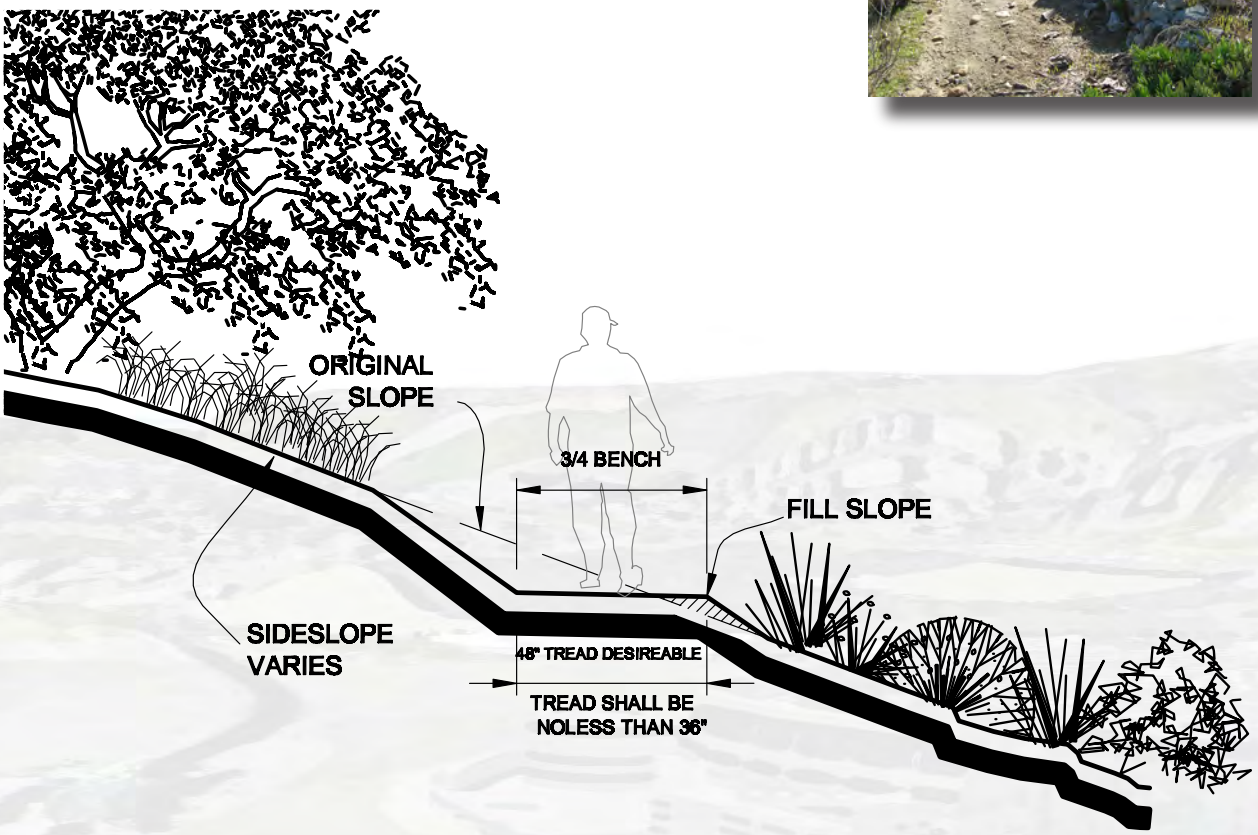
Brow-Ditch Trails: Approximately 2,561 feet of proposed trail in Sandrock Canyon follow existing concrete drainage ditches. The ditches are ideally suited for trail use, but require some repairs and improvements to provide an appropriate tread surface. The proposed solution, illustrated at right, provides for continued drainage function while creating a flat trail tread. The downhill edge of portions of the brow ditches has experienced soil loss, leaving the concrete partially unsupported. The proposed solution includes repacking soil and/or rocks under the edge of the concrete ditches to provide structural stability and prevent further erosion.



Paved Trails: New trails proposed in the South Valley Trail portion of the project are proposed as 8' wide paved (or Class II road base) trails. These trails lie within street R.O.W. and are generally expected to be ADA compliant.



Typical Canyon Foot Trail: Portions of trail located within canyons that do not fall into one of the previous categories are generally proposed as 4' wide unpaved trails that conform closely to existing topography. Portions of these trails may be surfaced with a Class II base for increased footing stability or erosion protection.



Wayfinding Elements

Wayfinding elements proposed for the project include signage, kiosks, cairns, and embedded paques. See project maps for proposed placement of wayfinding elements.

Signage: Basic directional, educational, and regulatory signage will be necessary at trailheads and key points along the trail. Signage should follow existing standards, follow a theme consistent with other San Diego River Park signage, and be aesthetically compatible with its context.

Kiosks: The standard Park and Recreation Department kiosks are proposed for use on the trail.

Cairns: Low, arts and crafts styled cairns are proposed as a major wayfinding element and visual identifier for the canyon trail. The cairns are similar in style to those used along the Mission City Trail in Escala. They are proposed as visual cues at trailheads and key turns in the trail route. A bronze plaque identifying the canyon trail and basic directional cues is proposed for mounting on the sides of the cairn. The top surface of the cairn could be used to display a trail map or interpretive themes. Cairns would typically be installed in pairs, one on either side of the trail.

Plaques: The bronze plaques proposed for inclusion in the cairns are also proposed as wayfinding elements in existing paved trail segments or other places where a more subtle wayfinding device is needed. The plaques are envisioned to be approximately 9 inches square with an identifying image and the trail name.

Materials

Materials used for the project will vary with their context. Canyon trail segments should use natural wood, stone, and similar materials and should maximize durability. Urban trail segments should use

materials that are compatible with surrounding materials, but should reflect nature and the river as much as possible. Metal, ceramic, and concrete may be more appropriate in urban segments than rough cut wood.

Regardless of the type of material or setting, all materials should exemplify sustainable building practices and low impact development principles.

3.7 Interpretive program

The San Diego River has a rich natural and cultural history and a compelling planning story to be told. Many San Diegans are eager to learn more about the area's resources and history. Promoting education and awareness of natural resource issues is a central project goal. The educational and interpretive program envisioned for the project takes a variety of forms, from demonstrating sustainable building practices to artistic interpretation in design elements and traditional interpretive panel displays. Interpretive elements are envisioned as components of:

- **Trailheads**: Basic information about canyon resources, bird watching, watershed function, and similar topics are well suited to canyon trailheads, as is demonstrating fire-safe and water-wise landscape design.

- **Cairns**: The top surface of wayfinding cairns is a perfect opportunity for quick and simple educational elements, which could include quick facts or identification of plant and animal species.

- **Bridge and Plaza**: As major constructed elements, virtually unlimited possibilities exist for incorporating educational and interpretive elements into the design. These project elements, more than any other, could also showcase sustainable building practices.

- **Trolley Platforms**: The center of the proposed canyon trail route lies at the River and is closely integrated with the trolley line. The MTS Green Line shares an intimate connection with the San Diego River corridor. Riders of the trolley are treated to a unique way to experience the river as the tracks wind in and out of the riparian zone. Several of the trolley platforms themselves as virtually surrounded by the river's riparian forest. The Fenton Parkway trolley station is the gateway for transit users to the proposed trail. The proposed interpretive program for the project includes the incorporation of interpretive installations at each of the Green Line trolley stations to broaden exposure and experience of both the river and the tributary canyons of the watershed. Further investigation of the possible content and implementation mechanisms for a trolley-based interpretive program is needed.

Canyon Trailheads

The possible range of interpretive content is vast. A preliminary list of topics and ideas for canyon trailheads includes the following:

- Health benefits of trails & walkable communities,
- San Diego's developing pedestrian & transit network, and the planning initiatives related to it,
- Wildlife, habitats, and plants found in urban canyons,
- The importance of protecting our canyons' natural resources, and the regional planning programs that provide that protection (e.g. the MSCP),
- The connection of our upland neighborhoods to our rivers and oceans via the man-made and natural drainage system, and what the City and residents can do to improve water quality,
- Fire safe building and landscaping techniques, and appropriate brush management practices

Canyon Trails

Interpretive installations within the canyons should be focused on specific identifiable issues and species. Possibilities include:

- A display at restoration sites explaining the work in progress,
- Illustrating environmental sensitive management of public utility infrastructure,
- Providing identification signs for specific plants or geologic features.

San Diego River Crossing – Bridge and Plaza

The bridge and plaza present nearly unlimited possibilities for interpretive themes. A preliminary list of possibilities includes:

- Water Quality
    - o Riparian restoration
    - o Use of vegetated swales or on-site retention in landscape areas
    - o Pervious paving
    - o Urban runoff dynamics and problems
    - o Stormwater connection to Ruffin Canyon
- Flooding
    - o Depiction of natural floodplain or historic and current flood levels
    - o Historical flooding and effects
    - o Discussion of measures to mitigate possible flooding
- River Function/Ecology
    - o River history and natural form
    - o Watershed function – connection of uplands with streams
    - o Natural river movement and geomorphology
    - o Natural filtering functions provided by riparian zones and wetlands

- Habitat/Species
    - o Function of each habitat
    - o Species that are rare or occupy specific habitats
    - o Fire function and habitats
    - o Provide exposure to sites, sounds, textures
- Groundwater/Surface Water
    - o Contamination 90 feet below from Mission Valley Terminal
    - o Phytoremediation or other methods of treatment for groundwater contamination
- Development Effects on River
    - o Channelization of river
    - o Changes in hydrograph with urbanization… excess runoff/sedimentation
    - o Development buffer concepts and requirements
    - o History of development of Mission Valley
- River Park Vision
    - o Graphics/discussion of master plan
    - o Public information on wayfinding and recreation opportunities along the river
- Sustainable Design / Green Building
    - o Use of recycled or alternative materials: tires, rammed earth, straw bale construction, recycled concrete, recycled lumber, permeable paving
    - o Use of local materials
- Landscape Practices
    - o Showcase Low Impact Development (LID) principles: bioswales, rain gardens, pervious paving, etc.
    - o Water supply issues – water wise landscapes
    - o Fire-safe landscapes
    - o Use of natives species in urban design
- Conservation Planning
    - o Landscape ecology: patch, corridor, matrix concepts for San Diego
    - o MSCP, Land Protection strategies
- Walkable community themes
    - o Discussion of trail master plan, city-wide pedestrian master plan, City of Villages
    - o Illustrate what makes a walkable community
    - o Economic and safety benefits of trails for communities
- Trolley/Transit Themes
    - o Artistic incorporation of MTS trolley map on ground plane or wall
    - o Illustrate economic and environmental benefits of the trolley
- Healthiness
    - o Being outdoors/Active
    - o Include "fun facts" in plaques on tables/benches/ground plane
        - Calories burned walking entire length of trail
        - Example: "Eating lunch outdoors lowers your heart rate…"

Trolley Platforms

The trolley platform interpretive program could include many of the topics listed in previous categories, but may lend itself to some additional unique interpretive opportunities, such as:

- Site-specific conditions, such as restoration areas, unique conditions, etc.

trails implementation summary 4

The trail and trailhead construction, habitat restoration, and related work proposed in the previous section of this report will require an organized and intensive implementation effort. The proposed Tributary Canyons Project is therefore divided into three distinct parts that are phased through time. Each part is summarized below, along with the reasoning for the recommended phasing. The remainder of Section 4 defines each part and phase of work in more detail and summarizes environmental issues, real estate issues, permitting needs, and costs.

