

*Countywide Swimming Feasibility Study Report*

**for**

**Santa Clara County Parks and Recreation Department**



Santa Clara County Parks & Recreation Department

and

Amphion  
2M Associates  
ArchPac

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# *Countywide Swimming Feasibility Study*

## **Table of Contents**

	<b>Page</b>
<b>INTRODUCTION</b>	
I. Executive Summary of Findings	
Purpose of Feasibility Study	I-1
Process	I-1
Conceptual Design for Prototype Regional Swim Facility	I-1
Summary of Findings: Opportunity for Regional Swim Facility Sites	I-1
Summary of Findings: Constraints for Regional Swim Facility Sites	I-1
Projected Development & Operational Costs	I-2
Cost -Benefit Analysis	I-2
Future Considerations	I-3
Conclusions	I-3
II. Study Objectives, Goals & Anticipated Outcomes of the Swimming Feasibility Study	
Study Objectives	II-1
Visitor Experience Goals	II-1
Anticipated Outcome	II-3
III. Planning & Evaluation Process	
Planning Process	III-1
The Planning Group	III-1
Evaluation Process	III-2
Table III-1 - Project Team, Technical Advisory Committee (TAC) & Commission Involvement	III-2
IV. Background Studies	
Regional Setting	IV-1
Current & Projected Demographic Trends	IV-2
Aquatic Recreation Use Trends	IV-2
Santa Clara County - Regional Water Recreation Usage Trends	IV-2
Regional Swim Facilities in the Bay Area -EBRPD, City of San Jose - Almaden Lake	IV-4
Table IV-1 - Historic & Current Regional Water-Related Recreation Inventory for Santa Clara County	IV-1
Table IV-2 - Size, Capacity & Use of EBRPD & City of San Jose Swim Facilities	IV-5
<b>ANALYSIS OF ALTERNATIVE SITES</b>	
V. Alternative Sites Considered	
Identifying Sites for Consideration	V-1
Assessing Opportunities & Constraints for 38 Potential Sites	V-1
<i>Map V-1 - Countywide Swim Facility Locations Considered by the Project Team</i>	V-2

VI.	Design Assumptions & Carrying Capacity	
	Design Assumptions	VI-1
	Determining Carrying Capacity - Methodology Used	VI-1
	Objectives for Developing Prototype Designs	VI-2
	Swim Facilities & Programs - Developing a Design Concept	VI-2
	Anticipated Outcome	VI-3
	Table VI-1 - Carrying Capacity & Facility Design	VI-2
	Table VI-2 - Swim Facility Design Concept Criteria	VI-2
	<i>Figure VI-1 - Prototype Swim Facility Design</i>	VI-4
VII.	Site Evaluations of Eight Potential Sites	
	Identifying the Eight Potential Sites for Evaluation	VII-1
	Setting for the Eight Potential Sites	VII-1
	Methodology for Evaluating the Eight Potential Sites	VII-1
	Opportunities & Constraints - A Preliminary Environmental Assessment of the Eight Sites	VII-3
	Findings of Technical Feasibility for the Eight Sites Evaluated* (*Does not include Cost Feasibility at this time)	VII-10
	Sites with Severe Constraints for Water Source	VII-10
	Sites with Severe Constraints for Septic / Leachfield Sewage Treatment System	VII-11
	Sites with Moderate Constraints for Septic / Leachfield Sewage Treatment System	VII-11
	Sites with Inadequate Land Area Constraints	VIII-11
	Sites with Flood Inundation Constraints	VII-12
	Sites with Liquefaction Constraints	VII-12
	Sites with Access Constraints	VII-12
	Table VII-1 - Potential Sources of Contamination to Swim Facility Sites	VII-7
	Table VII-2 - Environmental Assessments for the Eight Sites Evaluated	VII-13
	<i>Map VII-1 - Location of Eight County Swimming Sites Evaluated</i>	VII-2
VIII.	Alternative Sites - Conceptual Designs for Three Sites	
	Summary of Process for Selecting Three Alternative Sites	VIII-1
	Alternative Sites - Conceptual Designs for Three Sites	VIII-1
	Design Concepts - Site Requirements	VIII-2
	The Reservoir System at Burnett & Riverside	VIII-2
	The Swim Lagoon System at Calero	VIII-3
	Requirements for Sewage Treatment	VIII-3
	Requirements for Irrigation Water Supply	VIII-3
	Requirements for Roadway System Improvements	VIII-3
	Findings of Technical Feasibility* (*Does not include cost feasibility at this time)	VIII-4
	Table VIII-1 - Swim Lagoon - Comparison of Swim Areas	VIII-1
	Burnett Site	VIII-5
	Setting	VIII-5
	Swim Complex Description	
		VIII-6
	Facility Infrastructure - Water & Sewer	VIII-7
	Burnett (Coyote Creek Parkway) Swim Feasibility Issues &	

Recommended Actions	VIII-9
<i>Burnett Illustrative Design Concept Plan</i>	VIII-8
Riverside Site	VIII-11
Setting	VIII-11
Swim Complex Description	VIII-12
Facility Infrastructure - Water & Sewer	VIII-14
Riverside (Coyote Creek Parkway) Swim Feasibility Issues & Recommended Actions	VIII-15
<i>Riverside Illustrative Design Concept Plan</i>	VIII-13
Calero Site	VIII-18
Setting	VIII-18
Swim Complex Description	VIII-19
Calero (Calero County Park) Facility Infrastructure - Water & Sewer	VIII-20
Swim Feasibility Issues & Recommended Actions	VIII-22
<i>Calero Illustrative Design Concept Plan</i>	VIII-21

## **COSTS, REVENUES & OPERATIONS**

IX.	Construction Costs for the Three Alternative Sites	
	Calculating Construction Costs for the Three Alternative Sites	IX-1
	Construction Costs	IX-1
	Components Not Included	IX-2
	Table IX-1- Comparison of Order of Magnitude Construction Costs for Alternative Sites	IX-2
X.	Staffing Requirements & Annual Operations Budget	
	Maintenance & Operations Staffing Requirements	X-1
	Operations Scenario	X-2
	Annual Operating Costs	X-3
	Assumptions Used to Calculate Swim Area Expenditures	X-4
	Comparison of East Bay Regional Park District Swimming Area Staffing Requirements and Operating Costs	X-4
	Table X-1 - Additional Staffing Required to Operate A Swim Lagoon - Comparison of Sites	X-2
	Table X-2 - Comparison of Annual Operating Costs for the Alternative Sites	X-4
	Table X-3 - East Bay Regional Park District Operating Costs for Swim Sites	X-5
	Table X-4 - Staffing Requirements for East Bay Regional Park District Swim Facilities	X-5
XI.	Revenue Forecast	
	Potential Revenues Generated for the Three Alternative Sites	XI-1
	Assumptions Used to Calculate Revenues for Swimming Area	XI-1
	Table XI-1 - Comparison of Potential Revenues Generated for the Three Alternative Sites	XI-1
XII.	Cost Benefit Analysis for the Three Alternative Sites	
	Financial Implications	XII-1
	Findings of Cost Feasibility	XII-2

**CONCLUSIONS**

XIII. Conclusions: Final Summary of Findings of Feasibility	
Summary	XIII-1
Findings of Feasibility for Meeting Study Objectives	XIII-1
Findings of Feasibility for Meeting Technical Engineering Requirements	XIII-2
Findings of Feasibility for Cost Recovery	XIII-2
Future Considerations - Critical Paths of Action Needed to Pursue	
Development of a Regional Swim Facility	XIII-2
Conclusion	XIII-3

**REFERENCES**

XIV. Glossary of Acronyms & Technical Terms	
Acronym-Full Term Name	XIV-1
Technical Terms	XIV-1
XV. Participants & References	
Participants	XV-1
Documents	XV-2
Web Sites	XV-4

**APPENDICES**

Appendix A - Table Assessing Opportunities & Constraints for 38 Potential Sites	
Table A-1- List of County Park Locations Considered by the Project Team	

Appendix B - Environmental Resource Evaluation Maps of the Eight Swim Lagoon Study Sites	
Environmental Resource Evaluation Maps	

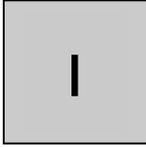
Appendix C - Summaries of East Bay Regional Park District and City of San Jose Regional Swim Facility Characteristics	
Table C-1 - Summaries of East Bay Regional Park District Regional Swim Facility Characteristics	
Table C-2 - Summaries of City of San Jose Almaden Lake Regional Swim Facility Characteristics	

Appendix D - Infrastructure Permitting, Review & Approval Agencies	
Table D-1 - Summary of Regulatory & Permitting Agencies - Jurisdiction, Agreements & Permitting Requirements for Water Delivery, Treatment & Water Quality Monitoring	
Table D-2 - Sewage Leaching System Design, Review, Approvals & Operations	

Appendix E - Itemized Cost Breakdown of Swim Facility Components	
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## **INTRODUCTION**



## EXECUTIVE SUMMARY OF FINDINGS

### **Purpose of the Feasibility Study**

The purpose of this study is to analyze the feasibility of developing a regional swim facility within the Santa Clara County Parks system that would address the demand for swimming opportunities in the County as demonstrated in the *2003 Strategic Plan for the Santa Clara County Parks and Recreation System*.

### **Process**

This feasibility study identified 38 sites associated with water within the County Parks and Recreation system for consideration for a regional swim facility. These 38 sites were reviewed with regard to access, infrastructure, microclimate, and available land area. Using these criteria, the field of 38 sites was narrowed to eight potential sites for further consideration. Then preliminary "environmental scans" were prepared for the eight sites using the County's Geographic Information System (GIS) database. Three of these sites were identified as having the greatest potential for developing a swim facility. The three sites were Burnett (Coyote Creek Parkway), Riverside (Coyote Creek Parkway), and Calero (Calero County Park).

### **Conceptual Design for Prototype Regional Swim Facility**

The prototype swim complex design includes a regional recreational swimming area in an untreated reservoir. The secured, family recreation area will include a sand beach with wade-in entry, picnic sites, turf and play areas, and restrooms with changing areas and outdoor showers. A separate, secured dog park / swim area is proposed in proximity to the main reservoir to minimize redundancy of infrastructure. Parking, a septic drainfield and "bio-filtration" wetlands / ponds, as part of a "flow-through" reservoir design, are also addressed in the design concept. The design concept has been developed to accommodate approximately 1,000 people.

### **Summary of Findings: Opportunity for Regional Swim Facility Sites**

The focus of this study was to look at opportunities for developing a "natural", regional swim area and a place for training dogs in water within the Santa Clara County Parks system. Of the three sites that were found to have the greatest potential for developing a regional swim facility, all have the potential to: 1) accommodate the prototype swim facility design concept, and 2) provide multiple, family-oriented and group oriented water-based recreation opportunities in a desirable, "natural" setting that is easily accessible from the urban area

### **Summary of Findings: Constraints for Regional Swim Facility Sites**

Regulatory / Technical Constraints. This study considered 38 sites within the County parks system. Many of these sites were eliminated because of inadequate land area, remote location rendering them inconvenient to much of the population, and cool microclimate, which would also limit their desirability.

A preliminary environmental analysis of the eight sites that met the first tier evaluation found that all of the eight sites evaluated raise significant concerns relating to: 2) reservoir and potable water source / water quality /water availability, 2) site suitability for developing a septic /leachfield sewage treatment system, and 3) constraints associated with sensitive and endangered species within the Coyote Creek riparian corridor. Of these eight sites, three sites were found to have the greatest potential for developing a regional swim facility.

Development of a swim facility at all three of the sites evaluated (Burnett, Riverside, and Calero) raise significant concerns regarding the availability of a water source with an adequate quantity, reliable flow and quality of water to meet the water supply requirements of the swim reservoirs and potable water needs.

Critical Paths of Action. In response to the regulatory and technical (engineering) parameters established during consultation with local agencies with jurisdiction over the project area, it was determined that development of a regional swim facility within the County Parks system will be contingent on taking several "critical paths of action" addressing water, sanitation, and access to the site.

For the two sites along the Coyote Creek Parkway, additional engineering studies and policy analysis with regulatory and partner agencies will be required to determine what impact the allocation of Coyote watershed water for fisheries enhancement act will have on using Coyote Creek as a water source for the swim reservoirs.

For the Riverside site additional consultation with City of San Jose will be required to determine the viability of connecting to future City potable water / sanitary sewer main lines.

During the design development phase, engineering calculations will be required for specific components identified in the design concepts including the bio-filtration" purification systems, septic leach field system, and access improvements including bridges across Coyote Creek.

### **Projected Development & Operational Costs**

The preliminary cost assessment indicates that it will cost between \$14 and \$16 million dollars to construct a swim facility on County parklands. These preliminary, order of magnitude estimate are based on a conceptual swim facility design and operational scenario with 2004 construction costs.

These preliminary estimates do not include costs for future engineering studies, permitting fees, traffic improvements beyond the park boundaries mitigation requirements, nor CEQA compliance.

It is estimated that the development of a swim facility will increase the County Parks staffing requirements and require the development of new staff positions. It is estimated that approximately 5 to 6 full-time staff and 22-24 seasonal positions will be required to operate and maintain a swim facility on a seasonal basis (April - October).

The development of a swim facility at the three alternative sites will increase annual operating costs of the County Parks system. A preliminary estimate of the annual operating costs (including staffing, equipment and maintenance in 2004 dollars) ranges between \$783,000 and \$821,000.

### **Cost -Benefit Analysis**

Based on a preliminary analysis of projected costs and revenues, the likelihood that the facility fees could pay for day to day operations of a regional swim facility is marginal. Additionally, revenues generated from use of the swim facility complex cannot be feasibly expected to pay off a capital parks bond for construction of the regional swim facility.

## **Future Considerations**

Development of a regional swim facility within the Santa Clara County Parks and Recreation system must meet several challenges with regard to meeting the study objectives, technical engineering challenges, and projected cost recovery estimates.

For all three of the alternative sites, these "critical paths of action" will require further engineering studies and policy analysis with regulatory and partner agencies to determine the cumulative effect of groundwater extraction that this project, and other pending projects, will have on a given site's aquifer.

To meet these challenges several "critical paths of action" must be initiated to address water supply and water quality objectives, and access/circulation requirements.

In the case of the Coyote Creek sites these "critical paths of action" will need to be initiated in partnership with the Santa Clara Valley Water District, and the City of San Jose, as these agencies refine the planning studies for the Fisheries and Aquatic Habitat Collaborative Study (FAHCE) and the Coyote Valley Specific Plan (CVSP), respectively or potential opportunities for meeting water quality, water allotment and circulation requirements for these two sites may be diminished.

For the two sites along the Coyote Creek Parkway, these paths of action can be initiated as part of the *Coyote Creek Parkway Integrated Master Plan and Natural Resource Management Plan*, a new planning process that the Parks and Recreation Department is starting in the Fall, 2004.

In the case of the reservoir sites, namely Calero, there are severe water quality constraints associated with California Department of Health Services and the US Environmental Protection Agency requirements for the drinking water storage reservoirs and associated upstream watershed. As a result, pursuit of the development of a regional swim facility near reservoirs may need to be deferred until City water and sewer systems are extended to within a fiscally feasible distance for extending City services to the proposed project site, unless engineering reports determine that there is 1) an adequate water supply to meet potable and reservoir needs in the on-site aquifer and 2) suitable site conditions for developing a septic sewer system that will not intrude into the water supply reservoir.

## **Conclusion**

Although the County Parks and Recreation system offers 28 regional parks and approximately 45,000 acres of parkland for consideration of a future regional swim facility, the Department found that the range of opportunities was limited to the site, technical, regulatory, and operational costs constraints identified in the Feasibility Study.



## STUDY OBJECTIVES, GOALS & ANTICIPATED OUTCOME OF THE SWIMMING FEASIBILITY STUDY

### Study Objectives

Swimming was allowed in the County Parks system at Calero reservoir between 1975 and 1990, until the California Department of Health Services (DHS) notified the Santa Clara Valley Water District (SCVWD) that state water quality requirements precluded "full" body contact with drinking water storage facilities. Additionally, "reservoir swimming" has been documented as a public desire in park planning documents over the last two decades. The public restated this unmet need during the preparation of the *2003 Strategic Plan for the Santa Clara County Parks and Recreation System*.

This feasibility study was initiated based on goals set forth in the *2003 Strategic Plan*. It represents the first phase of a regional swim facility planning process. The focus of this study is to:

- Provide an inventory and analysis of existing site conditions for potential County Park locations
- Establish criteria for developing a regional, swim facility "in a natural setting" as part of the County Parks and Recreation System
- Define potential aquatic elements and supporting features that will be explored further during the master planning and/or design development phase of a specific site
- Identify both opportunities and constraints to developing a swim facility by working with the Swimming Feasibility Project Team, the regulatory agencies, and regional recreation partners (Technical Advisory Committee -TAC) to determine technical opportunities and constraints associated with developing a swim area in a natural setting within the County Parks System
- Project capital and operating costs and potential revenues associated with providing swimming opportunities in a natural setting.

### Visitor Experience Goals

Taking into account the goals and objectives of the 2003 Strategic Plan, the Swim Feasibility Project Team developed the following visitor experience goals. These goals call for:

- Providing for the enjoyment and appreciation of the natural environment
- Providing multiple, family-oriented & group oriented recreation opportunities (including water and affiliated land-based activities)
- Providing recreation opportunities for people with dogs
- Focusing on site(s) that take into consideration easy access from the urban area, and contain adequate land area to accommodate parking and other ancillary facilities (e.g. 15 min. driving time is a commonly used standard to define this type of service area).

### Anticipated Outcome

The findings from this report are intended to guide the County and the public in making informed decisions regarding the feasibility of developing a "natural", regional swim area and a place for training dogs in water within the Santa Clara County Parks system.



## PLANNING & EVALUATION PROCESS

### Planning Process

This feasibility study was initiated based on goals set forth in the *2003 Strategic Plan for the Santa Clara County Parks and Recreation System*, which established that there was an unmet demand for swimming opportunities in a natural setting in this County. As a result of that study, future priorities under the Capital Improvement Program (CIP) Action Plan were identified. That priority listing called for "conducting a feasibility study identifying opportunities and costs associated with providing swimming opportunities in a natural setting". Also prioritized in the *Outdoor Recreation Program Action Plan* of the Strategic Plan was the need for a water training /swim area for dogs.

The planning process for the Santa Clara County Parks and Recreation Swimming Feasibility Study began in January 2004 and was completed in December 2004. Research for this project included a countywide analysis to determine the feasibility of developing a swim facility for public recreation purposes. This process included:

- Gathering background data
- Developing visitor experience goals
- Conducting a site tour of East Bay Regional Park District (EBRPD) swimming facilities
- Developing criteria for analyzing sites within the Santa Clara County Parks and Recreation system
- Identifying 38 potential County Park sites owned / leased by the County
- Narrowing the potential sites from 38 to eight using criteria established by the Swimming Feasibility Project Team
- Conducting site reconnaissance of the eight selected potential swimming sites
- Developing conceptual prototype design and programming criteria
- Preparing "environmental scans" of eight sites using design prototypes and County GIS maps to identify three sites for further study
- Evaluating technical parameters of the three sites with the Santa Clara County Valley Water District (SCVWD), Department of Environmental Health, and City of San Jose
- Determining order of magnitude capital and operating costs and potential revenues
- Reviewing the analysis of alternatives and "critical paths of action" with the Swim Feasibility Project Team, the regional recreation partner agencies, and the Santa Clara County Parks and Recreation Commission.

### The Planning Group

The study was guided by a dedicated Swimming Feasibility Project Team representing the County. This Project Team included two Parks and Recreation Commissioners representing the Parks and Recreation Commission's Swimming Feasibility Study Sub-committee, planners, an environmental compliance specialist, outdoor recreation program manager, customer and business service staff, resource manager, rangers, and maintenance staff from the Parks and Recreation Department, as well as staff from the County Risk Management Office. A list of Project Team members is found in *Section XV- References and Project Participants*. In addition, the views of the Project Team were augmented by technical, facility and programming information provided by the East Bay Regional Park District, the County Department of Environmental Health, the Santa Clara Valley Water District and the City of San Jose (TAC) during site tours of swim facilities and focused agency meetings. *Table III-1 - Project Team*,

Technical Advisory Committee (TAC) & Commission Involvement summarizes the involvement of the Planning Group.

**Table III-1 - Project Team, Technical Advisory Committee (TAC) & Commission Involvement**

Date	Meeting	Purpose	Result
2/27/04	Project Team Meeting - Field tour	View EBRPD Swim Facilities exhibiting a variety of ages, land area, visitor capacity, design features, water sources, and water treatments. Site visited: Contra Loma, Cull Canyon, Quarry Lakes	Developed design assumptions and carrying capacity that were then used to develop a swim facility prototype
4/19/04	Project Team Meeting	Develop criteria and identify site for further study	Narrowed original 38 sites to eight sites for further study
4/22/04	Project Team Meeting - Field tour	Evaluate eight County parks for potentially suitable sites for swim facilities based on criteria established by Project Team	Conducted environmental analysis of eight sites using GIS mapping system to narrow eight sites to three potential swim facility sites
7/20/04	TAC Meeting - Focused meeting with Santa Clara Valley Water District	Review technical parameters of design prototype and discuss water quality requirements and water source opportunities and constraints with Santa Clara Valley Water District for three alternative sites	Revised design parameters / analysis to address DHS and salmon fisheries water quality objectives
7/20/04	TAC Meeting - Focused meeting with County Department of Environmental Health	Review technical parameters of design prototype and discuss water quality and sewage treatment options and septic design requirements	Revised design parameters / analysis to address Environmental Health Department's septic system requirements
8/25/04	TAC Meeting - Focused meeting with City of San Jose Department of Parks Recreation & Neighborhood Services and Department of Planning, Building and Code Enforcement	Review technical parameters of design prototype and discuss Coyote Valley Specific Plan Development infrastructure partnership opportunities and constraints	Revised design parameters / analysis to address potential opportunities to partner with the City of San Jose to meet infrastructure requirements
10/20/04	TAC Meeting - Joint Partners meeting - Santa Clara Valley Water District, Department of Environmental Health, City of San Jose	Presentation of analysis and discussion of opportunities and constraints for the three alternative sites	Revised and clarified points in the analysis in response to partner agencies' comments on the alternatives analysis for three potential sites
11/3/04	Parks and Recreation Commission Workshop	Presentation of analysis and discussion of opportunities and constraints for the three alternative sites	Revised and clarified points in the analysis in response to Commission comments
12/1/04	Parks and Recreation Commission Meeting	Presentation of Swimming Feasibility Report for Commission Acceptance	Report acceptance

The findings from the draft alternatives analysis were presented to the Parks and Recreation Commission on November 3, 2004. The Countywide *Swimming Facility Feasibility Analysis Report* was accepted by the Parks and Recreation Commission on December 1, 2004.

### Evaluation Process

Assessing the Demand for Swimming in the County. A survey of County residents was conducted as part of the *2003 Strategic Plan for the Santa Clara County Parks and Recreation System* to determine the community's preferred park setting and desired recreation opportunities.

The County Parks system includes ten reservoirs operated by the Santa Clara Valley Water District for drinking water storage and flood control. The County Parks system leases these facilities for use for recreational purposes. Although boating is permitted on these reservoirs, the Parks and Recreation Department does not currently

provide swimming opportunities to the community due to the stringent water quality restrictions on the reservoirs in the County parks leaving the demand largely unmet.

Another need addressed in the County *2003 Strategic Plan* was the "need to provide outdoor recreation and training for dogs". While the County Parks and Recreation system includes off-leash dog facilities for general public use at Ed Levin and Coyote-Hellyer Parks (no permits required), there is currently no place in the County for training dogs in water without a special permit.

Role of GIS in the Study. The Santa Clara County Geographic Information System (GIS) played a role in conveying and understanding the opportunities and constraints of potential swim sites on a regional basis. GIS also allowed for the accurate mapping and printing of maps that are used in this document.

Initially County GIS maps were used to identify 38 potential sites from the entire County Parks system. In the first tier of analysis, criteria that were used to identify these sites were:

- 1) Land area / site location
- 2) Association with water
- 3) Adequate developable land area to construct a swim facility and ancillary features.

Preference in selecting the 38 sites was given to sites within the existing County Parks system, whether owned in fee or leased from another agency, that were in proximity to an existing reservoir and/or a major creek with a year-round water flow. (Note: Nearly all of the reservoirs located in the various County parks that are used for recreation are owned by the Santa Clara Valley Water District)

The second tier of analysis focused on four factors to assess opportunities and constraints for each of the 38 County sites identified. These factors were: 1) association with water, 2) access 3) infrastructure, 4) microclimate, and 5) adequate developable land area to construct a swim facility. Using these criteria, the County Swim Feasibility Project Team narrowed down the "feasible" sites to eight potential sites for further review.

GIS served as a primary planning tool in conducting the preliminary environmental summary contained in *Section VII - Site Evaluations of Eight Potential Sites* for the eight potential sites that led to the preparation of the environmental opinion. Using this system, constraints detailing *Biological Resources, Hydrological and Geologic Hazards, and Soil Conditions* were mapped and the information was evaluated for the eight potential swim facility sites identified for further study. For a listing of the sources of information used to compile the database for each of these maps refer to *Section XV- References and Participants*. Data that was evaluated included:

- Property lines and ownership
- Easements, leases, and relevant agreements
- Existing facilities and land uses
- Circulation and access (existing and proposed roadways, freeways ramps)
- Hydrological hazards (including constraints on meeting water quality objectives)
- Existing and potential/pending land uses (e.g. Coyote Valley Specific Plan - CVSP)
- Availability of required infrastructure with a focus on reservoir and potable water requirements and sewage requirements, as well as potential infrastructure capabilities for extending water lines, sewer lines, etc. to the site
- Capability of land area to accommodate the swim reservoir, and required and desired ancillary facilities including parking, restrooms, "dog training areas," etc.



## **Current & Projected Demographic Trends**

The population of Santa Clara County in 2004 is over 1,600,000 residents. Projections for the next 20 years indicate that the County's population will increase by approximately 23% (meaning that 400,000 new residents will reside in the County by 2040). Some of the fastest growing communities are located in the southern areas of the county including Gilroy, Morgan Hill, and San Martin. Communities in adjacent San Benito County, such as Hollister, are also growing rapidly. This population increase will likely result in increased recreational demands of the County's parks.

Future demographics are also anticipated to change. Cultures that traditionally place a high value on extended family relationships will be prevalent, thus creating an even higher demand on group activities and use areas than today's trends.

In 2040 approximately 43% of the population in the county will be Asian and Pacific Islanders and approximately 38% of the population will be Hispanic. This demographic shift will lead to emerging cultural/ethnic uses of parks and result in a greater demand for small and large group facilities accommodating such uses as picnics, cultural events, and festivals.<sup>1</sup>

## **Aquatic Recreation Use Trends**

Based on a recent County survey<sup>2</sup> of recreation trends, about 48% of the residents conduct outdoor leisure activities more than twice a week, another 26% about once a week. Only 9% conduct outdoor activities less than a few times a month according to the survey conducted as part of the needs assessment in the development of the 2003 Strategic Plan.

According to this survey, and anecdotal information from the EBRPD, the majority of regional park use is not composed of individuals, but of friends, families, small groups and large gatherings of people who want a variety of recreation options. When these people envision swimming in the regional park system, they tend to identify with water bodies that can be used for multiple water activities such as swimming and boating. Typically, deep-water swimming and diving are being phased out of newer facilities due both to associated liability and user trends. The current design trends for swimming facilities are oriented towards a clientele with lower skill levels and more family-oriented sand/water play at the water's edge. This general picture also includes a demand for clean and readily available facilities, especially restrooms, concessions, and special use features that offer opportunities for all age groups.

## **Santa Clara County - Regional Water Recreation Usage Trends**

Assessing Demand. The need for swimming opportunities in a natural setting has historically been recognized by the County. In 1971 the Santa Clara County Planning Department published a report on residents' preferences in recreation. When asked what recreational opportunities they would like to have, swimming, fishing, picnicking, camping and golf were ranked as the top choices. Distance, time and cost, as well as, lack of equipment or skills and crowded facilities were the most common conditions preventing people from participating in these activities. In suggesting recommendations for the parks they frequented, respondents listed: "*improvements on existing or provisions for future swimming opportunities and acquisition of additional parklands and recreation facilities*" among their suggestions.<sup>3</sup>

<sup>1</sup> Population projections from the 2003 Strategic Plan for the Santa Clara County Parks and Recreation System

<sup>2</sup> Presentation of Survey Results: Santa Clara County Department of Parks and Recreation, EMC Evans/McDonough Company, Inc., May 2001

The 2003 *Strategic Plan for the Santa Clara County Parks and Recreation System* also conducted a survey of residents' preferences as part of the planning process<sup>1</sup>. In this survey swimming ranked as the fifth most desired activity by County residents. As this was an activity that was not being met by the County Parks and Recreation system, the Strategic Plan recommended:

- 1) Conducting a feasibility study identifying opportunities and costs associated with providing swimming in a natural setting and;
- 2) Identifying, planning, developing and delivering recreational facilities and programming opportunities for people with dogs.

In addition to this information on regional recreation trends, recent parks and recreation master plans prepared for the cities of Morgan Hill and Gilroy indicate a shortage of aquatic facilities to meet current and projected future population needs. In response to this shortage, Morgan Hill has recently opened a community /regional swimming facility for both recreational and competitive swimming.

Usage Trends - Distance Traveled. User survey data gathered as part of the preparation of the 1991 *Calero County Draft Master Plan* found that between 85-92 percent of all users lived within 20 miles of the Park and averaged 12 - 16 visits per year. Weekend user patterns differed slightly from weekday patterns. On weekends, users living between 20-50 miles from Calero reservoir comprised 12 percent of the total users and averaged seven visits per year. During the week, only eight percent of the total weekday users travel over 20 miles to visit Calero County Park. This survey was taken at the boating entry kiosk and therefore, reflects primarily water related uses, but not swimming, as swimming was prohibited in lakes and reservoirs at the time of the survey.

#### Santa Clara County - Swimming - Former Usage and Proposed Plans.

- 1972 Coyote Creek Parkway. The 1972 *Coyote Creek Master Plan* proposed swimming in three locations along the Coyote Creek Parkway. These sites included an area north of Hellyer Park (since developed into a City of San Jose Public Golf Course), the Riverside / Ogier Ponds area, and a site located north of Burnett Ave. and west of Coyote Creek.
- 1968 - 1991 Calero Reservoir. The County Parks and Recreation began offering water-oriented recreation at Calero reservoir under a lease agreement with the SCVWD in 1968. A boat launch was built in the late 1960s and parking area, picnic facilities, and a small beach were in place by 1975. Swimming was allowed in the reservoir until 1990, when the California Department of Health Services (DHS) notified the SCVWD that state water quality requirements precluded "full" body contact with drinking water storage facilities.
- 1986 Lexington Reservoir. The 1986 *Lexington Reservoir Draft Master Plan / Technical Report* recommended the development of a swimming area at the east end of the dam face in the short term, and development of a permanent, secured swim center and a separate tot wading pond when the boat launch ramp was

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<sup>3</sup> *Master Plan Coyote Creek Park*, Ribera and Sue Landscape Architects for City of San Jose and County of Santa Clara, July 1972

moved to a permanent location. Design of the sewage treatment options was to be studied in greater detail at a future time.

1991 Anderson Lake. The *1991 Anderson Lake Draft Park Master Plan* recommended a lagoon for swimming and non-motorized boating, intensive picnic use, and a golf course. The plan proposed damming the northern end of Anderson Lake to provide year-long water level adequate to support sailing, windsurfing and other non-motorized boat use. Study issues associated with this plan included dry-year water levels, water district maintenance requirements, maintenance of a "minimum pool" of water within the reservoir, water quality and noise.

1991 Calero Reservoir. The *1991 Calero County Park Draft Master Plan* proposed a swimming facility in a natural valley at the southeast corner of the park near the reservoir. Anticipated capacity of the one-acre swim lagoon would be 1,200 people per day with a maximum of 600 people at one time. This plan proposed using a recycling water system that would filter and purify the water on a regular basis. Design of the control and disposal system for the lagoon water were left to a later more detailed study in the future. Development of the lagoon was to be deferred until a city sewer system was extended to within one mile of the lagoon. Permanent restrooms would be installed at that time.

### **Regional Swim Facilities in the Bay Area -EBRPD, & City of San Jose - Almaden Lake**

East Bay Regional Park District is comprised of 85,000 acres of regional parks that provide for many recreation activities. The District offers aquatic activities at lakes throughout the two county area of Alameda County and Contra Costa County, and at shoreline sites along 60 miles of the San Francisco Bay and Delta. These facilities include a variety of swimming opportunities ranging from "natural", untreated soft-bottomed reservoirs, to chemically treated, hard bottom swimming lagoons and swimming pools. Of these sites, Quarry Lakes (Fremont) and Shadow Cliffs (Pleasanton) have the greatest potential to serve Santa Clara County residents, especially those residents living in the northern and eastern portions of the County.

The City of San Jose has one regional swim facility that meets the County's mission for providing swimming in a "natural" environment. This facility, known as Almaden Lake, was developed as a flow-through lake in the Los Alamitos-Calero Creek waterway. This is a family-oriented destination facility that includes a sand beach, picnicking, a turf area and children's playground. This facility is centrally located, and is served by light rail, bus routes and the regional trail system.

Size, capacity and usage trends for the EBRPD swim facilities and Almaden Lake Swim facility are provided in *Table IV-2 - Size, Capacity & Use of EBRPD & City of San Jose Swim Facilities*.

**Table IV-2 - Size, Capacity & Use of EBRPD & City of San Jose Regional Swim Facilities**

Swim Facility - (reservoir unless noted otherwise)	Total Park Land Area		Land Area - Swim Complex		Water Area -Reservoir			Visitation		Parking Spaces	
	40 - 100 Acres	> 700 Acres	<1 - 2.5 Acres	5 - 15 Acres	<1 -10 Acres	11-79 Acres	80 - 500 Acres	Capacity	Actual Use Patterns	100 - 350	1,000 - 1,500
<b>East Bay Regional Park District Swim Facilities</b>											
Contra Loma Rec. Area (1)		•	•				• 1	1,500	Operates at capacity peak weekends/ holidays - Typ. operates near capacity weekends		•
Cull Canyon Rec. Area		•		•	•			1,000 - 1,200	Operates at capacity peak season days only	•	
Del Valle Regional Park		•		•			•		Operates at capacity during peak season holidays		•
Don Castro	•		•				• 1	1,000	Operates at capacity peak season days only	•	
Lake Anza - Tilden				•	•			800-1,000	6,000 / day 3 busiest days only	•	
Lake Temescal	•		•		•			Under 1,000	Capacity determined by amount of congestion in water	•	
Quarry Lakes Rec. Area		•	•				•	over 1,000	Generally does not operate at capacity		•
Pool - Roberts Rec. Area (2)	•		•		•			150	Swim complex operates at capacity the entire season	•	
<b>City of San Jose Swim Facilities</b>											
Lake Almaden	•		•			•		800-1,000	Weekends at or over capacity, weekdays 600-800 visitors with 250 persons in water at on time	•	

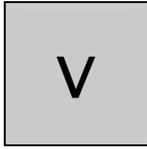
(1) Reservoir separate from swim area

(2) Swimming pool

For additional information on the EBRPD and City of San Jose swimming facilities, refer to *Appendix C - Summaries of East Bay Regional Park District and City of San Jose Regional Swim Facility Characteristics*.



## **ANALYSIS OF ALTERNATIVE SITES**



## ALTERNATIVE SITES CONSIDERED

### Identifying Sites for Consideration

The Santa Clara County Parks and Recreation Department GIS maps were used in the initial phase of analysis to gain an understanding of the opportunities and constraints of potential swim sites on a regional basis. In this initial phase, each of the parks in the County Parks and Recreation system was considered. The focus at this phase was on identifying sites that could meet the vision of providing a "regional swim facility that would meet an unmet need for County residents".

Using the GIS, and input from the Swim Feasibility Project Team after the EBRPD swim facility field tour, 38 potential sites were identified and analyzed for consideration for suitability for a County Parks swim facility. Map V-1 shows the location of these sites. Table A-1 in *Appendix A - Table Assessing Opportunities & Constraints for 38 Potential Sites* identifies the 38 sites and provides a brief summary of their characteristics.

### Assessing Opportunities & Constraints for 38 Potential Sites

Criteria that was used to narrow down the number of potential sites from 38 to eight was based on the County goals as set forth in the *2003 Strategic Plan*, input from the Swim Feasibility Project Team, and an evaluation of the sites using the County GIS maps. The first tier of analysis focused on five general factors to assess opportunities and constraints for each of the 38 county sites identified. These factors were 1) association with water, 2) access, 3) infrastructure, 4) microclimate and 5) available land area.

Association with Water. The results of the *2003 Strategic Plan* survey painted a picture of "a classic regional park" for an urban recreation area. This "picture" included ease of access, a water feature in a "natural setting", places to congregate and picnic, and trails to be used for a variety of purposes. Within this vision, swimming is seen as "a major focus for summer outings". Therefore, preference was given to sites with:

- An affiliation with an existing water body (e.g. reservoir or creek) even if this is only a perceived association (e.g. the Calero site overlooks Calero Reservoir, but has no physical connection to that waterbody)
- A "natural" aesthetic character.

