



1.10

NEIGHBORHOOD SERVICES  
DEPARTMENT

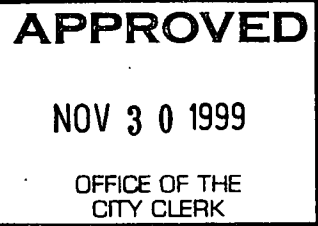
CITY OF SACRAMENTO  
CALIFORNIA

1023 J STREET  
SUITE 200  
SACRAMENTO, CA  
95814-2977

PH 916-264-8529  
FAX 916-264-8266

November 15, 1999

City Council  
Sacramento, California



Honorable Members in Session:

SUBJECT: APPROVE FINAL MAINTENANCE AND MANAGEMENT  
PLAN FOR THE ARCADE CREEK NATURE AREA OF DEL  
PASO REGIONAL PARK

LOCATION: North Sacramento - Council District 2

RECOMMENDATION:

Staff recommends that the City Council, by resolution:

- Approve final maintenance and management plan for the Arcade Creek Nature Area of Del Paso Regional Park.

CONTACT PERSONS: Victor L. Edmisten, Parks Manager, 264-5336  
Gayle Totton, Natural Resource Specialist, 264-5540

FOR COUNCIL MEETING OF: November 30, 1999 (consent)

SUMMARY:

At the Council's direction, the Parks Department has completed a final Maintenance and Management plan for the Arcade Creek Nature Area of Del Paso Regional Park (See Exhibit A.) This finalized plan replaces the current Del Paso Park Natural Area Interim Management Program of July 1985 (See Exhibit B) and will be implemented in the next maintenance cycle beginning in June of 2000.

## COMMITTEE / COMMISSION ACTION

This plan has been reviewed and approved by the Citizen's Advisory Committee for Parks and Recreation.

## BACKGROUND INFORMATION

The final plan addresses the following issues:

- Sets goals for the overall maintenance and management plan.
- Sets maintenance priorities and the criteria for conducting maintenance and management activities.
- Outlines special concerns relating to activities taking place on the property.

This agreement would enable the City to achieve the following goals:

- Preservation and restoration of natural habitats and native species.
- Increase opportunities for active and passive recreation.
- Increase public safety (fire, flood, crime.)
- Encourage community stewardship.

## FINANCIAL CONSIDERATIONS:

City expenditures for routine maintenance would be increased with the addition of maintenance staff and to provide staff training or by hiring a reputable environmental firm to manage the site. The NPDS/Parks budget for FY 2000-2001 would need to be increased by \$60,000 to accommodate the increased level of maintenance work required by the plan.

Alternative funding sources for these activities will be sought.

## ENVIRONMENTAL CONSIDERATIONS:

This plan and the included proposal for restoration planning specifically stipulate management practices that would reduce environmental impacts from maintenance activities. Current agreements between the California Department of Fish and Game and the City Utilities Department (included in the plan document) are also in place to reduce environmental damage to habitat during routine maintenance activities.

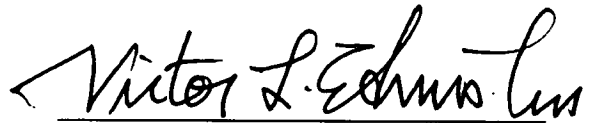
## POLICY CONSIDERATIONS:

None at this time. This plan replaces an existing interim management program.

ESBD CONSIDERATIONS:

None at this time.

Respectfully submitted,



VICTOR L. EDMISTEN  
Parks and Recreation Manager

RECOMMENDATION APPROVED:

APPROVED:



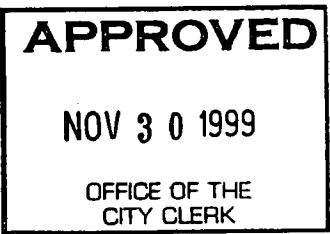
ROBERT THOMAS  
City Manager



GARY L. LITTLE  
Area 4 Director

RESOLUTION NO. 99-699

ADOPTED BY THE SACRAMENTO CITY COUNCIL



ON THE DATE OF \_\_\_\_\_

RESOLUTION TO APPROVE FINAL MAINTENANCE AND MANAGEMENT PLAN FOR THE ARCADE CREEK NATURE AREA OF DEL PASO REGIONAL PARK.