- Part 1 – Canyon Trails: The Canyon Trails Part of the project, which includes all work proposed in Ellison Canyon and Sandrock Canyon, is recommended as the highest implementation priority. There has been a convergence of interest and support for canyon trails in both Normal Heights and Serra Mesa in recent years, from neighborhood residents and organizations to formal community planning groups, and civic leaders. The Canyon Trails Part provides critical new trail connections for a relatively low capital cost. Proceeding as quickly as possible with this work will allow the Conservancy to capitalize on the existing interest and momentum. Undertaking preliminary real estate work is the recommended first step for proceeding on this phase of work and should be subject of an initial funding request.

- Part 2 – Mission Valley Urban Trail: The Mission Valley Urban Trail Part of the project is defined as all proposed elements between the southern trailhead of Ruffin/Sandrock Canyon and the northern trailhead of Ellison Canyon, exclusive of the San Diego River Crossing, as defined below. It includes sidewalk improvements south of the river and provides for way-finding/directional information in the Fenton Marketplace and adjacent developed areas. Because this section of trail is currently passable (to varying extents), this project part is lower in priority than the Canyon Trails Part and is recommended for action in the second phase of the implementation plan. However, it is a natural follow-up project to the Canyon Trails Part and contributes in a substantial way to establishing the trail project's identity in the community. No funding is currently recommended for this phase of work. Instead, a funding proposal for the Mission Valley Urban Trail work would be organized at or near the completion of the Canyon Trails phase, likely in conjunction with a funding proposal organized for other second phase work, including major elements discussed below.

- Part 3 – San Diego River Crossing: The San Diego River Crossing Part of the project is defined as all elements north of Camino Del Rio North and south of Fenton Parkway, including the recommended bridge, an adjacent plaza, a suitable pedestrian crossing at the trolley track, and an interpretive program linked to the Fenton Parkway station and nearby trolley station platforms. These elements have a longer planning horizon particularly as some aren't provided for in the existing community plan. They are also the most expensive elements of the project. They will require a longer lead time for stakeholder outreach, more in-depth planning, permitting, and the fundraising and multi-party organizing associated with a larger capital project. Funding is recommended in Phase 1 to support a modest public information program that advances the concepts for a San Diego River Crossing presented in this report in targeted community forums, particularly the Mission Valley Community Plan Update.

4.1 Part 1 – Canyon Trails

The Canyon Trails Part of the project is recommended as the highest priority and is the focus for Phase 1 work required for implementation. Three main tasks must be completed prior to the start of construction: 1) acquisition of necessary property interests, 2) completion of a CEQA document and acquisition of necessary permits, and 3) preparation of detailed construction drawings, and bid packages. The preliminary work proposed now would integrate these activities in the manner required to develop the project for final review and approval by the Conservancy. Renewed community outreach, preliminary real estate work with affected landowners, design and regulatory work are all proposed now. This would lead to certification of an environmental document (likely a Mitigated Negative Declaration) and provide cost information for implementation fundraising that accurately reflects the costs associated with acquiring property interests. This work is recommended to move forward in two contracts:

- *Contract 1 – Real Estate:* It is recommended that a consultant specializing in the negotiation and acquisition of property rights be retained to determine the appropriate property interests needed for the Canyon Trails work and begin direct outreach and negotiations with each individual property owner along the trail corridor. The contract may also include presentations at Community Planning Groups or similar forums to inform the public on project proposals and timelines and maintain community support for the project. This work should be initiated as quickly as possible following the approval of this study.

- *Contract 2 – Design and Permitting:* Conducting the preliminary real estate work may take considerable time, yet ***the integrated design and permitting process described above should not be initiated until success in obtaining property interests is reasonably assured and the real estate work is substantially complete***. Once this milestone is reached, it is recommended that the Conservancy contract with a design and planning consultant to turn conceptual plans into final construction plans and conduct CEQA and regulatory compliance work. With negotiations completed for obtaining property rights, construction-level design work and regulatory review would be undertaken in an interactive process with the City development review staff resulting in an environmental document, City permits, and final plans and cost estimate that would be presented for review and approval by the Conservancy. Upon Conservancy approval, project permits would be executed, the approved CEQA action would be filed and authorized funds assembled in preparation for construction contracting. The major tasks to be included are:

    - City Discretionary Permit and CEQA Process & Technical Studies
        - Engineering/Topo Survey
        - Biological Resources Technical Report
        - Geotechnical Report
        - Mitigation Plan
        - Project Submittal Package & DSD Coordination
        - Technical support and coordination for CEQA/Permit process
    - Stakeholder Outreach
        - Community Planning Group presentations
        - SDG&E Design Coordination
        - Project Review with Neighbors
    - Plans, Specifications, and Cost Estimates
        - Includes development work and restoration/mitigation work
        - Conceptual drawing package (i.e. 30% Design)
        - 75% Design Package
        - 100% Design Package
        - Bid Documents
        - Construction Support

Environmental Impacts

The proposed trail route through Ellison and Sandrock Canyons has been planned to leave the lightest possible impact footprint on environmental resources in the canyons. Potential for environmental impacts is expected to be limited to biological, cultural, and hydrological resources. In Ellison Canyon, most of the trail length follows the existing SDG&E access road, and the remainder follows existing informal trail routes through previously graded/disturbed areas or non-native vegetation near the canyon rim. Grading is limited to the establishment of a 4' wide trail bench in Reaches 2 and 3 and minor grading of previously graded material along the edge of the SDG&E access road. In Sandrock Canyon, new trails are required for a portion of the trail route, but the majority of the route follows existing SDG&E roads or existing informal trails that would require minor improvements.

Biological Resources

Trail alignments in both canyons primarily follow existing roads or informal trails and have been planned to avoid and minimize impacts to native habitats. Trail construction, however, would cause direct impacts and potential indirect impacts that will require further analysis and mitigation. A Biological Resources Technical Report conforming to City of San Diego Biology Guidelines standards will be necessary. Due to the proximity of wetlands and stream channels to the project alignment, a wetland delineation may also be necessary.

Direct Impacts: In Ellison Canyon, direct impacts to native habitats are expected to be completely avoided, though minor impacts to non-native plant communities will occur. The trail does not cross any natural drainage courses or wetland areas and no impacts to wetlands are expected; however, corrections to the grading on the SDG&E access road will need more detailed design to fully assess potential for impacts to jurisdictional and wetland features. Approximately 2,264 lineal feet of new trail is proposed in Sandrock Canyon where it is necessary to avoid use of streambeds as trails or to provide appropriate trail grades on steep slopes. Construction of new trail segments will cause direct impacts to native and non-native plant communities. The Sandrock trail route crosses two minor side canyon drainages. No modifications are proposed to the first, and a puncheon bridge crossing is proposed for the second; therefore no impacts to jurisdictional habitats are anticipated. Table 4.1 summarizes anticipated direct impacts from trail construction and the associated mitigation required. It is important to note that this impact analysis is based on publicly available existing habitat mapping, and whereas it is accurate enough to give a general sense of the types and extent of habitats present, site-specific habitat surveys conducted during the design phase are likely to provide different impact analysis results (see discussion in Section 2).

Table 4.1: Biological Impacts

Vegetation Community	MSCP Tier	Inside MHPA		Outside MHPA		Total Impact Acreage	Total Mitigation Acreage
		Impact Acreage	Mitigation Acreage *	Impact Acreage	Mitigation Acreage *		
Coastal Sage Scrub	II	0.26	0.39	0.04	0.04	0.30	0.43
Disturbed	IV	0.19	0.00	0.29	0.00	0.48	0.00
Urban/Developed	IV	0.00	0.00	0.12	0.00	0.12	0.00

* Mitigation is assumed to be provided inside the MHPA

Indirect impacts to biological resources are always a concern with trail projects and must be carefully evaluated in future design efforts. The majority of the trail length in each canyon is within the MHPA, which causes increased concern over the potential for indirect impacts; however, trails are an allowed use within MHPA areas provided appropriate protections are in place to guard against impacts from lighting, noise, off-trail use, pets, erosion, and similar issues. The following general measures are recommended for portions of trails within canyon areas both inside and outside the MHPA. Additional safeguards against indirect impacts may be identified during detailed design of the trail:

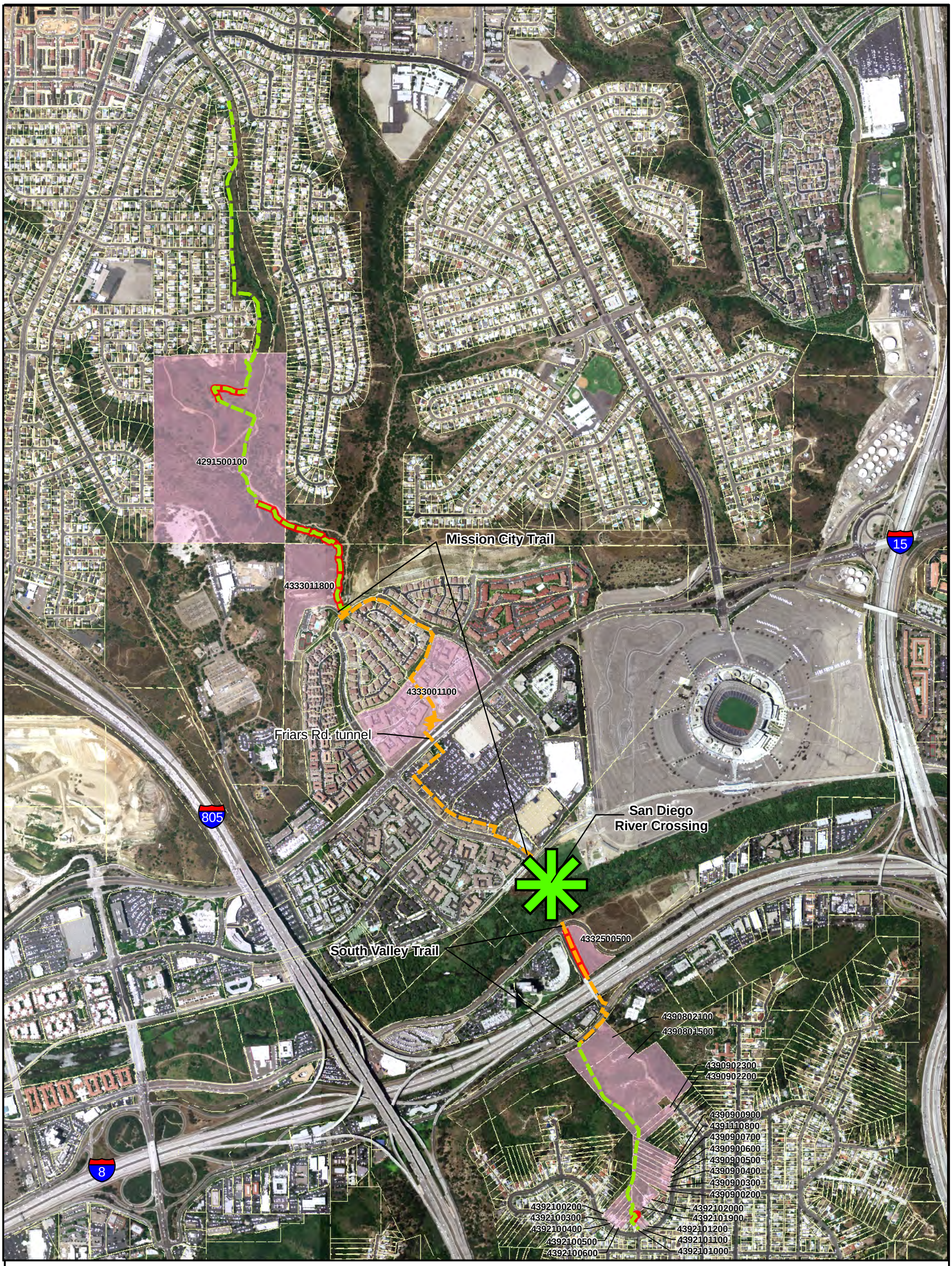
- No trail lighting or night-time trail use is proposed. If lighting is determined to be necessary, it shall be limited to that needed for night-time security at trailheads.
- No large sponsored events (such as races) shall occur within the canyons.
- Signage outlining trail use rules shall be posted at all trailheads, and directional signage shall be provided along the trail to keep users on approved trails only.
- Pets shall be kept on leashes at all times, and pet waste carried out of the canyon.
- Trails shall be designed to provide drainage and resist erosion. Trail design shall accommodate foot traffic and other modes of non-motorized travel with minimal maintenance needs.
- Trail construction shall occur outside the breeding season of the California coastal gnatcatcher and any other sensitive bird species with potential to occur in the project area. A biologist shall monitor all trail construction work and direct noise abatement or other protective strategies as necessary.

Mitigation needs are summarized above and in Table 4.1. Habitat mitigation is expected to occur within the MHPA in Sandrock Canyon on City open space property. It is likely to occur within the areas mapped as "restoration areas" on Figure 3.2; however, the acreage of anticipated mitigation is substantially less than the total recommended restoration area. The remaining restoration area will be treated as outlined below. Coordination with the City will be necessary to identify the type and extent of mitigation proposed and secure permission to implement the mitigation project. Mitigation efforts are expected to require a 120-day plant establishment period and a five-year maintenance and monitoring program following implementation. Maintenance work should be conducted by a licensed landscape contractor specializing in native habitat restoration, and monitoring work should be conducted by an ecologist or landscape architect experienced in implementation of habitat restoration projects.

Restoration work proposed in each canyon is expected to occur concurrently with mitigation. Maintenance and monitoring requirements for restoration areas are typically less stringent than those applied to mitigation areas. It is recommended that restoration areas receive mitigation-level maintenance for a minimum of three years following implementation and that the work is conducted by the team implementing the mitigation work.

Cultural Resources

The cultural resources survey conducted for this study did not identify any known cultural resources or historical sites near the construction footprint of the project. Minor grading (trail benching) will be required for portions of the trail in both Ellison and Sandrock canyons, and a portion of that grading would occur within previously undisturbed soils. Direct impacts to cultural resources is not expected, but is possible. Construction monitoring for cultural resources may be required. No further technical studies are expected to be necessary.



Legend

- Mission Valley Urban Trail
- Canyon Trails
- Impact Zones*
- Parcels Requiring Public Access Aquisition or Verification and APN
- Parcels

4392100600 Assesors Parcel Number

* Impact zones depicted show sections of trail where impacts are expected, NOT actual area of impacts.

FOOTHILL ASSOCIATES
ENVIRONMENTAL CONSULTING • PLANNING • LANDSCAPE ARCHITECTURE

IMPLEMENTATION
COMMUNITY CONNECTIONS TO THE SAN DIEGO RIVER PARK

0 500 1000
SCALE IN FEET

FIGURE
4.1

Date: 03/17/10 Drawn by: CMR

Water Resources

The proposed trail route in Ellison Canyon primarily follows existing roads and trails and does not include any stream crossings. New trail is limited to 165 lineal feet in Reach 2 The proposed Sandrock Canyon trail also follows existing roads and trails for most of its length, but crosses two minor side canyon drainages. No modifications are expected at the first, and a puncheon bridge crossing is proposed for the second. There is potential for sediment generated from the construction phase or long-term use of the trail to cause water quality impacts. Site design Best Management Practices (BMP's) targeting the management of runoff and prevention of erosion should be incorporated into the design to prevent long-term water quality impacts, and trailhead or interpretive signage should be included in the project to educate the public on water quality issues and responsible trail use. Construction phase erosion BMP's should also be implemented as necessary to prevent construction sediment from escaping the impact footprint. A Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP) may be required as part of the design and permitting process.

Human Health / Public Safety

Based on the County of San Diego's Site Assessment and Mitigation (SAM) Listing, there are no sites located within 1000 feet of the recommended Canyon Trails project alignment. No contaminated soil or groundwater issues are anticipated.

CEQA Process

Proposed trail construction will impact protected habitats and lie within the MHPA; however, all impacts are expected to be mitigated to below a level of significance. Therefore, the probable CEQA determination for approval of plans for the Canyon Trails work is a Mitigated Negative Declaration (MND). Because plans for the project will require review and discretionary approval from the City, the City is typically the Lead Agency for the City's discretionary review process and will make the final determination for this CEQA action. The Development Services Department (DSD) typically manages the CEQA process and writes the necessary documents for projects of this scale; however, all technical studies, project plans, and similar information must be provided by the applicant. It should be noted that the San Diego River Conservancy and the Coastal Conservancy, both public agencies and project proponents, will need to fulfill CEQA requirements for discretionary decisions they make. Both agencies are anticipated to be Responsible Agencies working with the City as the Lead Agency on the approval of project plans; however, ***an agreement must be reached between the three agencies regarding Lead Agency and Responsible Agency status prior to the start of the review process.*** Each agency may also need to act as the Lead Agency for other discretionary decisions made through the project planning and implementation process (i.e. approval of funding, etc.).

The City will require a Biological Resources Technical Report, and may also require a wetland delineation and focused surveys for California coastal gnatcatcher or other sensitive species that may occur in the area. A narrative Mitigation Plan will be necessary if the project's habitat mitigation is ultimately proposed to include on-the-ground creation or enhancement of habitats (as opposed to buying credits in a mitigation bank or paying a mitigation fee). The City could potentially also require a Geotechnical Investigation Report or Geologic Reconnaissance Study (see DSD Technical Bulletin 515).

The content of this feasibility study should be sufficient to initiate CEQA review; however, the review process is likely to identify needs for additional information or design modifications before a final MND can be prepared. Therefore, it is typical for the design effort to proceed in step with the environmental review process. Any real estate acquisitions necessary for the project should also be complete prior to a final MND.

Preparation and approval of a MND typically takes a minimum of 3-4 months from the date the project is first submitted to DSD, and it can take substantially longer if major issues are identified that require

further study or design modifications. DSD's completion of the CEQA process happens concurrently with their Site Development Permit review process, which can take significantly longer than the CEQA process itself.

City of San Diego Permitting Process

The City of San Diego has established the Environmentally Sensitive Lands (ESL) regulations as an implementing mechanism for the MSCP. ESLs include lands within the MHPA, wetlands, sensitive vegetation communities, habitat for listed species, lands supporting narrow endemic species, steep slopes, sensitive coastal bluffs, coastal beaches, and Special Flood Hazard Areas. The Canyon Trails Part of the Tributary Canyons Project includes lands having all of these issues except coastal bluffs and beaches, and Special Flood Hazard Areas. Therefore, construction of the Canyon Trails Part will require a Site Development Permit (SDP) from the City of San Diego.

The application process for a SDP is integrated with the initiation of the CEQA process. It begins with submitting information required by Section 4 of the City's Project Submittal Manual. The City will assign a Development Project Manager (DPM) to the project, a role that is responsible for guiding the review process internally and providing a single point of contact for the Conservancy.

Site Development Permits typically take a minimum of 6-9 months to acquire, and typically include revisions to technical studies prepared by project proponents and/or revised project proposals before approval can be secured. Community outreach at Community Planning Group meetings is also typically required as part of the permitting process. The final approval for the SDP happens concurrently with the certification of the final CEQA document.

The City will likely require that a Construction Grading Permit be acquired after the SDP process is complete. A determination of the need for a Construction Grading Permit will be finalized during the SDP process. Section 3 of the Project Submittal Manual outlines the process and requirements for a Construction Permit.

State and Federal Permits

Development proposed for the Canyon Trails project does not impact wetlands regulated by the U.S. Army Corps of Engineers or the CA Department of Fish and Game; therefore, no permits are likely to be necessary from those agencies. However, the proposed work does include restoration of wetland habitats, which will require close coordination with both agencies to develop a restoration plan that is acceptable. Restoration efforts may be eligible for coverage under the Army Corps through Regional General Permit 41 and its associated 401 Certification, although a final determination on the applicability of RGP 41 cannot be made until a the exact restoration area is determined and the proposed restoration approach is finalized.

Real Estate Issues

In Ellison Canyon, the recommended trail alignment (as well as alternatives 2 and 3) is located entirely on privately owned property (see Figure 3.1). The lower half of the route is comprised of large open space lots owned by the Carmelite Monastery. The upper half is owned by numerous owners of residential lots that front North Mountain View Drive, Ellison Place, Panama Place, or 34th Street. The trail would need to cross 17 such lots to reach the North Mountain View Drive trailhead.

In Sandrock Canyon, the recommended trail alignment is located on a mix of private property placed in an open space easement, SDG&E fee-title ownership, City owned open space, and City street Right of Way (R.O.W.) (see Figure 3.2). Public access rights exist for the City R.O.W. and City-owned open space portions of the alignment, though continuing coordination with the City will be necessary. Access rights must be acquired or confirmed for the SDG&E property and an open space parcel owned by the Escala Homeowner's Association.