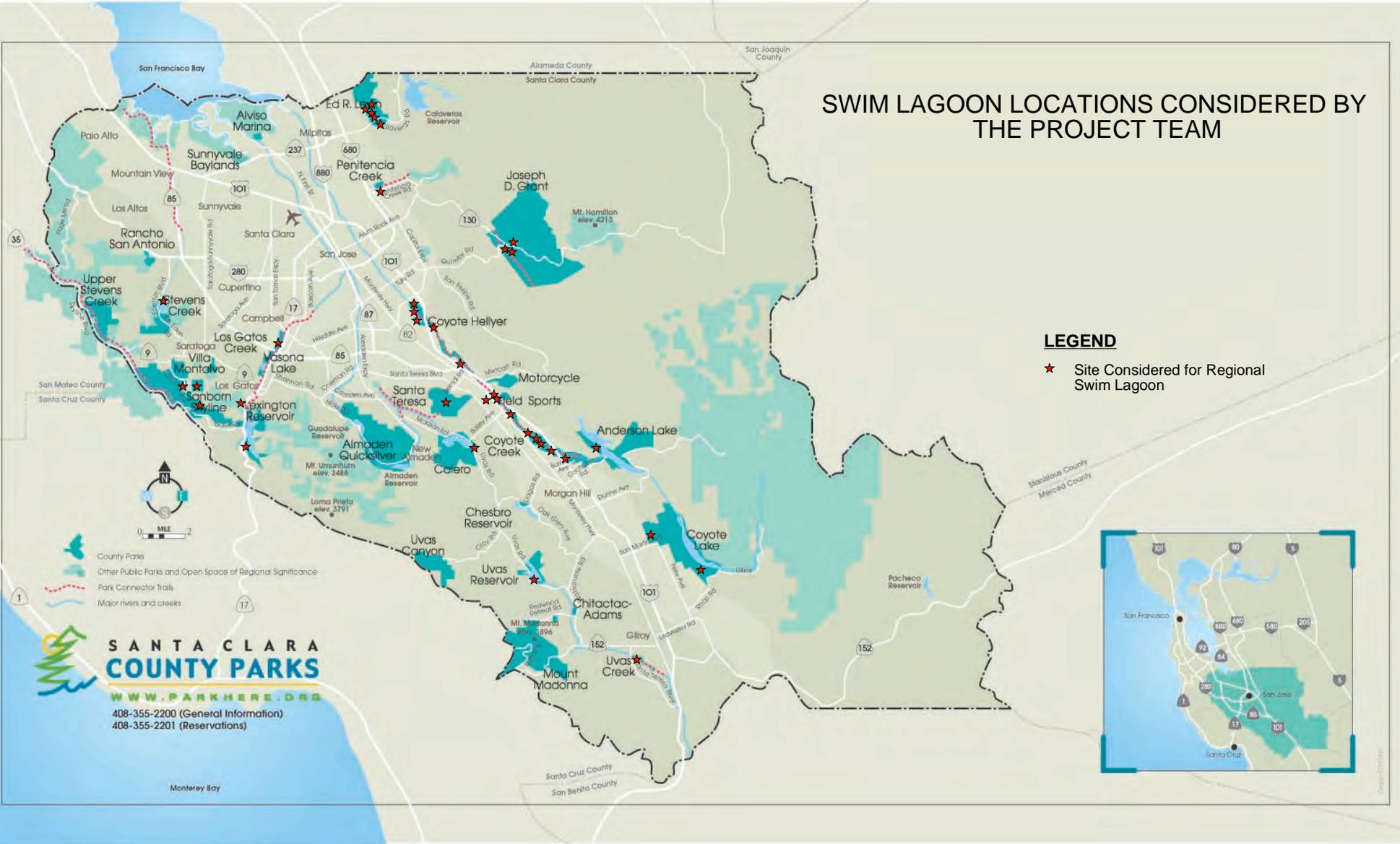
Access. The more regional parks and recreation facilities can be considered part of a seamless experience that begins at home or place of work, the more those facilities will be used and the greater their value will be to the general public. Therefore, preference was given to sites:

- Within or near an urban service area in relatively close proximity to the mid-to-southern service area of the County (e.g. 15 to 30-minute driving time) to best service County residents not served by other facilities
- That can be accessed from existing highways or major arterials for ease of access and to minimize new (expensive) road construction
- That can be accessed from an alternative transportation mode (e.g. regional trail and/or bus service).

# SWIM LAGOON LOCATIONS CONSIDERED BY THE PROJECT TEAM

## LEGEND

- ★ Site Considered for Regional Swim Lagoon



Infrastructure. Infrastructure is a critical and costly component of a swim facility. To minimize the costs of developing additional infrastructure, preference was given to:

- Sites with the potential to connect to existing urban utilities
- Sites where there was an existing potable water well and adequate land area to accommodate a septic drainfield (because much of the unincorporated area of the County does not have access to water and sewer main lines).

Micro-climate. The County was divided into three general micro-climates "hot" eastside hills, "hot" valley floor, and "cool" westside mountains. As there is a correlation between warm weather and attendance, preference was given to sites:

- With the "hot" micro-climate of the eastside hills and the "hot" valley floor (where temperature of 80 to 100 degrees are common during the swim season)
- That remain warm during the late afternoon - evening to encourage extended use after work during weekdays.

Available Land Area. The County Parks and Recreation system is geared toward serving the regional area and providing opportunities that are unique and large enough to serve the region. Therefore, preference was given to sites with a minimum land area of 22 acres (this minimum acreage was derived from the Swimming Feasibility Project Team's assessment of EBRPD's "natural" swimming facilities).

Through this evaluation process the Swimming Feasibility Project Team's narrowed the initial 38 sites down to eight sites for further consideration. Refer to *Map VII-1 - Eight County Swimming Sites Evaluated* in *Section VII - Site Evaluations of Eight Potential Sites* for the locations of these eight sites.



## DESIGN ASSUMPTIONS & CARRYING CAPACITY

### **Design Assumptions**

Aquatic facilities can take on a number of configurations including sandy beaches with wade-in water play, splash features, open water informal recreational swim areas, competitive swim centers, and aquatic entertainment sites incorporating features such as water slides.

To be able to determine how much land area would be needed to develop a County swimming facility, design assumptions were developed. As part of the preparation of the *2003 Strategic Plan*, the community's preferred park setting and desired recreation opportunities were queried through a public opinion survey and focus group working sessions.

As part of the "*Visioning and Values*" component of the planning process for the *2003 Strategic Plan* participants painted a picture of "a classic regional park". The "development formula" for an urban recreation area included ease of access, a water feature in a "natural setting", places to congregate and picnic, and trails to be used for a variety of purposes". Within this vision, swimming is seen as "a major focus for summer outings".

The Swim Feasibility Project Team developed several design assumption using the components of "a classic regional park for an urban recreation area", and information gathered by during their site tour of EBRPD swimming facilities. These design assumptions addressed the types of facilities and programs that should be included, as well as, the desired carrying capacity to create a manageable, feasible and enjoyable, family-oriented and group oriented recreation experience in a "natural" setting.

### **Determining Carrying Capacity - Methodology Used**

The base criteria established during the development of the *2003 Strategic Plan*, called for the County Parks swimming facility to be a "regional facility" serving residents throughout the County. The sites identified for the study ranged from five to 25 acres.

A visitor capacity of approximately 1,000 - 1,500 people reflects the general capacity of the EBRPD "natural" swimming facilities, no matter how large or small that facility. Given an overall recreation facility acreage of 22 acres, peak visitation of 1,000 would represent a capacity of approximately 45 visitors/acre. This would reflect a low to moderate capacity range. If the capacity determination is based on the swim complex alone (approximately 5 acres), peak visitation of 1,000 would represent a capacity of approximately 200 visitors/acre. This would reflect an extremely high capacity range. These capacity rates are as based on the guidelines provided in *Table VI-1- Carrying Capacity & Facility Design*. *Table IV-2 - Size, Capacity & Use of EBRPD & City of San Jose Swim Facilities (Section IV - Background)* provides a comparison of several EBRPD swimming facilities and the City of San Jose's Almaden Lake swimming facility.

**Table VI-1 - Carrying Capacity & Facility Design**

Generalized Management Objectives					
	Infrequent inter-party contact Minimum regimentation Few comforts & conveniences		Occasional inter-party contact Moderate regimentation Some comforts & conveniences		Frequent inter-party contact Strict regimentation Many comforts & conveniences
Recreation Activity	Capacity Range				
	Extremely Low	Low	Moderate	High	Extremely High
<b>Sunbathing &amp; Swimming</b>	Less than 10 people/acre	10 people/acre	75 people/acre	150 people/acre	Greater than 150 people/acre
<b>Picnicking</b>	Less than 4 sites/acre	4 sites/acre	17 sites/acre	35 sites/acre	Greater than 15 sites/acre

Source: Urban Research Development Corporation, 1977. *Guidelines for Understanding and Determining Optimum Recreation Carrying Capacity*. EDAW, Inc.

Based on criteria established during the development of the 2003 Strategic Plan, the research findings of EBRPD swimming facilities, and national guidelines regarding carrying capacities and facility designs for regional facilities, a base visitor population of 1,000 was established as the assumed visitor capacity for developing a prototype design concept. This visitation rate and the associated parking requirement assumptions are provide in *Table VI-2 - Swim Facility Design Concept Criteria*.

**Table VI-2 - Swim Facility Design Concept Criteria**

Component	Site Capacity
Swim complex - peak visitation	1,000 visitors
Parking spaces (assumes 2.5 visitors per car)	400 cars

### Objectives for Developing Prototype Designs

The objective for developing a prototype design was to have a common set of design parameters that could be used to discuss the County's goals for the project, and to determine the technical and regulatory requirements associated with developing a swim facility in the County Parks system. This prototype design concept was also used to examine development, operations and management costs using a common set of parameters.

This design prototype was reviewed and accepted by the Swim Feasibility Project Team as representing the Community's vision for creating a regional swim facility. After the Project Team's review, representatives of the County Parks Project Team met with the County Department of Environmental Health (DEH) and the Santa Clara Valley Water District (SCVWD) to discuss technical (engineering), policy, permitting and legislative requirements needed for implementation. A follow-up meeting was then held with the City of San Jose (Department of Parks Recreation & Neighborhood Services and Department of Planning, Building & Code Enforcement) to determine potential partnership opportunities for meeting the implementation directives.

### Swim Facilities & Programs - Developing a Design Concept

All of the design concepts assume a visitor capacity of approximately 1,000 people as described above. Each swim complex will include a secured enclosure, a sand beach with wade-in

entry, a recreational swimming area, picnic sites, turf and play areas around the swim area, restrooms, changing areas, and outdoor showers. The design prototype includes five acres to accommodate access, parking, support facilities and land-based recreation amenities. The prototype also allows for approximately 2-3 acres for development of a dog park / swim area and six acres of infrastructure including "bio-filtration" wetlands / ponds as of a "flow-through" reservoir design concept and three acres for a septic drainfield.

**Facility Infrastructure - Water & Sewer**

- Lagoon/Reservoir (10 surface acres) with cordoned-off swim area (1 acre)
- Potable on-site well
- On-site gravity-fed septic and leaching drain field system (3 acres)

**Park Features.**

Access - 1.5 acres

- Road/vehicle access
- Trail connection
- Trail staging/bike storage
- Entry
- Kiosk (parking fee)

Parking - 3 acres

- 400 parking spaces (assumes 2.5 people /car)

Additional Facilities (2-3 acres)

- Dog swim area
- Dog off-leash park

Support Facilities - .05 acres

- Swim entry (fee) kiosk
- Concession
- Outdoor showers - 2
- Unisex restrooms/ changing facility - 30
- Lifeguard staff & maintenance staff building(s)

**Possible Swim Lagoon Programs**

Aquatic Recreation

- Wading/Recreation Swim
- Lap Swim
- Swim / Lifeguard Training
- Open Water Events
- Splash Water Feature - interactive water play with kids

Land Recreation - 2 acres

- Sand volleyball - 2 courts
- Play area - playground
- Open turf area - informal play (1 acre)

Picnic Area - 1 acre

- Individual family - 30 sites
- Group facilities - 2 (assumes 100 people per group) with shelters
- Tree plantings to provide wind & shade protection

Refer to *Figure VI-1 Prototype Swim Facility Design* for an illustrative concept reflecting these facility and program components.

**Anticipated Outcome**

The purpose of developing design concepts is not to eliminate nor rank one of the sites over another, but to meet the study objective for this project. This objective is to give the County and the public the information they need to make informed decisions regarding the feasibility of developing a "natural" swim area as part of the County Parks and Recreation System.

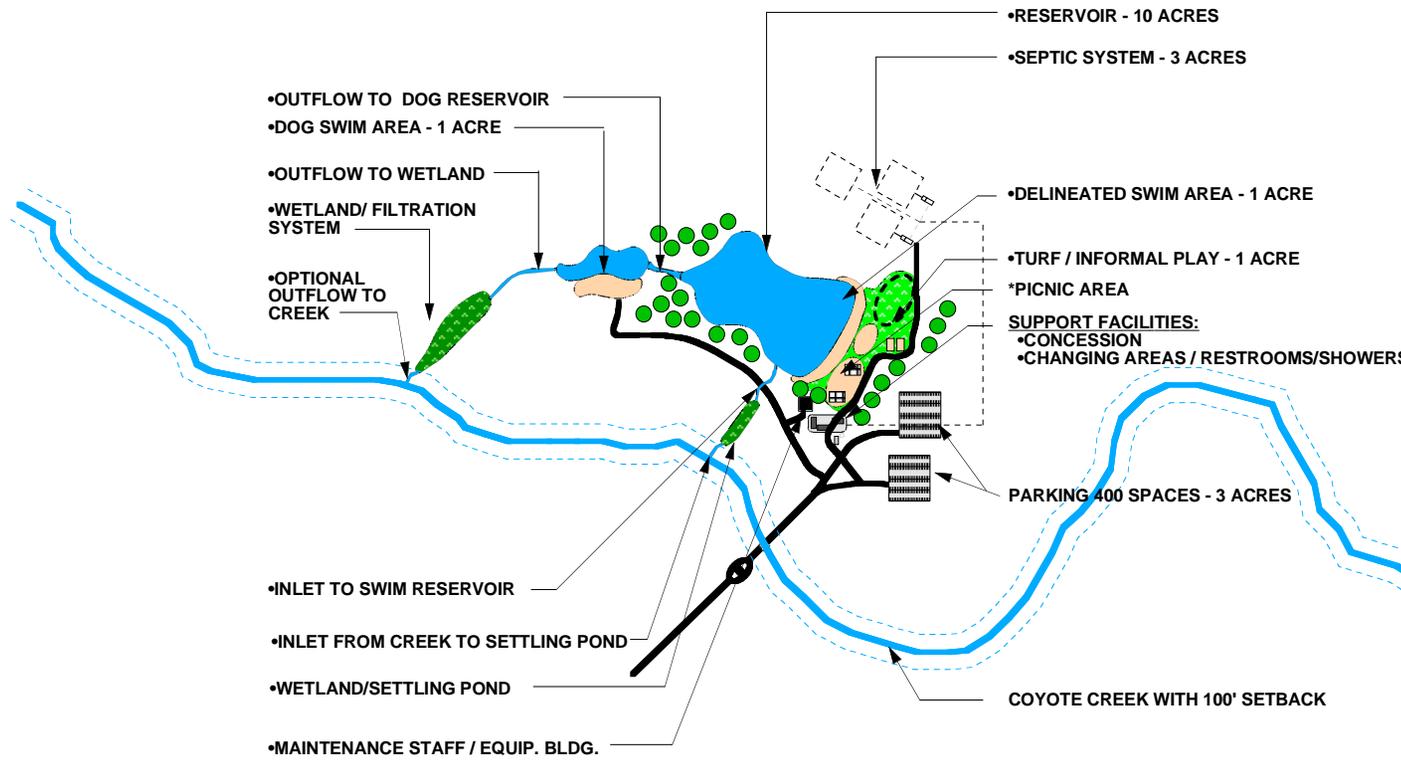


FIGURE VI-1 -SWIM LAGOON PROTOTYPE



## SITE EVALUATIONS OF EIGHT POTENTIAL SITES

### Identifying the Eight Potential Sites for Evaluation

As described in *Section V - Alternative Sites Considered*, the County Swim Feasibility Project Team identified eight sites for further review using the following criteria:

- 1) Association with Water
- 2) Access
- 3) Infrastructure
- 4) Microclimate
- 5) Available Land Area

The eight sites that were identified using this criteria are: Burnett Site, Calero Site, Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites), and Riverside Site.

### Setting for the Eight Potential Sites

All of the sites that were identified in this second tier assessment are located in the south central portion of the County on County Parklands. All of the sites are located in the unincorporated areas of the County. Seven of the eight sites are located along Coyote Creek within the Coyote Creek Parkway, which is located east of Monterey Rd. The eighth site is located in Calero County Park at the base of the southeast corner of Calero reservoir near McKean Rd. Refer to *Map VII-1 - Eight County Swimming Sites Evaluated* for the location of the sites that are evaluated in this section.

### Methodology for Evaluating the Eight Potential Sites

Once the County Swim Feasibility Project Team narrowed the potential sites from 38 to eight using the criteria listed above, they focused on establishing criteria that would enable them to establish potential preliminary environmental impacts associated with constructing a swimming facility at each of the eight sites.

This evaluation included field investigations and "environmental scans" of the project areas. After the County Swim Feasibility Project Team had conducted a preliminary site reconnaissance of the eight potential sites, they developed a common set of design parameters, as described in *Section VI - Design Assumptions & Carrying Capacity*, to use in the preliminary environmental assessments of the eight sites. These design parameters were translated into "preliminary bubble diagrams" that were overlaid on County GIS maps for the eight sites that were identified during the first tier evaluation. Data that was evaluated using these maps included:

- Property ownership
- Existing facilities, land uses and land area
- Biotic constraints
- Geotechnical constraints
- Hydrological constraints
- Soil constraints
- Existing roadway systems and access opportunities

## **Opportunities & Constraints - A Preliminary Environmental Assessment of the Eight Sites**

This section provides an assessment of the “*opportunities and constraints*” relating to developing a swim facility at the eight identified sites. The purpose of this section is to provide a clear picture as to how the existing conditions for each of the identified sites meet the eight criteria that are listed above. From this assessment, the Swim Feasibility Project Team was able to narrow the number of potential sites from eight to three alternative sites.

Property Ownership, Land Use and Land Area. All of the sites are located on County park lands either owned in fee or leased from the SCVWD. Development of a swim facility would require approximately 15-25 acres to accommodate the swimming area and support facilities (e.g. parking, utilities, and maintenance and operations structures and recreation amenities). Construction of this facility would result in a notable intensification of use where sites are currently undeveloped. No additional land acquisitions are proposed for any of the sites identified along the Coyote Creek Parkway or in Calero County Park. However, development of a regional swim facility would require modification of several current lease agreements.

Within the vicinity of the Coyote Creek Parkway, the City of San Jose is currently developing the Coyote Valley Specific Plan (CVSP) for a "New Community" with an anticipated residential population of 68,000 and a business community of 50,000 new jobs in South San Jose. Proposed development plans include 2-3 story townhouses and single-family houses on the east side of Monterey Road, which could create shade, aesthetic, buffer/privacy, habitat degradation, and neighborhood access implications along Coyote Creek. As part of the CVSP, a lake is proposed as a focal point for the community. The proposed lake / stormwater detention area would encompass approximately 60 acres and accommodate swimming and sailing. Swimming would be provided in a two-acre area associated with the proposed lake. The CVSP has the potential to provide an extension of City sewer and potable water lines to several sites along Coyote Creek. However, current "greenbelt" policies in the San Jose 2020 General Plan do not allow for the extension of urban services beyond the "greenline".

### Sites with Land Use Constraints

- Sites that would result in a notable intensification of use:  
*Burnett Site, Calero Site, Encinal School Site, Ogier Ponds (2 sites) and Riverside Site*
- Sites that would result in a conversion of the existing recreation use and termination of an existing lease agreement:  
*Model Airplane Site and Coyote Ranch/Schutzhund Dog Club Site*
- Site that would require review and approval by the SCVWD under the terms of the existing Master Reservoir Lease Agreement:  
*Calero Site* (as the site is almost wholly contained on land owned by the SCVWD and leased to the County Parks and Recreation Department)
- Sites that would be located outside the urban service areas of the neighboring cities of San Jose (to the north) and Morgan Hill (to the south) and within the "greenbelt" area:  
*Burnett Site, Calero Site, Model Airplane Site, and Ogier Ponds (2 sites), and Riverside Site*
- Sites that would be located within the urban service area of the City of San Jose:  
*Coyote Ranch/Schutzhund Dog Club Site, and Encinal School Site*

- Sites that would have the potential to coordinate with the CVSP development project:  
*Encinal School Site, Riverside Site, Ogier Ponds (2 sites).*

Biotic Constraints. Where possible, the swim facility components were located in areas primarily comprised of ruderal, non-native grasslands, oak woodland savannah, and former agricultural habitat. In these locations, the project would have the least impacts to vegetation and wildlife resources of the region. However, some of the potential sites were not large enough to fit completely within these less sensitive habitat areas. In these locations, the project area extended into wetland and riparian habitats where potential impacts to sensitive and endangered species rise significantly.

Endangered species that could be impacted by intrusions into the Coyote Creek riparian habitat include the red legged frog, (this species is also impacted by undesirable species such as bullfrogs that compete with this frog in this habitat zone), and the tiger salamander, which was just listed as an endangered species in Summer, 2004. Coyote Creek also supports a threatened anadromous fish species (steelhead trout and chinook salmon) with juvenile populations living in the pools of the creek during the summer months.

In addition, design and operations of the "flow through reservoir design prototype" proposed in *Section VI - Design Assumptions and Carrying Capacity* have the potential to impact sensitive species and habitats along Coyote Creek by creating changes in water quality, temperature and amount and flows to surface waters. Therefore, development of a "flow through reservoir swim lagoon" will require consultation with environmental regulatory agencies including DHS, the Regional Water Quality Control Board (RWQCB), U. S. National Marine Fisheries Service (NMFS), U. S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDGF). Consultation with the U.S. Army Corps of Engineers (USACOE) may also be required for sites along Coyote Creek due to planned and ongoing flood control projects.

Sites with Biological Constraints

- Sites that do not have adequate land area to locate all the swim facility components outside of the 100-foot buffer zone of the riparian corridor along Coyote Creek:  
*Coyote Ranch/Schutzhund Dog Club Site and Encinal School Site*
- Sites that have the potential to adversely impact threatened and endangered species through intrusions into the Coyote Creek riparian habitat:  
*Burnett Site, Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site*
- Sites that have the potential to create changes in water quality, temperature and amount and flows to surface waters and will, as a result, require consultation with environmental regulatory agencies:  
*Burnett Site, Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site*

Geotechnical Constraints. The eight sites evaluated are all located within the seismically active San Francisco Bay region. The Uniform Building Code designates the entire south bay as Seismic Activity Zone 4, the most seismically active zone in the United States. The faults in the region are capable of generating earthquakes of at least 7.0 in magnitude. It can be expected that earthquakes could produce very strong ground shaking during the life of a swim facility. In

addition, other geologic hazards such as liquefaction and differential compaction can occur as a result of strong ground shaking.

Major earthquake faults in the region include the Hayward Fault, the Calaveras Fault and the San Andreas Fault. Several smaller faults have been identified in the local area, such as the Shannon Fault. The fault shown on the environmental constraints map is the Coyote Creek Fault, which is located near the base of the hills on the northeastern side of Coyote Valley. According to the Division of Mines and Geology, this fault does not show conclusive evidence of being active.

Therefore, geotechnical investigations for individual structural components (e.g. the reservoir, support facilities, septic system, water lines) will need to be completed prior to the approval and construction of the facility. The reservoir, buildings, and infrastructure will need to be designed in conformance with the geotechnical reports' recommendations and in compliance with the Uniform Building Code.

#### Sites with Geotechnical Constraints

- Sites that would be exposed to seismic hazards, including the potential for ground settlement, ground shaking, and lateral spreading in the event of an earthquake:  
*All sites - Burnett Site, Calero Site, Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site*
- Sites that would be exposed to liquefaction (along Coyote Creek) in the event of an earthquake:  
*Burnett Site, Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site*
- Site that may contain expansive soils:  
*Calero Site*

Jurisdiction of Proposed Water Supply Sources. SCVWD is authorized to appropriate and acquire water and water rights for any purpose useful to SCVWD, and to manage flood control operations within Santa Clara County. (Water Code Appendix Section 60-1 *et seq.*)

Beginning in 1928, SCVWD initiated the appropriation, storage, conservation and distribution of water within Santa Clara County, and continuously thereafter it has applied the conserved water to beneficial use. It obtained permits and then licenses from the State Water Resources Control Board (SWRCB) and its predecessor agencies.

In 2001, Section 60-4 of the SCVWD Authorizing Act was amended to modify the objectives and powers of SCVWD to include the power "to enhance, protect, and restore streams, riparian corridors, and natural resources in connection with carrying out the objects and purposes set forth in the *"Settlement Agreement Regarding Water Rights of the Santa Clara Valley Water District on Coyote, Guadalupe, and Stevens Creeks."*

#### Sites with Jurisdictional Water Supply Constraints

- Sites that must compete with SCVWD's water management requirements along Coyote Creek:  
*Burnett Site, Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site*

Hydrological Constraints - Flood Hazards, Water Availability. *Coyote Creek Watershed.* Coyote Creek is the largest natural surface drainage system in northern Santa Clara County. This creek drains the western slopes of the Diablo range in eastern Santa Clara County and continues through San Jose, where it eventually flows north toward the San Francisco Bay. Approximately 350 square miles of watershed drains into Coyote Creek and its tributaries. Of this area, 193 square miles are upstream of Anderson Reservoir. Upstream of Anderson Dam is Coyote Reservoir. Both are water supply reservoirs. They also have a significant effect on flood flows in Coyote Creek. SCVWD controls the release of water from these reservoirs.

*Calero Watershed.* Calero Reservoir, which has a surface area of approximately 347 acres is within the 85-acre parcel of the Park owned by the SCVWD and managed to protect Calero reservoir as a primary drinking water supply reservoir. As a result, the SCVWD is concerned about the watershed directly upstream of the reservoir, and the potential for upstream contaminants to enter Calero Reservoir. Because Calero reservoir, is a primary drinking water storage reservoir the Department of Health Services (DHS) and the United States Environmental Protection Agency will classify the siting of a swim facility upstream of the reservoir as a high-risk activity.

*Coyote Creek Groundwater and Flood Potential.* Groundwater levels along Coyote Creek are frequently found at depths of two to eight feet below the ground surface. This high groundwater provides a potential source of water for the swim lagoon. However, it also aggravates flooding in the area, because the soil has little excess capacity to absorb surface water. As a result, a significant area within the Coyote Creek Parkway is subject to flood inundation. These site conditions limit the parkchain 's potential to develop a septic system capable of serving a visitor population of 1,000.

*Water Availability along Coyote Creek.* Adequate quantity, reliable flow and quality of Coyote Creek water as a water source to swim reservoirs may not be able to be guaranteed due to higher priority operations and other considerations such as, fisheries enhancement requirements resulting from the Settlement Act. These operational considerations may also impact quality of water available to a swim reservoir and the swim facility's maintenance requirements.

*Water Availability at Calero County Park.* Adequate quantity, flow and quality of Calero Reservoir water as a water source to a swim facility cannot be guaranteed from Calero Reservoir due to the higher priority operations and other considerations. These considerations include, but are not limited to, drought conditions, drinking water supply requirements and emergency operations, as well as maintenance of the water level for existing recreation and habitat requirements, reservoir level, and seasonal/operational draw down of reservoir as part of the SCVWD operations. These operational considerations could also impact quality of water available to the swim facility and the swim facility 's maintenance requirements. Additionally, the existing bypass water pipe that supplies Calero Reservoir is not a viable option as a water source.

*Sites with Hydrological Constraints (Flood Hazards, Water Availability)*

- Sites subject to flood inundation due to high groundwater along Coyote Creek:  
*Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model  
Airplane Site, Ogier Ponds (2 sites) and Riverside Site*
- Sites with a depth to first groundwater less than 15 feet:  
*Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site*
- Sites that may not have an adequate quantity, reliable flow or quality of water to meet the water supply requirements of the swim reservoirs and potable water requirements:

All sites - *Burnett Site, Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site* due to higher priority operations and other considerations such as fisheries enhancement requirements resulting from the SCVWD's Settlement Act.

*Calero Site* due to potential future drought conditions, drinking water supply requirements and emergency operations, as well as maintenance of the water level for existing recreation and habitat requirements, reservoir level and seasonal/operational draw down of reservoir as part of the SCVWD operations.

Water Quality. The water quality of Coyote Creek is directly affected by pollutants contained in stormwater runoff from a variety of urban and non-urban uses. Non-point source pollutants that have the potential to enter the swim reservoirs include oils and grease from parked vehicles, fertilizers and pesticides from agricultural uses and landscaping, and fecal mater from wildlife and stock animals. Refer to *Table VII-1 Potential Sources of Contamination to Swim Facility Sites* for a listing of the sources and types of potential surface water contaminants.

At Calero Park, the site is located in the watershed directly upstream of the reservoir. As such it raises many of the similar concerns about upstream contaminants from the swim area and/or the septic drain fields entering Calero Reservoir, a primary drinking water storage reservoir.

**Table VII-1 - Potential Sources of Contamination to Swim Facility Sites**

Source	Surface Water Contaminants
Body Contact Recreation at swim area	Microbiological contamination
Irrigated turf	Pesticides, fertilizers, phosphates, nitrate, potassium, DBP precursors
Wastewater facilities	Pathogen, trace organic metals, DBP precursors, phosphate, nitrate
Rural households	Septic systems, microbiological contaminates, nitrate household chemical, garden products: fertilizers, pesticides, and herbicides.

Source: Black & Veatch, 1998

State DHS regulations dictate the recommended contamination levels for swim facility closure, which should be based on the quantity of indicator organisms found in water (*Regulation AB411 - Sanitation & Healthfulness of Public Recreational Waters & Beaches*). Closures should occur when indicator organisms from collected samples exceed:

- Total coliforms: 10,000/100ml
- Fecal coliforms: 400/100ml plus,
- Enterococcus: 61/100ml or *E. coli* 235/100ml

Factors allowing reopening of closed swim facilities should also be based on the quantity of indicator organisms. Openings should occur when indicator organisms from collected samples are reduced to:

- Total coliforms: 1,000/100ml
- Fecal coliforms: 200/100ml plus,
- Enterococcus: 33/100ml *E. coli* 126/100ml

Sites with Water Quality Concerns

- All sites must meet State DHS regulations regarding allowable contamination

levels and would be required to perform routine monitoring to meet the State water quality objectives.

- *Calero Site.* In addition, the Calero Site would be required to develop a water quality management plan and long-term monitoring and reporting to ensure that no contamination of Calero reservoir is occurring because activities located upstream of the reservoir are considered "high risk" activities.

Vectors and Unwanted Growth of Aquatic Plants. Shallow zones around the proposed swim and dog areas at untreated water reservoirs, and within the wetland treatment system, would be conducive to vectors (e.g. mosquito) and unwanted growth of aquatic plants and vectors. These conditions may require development of an integrated pest management program.

*Sites with Vector & Aquatic Plant Growth Concerns*

- All sites along Coyote Creek - *Burnett Site, Coyote Ranch/Schutzhund Dog Club Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site*

Soil Constraints - Sewage Disposal. Currently all of the proposed sites would be reliant on the development of a septic leach field system. However, the size and loading requirements of a septic system that could service a regional facility (e.g. 1,000 patrons) may exceed the available, suitable land area (approximately three acres) in some locations. Additionally, the soil at these sites may percolate too rapidly to leach/filter contaminants from the water before it commingles with the groundwater, which would serve as the source for the swimming facilities, as well as a drinking water supply source. This creates the potential for groundwater contamination of drinking water wells from infiltration of groundwater from swimming reservoirs and septic treatment systems.

*Sites with Soil Constraints Limiting Development of a Septic Leach Field System*

- All sites except - *Burnett Site, Calero, Model Airplane Site*
- *Coyote Ranch/Schutzhund Dog Club Site* and *Encinal School Site*, have severe constraints because depth to ground water is less than 15 feet and the soils have a very rapid percolation rate
- *Ogier Ponds (2 sites)* and *Riverside Site* have moderate constraints because the depth to first groundwater is between 15 and 30 feet

Regional Access. Motorized vehicle access to the seven sites along the Coyote Creek Parkway would be from Highway 101 and Monterey Highway. Alternative bicycle and pedestrian access opportunities are provided by the Coyote Creek Trail, which extends from northern Morgan Hill to southeast San Jose. Access to the Calero site would be via McKean Rd.-Uvas Rd. and possibly Bailey Ave.

US Highway 101 is an eight-lane regional freeway. US Highway 101 provides regional access throughout the Bay Area and beyond. Currently access off US Highway 101 to the Coyote Valley is provided via an interchange at Bernal Rd./Silicon Valley Blvd. in south San Jose, Coyote Creek Golf Dr. (unincorporated County), and Cochrane Rd. in Morgan Hill. The CVSP includes plans for the City of San Jose to incorporate new overcrossings that would create new transects across the Coyote Creek Parkway and potentially create future freeway access to Riverside swim area.

Monterey Rd. (Highway 82) is a north-south highway extending through Santa Clara County. In the region of the study sites, it is six lanes wide north of Blossom Hill Rd. and four

lanes wide south of Blossom Hill Road. Monterey Rd. provides general access to all of the sites along the Coyote Creek corridor and access to the Calero site via its intersection with Bailey Ave. The CVSP includes proposals for the City of San Jose to incorporate improvements along Monterey Rd. The CVSP also proposes trail connections between the CVSP new community and the Coyote Creek Parkway across Monterey Rd.

Bailey Ave. extends westward from Monterey Rd. to McKean-Uvas Rd. Bailey Ave. is a two-lane facility between Monterey Rd. and Santa Teresa Blvd., and a four-lane road between Santa Teresa Blvd and the IBM Santa Teresa Laboratory site. Between the IBM site and McKean-Uvas Rd., Bailey Ave. narrows to two steep, winding lanes. Bailey Ave. is designated as a scenic corridor. The City of San Jose has studied relocation and widening of Bailey Ave. in the past.

McKean-Uvas Rd. is a two-lane rural road that extends from Almaden Valley southward to Morgan Hill and includes some narrow, winding segments. McKean-Uvas Rd. provides direct access to the Calero site and access to the Coyote Creek sites from Almaden Valley via Bailey Ave. The City of San Jose has studied relocation and widening of McKean-Uvas Rd. and Bailey Rd. in the vicinity of the proposed swim facility site in the past.

While a regional swim facility project would add slightly to capacity to the regional roadway system, the additional capacity would not be significant enough to alter the level of service on the freeway system or major arterials / highways.

Local Roads -Traffic Requirements. However, where entry to the site is from a collector road serving a residential neighborhood, or from a road providing access to other recreation sites, the cumulative impacts of this use will need to be mitigated with traffic calming/control measures (e.g. signalization, intersection improvements, crosswalks, etc.) at:

- Burnett Ave. (Collector road to the Burnett Site)
- McKean Rd.-Uvas Rd. (Collector road providing access to other recreation sites such as Calero reservoir)
- Metcalf Road (Collector road serving Coyote Ranch, Schutzhund Dog Club, Field sports Park, and Motorcycle Park).

The type and extent of these traffic improvements will need to be determined in a future study during the design development phase and subsequent environmental review.

Bridge Crossing Requirements. Additionally, access to all of the sites would require a new vehicular and / or pedestrian bridge across Coyote Creek or in the case of Calero, access across a seasonal drainage. These bridges have the potential to impact the riparian corridor. In the design development phase, a detailed wetland/riparian restoration plan would need to be developed. Riparian vegetation removed would need to be replaced at rate to be determined by CDFG. The design of these structures, and any of the supporting members, such as piers piles, and abutments, and site development fill would need to be evaluated and permitted by USACE, CDFG, and US Fish & Wildlife Service to minimize any potential impacts to the riparian corridor and any species within the corridor.

On-site Parking Requirements. The swim facility complex will need to provide adequate onsite parking comparable to similar regional destination recreation sites. Development of a 3-acre parking lot would increase the impervious surface area (as proposed to accommodate 400 vehicles), which could result in increase in non-point source pollution from heavy metals and organic chemical contaminants. The additional impervious surface area could increase the amount

of contamination in stormwater runoff, which could adversely effect the water quality of Calero reservoir or Coyote Creek (depending on the site selected). Design of these lots will need to minimize the potential migration of these chemical contaminants into the swimming area, water supply reservoirs (Calero), and fisheries habitat enhancement zones (Coyote Creek). As the primary use of the swim facility will be seasonal, and that use may not always fill the parking areas to capacity, consideration should be given to limiting the impervious surface area during the design development phase.

Sites with Access Constraints:

- None of the sites have regional access constraints as they are within proximity of major regional access routes; Highway 101, Monterey Highway and/ or McKean Rd. / Uvas Rd. However, all sites would require additional traffic analysis to determine entry point improvements (e.g. signals, turning lanes, etc.)
- All sites would need to address loss of pervious surface area and the potential increase of contaminants / non-source pollution migrating into sensitive water bodies (Coyote Creek and Calero reservoir) in the future design of the parking lots
- Sites that may require signalization because direct access would be from Monterey Rd.  
*Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site*
- Sites that may require traffic calming measures within an existing neighborhood:  
*Burnett Site*
- Sites that will require a vehicular bridge over Coyote Creek:  
*Burnett Site, Encinal School Site, Model Airplane Site, Ogier Ponds (2 sites) and Riverside Site (for access from Monterey Rd).*
- Sites that may require a pedestrian bridge over a seasonal drainage:  
*Calero site - pedestrian bridge over a seasonal drainage.*

**Findings of Technical Feasibility for the Eight Sites Evaluated\* (\*Does not include Cost Feasibility at this time)**

Based on this preliminary environmental assessment of the seven sites along Coyote Creek and the Calero site, the most significant constraints identified during the analysis of these eight sites were:

- 1) High water table limiting site suitability for developing a septic /leachfield sewage treatment system
- 2) Water source /water availability
- 3) Water quality and associated aquatic resource enhancement objectives
- 4) Available land area
- 5) Flood inundation
- 6) Liquefaction
- 7) Access across Coyote Creek

A summary of the site constraints follows.

**Sites with Severe Constraints for Water Source**

*Development of a swim facility at all eight of the sites evaluated raise significant concerns regarding the availability of a water source with an adequate quantity, reliable flow*

and quality of water to meet the water supply requirements of the swim reservoirs and potable water needs.

Due to higher priority water supply operations and other considerations such as fisheries enhancement requirements resulting from the SCVWD's Settlement Act, the following seven of eight sites have high constraints:

- Burnett Site
- Coyote Ranch/Schutzhund Dog Club Site
- Encinal School Site
- Model Airplane Site
- Ogier Ponds (2 sites)
- Riverside Site

Due to potential future drought conditions, drinking water supply requirements and emergency operations, as well as maintenance of the water level for existing recreation and habitat requirements, reservoir level and seasonal/operational draw down of reservoir as part of the SCVWD operations, the following site has high constraints:

- Calero Site

### **Sites with Severe Constraints for Septic / Leachfield Sewage Treatment System**

Regarding suitability of the sites for developing a septic / leachfield sewage treatment system, the following sites have severe constraints due to the shallow depth to first groundwater level being less than 15 feet and consequently susceptibility to flood inundation.