WHEREAS, the City Council did approve an interim maintenance and management plan for the Arcade Creek Nature Area of Del Paso Regional Park in 1985 and

WHEREAS, the City Council directed the Parks Department to produce a final maintenance and management plan for the Arcade Creek Nature Area of Del Paso Regional Park in cooperation with other local and state agencies

NOW, THEREFORE, BE IT RESOLVED that the Council of the City of Sacramento:

- 1. Approve the Maintenance and Management Plan for the Arcade Creek Nature Area of Del Paso Regional Park.

\_\_\_\_\_  
MAYOR

ATTEST:

\_\_\_\_\_  
CITY CLERK

FOR CITY CLERK USE ONLY

RESOLUTION NO. : \_\_\_\_\_

DATE ADOPTED: \_\_\_\_\_

**Exhibit A**

**Del Paso Regional Park  
Arcade Creek Nature Area  
Maintenance and Management Plan**

Del Paso Regional Park  
Arcade Creek Nature Area  
Maintenance and Management Plan

---



6

**Table of Contents**

---

<b>A.</b>	<b>Introduction</b>	<b>3</b>
<b>B.</b>	<b>Goals</b>	<b>4</b>
<b>C.</b>	<b>Maintenance Priorities and Criteria</b>	<b>4</b>
	1. <b>Preservation and Restoration of Natural Habitat</b>	<b>4</b>
	2. <b>Flood Control</b>	<b>7</b>
	3. <b>Fire Control</b>	<b>9</b>
	4. <b>Creek Maintenance</b>	<b>10</b>
	5. <b>Trail Maintenance</b>	<b>11</b>
	6. <b>Golf Course Maintenance</b>	<b>12</b>
	7. <b>Post and Cable Barriers</b>	<b>13</b>
<b>D.</b>	<b>Special Concerns</b>	
	1. <b>Grazing</b>	<b>13</b>
	2. <b>Homeless Encampments</b>	<b>13</b>
	3. <b>Illicit Activities</b>	<b>13</b>
	4. <b>Training</b>	<b>14</b>
	5. <b>Signage</b>	<b>14</b>
	6. <b>Funding Sources</b>	<b>14</b>
<b>E.</b>	<b>Stakeholders</b>	<b>15</b>
<b>F.</b>	<b>Summary</b>	<b>15</b>

---

<b>Map 1.</b>	<b>Del Paso Park / Arcade Creek Location Map</b>	<b>16</b>
<b>Map 2.</b>	<b>Borrow and storage site location</b>	<b>17</b>

---

<b>Appendix A.</b>	<b>California Department of Fish and Game Memorandum of Understanding</b>	<b>18</b>
<b>Appendix B.</b>	<b>California Department of Fish and Game Stream Alteration Agreement</b>	<b>31</b>
<b>Appendix C.</b>	<b>Tree and brush trimming guidelines</b>	<b>39</b>
<b>Appendix D.</b>	<b>Selected Plant List for restoration planting</b>	<b>44</b>
<b>Appendix E.</b>	<b>Preliminary USGS NAWQA report</b>	<b>47</b>
<b>Appendix F.</b>	<b>Stakeholders List</b>	<b>49</b>
<b>Appendix G.</b>	<b>Planning and Maintenance Responsibilities Checklist</b>	<b>50</b>

**A. Introduction:**

Del Paso Regional Park encompasses 680 acres in the northeast portion of the City of Sacramento, spreading east and west of Watt Avenue adjacent to Longview Drive, the Capital City freeway, Roseville Road and Auburn Boulevard. Arcade supports significant stands of locally native oak species (blue oak, valley oak, and interior live oak) as they naturally occur on frequently flooded stream banks, infrequently flooded high terraces and upland terraces. This management program addresses the habitat restoration needs on the site and the greater need to preserve the oak woodlands and grasslands, vital parts of declining Central Valley riparian ecosystems.

There are ongoing maintenance needs on this site, which must be addressed. These maintenance needs include: flood control, trail maintenance, revegetation and preservation of natural habitat, refuse collection, exotic vegetation removal, and fire management. Techniques as outlined in this plan will balance the ecosystem needs of the creek and park with the desires of its diverse users.

The Neighborhoods, Planning and Development Services Department will plan for and supervise training of all full-time members of the maintenance staff and the core group of managers assigned to this area. The core group will consist of the Parks Manager, Parks Superintendent, the Senior Landscape Architect and the Utilities Superintendent (or their designees). This will ensure compliance with the guidelines of this management plan so as to minimize the adverse effect of utilities, park and golf maintenance activities.