Acquiring Public Access Rights

Implementation of a public trail through Ellison Canyon will require the acquisition of public use rights on 19 privately owned properties with 18 different owners. Public use rights for these parcels would be obtained by one of three main methods:

- *Fee title purchase:* A portion of each lot could potentially be purchased in fee title for the project. The land would ideally be held by the City of San Diego; however, practical limitations to the City's ability to manage new lands may necessitate the land be held, at least for a time, by a 501(c)(3) non-profit organization. Because the trail alignment generally follows the back property line of canyon properties, acquisition would include the portion of each property from the back property line to the inclusive edge of the trail corridor. Trail corridors are, in general, recommended to be twice the width of the trail base. Because purchase of fee-title rights would require acquisition of a larger portion of each property than purchase of easement rights and would involve transactional costs associated with a lot subdivision, the purchase option is expected to be more expensive. Purchase of fee-title ownership of property for the project is projected to cost as much as $500,000.

- *Easement purchase:* Public access rights could alternatively be obtained through purchase of a public access easement over the property. As with the fee title purchase option, it would be preferable for the City to be the grantee of easement rights; but a nonprofit group may be a more appropriate choice in the near term. The proposed easements would be twice the width of the trail base. Purchase of public access easements for the project is projected to cost approximately $68,600. It is important to note that EITHER fee title purchase OR easement purchase is necessary, but not both.

- *Donation:* The portions of the properties through which the proposed trail passes are functionally undevelopable and unusable under the various restrictions imposed by City, State, and Federal law, primarily due to the presence of sensitive habitats, the MHPA, and steep slopes. Property owners are, however, responsible for maintaining and paying taxes on the canyon portions of their property, along with the developed portions of the property. Donation of land relieves the landowner of these responsibilities and liabilities, and can result in an additional tax deduction related to the gift of land. Some landowners may therefore be interested in donating the necessary portion of their property.

Table 4.2 summarizes the public access acquisition needs associated with the recommended Ellison Canyon trail route.

Table 4.2: Ellison Canyon Real Estate Needs

Ownership	Lineal Feet	# of Parcels	Purchase Fee Title Acres*	Purchase Access Easement Acres*
San Diego Gas & Electric	135	1	NA	NA
Monastery (Private)	1,175	2	2.55	0.22
Other Private	1,063	16	0.75	0.23

* either purchase OR easement rights are needed. See text for explanation of quantities needed.

Implementation of a public trail through Sandrock Canyon will require the acquisition of public use rights on the SDG&E parcel. It will also require confirmation or acquisition of existing public access rights through the Escala open space parcels.

- *SDG&E:* Public access rights through the SDG&E parcel would require either a public access easement or a trails agreement for the trail corridor. It would be preferable for the City to be the grantee of easement rights; but a nonprofit group may be a more appropriate choice in the near term. An easement may require a Public Utilities Commission Section 851 application and hearing to make sure that ratepayers' interests are being appropriately served. This process can take 6 months to 2 years with no guarantee of an easement being granted. The proposed easements would be twice the width of the trail base. The PUC may or may not require compensation for easement rights, and any compensation would need to be negotiated at that time. The cost estimates provided in this study assume SDG&E will not require compensation for easements. Access rights may alternatively be possible through entering into a trails agreement with SDG&E. Such an agreement would allow the trail under strict conditions, including the right of SDG&E to revoke the trail use if it found that the use was causing problems or was no longer compatible with the primary use of the property.

- *Escala Open Space:* The mouth of Ruffin Canyon lies within Lots D and E of Map Number 14550, Mission City Phase IV. These two lots are owned by the Escala Master Association and are permanently conserved as open space through an open space easement, which gives the City a wide range of rights to manage the land as open space. Lot D also includes an 8' wide pedestrian and non-vehicular access R.O.W. that connects Northside Drive to the City open space parcel that contains Ruffin Canyon. The 8' R.O.W. roughly follows the existing streambed, which has historically been used as a trail by hikers and by City sewer maintenance crews for access to canyon sewer infrastructure. It remains to be determined if the R.O.W. is sufficiently flexible to accommodate the exact recommended alignment for a trail through the area. If

the R.O.W. is flexible enough to provide legal access along the alignment through the Escala open space, then no further real estate solutions are needed. If, however, it is not flexible, then either 1) a new public access easement must be negotiated with the Escala Master Association and the City, or 2) the trail alignment through the open space parcel must follow the streambed until it reaches City property. This study assumes that the proposed alignment will be facilitated with existing public access rights.

Map Number 14550 also shows existing public right-of-way or public access easements recorded within the Escala development that connect Ruffin Canyon to the lead-in path that connects directly to the Friar's Road tunnel and Fenton Marketplace (see graphic on facing page). It is unclear on the recorded maps whether public access is granted on the lead-in path, though research shows that public access is clearly intended in the Mission City Specific Plan, and the public access route is referred to in the specific plan and other long range planning documents as the Mission City Trail. Further investigation will be necessary to confirm or acquire public access rights for that short segment of existing trail.

Because this study assumes that SDG&E will not require compensation for easements, that the existing public access rights through the Escala open space parcels are sufficient for the project, and that public access exists on City R.O.W. and City owned land, no land acquisition is anticipated to be necessary in Ruffin/Sandrock Canyon. It is not possible to verify these assumptions to a greater level of certainty at this stage of the project.

Easement Issues

SDG&E holds an easement through the length of Ellison Canyon allowing for the presence and maintenance of both gas and electric utility infrastructure (see Section 2 discussion). An agreement for shared use of the utility easement must be reached with SDG&E in addition to acquisition of public access rights from underlying landowners.

SDG&E holds an easement for transmission lines that cross the mouth of Ruffin Canyon from west to east. Coordination with SDG&E will be necessary, but this easement is not expected to require any special trail solutions or agreements.

The City of San Diego Public Utilities Department (PUD) holds easements in Sandrock Canyon for sewer infrastructure and sewer maintenance access. Easements are typically 20' wide, centered on the pipeline; however, access paths often follow a different alignment that conforms to the topography and environmental constraints of the area. In Sandrock Canyon the sewer maintenance access path primarily follows the existing SDG&E access road where it exists, and follows the streambed where no SDG&E road exists. Trails do not typically conflict with sewer infrastructure or access paths and no conflicts are expected in Sandrock Canyon. However, habitat mitigation cannot be placed within sewer easements or access paths.

Landowner Outreach

The number of private parcels within the selected trail alignment for Ellison Canyon presents a significant challenge for project implementation, though one that doesn't appear insurmountable. Conservancy discussions with a wide array of interests established a positive context for initiating the feasibility study which has been reinforced as the study has proceeded. Though individual landowner negotiations are the key to a successful project, the context established through interactions within the community – the community planning group, city departments, elected officials and neighborhood organizations – are all weighed in gauging feasibility. The positive community attitudes encountered in the course of this study mirror the Conservancy's view that led it to initiate project planning.

The Friends of Normal Heights Canyons, a local advocacy and stewardship group, conducted a series of early outreach and informational meetings with landowners along Ellison canyon prior to the start of this study, including numerous regular monthly Friends' group meetings, two special neighborhood outreach meetings for residents in the immediate vicinity, a meeting with the Monastery, and a general presentation of the trail idea at a Normal Heights Community Planning Group meeting. See the Ownership, Easements, and Utilities discussion in Section 2 of this study for more detail on neighborhood attitudes toward the project.

Preparation of this study included coordination with the City Trails Coordinator, Senior Planner, and Open Space Ranger from the Open Space Division of the Park and Recreation Department. Field evaluations were conducted with City staff to discuss alternative alignments and appropriate solutions for problem areas in both canyons.

- *Ellison Canyon:* Though the City of San Diego is not one of the landowners along the proposed Ellison Canyon trail alignment, the Open Space Division holds adjacent property in the canyon, and City support for proposed trail facilities is an important aspect for gauging feasibility of the project. The City Trails Coordinator and Senior Planner from the Open Space Division were consulted on the alternative solutions for the Normal Heights trail segment. City staff concurred with the selection of Ellison Canyon as the preferred Normal Heights route and with selection of Alternative 1 as the preferred alignment.

- *Sandrock Canyon:* City Open Space staff did not express a strong preference for any of the three alternatives over the others; however, they support this study's recommendation to pursue Alternative 1.

Preliminary consultation with SDG&E occurred regarding the recommended alignments in each canyon, including a field visit with SDG&E land management staff in Sandrock Canyon. SDG&E holds strong concerns over the implications a Sandrock Canyon trail may have for the safety of the Mission Control Center facility located on the canyon rim. Other concerns regarding development of a formal trail on SDG&E fee-title property included potential liability, maintenance responsibilities, and reservation of SDG&E's rights in the future. More detailed discussions with SDG&E would be required to assess security concerns and identify solutions; however, consultation associated with this study indicates SDG&E is open to considering the Sandrock Canyon trail if their concerns are successfully addressed. Similar coordination was conducted regarding the proposed shared use of the SDG&E access path and easement in Ellison Canyon, as well as the use of the SDG&E fee-title parcel on North Mountain View Drive as a trailhead. SDG&E staff indicated tentative support for the proposed facilities, provided they do not conflict with SDG&E's mission and that agreements could be reached that protect SDG&E from liability and maintenance issues associated with the trail.

Cost Estimate

Costs for implementation of the proposed canyon trails are highly variable and very difficult to predict. The complexities of land acquisition market factors and the environmental review process will be the dominant drivers of overall project costs and are subject to the influence of currently unquantifiable factors. As a general rule of thumb, trails can be expected to cost approximately $150,000 per mile, including design, permitting, and construction costs; however, the remoteness and proximity of the proposed trails to sensitive environmental resources is likely to cause costs to exceed that general standard. Preliminary estimates for all aspects of work are provided in Table. 4.3