- Coyote Ranch/Schutzhund Dog Club Site
- Encinal School Site

The following site has severe constraints for septic / leachfield sewage treatment development because it is located in the watershed directly above Calero Reservoir, and development of a septic system in this location would be considered a high risk activity by the Department of Health Services (DHS) and the United States Environmental Protection Agency.

- Calero Site

### **Sites with Moderate Constraints for Septic / Leachfield Sewage Treatment System**

Regarding suitability of the sites for developing a septic / leachfield sewage treatment system, the following sites have moderate constraints since the depth to first groundwater level is between 15 and 30 feet.

- Ogier Ponds (2 sites)
- Riverside Site

### **Sites with Inadequate Land Area Constraints**

The following two sites do not have adequate land area to located all the swim facility components outside of the 100-foot buffer zone of the riparian corridor along Coyote Creek:

- Coyote Ranch / Schutzhund Dog Club Site
- Encinal School Site

The following site has severe limitations because the area has been set-aside as a wetland / riparian mitigation area:

- Ogier Ponds (2 sites)

### **Sites with Flood Inundation Constraints**

*The following five sites have potentially significant constraints associated with providing adequate land area outside of the 100-year flood inundation zone:*

- Coyote Ranch / Schutzhund Dog Club Site
- Encinal School Site
- Model Airplane Site
- Ogier Ponds (2 sites)

### **Sites with Liquefaction Constraints**

*The following four sites have potentially significant constraints associated with providing adequate land area outside of the liquefaction zone (along Coyote Creek) in the event of an earthquake:*

- Coyote Ranch / Schutzhund Dog Club Site
- Encinal School Site
- Model Airplane Site

### **Sites with Access Constraints**

*The following six sites at Coyote Creek Parkway will require a vehicular bridge over Coyote Creek and through a riparian corridor that may contain habitat for anadromous fish species and other sensitive and endangered sites:*

- Coyote Ranch / Schutzhund Dog Club Site
- Encinal School Site
- Model Airplane Site
- Ogier Ponds (2 sites)
- Riverside Site (for access from Monterey Road)

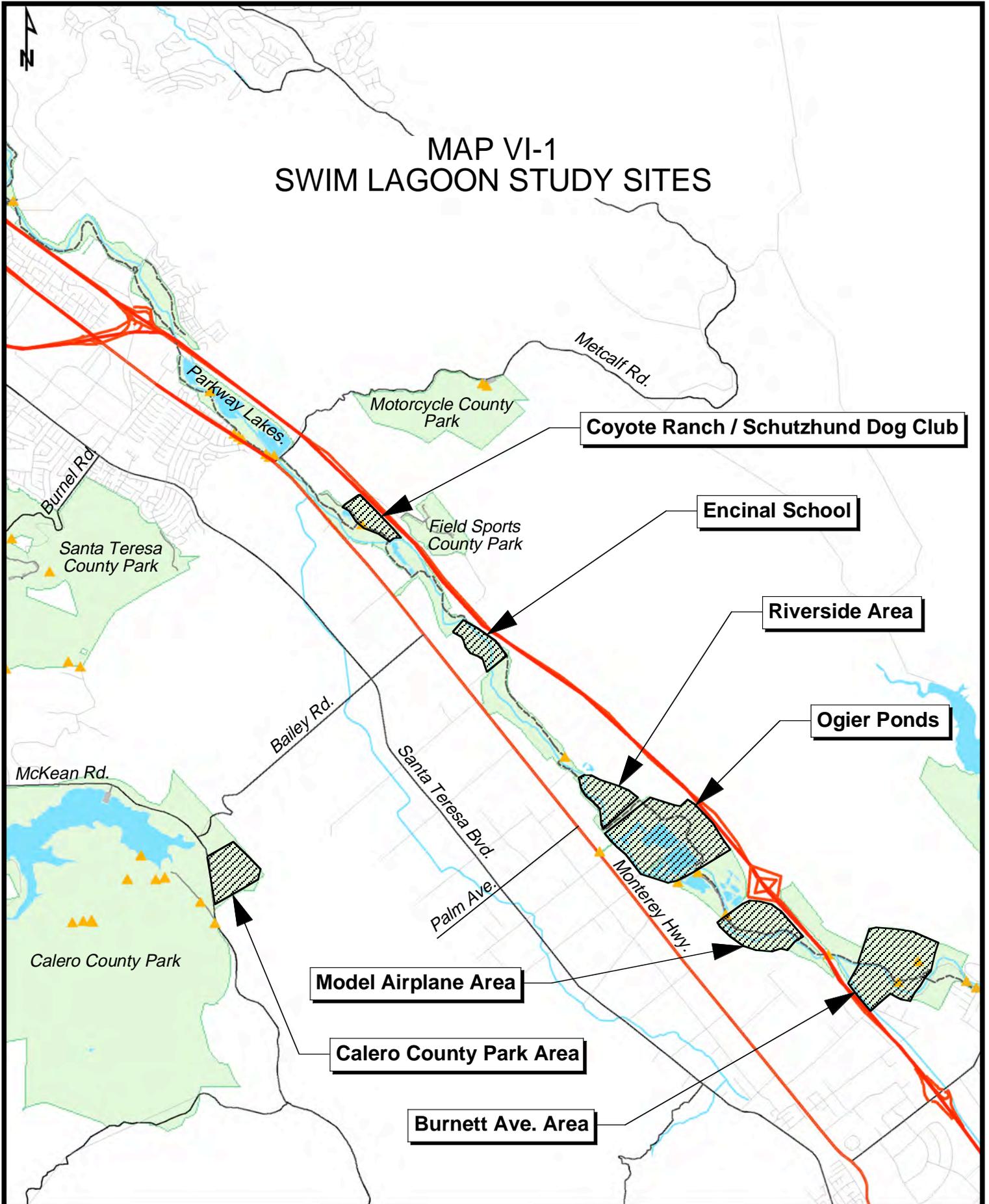
Based on this third tier of analysis, three sites were identified as having the least severe environmental constraints and therefore, the greatest potential for developing a swim lagoon.

These sites are:

- 1) The Burnett site
- 2) The Riverside site
- 3) The Calero site.

For a summary of the preliminary environmental evaluation of the eight sites refer to *Table VII-2 - Environmental Assessment for the Eight Sites Evaluated* and *Appendix B - Environmental Resource Assessments of the Eight Sites Evaluated*. A listing of the sources of information used to compile the database for each of these maps is also provided in this appendix.

# MAP VI-1 SWIM LAGOON STUDY SITES



**Insert** *Table VII-2 - Environmental Assessment for the Eight Sites Evaluated*

Table VII-2 - Environmental Assessment for the Eight Sites Evaluated

	Water Source Options		Water Quality/Water Source Constraints		Biotic Resources			Geologic Hazard Zone		Flood Hazard Zone	Soils		Traffic/Circulation Improvements Req.			
	Depth to First Ground water	Potential Water Source	DEH Water Quality Constraint Prohibits Use of Calero Reservoir	Coyote Creek - Water Allocation Priorities for Fishereis	Wetland - Potential for Endangered Species	Riparian Species - Potential for Endangered Species	Potential Wetland Mitigation Site (SCVWD Settlement Agreement)	Earth-quake Fault zone	Liquefaction Zone	100-yr Flood Zone	Serpentine Soils - Potential for Endangered Species	Septic High Water Table	Prime Farmland - Soil-Loam Grade-0-9%	Intersection Improvement Req.	New Bridge Req.	Req. New Entry
Calero Lake		New well (Ex. shallow , non-potable well @ stables)	●		●									●		●
Encinal School	0-5 ft.	New well, Groundwater, Coyote Creek		●	●	●		●	●	●		●	●	●	●	●
Riverside Area	15-50 ft.	Future Coyote Valley Dev. water main		●	●	●		●	●	●		●	●	●	●	●
Ogier Ponds - Option 1	50 - 75 ft.	New well, Groundwater, Coyote Creek		●	●	●	●	●	●	●		●	●	●	●	●
Ogier Ponds - Option 2	50 - 75 ft.	New well, Groundwater, Coyote Creek		●	●	●	●	●	●	●		●	●	●	●	●
Coyote Ranch/ Schutzdnd Area	0-5 ft.	Ex. Well (depth 140' ex. water demands exceed 12 million gals - 2003)		●	●	●		●	●	●	●	●	●	●		
Model Airplane Area	50-75 ft.	Ex. Well, Groundwater, Coyote Creek		●	●	●		●	●	●		●	●	●	●	●
Burnett Avenue	30 - 50 ft.	Ex. Well, Groundwater, Coyote Creek		●		●		●	●			●	●	●	●	●



## ALTERNATIVE SITES - CONCEPTUAL DESIGNS FOR THREE SITES

### Summary of Process for Selecting Three Alternative Sites

During the initial phase, each of the parks in the County Parks system were considered and 38 initial sites were identified. The second tier of analysis narrowed down the number of potential sites from 38 to eight sites by focusing on the existing site conditions at each the County Parks.

In the third phase, each of these eight sites was evaluated using the County GIS system and field investigations to conduct "environmental scans" of the project site to determine potential opportunities and constraints. Criteria Based on this third tier of analysis, three sites were identified as having the greatest potential for developing a swim lagoon. These sites are:

- The Burnett site
- The Riverside site
- The Calero site.

This section focuses on the regulatory and technical (engineering) requirements associated with developing a swim facility at these three alternative sites.

### Alternative Sites - Conceptual Designs for Three Sites

Once the three alternative sites were identified, representatives from the Swim Feasibility Project Team met with the SCVWD, the County Department of Environmental Health, and the City of San Jose. The purpose of these meetings was to determine the regulatory and technical (engineering) requirements associated with developing a regional swim facility at the three alternative sites.

In response to the regulatory and technical (engineering) parameters set forth by these agencies, the prototype design described in *Section VI - Design Assumptions & Carrying Capacity* was refined to meet the unique character of each of the three alternative sites. The purpose of developing these individualized design concepts was not to eliminate nor rank one of the three sites over another, but to evaluate the feasibility of each site to meet the study objective for this project, and to identify the critical paths of action necessary to make any of the sites feasible. Although, the design concepts presented in this section ultimately varied from the prototype design, the prototype design served its purpose by helping to frame the agencies' responses. From these responses, it was possible to develop individualized design concepts that were responsive to the unique conditions at each site.

Among the three scenarios studied in greater detail, the Burnett site most closely maintains the design concept initially set forth in the prototype design. The Riverside site varies in its approach to sewage treatment options and potential water supply options, but maintains the original vision of a "natural", regional swim area and "dog training places in water" within the Santa Clara County Parks and Recreation system. The Calero site scenario represents the most significant changes in the original concept in that it presents a chlorinated, closed system, swim facility. While these changes were made in response to limited water source options and watershed water quality concerns identified by the partner agencies, the proposed Calero swim facility deviates the furthest from the original vision of a "natural swim facility" set forth in the *2003 Strategic Plan*. A summary of the design components for the three alternative sites is

provided below. A more detailed discussion of each of the individual sites design concepts follows.

### Design Concepts - Site Requirements

All of the design concepts assume a visitor capacity of approximately 1,000 people. Each swim complex will include a secured enclosure, a sand beach with wade-in entry, a recreational swimming area, picnic sites, turf and play areas around the reservoir, restrooms, changing areas, outdoor showers, and parking for approximately 400 cars. A comparison of the reservoirs for each of the swim facilities is provided in *Table VIII-1 - Swim Lagoon - Comparison of Swim Areas*.

**Table VIII-1- Swim Lagoon - Comparison of Swim Areas**

		Lagoon Water Source			Water Surface Area			Filtration System		
		Coyote Creek	Groundwater	New Well	10-Ac. Untreated Reservoir	1-Acre Swim	1-Acre Dog Training Reservoir	Settling Pond	Wetland Filtration System	Chlorination/Filtration Plant
Site	Burnett	●	●		●	●	●	●	●	
	Riverside	●	●		●	●	●	●	●	
	Calero			●		●				●

### The Reservoir System at Burnett & Riverside

Family Swim Reservoir. The *Burnett* and *Riverside* swim reservoirs are constructed as "flow-through systems". The reservoirs will have a sand bottom in the swim area and may have a bentonite liner in the remainder of the reservoir. There will be a sand beach at the water's edge providing a family-oriented wading and play area. The swim area will be cordoned-off from the larger reservoir. The swim area bottom will taper gently from 0 to 3 feet and will not exceed 4 feet within the cordoned-off area.

The water supply source will utilize groundwater and surface water. The system includes a settling pond to filter non-point source pollutants prior to entering the first reservoir and a wetland bio-filtration system to "purify" the water prior to re-entering Coyote Creek. The water will not be treated with chemicals (e.g. chlorine).

Refer to *Burnett Illustrative Design Concept Plan* and *the Riverside Illustrative Design Concept Plan* for the illustrative design concepts.

Dog Swim Area / Dog Park. At the *Burnett* and *Riverside* sites, there will be a separate, secured dog park that will include a reservoir for training dogs and an off-leash exercise area. The "dog training area" will be in fairly close proximity to the swim complex, but will have a separate point of entry. The reservoir will be similar in design to the swim reservoir with a wade-in beach area, though it will be smaller in scale. The reservoir will be designed as part of the "flow-through" system and will be located downstream of the main reservoir and upstream of the wetland bio-filtration system.

Potable Water. At the *Burnett Site* potable water will be supplied from an on-site well. At the *Riverside Site* the potable water source will either be a new well or water supplied from the future City of San Jose water system if CSVP is developed in the future. However, connection to the City water system would require a change in the City of San Jose's green line requirements in their General Plan policies.

## **The Swim Lagoon System at Calero**

Family Swim Reservoir. The *Calero* swim lagoon will be designed as a closed, chemically treated (e.g. chlorine) system. It will have a concrete bottom that may have a special surface at the water's edge (e.g. "pebbletec" to simulate a "natural, sand bottom"). Just beyond the water's edge there will be a sand beach play area. The swim area bottom will taper gently from 0 to 3 feet and will not exceed 4 feet in depth within the lagoon.

Water for the swim lagoon will come from an on-site well utilizing groundwater from an on-site aquifer. The closed system will include a chlorination/filtration plant for treating the water and storing the required chemicals.

Refer to the *Calero Illustrative Design Concept Plan* for the illustrative design concept.

Dog Swim Area / Dog Park. The *Calero* swim complex will not include a dog area due to water quality restrictions.

Potable Water. At the *Calero Site* potable water will be supplied from a new, on-site well.

## **Requirements for Sewage Treatment**

The sewage treatment /disposal system will be different for each alternative site.

- Burnett Site. The *Burnett Site* will utilize an on-site septic and leaching drainfield system.
- Riverside Site. At the *Riverside Site* the relatively shallow depth of groundwater in this area may limit the area's potential to develop a septic system capable of serving a visitor population of 1,000. As an alternative, sewage may be transported off site via a future City of San Jose sewer line for processing at a City sewage treatment plant., should the current San Jose "greenline" policies be amended.
- Calero Site. At the *Calero Site* determination of the appropriate sewage treatment solution will be dependent on additional engineering studies.

## **Requirements for Irrigation Water Supply**

The supply source has not been finalized for any of the three sites. The supply source is likely to be the same as the potable water source. However, if recycled water is available, it may be used in part or as a sole supply source. This will need to be verified at the time design development is initiated and the engineering of the swim facility is completed.

## **Requirements for Roadway System Improvements**

Burnett and Riverside. Motorized vehicle access to the *Burnett Site* and the *Riverside Sites* would be from Highway 101 and Monterey Highway. Alternative bicycle and pedestrian access opportunities are provided by the Coyote Creek Trail, which extends from northern Morgan Hill to southeast San Jose. As part of the proposed CVSP the City of San Jose is studying a number of potential vehicular and trail circulation systems for that community. These design concepts include trail connections from the new community to the Coyote Creek Parkway, improvements along Monterey Rd. and new overcrossings that could create new transects across the Coyote Creek Parkway. These road and trail additions could potentially create bicycle, pedestrian and regional vehicular access to Riverside swim area.

Additionally, access to the two sites along Coyote Creek would require a new vehicular bridge across Coyote Creek. These bridges have the potential to impact the riparian corridor and would require permits and mitigation and monitoring plans from the environmental regulatory agencies.

Calero Site. Access to the *Calero Site* would be via McKean Rd.-Uvas Rd. The City of San Jose has also conducted technical site/engineering studies for realigning McKean-Uvas Rd. and possibly Bailey Ave. in the vicinity of the proposed swim facility site in the past. Access to the Calero site may require a pedestrian bridge across a seasonal drainage, requiring permits and mitigation and monitoring plans from the environmental regulatory agencies.

**Findings of Technical Feasibility\* (\*Does not include cost feasibility at this time)**

Further significant constraints to development of a regional swim facility identified for these three alternative sites were:

- 1) Ability of the sites to meet the water quality and fisheries habitat restoration objectives of the regulatory agencies
- 2) Ability of the sites to provide a readily available and consistent water supply for the swim lagoon, and a potable water supply to serve approximately 1,000 people
- 3) Ability of the sites to be readily accessible from the urban areas via freeways and local roadways.

## Burnett Site



### Setting

Available Land Area and Aesthetic Character. The land area associated with the proposed swim area at the Burnett site consists of 120 acres of open, relatively flat, undeveloped terrain. The land area both for sites is wholly contained within the County's section of the Coyote Creek Parkway. The adjacent creek environment is comprised primarily of riparian woodland species including cottonwood, sycamore, and willow. The mature vegetation, along with the steep topography immediately surrounding the site, creates a buffer from the nearby suburban areas and an intimate "natural" setting for the swim area.

Association with Water. The Burnett site is located along Coyote Creek within the Coyote Creek Parkway. Coyote Creek is the largest natural surface drainage system in northern Santa Clara County. However, the flow of water into the creek is controlled by releases by the SCVWD from Anderson reservoir. From the base of Anderson reservoir to the Burnett site, the Coyote Creek channel flows parallel to the western slopes of the Diablo foothills.

Existing Uses. Aside from the Coyote Creek Trail, which parallels the creek and extends for approximately 15 miles along the parkway, the site does not have any developed recreation uses. However, there is an existing staging area and park office for the Anderson Lake Park Unit at Malaguerra Ave., which is located one-third mile south of the site. In addition, there are several of the historic structures associated with the Malaguerra winery that remain along the perimeter of the proposed swim complex site, the SCVWD Coyote Canal, and the former ranger and maintenance station (now abandoned due to restricted vehicular access to the site).

Local Access & Parking. Historic access to the Burnett site was from Burnett Ave., which is a collector road that passes through an existing residential neighborhood. Entry into the site will incorporate an entry kiosk for security, information dissemination and fee collection. The bridge that was used to provide a connection to this section of the Coyote Creek was washed away during a storm event in mid-1990s. Therefore, the only access to the site for recreation use, maintenance and patrol is via the Coyote Creek Trail (bridge unsuited for public vehicular access). Capital improvements that would be required to provide and control access to the site include:

- Entry (fee collection) kiosk
- Access road upgrades (on-site and off-site)
- New, vehicular traffic bridge across Coyote Creek
- Parking: 400 spaces, 3 acres
- Internal roads between the bridge and the swim facility
- Pedestrian/bicycle, maintenance and patrol circulation

Prior to implementing the capital improvements, the Department would be required to conduct future studies to address access and circulation requirements including:

- A traffic study to determine the level of service (LOS), the performance condition of Burnett Ave. (e.g. speed, travel time, traffic interruption, safety, driving comfort, convenience and delays), and any road improvements (e.g. road widening, signalization, pedestrian and bicycle enhancements) that would be needed to ensure safety and performance conditions are adequately addressed
- A hydraulic engineering and biotic study to determine the bridge design parameters for crossing Coyote Creek at this location.

### **Swim Complex Description**

Using the design and carrying capacity assumptions described in *Section VI - Design Assumptions & Carrying Capacity*, the optimum swim complex at the Burnett site would incorporate the features described below. Required infrastructure requirements are described more fully in the discussion under *Facility Infrastructure - Water & Sewer* immediately following. The *Burnett Illustrative Design Concept Plan* provides a graphic illustration of the swim facility complex.

#### Swim Facility Complex - Total Facility Area - 25 Acres

- Lagoon/Reservoir: 10 surface acres
- Swim / Sand Beach Area: 2 acres
- Sand Bottom - tapers to native soil, Swim Area Edge: Sand tapers to turf
- Water Activities: Swimming, Water/Sand Play, and Splash Water Feature
- Ancillary Activities: Informal Turf Area, Family and Group Picnic, Volleyball, Playground 2 - 2.5 acres

#### Dog Swim Area & Dog Off-Leash Park - 2 acres

- Swim Area: 1 acre
- Staging Area: 1 acre
- Access: Secured (i.e. fence enclosure around area)
- Fee (parking / dog entry/permit)

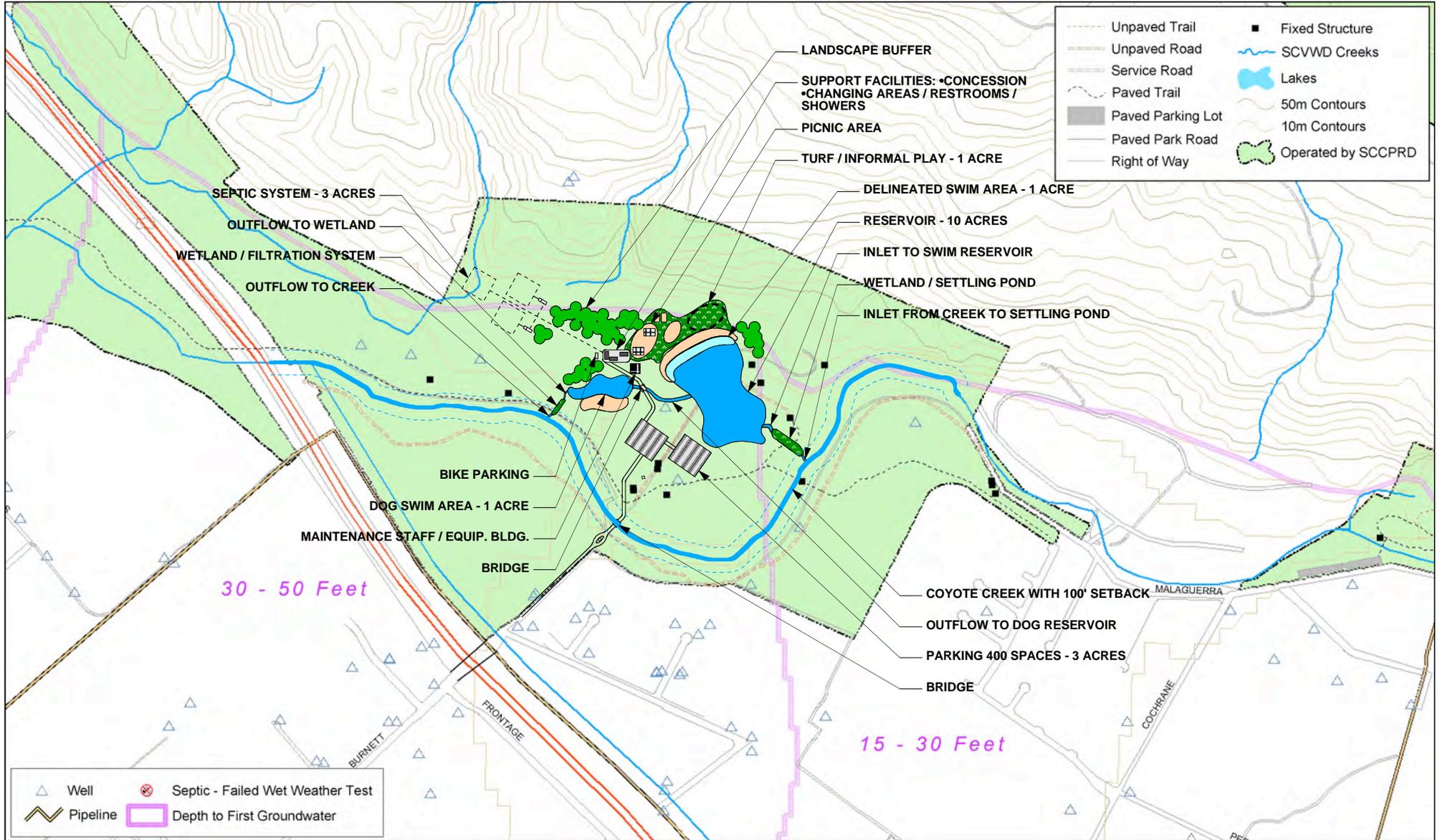
#### Support Facilities

- Drinking Fountains/ Showers/ Changing Rooms
- Vending Machines and/or Food/Drink Concessions
- Lifeguard Building
- Equipment Storage
- Parks Staff Maintenance

### **Facility Infrastructure - Water & Sewer**

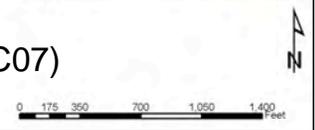
Reservoir Water Supply. The water supply source will utilize groundwater and surface water from Coyote Creek. Based on data provided in the County GIS system, it is estimated that the depth to first groundwater is approximately 30-50 feet. Allocation of water for the two facility reservoirs could result in a competing need for the Coyote Creek water supply as the SCVWD tries to balance the flow requirements established to restore and maintain fisheries, wildlife and water quality. Water supply allocations and flow requirements for Coyote Creek will need to be coordinated at the time design development is initiated and the engineering of the swim reservoir is completed. Future engineering studies will also need to determine the capability of the aquifer to handle the drawdown required to maintain the desired reservoir water levels.

**Insert Burnett Illustrative Design Concept Plan**



This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

### Coyote Creek - Burnett Avenue Swim Lagoon Site (C07) Illustrative Design Concept Plan



"Flow-Through Systems -Natural System". The swim reservoir is proposed to be constructed as a "flow through -natural system". The reservoirs would have a sand bottom in the swim area and bentonite liner in the remainder of the reservoir. The wading and recreational swim area would be designed so that the swim area can be reconfigured to deal with fluctuating water levels and migrating sand, while ensuring a safe wading surface throughout swim area for duration of swim season. This site will include a reservoir for training dogs in close proximity to the main complex to take advantage of the infrastructure requirements for the main reservoir (e.g. parking, parking entry kiosk, water -potable and reservoir), bio-filtration systems, sewage treatment systems, etc.). However, the facilities will be physically separated and have different points of entry to minimize potential conflicts between users.

Water Treatment: Similar to Almaden Lake, no chemical treatment (e.g. chlorinization) will be used to treat the reservoir water. In lieu of chemical treatment, a wetland bio-filtration system will be developed at the ingress and egress points of the swim facility. The design concept for bio-filtration ponds at the entry will serve to filter out non-point source pollutants that may have entered the creek upstream of the reservoir. The downstream wetland bio-filtration area will serve to filter out coliforms, fecal coliforms, and enterococcus that may be present as a result of the reservoirs usage. The design requirements for these two filtration systems may be different as flows rates into the reservoir may need to be higher at the ingress point to maximize the benefit of a "flow-through" system. At the egress point, it may be preferable to slow the water flow rate to allow the bio-filtration system to serve as a groundwater recharge facility, rather than allowing the water to flow directly back into the creek. The specific design requirements will need to be determined in a later phase. However, the ultimate design solution must not affect nutrient loading, nor increase temperature of water re-entering Coyote Creek such that it would adversely impact fisheries, wildlife, water quality and other beneficial uses of the creek.

While the reservoirs will not be chlorinated, shallow zones around the swim and dog untreated water reservoirs, and within the bio-filtration area may require development of an integrated pest management program to address vectors and unwanted aquatic growth.

Reservoir Testing, Monitoring & Posting. Similar to EBRPD and Almaden Lake practices, water quality testing will occur every six days. Results of the tests will be posted on a public information board. County staff will inform the public when the levels do not conform to EPA water quality standards for body contact. If people elect to swim under these conditions, then they must do so at their own risk.

Potable Water. Potable water will be supplied from an on-site well. For the purposes of this study it is assumed that the existing well will meet the requirements of this site. However, this will need to be confirmed when the specific design requirements are developed in a later phase.

Sewage Treatment. The sewage treatment /disposal system will be an on-site gravity-fed septic and leaching drain field system. The leachfield will be developed with a dual alternating drainfield and a third suitable area for expansion. It is anticipated that the leaching drain field will require approximately three acres to accommodate the demand for 1,000 people and that the septic tank capacity will be approximately 10,000 gallons. In siting the septic system, the leachfield will need to be a minimum of 200 feet from all of the reservoirs (highwater mark) and bio-filtration wetland/ponds, and 100 feet from all watercourses (top of bank), wells and springs. The actual size and location of the septic system will need to be engineered during the design development phase of the project.

Irrigation Water Supply. The supply source has not been finalized. The supply source is likely to be the same as the potable water source. However, if recycled water is available, it may be permitted for use in part or as a sole supply source. This will need to be verified at the time design development is initiated and the engineering of the swim system is completed.

Best Management Practices. Best Management Practices (BMP) will be required during construction to ensure that proper erosion control practices are used for all construction activities and as part of the maintenance regime to control irrigation runoff and to ensure proper fertilizer usage in turf areas (USEPA 1993b describes recommended nutrient management practices).

Agency Policies & Plans Affecting Site Feasibility. Refer to *Appendix D - Infrastructure Permitting, Review & Approval Agencies* for a listing of the agencies with jurisdiction of water allotment, water quality monitoring and sewer design, construction and monitoring. *Table D-1 - Summary of Regulatory & Permitting Agencies - Jurisdiction, Agreements & Permitting Requirements for Water Delivery, Treatment & Water Quality Monitoring* identifies the agencies with jurisdiction over the water delivery supply treatment and water quality monitoring within the Coyote Anderson and Calero watershed. *Table D-2 - Sewage Leaching System Design, Review, Approvals & Operations* describes design, review, approvals and operations responsibilities with regard to septic treatment systems.

## Burnett (Coyote Creek Parkway)

### Swim Facility Feasibility Issues & Recommended Actions

#### Groundwater Extraction

**Issue.** Development of a "flow - through" swim facility for a 10-acre family swim reservoir and 1- acre dog swim reservoir will require significant quantities of water to be extracted from the groundwater table.  
**Recommended Action.** Prepare an analysis of groundwater conditions and projected swim facility allocations to determine the effect groundwater extraction would have on the site's aquifer, taking into account, not only the anticipated drawdown for the swim facility project, but the cumulative impacts of other pending projects (e.g. FAHCE mitigation projects and CVSP project).

#### Water Allocations

**Issue** Development of a "flow through system" at Burnett will be dependent on the ability of Coyote Creek to accommodate diversion of a portion of the creek water during the swim season at a sufficient volume and flow rate to provide a turn-over rate acceptable to meet regulatory water quality objectives.  
**Issue** The SCVWD settlement agreement prioritizes water allocation in these creeks for restoring and maintaining healthy steelhead trout and Chinook salmon populations.  
**Recommended Action** Consult with the Santa Clara Valley Water District with regard to the "Settlement Agreement Regarding Water Rights on Coyote Creek" as these water allocation priorities have the potential to impact future water volumes, flow rates and fluctuations during the swim season (April - September).  
**Recommended Action** Develop the swim lagoon water circulation system so that it will not adversely impact the cold water temperatures required to maintain healthy steelhead trout and salmon populations in Coyote Creek.

#### Septic System Design Calculations

**Issue** The sewage treatment /disposal system will be an on-site gravity fed septic and leaching drain field system. The leachfield must be developed with a dual alternating drainfield and a third suitable area for expansion.  
**Recommended Action** Conduct additional engineering studies (e.g. site specific soil percolation tests to verify adequate depth of permeable soil and/or separation between trench bottom and groundwater) to further evaluate the suitability of the site for developing a septic leach field system.

#### "Bio-Filtration" Purification Systems

**Issue** Design and operations of the "flow-through reservoir with bio-filtration design prototype" have the potential to impact sensitive species and habitats along Coyote Creek by creating changes in water quality, temperature and amount and flows to surface waters.  
**Recommended Action** Conduct hydraulic studies to determine the technical engineering requirements for the "bio-filtration" purification systems identified in the design concept.  
**Recommended Action** Consult with environmental regulatory agencies including DHS, the RWQCB, USFWS, CDFG, and USACOE on the design of a "flow-through swimming reservoir system " to ensure that design meets habitat objectives for Coyote Creek.

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## Burnett (Coyote Creek Parkway)

*Swim Facility Feasibility Issues & Recommended Actions*

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*Access &  
Circulation*

**Issue** Entry to the site from Burnett Ave. may have negative impacts on the adjacent neighborhood.  
**Recommended Action** Conduct a traffic study to assess need for road improvements to address safety and performance requirements (e.g. road widening, signalization, intersection improvements, crosswalks, pedestrian / bicycle enhancements)

**Issue** Access to the project area must traverse wetland and riparian habitats where potential impacts to sensitive and endangered species could be significant.  
**Recommended Action** Conduct hydraulic engineering and biotic studies to determine the bridge design parameters for crossing Coyote Creek and consult with the regulatory agencies including USFWS, CDFG, USACOE, and National Marine Fisheries.

**Issue** Development of a 3-acre parking lot would increase impervious surface area potentially resulting in an increase contamination runoff entering Coyote Creek.

**Recommended Action** Design parking lots to minimize the impervious surface area during the design development phase taking into account seasonal use of facility.

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*Geotechnical  
Requirements*

**Issue** Development of a swim facility would expose the facility to seismic hazards, in the event of an earthquake.

**Recommended Action** Conduct geotechnical investigations for individual structural components.

**Recommended Action** Design facility in conformance with the geotechnical reports' recommendations and in compliance with the Uniform Building Code.

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*Riparian/  
Wetland  
Resources*

**Issue** The bridge providing access to the swim facility components will traverse Coyote Creek and reservoir water will utilize water from the Creek.

**Recommended Action** Consult with regulatory agencies including USFWS, CDFG, and USACOE to ensure that the design of the swim facility components will not adversely impact steelhead trout, Chinook salmon, red legged frog, tiger salamander and other endangered and sensitive species.

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## Riverside Site



### Setting

Available Land Area and Aesthetic Character. The land area associated with the proposed swim area at the Riverside site consists of 90 acres of open, relatively flat, undeveloped terrain. The land area is wholly contained within the County's section of the Coyote Creek Parkchain . The adjacent creek environment is comprised primarily of riparian woodland species including cottonwood, sycamore, and willow. Nearby features include US Highway 101, an eight-lane regional freeway, and the landfill, which are visible. Vehicular noise associated with the highway can be heard from this site.

In addition, proposed, future development of the CVSP "new, high density urban" community on the east side of Monterey Road has the potential to create major changes to the existing natural setting of the Riverside area. These changes include shade patterns, aesthetic characteristics, buffer/privacy, and neighborhood access considerations, resulting from construction of 2-3 story townhouses / single-family houses adjacent to the Coyote Creek Parkway.

Association with Water. Similar to the Burnett site, the Riverside site is located along Coyote Creek within the Coyote Creek Parkchain. In this location, Coyote Creek flows through Coyote Valley's agricultural and former quarry areas.

Existing Uses. Aside from the Coyote Creek Trail, which parallels the creek and extends for approximately 15 miles along the parkway, the site does not have any developed recreational uses. However, in near proximity there are several unique regional recreational uses located within the Coyote Creek Parkway. These include dog swim/water training (by special permit) at Ogier Ponds located immediately to the south, the Model Airplane Club to the south and the Coyote Creek Golf Course, a public course which is located to north, and may in the future share a common access to the swim facility complex, either from Highway 101 (access now exists to the golf course) and / or Monterey rd..

Local Access & Parking. The only existing public access to the Riverside site for recreation use, maintenance and patrol is via the Coyote Creek Trail. In the future, access to the Riverside site may be from Monterey Rd., which is four lanes wide in the vicinity of the site, or from an extension of the Coyote Creek Golf Course off-ramp from US Highway 101. The new entry into the site will incorporate an entry kiosk for security, information dissemination and fee

collection. Currently, the City of San Jose is developing CVSP for the area west of the Riverside site. This plan, which proposes bringing approximately 68,000 new residents to the area is proposing major roadway improvements including new/extended on-off ramps from U.S. 101 and design modifications to Monterey Highway. As currently proposed, the Specific Plan improvements show the new Highway 101 overcrossings creating new transects across Coyote Creek Parkway, and Monterey Rd. entering into park system. Determination of the most appropriate entry and circulation system for the swim facility will need to be coordinated with the planning process for future roadway improvements proposed for the CVSP. Access requirements that will need to be addressed include:

- Future (urban) trail connections between CVSP and the Coyote Creek Trail (new signalized intersection off Monterey Highway)
- New, vehicular bridge across Coyote Creek (for access from Monterey Rd.)
- Future freeway off ramp alignment/access to / across swim site
- Future open space / greenbelt connections from the proposed "Downtown Coyote Valley Development" to the Coyote Creek Parkway.

In addition, improvements required to develop public access to the swim facility will need to incorporate:

- Entry (fee collection) kiosk
- Parking: 400 spaces, 3 acres
- Vehicle access to parking
- Pedestrian/bicycle, maintenance and patrol circulation

### **Swim Complex Description**

Using the design and carrying capacity assumptions described in *Section VI - Design Assumptions & Carrying Capacity*, the optimum swim facility for the Riverside site would incorporate the features described below. Required infrastructure requirements are described more fully in the discussion under *Facility Infrastructure - Water & Sewer* immediately following. The *Riverside Illustrative Design Concept Plan* provides a graphic illustration of the swim facility complex.