Existing trail along Arcade Creek

8



**B. Goals:**

One of the primary goals of the "Del Paso Natural Area Interim Management Program", approved in 1985, was to provide protection for the park's natural resources. As a result, thousands of oak seedlings have sprouted along the creek and within the grasslands. Also, the vernal pools north of the softball complex have made a dramatic recovery and now shelter a diversity of unique plants, amphibians, and invertebrates.

Overall goals include:

- Preservation and restoration of natural habitats and native species
- Increased opportunities for active and passive recreational amenities
- Increase public safety (fire, flood, crime)
- Encourage community stewardship

**C. Maintenance Priorities and Criteria:**

**1. Preservation and Restoration of Natural Habitats**

An integral part of the Del Paso Park maintenance program is to minimize damage to the existing native ecosystem and promote its restoration. A comprehensive restoration plan is needed that will incorporate the following elements:

- Non-native plant species which compete with and alter the natural ecosystem will be removed
- Creek function will be enhanced through removal of accumulated silts
- Streambank stabilization options will be implemented
- Water quality improvements will be implemented
- Habitat enhancement plans for several endangered, threatened and special concern species currently on the site will be incorporated throughout the park.

a. Removal of Exotic Species - Non-native plant species that compete with and alter the natural ecosystem should be removed. Exotic species can impair riparian function. Although removal of fully mature trees is an issue of concern to the community, tree removal can be phased over a ten-year period to minimize loss of shade coverage in the park. Replacement trees will be planted outside of the stream channel immediately following tree removal. A list of appropriate tree and shrub species for this site is contained in Appendix D. Additionally, public announcements and stakeholder notification will take place prior to beginning tree removal.

This preliminary list reflects only casual field observation and should be revised periodically to incorporate detailed studies and changing environmental conditions. The plant removal program will target the following species:

Giant Reed <i>Arundo donax</i>	German Ivy <i>Semecio mikanioides</i>
Tree of Heaven <i>Ailanthus altissima</i>	Silk Tree <i>Mimosa</i>
StarThistle <i>Centaurea solstitialis</i>	Palms
Eucalyptus	Black Locust <i>Robinia Pseudoacacia</i>
Periwinkle <i>Vinca major</i>	Almonds
Conifers	Fan Palms <i>Washingtonia filifera</i>

b. Revegetation - The simplest method of revegetation is through a cessation of mowing, natural seeding, or both. Locally native plant species will be encouraged along the trail borders to enhance the natural experience and more clearly define trail margins. Native plant species to be used in the Arcade Creek area are listed in Appendix D. Planting of native oaks (with locally collected acorns) and native grasses by community volunteer groups in appropriate park areas, as approved by the Parks Manager or his/her designee, will be encouraged. Irrigation of these plants will be dependent upon the volunteer groups. Temporary protective barriers will be erected around newly planted areas until plants are established. The promotion and restoration of native plant materials will enhance ecological viability of the existing associated natural wildlife. Once established, vegetation will not be routinely maintained. (See Appendix A)

c. Removal of Unused Utility and Irrigation Lines - Electrical lines and disconnected irrigation components located north of the softball complex lie within the recovering vernal pool habitat. If private utility companies or maintenance crews plan to perform work on these facilities, they must first submit their work plan to the Parks Manager (or his/her designee), the U.S. Corps of Engineers, and the State Department of Fish and Game. The Parks Manager must advise other stakeholders regarding the details of the planned activities.



Because of the extreme sensitivity of the vernal pool habitat during the wet season, this plan prohibits all work between November 1st. and July 1<sup>st</sup>. All work shall be performed in accordance with all State and Federal Regulations that apply to wetlands (CA Department of Fish and Game, Board of Reclamation). If the Parks Manager determines that the project would disturb vernal pool habitat, the plans must be modified to reduce or eliminate impacts.

d. Creek Restoration - At this time, Arcade creek is badly degraded from flooding and erosion. Golf course facilities, previous streambank stabilization projects and vegetation are all being undercut. Large amounts of silt have been trapped within the creek channel; deposition has occurred under existing irrigation lines and in areas with accumulated debris. Unstable banks contribute to both erosion and accumulation of silt and sediment. Water quality is degraded by erosion and by the chemical content in urban runoff. A comprehensive creek restoration plan will be developed jointly by stakeholders that will include channel restoration, reestablishment of creek meanders, water quality ponds to control contaminants in runoff, location of access points to the creek bed that reduce environmental impacts, removal of exotic vegetation, and revegetation with native plant species. The City will take the lead in developing a watershed plan for Arcade Creek. Watershed planning will be completed by December 2000 at which time funds will be sought to implement restoration.



e. Protection of Endangered, Threatened and Special Concern species - Several species listed with federal and state agencies as endangered, threatened or of special concern have been identified on this site at various times. The City will begin environmental analysis to identify species currently using the Arcade Creek area as habitat. Once identified, these species needs will be addressed in any restoration plan developed by the City.