Table 4.3: Preliminary Cost Estimate for Canyon Trails

Preliiminary Cost Estimate: Part 1 - Canyon Trails

ID	Contract Group	Item	Unit Cost	Units	Quant	Cost
Real Estate Costs						
1.1		Easement Acquisition (Ellison)	$ 3.50	Sqft	19602	$ 68,607.00
1.2	1	Real Estate Consultant	$ 50,000.00	LS	1	$ 50,000.00
Real Estate Total						**$ 118,607.00**
Design and Permitting Costs						
1.3	2	Biological Survey & Tech Report	$ 30,000.00	LS	1	$ 30,000.00
1.4	2	SWPPP	$ 1,500.00	LS	1	$ 1,500.00
1.5	2	Geotechnical Report	$ 3,000.00	LS	1	$ 3,000.00
1.6	2	Topographic Survey	$ 4,000.00	LS	1	$ 4,000.00
1.7	2	Mitigation Plan (narrative)	$ 12,000.00	LS	1	$ 12,000.00
1.8	2	Design (All project elements)	$ 80,000.00	LS	1	$ 80,000.00
1.9		City Permitting/CEQA (City Staff)	$ 20,000.00	LS	1	$ 20,000.00
1.10	2	City Permitting/CEQA (Consultant)	$ 5,000.00	LS	1	$ 5,000.00
1.11	2	Army Corps Permitting (for mitigation/restoration)	$ 7,000.00	LS	1	$ 7,000.00
1.12	2	CDFG Permitting (for mitigation/restoration)	$ 5,000.00	LS	1	$ 5,000.00
1.13	2	RWQCB Permitting (for mitigation/restoration)	$ 1,500.00	LS	1	$ 1,500.00
Design and Permitting Total						**$ 169,000.00**
Construction Costs						
1.14	3	Preconstruction Surveys (sensitive species)	$ 4,400.00	LS	1	$ 4,400.00
1.15	3	Biological Construction Monitoring	$ 8,960.00	LS	1	$ 8,960.00
1.16	3	Cultural Construction Monitoring	$ 3,100.00	LS	1	$ 3,100.00
1.17		Ellison Canyon Work	-	-	-	-
1.17.1		Southern Trailhead	$ 35,959.00	LS	1	$ 35,959.00
1.17.2		Northern Trailhead	$ 10,000.00	LS	1	$ 10,000.00
1.17.3		Steep Slope Stairs	$ 5,000.00	each	2	$ 10,000.00
1.17.4		4 ft Wide Trail (Native Soil)	$ 10.25	LF	238	$ 2,439.50
1.17.5		4 ft Wide Trail (class II base)	$ 16.00	LF	298	$ 4,768.00
1.17.6		SDG&E Road Regrading	$ 5.00	LF	1207	$ 6,035.00
	3	Ellison Canyon Subtotal	-	-	-	$ 69,201.50
1.18		Sandrock Canyon Work	-	-	-	-
1.18.1		Southern Trailhead	$ 9,000.00	LS	1	$ 9,000.00
1.18.2		Northern Trailhead	$ 38,203.00	LS	1	$ 38,203.00
1.18.3		4 ft Wide Trail - New (Native Soil)	$ 10.25	LF	2539	$ 26,024.75
1.18.4		4 ft Wide Trail - Improved (Native Soil)	$ 2.00	LF	1688	$ 3,376.00
1.18.5		4 ft Wide Trail - Brow Ditch (Class II)	$ 22.00	LF	1940	$ 42,680.00
	3	Sandrock Canyon Subtotal				
Construction Total						**$ 274,146.75**
Restoration / Mitigation Costs						
1.19	3	Ellison Canyon Restoration	$ 40,000.00	Acre	0.16	$ 6,400.00
1.20	3	Ellison Canyon Mitigation	$ 95,000.00	Acre	0	$ -
1.21	3	Sandrock Canyon Restoration	$ 40,000.00	Acre	3.12	$ 124,800.00
1.22	3	Sandrock Canyon Mitigation	$ 95,000.00	Acre	0.43	$ 40,850.00
Restoration / Mitigation Total						**$ 172,050.00**
Project Total						**$ 733,803.75**

4.2 Part 2 – Mission Valley Urban Trail

The Mission Valley Urban Trail Part of the project is recommended as the core work for Phase 2 of the implementation plan. Upon completion of the Canyon Trails Part of the project, Phase 2 should proceed as quickly as possible toward implementation. Because this section of trail lies predominantly within public right of way, acquisition of property rights for the trail is not anticipated to be necessary. Completion of the design and permitting process is recommended to move forward under one contract. The major tasks of the contract are the same as those outlined for the Canyon Trails phase.

The design phase of this contract will include the design of Reach 1 and Reach 2 as well as placement of wayfinding elements. Detailed designs of wayfinding elements will have already been completed in Contract 2 of the Canyon Trails Part of the project.

The design phase of this contract will include the design of Reach 1 and Reach 2 sidewalk improvements as well as a plan for placement of wayfinding elements within the Mission Valley Urban Trail segment of the project.

Environmental Impacts

The proposed trail alignment through Mission Valley is almost entirely within urban/developed land and utilizes existing sidewalks and walkways wherever possible. Minor finish grading will be necessary to implement Reach 1 and Reach 2. Environmental impacts are expected to be limited to biological resources.

Biological Resources

No Biological resource impacts are expected along portions of the trail that align with existing sidewalks and walkways. Trail construction along Reach 1 and Reach 2, however, would cause direct impacts and potential indirect impacts that will require further analysis and mitigation. A Biological Resources Technical Report conforming to City of San Diego Biology Guidelines standards will be necessary.

Direct Impacts: Reach 1 of the Mission Valley Urban Trail includes the installation of an eight foot wide sidewalk/trail along the south side of Camino Del Rio South. Although the sidewalk construction would most likely occur entirely within the previously graded road shoulder, some direct impacts to native habitat adjacent to the existing road shoulder may occur.

An eight foot wide portion of Reach 2 along Mission City Parkway will result in direct impacts to native habitat. This habitat is associated with a Metropolitan Waste Water Department's restoration project and falls within the MHPA boundary line. The MHPA boundary mapping in this area is not very precise and includes large portions of both Mission City Parkway and Camino Del Rio North. An MHPA boundary correction may be deemed desirable during the discretionary approval process. Table 4.4 summarizes anticipated direct impacts from trail construction and the associated mitigation required. These results may change after completion of site-specific biological mapping (see discussion in Section 2).

Indirect Impacts: Indirect impacts to biological resources are always a concern with trail projects and must be carefully evaluated in future design efforts. Reach 2 is within or adjacent to the MHPA, which causes increased concern over the potential for indirect impacts; however, trails are an allowed use within MHPA areas provided appropriate protections are in place to guard against impacts from lighting, noise, off-trail use, pets, erosion, and similar issues. Refer to the Canyon Trails Part indirect impact discussion for general measures recommended to mitigate for possible indirect impacts.

Mitigation needs are summarized above and in Table 4.4. Due to the small quantity of impacts

expected, it is anticipated that mitigation would be provided through payments to the City's Habitat Acquisition Fund or similar programs.

Cultural Resources

The cultural resources survey conducted for this study did not identify any known cultural resources or historical sites near the construction footprint of the project. The entire length of the Mission Valley Urban Trail is within previously disturbed soil and therefore direct impacts to cultural resources are not expected.

Water Resources

The entire length of the Mission Valley Urban Trail is to be paved along gentle slopes. No stream crossings are required and no erosion is expected as a result of new trail construction. However, construction phase erosion control BMP's should also be implemented as necessary to prevent construction sediment from escaping the impact footprint. A Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP) may be required as part of the design and permitting process.

Table 4.4: Biological Impacts

Vegetation Community	MSCP Tier	Inside MHPA		Outside MHPA		Total Impact Acreage	Total Mitigation Acreage
		Impact Acreage	Mitigation Acreage *	Impact Acreage	Mitigation Acreage *		
Coastal Sage Scrub	II	0.10	0.15	0.00	0.00	0.10	0.15
Urban/Developed	IV	0.00	0.00	0.09	0.00	0.09	0.00

* Mitigation is assumed to be provided inside the MHPA

Human Health/Public Safety

Based on the County of San Diego's Site Assessment and Mitigation (SAM) Listing, there are no sites located within 1000 feet of the recommended Mission Valley Urban Trail alignment. No contaminated soil or groundwater issues are anticipated.

CEQA Process

Proposed trail construction along Camino Del Rio South occurs adjacent to native habitat and trail construction along Mission City Parkway will impact protected habitats that lie within the MHPA; however, it is possible that biological impacts will fall below the significance threshold and therefore allow for a CEQA Exemption to apply. If the project is not exempt, all impacts are expected to be mitigated to below a level of significance, making the probable CEQA determination a Mitigated Negative Declaration. See the Canyon Trails CEQA process discussion above for a detailed explanation of the implications of a Mitigated Negative Declaration.

City of San Diego Permitting Process

Construction of the Camino Del Rio South and Mission City Parkway portions of the Mission Valley Urban Trail will likely require a Site Development Permit from the City of San Diego. The process for acquiring this permit is described in the City of San Diego Permitting Process Canyon Trails project above.

State and Federal Permits

Development proposed for the Mission Valley Urban Trail phase of work does not impact wetlands regulated by the U.S. Army Corps of Engineers or the CA Department of Fish and Game; therefore, no permits are likely to be necessary from those agencies.

Real Estate Issues

The Mission City Trail (the area between the trolley tracks and the mouth of Ruffin Canyon) lies nearly entirely on privately owned property, with small portions crossing street right-of-way. Due to the forward planning of the Mission City Specific Plan, public access was granted to the Mission City Trail by the conditions of approval for the Escala development and the commercial nature of Fenton Marketplace. However, as depicted in Figure 3.3 approximately 1,125 lineal feet of the proposed trail alignment may not be included in the existing public access within the Escala development. Further investigation into existing public access rights for this portion of trail will be necessary.

All but a small portion of the South Valley Trail (the area between the San Diego River and the mouth of Ruffin Canyon) can be implemented within existing street right-of-way. The proposed alignment for Reach 1 extends into the parcel owned by the City of San Diego's Public Utilities Department. As depicted in Figure 3.3, approximately 0.10 acres of that parcel would be needed for the trail corridor. Coordination with the Public Utilities Department will be necessary during the design process.

Landowner Outreach

Landowner outreach for the Mission Valley Urban Trail should consist of discussions with the Escala Master Association, Fenton Marketplace, PUD and the City of San Diego Right of Way Design, Division of Engineering and Capital Projects. In addition, community outreach similar to that which is conducted for the Canyon Trails Part of the project should be implemented in an effort to maintain positive community attitudes toward the project and the Mission Valley Urban Trail.