Swim Facility Complex - Total Facility Area - 22 Acres (assuming connection to city water and sewer), 25 acres if a septic sewer system could be developed on-site

- Lagoon/Reservoir: 10 surface acres
- Swim / Sand Beach Area: 2 acres
- Sand Bottom - tapers to native soil, Swim Area Edge: Sand tapers to turf
- Water Activities: Swimming, Water/Sand Play, and Water Splash Feature
- Ancillary Activities: Informal Turf Area, Family and Group Picnic, Volleyball, Playground: 2 - 2.5 acres

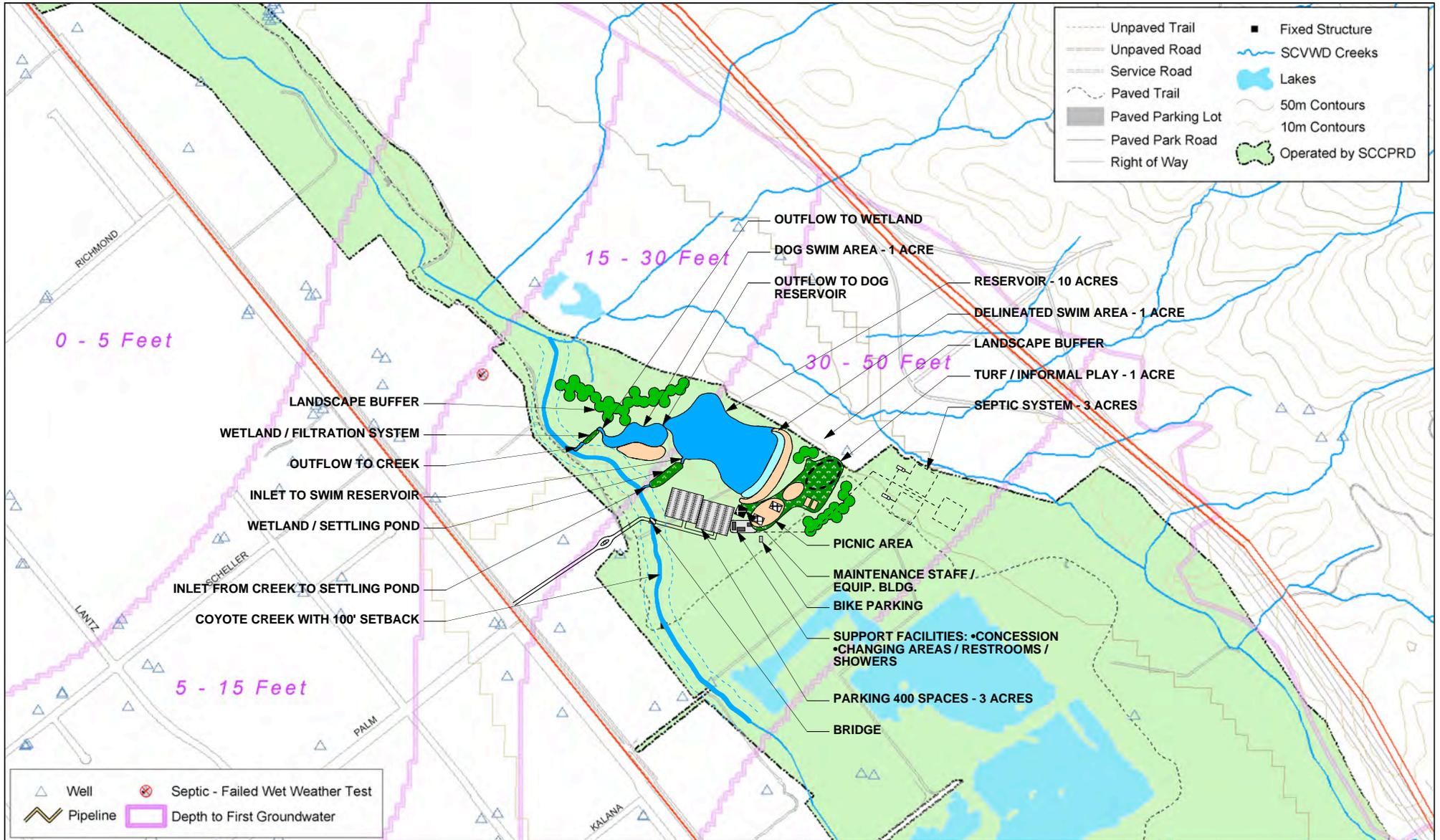
Dog Swim Area & Dog Off-Leash Park - 2 acres

- Swim Area: 1 acre
- Staging Area: 1 acre
- Access: Secured (i.e. fence enclosure around area)
- Fee (parking / dog entry/permit)

Support Facilities

- Drinking Fountains/ Showers/ Changing Rooms
- Vending Machines and/or Food/Drink Concessions
- Lifeguard Building
- Parks Staff Maintenance Building / Equipment Storage

**Insert Riverside Illustrative Design Concept Plan**



## **Facility Infrastructure - Water & Sewer**

Reservoir Water Supply. The water supply source will utilize groundwater and surface water from Coyote Creek. Based on data provided in the County GIS system, it is estimated that the depth to first groundwater is approximately 15-50 feet. Allocation of water for the two swim facility reservoirs could result in a competing need for the Coyote Creek water supply as the SCVWD tries to balance the flow requirements established to restore and maintain fisheries, wildlife, water quality. Water supply allocations, and flow requirements for Coyote Creek will need to be coordinated at the time design development is initiated and the engineering of the swim system is completed. Future engineering studies will also need to determine the capability of the aquifer to handle the drawdown required to maintain the desired reservoir water levels.

"Flow-Through Systems -Natural System". The swim reservoir is proposed to be constructed as a "flow through -natural system". The reservoirs would have a sand bottom in the swim area and bentonite liner in the remainder of the reservoir. The wading and recreational swim area would be designed so that the swim area can be reconfigured to deal with fluctuating water levels and migrating sand, while ensuring a safe wading surface throughout swim area for duration of swim season. This site will include a reservoir for training dogs in close proximity to the main complex to take advantage of the infrastructure requirements for the main reservoir (e.g. parking, parking entry kiosk, water -potable and reservoir, bio-filtration systems, sewage treatment systems, etc.). However, the facilities will be physically separated and have different points of entry to minimize potential conflicts between users.

Water Treatment: Similar to Almaden Lake, no chemical treatment (e.g. chlorinization) will be used to treat the reservoir water. In lieu of chemical treatment, a wetland bio-filtration system will be developed at the ingress and egress points of the swim facility. The design concept for bio-filtration ponds at the entry will serve to filter out non-point source pollutants that may have entered the creek upstream of the reservoir. The downstream wetland bio-filtration area will serve to filter out coliforms, fecal coliforms, and enterococcus that may be present as a result of the reservoirs usage. The design requirements for these two filtration systems may be different as flows rates into the reservoir may need to be higher at the ingress point to maximize the benefit of a "flow-through" system. At the egress point, it may be preferable to slow the water flow rate to allow the bio-filtration system to serve as a groundwater recharge facility, rather than allowing the water to flow directly back into the creek. The specific design requirements will need to be determined in a later phase. However, the ultimate design solution must not affect nutrient loading, nor increase temperature of water re-entering Coyote Creek such that it would adversely impact fisheries, wildlife, water quality and other beneficial uses of the creek.

While the reservoirs will not be chlorinated, shallow zones around the swim and dog untreated water reservoirs, and within the bio-filtration area may require development of an integrated pest management program to address vectors and unwanted aquatic growth.

Reservoir Testing, Monitoring & Posting. Similar to EBRPD and Almaden Lake practices, water quality testing will occur every six days. Results of the tests will be posted on a public information board. County staff will inform the public when the levels do not conform to EPA water quality standards for body contact. If people elect to swim under these conditions, then they must do so at their own risk.

Potable Water. Potable water will be supplied from either: 1) an on-site well that will need to be drilled as part of the development of the swim complex: or 2) may be supplied from the future connections to the City of San Jose water system if, and when available. (*This City of*

*San Jose water system potable water service is dependent on the expansion of the City Urban Service Area and the extension of the City's water system as part of the implementation of the Coyote Valley Specific Plan. However, it should be noted that current "greenbelt" policies in the San Jose 2020 General Plan do not allow for the extension of urban services to the site).*

Sewage Treatment. At the Riverside site data provided in the County GIS system indicates that the depth to first groundwater is 15-50 feet. Should the actual depth in this area prove to be any shallower, it will severely limit the area's potential to develop a septic system capable of serving a visitor population of 1,000 visitors. As an alternative, sewage may be transported off-site via a future City of San Jose sewer line for processing at a City sewage treatment plant. *(This sewer line extension is dependent on the expansion of the City Urban Service Area and the implementation of the Coyote Valley Specific Plan. However, it should be noted that current "greenbelt" policies in the San Jose 2020 General Plan do not allow for the extension of urban services to the site.)*

Irrigation Water Supply. The supply source has not been finalized. The supply source is likely to be the same as the potable water source. However, if recycled water is available, it may be permitted for use in part or as a sole supply source. This will need to be verified at the time design development is initiated and the engineering of the swim facility is completed.

Best Management Practices. Best Management Practices (BMP) will be required during construction to ensure that proper erosion control practices are used for all construction activities and as part of the maintenance regime to control irrigation runoff and to ensure proper fertilizer usage in turf areas (USEPA 1993b describes recommended nutrient management practices).

Agency Policies & Plans Affecting Site Feasibility. Refer to *Appendix D - Infrastructure Permitting, Review & Approval Agencies* for a listing of the agencies with jurisdiction of water allotment, water quality monitoring and sewer design, construction and monitoring. *Table D-1 - Summary of Regulatory & Permitting Agencies - Jurisdiction, Agreements & Permitting Requirements for Water Delivery, Treatment & Water Quality Monitoring* identifies the agencies with jurisdiction over the water delivery supply treatment and water quality monitoring within the Coyote Anderson and Calero watershed. *Table D-2 - Sewage Leaching System Design, Review, Approvals & Operations* describes design, review, approvals and operations responsibilities with regard to septic treatment systems.

## Riverside (Coyote Creek Parkway)

### Swim Facility Feasibility Issues & Recommended Actions

#### Groundwater Extraction

**Issue.** Development of a "flow - through" swim facility for a 10-acre family swim reservoir and 1- acre dog swim reservoir will require significant quantities of water to be extracted from the groundwater table.

**Recommended Action.** *Prepare an analysis of groundwater conditions and projected swim facility allocations to determine the effect groundwater extraction would have on the site's aquifer, taking into account, not only the anticipated drawdown for the swim facility project, but the cumulative impacts of other pending projects (e.g. FAHCE mitigation projects and CVSP project).*

## Riverside (Coyote Creek Parkway)

### Swim Facility Feasibility Issues & Recommended Actions

#### Water Allocations

**Issue** Development of a "flow through system" at Burnett will be dependent on the ability of Coyote Creek to accommodate diversion of a portion of the creek water during the swim season at a sufficient volume and flow rate to provide a turn-over rate acceptable to meet regulatory water quality objectives.

**Issue** The SCVWD settlement agreement prioritizes water allocation in these creeks for restoring and maintaining healthy steelhead trout and Chinook salmon populations.

**Recommended Action** Consult with the Santa Clara Valley Water District with regard to the "Settlement Agreement Regarding Water Rights on Coyote Creek" as these water allocation priorities have the potential to impact future water volumes, flow rates and fluctuations during the swim season (April - September).

**Recommended Action** Develop the swim lagoon water circulation system so that it will not adversely impact the cold water temperatures required to maintain healthy steelhead trout and salmon populations in Coyote Creek.

#### Septic System Design Calculations

**Issue** Depth to first groundwater could limit the area's potential to develop a septic system As an alternative, sewage may be transported off site via a future City of San Jose sewer line for processing at a City sewage treatment plant.

**Issue** Extension of the CVSP sewer line is dependent on the expansion of the City Urban Service Area and the implementation of the CVSP but, current "greenbelt" policies in the San Jose 2020 General Plan do not allow for the extension of urban services to the site.

**Recommended Action** Conduct additional engineering studies (e.g. site specific soil percolation tests to verify adequate depth of permeable soil and/or separation between trench bottom and groundwater) to further evaluate the suitability of the site for developing a septic leach field system.

**Recommended Action** Coordinate with City of San Jose CVSP planning process to determine the most appropriate potable sewage treatment system for the swim facility.

#### "Bio-Filtration Purification Systems

**Issue** Design and operations of the "flow-through reservoir with bio-filtration design prototype" have the potential to impact sensitive species and habitats along Coyote Creek by creating changes in water quality, temperature and amount and flows to surface waters.

**Recommended Action** Conduct hydraulic studies to determine the technical engineering requirements for the "bio-filtration" purification systems identified in the design concept.

**Recommended Action** Consult with environmental regulatory agencies including DHS, the RWQCB, USFWS, CDFG, and USACOE on the design of a "flow-through swimming reservoir system " to ensure that design meets habitat objectives for Coyote Creek.

#### Access & Circulation

**Issue** The proposed CVSP includes major roadway improvements including new/extended on-off ramps from U.S. 101 and design modifications to Monterey Highway that could beneficially or adversely impact the Riverside site

**Issue** Access to the Riverside site from either Hwy 101 or Monterey Hwy may be contingent on coordinating access with the Coyote Creek Golf Course or the CVSP

**Recommended Action** Coordinate with City of San Jose CVSP planning process to determine the most appropriate access to the Riverside site and appropriate traffic improvements

**Issue** Access to the project area from Monterey Hwy must traverse wetland and riparian habitats where potential impacts to sensitive and endangered species could be significant.

**Recommended Action** Conduct hydraulic engineering and biotic studies to determine the bridge design parameters for crossing Coyote Creek and consult with the regulatory agencies including USFWS, CDFG, USACOE, and National Marine Fisheries.

**Issue** Development of a 3-acre parking lot would increase impervious surface area potentially resulting in an increase contamination runoff entering Coyote Creek.

**Recommended Action** Design parking lots to minimize the impervious surface area during the design development phase taking into account seasonal use of facility.

## Riverside (Coyote Creek Parkway)

### Swim Facility Feasibility Issues & Recommended Actions

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*Geotechnical  
Requirements*

**Issue** Development of a swim facility would expose the facility to seismic hazards, in the event of an earthquake.

**Recommended Action** *Conduct geotechnical investigations for individual structural components.*

**Recommended Action** *Design facility in conformance with the geotechnical reports' recommendations and in compliance with the Uniform Building Code.*

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*Riparian/  
Wetland  
Resources*

**Issue** The bridge providing access to the swim facility components will traverse Coyote Creek and reservoir water will utilize water from the Creek.

**Recommended Action** *Consult with regulatory agencies including USFWS, CDFG, and USACOE to ensure that the design of the swim facility components will not adversely impact steelhead trout, Chinook salmon, red legged frog, tiger salamander and other endangered and sensitive species.*

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## Calero Site



### Setting

Available Land Area and Aesthetic Character. Calero County Park is located approximately 10 miles south of the city center of San Jose. The park encompasses approximately 2,282 acres of gently rolling hills with oak woodlands, riparian areas, grasslands and Calero Reservoir, which has a surface area of approximately 347 acres. The proposed project site is located east of McKean Rd-Uvas Rd. and south of Bailey Rd. within the Calero Reservoir watershed approximately 2,200 feet upstream of the southern terminus of the reservoir. Cinnabar Hills Golf Course is located on the southeast border of the site and portions of the course can be seen from the project site. Views to the northwest are of Calero Reservoir and the County Park beyond.

Association with Water. The proposed swim facility site sits almost wholly within the 85-acre parcel part of the Park owned by the SCVWD. Similar to the remainder of the Park, the site encompasses gently rolling hills with grasslands predominating. The site also includes a seasonal drainage that drains into Calero Reservoir.

As the site is located in the watershed directly upstream of the reservoir, it raises concerns about upstream contaminants from the swim area and/or the septic drain fields entering Calero Reservoir, a primary drinking water storage reservoir. Siting the project facilities upstream of the reservoir would be classified as a high-risk activity according to the Department of Health Services (DHS) and the United States Environmental Protection Agency guidelines on source water assessment and protection zones. Therefore, if a swim facility is developed at Calero, these agencies will require development of a water quality management plan and long-term monitoring and reporting to ensure that no contamination of Calero reservoir would occur.

Existing Uses. The swim facility site is proposed to be located on an undeveloped site that forms part of an 85-acre parcel owned by the SCVWD but leased and managed as part of the County Park. The site is visually and hydrologically connected to Calero reservoir. Calero reservoir functions as a primary drinking water storage facility and a recreation amenity that provides opportunities for power boating, jet skiing, and fishing. In close proximity is Cinnabar Hills Golf Course, a private course that is accessed from Mc.Kean Rd. south of the project site. An equestrian concession is located on SCVWD land, leased by the County Parks and Recreation Parks Department almost directly across McKean Rd. from the project site. Access to the stables and the County boat launch ramp area can be accessed from McKean Rd., to the south and north, respectively, of the project site.

Local Access & Parking. Access to the Calero site is from McKean Rd-Uvas Rd., a two-lane road with no shoulders that provides a north-south connection between South San Jose and Morgan Hill. While the overall level of service (LOS) was rated as "B" in the *1992 draft Calero County Park Master Plan EIR Report*, conditions adjacent to the proposed swim site will need further evaluation to determine current travel patterns and safety hazards. In addition, the intersection of Bailey Ave. and McKean Rd-Uvas Rd. has previously been determined to operate at an unacceptable level and bicycle traffic is often high on this road during peak recreation periods (e.g. weekends, summer) creating conflicts with motorized users. The City of San Jose has conducted preliminary technical engineering studies for realigning McKean-Uvas Rd. and Bailey Ave. in the vicinity of the proposed swim facility site in the past.

As there is currently no public access to the proposed project site, and no internal improved roads to, or through the site, improvements required to develop a public access to the swim facility include:

- Intersection improvements - (e.g. provide a left-turning queue lane at the swim facility entry for southbound traffic, provide shoulders or bike lanes along McKean Rd.)
- Entry (fee collection) kiosk
- Parking: 400 spaces, 3 acres
- Vehicle access to parking
- Pedestrian/bicycle, maintenance and patrol circulation

Prior to implementing the capital improvements, the Department would be required to conduct further studies to address access and circulation requirements. These studies would include:

- Coordination with the City of San Jose to determine the status of the proposed Bailey Ave. and McKean Rd-Uvas Rd road improvement projects
- A traffic study to determine the level of service (LOS), the performance condition of McKean Rd-Uvas Rd. (e.g. speed, travel time, traffic interruption, safety, driving comfort, convenience and delays), and any road improvements (e.g. road widening, signalization, bicycle enhancements) that would be needed to ensure safety and performance conditions are adequately addressed.

### **Swim Complex Description**

Using the design and carrying capacity assumptions described in *Section VI - Design Assumptions & Carrying Capacity*, the optimum swim complex would incorporate the features described below. Required infrastructure requirements are described more fully in the discussion under *Facility Infrastructure - Water & Sewer* immediately following. The *Calero Illustrative Design Concept Plan* provides a graphic illustration of the swim facility complex.

#### Swim Facility Complex - Total Facility Area - 10 Acres

- Lagoon/Reservoir: 1 surface acres
- Swim / Sand Beach Area: 2 acres
- Swim Bottom - textured, aggregate concrete tapers to sand; Swim Area Edge: Sand tapers to turf
- Water Activities: Swimming, Water/Sand Play, and Water Splash Feature
- Ancillary Activities: Informal Turf Area, Family and Group Picnic, Volleyball, Playground (2 - 2.5 acres)

Note: A dog swim area and dog off-leash park are not proposed for this site due to water quality restrictions.

#### Support Facilities

- Drinking Fountains/ Showers/ Changing Rooms
- Vending Machines and/or Food/Drink Concessions
- Lifeguard Building
- Equipment Storage
- Parks Staff Maintenance Building
- Chlorine Treatment/Filtration Plant

### **Facility Infrastructure - Water & Sewer**

Reservoir Water Supply. Water will come from an on-site well utilizing groundwater from on-site aquifer. Future engineering studies will need to determine the capability of the aquifer to handle the drawdown required to maintain the desired reservoir water levels.

Closed, Chemically Treated System. The Calero swim reservoir system will be a closed, chemically treated (e.g. chlorine and other non-automated chemicals) system. The lagoon will have a concrete bottom. The swim area edge will incorporate a textured, aggregate concrete surface (such as "Pebbletec") at the wade-in edge. This surface will taper up to a sand beach that will use tri-wash sand (no fines) at the upper edge of the shoreline to minimize damage to the filtration system. The closed system will include a chlorination/filtration plant for treating the water and storing the required chemicals. This building will also include shut-off systems for chlorine treatment/filtration plant and a full shower, as well as an eyewash sink, readily available to staff whom may come in contact with any chemicals.

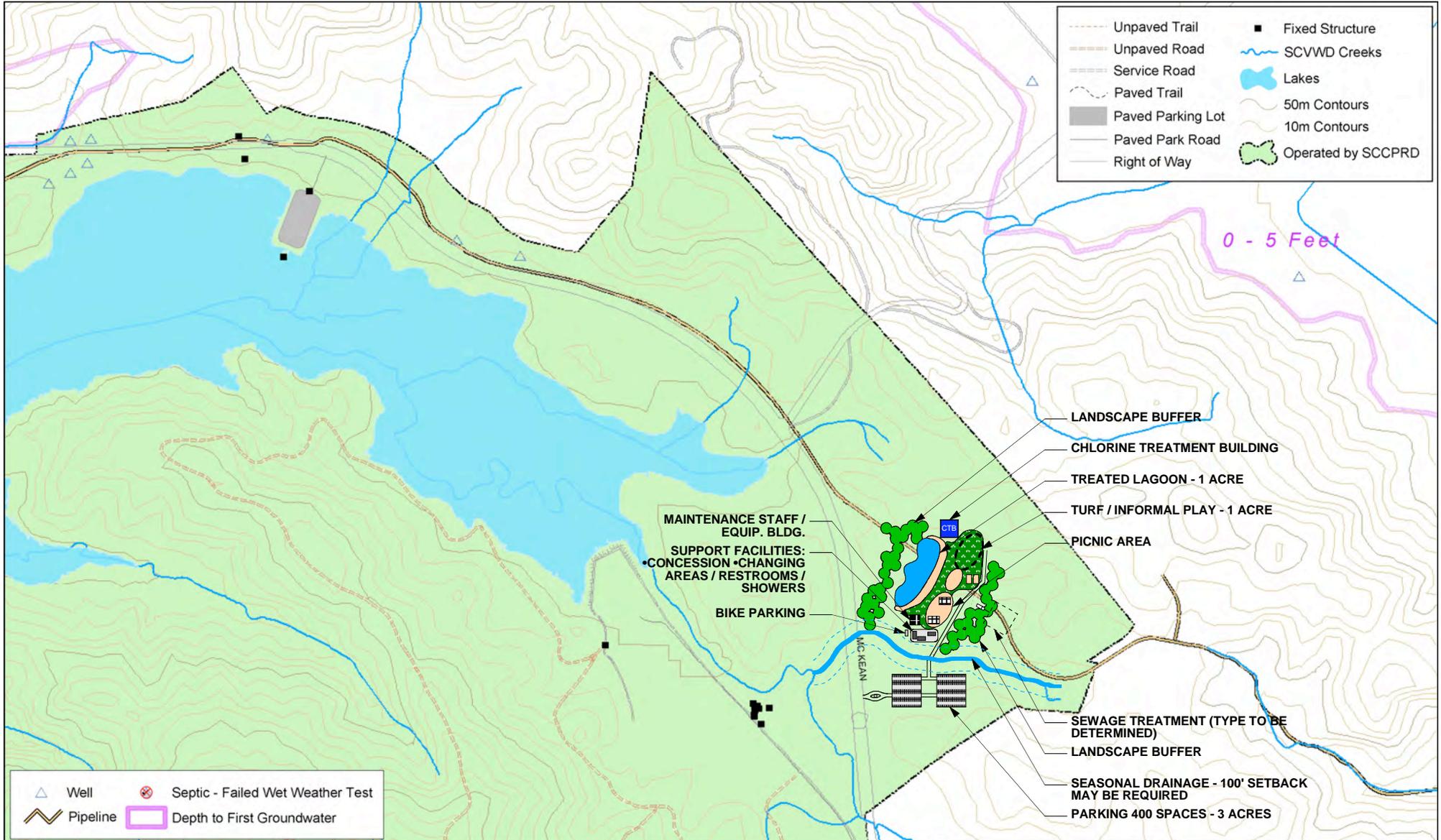
Reservoir Testing, Monitoring & Posting. Water quality testing will occur daily. County certified staff will be required to keep a daily log documenting chlorine and pH levels, and make chemical adjustments as required to meet DEH requirements. County staff would be required to submit weekly reservoir testing results to DEH. DEH will supplement daily testing and monitoring with on-site monthly testing to monitor and regulate chlorine and pH levels.

Reservoir Retention & Release: Calero Reservoir will be a seasonal facility and it is anticipated that the water will be drained from the facility at the end of the swim season. Because it is a closed system that must pump water in and out of the system, there are a number of unique design parameters associated with this design. These include evaporative water loss, maintenance of chlorine levels, and release and /or disposal of chlorine water during and at the end of the swim season.

If a swim facility is hydrologically connected to Calero Reservoir, the treatment system and monitoring program must ensure that organic carbon, nutrients, algae and algal products, pathogens (including giardia and cryptosporidium), and disinfection byproducts and their precursors are adequately mitigated prior to releasing flows from the system.

*Release and /or Disposal of Chlorine Water-* During the "swim season" water will be readied for release through the swim lagoon's backwash process. Water that is released from the lagoon will be drained to the sewage treatment system or detention basin as determined to be satisfactory to the DHS in future design studies for this site. At the end of swim season, chlorine treatment will be discontinued and treated water will be allowed to sit seven to ten days until all

**Insert Calero Illustrative Design Concept Plan**



	Well		Septic - Failed Wet Weather Test
	Pipeline		Depth to First Groundwater



This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

## Calero Lake County Park Swim Lagoon Site (CA1) Illustrative Design Concept Plan



residual chlorine has dissipated. Then DEH will test the water and give authorization to the Department for the swim lagoon to be drained.

Potable Water. Potable water will be supplied from an on-site well that will be located and drilled as part of this project. Currently, the only well in the project vicinity is a shallow, non-potable well near the stables. The specific site and depth of the well will need to be determined during the design development phase.

Sewage Treatment. *Determination of the appropriate sewage treatment solution will be dependent on additional engineering studies.* The SCVWD is discouraging the development of an on-site septic and leaching drain field system because the site is located in the watershed directly upstream of a primary water supply reservoir and is subject to the DHS and the United States Environmental Protection Agency (EPA) guidelines on source water assessment and protection zones. Additionally, DEH will not permit the development of a vault system (with sewage pumped and trucked off-site) or on-site composting or grey water bio-filtration treatment systems.

Irrigation Water Supply. The supply source has not been finalized. The supply source is likely to be the same as the potable water source. However, if recycled water is available, it may be permitted for use in part or as a sole supply source. This will need to be verified at the time design development is initiated and the engineering of the swim facility is completed.

Best Management Practices. Best Management Practices (BMP) will be required during construction to ensure that proper erosion control practices are used for all construction activities and as part of the maintenance regime to control irrigation runoff and to ensure proper fertilizer usage in turf areas (USEPA 1993b describes recommended nutrient management practices).

Agency Policies & Plans Affecting Site Feasibility. Refer to *Appendix D - Infrastructure Permitting, Review & Approval Agencies* for a listing of the agencies with jurisdiction of water allotment, water quality monitoring and sewer design, construction and monitoring. *Table D-1 - Summary of Regulatory & Permitting Agencies - Jurisdiction, Agreements & Permitting Requirements for Water Delivery, Treatment & Water Quality Monitoring* identifies the agencies with jurisdiction over the water delivery supply treatment and water quality monitoring within the Coyote, Anderson and Calero watershed. *Table D-2 - Sewage Leaching System Design, Review, Approvals & Operations* describes design, review, approvals and operations responsibilities with regard to septic treatment systems.

## Calero (Calero County Park)

### Swim Facility Feasibility Issues & Recommended Actions

*Groundwater  
Extraction -  
Water  
Allocations*

**Issue.** Development of the 1- acre swim lagoon at the Calero site will require significant quantities of water to be extracted from the groundwater table.

**Recommended Action.** *Prepare an analysis of groundwater conditions and projected swim facility allocations to determine the effect groundwater extraction would have on the site's aquifer, taking into account, not only the anticipated drawdown for the swim facility project, but the cumulative impacts of other projects (e.g. Cinnabar Golf Course).*

## Calero (Calero County Park)

### Swim Facility Feasibility Issues & Recommended Actions

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Primary Drinking Water Storage Reservoir	<p><b>Issue</b> The site is visually and hydrologically connected to Calero reservoir, which functions as a primary drinking water storage facility.</p> <p><b>Issue</b> Siting the project facilities upstream of the reservoir would be classified as a high-risk activity according to the DHS)and the EPA guidelines on source water assessment and protection zones.</p> <p><b>Recommended Action</b> <i>Coordinate with the SCVWD, DHS and the EPA in the development of a water quality management plan and long-term monitoring and reporting to ensure that no contamination of Calero reservoir is occurring.</i></p>
Master Reservoir Lease Agreement	<p><b>Issue</b> The swim facility site is proposed to be located on an undeveloped site that forms part of 85-acre parcel owned by the SCVWD but, leased and managed as part of the County Park.</p> <p><b>Recommended Action</b> <i>Coordinate with SCVWD to renegotiate the Master Reservoir Lease Agreement to incorporate the use of a swim lagoon at this site.</i></p>
Septic System Design Calculations	<p><b>Issue</b> SCVWD discourages the development of an on-site septic and leaching drainfield at this site and the DEH will not permit the development of a vault system (with sewage pumped and trucked off-site) or on-site composting or grey water bio-filtration treatment systems.</p> <p><b>Recommended Action</b> <i>Conduct additional engineering studies and coordinate with SCVWD, DHS, DEH to determine the appropriate sewage treatment solution.</i></p>
Closed, Chemically Treated System	<p><b>Issue</b> The Calero swim lagoon system will be a closed, chemically treated (e.g. chlorine and other non-automated chemicals) system, requiring a chlorination/filtration plant for treating the water and storing the required chemicals, employee safety facilities to meet OSHA req., and methods for releasing and /or disposing of chlorine water during, and at the end of the swim season.</p> <p><b>Recommended Action</b> <i>Conduct engineering studies to determine the technical engineering requirements for the swim lagoon identified in the design concept for this site.</i></p> <p><b>Recommended Action</b> <i>Consult with environmental regulatory agencies including DHS, RWQCB, SCVWD and DEH to ensure all health and safety codes and water quality objectives can be met by the project design.</i></p>
Access & Circulation	<p><b>Issue</b> There is currently no public access to the proposed project site</p> <p><b>Recommended Action</b> <i>Conduct a traffic study to assess need for road improvements to address safety and performance requirements for McKean Rd-Uvas Rd. (e.g. road widening, signalization, bicycle enhancements).</i></p> <p><b>Issue</b> The City of San Jose has conducted traffic studies regarding the realignment of to realign McKean-Uvas Rd. and Bailey Rd. in the vicinity of the proposed swim facility site in the past.</p> <p><b>Recommended Action</b> <i>Coordinate with City of San Jose to determine the status of the proposed Bailey Rd. and McKean Rd-Uvas Rd improvement projects.</i></p> <p><b>Issue</b> Development of a 3-acre parking lot would increase impervious surface area potentially resulting in an increase contamination runoff entering Coyote Creek.</p> <p><b>Recommended Action</b> <i>Design parking lots to minimize the impervious surface area during the design development phase taking into account seasonal use of facility.</i></p>
Geotechnical Requirements	<p><b>Issue</b> Development of a swim lagoon would expose the facility to seismic hazards, in the event of an earthquake.</p> <p><b>Recommended Action</b> <i>Conduct geotechnical investigations for individual structural components.</i></p> <p><b>Recommended Action</b> <i>Design facility in conformance with the geotechnical reports' recommendations, and in compliance with the Uniform Building Code and DHS requirements to minimize potential release of chlorinated water into the reservoir during a seismic event.</i></p>

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## Calero (Calero County Park)

### *Swim Facility Feasibility Issues & Recommended Actions*

*Riparian/  
Wetland  
Resources*

**Issue** Access to the swim lagoon from the parking area may require a pedestrian bridge across a seasonal drainage with wetland and riparian habitats. This crossing could potentially impact sensitive and endangered species.

**Recommended Action** *Consult with regulatory agencies including USFWS, CDFG, and USACOE to ensure that the design of the swim facility components will not adversely impact steelhead trout, Chinook salmon, red legged frog, tiger salamander and other endangered and sensitive species.*

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## **COSTS, REVENUES & OPERATIONS**

# IX

## CONSTRUCTION COSTS FOR THE THREE ALTERNATIVE SITES

### Calculating Construction Costs for the Three Alternative Sites

A comparison of the construction costs for the three alternative sites is shown in *Table IX-1- Comparison of Order of Magnitude Construction Costs for Alternative Sites*. These are preliminary, order of magnitude costs based on 2004 construction costs. These cost estimates are based on the conceptual design solutions for the three alternative sites and the current costs of construction. Materials selected for calculating the budget estimates are standard materials that fulfill the functional requirements of the design. If custom materials are selected during the development of design development phase, then these selections may alter the estimated cost of construction. Budget estimates were determined by calculating estimated quantities and then applying unit costs to these quantities. Because of the preliminary nature of these estimates, a 25% project contingency is reflected for each of the site estimates. In addition, a percentage of the construction fee has been added to allow for project mobilization - 5%, temporary work - 5%, storm water pollution program requirements - 5%, and post-construction clean-up. The construction subtotal also includes the following allowances: design - 10%, construction management - 25%, and construction support - 10%.

This estimate is preliminary and for planning purposes only. The estimate will be subject to change as a result of fluctuations: 1) in the construction industry in terms of labor availability and labor rates; 2) review and refinement of the design when construction drawings and specifications are prepared; and 3) mitigation requirements, which will be specifically defined when environmental permits are secured.

### Construction Costs

"Preliminary, order of magnitude" costs are estimated to be between \$14 and \$16 million dollars for the swim area complex. Refer to *Table IX-1 - Comparison of Order of Magnitude Construction Costs for Alternative Sites* for a breakdown of the costs of specific project components for the three alternative sites. Also refer to *Appendix F- Itemized Cost Estimate* for a more detailed cost breakdown of the project design components.

These estimates are based on current construction costs and only represent the costs associated with the physical development of the swim /dog training reservoirs and associated complex facilities. These preliminary costs do not include costs for additional engineering studies, infrastructure development off-site, or CEQA assessments, permitting and mitigation monitoring requirements. Therefore, it is not unreasonable to assume that this facility could cost approximately \$20 million dollars. A summary of the cost components that are not included follows.

**Table IX-1 - Comparison of Order of Magnitude Construction Costs for Alternative Sites**

Component		Burnett <sup>1</sup>	Riverside <sup>1</sup>	Calero <sup>2</sup>
Swim	Untreated Lagoon / Reservoir (10 surface acres)	\$2,113,239	\$2,113,239	NA
	Treated Swim Lagoon (1 surface acre)	NA	NA	\$1,200,000
	Sand Beach Area: 2 acres	\$150,000	\$150,000	\$200,000
	Dog Reservoir / Beach - 2 acres	\$348,046	\$348,046	NA
	Reservoir Bio-Filtration System - 3 acres	\$653,400	\$653,400	NA
Access	Parking Lot - 3 acres	\$653,400	\$653,400	\$653,400
	Park Entry & Circulation	\$1,000,000	\$1,000,000	\$1,000,000
Support	Restroom at Entry	\$173,880	\$173,880	\$173,880
	Swim Area Restroom w/ Changing & Showers	\$498,520	\$498,520	\$498,520
	Park Maintenance Support Buildings	\$300,000	\$300,000	\$300,000
	Signage	\$8,000	\$8,000	\$8,000
	Perimeter Fencing	\$272,500	\$272,500	\$200,000
	Park Amenities at Swim Entry	\$178,600	\$178,600	\$178,600
	Mechanical Pump Room	NA	NA	\$950,000
Recreation	Family Picnic	\$153,900	\$153,900	\$153,900
	Group Picnic Area	\$190,400	\$190,400	\$190,400
	Recreation - Volleyball, Children's Play	\$251,800	\$251,800	\$251,800
Sewer	Septic System (3 acre drainfield)	\$300,000 <sup>3</sup>	\$300,000 <sup>4</sup>	\$300,000 <sup>5</sup>
Land- scape	Informal Turf Area	\$217,800	\$217,800	\$217,800
	Park Wide Landscaping	\$265,680	\$265,680	\$265,680
Contingencies	Park Wide - Mobilization & Clean-up	\$1,140,000	\$1,140,000	\$960,000
	Design & Construction Contingencies	\$7,206,196	\$7,206,196	\$6,257,859
<b>TOTAL</b>		<b>\$16,075,361</b>	<b>\$16,075,361</b>	<b>\$13,959,839</b>

1 Site includes 10-acre reservoir and 1 acre dog reservoir

2 Swim lagoon is 1 acre. Site does not include dog reservoir

3 Costs reflect preliminary cost of constructing a septic system with a 3-acre drain field, actual costs may vary greatly once the ultimate sewage treatment system is designed

4 Riverside cost is given for septic leachfield system. In the future it may be possible to connect to assumes city sewer line if greenline policies are changed - length & size to be determined during the design development phase

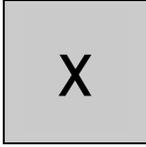
5 Calero sewer system to be determined a during the design development phase - as a placeholder costs are given for a septic leachfield system. Costs will vary with an alternative package sewer plant

### Components Not Included

These preliminary estimates do not include the costs for several of the project components because either the specific design parameters cannot be defined until the design development phase, and/or the costs will be dependent on detailed environmental analysis and permit compliance requirements that will be established by the regulatory agencies as the project is further defined. These costs can be highly variable and add substantially to overall cost of the

project. These factors will need to be monitored as the project progresses into more detailed planning phases. Costs that have not been incorporated into this cost estimate include:

- Future engineering studies
- Future environmental review documentation for CEQA compliance
- Permitting fees
- Future traffic improvements beyond the park boundaries (e.g. signals, road widening, pedestrian/bicycle improvements, etc.) that may be required to provide access to the site
- Infrastructure costs to meet the projected utility requirements (e.g. new wells, water lines, water meters, electrical connections)
- Wetland /habitat mitigation requirements that may be required by the regulatory and permitting agencies.