## 2. Flood Control

Flooding is one of the largest problems facing the City in the long-term maintenance of this site. The park floods annually and damages golf facilities on a regular basis. Repairs are both costly and require a working knowledge of the creek's ecosystem function. In addition to the following flood control activities, a comprehensive restoration plan may include options for increasing creek capacity and floodwater storage.

a. Refuse removal – Refuse dumping slows the passage of water flows in the stream channel and creates channel blockages. Littering and dumping of glass, metal, paper products, plastic, bricks, dirt, automobile parts and fluids, tires, construction materials, garden refuse, cattle and horse manure, beverage containers, dead animals, poisons, appliances, mattresses, and all other home and industrial materials shall be prohibited and subject to applicable illegal dumping fines. Refuse will be removed periodically as needed. Alternative sentencing crews may be used for this task under the supervision of the Parks Superintendent or his trained designee.

b. Live Vegetation Management – Excessive vegetative growth in the stream channel can also inhibit water flow. Within certain stream channels, aquatic vegetation and woody growth less than 4" in diameter and lower branches of woody plants (from ground level to 6' above ground) less than 4" in diameter can be removed if flow is obstructed. Non-native vegetation (including stump and roots) may also be removed. (See CDFG MOU, item II, C.) Vegetation removal activities will occur once per year.

c. Water Quality – Flooding, debris dumping and urban runoff all effect water quality in creeks, streams and rivers. Arcade Creek has been part of the United States Geological Survey National Water Quality Assessment (NAWQA) Program since February 1996. Samples have been collected twice monthly. Based on the preliminary review of the data from July 1997 to March 1998, the following potentially toxic constituents continue to be detected in Arcade Creek:

    Volatile Organics - acetone, chloroform, benzene, toluene, MTBA

    Pesticides - carbaryl, chlorpyrifos, diazinon, DPCA, malathion,  
                  metolachlor, 2-4D, triclopyr, diruon, metribuzin sencor,  
                  tebuthiuron, simazine

    Metals - chromium, copper, zinc, nickel

Two of the pesticides, carbaryl and diazinon, exceed water quality criteria for the protection of fresh water life. The use of these pesticides will not be allowed on the site. Use of other CDFG approved pesticides will be limited to spot use for severe infestations and used only by trained maintenance personnel.



◆ Flooding on Haggin Oaks Golf Course, Del Paso Park 1997

d. Maintenance Criteria

i. The first priority for flood control is to assure the stream is clear of debris that could impede channel flow in a large rain event and add to the flooding upstream or downstream. Trained department supervisors from the City Utilities Department, Park Maintenance Department, Neighborhood Planning and Development Services Department's Tree Division, and the Golf Department will work together to facilitate removal of stream obstructions once per year in accordance with procedures and permitting authority from the State of California Department of Fish and Game.

ii. If the core group determines that natural stream materials; (e.g., fallen trees) would significantly impede the passage of high flows, one or more of the group will supervise the removal of the obstruction in a way that minimizes soil erosion and damage to riparian vegetation.

iii. Within the stream channel, trimming will be done where limbs, small roots, and foliage are blocking or interfering with the stream flow. However, exposed roots

supporting healthy plant material that permit high flows to pass safely through this area will be left undisturbed.

iv. The City Utilities Department will continue to monitor Arcade Creek for toxins and pesticide residues. Testing will be done a minimum of twice per month until restoration activities have been completed and in place for two (2) years. Additional residue testing may be done as needed or in response to specific reported pollution incidents. The Utilities Department may partner with the U.S.G.S. for the duration of the NAWQA Program.

v. The Landscape Architecture Section will coordinate with the core group and the Utility Field Services Supervisor to assure that community issues and the concerns of the Urban Creek Council for this area are given the proper attention and that proper coordination has occurred between the stakeholders named in this agreement.

vi. Channel obstructions will be removed only between July 1st and November 1st of each year. Emergency events are exempt from this constraint. Every effort will be made to be sensitive to the ecology of the area. Any work that cannot be performed by hand and will require the use of mechanized equipment for tree and debris removal should be performed with the smallest piece of equipment possible as determined by the core group. Damage from equipment use will be restored within 30 days of when the activity occurred. All restoration work must be completed by November 15 of the year in which the activity occurred. The core group will determine the appropriate locations for access to the streambed by equipment until such time as the restoration work is complete. After that time, access will be limited to accessways designed specifically for this purpose and located at sites near existing roads.

vii. The City will comply with the terms of the agreement with the California Department of Fish and Game. Failure to comply is a misdemeanor offense and, at the discretion of the Department, criminal and/or civil remedies may be pursued.