Cost Estimate

As noted in the Canyon Trails discussion, costs for implementation of the proposed trails are highly variable and very difficult to predict. Preliminary estimates for the proposed phase 2 work are, however, provided in Table. 4.5

Table 4.5: Preliminary Cost Estimate for the Mission Valley Urban Trail

Preliiminary Cost Estimate: Part 2 - Mission Valley Urban Trail

ID	Contract Group	Item	Unit Cost	Units	Quant		Cost
Real Estate Costs							
2.1		Easement Acquisition		sqft		$	-
2.2	1	Real Estate Consultant	$ 15,000.00	LS	1	$	15,000.00
Real Estate Total						**$**	**15,000.00**
Design and Permitting Costs							
2.3	1	Biological Survey & Tech Report	$ 20,000.00	LS	1	$	20,000.00
2.4	1	SWPPP	$ 1,500.00	LS	1	$	1,500.00
2.5	1	Geotechnical Report	$ -	LS	1	$	-
2.6	1	Topographic Survey	$ 5,000.00	LS	1	$	5,000.00
2.7	1	Mitigation Plan (narrative)	$ -	LS	1	$	-
2.8	1	Design (All project elements)	$ 40,000.00	LS	1	$	40,000.00
2.9	1	City Permitting/CEQA (City Staff)	$ 20,000.00	LS	1	$	20,000.00
2.10	1	City Permitting/CEQA (Consultant)	$ 5,000.00	LS	1	$	5,000.00
2.11	1	Army Corps Permitting (for mitigation/restoration					
2.12	1	CDFG Permitting (for mitigation/restoration)					
2.13	1	RWQCB Permitting (for mitigation/restoration)					
Design and Permitting Total						**$**	**91,500.00**
Construction Costs							
2.14	2	Preconstruction Surveys (sensitive species)	$ 1,600.00	LS	1	$	1,600.00
2.15	2	Biological Construction Monitoring	$ 3,360.00	LS	1	$	3,360.00
2.16	2	Cultural Construction Monitoring	$ -	LS	1	$	-
2.17	2	Revegetation	$ 0.63	SF	2400	$	1,512.00
2.18	2	8' Wide Trail (Concrete)	$ 67.00	LF	997	$	66,799.00
2.19	2	6" Curb and Gutter	$ 22.00	LF	417	$	9,174.00
2.20	2	Cairns	$ 2,500.00	Each	4	$	10,000.00
2.21	2	Trail Map	$ 1,000.00	Each	3	$	3,000.00
2.22	2	Wayfinding Plaques	$ 800.00	Each	11	$	8,800.00
2.23	2	Misc. Construction Costs	$ 15,636.75	LS	1	$	15,636.75
Construction Total						**$**	**119,881.75**
Restoration / Mitigation Costs							
2.24		Mitigation Fees	$ 20,000.00	Acre	0.15	$	3,000.00
Restoration / Mitigation Total						**$**	**3,000.00**
Project Total						**$**	**229,381.75**

4.3 Part 3 – San Diego River Crossing

The elements recommended at the San Diego River Crossing are the most expensive and most challenging aspects of the Tributary Canyons Project. They will require more in-depth planning, stakeholder outreach, and permitting effort than the other project parts. Further, there are other planning efforts in-progress that will potentially affect plans for a bridge in this location. These include the on-going efforts of the San Diego River Park Foundation to advance the River Park, the finalizing and possible adoption of the City's San Diego River Park Master Plan, and the Mission Valley Community Plan Update slated for 2010-2012. Each is an important forum having potential to affect plans for a river crossing. The recommendation for the San Diego River Crossing Part of the project is, therefore, to concentrate the Conservancy's near-term, Phase 1 effort on evaluating the full range of interests and needs for this area and facilitating discussion of the river crossing concepts developed in this study in relevant forums, particularly in the Community Plan update process. If project concepts, including those discussed in all three parts, were successfully embedded in the updated Mission Valley Community Plan, major advantages for advancing the concept might be expected. Those advantages include access to a broader range of public financing options and setting the stage for a streamlined design and permitting process.

To that end, it is proposed that Phase 1 of project development include a public outreach component for advancing the project within the context of the Community Plan update. The Conservancy's role in the design and implementation of the San Diego River Crossing elements will be informed by the decisions reached through that process. A brief overview of the environmental and permitting issues relevant to the recommended elements is provided below.

Environmental Impacts

Any proposal for a bridge over the River in this location or for public gathering spaces adjacent to the River will raise major questions regarding environmental impacts. Biological resources, water resources, hazardous materials, traffic, and land use are likely to be important CEQA issues. A variety of technical studies would be required to successfully design and permit a bridge or related elements. Potential impacts to the least Bell's vireo will have a very strong influence on final design solutions and the environmental review and permitting process.

CEQA Process

A CEQA determination cannot be made without a discrete project proposal identified; however, it is clear that the recommended project elements would require preparation of either an Environmental Impact Report or a Mitigated Negative Declaration. Because there may be potential for unmitigable impacts to the endangered least Bell's vireo, an EIR may be necessary.

City of San Diego Permitting Process

A Site Development Permit will be required for any work proposed over or adjacent to the River. See the Canyon Trails discussion earlier in this Section for background on the SDP process.

State and Federal Permits

Each of the recommended elements in the San Diego River Crossing Part of the project is likely to have impacts on wetlands, which will require acquisition of permits from the U.S. Army Corps of Engineers (likely an Individual Permit), the Regional Water Quality Control Board (401 Certification), and the CA Department of Fish and Game (Streambed Alteration Agreement).

In addition to permits for impacts to wetlands, impacts to the least Bell's vireo must be addressed with the U.S. Fish and Wildlife Service and the CA Department of Fish and Game. Because the least

Bell's vireo is not a covered species under the San Diego MSCP, impacts to this species must be evaluated through Section 7 Consultation as defined by the federal Endangered Species Act. Section 7 Consultation is often a complex and challenging process for a project proponent. Detailed information on the process is available at http://www.fws.gov/Endangered/consultations/sec7_faq.html.

Real Estate Issues

All three alternative bridge alignments and both possible plaza/park locations lie within City of San Diego property or right-of-way. Proposals for work in these areas are unlikely to require purchase of property or easements; however, extensive coordination with the City would be necessary for any work proposed on City property.

The trail connection to Fenton Marketplace must also cross the right-of-way controlled by the San Diego Metropolitan Transit System (SDMTS) and the Public Utilities Commission (PUC), and an at-grade crossing of the tracks would require approval from these groups. Though at-grade pedestrian crossings are generally discouraged, examples exist in the City and elsewhere. See Section 3 of this study for more detail on the options for crossing the trolley tracks.

Operation and Maintenance

Constructing and opening the proposed Ellison Canyon and Sandrock Canyon trails to the public will create new demands for the management and maintenance of the new facilities.

Recommended Maintenance Approach

The proposed Ellison and Sandrock Canyon trails are expected to be patrolled and maintained in a fashion similar to the existing trails in Ruffin Canyon. City Open Space Ranger staff oversees the City owned open space in Ruffin Canyon, identifying and addressing needs as time and resources allow. Maintenance labor is supplied largely by volunteers associated with the Friends of Ruffin Canyon, with the Ranger staff providing leadership and oversight as well as additional hands-on effort. Ranger staff has implemented substantial trail improvements and habitat restoration within Ruffin Canyon over the past several years and has successfully guided the efforts of volunteers on trail maintenance. Ranger staff is also guiding the efforts of the Friends of Normal Heights Canyons on habitat restoration efforts in the Eugene Canyon Open Space area in Normal Heights.

Following this model, the proposed initial program for maintenance of canyon trails relies upon leadership and guidance from Ranger staff, with labor and materials primarily provided through volunteer groups. Higher levels of City-led maintenance and patrols are strongly encouraged to the extent resources can be allocated.

As a general maintenance plan, it is recommended that a two-year maintenance cycle be adopted for routine maintenance. An annual inspection should be conducted at the beginning of each summer to assess signs of inappropriate use or other problems. Urgent maintenance needs should be addressed promptly; with all other needs logged and addressed at the two-year maintenance milestone. Typical routine maintenance activities are expected to include:

- Annual inspections
- Trimming branches of shrubs or trees that encroach into the trail corridor
- Updates or repairs to maps or signage
- Trash removal and litter cleanup
- Repair of erosion caused by rain runoff or trail use
- Planting and seeding of areas disturbed by inappropriate trail use
- Graffiti removal

Major renovations that are beyond the bounds of routine maintenance should be addressed as necessary, but are expected to be infrequent. A source of funding for major repairs or renovations will be necessary as needs arise.

The City's Open Space Division would hold ultimate responsibility for trail issues on City-owned open space, but the responsibility for the anticipated public access easements on private property will go to the beneficiary of those easements. The beneficiary should ideally be the City of San Diego; however, it is more likely that a non-profit organization will fill this role until the City is able to fund management of additional open space and trails.

Maintenance Costs

The City of San Diego Open Space Division estimates that routine maintenance costs for trails that are in a good baseline condition would typically require approximately $0.27 per lineal foot, on a 48" wide trail. That analysis assumes that one laborer is able to maintain 75 lineal feet of trail for a rate of $20 per hour. Using this estimate, and assuming that maintenance occurs on a two year schedule, the Canyon Trails Part of the Tributary Canyons Project would require approximately $2200 every two years. Trail tread failures, major erosion problems, or repair of signage and trailhead facilities would require additional effort and additional funds.

As noted above, maintenance is anticipated to be provided primarily by volunteers working with the Friends of Ruffin Canyon and Friends of Normal Heights Canyons, with guidance from the City's Open Space Ranger. Volunteer labor is likely, therefore, to negate the need for a funding source for maintenance of the canyon trails. If volunteer labor became unavailable at some point in the future, the entities holding fee-title ownership or acting as the grantee of public access easements would need to provide funding for maintenance to continue.

Funding Plan

The project is being developed as a capital project with planning funds derived from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). Funding for acquiring property rights and constructing trails and other elements outlined in this report is expected to be obtained partly from this source. It's also anticipated that companion funds will be sought from other appropriate competitive grant programs including the Federal Highways Administration's Recreational Trails Program (RTP) and the Intermodal Surface Transportation Efficiency Act (ISTEA).

The canyon trails as well as the additional project elements recommended to be developed in the future, including a footbridge and plaza forming the project nexus at the San Diego River, would likely be developed with state and federal grant funds and local funds derived through a variety of mechanisms within the City facilities financing program. To that end, it's proposed that the next phase of project development include a public outreach component for advancing the project in the city's long range infrastructure planning process, accessed through the Mission Valley Community Plan Update slated for 2010-2012. Additionally, public/private partnerships, including innovative funding arrangements involving Mission Valley businesses and the Metropolitan Transportation Authority should be promoted as canyon trails are constructed and the final alignment and design of the river crossing is made more tangible.

Appendix A

Alternative 2 and 3 Trail Alignment Descriptions

1.0 INTRODUCTION

This appendix provides discussion of the key elements of the conceptual trail alignments considered for Ruffin/Sandrock Canyon and Ellison Canyon in addition to the alignments proposed for the Tributary Canyons Project.

2.0 RUFFIN/SANDROCK CANYON

Three conceptual trail alignments were considered in Ruffin/Sandrock Canyon. Alternative 1 is described in detail in Section 3 of this report. Alternatives 2 and 3 are described below.

All three alternatves begin at the mouth of Ruffin Canyon on property owned by Escala, though each of the three uses a different trail-head location. Alternative 1 turns west into Sandrock Canyon and follows it to its northern terminus. Alternatives 2 and 3 follow Ruffin Canyon to its northern terminus in each of the two northern arms of the canyon. Each alternative is discussed in more detail below.

2.1 ALTERNATIVE 2

Alternative 2 assumes that the existing trail route would be followed the entire length of Ruffin Canyon, including the areas that currently follow cobbly streambed and that no effort would be made to "improve" the cobbly sections of trail. This assumption is based on two very important pragmatic truths: 1) altering the cobbly streambed to be more walkable would require expensive trail building efforts that would be completely destroyed by flowing water with every significant rainfall event, and 2) it is extremely improbable that such improvements to the trail surface within the drainage could be successfully permitted with the City of San Diego, Army Corps of Engineers and Regional Water Quality Control Board.

2.1.1 Trailheads/Access Points

The southern trailhead starts at the beginning of the sewer access path that extends down into the canyon, directly east of an asphalt turn around area (photo 1). It is a convenient and pleasant starting point with room for basic trailhead signage. The trailhead would be located on property owned by Escala. There is no parking available near any of the southern trailheads.