## STAFFING REQUIREMENTS & ANNUAL OPERATIONS BUDGET

### Maintenance & Operations Staffing Requirements

Development of a regional swim lagoon as part of the County Parks system will represent a new direction for the County Parks and Recreation Department. As such, it is estimated that this new, regional recreation amenity will require an increase in the number of County staff, the development of new staff positions, and possible restructuring for the Department's operational framework. Current staffing includes:

- Park Area Maintenance/Ranger & Sheriff Patrols
- Well / Septic Maintenance
- Kiosk Attendants
- Administration (reservations, leases & agreements/special permits)
- Environmental monitoring

Anticipated additional staffing requirements may include:

- An additional Senior Park Ranger/Lead Maintenance staff
- Additional Ranger and Park Maintenance Worker(s)

Anticipated new expertise that will be required includes:

- Swim Facility Open Water Site Manager
- Lifeguards
- Chlorine Filtration Plant Operator (Calero)
- Concessionaires (including potentially food service, vending machine vendors, and / or recreational equipment rentals)

An estimate of additional staffing requirements for each of the alternative sites is provided in *Table X-1- Additional Staffing Required to Operate A Swim Lagoon -Comparison of Sites*. These staffing estimates were developed by Santa Clara County Staff based on their best estimate of the workload anticipated by this facility compared with other tasks they now perform. This estimate was based on the scenario of facility operations described in this section. The purpose of these estimates was not to determine the ultimate role of existing staff at the identified park units, but to provide some criteria for establishing order of magnitude costs for operating a new regional swimming facility.

Preliminary staffing costs have been studied for one possible operating scenario for the purposes of determining an order of magnitude cost for overall staffing requirements for the proposed swim facility. Other factors that may alter this operating scenario may include site conditions, labor union negotiations, budgetary restrictions, and others, which may present a different operation scenario than what has been presented in this study.

As staff requirements are refined, swimming facility staffing requirements will need to be revised to ensure that the operational aspects of the rest of the unit are not neglected, and that the new tasks required of this facility reflect the job specifications of the assigned staff. This was an issue that was brought up by EBRPD field staff who were in charge of new facilities and undertaking new duties. It seemed to be less of an issue with staff at older facilities who had had responsibility for the swim facility for a number of years.

The creation and supervision of new lifeguard positions may result in the creation of a new unit. A determination of the supervision requirements for those seasonal positions were not determined at this point in the study. The lifeguards at the EBRPD swimming facilities and the City of San Jose Lake Almaden swim facility are under separate supervision from the ranger/maintenance staff.

A determination on the specific supervision requirements for the park ranger and maintenance staff operating the swim facility will be determined in a later phase and may be dependent on the ultimate design of the facility and the special training required to operate that facility and park staffing organization structuring at the time the facility is built.

**Table X-1 - Additional Staffing Required to Operate A Swim Lagoon -Comparison of Sites**

Staff		SITE		
		Burnett	Riverside	Calero
<b>FULL TIME</b>	<b>Park Rangers</b>			
	Park Ranger	1	1	1
	Senior Park Ranger	0	0	0
	<b>Maintenance</b>			
	Maintenance I	0	0	0
	Maintenance II	3	3	3
	Maintenance Lead	1	1	1
	Maintenance Supervisor	0	0	0
	<b>Environmental Health &amp; Safety</b>			
	Environmental Health & Safety Compliance Specialist	n/a	n/a	n/a
	<b>Administration</b>			
	Reservations	0.5	0.5	0.5
	Park Use Coordinator	n/a	n/a	n/a
	<b>Lease / Concession</b>			
	Real Estate Agent	n/a	n/a	n/a
	<b>SEASONAL</b>	<b>Field Staff</b>		
Kiosk Attendants		5	5	5
<b>Aquatic Staff<sup>1,2</sup></b>				
Open Water Manager		1	1	1
Maintenance Swim Facility Operators		2	2	2
Lifeguards		16	16	14

1 New seasonal positions for the Parks and Recreation Department

2 The staffing requirements set forth in this table reflect the seasonal aquatics staffing for the EBRPD and City of San Jose Almaden Lake open water aquatics staffing units.

## Operations Scenario

The estimate of staffing requirements was developed for each of the three alternative sites using the operations scenario described below.

### Hours of Operation

All Sites - The swim area will be open between 11am - 6 p.m. daily, Memorial Day (May) to Labor Day (September), and weekends beginning Easter (April) and ending at the end of October. During these hours, lifeguards will be on duty and there will be a fee to swim. During the winter, the family swim area will not be open. The dog park/swim area will be open year-round.

### **Park Facilities & Activities**

Burnett & Riverside - The park area will include a swim lagoon, a larger reservoir area, a dog training area and open space accessed by autos, bikes and foot. The swim area will include a sand beach, swimming, picnic sites, turf and play areas around the lake(s). Operation of the swim area will require an open water manager, lifeguards, kiosk attendants, and possibly food service and rental concessions. Maintenance of the sand edge will require replenishment once every one to two years. This task is labor intensive - moving, grading and exchanging sand. The swim area will include restroom facilities inside and outside the secured enclosure. A separate dog training area and dog swim area will also be fully enclosed by a six-foot high fence.

Calero - The park area includes a swim lagoon, and open space accessed by autos and bikes. The swim area includes a sand beach, swimming, picnic, turf and play areas around the lagoon. Operation of the swim area will require an open water manager, lifeguards, kiosk attendants, and possibly food service and rental concessions. Maintenance of the sand edge requires daily sweeping of the "pool" bottom (to separate sands from concrete) as well as replenishment of sands every one to two years. The swim area will include restroom facilities inside the secured enclosure. The park will not include a dog area.

### **Water Treatment & Testing**

Burnett & Riverside - The system includes a settling pond to filter non-point source pollutants prior to entering the first reservoir and a wetland filtration system to "purify" the water prior to re-entering Coyote Creek. The water will not be treated with chemicals (e.g. chlorine). The reservoir water will be tested every six days. The results of the tests will be posted on a public information board. Use of untreated water combined with the bio-filtration systems may require additional algae and vector control measures.

Calero - The water within the swim lagoon will be treated for swimming with a chemical and filtration system that includes multiple filters, and injection of chlorine, moriatic acid, and other non-automated chemicals. The treatment plant will require ongoing maintenance of pumps, filters, and chemical systems to ensure regulatory and warranty compliance. Daily water quality monitoring of the swim lagoon by Parks staff will include testing and upkeep of daily log documenting chlorine and pH levels in the pool. Based on the testing results, staff will need to make adjustments to the treatment system to maintain chlorine and pH at the required levels.

### **Sewage Treatment**

Burnett - Sewage and all gray water from showers, food service, etc. will be processed through an on-site septic and leaching drainfield system. The on-site septic system will be maintained by Parks staff.

Riverside - Sewage and all graywater from showers, food service, etc. may be processed through an on-site septic and leaching drainfield system, or it may be possible to connect to the City of San Jose infrastructure in the future and transport sewage off-site to a City of San Jose sewer line for processing at a City sewage treatment plant. Should a septic system be installed on-site, this system would be maintained by Parks staff.

Calero - *Determination of the appropriate sewage treatment solution will be dependent on additional engineering studies.*

### **Annual Operating Costs**

Taking into account the staffing levels provided in *Table X-1- Additional Staffing Required to Operate A Swim Lagoon -Comparison of Sites* and the facilities design and

maintenance scenario presented above, an estimate of the annual operating costs for the three alternative sites was prepared. This estimate is shown in *Table X-2- Comparison of Annual Operating Costs for the Alternative Sites*. It is based on the operating cost assumptions summarized below.

**Table X-2 - Comparison of Annual Operating Costs for the Alternative Sites**

Staffing & Operations	SITE		
	Burnett	Riverside	Calero
Swim Complex Operations Costs	\$211,000	\$211,000	\$173,000
Full Time Staff	\$440,000	\$440,000	\$440,000
Seasonal Staff	\$75,000	\$75,000	\$75,000
Seasonal Aquatics Staff	\$95,000	\$95,000	\$95,000
<b>TOTAL</b>	<b>\$821,000</b>	<b>\$821,000</b>	<b>\$783,000</b>

**Assumptions Used to Calculate Swim Area Expenditures**

**Operating Costs - Assumptions**

Untreated Reservoirs - flow Through System

Sand replacement @ 60% of initial cost (not beach quality) (Swim beach - 1 ac. & dog beach - 1 ac.) =	\$180,000
Water Quality Monitoring (Lake Temescal)*	\$ 25,000
General Supplies (EBRPD)*	\$ 6,000
No water costs assuming reentry to creek or groundwater system	\$ 0
<b>TOTAL</b>	<b>\$211,000</b>

Treated Reservoir

Sand replacement @ 60% of initial cost (tri-washed each quality Sand (1 acre)	\$120,000
Chemical Treatment /filtration system /season (Cull Canyon)*	\$ 7,000**
Water Quality Monitoring (Lake Temescal)*	\$ 25,000
General Supplies (EBRPD)*	\$ 6,000
City water to fill lagoon (Don Castro)*	\$ 15,000
<b>TOTAL</b>	<b>\$173,000</b>

**Staffing - - Assumptions**

5.5 Full Time staff \$80,000/staff/yr.	\$440,000
5 Seasonal staff \$15,000staff/season	\$ 75,000
19 Lifeguards (seasonal) \$95,000 (EBRPD avg.)	\$ 95,000
<b>TOTAL</b>	<b>\$610,000</b>

\* Refers to source of data

\*\* DHS Water Quality Constraint Prohibits Use of Calero Reservoir - These restrictions could affect release of lagoon water which could result in additional unknown costs

While this is a very preliminary analysis it is comparable to the EBRPD facilities as shown below.

**Comparison of East Bay Regional Park District Swimming Area Staffing Requirements and Operating Costs**

The following tables reflect information on swimming facility operational costs provided by EBRPD. The costs reflect anecdotal information and do not include staffing and periodic capital improvements (e.g. sand replenishment).

**Table X-3 - East Bay Regional Park District Operating Costs for Swim Sites**

Swim Site	Annual Operating Costs
Cull Canyon (Chlorinated Lagoon)	\$450,000
Don Castro (Chlorinated Lagoon)	\$465,000
Lake Temescal (Untreated Reservoir)	\$225,000
Robert's Pool (swimming pool)	\$150,000

**Table X-4 - Staffing Requirements for East Bay Regional Park District Swim Facilities**

Swim Facility -(reservoir unless noted otherwise)	Full Time Staff (Rangers & Maintenance) (3)	Seasonal Staff (Rangers & Maintenance) (3)	Seasonal Lifeguards (4)
Contra Loma Rec. Area (1)	8 park wide	2 park wide 4-5 assigned to lake - fee collection only	14
Cull Canyon Rec. Area	5 permanent staff is assigned to the swim area - same staff as entire park	3 - 2-3-fee collection at entry & 1 student laborer	8-12
Del Valle Regional Park	14 park wide	6 park wide	27
Don Castro	5 permanent staff is assigned to the swim area - same staff as entire park	19 park wide 2 - 1-fee collection at entry & 1 student laborer	15-16
Lake Anza - Tilden Park	25 park wide	15 assigned to lake	14
Lake Temescal	4 parkwide	8 parkwide 3 assigned to lake - fee collection only	16
Quarry Lakes Rec. Area	7 park wide	4 park wide 2 assigned to lake - (fee collection only)	16
Pool - Roberts Rec. Area (2)	4 Full Time Employees - Permanent staff for swimming pool same staff as entire park	5 10 assigned to pool	11
Shadow Cliffs	10 parkwide	4 parkwide 2 assigned to lake - (fee collection only)	15

(1) Reservoir separate from swim area

(2) Swimming pool

(3) Does not include concession staff

(4) Lifeguard Unit is separate from the Rangers & Maintenance Unit and as such they are under separate supervision from ranger staff

# XI

## REVENUE FORECAST

### Potential Revenues Generated for the Three Alternative Sites

This section identifies potential revenues that can be generated directly from the swim facility complex, including the family swim area and the dog swim / park area. These revenues are based on a number of assumptions relative to park visitation rates and visitors' willingness to pay for these facilities at a rate that is higher than other swim sites in the Bay Area, but within the range of other family -oriented outings. For the purposes of this study, a fee of \$7.50 is assumed for revenue operation potential. Additional fee surveys / studies would be needed to examine specific cost-recovery measures for other swim fee ranges.

The possibility exists to lease out the facility to an independent operator, but this type of scenario would require the Department to conduct additional cost-recovery studies at a later time. A concession-run model was not used in the preliminary cost-benefit analysis model because we could not find a similar-lease operated facility in the Bay Area at this time.

A summary of these assumptions and the resulting outcomes is provided below.

**Table XI-1- Comparison of Potential Revenues Generated for the Three Alternative Sites**

Revenue Source	SITE		
	Burnett	Riverside	Calero
Swim Complex Parking Fee	\$101,000	\$101,000	\$101,000
Swim Entry Fee	\$378,750	\$378,750	\$378,750
Group Picnic	\$30,000	\$30,000	\$30,000
50% Turn Over/Day	\$254,875	\$254,875	\$254,875
<b>SUBTOTAL</b>	<b>\$764,625</b>	<b>\$764,625</b>	<b>\$764,625</b>
Dog Swim / Park Area Parking Fee	\$22,395	\$22,395	NA
Dog Swim / Park Area Entry fee	\$17,916	\$17,916	NA
Special Permit Annual Fee	\$3,000	\$3,000	NA
50% Turn Over/Day	\$20,156	\$20,156	NA
<b>SUBTOTAL</b>	<b>\$63,467</b>	<b>\$63,467</b>	<b>NA</b>
<b>TOTAL</b>	<b>\$828,092</b>	<b>\$828,092</b>	<b>\$764,775</b>

### Assumptions Used to Calculate Revenues for Swimming Area

#### Swimming Season

Weekends - April (2 weekends), May (4 weekends), Sept.(4 weekends), Oct. (2 weekends), = 12 weekends = 24 days

Weekends + 3 holidays - June - July - August (4 weekends ea.) = 12 weekends + 3 holidays = 15 days

**TOTAL WEEKEND DAYS - 24+ 15 = 39**

Weekdays - June - July - August = 92 - 15 days (Weekends + 3 holidays - Memorial Day, 4th of July, Labor Day) = 77 days

**TOTAL WEEK DAYS = 77**

#### Swim Complex Visitation

Weekends - assume 90% capacity x 1,000 visitors = 900 x weekend days = 39 = 35,100 visitors

Weekdays - assume 20% capacity x 1,000 visitors = 200 x week days = 77 = 15,400 visitors

# XII

## COST BENEFIT ANALYSIS FOR THE THREE ALTERNATIVE SITES

### Financial Implications

This section presents anticipated capital costs, operational expenses and revenues associated with developing and operating a regional swim facility at the three alternative sites within the County Parks and Recreation system.

Capital costs for the swim facility (not including future road and utility infrastructure connections beyond the park boundaries) are expected to range between \$14 million and \$16 million. Refer to *Section IX - Construction Costs for the Three Alternative Sites* for a more detailed summary of the cost assumptions and values for the various components of the project. Further detailed construction estimates will need to be developed as the planning process progresses and the designs are further refined. Projected annual revenues are expected to be between \$765,000 and \$828,000. This figure is based on a number of assumptions that are described more fully in *Section X - Staffing Requirements & Annual Operations Budget*.

*Table XII-1 Financial Analysis Summary* summarizes anticipated initial and ongoing expenses and revenues. It should be noted that all figures are preliminary estimates calculated in 2004 dollars. Actual costs and revenues can vary greatly from these estimates based on refined engineering designs, regulatory permitting and monitoring requirements, site conditions and economic conditions at the time of development.

**Table XII-1 Financial Analysis Summary<sup>6</sup>**

Description	Burnett	Riverside	Calero	Notes
Capital Improvements	\$16,000,000	\$16,000,000	\$14,000,000	1, 2, 5
Projected Annual Operation Costs	\$821,000	\$821,000	\$783,000	5
Projected Annual Revenue	\$828,092	\$828,092	\$764,775	3, 4, 5
Difference in Annual Operation Costs & Revenues	\$7,092	\$7,092	-\$18,225)	5

- 1 Burnett & Riverside sites include a 10-acre reservoir and 1 acre dog reservoir.
- 2 Calero Swim Lagoon is 1 acre. Site does not include dog reservoir.
- 3 Revenues do not include potential revenues for food services, even though they are identified in the design concept, as research indicates that food service does not generally generate revenues.
- 4 If food concessions are determined to be highly desirable at the swim facility at the master planning phase, concession scenarios such as the Morgan Hill Aquatics Center (seasonal) and Mountain View Shoreline Park (year-round) concessions should be studied as potential operating models.
- 5 While this table shows that operating costs are about equal to revenues that could be generated for the Burnett and Riverside sites and about 9% more than the revenues that would be generated for the Calero site, these revenues are based on a swim entry fee (\$7.50/person, \$5/car & \$5./dog for the dog park). That is significantly more than what EBRPD charges (\$3 - \$3.50 age 16-61; \$2 - \$2.50 age 1-15, seniors (62+yrs) & disabled; under 1 year free) and what is charged at Almaden Lake City Park \$6/car, no swim entry fee.
- 6 The numbers presented here are projections only and could vary greatly depending on actual conditions. They should be used for "order of magnitude" comparisons only.

### **Findings of Cost Feasibility**

Based on this preliminary analysis, the likelihood that the entrance fees, special permits and group reservations fees could pay for day to day operations of a regional swim facility is marginal. This is the case even taking into consideration the development of the two separate recreation areas (the seasonal family swim area and year-round dog swim /dog park area) supported by one infrastructure system. Additionally, revenues generated from use of the swim facility complex cannot be expected to pay off a capital parks bond for construction of the regional swim facility.

These fiscal findings reflect similar findings for the Almaden Lake City Park regional swim facility according to anecdotal information provided by the City of San Jose. While this facility is operating at or over capacity on weekends, serving typically about 600-800 visitors on a weekend day, and charging \$6 fee for parking per car (but no additional fee for swimming), City staff is considering the elimination of the swimming program because this facility does not pay current operating costs. By suspending the current swim operations at Almaden Lake, but retaining and even enhancing other features in the park (e.g. adding a water splash feature and upgrading the existing playground) City staff anticipate cost savings in the City's General Fund.

**TOTAL VISITATION = 50,500**

**Swim Complex Parking Revenue**

20,220 cars (50,500 visitors/2.5 cars) x \$5/car = \$101,000

**SWIM COMPLEX PARKING REVENUE = \$101,000**

**Swim Complex Revenue**

\$7.50/person to swim x 50,500 = \$378,750

\$200/group picnic reservation x 2 (group areas) x 75 days = \$30,000

**SWIM COMPLEX REVENUE = \$408,750**

**Turn Over Rate**

Assume 50% turn over rate for parking (\$101,000) and swimming (\$408,750) = \$509,750 x .50 = \$254,875

**TURN OVER RATE = \$254,875**

**TOTAL SWIM COMPLEX REVENUE** = [(\$101,000) and swimming (\$408,750) and turn over rate (\$254,875)] = **\$764,625**

**Assumptions Used to Calculate Revenues for Dog Swim / Dog Park Area**

**Dog Training Season - Year Round**

Weekends - 52 weekends + 5 holidays = 109 days

**TOTAL WEEKEND DAYS = 109**

Weekdays = 365 - 109 = 256

**TOTAL WEEK DAYS = 256**

**Dog Swim /Dog Park Area Visitation**

Weekends - assume 90% capacity x 30 dogs = 27 x 109 weekend days = 2,943 dogs

Weekdays - assume 20% capacity x 30 dogs = 6 dogs x 256 week days = 1,536 dogs

**TOTAL VISITATION (dogs weekends/weekdays) = 4,479**

**Dog Swim /Dog Park Area Parking Fees**

2,986 cars x \$5/car x 1.5 (assumes 1.5 dogs/car) = \$22,395

**DOG SWIM /DOG PARK AREA PARKING REVENUE = \$22,395**

**Dog Swim /Dog Park Area Entry Fees**

\$4/dog x 4,479 = \$17,916

**DOG SWIM /DOG PARK AREA ENTRY REVENUE = \$17,916**

**Special Permits**

\$200/ annual special permit fee x 15 dog clubs = \$3,000

**DOG SWIM /DOG PARK AREA SPECIAL PERMIT REVENUE = \$3,000**

**Dog Swim /Dog Park Area Turn Over Rate**

Assume 50% turn over rate for parking (\$22,395) and entry (\$17,916) = \$40,311 x 5 = \$20,156

**TURN OVER RATE = \$20,156**

**TOTAL DOG SWIM /DOG PARK AREA REVENUE** = [parking (\$22,395), entry \$17,916), special permits (\$3,000), and turn over rate (\$20,156)] = **\$63,467**



## **CONCLUSIONS**

## CONCLUSIONS: FINAL SUMMARY OF FINDINGS OF FEASIBILITY

### Summary

This feasibility study identified 38 sites associated with water within the County Parks and Recreation system for consideration for a regional swim lagoon facility. Through a tiered evaluation process, the Burnett (Coyote Creek Parkway), Riverside (Coyote Creek Parkway), and Calero (Calero County Park) sites were identified as having the greatest potential for developing a regional swim facility. This section provides a summary of the "Findings of Feasibility" for the three alternative sites.

### Findings of Feasibility for Meeting the Study Objectives

The focus of this study was to look at opportunities for developing a "natural", regional swim area and a place for training dogs in water within the Santa Clara County Parks system. With this objective in mind, the Swim Feasibility Project Team identified sites that provided a "natural aesthetic character" for development of a swim facility design concept that embodied a "natural water system" that would fit within the context of the surrounding environment. Using criteria established for the evaluating the sites, a summary analysis of the three alternative sites' conformance to the study objectives follows.

All three of the alternative sites have the potential to:

- Accommodate a regional swim facility complex including parking and other ancillary facilities
- Provide multiple, family-oriented and group oriented recreation opportunities (including water-based and affiliated land-based activities)
- Be easily accessible from the urban area (e.g. 15 min. driving time)
- Be sited in locations with a suitable (warm/hot) microclimate zone.

The two sites along Coyote Creek Parkway (Burnett and Riverside) also have the potential to provide recreation opportunities for people with dogs, which is a priority for consideration in the Department's implementation of the *2003 Strategic Plan*.

The Burnett site is located in the most "natural" setting with the least intrusion from adjacent development. However, development of a regional swim facility in this location would result in the greatest intensification of recreational use, and the highest potential to impact the biotic and aesthetic resources within that project area.

The Riverside area is most centrally located to the City of San Jose Urban Service Area and therefore, has the highest potential to serve the largest population of users. In pursuit of the development of a regional swim facility at the Riverside site, there is an opportunity to incorporate the swim proposal in conjunction with other planning studies to ensure the balance of resource management and regulatory needs with the provision of recreational needs.

The design concept for the Calero site represents the biggest deviant from the original design concept, which calls for developing a "natural water system" that would fit within the context of the surrounding environment. While the setting meets the criteria for providing a "natural aesthetic character", the swim complex that is proposed is a closed chlorinated system with a concrete bottom due to severe water quality restrictions associated with the Calero watershed.

## **Findings of Feasibility for Meeting the Technical (Engineering) Challenges**

Development of a swim facility at all three of the sites evaluated raise significant concerns regarding the availability of a water source with an adequate quantity, reliable flow and quality of water to meet the water supply requirements of the swim reservoirs and potable water needs.

At the Burnett and Riverside sites the challenges include higher priority water supply operations and other considerations such as fisheries enhancement requirements resulting from the SCVWD's Settlement Act.

In addition, the Burnett and Riverside sites will require a vehicular bridge over Coyote Creek and through a riparian corridor that may contain habitat for anadromous fish species and other sensitive and endangered species.

At the Calero site, water quality constraints are the result of being located in the watershed directly upstream of a primary drinking water supply reservoir regulated by the California Department of Health Services (DHS) and the United States Environmental Protection Agency (EPA). Relying on water from Calero reservoir would pose significant water supply constraints such as potential future drought conditions, and potential impacts on drinking water supply requirements and emergency operations. Other water supply constraints include as well as maintenance of the water level for existing recreation and habitat requirements, reservoir level and seasonal/operational draw down of reservoir as part of the SCVWD operations.

Calero also has severe constraints for septic / leachfield sewage treatment development because it is located in the watershed directly above Calero Reservoir. As a result the DHS and the EPA would consider development of a septic system in this location as a high-risk activity. Additionally, the County Department of Environmental Health will not consider alternative sewage treatment/disposal systems such as a vault system or a package treatment plant at this location at this time.

## **Findings of Feasibility for Cost Recovery**

Based on a preliminary analysis of projected costs and revenues, the likelihood that the swim facility fees could pay for day to day operations of a regional swim facility at the three alternative sites is marginal. Additionally, revenues generated from use of the swim facility complex cannot be expected to pay off a capital parks bond for construction of the regional swim facility.

## **Future Considerations - Critical Paths of Action Needed to Pursue Development of a Regional Swim Facility**

For all three of the alternative sites, development of a regional swim facility within the County Parks system will be contingent on taking several "critical paths of action" addressing water, sanitation, and access to the site.

In the case of the Burnett and Riverside sites these "critical paths of action" will need to be initiated in partnership with the Santa Clara Valley Water District, and the City of San Jose as these agencies refine the planning studies for the Fisheries and Aquatic Habitat Collaborative Study (FAHCE) and the Coyote Valley Specific Plan (CVSP), respectively or potential opportunities for meeting water quality, water allotment and circulation requirements for these two sites may be diminished.

For the two sites along the Coyote Creek Parkway, these paths of action can be initiated as further swim considerations are studied as part of the *Coyote Creek Parkway Integrated Master Plan and Natural Resource Management Plan*, a new planning process that the Parks and Recreation Department is starting in the Fall, 2004.

In the case of the Calero site, there are severe water quality constraints associated with California Department of Health Services and the US Environmental Protection Agency requirements for the Calero Reservoir and associated upstream watershed. As a result, pursuit of the development of a regional swim facility may need to be deferred until City water and sewer systems are extended within a fiscally feasible distance for extending City services to the proposed project site, unless engineering reports determine that there is 1) an adequate water supply to meet potable and reservoir needs in the on-site aquifer and 2) suitable site conditions for developing a septic sewer system that will not intrude into the water supply reservoir.

## **Conclusion**

Although the County Parks and Recreation system offers 28 regional parks and approximately 45,000 acres of parkland for consideration of a future regional swim facility, the Department found that the range of opportunities was limited to the site, technical, regulatory, and operational costs constraints identified in the Feasibility Study.

Development of a regional swim facility within the Santa Clara County Parks and Recreation system must meet several challenges with regard to meeting the study objectives, technical engineering challenges, and projected cost recovery estimates.



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# XIV

## GLOSSARY OF ACRONYMS & TECHNICAL TERMS

This Feasibility Study includes many acronyms and technical terms that are frequently used throughout the document. Following are definitions of these acronyms and technical terms

<b>Acronym</b>	<b>Full Term Name</b>
BMP	Best Management Practices
CDGF	California Department of Fish and Game
CEQA	California Environmental Quality Act
CVSP	Coyote Valley Specific Plan
DEH	Department of Environmental Health
DHS	California Department of Health Services
EBRPD	East Bay Regional Park District
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
FAHCE	Fisheries and aquatic Habitat Collaborative Study
GIS	Geographic Information System
LOS	Level of Service
NMFS	U. S. National Marine Fisheries Service
RWQCB	Regional Water Quality Control Board
SCVWD	Santa Clara Valley Water District
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
USACOE	U.S. Army Corps of Engineers
USFWS	U. S. Fish and Wildlife Service

### **Technical Terms**

<b>Absorption Area</b>	An area to which effluent emerging from a septic tank, aerobic unit, or sand filter is distributed for infiltration into the soil; only certain soil types and geologic conditions are appropriate for absorption areas. Synonym: absorption bed, absorption field, leach field, drain field, soil absorption area
<b>Absorption Bed</b>	See absorption area
<b>Acre-Foot</b>	A unit of measurement
<b>Aerate</b>	To supply with air; in sewage treatment, to mix air with sewage to promote biological decomposition or treatment of the sewage.
<b>Aerobic Unit</b>	A sewage treatment device that mixes air with sewage (see aerate) to facilitate biological decomposition. Synonym: aerobic package plant, package plant
<b>Auxiliary Area</b>	Public dressing, locker shower, or toilet area, or building space intended to be used by bathers
<b>Backflush</b>	Usually refers to removing contaminants from a water softener and sending the brine discharge (containing high concentrations of sodium,

calcium, and magnesium) to the sewage treatment unit; in some areas this is not allowed if the sewage treatment unit is a traditional septic system. Synonym: backwash

**Biofiltration**

"Biofiltration" (as considered in the design concept for the "flow-through swim reservoir system") is– Phyto Filtration or utilization of plants to filter water. Plants are typically planted in a gravel bed (approximately 24 inches deep) and water is induced to flow across the planted area and slowly works its way to the bottom of the gravel bed where it moves along before returning to the creek. The slow process allows the roots of the planted material to separate the particulates and nutrients (pollutants) from the water as it moves through the filter system. The pollutants or waste are actually the fertilizer for the plant material. The plants best suited for this type of filtration are marginal or bog plants such as cattail, bulrush, water iris, pickerel and floating plants such as cabbage and hyacinth.

Anaerobic bacteria thrive around the root structures of the plants where it is oxygen free and they can break down the nitrates in the water that contribute to algae blooms making it easier for plants to assimilate them. In essence toxins and pollutants are removed from water and assimilated by plants as it flows through. It should be noted however, due to the nature of phyto-filtration, it is difficult to balance the size of the field required with water flow rate, plant size, etc. (e.g. it is not an exact science). Also the filter will become wetland and by definition be difficult to manipulate or modify based on current environmental laws.

**Deep Hole Test**

An examination of the soil profile prior to installation of a sewage treatment system; evaluates the suitability of the soil for sewage treatment, determines depth to bedrock, depth to water table, and occurrence of impermeable soil. Synonym: soil cut inspection

**Effluent**

The liquid that is released to or from a septic tank or aerobic unit; raw effluent is that which has not been treated in any way; treated effluent is that which has gone through a septic tank, aerobic unit, or absorption area.

**Equipment Area**

An area used for recirculation and purification equipment and related piping appurtenances

**ESA**

Federal Endangered Species Act (16 U.S.C. Sections 1531 et seq.).

**Graywater**

Effluent from household sinks, shower/ bathtub, clothes washer, water treatment units, etc., that does not contain toilet waste.

**Greenbelt/Greenline Policies**

The City of San Jose's 2020 General Plan policies for the unincorporated area outside of the City's Urban Growth Boundary state that the "Greenbelt" area in South Coyote Valley will be kept as a permanent non-urban buffer between the City of San Jose and the City of Morgan Hill, such that no urban service will be extended to this area. The

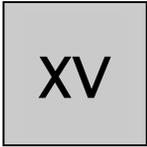
"Greenline" is Palm Avenue separating the north and central Coyote Valley areas from South Coyote Valley.

<b>Groundwater</b>	Subsurface water that originates as rain or snow melt; groundwater seeps through the soil profile until reaching a depth where all soil/rock pores are filled; the top of this saturated zone is called the water table.
<b>Holding Tank</b>	A watertight tank, similar to a septic tank, that collects waste and holds it until it can be pumped and transported to a sewage treatment system; used on small lots with no suitable absorption area or in a location too isolated for a community system; use is frequently restricted by health department regulations.
<b>Impermeable</b>	See permeable
<b>Infiltration Rate</b>	The amount of time necessary for effluent to flow from the absorption area into the soil; varies with soil type and other environmental factors, and is usually expressed in gallons/day/square foot (gpd/sq. ft.).
<b>Leach Field</b>	See absorption area
<b>Lifeguard</b>	Any regularly employed and paid officer, employee, or member of a public aquatic safety department or marine safety agency of the State of California, a city, a county, city and county district, or other public or municipal corporation or political subdivision of this state.
<b>Lifeguard Service</b>	The attendance at a swim facility during periods of use, of one or more lifeguards who possess, as minimal qualifications, current red Cross advance lifesaving certificates or YMCA senior lifesaving certificates or have equivalent qualifications and who are trained to administer first aid, including, but not limited to, cardiopulmonary resuscitation and who have no duties to perform other than to supervise the safety of participants in water-contact activities. Includes those who are providing swim lessons, coaching, or overseeing water contact sports or providing water safety instructions to participants when no other persons are using the facility unless those persons are supervised by separate lifeguard services.
<b>Liquefaction</b>	Liquefaction occurs when loose, water-saturated sediments lose strength and fail during strong shaking. Liquefaction is defined as the transformation of granular material from a solid state into a liquefied state as a consequence of increase pore-water pressure. The process of zoning for liquefaction combines Quaternary geologic mapping, historical ground-water information and subsurface geotechnical data. The Liquefaction Hazard Zone of Required Investigation boundaries are based on the presence of shallow historic groundwater (<40 feet) in uncompacted sands and silts deposited during the last 15,000 years and sufficiently strong levels of earthquake shaking expected during the next 50 years. * *from California Geological Survey

## **Onsite Sewage**

<b>Treatment</b>	A general term referring to any of the various systems for treating waste emanating from a household plumbing fixture or water treatment unit.
<b>Package Plant</b>	See aerobic unit
<b>Pathogen</b>	Any microorganism that is hazardous to human health.
<b>Percolation or Perc Test</b>	A method of determining the suitability of the soil for an absorption area; a test hole is dug, water added to the hole, and the rate of infiltration of water into the soil is determined.
<b>Percolation Rate</b>	See infiltration rate
<b>Permeable</b>	Allowing liquid to pass through; used when describing soil absorption systems and their suitability for sewage treatment. Antonym: impermeable.
<b>Regional Facility</b>	An outdoor recreation facility serving a regional population and being of countywide significance
<b>Shallow Pool</b>	A pool that has a maximum depth of less than six feet
<b>Saturated Soil</b>	Soil that has all spaces between soil particles filled with liquid.
<b>Septic Tank</b>	A watertight concrete, fiberglass, polyethylene, or steel tank that is buried in the ground and accepts sewage from a household.
<b>Septic Tank Pumping</b>	The process by which the contents of the septic tank are removed and hauled to a sewage treatment plant for further treatment or to a land-spreading operation.
<b>Sewage</b>	The human and household waste discharged through the home plumbing system. Synonym: wastewater
<b>Sewage Treatment Plant</b>	A facility that treats sewage from a community; usually primary and secondary treatment are included. Synonym: wastewater treatment plant
<b>Sewer District</b>	A political and geographic designation of homes/businesses/community that share a common sewage disposal system.
<b>Soil Absorption Area</b>	See absorption area
<b>Subsurface Disposal System</b>	Any sewage treatment system that is buried beneath the soil surface.
<b>Treatment of Water</b>	The process of conditioning and disinfecting of pool water by means of a combination of filtration and the addition of chemicals to the water

<b>Wading Pool</b>	A wading pool is a pool, which is intended to be used for wading by small children and having a maximum depth of 12 inches at the sidewalls
<b>Wastewater</b>	See sewage
<b>Wastewater Treatment Plant</b>	See sewage treatment plant
<b>Water Table</b>	The top of the saturated soil layer where all soil/ rock pores are filled with liquid. At critical times of the year; groundwater that occasionally rises above its normal level in the soil and can interfere with the onsite sewage treatment system.



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## **APPENDICES**

**Appendix A**  
**Table Assessing Opportunities & Constraints for 38 Potential Sites**

## Appendix A - Table Assessing Opportunities & Constraints for 38 Potential Sites

**Table A-1 - List of County Park Locations Considered by the Project Team**

Map #	County Park	Description of Specific County Park Site Location (s)	Rank <sup>1</sup>	Project Team Comments
A1	Calero Lake County Park	Area identified in the 1992 Draft Master Plan for a potential swim lagoon, located west of McKean Road	3	<p>SCVWD owns the land. They can dictate what uses will be permitted. As proposed in the draft MP the site would be adjacent to larger reservoir, not part of it.</p> <p>Majority of routes to site are from major arterials. However, route from east side over the Santa Teresa Hills is narrow and winding, limiting increased vehicular traffic without the major road improvements that have been under study for more than a decade. Does not meet goals for water source. No City sewer, site not suitable for leach fields, would require development of a package sewage treatment plant.</p> <p>Some California Tiger Salamander in the area</p> <p>Criteria met: 1,2,3,5*</p>
CO1	Coyote Creek Parkway	Area adjacent to Riverside Golf Course (corner of Sycamore/ Monterey Highway/ Laguna Avenue)	4	<p>Generous land area (approx. 27 acres). Direct access from Monterey Highway &amp; Coyote Creek Trail</p> <p>Part of future Coyote Creek Parkway Natural resource Management Plan and Master Plan work. Within designated future creek realignment study area. Study to be conducted by SCVWD. Purpose to realign creek to historic route to improve habitat values. County Parks Staff views this as an opportunity to also enhance recreation values/activities along the Coyote Creek Parkway. High water table, creek reconfiguration could provide opportunity to develop a swim lagoon using untreated water. No existing sewer infrastructure. Options for future sewer infrastructure will need to be explored. Special Habitat Concerns. Adjacent VTA mitigation lands.</p> <p>Criteria met: 1,2,3,4,5</p>
CO2	Coyote Creek Parkway	Area southwest of Coyote Creek Golf Course (formerly known as Riverside Golf Course)– “Riverside area”	4	<p>Direct access from Coyote Creek Golf Drive (Hwy 101).</p> <p>Within designated future creek realignment study area. Study to be conducted by SCVWD. Purpose to realign creek to historic route to improve habitat values. County Parks Staff views this as an opportunity to also enhance recreation values/activities along the Coyote Creek Parkway. High water table, creek reconfiguration could provide opportunity to develop a swim lagoon using untreated water. No existing sewer infrastructure. Options for future sewer infrastructure will need to be explored.</p> <p>Criteria met: 1,2,3,4,5</p>
C03	Coyote Creek Parkway	Ogier Ponds	4	<p>Access from Parks-owned roadway from Ogier Road. Possible future water/sewer connection to City of San Jose’s Urban Reserve Development Area.</p> <p>Within designated future creek realignment study area. Study to be conducted by SCVWD. Purpose to realign creek to historic route to improve habitat values. County Parks Staff views this as an opportunity to also enhance recreation values/activities along the Coyote Creek Parkway. High water table, creek reconfiguration could provide opportunity to develop a swim lagoon using untreated water.</p> <p>No existing sewer infrastructure. Options for future sewer infrastructure will need to be explored. Additionally uncertainty to the future SCVWD restoration plans for Ogier Ponds as a result of the settlement Agreement</p> <p>Criteria met: 1,2,3,4,5</p>

**Criteria\*:** 1) Association with Water, 2) Access, 3) Infrastructure, 4) Microclimate 5) Available Land Area.

**Rank<sup>1</sup>:** Sites were ranked from 1 to 5 with 5 being the highest rank. Ranking was based on how many of the criteria were met by the site. This ranking only applies to the five criteria identified for the first tier analysis of the 38 sites. In some cases sites that rank very high in this initial analysis may be eliminated were a more detailed analysis of the specific site conditions are evaluated.