### 3. Fire Control

Fire is one of two forces that helped shape the types of oak woodland, vernal pool, and grassland habitat occurring in the park. Without these forces, fuel in the form of dead grass, shrubs, and woody debris tends to accumulate and increase the risk of large, crown fires.

a. Firebreaks - For perimeter fire protection adjacent to Park Boulevard, Longview Drive, and Auburn Blvd. a 20-foot firebreak will be mechanically maintained. Native trees growing in the fire breaks will not be disturbed. Native shrubs in firebreaks will be limited to fire resistant species. To prevent large, interior wildfires, the City Fire Marshal should consult with The Nature Conservancy and the Air Quality

Management District for the purpose of developing a plan for management of fuel loads within the park.

b. Prescribed Burns - Long term management of fuel loads should incorporate a prescribed burning plan. In addition to managing fuel loads for public safety, periodic fire episodes are needed to control invasive weeds and to promote the optimum health and regeneration of fire adapted native vegetation.



◆ Firebreak area near Park Drive

#### 4. Creek Maintenance

Maintenance standards just established for the City of Sacramento state that maintenance activities will be conducted in an environmentally friendly manner. This broad statement can be applied to this section in the following ways:

- Minor erosion control will be done using the latest available “green engineering” techniques and adaptively managing streambank protection facilities. This would include erosion prevention (use of vegetative filter buffers, reduction of erosive maintenance techniques such as blade scraping of unpaved trails), and bank stabilization (revegetating banks with native plant species rather than using riprap).
- Vegetation removal should be done only when flows are being impaired and should leave in-stream woody debris over 4” in diameter to enhance aquatic habitat.
- Any habitat disturbed by maintenance activities will be restored to its pre-maintenance condition within 30 days of when the activity occurred. All restoration work must be completed by November 15 of the year in which the activity occurred.

The current CDFG Agreement regarding proposed stream alteration (Appendix A), and CDFG Memorandum of Understanding (MOU)(Appendix B) regarding routine maintenance activities in unimproved and improved channels do not reflect the latest techniques. New agreements are being pursued and will take precedence over existing agreements.

## 5. Trail Maintenance

Trail maintenance is required to provide erosion control, a smooth, safe trail surface, and for enhancement of the park's recreational use. A single, dominant main upland trail on each side of Arcade Creek will be maintained for pedestrian and equestrian use. The core group will determine equipment use.

a. Limb and Brush Clearing - The primary access points to the trails will be cleared of brush and tall grass as needed for visibility of the trailheads by use of a mechanical mower. The City will consider trail maintenance measures adopted by other agencies including the document entitled: "Klamath Trails Manual" published by the California Trails and Greenways Foundation. Shrubs and trees will be trimmed where limbs or foliage are blocking or interfering with the trail according to the attached guidelines (Appendix C). Poison oak will be controlled at the trail margins through the use of a herbicide specified in the CDFG guidelines (Appendix A). Poison oak outside of the trail corridor will not be disturbed.

b. Trail surfacing - Trails will be maintained with permeable surfacing only to prevent excess water runoff. Traditionally, unpaved trail surfaces have been maintained by annually scraping the surface with a blade. This practice increases erosion and has contributed to the existing degradation of the stream banks.

Small potholes, ruts and gullies will be hand filled and compacted using soils from a designated borrow site within the park. If soil from the borrow site is not available, the trail will be brought back to grade using appropriate off-site soil, sand and gravel. The designated borrow site will be located in the open space adjacent to the golf course and softball complex and noted on the Map 2.

The condition of existing trails and undercrossings will be assessed at the beginning of each maintenance season and will be improved to meet minimum standards where necessary.

c. Future Trail Improvements - All concerned City departments will work with stakeholders to seek grant funds from California Department of Water Resources (Urban Creeks Restoration Program) for the design and construction of an all-season trail beneath the bridges of Interstate 80, Watt Avenue and Softball Complex. The trail should be designed to control erosion, protect water quality, and serve visitors, hikers, and equestrians.