Photo 1 : Alternative 2 southern trailhead looking south toward the sewer access path..

Alternative 2 has two northern trailheads; Ruffin Road and Gramercy Drive just east of Pasternack Place (see photo 2).

The Gramercy Drive trailhead begins at the sidewalk along Gramercy Drive, which is a busy, four-lane road. The sidewalk is used heavily in the mornings and afternoons by students at Taft Middle School. The trailhead is noisy due to the traffic and has room for basic trailhead signage. The trailhead would be located on property owned by the City of San Diego. No opportunities for off street parking exist near this trailhead. The trailhead provides for very limited access for wheelchairs.

Photo 2 : (left) Kiosk at Ruffin Rd. trailhead. (right) Gramercy Dr. Trailhead

The Ruffin Road trailhead begins at the terminus of Ruffin Road which is a cul de sac bordering the northwest edge of Taft Middle School. The trailhead area is quiet and there is parking available for a small number of cars along Ruffin Road. The trailhead itself is located on city designated open space, and is currently cooperatively maintained by the City of San Diego and the Friends of Ruffin Canyon. A small kiosk and native plant display garden exist at this trailhead, and there are opportunities for the addition of interpretive elements as well as tables and benches. This is the most developed trailhead in the Ruffin Canyon complex. The Friends of Ruffin Canyon have made significant improvements for wheelchair accessibility, and more could be done to provide accessible experiences at the trailhead.

2.1.2 Connections

The southern end of the trail connects to the Escala development with little functional difference from Alternatives 2 and 3. There is no other feasible point of connection to Mission Valley. The proposed trail and the Escala development are an ideal and mutually compatible pairing that puts a high number of trail users very close to a major recreational amenity. Studies across the country have shown that trails are increasingly favored by developers as a community amenity because they are low-cost to the developer and high value to the ultimate home-owners.

The Gramercy Drive and Ruffin Road trailheads provide a connection to the Serra Mesa Recreation Center three blocks to the north, to the Serra Mesa business district three blocks

to the west and to the adjacent elementary school. These are attractive connections; however, they are difficult to prioritize against Alternative 1's closer connection to the business district.

2.1.3 Trail Route

From the southern end, Alternative 2 follows the streambed north through Ruffin Canyon and exists entirely within City of San Diego property. Approximately, the first 2,000 feet of this trail follow cobbly streambed that is deemed dangerous for walking (see photo 3). Alternative 2 does not provide for any disabled access to the trail route.

Photo 3 The cobbly walking surface of Alternative 2 poses some physical danger to users

The second (northern) half of Alternative 2 is adjacent to the streambed, and passes through a mixture of disturbed, riparian, CSS and CH habitats. The majority of this portion is in good shape and is safe for walking. A portion of the trail segment follows an existing concrete drainage ditch. The ditch makes a reasonable trail surface and is in good shape except for one point of failure that would need repair (see photo 5). The same approach to preventative maintenance and trail enhancement suggested for the concrete ditch portion of Alternative 1 could be applied here. The last ¼ of the trail traveling north presents the user with the option of continuing on to either the Ruffin Road trailhead, or the Gramercy Drive trail head.

The Gramercy Drive route is an existing trail in good shape that crosses the streambed in four locations and would require a puncheon bridge at one of the crossings. Improvements are necessary in the last several hundred feet of the trail as it ascends the final slope to the street. The slope and the trail surface are eroding and in disrepair. Habitat restoration would help stabilize the slope and provide a more pleasant trail experience. Fencing or handrails should

also be provided to prevent cutting of switchbacks and to improve access for the disabled (see photo 5).

The route to Ruffin Road is also an existing trail that begins in a series of steep switchbacks with existing wooden stairs installed by the City Ranger. Some of these stairs are beginning to fail and would require repair by the SDRC trail project. The remainder of the trail follows a gradual slope along the hillside above the Ruffin Road side canyon. The majority of this existing trail is in good shape with the exception of a few places that require minor trail erosion control measures. A short portion of this trail segment is accessible to wheelchair users, but further accessibility is currently blocked by a sudden steep dip (see photo 15). The Friends of Ruffin Canyon have requested installation of a bridge or some other element that would provide for wheelchair access through and beyond this point. The trail terminates at the Friends of Ruffin Canyon native plant garden.

Photo 4: The sudden change in grade seen to the right of the concrete wall may require a bridge.

Photo 5: (left) Drainage ditch failure. (right) Trail erosion along swithbacks of Gramercy Rd. route.

2.1.4 Trail Character

Photo 6: Rugged, immersive character of Alternative 2 seen in both enclosed and open spaces.

The vast majority of Alternative 2 provides an immersive, rugged experience for users. The lower half of the trail is along the canyon bottom in the streambed which provides a wide clearing of vegetation for users to move about more freely than in other alternatives. The canyon is at its widest and deepest here and allows users to feel the immensity an urban canyon. The upper half of the canyon trail winds through tall strands of CH and provides more of an intimate trail experience that leaves users wondering what is happening around them, as well as what may lie around the corner of each turn. Alternative 2 offers very interesting experiences for users on the more adventurous half of the spectrum; however, for those who are nervous about entering canyon open spaces, it is a less attractive option than Alternative 1. Alternative 2 is thus likely to appeal to smaller segment of the community than Alternative 1.

Because the upper ends of Alternative 2 include stairs, and the lower half of the route is rough cobble, this alternative is unlikely to used by cyclists, and all but the extreme northern end is inaccessible to wheelchair users.

2.1.5 Trail Safety

Little to no real difference in crime-related safety exists between the three alternatives. Physical safety aspects of this alternative are far worse than the other two alternatives. The cobbly nature of the southern portion of the trail makes for a dangerous walking surface on a large portion of the trail. Addition of handrails along portions of the trail that traverse steep slopes would improve its safety and usability for disabled users.

2.1.6 Biological Resources and Impacts

Alternative 2 would require little to no direct impacts to habitat since it follows existing trails throughout its entirety. As discussed above, some long term water quality issues may result from the portion of the trail that exists within the streambed. The vast majority of this Alternative lies within the MHPA.

2.1.7 Restoration Potential

The upper portion of Ruffin Canyon is heavily impacted by invasive exotic species within the riparian corridor which provide excellent opportunities for restoration. The majority of the length of the drainage in that canyon segment is dominated by *Washingtonia robusta, Arundo donax*, and other exotic species (see photo 7). Willows (*Salix spp.*), mulefat (*Baccharis salicifolia*), and other wetland species are present in portions of the drainage, which indicates appropriate hydrology for riparian restoration. Elimination of this large source of exotic species in the upper reaches of the drainage would eliminate a major long-term threat to downstream degradation of natural habitats in the MHPA and the San Diego River corridor. Detailed mapping of restoration areas was not completed during this phase of the project, but preliminary mapping indicates a minimum of 1.19 acres of restoration area available.

Photo 7: *Washingtonia robusta* can be seen along the entire drainage corridor.

Because wetland mitigation is very difficult to secure for permitted impacts in San Diego, it may be worthwhile to consider development of a mitigation banking agreement with the City of San Diego, whereby the SDRC would plan and implement the restoration work, but ultimately receive reimbursement for the effort from the purchase of mitigation credits.

2.1.8 Cultural Resources

Records searches were completed by ASM Affiliates for historical, cultural, archaeological, and Native American resources within the project area. Though some historical resources exist in the surrounding neighborhoods, no documented resources were identified within the canyon areas and no impacts are expected.

2.1.9 Water Resources

Almost half of the Alternative 2 is within the drainage channel. Though this issue doesn't cause direct physical impacts to the stream, it may pose long term threats to water quality from user activity. Alternative 2 also requires seven stream crossings. Six of these stream crossings would be used as is and require no additional improvements. The remaining

stream crossing would require a puncheon bridge to compensate for sudden elevation loss and gain within the streambed.

2.1.10 Landowner Issues

Alternative 2 crosses City-owned open space and private land owned by Escala. A high degree of support is expected from the City. Escala's level of support is unknown. Because all three alternatives cross Escala property, coordination with and approval from them is unavoidable. It is difficult to anticipate their relative level of support for the three alternatives.

2.2 ALTERNATIVE 3

Alternative 3 follows the same general route through Ruffin Canyon as Alternative 2, but includes new trail segments designed to avoid placement of any trail within the active stream channel. Essentially, the intent of this Alternative is to avoid the physical safety concerns and long term water quality impacts associated with Alternative 2.

2.2.1 Trailheads/Access Points

The southern trailhead begins at the northern terminus of the dog park associated with the housing development to the south on property owned by Escala. This trailhead is pleasant, has room for interpretive elements and a kiosk, and provides extended views of Ruffin Canyon and Sandrock Canyon to the north, and Mission Valley to the south. This trailhead is the best of the three options for the southern entry to the canyon. It would coincide with an existing recreation destination, with very little impact on the dog park itself. The only modification necessary to the park would be the installation of a gate at the trail entry. A steep slope at this access point may require stairs (see photo 8). There is no parking available near any of the southern trailheads.

Photo 8: (left) Dog park trailhead looking south toward Mission Valley. (right) The steep slope at the dog park trailhead will require stairs.

Since this alternative is simply a modification of Alternative 2, the northern trailheads are the same as those described for Alternative 2.

2.2.2 Connections

The southern end of the trail connects to the Escala development with little functional difference from Alternatives 2 and 3. There is no other feasible point of connection to Mission Valley. The proposed trail and the Escala development are an ideal and mutually compatible pairing that puts a high number of trail users very close to a major recreational amenity. Studies across the country have shown that trails are increasingly favored by developers as a community amenity because they are low-cost to the developer and high value to the ultimate home-owners.

Since this alternative is simply a modification of Alternative 2, the northern connections are the same as those described for Alternative 2.

2.2.3 Trail Route

The floor of Ruffin Canyon is wide and could easily accommodate a trail outside of the existing active drainage channel. However, it is clear from field evidence that stormwater flows often are high enough to overflow the channel and send flood flows through other parts of the canyon floor. Secondary channels are visible throughout the canyon floor. It is highly probable that any new trail placed on the canyon floor would be vulnerable to washout from stormwater flows within the first few seasons of use. Because the main intent of Alternative 3 is to avoid the probability of trail damage from stormwater flows, this Alternative provides route modifications to the Alternative 2 route that place the trail on the canyon side slope. With that goal in mind, the trail begins at the end of the dog park by descending a short, steep hillside of ornamental groundcover that would require stairs as stated above. It then continues along the hillside, passing through a mixture of disturbed, CSS and CH habitats, following natural topographic benches as much as possible. The new trail segment would require cutting of a trail bench and vegetation clearing. It would require more effort to construct than Alternative 1, but is still a reasonable undertaking for hand labor crews.