## Appendix A - Table Assessing Opportunities & Constraints for 38 Potential Sites

**Table A-1 - List of County Park Locations Considered by the Project Team**

Map #	County Park	Description of Specific County Park Site Location	Rank <sup>1</sup>	Project Team Comments
C04	Coyote Creek Parkway	Coyote Ranch	2	<p>Access from Coyote Ranch Rd / Hwy 101</p> <p>County park property leased to private concessionaire (long-term lease). Potential use conflicts. Upland from Coyote Creek. No existing sewer infrastructure. Options for future sewer infrastructure will need to be explored. Adequacy of land area will need to be explored.</p> <p>Criteria met: 1,2,3,4,5</p>
C05	Coyote Creek Parkway	Schutzhund Dog Club Area	3	<p>Access from Monterey Highway. Existing linear lake. High water table, creek reconfiguration could provide opportunity to develop a swim lagoon using untreated water.</p> <p>Special permit with the Schutzhund Dog Club. Potential recreation conflicts. No existing sewer infrastructure. Options for future sewer infrastructure will need to be explored. Adequacy of land area will need to be explored.</p> <p>Criteria met: 1,2,3,4,5</p>
C06	Coyote Creek Parkway	Remote Control Model Airplane Area	3	<p>High water table, creek reconfiguration could provide opportunity to develop a swim lagoon using untreated water.</p> <p>Special permit with the RC Airplane Club. Potential recreation conflicts. No existing sewer infrastructure. Options for future sewer infrastructure will need to be explored. Adequacy of land area will need to be explored.</p> <p>Criteria met: 1,2,3,4,5</p>
C07	Coyote Creek Parkway	Burnett Avenue County Parks property (Site A and Site B)	4	<p>Generous land area. High water table, creek reconfiguration could provide opportunity to develop a swim lagoon using untreated water. No existing sewer infrastructure. Options for future sewer infrastructure will need to be explored.</p> <p>Would require bridge access across creek from Site B to the opposite side for possible parking area.</p> <p>Criteria met: 1,2,3,4,5</p>
C08	Coyote Creek Parkway	Existing Parkway Lakes	2	<p>County park property leased to private fishing concessionaire. While concessionaire has not expressed a desire to continue with lease operation when lease expires, site is very constrained, parking land area severely limited. Potential use conflicts. High water table, creek reconfiguration could provide opportunity to develop a swim lagoon using untreated water. No existing sewer infrastructure. Options for future sewer infrastructure will need to be explored.</p> <p>Criteria met: 1,2,3,4,5</p>
C09	Shady Oaks Park (County property leased to City of San Jose)	Along Coyote Creek Parkway, near Silver Creek Valley Boulevard	2	<p>Access options include Hwy 101, Coyote Creek Trail, &amp; existing bus routes.</p> <p>Adjacent industrial land uses – no concern about disturbances to residential neighborhood. County property leased to City of San Jose. Designated future use - soccer fields. Remaining land area too small. Swim facility would overburden future recreation facilities and infrastructure. Potential City sewer connection, currently not in place.</p> <p>Criteria met: 1,2,3,4,5</p>

**Criteria\*:** 1) Association with Water, 2) Access, 3) Infrastructure, 4) Microclimate 5) Available Land Area.

**Rank<sup>1</sup>:** Sites were ranked from 1 to 5 with 5 being the highest rank. Ranking was based on how many of the criteria were met by the site. This ranking only applies to the five criteria identified for the first tier analysis of the 38 sites. In some cases sites that rank very high in this initial analysis may be eliminated were a more detailed analysis of the specific site conditions are evaluated.

## Appendix A - Table Assessing Opportunities & Constraints for 38 Potential Sites

**Table A-1 - List of County Park Locations Considered by the Project Team**

Map #	County Park	Description of Specific County Park Site Location	Rank <sup>1</sup>	Project Team Comments
CH1	Coyote-Hellyer County Park	Northwestern corner of Coyote-Hellyer County Park – area at Yerba Buena Group Picnic Area & Sylvandale Group Picnic Area	2	Access options include Hwy 101, Coyote Creek Trail, & existing bus routes.  Within a Flood Hazard Zone. Potential loss of existing park uses - two reservable group picnic areas. Potential City sewer connection, currently not in place.  Criteria met: 1,2,3,4,5
CH2	Coyote-Hellyer County Park	Area south of Cottonwood Lake, south of the Coyote Creek trail; area currently being used as a cement-dump site	2	Access options include Hwy 101, Coyote Creek Trail, & existing bus routes.  Within a Flood Hazard Zone. Close to residential neighborhood. May cause additional traffic/circulation congestion to Hellyer Avenue park entrance. Potential privacy, noise, traffic impacts on neighborhood. Potential City sewer connection, currently not in place.  Criteria met: 1,2,3,4,5
CH3	Coyote-Hellyer County Park	Area northeast of Velodrome, between Velodrome Picnic Area/Coyote Creek area and northeastern park boundary (along Tuers Road)	2	Access options include Hwy 101, Coyote Creek Trail, & existing bus routes.  Within a Flood Hazard Zone. Site too narrow. Too closely affiliated with adjacent velodrome. Potential impact on existing recreational activity. Swim facility would overburden existing recreation facilities and infrastructure. Potential City sewer connection, currently not in place.  Criteria met: 1,2,3,4,5
CH4	Coyote-Hellyer County Park	Area adjacent La Raza Group Picnic Area		Access options include Hwy 101, Coyote Creek Trail, & existing bus routes.  Site may be difficult to access from the park. Currently a lot of undesirable uses taking place (vandalism at restrooms) so this part of the park has been closed down.  Criteria met: 1,2,3,4,5
CL1	Coyote Lake – Harvey Bear Ranch County Park	Possible “Free Acres” area located along southwestern edge of Coyote Lake, near campgrounds	1	Remote Site - Roop Road does not provide good access to site. Coyote Lake-Harvey Bear Ranch County Park Master Plan and environmental document noted significant capital costs that would be required for new roadway and access improvements. 2003 Board-approved Master Plan does not recommend swimming uses here or within the "west flat Area" of the park  Criteria met: 1,5
ED1	Ed Levin County Park	Near Spring Valley Lake	2	Site too close to north County/EBRPD jurisdiction. Access route from Milpitas is narrow and winding, limiting increased vehicular traffic without the major road improvements that have been under study for more than a decade. Potential impact on existing recreational activities. Afternoon marine winds can have a cooling affect on site.  Criteria met: 1, 3
ED2	Ed Levin County Park	Near Sandy Wool Lake	2	Site too close to north County/EBRPD jurisdiction. Access route from Milpitas is narrow and winding, limiting increased vehicular traffic without the major road improvements that have been under study for more than a decade. Potential impact on existing recreational activities. Afternoon marine winds can have a cooling affect on site.  Criteria met: 1, 3

**Criteria\***: 1) Association with Water, 2) Access, 3) Infrastructure, 4) Microclimate 5) Available Land Area.

**Rank<sup>1</sup>**: Sites were ranked from 1 to 5 with 5 being the highest rank. Ranking was based on how many of the criteria were met by the site. This ranking only applies to the five criteria identified for the first tier analysis of the 38 sites. In some cases sites that rank very high in this initial analysis may be eliminated were a more detailed analysis of the specific site conditions are evaluated.

## Appendix A - Table Assessing Opportunities & Constraints for 38 Potential Sites

**Table A-1 - List of County Park Locations Considered by the Project Team**

Map #	County Park	Description of Specific County Park Site Location	Rank <sup>1</sup>	Project Team Comments
ED3	Ed Levin County Park	West-side flat area near Minnis Ranch	1	Site too close to north County/EBRPD jurisdiction. Access route from Milpitas is narrow and winding, limiting increased vehicular traffic without the major road improvements that have been under study for more than a decade. Potential impact on existing recreational activities. Afternoon marine winds can have a cooling affect on site.  Criteria met: 3
ED4	Ed Levin County Park	West-side flat area used as hang-gliding landing area	1	Site too close to north County/EBRPD jurisdiction. Access route from Milpitas is narrow and winding, limiting increased vehicular traffic with out the major road improvements that have been under study for more than a decade. Potential impact on established unique, site specific recreational activity. Afternoon marine winds can have a cooling affect on site.  Criteria met: 3
ED5	Ed Levin County Park	Present site of Youth Group Camp Area, located south of Spring Valley Golf Course	1	Site too close to north County/EBRPD jurisdiction. Access route from Milpitas is narrow and winding, limiting increased vehicular traffic with out the major road improvements that have been under study for more than a decade. Potential impact on existing recreational activities. Afternoon marine winds can have a cooling affect on site.  Criteria met: 3
JO1	Joseph D. Grant Ranch County Park	Grant Lake	1	Remote Site - Poor Access  Criteria met: 1,5
JO2	Joseph D. Grant Ranch County Park	Grant Ranch	1	Remote Site - Poor Access  Criteria met: 5
JO3	Joseph D. Grant Ranch County Park	Near the existing equestrian center		Remote Site - Poor Access  Criteria met: 5
L01	Lexington Reservoir	Left-side land area located on the western side of Lexington Reservoir	1	SCVWD owns the land. They can dictate what uses will be permitted. Access, limited land area. Constant water level fluctuations. Water recedes out too far.  Criteria met: 2,3
L02	Lexington Reservoir	Sycamore property (not open to the public yet)	1	SCVWD owns the land. They can dictate what uses will be permitted. Major road infrastructure improvements required to access site. Part of site has been developed as a leach field for residential community. Water source canyon watershed within rural residential area subject to non-point source pollutants. Constant water level fluctuations. Water recedes out too far. Cool, shady in early afternoon.  Criteria met: 1,2,3,

**Criteria\*:** 1) Association with Water, 2) Access, 3) Infrastructure, 4) Microclimate 5) Available Land Area.

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## Appendix A - Table Assessing Opportunities & Constraints for 38 Potential Sites

**Table A-1 - List of County Park Locations Considered by the Project Team**

Map #	County Park	Description of Specific County Park Site Location	Rank <sup>1</sup>	Project Team Comments
PE1	Penitencia Creek County Park	L-shaped County Parks property adjacent to East Side Union School District property (undeveloped area south side of Penitencia Creek between Capitol Avenue and White Road) – Reach 4 of Penitencia Creek Park Master Plan	3	<p>Access options include light rail/ bus connections, Penitencia Creek Trail, Capital Expressway &amp; major road system (minor arterial).</p> <p>Shown in 1977 Penitencia Creek Park Master Plan as lake, meadow, picnic areas, parking, interpretive facilities and earth mounds.</p> <p>10-acre site, County Land. City of San Jose wants to develop a dog park on site. Transit and trails serve site. Urban site - not a "natural area". Potential to develop as a dog swim training area. City infrastructure service hook ups available.</p> <p>Criteria met: 1,2,3,4,5</p>
S01	Sanborn – Skyline County Park	Lake Ranch Reservoir Area	1	<p>Site currently managed as a wetland. Potential to serve as a small scale hike-in site. If special swim uses are to be considered, reevaluate for this use. Access, land area for parking, water availability, and climate not suitable for a regional facility.</p> <p>Criteria met: 1</p>
S02	Sanborn – Skyline County Park	Christensen property (not open to the public)	1	<p>Site currently managed by Christensen. Potential to serve as a small scale hike-in site. If special swim uses are to be considered, reevaluate for this use. Access, land area for parking, water availability and climate not suitable for a regional facility. Water depth (60') not suitable for family oriented water play.</p> <p>Criteria met: 1</p>
S03	Sanborn – Skyline County Park	County Office of Education site	0	<p>Clear, flat area exists that has to the potential to be converted into swim lagoon. May be able to collaborated with existing Hostel uses</p> <p>Owned by the County (but not Parks Department). May require land transfer from County to Parks Department.</p> <p>Access, land area for parking, water availability, climate, not suitable for a regional facility</p> <p>Criteria met: 0</p>
SA1	Santa Teresa County Park	Area currently being occupied by the Pueblo Group Picnic Area	1	<p>Not near water. Potential to displace Pueblo Group Picnic Area. Use restrictions on access road. Master Plan does not designate swimming as a recreational use for the park. No water or sewer service.</p> <p>Criteria met: 2,3, 5</p>
ST1	Stevens Creek County Park	Possible to use area currently occupied by Villa Maria Group Picnic area (open field area)	1	<p>Poor access - land area too small. Would displace well-used group picnic area</p> <p>Criteria met: 1,2,3</p>
UC1	Uvas-Carnaderos Creek	Christmas Hill Park	1	<p>Good access via roads &amp; trail. Adjacent to local urban center (school, residences).</p> <p>Not centrally located to County population. Potential conflicts with existing uses, including well established annual Gilroy Garlic Festival.</p> <p>Criteria met: 1,4,5</p>

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## Appendix A - Table Assessing Opportunities & Constraints for 38 Potential Sites

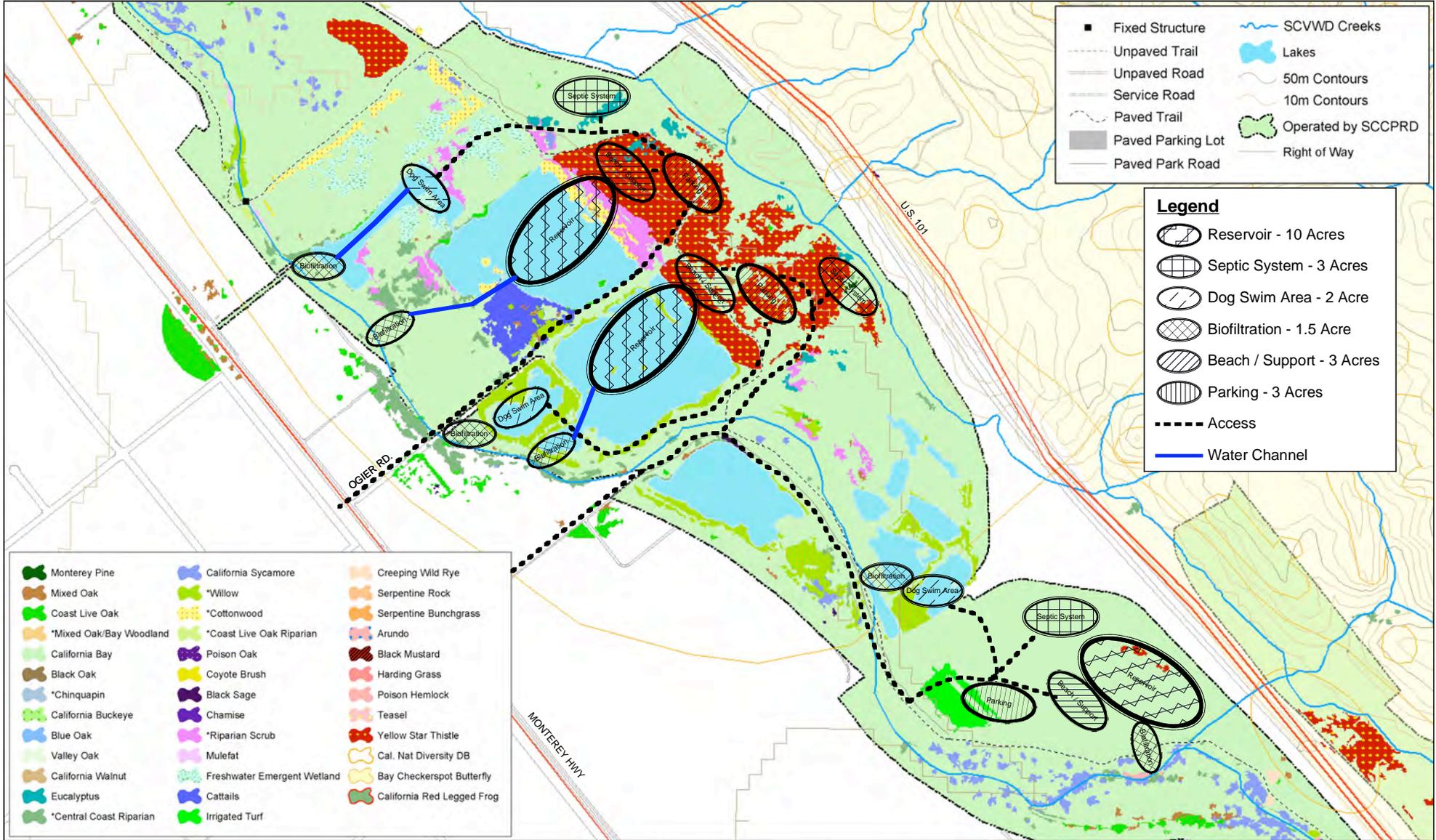
**Table A-1 - List of County Park Locations Considered by the Project Team**

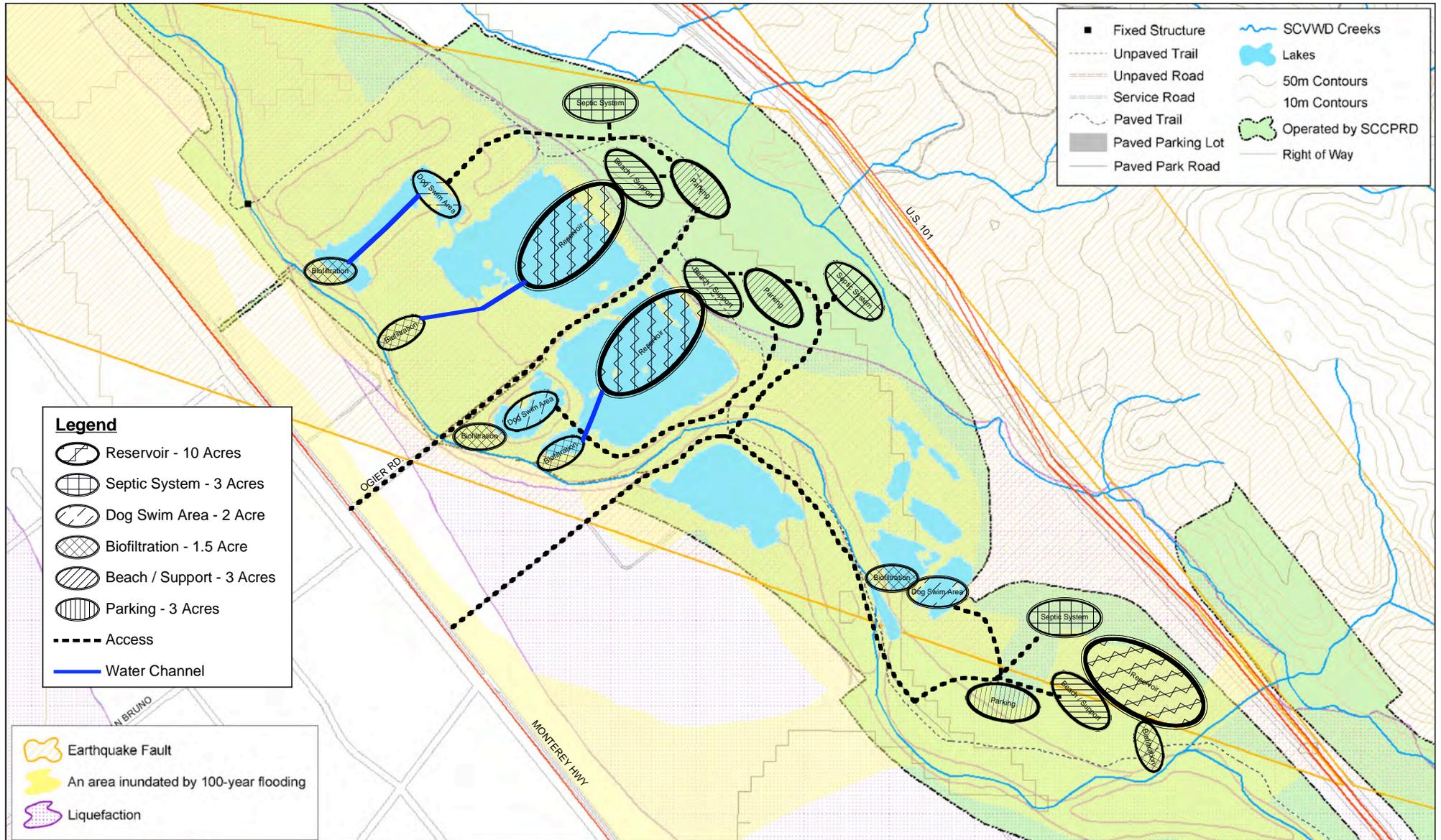
Map #	County Park	Description of Specific County Park Site Location	Rank <sup>1</sup>	Project Team Comments
UV1	Uvas Reservoir	Land mass on the peninsula south of Uvas Reservoir	1	Poor access - land area too small. Water area subject to large fluctuations.  Criteria met: 1, 5
	Anderson Reservoir		1	SCVWD owns the land. They can dictate what uses will be permitted. This is a terminal water facility. District will not permit water body contact activities in this water body for this reason.  Infeasible access from East Dunne Avenue. Cochrane Bridge – Would require additional investment with Roads & Airports Dept.  Criteria met: 1,2,5
	Bear Mendoza		1	Recently adopted Master Plan does not recommend swimming as a future activity for this park.  Criteria met: 1,2,5
	Silvera Creek		1	Master Plan does not recommend swimming as a future activity for this park. SCVWD is considering taking over this parcel to develop a habitat mitigation area.  Criteria met: 1,2,5
	Los Gatos Creek County Park	Land adjacent to percolation ponds	1	Already fully developed park. SCVWD restrictions to the use of the percolation ponds. Limited parking (120 existing spaces).  2003 Board-approved Los Gatos Creek County Park Master Plan does not identify swimming uses  Criteria met: 1,2,3,4
	Lester Property		2	Deed Restrictions on high intensity recreational uses. Owner's vision for future park site includes a lake. However, lake uses have not been determined.  Criteria met: 1,2,3,4,5

**Criteria\***: 1) Association with Water, 2) Access, 3) Infrastructure, 4) Microclimate 5) Available Land Area.

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**Appendix B**  
**Environmental Resource Evaluation Maps**  
**of**  
**the Eight Swim Lagoon Study Sites**





- Fixed Structure
- Unpaved Trail
- Unpaved Road
- Service Road
- Paved Trail
- Paved Parking Lot
- Paved Park Road
- ~ SCVWD Creeks
- Lakes
- 50m Contours
- 10m Contours
- Operated by SCCPRD
- Right of Way

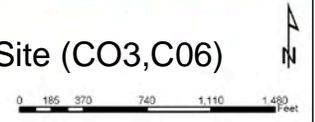
- Legend**
- Reservoir - 10 Acres
  - ▨ Septic System - 3 Acres
  - ▨ Dog Swim Area - 2 Acre
  - ▨ Biofiltration - 1.5 Acre
  - ▨ Beach / Support - 3 Acres
  - ▨ Parking - 3 Acres
  - Access
  - Water Channel

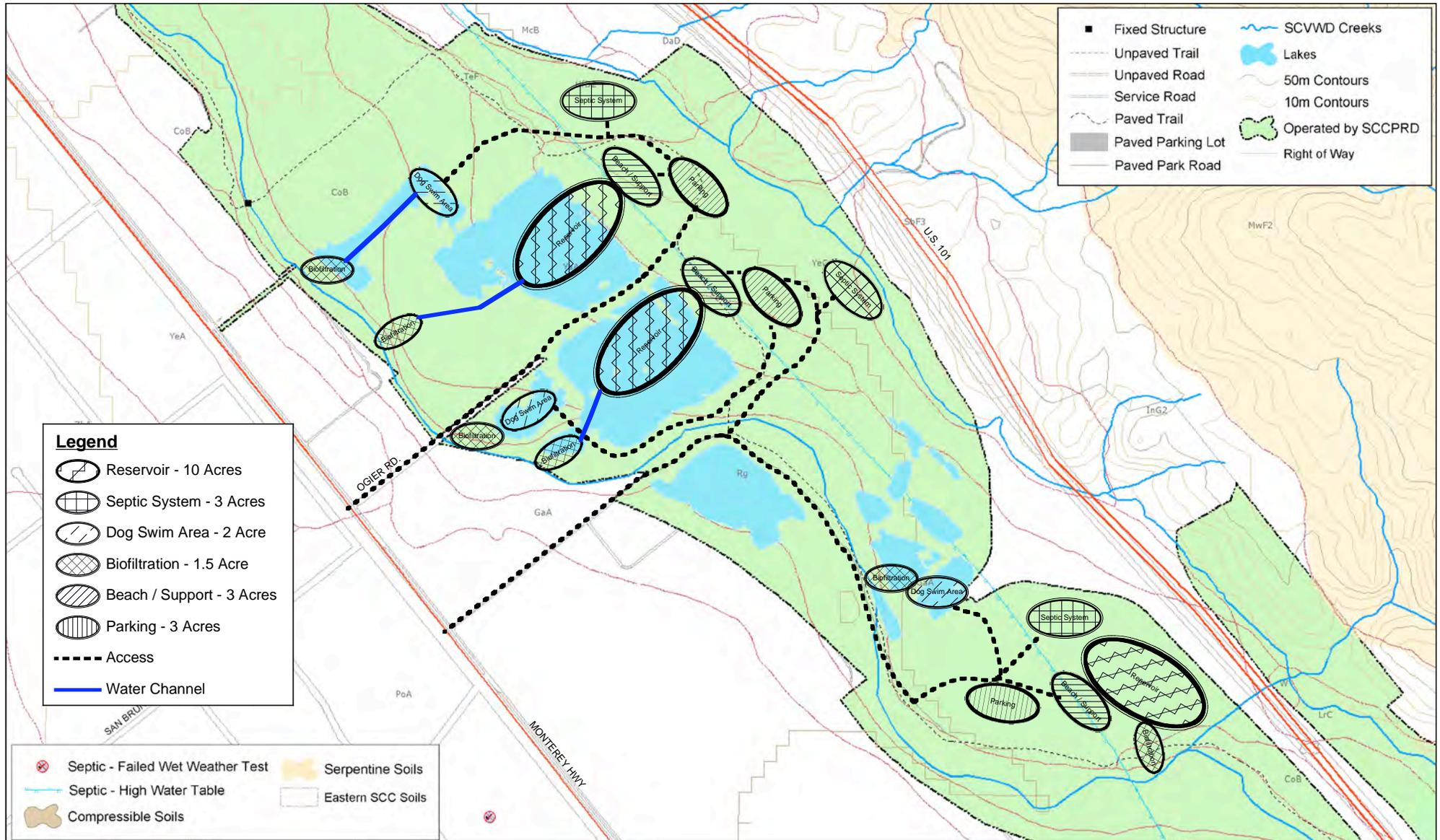
- Earthquake Fault
- An area inundated by 100-year flooding
- Liquefaction



This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

**Coyote Creek -  
Ogier Ponds/Model Airplane Area Swim Lagoon Site (CO3,C06)  
Flood & Geotechnical Hazards**





**Legend**

- Reservoir - 10 Acres
- Septic System - 3 Acres
- Dog Swim Area - 2 Acre
- Biofiltration - 1.5 Acre
- Beach / Support - 3 Acres
- Parking - 3 Acres
- Access
- Water Channel

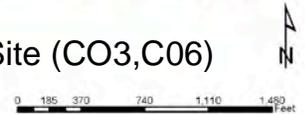
- Fixed Structure
- Unpaved Trail
- Unpaved Road
- Service Road
- Paved Trail
- Paved Parking Lot
- Paved Park Road
- SCVWD Creeks
- Lakes
- 50m Contours
- 10m Contours
- Operated by SCCPRD
- Right of Way

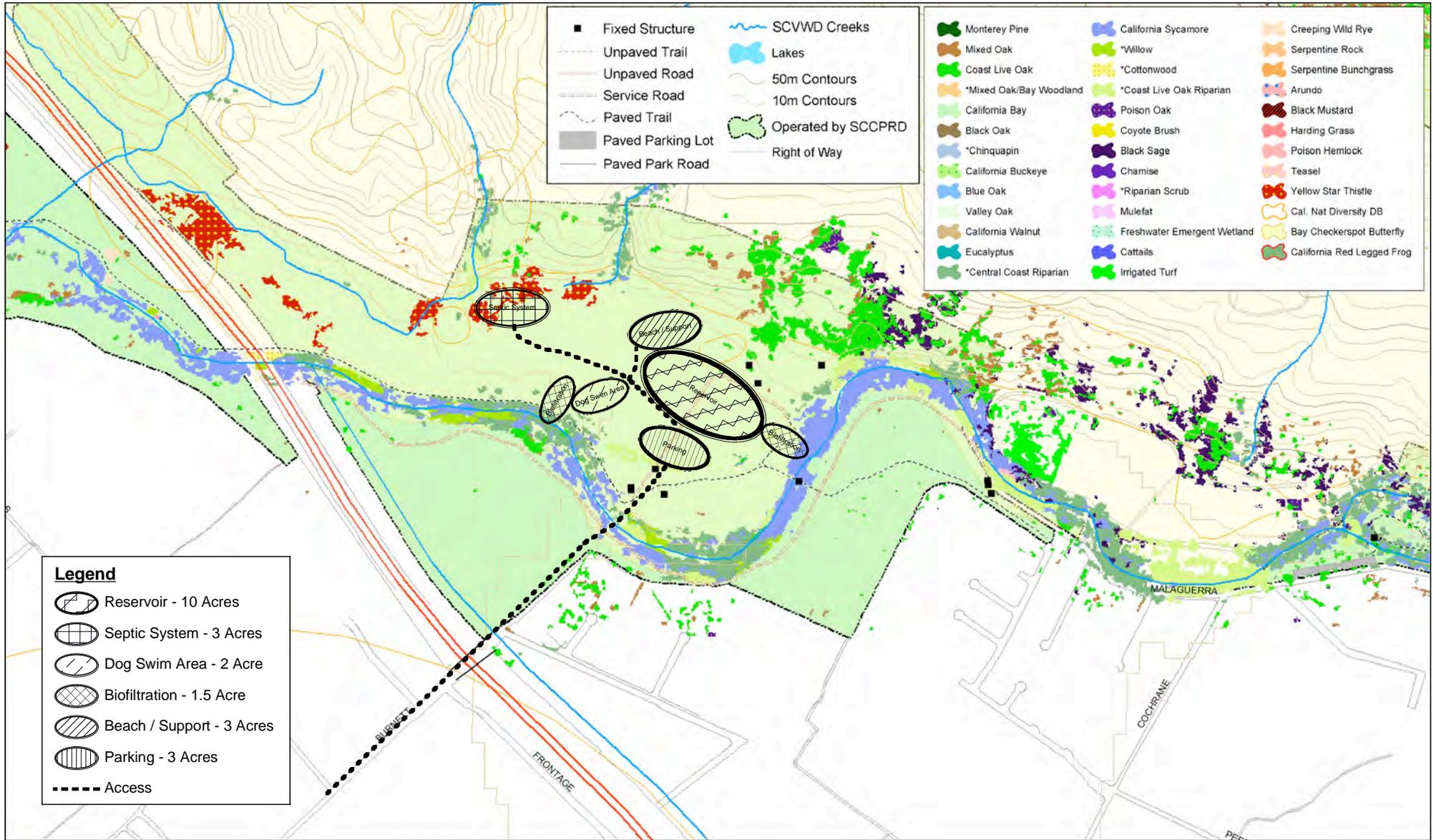
- Septic - Failed Wet Weather Test
- Serpentine Soils
- Septic - High Water Table
- Eastern SCC Soils
- Compressible Soils



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**Coyote Creek -  
Ogier Ponds/Model Airplane Area Swim Lagoon Site (CO3,C06)  
Soils & Septic High Water Table**





- Legend**
- Reservoir - 10 Acres
  - Septic System - 3 Acres
  - Dog Swim Area - 2 Acre
  - Biofiltration - 1.5 Acre
  - Beach / Support - 3 Acres
  - Parking - 3 Acres
  - Access

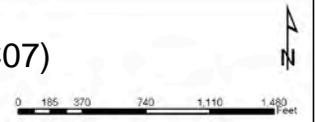
- Fixed Structure
- Unpaved Trail
- Unpaved Road
- Service Road
- Paved Trail
- Paved Parking Lot
- Paved Park Road
- SCVWD Creeks
- Lakes
- 50m Contours
- 10m Contours
- Operated by SCCPRD
- Right of Way

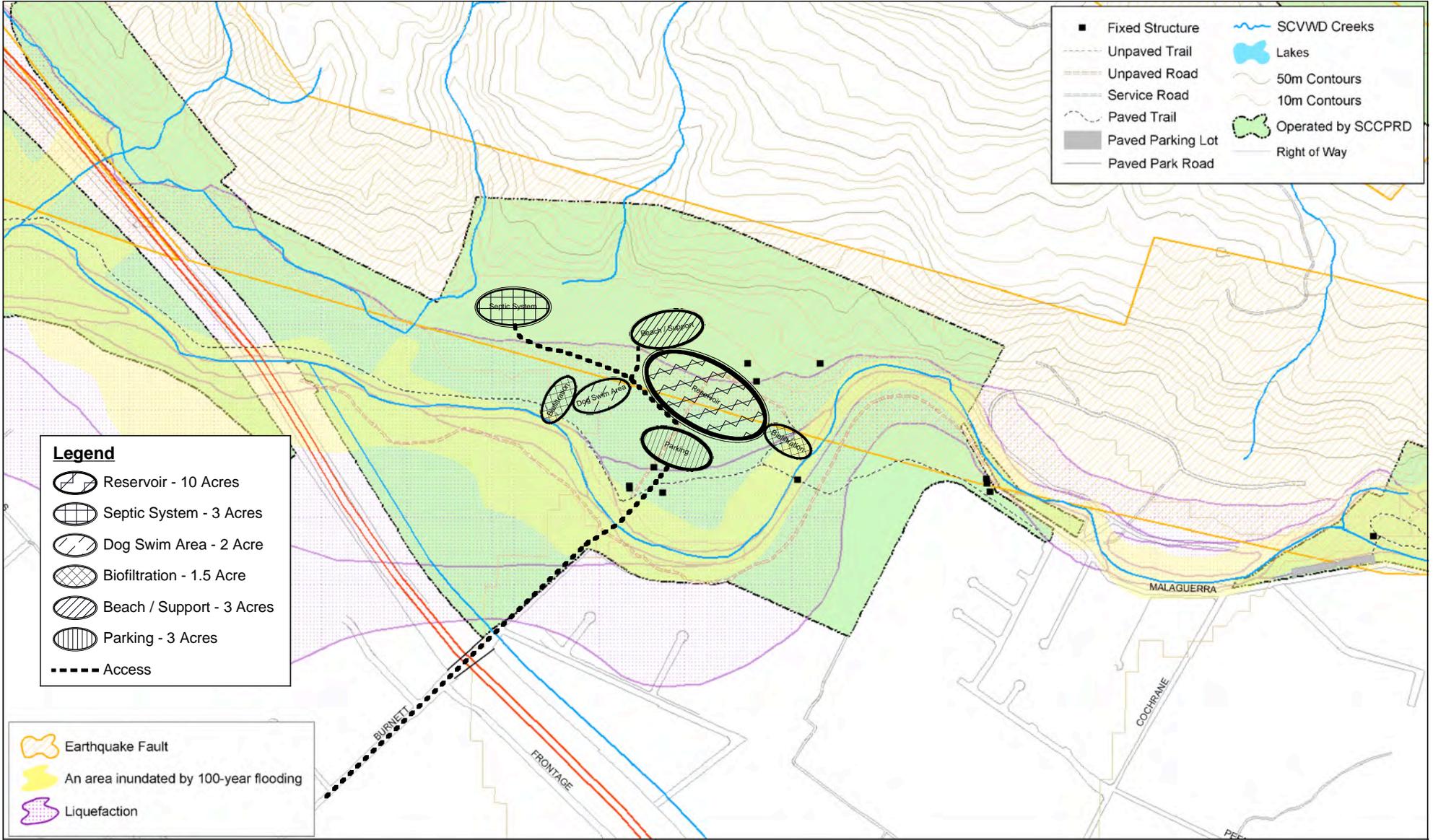
- Monterey Pine
- Mixed Oak
- Coast Live Oak
- \*Mixed Oak/Bay Woodland
- California Bay
- Black Oak
- \*Chinquapin symbol"/> \*Chinquapin
- California Buckeye
- Blue Oak
- Valley Oak
- California Walnut
- Eucalyptus
- \*Central Coast Riparian symbol"/> \*Central Coast Riparian
- California Sycamore
- \*Willow symbol"/> \*Willow
- \*Cottonwood symbol"/> \*Cottonwood
- \*Coast Live Oak Riparian symbol"/> \*Coast Live Oak Riparian
- Poison Oak
- Coyote Brush
- Black Sage
- Chamise
- \*Riparian Scrub symbol"/> \*Riparian Scrub
- Mulefat
- Freshwater Emergent Wetland symbol"/> Freshwater Emergent Wetland
- Cattails
- Irrigated Turf symbol"/> Irrigated Turf
- Creeping Wild Rye
- Serpentine Bunchgrass
- Arundo
- Black Mustard
- Harding Grass
- Poison Hemlock
- Teasel
- Yellow Star Thistle
- Cal. Nat Diversity DB
- Bay Checkerspot Butterfly
- California Red Legged Frog



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### Coyote Creek - Burnett Avenue Swim Lagoon Site (C07) Biotic Resources





- Fixed Structure
- - - Unpaved Trail
- - - Unpaved Road
- - - Service Road
- - - Paved Trail
- Paved Parking Lot
- - - Paved Park Road
- ~ SCVWD Creeks
- ~ Lakes
- ~ 50m Contours
- ~ 10m Contours
- ~ Operated by SCCPRD
- ~ Right of Way

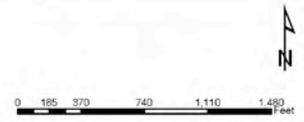
- Legend**
- Reservoir - 10 Acres
  - ⊞ Septic System - 3 Acres
  - ⊞ Dog Swim Area - 2 Acre
  - ⊞ Biofiltration - 1.5 Acre
  - ⊞ Beach / Support - 3 Acres
  - ⊞ Parking - 3 Acres
  - - - Access