Alternative 3 continues north up the canyon and eventually meets up with Alternative 2 where Alternative 2 moves away from the streambed, slightly south of the Shawn Canyon junction. After a few hundred feet, the Alternative 2 alignment once again becomes coincident with the streambed. Alternative 3 provides two options for rerouting the trail around this problem area:

- The first option (see ALT 3A in Figure B) crosses the streambed to the west and runs through a large patch of iceplant, before ultimately crossing the stream once more and meeting up with Alternative 2. The advantage of this option is two fold: 1) It avoids habitat impacts by passing through iceplant. 2) It integrates construction of the new trail with restoration of the iceplant. The disadvantage of this option is the need for two stream crossings, which increase the probability of maintenance issues and water quality impacts.

- The second option (see ALT 3B in Figure B) avoids the stream crossings, but causes impacts to chaparral within MHPA by running along the east side of the streambed before meeting back up with Alternative 2. The iceplant area on the west side of the stream could still be restored if desired.

Due to the advantages and disadvantages inherent in each of these options, the preferred option is not obvious. From the perspective of minimizing impacts to water quality, ALT 3B is by far superior as it avoids the streambed entirely. From the perspective of minimizing habitat impacts and the efforts required to permit impacts within the MHPA, ALT 3A is the better option. Comparing ALT 3A and ALT 3B, we recommend ALT 3B.

The remainder of the Alternative 3 route is identical to Alternative 2.

2.2.4 Trail Character

Alternative 3 offers a similar experience to Alternative 2. The only difference is the result of placing the southern portion of the trail on the hillside, rather than placing it in the canyon bottom. With the trail perched on the hillside, the user continuous panoramic views of the canyon and of Mission Valley. Air circulation is also increased, providing a cooling effect when breezes blow. Like Alternative 2 this route would appeal to a narrower segment of the community than Alternative 1. It also would not accommodate wheelchair use due to the steep slope at the trail start. Bicycle traffic could potentially be accommodated, though cyclists would need to carry their bikes over stairs at both the southern and northern ends of the trail.

2.2.5 Trail Safety

Little to no real difference in crime-related safety exists between the three alternatives. As discussed in the previous section, Alternative 1 may offer some perceived increase in safety for some users. Physical safety aspects of this alternative are roughly equal to Alternative 3 and far superior to Alternative 2's cobbly segments.

Photo 9: Alternative 3 character

2.2.6 Biological Resources and Impacts

Alternative 3 would require construction of roughly 2,700 lineal feet of new trail, with an assumed average impact width of four feet, for a total of approximately ¼ of impact to habitats that include non-native coastal sage scrub, chaparral, and ruderal/disturbed. These impacts are unavoidable if the trail is to be kept out of the cobbly drainage. All but a very small portion of this Alternative exists within the MHPA.

2.2.7 Restoration Potential

The opportunities for restoration associated with this Alternative are the same as those associated with Alternative 2.

2.2.8 Cultural Resources

Records searches were completed by ASM Affiliates for historical, cultural, archaeological, and Native American resources within the project area. Though some historical resources exist in the surrounding neighborhoods, no documented resources were identified within the canyon areas and no impacts are expected.

2.2.9 Water Resources

Because Alternative 3 is placed outside of drainages and floodplain areas (with the exception of unavoidable stream crossings associated with ALT 3A), minimal threat to water resources is expected. Construction of new trail segments would need to be done carefully to avoid creating erosion and sedimentation problems.

2.2.10 Landowner Issues

Alternative 3 crosses City-owned open space and private land owned by Escala. A high degree of support is expected from the City. Escala's level of support is unknown. Because all three alternatives cross Escala property, coordination with and approval from them is unavoidable. It is difficult to anticipate their relative level of support for the three alternatives.

3.0 NORMAL HEIGHTS

Three conceptual trail alignments were considered in Ellison Canyon. Alternative 1 is described in detail in Section 3 of this report. Alternatives 2 and 3 are described below.

Alternative 1 generally follows the SDG&E utility corridor down the length of the canyon floor. Alternatives 2 and 3 begin at the end of 34th Street, but follow different routes. Each Alternative presents attractive user experiences, but each also presents complex landowner issues. The "Phase I - Normal Heights Preliminary Planning Report" provides a detailed comparison of the Ellison Canyon trail route as compared to the other three canyons considered for selection as the preferred Normal Heights canyon trail route. That report is available for review from the SDRC upon request. Because the Phase I report includes extensive background information about the SDG&E canyon, and because the three alternative alignments considered within Ellison Canyon share many of the same issues and characteristics, this appendix does not include the same level of detail for Alternatives 2 and 3 as was provided above for the Ruffin/Sandrock canyon. Below is a brief discussion of the key differences between Alternative 1 (the recommended alternative) and Alternatives 2 and 3.

Because all alternative alignments are located primarily within the MHPA, and because all follow existing trails or disturbed areas, there is little difference in biological impacts expected from the three alternatives. Permitting issues and community connections are also similar between alternatives. The main differences between the three alternatives are in landowner patterns, the character of the trail routes, and possibility for trailhead amenities at the southern trailhead.

The majority of Alternative 1 follows the existing SDG&E access road/easement that runs along the bottom of the canyon from Camino Del Rio South at the lower end to North Mountain View at the top. The upper end of this alternative crosses several private residential properties, which has potential to present significant difficulty for acquiring trail easements. The southern trailhead terminates at North Mountain View, which is a major street and thus arguably a more appropriate access point than 34th Street, which is a cul de sac. The trailhead itself, however, is small and provides less opportunity for amenities than the 34th Street access point. The character of Alternative 1 is substantially different than Alternatives 2 and 3; it follows the canyon bottom along its entire length, which offers an excellent sense of immersion in the canyon environment, but conversely does not offer the long panoramic views of Alternatives 2 and 3.

Alternative 2 begins at the end of 34th Street to the south, passes through the flat ridge top, and then traverses down the canyon slope heading west until it meets the SDG&E access road and Alternative 1 on the canyon floor. This Alternative has an access point well suited for a variety of amenities, and could provide a park-like experience. The access is, however, at the end of a cul de sac, which could potentially present more of a nuisance to residents on 34th Street than Alternative 1 would present for residents on North Mountain View Drive. This trail alternative provides excellent viewpoints and interpretive possibilities, with expansive views over Mission Valley all the way to the Pacific Ocean. It offers a diverse

user experience, with expansive views on the upper portions of the trail, and an immersive canyon experience in the lower portion. The steep portions of the trail would require re-grading and possibly minor impacts to habitat. The main disadvantage for this route is that the entire route is owned by the Carmelite Monastery, and early discussions with the Monastery regarding the trail indicated they were strongly opposed to any trail facilities being placed on the top of the ridge or anywhere that would provide direct views to the monastery itself.

Photo 10: Southern Trailhead for Alternatives 2 and 3.

Photo 11: Alternative 2 alignment. Overview (left) and lower end of trail alignment (right).

Alternative 3 shares the same southern trailhead as Alternative 2 and therefore shares the same opportunities and constraints associated with 34th Street residents and the Carmelite Monastery. Where-as Alternative 2 descends the slope to the west to the SDG&E road, Alternative 3 follows the ridgeline to the north, and then traverses the hillside north to Camino Del Rio South. The route follows an existing road cut with excellent grades for trail use. As the Alternative nears Camino Del Rio South, the existing trail ends abruptly at a gunnite concrete retaining wall associated with an office development. The trail would need to either 1) extend down that wall via a stairway and then cross through the office property to the edge of Camino Del Rio South, or 2) switchback down the steep natural hillside to the west of the office development via a new trail bench until it reaches the road. Both routes are short, and both would require improvements to implement. The entire route offers expansive views of Mission Valley; however, it does not offer the immersive canyon experience provided by Alternative 2. Alternative 3 would require coordination with the office property located at the end of the trailhead in addition to resolving the Monastery parcels issue.

Photo 12: Alternative 3 alignment.

Trail safety, restoration potential, and impacts to natural and cultural resources are approximately equal between all three alternatives. Permitting difficulty is also approximately equal.

Appendix B

Real Estate Tables

Parcels Requiring Public Access Acquisition or Verification Contact Information

Ellison Canyon			
APN	Owner	Address	Contact
4390801500	Carmelite Monastery Of San Diego	5158 Hawley Blvd San Diego, CA 92116	Sister Pia Anderson
4390802100	Carmelite Monastery Of San Diego	5158 Hawley Blvd San Diego, CA 92116	
4390900200	Sadori Peter	3340 N Mountain View Dr San Diego, CA 92116	
4390900300	Rucinski Frederick & Schneider-Rucinski Noreen B	3344 N Mountain View Dr San Diego, CA 92116	
4390900400	Gevas 1994 Family Trust	3346 N Mountain View Dr San Diego, CA 92116	
4390900500	Arguello Michael T & Ingrid Christine	3350 N Mountain View Dr San Diego, CA 92116	
4390900600	Clark-Chatard Revocable Family Trust 03-07-06	3354 N Mountain View Dr San Diego, CA 92116	
4390900700	Christensen Michael A & Carla A	3358 N Mountain View Dr San Diego, CA 92116	
4390900900	Lewis Paul F	3364 N Mountain View Dr San Diego, CA 92116	
4390902200	Love/Eckart Trust 03-03-05	5160 34Th St San Diego, CA 92116	
4390902300	Tucker Charles J & Therese C Trust 11-19-91	5166 34Th St San Diego, CA 92116	
4391110800	Boyer Family Trust 05-18-04	3359 N Mountain View Dr San Diego, CA 92116	
4392100200	Westermo Bruce D & Mcmahon Claudia H	3230 N Mountain View Dr San Diego, CA 92116	
4392100300	Helm Mary C Separate Property Trust 05-25-05	3236 N Mountain View Dr San Diego, CA 92116	
4392100400	Normandin Joyce Trust 03-13-00	3244 N Mountain View Dr San Diego, CA 92116	
4392100500	Rose Paulette L 2002 Trust 11-27-02	3250 N Mountain View Dr San Diego, CA 92116	
4392100600	James Michael L & Alaine L	3256 N Mountain View Dr San Diego, CA 92116	
4392101000	San Diego Gas & Electric Co	California State Assessed	Jeff Sykes
4392101100	Tirey Patricia Trust 01-21-99	3310 N Mountain View Dr San Diego, CA 92116	
4392101200	Goodwin Craig L	3314 N Mountain View Dr San Diego, CA 92116	
4392101900	Perez Louis A Trust 01-21-99	4940 Panama Pl San Diego, CA 92116	
4392102000	Dibella Family Survivors Trust 10-06-05	4945 Panama Pl San Diego, CA 92116	

Mission Valley			
4332500500	City Of San Diego	Public Agency	
4333001100	H G Fenton Company	7577 Mission Valley Rd San Diego, CA 92108	

Sandrock Canyon			
4291500100	San Diego Gas&Electric Co	California State Assessed	Jeff Sykes
4333011800	San Diego Gas&Electric Co	10721 Treena St #200 San Diego, CA 92131	Shea Homes