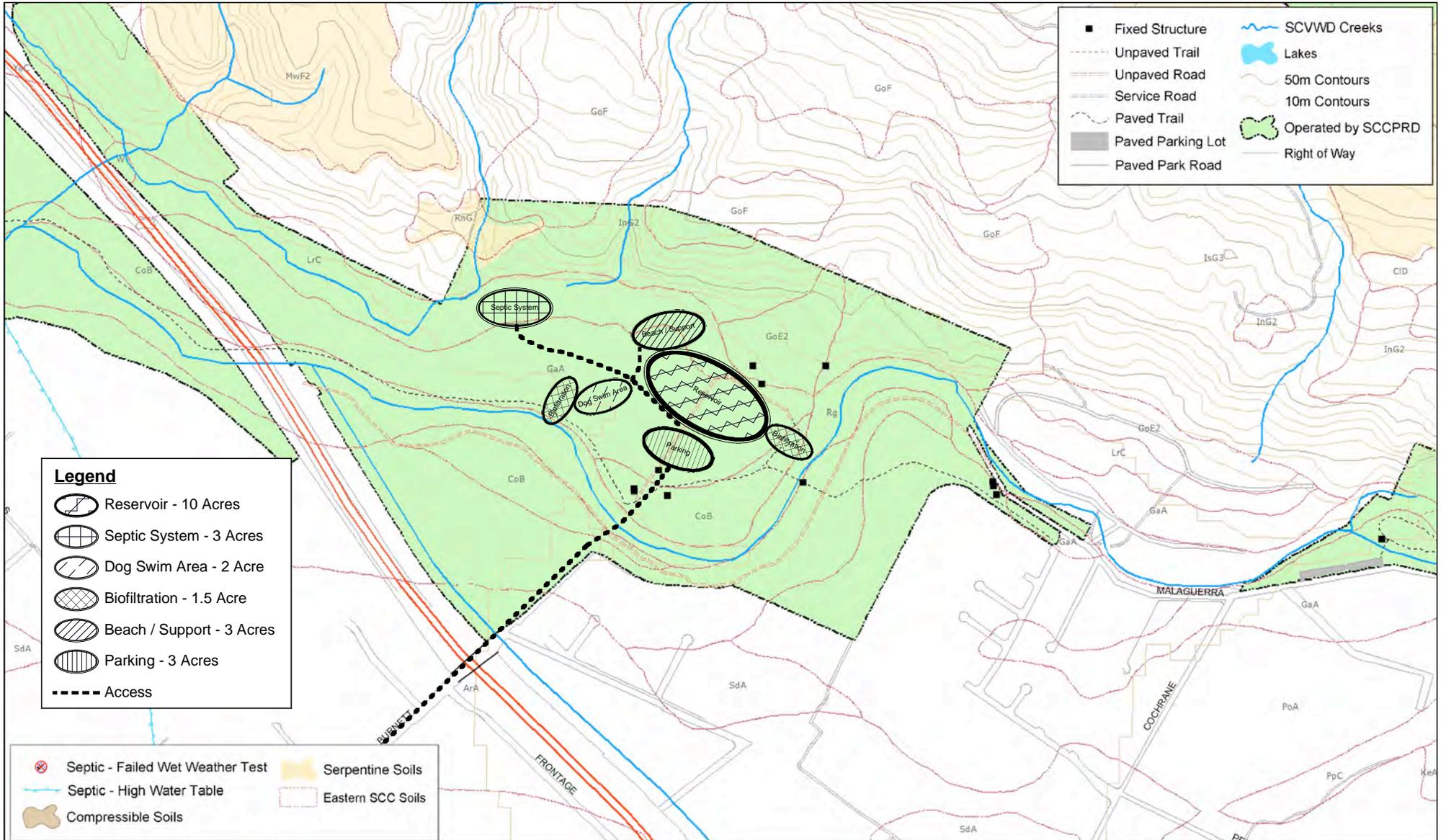
- ⊞ Earthquake Fault
- ⊞ An area inundated by 100-year flooding
- ⊞ Liquefaction



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### Coyote Creek - Burnett Avenue Swim Lagoon Site (C07) Flood & Geotechnical Hazards

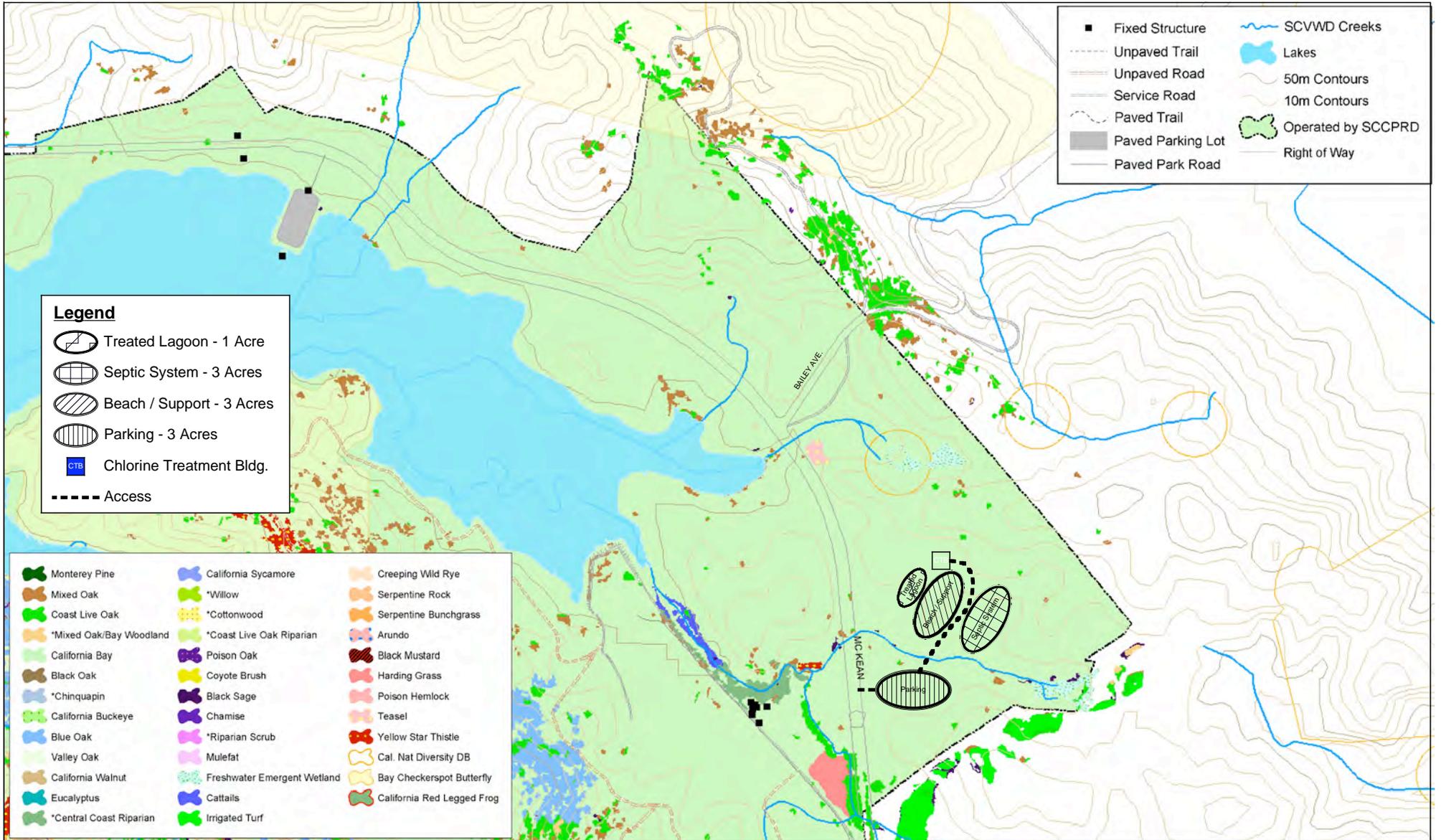


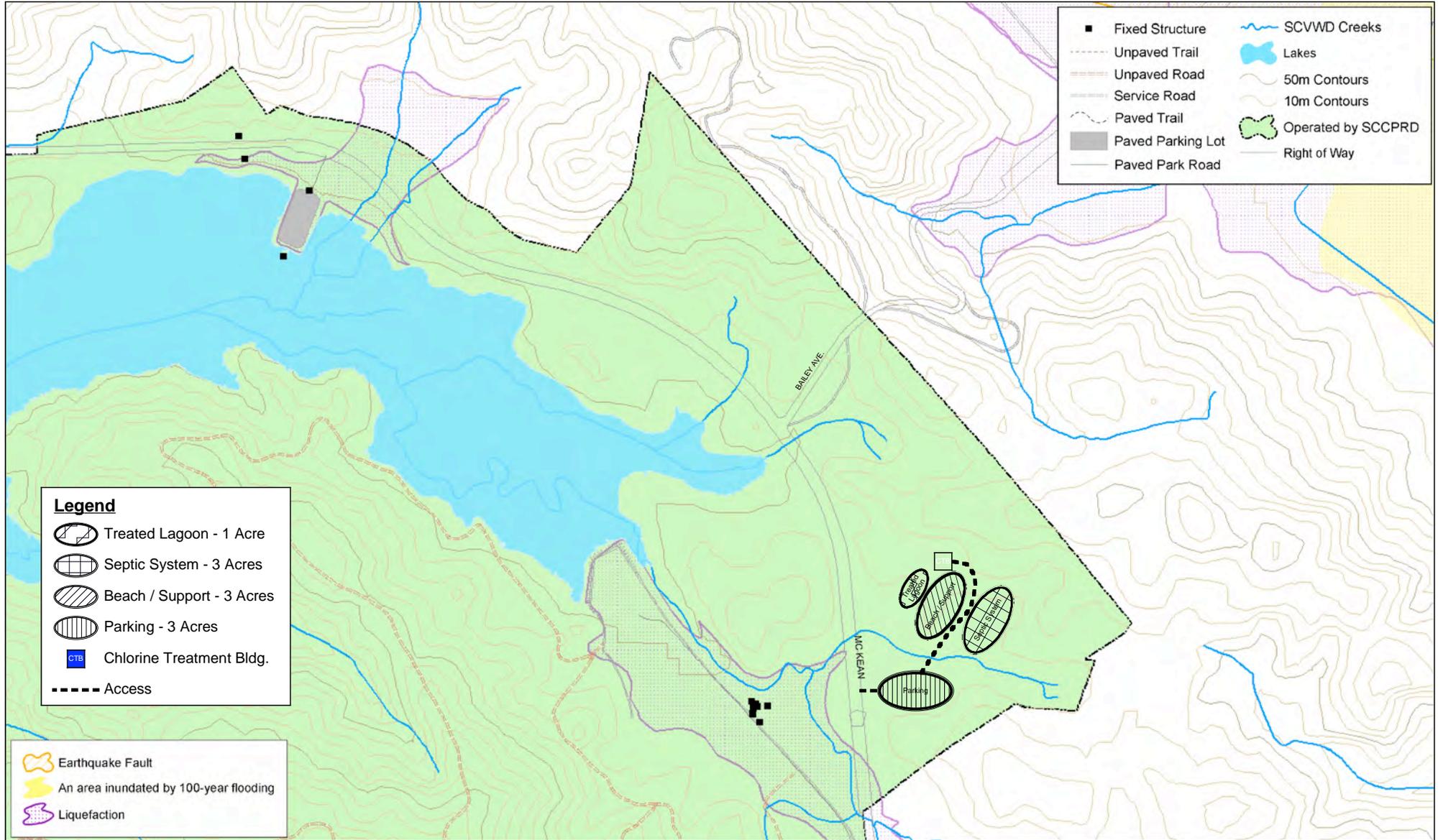


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### Coyote Creek - Burnett Avenue Swim Lagoon Site (C07) Soils & Septic High Water Table







**Legend**

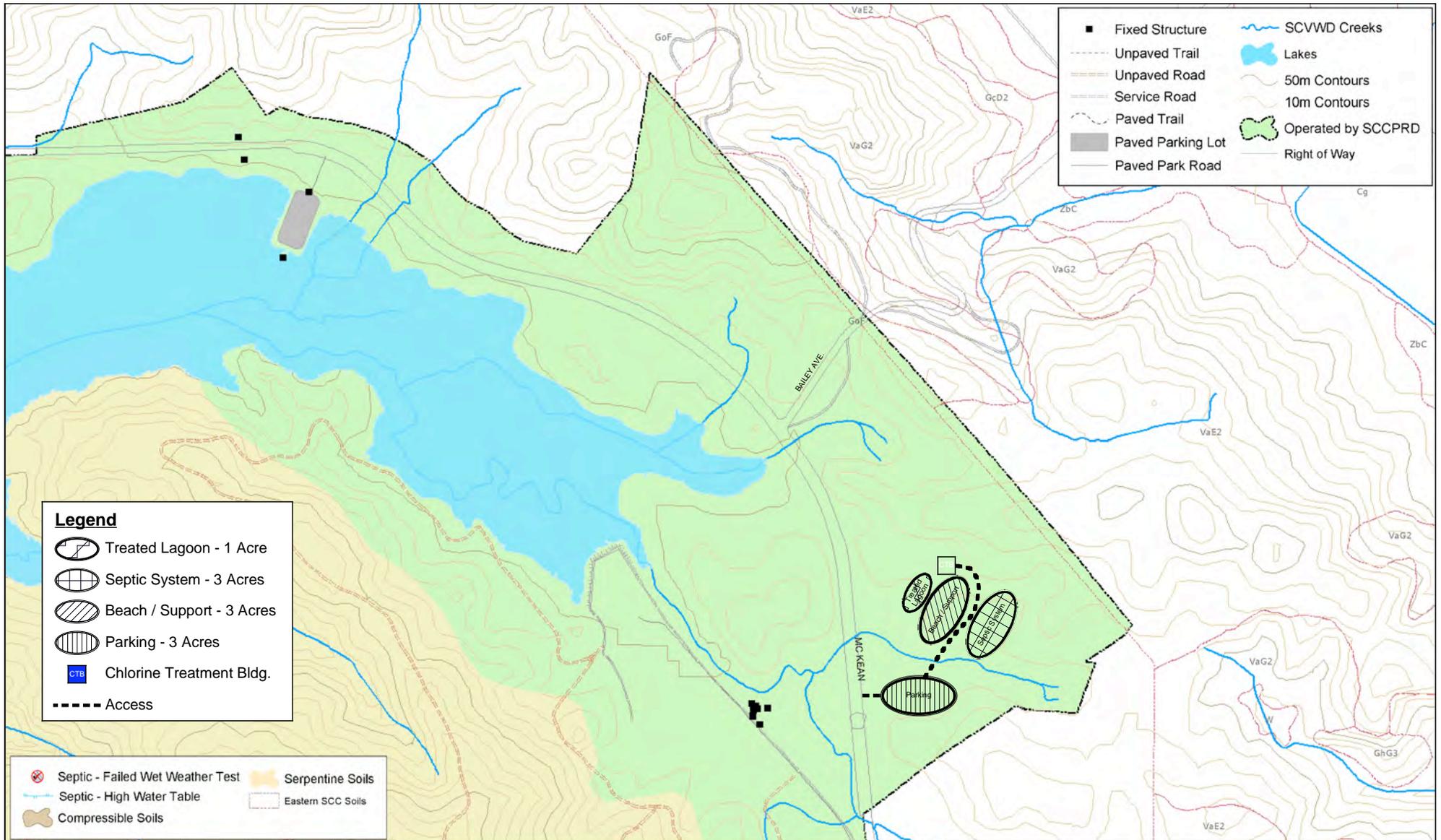
- Treated Lagoon - 1 Acre
- Septic System - 3 Acres
- Beach / Support - 3 Acres
- Parking - 3 Acres
- Chlorine Treatment Bldg.
- Access

- Earthquake Fault
- An area inundated by 100-year flooding
- Liquefaction

**Calero Lake County Park Swim Lagoon Site (CA1)  
Treated Lagoon  
Flood & Geotechnical Hazards**

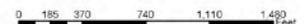
This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

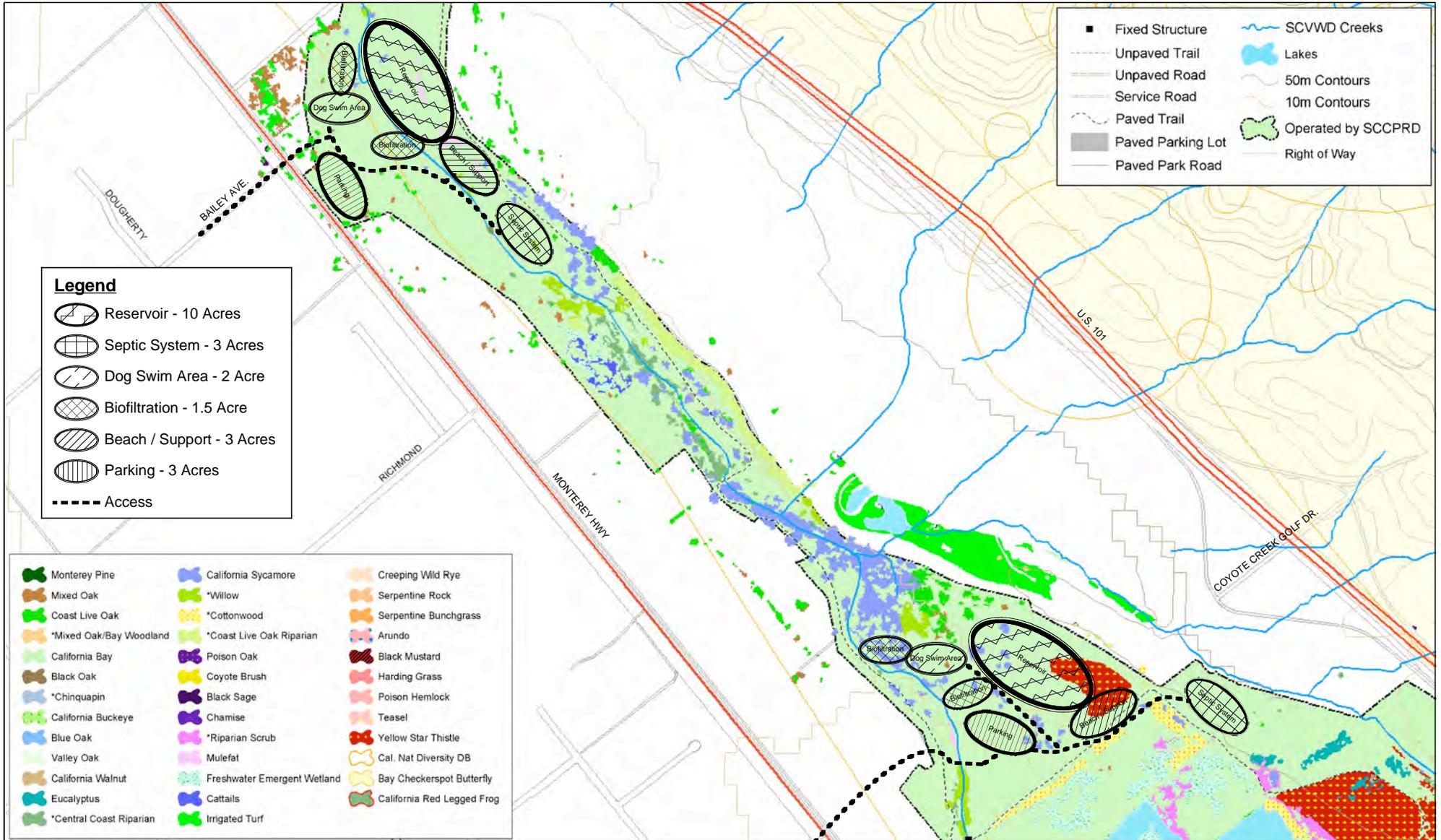




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## Calero Lake County Park Swim Lagoon Site (CA1) Treated Lagoon Soils & Septic High Water Table





**Legend**

- Reservoir - 10 Acres
- Septic System - 3 Acres
- Dog Swim Area - 2 Acre
- Biofiltration - 1.5 Acre
- Beach / Support - 3 Acres
- Parking - 3 Acres
- Access

- |                         |                             |                            |
|-------------------------|-----------------------------|----------------------------|
| Monterey Pine           | California Sycamore         | Creeping Wild Rye          |
| Mixed Oak               | *Willow                     | Serpentine Rock            |
| Coast Live Oak          | *Cottonwood                 | Serpentine Bunchgrass      |
| *Mixed Oak/Bay Woodland | *Coast Live Oak Riparian    | Arundo                     |
| California Bay          | Poison Oak                  | Black Mustard              |
| Black Oak               | Coyote Brush                | Harding Grass              |
| *Chinquapin             | Black Sage                  | Poison Hemlock             |
| California Buckeye      | Chamise                     | Teasel                     |
| Blue Oak                | *Riparian Scrub             | Yellow Star Thistle        |
| Valley Oak              | Mulefat                     | Cal. Nat Diversity DB      |
| California Walnut       | Freshwater Emergent Wetland | Bay Checkerspot Butterfly  |
| Eucalyptus              | Cattails                    | California Red Legged Frog |
| *Central Coast Riparian | Irrigated Turf              |                            |

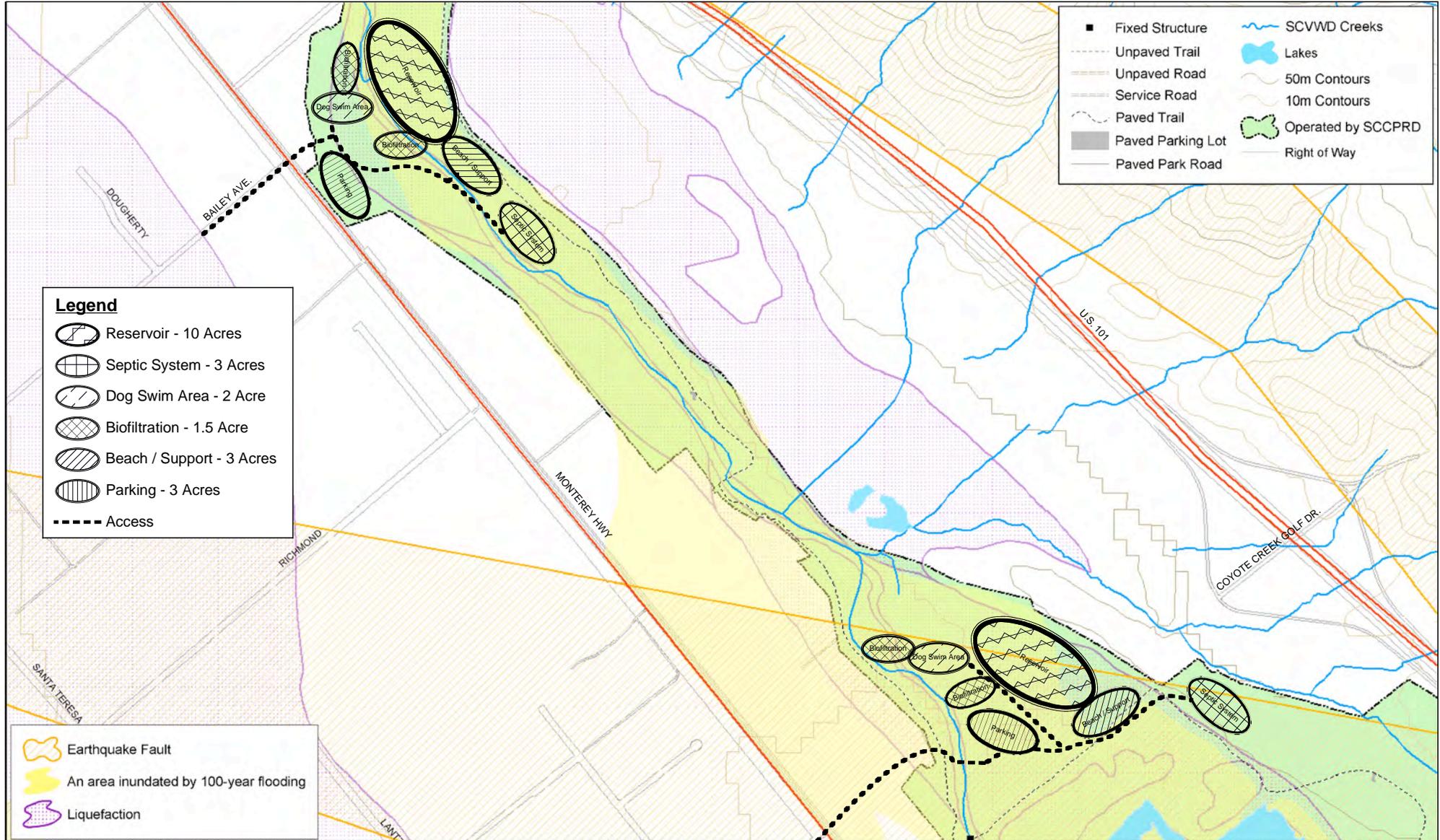
- Fixed Structure
- Unpaved Trail
- Unpaved Road
- Service Road
- Paved Trail
- Paved Parking Lot
- Paved Park Road
- SCVWD Creeks
- Lakes
- 50m Contours
- 10m Contours
- Operated by SCCPRD
- Right of Way



This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

**Coyote Creek - Encinal School Swim Lagoon Site (C01) & Riverside Area Swim Lagoon Site (C02) Biotic Resources**





- Legend**
- Reservoir - 10 Acres
  - Septic System - 3 Acres
  - Dog Swim Area - 2 Acre
  - Biofiltration - 1.5 Acre
  - Beach / Support - 3 Acres
  - Parking - 3 Acres
  - Access

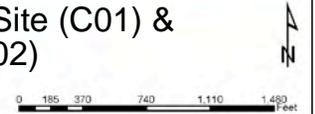
- Fixed Structure
- Unpaved Trail
- Unpaved Road
- Service Road
- Paved Trail
- Paved Parking Lot
- Paved Park Road
- SCVWD Creeks
- Lakes
- 50m Contours
- 10m Contours
- Operated by SCCPRD
- Right of Way

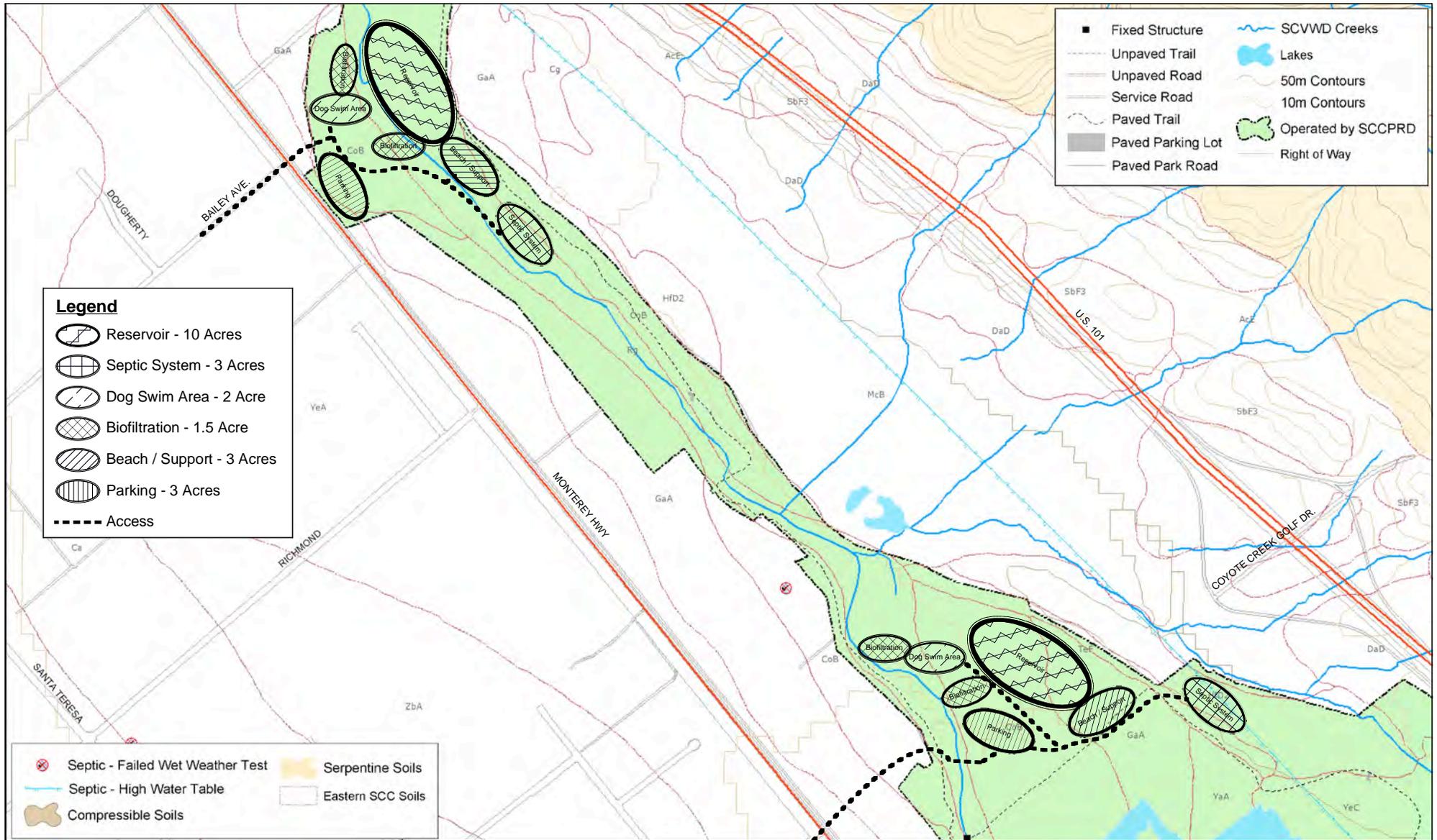
- Earthquake Fault
- An area inundated by 100-year flooding
- Liquefaction



This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

### Coyote Creek - Encinal School Swim Lagoon Site (C01) & Riverside Area Swim Lagoon Site (C02) Flood & Geotechnical Hazards





**Legend**

- Reservoir - 10 Acres
- Septic System - 3 Acres
- Dog Swim Area - 2 Acre
- Biofiltration - 1.5 Acre
- Beach / Support - 3 Acres
- Parking - 3 Acres
- Access

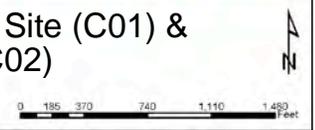
- Fixed Structure
- Unpaved Trail
- Unpaved Road
- Service Road
- Paved Trail
- Paved Parking Lot
- Paved Park Road
- SCVWD Creeks
- Lakes
- 50m Contours
- 10m Contours
- Operated by SCCPRD
- Right of Way

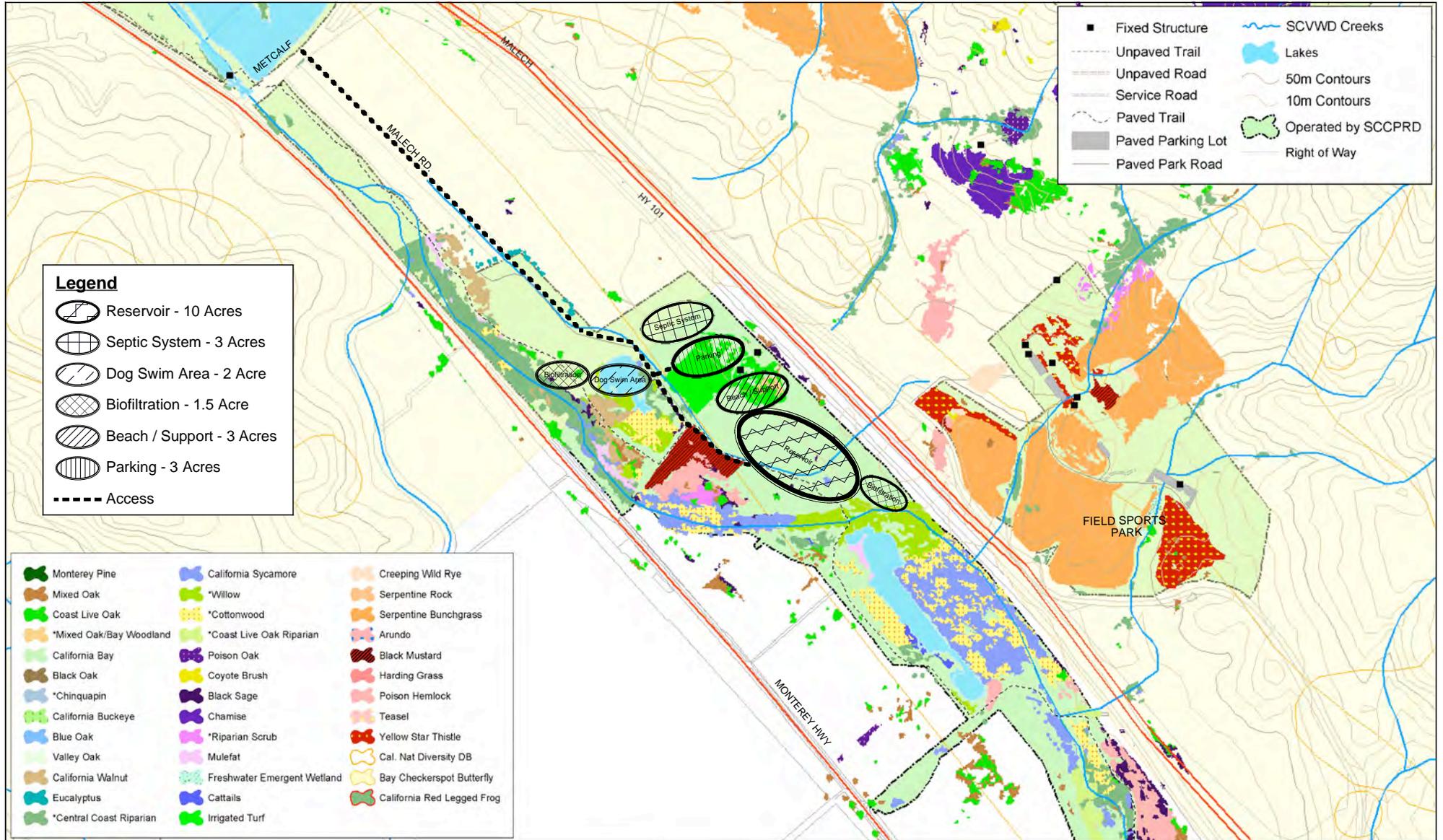
- Septic - Failed Wet Weather Test
- Septic - High Water Table
- Compressible Soils
- Serpentine Soils
- Eastern SCC Soils

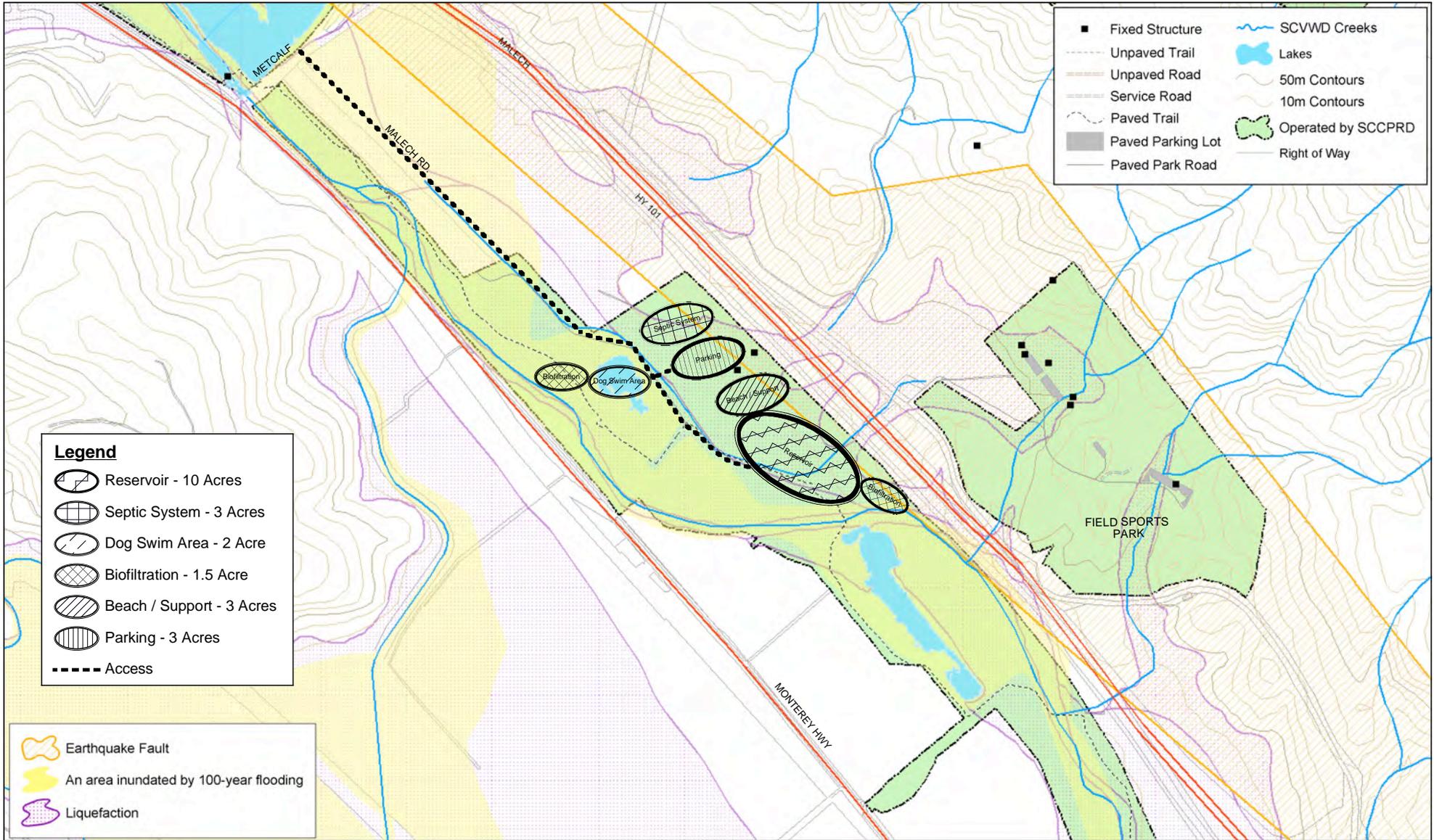


This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

**Coyote Creek - Encinal School Swim Lagoon Site (C01) & Riverside Area Swim Lagoon Site (C02) Soils & Septic High Water Table**







- Legend**
- Reservoir - 10 Acres
  - Septic System - 3 Acres
  - Dog Swim Area - 2 Acre
  - Biofiltration - 1.5 Acre
  - Beach / Support - 3 Acres
  - Parking - 3 Acres
  - Access

- Earthquake Fault
- An area inundated by 100-year flooding
- Liquefaction

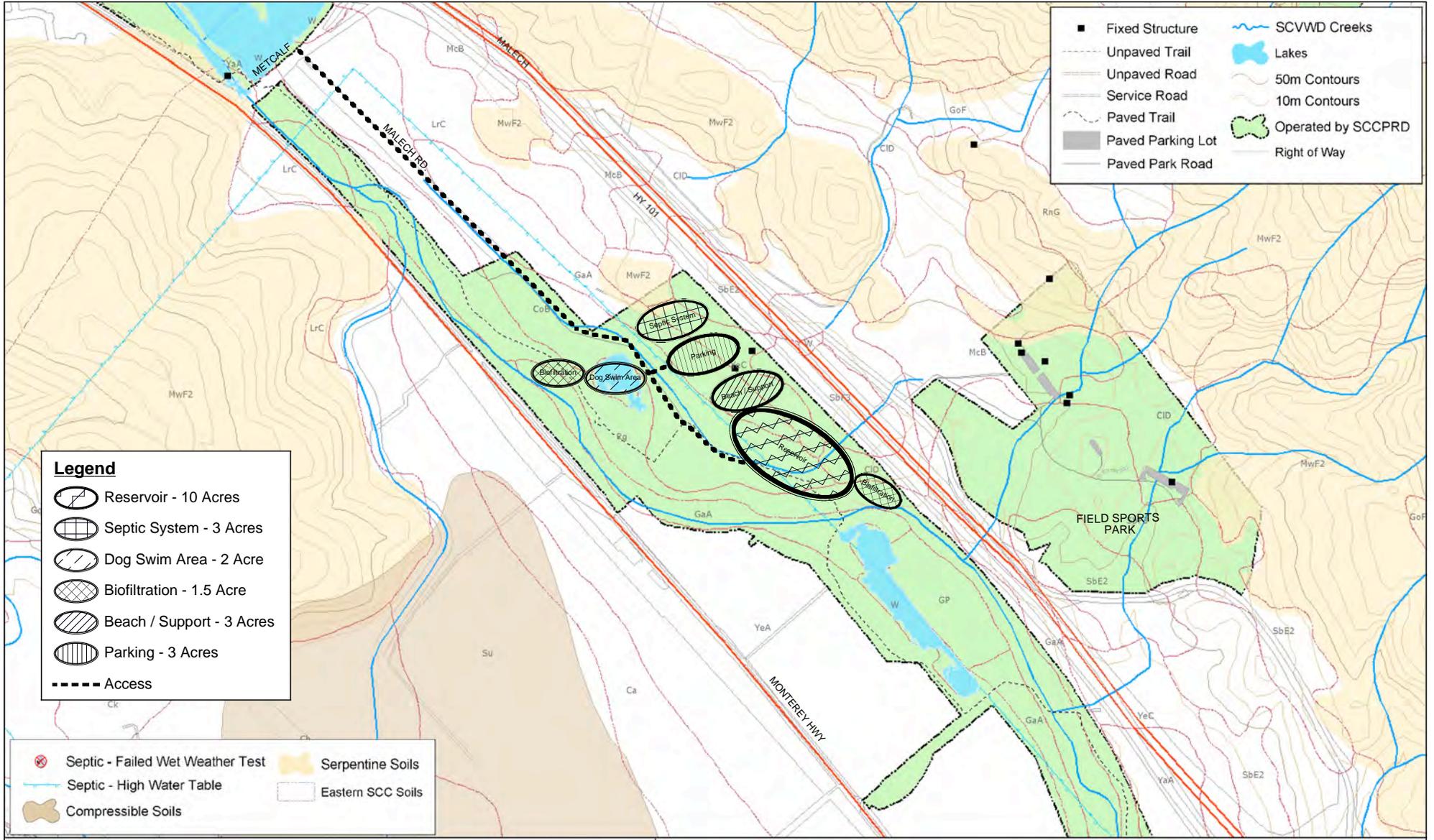
- Fixed Structure
- Unpaved Trail
- Unpaved Road
- Service Road
- Paved Trail
- Paved Parking Lot
- Paved Park Road
- SCVWD Creeks
- Lakes
- 50m Contours
- 10m Contours
- Operated by SCCPRD
- Right of Way



This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

### Coyote Creek - Schutzhund Dog Club Area Swim Lagoon Site (C05) Flood & Geotechnical Hazards





- Legend**
- Reservoir - 10 Acres
  - Septic System - 3 Acres
  - Dog Swim Area - 2 Acre
  - Biofiltration - 1.5 Acre
  - Beach / Support - 3 Acres
  - Parking - 3 Acres
  - Access

- Septic - Failed Wet Weather Test
- Septic - High Water Table
- Compressible Soils
- Serpentine Soils
- Eastern SCC Soils

- Fixed Structure
- Unpaved Trail
- Unpaved Road
- Service Road
- Paved Trail
- Paved Parking Lot
- Paved Park Road
- SCVWD Creeks
- Lakes
- 50m Contours
- 10m Contours
- Operated by SCCPRD
- Right of Way



This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

### Coyote Creek - Schutzhund Dog Club Area Swim Lagoon Site (C05) Soils & Septic High Water Table



**Appendix C**  
**Summaries of East Bay Regional Park District**  
**&**  
**City of San Jose Regional Swim Facility Characteristics**

**Table C-1 Summary of East Bay Regional Park District  
Swim Facility Characteristics**

**EBRPD - Table 1 - Evaluation Criteria - Area**

Swim Facility	Land Area - Park		Land Area - Swim Complex		Water Area -Reservoir		Water Area -Swim		Parking		Jurisdiction				
	40 - 100 Acres	> 700 Acres	<1 - 2.5 Acres	5 - 15 Acres	<1 -10 Acres	80 - 500 Acres	<1 Acres	1 to 2 Acres	100 - 350 Spaces	1,000 - 1,500 Spaces	EBRPD	Alameda County	Local City/EBMUD Water	Contra Costa County Water	State / Federal
Contra Loma Rec. Area		•	•				• (b)	•		•	•			•	• (e)
Cull Canyon Rec. Area		•		•	•			•	•	•	•	•			• (a)
Del Valle Regional Park		•		•				•		•					• (d)
Don Castro	•		•				• (b)	•		•	•				
Lake Anza - Tilden Park				•	•					•	•				
Lake Temescal	•		•		•			•		•	•				
Quarry Lakes Rec. Area		•	•				•	•		•	•	• (c)	•		
Pool - Roberts Rec. Area	•		•		•			•		•	•		•		
Shadow Cliffs		•	•				•	•		•	•				

**EBRPD -Table 2 - Evaluation Criteria - Water**

Swim Facility	Water Source				Water Purpose Defined				Water Treatment				Water Release		
	Watershed	State or Federal Water	Local City/EBMUD/Contra Costa Water	Ground Water	Recreation Only	Ground Water Recharge	Storage - Drinking Water	Storage - Flood Protection	No Treatment - Cordoned off Section of a Larger Reservoir	No Treatment - Separate Lagoon - Reservoir Water	No Chemicals - Siltation Ponds prior to Entering Swim Area	Separate "Pool" - Chemical Filtration System	Water Retained Year Round in Swim Area	Water Used for Ground Water Recharge	Water Release into Creek/ Lake
Contra Loma Rec. Area		•	•		•			• (b)	• (b) (barely)			•	•		
Cull Canyon Rec. Area			•		•						•				•
Del Valle Regional Park	•						•	•	•						•
Don Castro			•		•						•				•
Lake Anza - Tilden Park	•				•								•		•
Lake Temescal	•				•					•					•
Quarry Lakes Rec. Area	•	•		•		•	•	•	•				•	•	
Pool - Roberts Rec. Area			•		•						•		•		
Shadow Cliffs				•	•	•			•				•		

**EBRPD - Table 3 - Evaluation Criteria - Swim Facility Design**

Swim Facility	Bottom Surface Material				Beach/Swim Edge Treatment			Swim Area Defined				Swim Area Depths		
	Earth	Sand	Sand over Concrete	Concrete	Sand/ Gravel	Concrete/ Asphalt	Lawn	Controlled Swim Entry	Access Not Secured	Posted Hours	Swim Areas Defined by Ropes & Buoys	0 - 5 feet	3' (wade) - 12' (lap)	> 12 feet
Contra Loma Rec. Area				•	•	•	•	•		•	•	•		
Cull Canyon Rec. Area			•		•			•		•	•		•	
Del Valle Regional Park	•				• gravel				•		•		•	•
Don Castro			•		•			•			•			
Lake Anza - Tilden Park	•	•			•			•		•	•		•	
Lake Temescal	•				•			•		•	•			
Quarry Lakes Rec. Area	•				•			•		•	•		•	
Pool - Roberts Rec. Area						•		•					• (3-8.5)	
Shadow Cliffs	•				•			•	•		•		•	

**Table C-1 Summary of East Bay Regional Park District  
Swim Facility Characteristics**

**EBRPD - Table 4 - Evaluation Criteria - Ancillary Facilities - Design**

Swim Facility	Amenities				Food		
	Changing Rooms	Restrooms/ Capacity #	Showers - Indoor	Showers - Outdoor	Picnic	Snack Bar (f)	Vending Machines (f)
Contra Loma Rec. Area	●	● #6	● #1	●	●	●	●
Cull Canyon Rec. Area	●	●	● #5	●	●	●	●
Del Valle Regional Park	●	●	● #6	● #4	●	●	●
Don Castro	●	● #10	● #4	● #2	●	●	●
Lake Anza - Tilden Park	●	● #12	●	● #1	●	●	●
Lake Temescal	●	● #9	● #4	●	●	●	●
Quarry Lakes Rec. Area	●	● #28	●	● #2	●	●	●
Pool - Roberts Rec. Area	●	● #150	●	●	●	●	●
Shadow Cliffs	●	● #60	●	● #1	●	●	●

**EBRPD - Table 5 - Evaluation Criteria - ADA**

Swim Facility	ADA Compliant		
	Ancillary Facilities	Water Access	Special Swim Times/ Instruction
Contra Loma Rec. Area		● lift	
Cull Canyon Rec. Area			
Del Valle Regional Park		● balloon wheelchair	
Don Castro		● balloon wheelchair	
Lake Anza - Tilden Park			
Lake Temescal		● balloon wheelchair	
Quarry Lakes Rec. Area	●	● ramp	
Pool - Roberts Rec. Area	●	● lift	●
Shadow Cliffs			

**East Bay Regional Park District - Table 6 - Evaluation Criteria - Use**

Swim Facility	Swim Fee		Open		Supervision		Capacity			Permitted Uses					
	Fee	Non-Fee	Summer	Winter	Lifeguard - Summer	Swim at Own Risk - Winter	100 - 200	250 - 1,000	> 1,000	Wading/ Rec. Swim	Lap Swim	Lessons	Open Water Events	Diving	Water Features
Contra Loma Rec. Area	●		●		●				●	●	●				
Cull Canyon Rec. Area	●		●		●				●	●	●			●	● diving
Del Valle Regional Park		●	●	●	●	●		●	●	●		●			● splash (proposed)
Don Castro	●		●		●			●		●	●				
Lake Anza - Tilden Park	●		●		●			●		●	●				
Lake Temescal	●		●		●			●		●	●				
Quarry Lakes Rec. Area	●/S	●/W	●	●	●	●		●		●	●		●		
Pool - Roberts Rec. Area	●		●		●			●		●	●	●	●		
Shadow Cliffs		●	●	●	●	●		●		●	●		●		● water slide

**East Bay Regional Park District - Table 7 - Evaluation Criteria - Project Age, Costs/Funding**

Swim Facility	Age		Costs			Funding	
	Date Built	Open to Public	Initial Capital Cost Yr. Facility was Constructed	2003 Est. Amt.	Annual Maintenance	Initial Capital Funding	Maintenance & Improvements
Contra Loma Rec. Area	2001	2.5 yr.	\$3 million (2001\$) approx.	\$3.1 Million (2003\$) approx.	\$250,000	endowment	gen. fund & endowment
Cull Canyon Rec. Area	1964	40 yr.	unknown		\$241,000	CCWD, grants, pro. tax	general fund
Del Valle Regional Park		30 yr.	unknown		\$1.5 million (entire Park)		general fund
Don Castro	1968	40 yr.	\$150,760 (1966 \$)	\$176,740 (2003\$)	\$540,000	grants	general fund
Lake Anza - Tilden Park	current dev. 1960s	1930s	unknown		unknown	general fund	general fund
Lake Temescal	1936	70 yr.	\$34,000 (1934\$)	\$465,753 (2003\$)	\$225,000	flood bond	general fund
Quarry Lakes Rec. Area	2001	2	6.5 million (entire park)	\$6,49,740 (2003\$)		partnership, rec. bond, redevlop	general fund
Pool - Roberts Rec. Area	1953	60 yr.	\$25,000 (1953 dollars)	\$172,413 (2003\$)	\$224,000		gen. fund & adopt- a-park
Shadow Cliffs	1971	25 yr.	\$250,000 (1970s dollars)	1.2 million (2003\$)	\$1 million (entire park)	land gift & grant	general fund

**Legend**

- Factor occurs at this swim facility
- (a) Davis Grunsky Act (funder) advises on use
- (b) Reservoir separate from swim area
- (c) Alameda County Water
- (d) State Water Project- DWR control inflow & releases - Alameda & Santa Clara Co. have (drinking water) rights
- (e) State & Federal Jurisdiction
- (f) Gen. Seasonal
- W - Winter only S - Summer swim season only
- EBRPD - East Bay Regional Park District
- EBMUD - East Bay Municipal Utility District
- CCWD - Contra Costa Water District

**Notes:**

Where there is a large gap in quantities, e.g. parking spaces, reservoir size, visitor capacity, it means that there are no examples of those factors within the middle - (parking ranges 100-350 and 1,000-1,500. There were no facilities with a parking capacity between 351 and 999 spaces)

**Table C-2 Summary of City of San Jose Parks, Recreation Neighborhood Services  
Swim Facility Characteristics**

**City of San Jose PRNS - Table 1 - Evaluation Criteria - Area**

Swim Facility	Land Area - Park		Land Area - Swim Complex		Water Area -Reservoir		Water Area -Swim		Parking		Jurisdiction			
	40 - 100 Acres	> 700 Acres	<1 - 2.5 Acres	5 - 15 Acres	<1 -10 Acres	80 - 500 Acres	<1 Acres	1 to 2 Acres	100 - 350 Spaces	1,000 - 1,500 Spaces	City of San Jose	Santa Clara County	Santa Clara Valley Water District	State / Federal
Almaden Lake	65 acres		● (0.5 acres)		● (32 acres)		● (0.4 acres)		● (230 spaces)		●	●	●	●

**City of San Jose PRNS -Table 2 - Evaluation Criteria - Water**

Swim Facility	Water Source				Water Purpose Defined				Water Treatment				Water Release		
	Watershed	State or Federal Water	Local City/ Santa Clara Valley Water District	Ground Water	Recreation Only	Ground Water Recharge	Storage - Drinking Water	Storage - Flood Protection	No Treatment - Cordoned off Section of a Larger Reservoir	No Treatment - Separate Lagoon - Reservoir Water	No Chemicals - Siltation Ponds prior to Entering Swim Area	Separate "Pool" - Chemical Filtration System	Water Retained Year Round in Swim Area	Water Used for Ground Water Recharge	Water Release into Creek/ Lake
Almaden Lake			●			●			●				●	●	●

**City of San Jose PRNS - Table 3 - Evaluation Criteria - Swim Facility Design**

Swim Facility	Bottom Surface Material				Beach/Swim Edge Treatment			Swim Area Defined				Swim Area Depths		
	Earth	Sand	Sand over Concrete	Concrete	Sand/ Gravel	Concrete/ Asphalt	Lawn	Controlled Swim Entry	Access Not Secured	Posted Hours	Swim Areas Defined by Ropes & Buoys	0 - 5 feet	3' (wade) - 12' (lap)	> 12 feet
Almaden Lake	●				●		●			●		●		●
												(80% of swim area)		

**Table C-2 Summary of City of San Jose Parks, Recreation Neighborhood Services  
Swim Facility Characteristics**

**City of San Jose PRNS - Table 4 - Evaluation Criteria - Ancillary Facilities - Design**

Swim Facility	Amenities				Food		
	Changing Rooms	Restrooms/ Capacity	Showers - Indoor	Showers - Outdoor	Picnic	Snack Bar (f)	Vending Machines (f)
Almaden Lake	0	2 Men's 2 Women's		8	•	•	• (Coke Machine)

**CSJ PRNS - Table 5 - Evaluation Criteria - ADA**

Swim Facility	ADA Compliant		
	Ancillary Facilities	Water Access	Special Swim Times/ Instruction
Almaden Lake	none	none	none

**City of San Jose PRNS - Table 6 - Evaluation Criteria - Use**

Swim Facility	Swim Fee		Open		Supervision		Capacity			Permitted Uses					
	Fee	Non-Fee	Summer	Winter	Lifeguard - Summer	Swim at Own Risk - Winter	100 - 200	250 - 1,000	> 1,000	Wading/ Rec. Swim	Lap Swim	Lessons	Open Water Events	Diving	Water Features
Lake		•	•		•			•		•	•		•		

**City of San Jose PRNS - Table 7 - Evaluation Criteria - Project Age, Costs/Funding**

Swim Facility	Age		Costs			Funding	
	Date Built	Open to Public	Initial Capital Cost Yr. Facility was Constructed	2003 Est. Amt.	Annual Maintenance	Initial Capital Funding	Maintenance & Improvements
Almaden Lake							

**Legend**  
• Factor occurs at this swim facility

**Appendix D**  
**Infrastructure Permitting, Review & Approval Agencies**

## Appendix D - Infrastructure Permitting, Review & Approval Agencies

**Table D-1 -Summary of Regulatory & Permitting Agencies - Jurisdiction, Agreements & Permitting Requirements for Water Delivery, Treatment & Water Quality Monitoring**

Local Agencies & Special Districts	Jurisdiction/Responsibilities	Design Review/Agreement/Permit
County of Santa Clara Parks & Recreation Department	<ul style="list-style-type: none"> <li>▪ County Parklands &amp; Recreation Programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Design Development</li> <li>▪ Coordination with Partner Agencies (permitting &amp; regulatory compliance) Secure funding for Implementation</li> <li>▪ Construction</li> <li>▪ Maintenance &amp; Operations</li> </ul>
County of Santa Clara Environmental Health Department (DEH) Consumer Protection Division	<ul style="list-style-type: none"> <li>▪ Water quality monitoring</li> </ul>	<ul style="list-style-type: none"> <li>▪ Swim facility water testing results</li> </ul>
Santa Clara Valley Water District (SCVWD)	Joint Use Agreements for use of water to ensure District objectives - flood protection, water supply, water quality, & habitat enhancement	<ul style="list-style-type: none"> <li>▪ Construction permits</li> </ul>
State Agencies	Jurisdiction/Responsibilities	Design Review/Agreement/Permit
California Department of Fish & Game (CDFG)	<ul style="list-style-type: none"> <li>▪ A trustee agency under CEQA responsible for protecting California fish &amp; wildlife</li> <li>▪ Jurisdiction over Coyote Creek &amp; Calero Reservoir</li> <li>▪ Protects State listed species &amp; requires avoidance &amp;/or appropriate mitigation</li> </ul>	<ul style="list-style-type: none"> <li>▪ CEQA project reviews</li> <li>▪ Review wetland/riparian mitigation &amp; monitoring plans to ensure no net loss of acreage or value of riparian areas</li> <li>▪ Streambed Alt .Agreement, Sec. 1601 if project will alter streambed &amp; Sec. 2081 if project will affect state-endangered species/habitat</li> </ul>
Department of Health Services (DHS)	<ul style="list-style-type: none"> <li>▪ Develops and enforces regulations for drinking water source waters</li> </ul>	<ul style="list-style-type: none"> <li>▪ Permit application / project review in coordination with County DEH</li> </ul>
State Water Resources Control Board/Regional Water Quality Control Board (RWQCB)	<ul style="list-style-type: none"> <li>▪ Responsible for reviewing development within the USACE jurisdiction.</li> <li>▪ Develops the environmental guidelines which are followed by the USACE in evaluating permit proposals under USACE jurisdiction</li> <li>▪ Stormwater Pollution Control Compliance - monitoring &amp; control of pollutants from stormwater runoff from construction sites larger than 1 acre</li> </ul>	<ul style="list-style-type: none"> <li>▪ Review of wetland mitigation &amp; monitoring plans to ensure there is no net loss of acreage function or value of riparian areas</li> <li>▪ Section 401 Permit - Certify that any permit issued by USACE pursuant to Sec. 404 will comply with State water quality standards</li> <li>▪ National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit &amp; Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPP)</li> </ul>
San Francisco Regional Water Quality Control Board (SFRWQCB)	<ul style="list-style-type: none"> <li>▪ Provides oversight over water quality in California's inland surface waters, including the District's reservoirs</li> <li>▪ Establishes beneficial uses &amp; water quality objectives for the San Francisco Basin</li> </ul>	
Federal Agencies	Jurisdiction/Responsibilities	Design Review/Agreement/Permit
US Army Corps of Engineers (USACE)/US Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> <li>▪ EPA is responsible for implementation of Clean Water Act –regulates discharge of dredged or fill materials into waters of the US</li> <li>▪ USACE has jurisdiction (under Sec. 10 of the Rivers &amp; Harbors Act) over structures in waterways, such as piers piles, &amp; abutments, site development fill, within the ordinary high water mark USACE has jurisdiction over current &amp; historic wetlands</li> </ul>	<ul style="list-style-type: none"> <li>▪ Section 10 permit for any structures in waterways</li> <li>▪ Sections 404 permits for any activity that would impact wetlands (once a RWQCB section 401 permit has been issued)</li> </ul>

## Appendix D - Infrastructure Permitting, Review & Approval Agencies

**Table D-1 -Summary of Regulatory & Permitting Agencies - Jurisdiction, Agreements & Permitting Requirements for Water Delivery, Treatment & Water Quality Monitoring (continued0**

Federal Agencies	Jurisdiction/Responsibilities	Design Review/Agreement/Permit
United States Environmental Protection Agency (USEPA)	<ul style="list-style-type: none"> <li>▪ Develops and enforces regulations for drinking water source waters</li> </ul>	
US Fish & Wildlife Service Endangered Species Division	<ul style="list-style-type: none"> <li>▪ Consults on any federal project that involve the modification of any body of water including wetlands &amp; any project that impacts federal endangered species &amp; their habitat including wetlands, streams &amp; ponds</li> </ul>	<ul style="list-style-type: none"> <li>▪ Permit review of USACE 404 permit applications</li> <li>▪ Section 7 permit– Endangered species</li> <li>▪ Section 10 permit processing</li> <li>▪ Mitigation banking</li> </ul>

**Table D - 2 Sewage Leeching System Design, Review, Approvals & Operations**

Responsibility		Design, Review, Approvals & Operations
<b>Design</b>	<i>Registered Civil Engineer or a Registered Environmental Health Specialist with experience in on-site sewage system design</i>	<ul style="list-style-type: none"> <li>▪ Soil boring(s) or excavation(s) to verify adequate depth of permeable soil and/or separation between trench bottom and groundwater.</li> <li>▪ Site Specific Soil percolation tests</li> <li>▪ Geological report</li> <li>▪ Plans of the sewage disposal system</li> <li>▪ Inspect the construction of the sewage disposal system</li> <li>▪ Submit a letter of certification verifying the proper installation &amp; operation of system</li> <li>▪ Sampling for 1 yr.( min.) per RWQCB waste discharge requirements.</li> </ul>
<b>Review &amp; Permitting</b>	<i>County Environmental Health Department</i>	<ul style="list-style-type: none"> <li>▪ Plan review and approval - sewage disposal system in accordance with Section B11-67 for Private Sewage Disposal Systems from Santa Clara County Code</li> <li>▪ Plan review and approval - restrooms, showers, food concessions</li> <li>▪ Construction inspection</li> <li>▪ Monitoring/testing</li> </ul>
	<i>Santa Clara Valley Water District (SCVWD)</i>	<ul style="list-style-type: none"> <li>▪ Joint Use Agreements for use of water to ensure District objectives - water supply, water quality, Construction permits</li> </ul>
	<i>State Water Resources Control Board/Regional Water Quality Control Board (RWQCB)</i>	<ul style="list-style-type: none"> <li>▪ NPDES permit compliance for the park wastewater systems consistent with section B11-66 (assumes “volume of waste produced is in excess of twenty-five hundred gallons per day)</li> </ul>
<b>Operations</b>	<i>County of Santa Clara Parks &amp; Recreation Department</i>	<ul style="list-style-type: none"> <li>▪ Design Development</li> <li>▪ Coordination with Partner Agencies (regulatory compliance - permitting &amp; fees)</li> <li>▪ Secure funding for Implementation</li> <li>▪ Construction</li> <li>▪ Maintenance &amp; Operations - contract with a private sanitary engineering firm to ensure the proper maintenance of the sewage disposal system for the first five years of operation.</li> </ul>
	<i>Grade IV California Waster Water Treatment Plant Operator</i>	<ul style="list-style-type: none"> <li>▪ Daily the sewerage system operations</li> </ul>

**Appendix E**  
**Itemized Cost Breakdown of Swim Facility Components**

## Swim Lagoon - Burnett & Riverside

Program Element	Quantity	Unit	Unit Cost	Subtotals	Subtotal by area
<b>Swim Lagoon / Reservoir (10 ac)</b>					
Earth Moving/Grading (10 ac - max depth _ to 0')	49,511	cu yd	\$40	\$1,980,453	
Bentonite Lining	442,619	sf	\$0.30	\$132,786	
Unwashed Dredged Sand Beach (1 ac/12" depth)	1	allow.	\$150,000	\$150,000	
Wetland Filtration (3-ac)	130,680	sf	\$5.00	\$653,400	
Perimeter Fencing (6'- high Wrought Iron)	4,500	lf	\$50.00	\$225,000	
				<b>Subtotal</b>	<b>\$3,141,639</b>
<b>Dog Training Area</b>					
Reservoir Grading (1 ac - max depth _ to 0')	4,951	cu yd	\$40	\$198,046	
Beach Area (1 acre)	1	allow.	\$150,000	\$150,000	
Perimeter fencing (chainlink)	1,900	lf	\$25.00	\$47,500	
				<b>Subtotal</b>	<b>\$395,546</b>
<b>Parking Lot</b>					
Asphalt Paving	65,340	sf	\$6.50	\$424,710	
Aggregate Base	65,340	sf	\$3.50	\$228,690	
				<b>Subtotal</b>	<b>\$653,400</b>
<b>Park Amenities at Swim Entry</b>					
Bike rack	1	ea	\$1,200	\$1,200	
Trash receptacles	2	ea	\$1,200	\$2,400	
Call box at entry	1	ea	\$10,000	\$10,000	
Restroom (1 stall each + storage) outside secured :	1	ea	\$150,000	\$150,000	
Entry kiosk	1	allow	\$15,000	\$15,000	
				<b>Subtotal</b>	<b>\$178,600</b>
<b>Restroom at Swim Entry</b>					
Restroom (1 stall each + storage)	1	allow.	\$150,000	\$150,000	
Drinking Fountain	1	allow.	\$4,800	\$4,800	
Utility Connections	1	allow.	\$15,000	\$15,000	
Concrete Paving around restroom	510	sf	\$8.00	\$4,080	
				<b>Subtotal</b>	<b>\$173,880</b>
<b>Informal Turf Area</b>					
Irrigated Seeded Lawn (2 ac)	87,120	sf	\$2.50	\$217,800	
				<b>Subtotal</b>	<b>\$217,800</b>
<b>Family/ Individual Picnic Area (30 tables)</b>					
Concrete Paving Pads	4,800	sf	\$8.00	\$38,400	
Picnic tables (trash receptacles, & BBQs)	30	ea	\$3,850	\$115,500	
				<b>Subtotal</b>	<b>\$153,900</b>
<b>Group Picnic Area (2 sites 100-people ea)</b>					
Concrete Paving Pads	8,800	sf	\$8.00	\$70,400	
Picnic tables (trash receptacles)	50	ea	\$2,300	\$115,000	
Group Barbecue Grills	2	ea	\$2,500	\$5,000	
				<b>Subtotal</b>	<b>\$190,400</b>
<b>Restrooms w/ Changing &amp; Showers</b>					
Unisex Restrooms w/ Changing Area (30)	1	allow.	\$400,000	\$400,000	
Outdoor Showers (2)	2	allow.	\$10,000	\$20,000	
Utility Connections	1	allow.	\$40,000	\$40,000	
Concrete Paving around restroom	4,815	sf	\$8.00	\$38,520	
				<b>Subtotal</b>	<b>\$498,520</b>
<b>Recreation Area</b>					
Playground (equip. & ADA surfacing)	1	allow.	\$200,000	\$200,000	
Splash Water Feature	1	ea	\$25,000	\$25,000	
Sand Volleyball	2	ea	\$10,000	\$20,000	
Benches, trash receptacles	4	ea	\$1,700	\$6,800	
				<b>Subtotal</b>	<b>\$251,800</b>
<b>Park Entry &amp; Circulation</b>					
Fee Kiosk w/ restroom	1	allow.	\$150,000	\$150,000	
2-way vehicular bridge over Coyote Creek	1	allow.	\$300,000	\$300,000	
2- way asphalt road access to parking (24' wide)	1,000	lf	\$275.00	\$275,000	
Park Trails/Maintenance park access (12' wide)	2,000	lf	\$137.50	\$275,000	
				<b>Subtotal</b>	<b>\$1,000,000</b>
<b>Park Maintenance Support Buildings</b>					
Concession/Lifeguard Staff Building	1	allow	\$150,000	\$150,000	
Maintenance Staff/Equipment Building	1	allow	\$150,000	\$150,000	
				<b>Subtotal</b>	<b>\$300,000</b>
<b>Park Wide Landscaping</b>					
Landscaping	43,560	sf	\$3.00	\$130,680	
SWPPP erosion req. (2%)	1	allow	\$135,000	\$135,000	
				<b>Subtotal</b>	<b>\$265,680</b>
<b>Signage</b>					
Entrance Signage	1	ea	\$3,000	\$3,000	
Management & Safety Signs	5	ea	\$1,000	\$5,000	
				<b>Subtotal</b>	<b>\$8,000</b>
<b>Sewer System</b>					
Septic Sewer System (Burnett)1	1	allow	\$300,000	\$300,000	
				<b>Subtotal</b>	<b>\$300,000</b>
<b>Park wide</b>					
Mobilization (5%)	1	allow	\$380,000	\$380,000	
Temporary Work (detours, infrastructure, etc.) (5%)	1	allow	\$380,000	\$380,000	
Site clean-up (post construction) (5%)	1	allow	\$380,000	\$380,000	
				<b>Subtotal</b>	<b>\$1,140,000</b>
<b>Construction Subtotal</b>					<b>\$8,869,165</b>
<b>Contingencies</b>					
Contingency (25%)	1	allow	\$2,217,291	\$2,217,291	
<b>Construction Subtotal w/ Contingencies</b>					<b>\$11,086,456</b>
<b>Design / Admin.</b>					
Design fees (10%)	1	allow	\$1,108,646	\$1,108,646	
Construction Management - County Staff (25%)	1	allow	\$2,771,614	\$2,771,614	
Construction Support Services (10%)	1	allow	\$1,108,646	\$1,108,646	
				<b>Subtotal</b>	<b>\$4,988,906</b>
<b>Total Estimated Cost for Design &amp; Construction *</b>					<b>\$16,075,361</b>

Cost estimate does not include: Future engineering studies, Permitting fees, Traffic improvements beyond the park boundaries (e.g. signals, road widening, pedestrian/bicycle improvements, etc.), Infrastructure costs to meet the projected utility requirements (e.g. new wells, water lines meters, electrical connections), Wetland /habitat mitigation requirements that may be required by the regulatory & permitting agencies.

Design costs assume use of septic sewer system.

## Swim Lagoon - Calero

Program Element	Quantity	Unit	Unit Cost	Subtotals	Subtotal by area
<b>Swim Lagoon / Reservoir</b>					
Concrete Swim Lagoon (1 acre)	1	allow.	\$1,200,000	\$1,200,000	
Mechanical Support	1	allow.	\$800,000	\$800,000	
Pump Equipment /Storage & Emergency Support)	1	allow.	\$150,000	\$150,000	
Tri-Washed Sand Beach Area (1 acre)	1	allow.	\$200,000	\$200,000	
Perimeter Fencing (6'- high Wrought Iron)	4,000	lf	\$50	\$200,000	
				<b>Subtotal</b>	<b>\$2,550,000</b>
<b>Parking Lot</b>					
Asphalt Paving	65,340	sf	\$6.50	\$424,710	
Aggregate Base	65,340	sf	\$3.50	\$228,690	
				<b>Subtotal</b>	<b>\$653,400</b>
<b>Park Amenities at Swim Entry</b>					
Bike rack	1	ea	\$1,200	\$1,200	
Trash receptacles	2	ea	\$1,200	\$2,400	
Call box at entry	1	ea	\$10,000	\$10,000	
Restroom (1 stall each + storage) outside secured area	1	ea	\$150,000	\$150,000	
Entry kiosk	1	allow	\$15,000	\$15,000	
				<b>Subtotal</b>	<b>\$178,600</b>
<b>Restroom at Swim Entry</b>					
Restroom (1 stall each + storage)	1	allow.	\$150,000	\$150,000	
Drinking Fountain	1	allow.	\$4,800	\$4,800	
Utility Connections	1	allow.	\$15,000	\$15,000	
Concrete Paving around restroom	510	sf	\$8.00	\$4,080	
				<b>Subtotal</b>	<b>\$173,880</b>
<b>Informal Turf Area</b>					
Irrigated Seeded Lawn (2 ac)	87,120	sf	\$2.50	\$217,800	
					<b>\$217,800</b>
<b>Family/ Individual Picnic Area (30 tables)</b>					
Concrete Paving Pads	4,800	sf	\$8.00	\$38,400	
Picnic tables (trash receptacles, & BBQs)	30	ea	\$3,850	\$115,500	
				<b>Subtotal</b>	<b>\$153,900</b>
<b>Group Picnic Area (2 sites 100 -people ea)</b>					
Concrete Paving Pads	8,800	sf	\$8.00	\$70,400	
Picnic tables (trash receptacles)	50	ea	\$2,300	\$115,000	
Group Barbecue Grills	2	ea	\$2,500	\$5,000	
				<b>Subtotal</b>	<b>\$190,400</b>
<b>Restrooms w/ Changing &amp; Showers</b>					
Unisex Restrooms w/ Changing Area (30)	1	allow.	\$400,000	\$400,000	
Outdoor Showers (2)	2	allow.	\$10,000	\$20,000	
Utility Connections	1	allow.	\$40,000	\$40,000	
Concrete Paving around restroom	4,815	sf	\$8.00	\$38,520	
				<b>Subtotal</b>	<b>\$498,520</b>
<b>Recreation Area</b>					
Playground (equip. & ADA surfacing)	1	allow.	\$200,000	\$200,000	
Splash Water Feature	1	ea	\$25,000	\$25,000	
Sand Volleyball	2	ea	\$10,000	\$20,000	
Benches, trash receptacles	4	ea	\$1,700	\$6,800	
				<b>Subtotal</b>	<b>\$251,800</b>
<b>Park Entry &amp; Circulation</b>					
Fee Kiosk w/ restroom	1	allow.	\$150,000	\$150,000	
2-way vehicular bridge over Coyote Creek	1	allow.	\$300,000	\$300,000	
2- way asphalt road access to parking (24' wide)	1,000	lf	\$275.00	\$275,000	
Park Trails/Maintenance park access (12' wide)	2,000	lf	\$137.50	\$275,000	
				<b>Subtotal</b>	<b>\$1,000,000</b>
<b>Park Maintenance Support Buildings</b>					
Concession/Lifeguard Staff Building	1	allow	\$150,000	\$150,000	
Maintenance Staff/Equipment Building	1	allow	\$150,000	\$150,000	
				<b>Subtotal</b>	<b>\$300,000</b>
<b>Park Wide Landscaping</b>					
Landscaping	43,560	sf	\$3.00	\$130,680	
SWPPP erosion req. (2%)	1	allow	\$135,000	\$135,000	
				<b>Subtotal</b>	<b>\$265,680</b>
<b>Signage</b>					
Entrance Signage	1	ea	\$3,000	\$3,000	
Management & Safety Signs	5	ea	\$1,000	\$5,000	
				<b>Subtotal</b>	<b>\$8,000</b>
<b>Sewer System</b>					
Septic Sewer System (Burnett) 2	1	allow	\$300,000	\$300,000	
				<b>Subtotal</b>	<b>\$300,000</b>
<b>Park wide</b>					
Mobilization (5%)	1	allow	\$320,000	\$320,000	
Temporary Work (detours, infrastructure, etc.) (5%)	1	allow	\$320,000	\$320,000	
Site clean-up (post construction) (5%)	1	allow	\$320,000	\$320,000	
				<b>Subtotal</b>	<b>\$960,000</b>
				<b>Construction Subtotal</b>	<b>\$7,701,980</b>
<b>Contingencies</b>					
Contingency (25%)	1	allow	\$1,925,495	\$1,925,495	
				<b>Construction Subtotal w/ Contingencies</b>	<b>\$9,627,475</b>
<b>Design / Admin.</b>					
Design fees (10%)	1	allow	\$962,748	\$962,748	
Construction Management - County Staff (25%)	1	allow	\$2,406,869	\$2,406,869	
Construction Support Services (10%)	1	allow	\$962,748	\$962,748	
				<b>Subtotal</b>	<b>\$4,332,364</b>
				<b>Total Estimated Cost for Design &amp; Construction *</b>	<b>\$13,959,839</b>

Cost estimate does not include: Future engineering studies, Permitting fees, Traffic improvements beyond the park boundaries (e.g. signals, road widening, pedestrian/bicycle improvements, etc.), infrastructure costs to meet the projected utility requirements (e.g. new wells, water lines meters, electrical connections), Wetland /habitat mitigation requirements that may be required by the regulatory & permitting agencies.

Design costs assume use of septic sewer system. 2 - Calero sewer system to be determined a during the design development phase