## 6. Golf Course Maintenance

Although most routine golf course management will be unchanged by this agreement, the following issues will be addressed for the entire site as a connected system:

- a. Use of Best Management Practices – Golf maintenance personnel will use BMP's to prevent sediment and chemical runoff into the creek.
- b. Use of chemical pesticides, herbicides and fertilizers - All water flows within the golf course that run into Arcade Creek are subject to the CDFG guidelines for chemical use (See Appendix B). Additionally, use of any chemicals that would raise levels of potentially toxic elements, as listed in the USGS NAWQA project report, will not be allowed. Chemical applications should be reduced or eliminated where feasible.
- c. Tree trimming - As shown in Appendix C, trimming of tree branches and removal of seedlings up to 4" in diameter within the golf course/creek boundary will be allowed. Branches along the trunk up to a height of ten feet can be removed (See trimming guidelines, Appendix C). This should allow clearance for golfing along the channel.



- d. Course redesign – In cooperation with the Golf Department, the Landscape Architecture Section has requested the designation and use of buffer strips adjacent to the creek corridor within the golf course. These buffer zones will be left in a natural state (not routinely mowed) to act as water quality filtration areas.

## 7. Post and Cable Barriers

The construction and maintenance of the comprehensive post and cable barrier has successfully curbed dumping, poaching and damage from off-road vehicles. On occasion, individuals have severed the cable or destroyed posts to gain vehicle access to the natural habitat areas. Under this plan, the City Parks Maintenance Supervisor will ensure that timely repairs are made to the barrier and that new sections are installed as appropriate to protect habitat and opportunities for education and recreation.

Within the next year, the City will establish a maintenance cul-de-sac at the border of the golf course, softball complex, and nature area (an arc of post and cable) to establish a formal material storage area around the utility station. The barrier at the north end of the Renfree Field parking lot needs additional refinement.

## D. Special Concerns

1. Grazing - Grazing is currently allowed on 12.8 acres of the park site through an agreement with the Sacramento Horseman's Association. The term of the lease expires in October of 1999. In developing a watershed protection plan for this area, grazing activities will be analyzed for environmental impacts and could be allowed to continue on a limited basis.

2. Encampments - Camping is not allowed in City parks as set forth in Sacramento City Code 27.50. Construction of the access bridge at the Softball Complex has provided an additional pedestrian access point to the natural habitat north of the facility. Recently, illegal camps have been established within the nature areas east and west of Watt Avenue. Encampments lead to an increase in litter, fires, and other illegal behaviors in the park.

Park Maintenance personnel, Golf Course personnel, and Neighborhoods, Planning and Development Services Department staff will be responsible for reporting homeless encampments to the Sacramento Police Department for action.

These departments will coordinate to perform the following tasks:

- Perform monthly field visits to both eastern and western sectors of the park to monitor transient activity. (Parks Maintenance Supervisor and/or on-site staff)
- Disperse the unauthorized campers. (Police Department)
- Remove from the park all debris associated with the camps. (Parks maintenance crews)
- Designate a primary contact person from each department and provide a list of the names and telephone numbers of the contacts to each stakeholder. (Neighborhoods, Planning and Development Services staff)

3. Prevention of Illegal Activities - A program similar to that outlined for monitoring and removing encampments will be used to monitor and prevent illegal activities, such as illicit sexual activities, drug selling, etc. that have occurred within the park boundaries in the past. The same contact list as described above will be used for this program as well.

4. Training - Training will be provided for the core group on the issues involved with maintaining a natural habitat area. This training will include plant identification, specialized maintenance techniques, and sensitivity to endangered species. The California Native Plant Society will be consulted in the production of materials for plant identification. The CDFG will be consulted in the training of personnel on endangered species. Training of maintenance personnel will be provided within that department with consultants appropriate to specialty topics. Supervisors must be fully trained and work crews must receive all training necessary to perform their tasks before workers are allowed on the site. A trained supervisor will remain on site while work crews are present. Alternative sentencing crews may be used with appropriate levels of training and supervision.

5. Interpretive and Informational Signage - The Neighborhoods, Planning and Development Services Department, Landscape Architecture Section will develop a user friendly park signage plan to explain proper and safe use of the trails, park rules and regulations and flora and fauna in the park. Informational signage will include stern warnings that illegal behaviors will not be tolerated and will be prosecuted to the full extent of the law.

6. Funding – Sources of funding outside the City assessment districts will need to be found to develop and implement a restoration plan and to fund on-going operations and maintenance. Alternative sentencing work crews are a low cost source of labor for yearly maintenance. Federal and state grants provide the best opportunities to fund a comprehensive restoration project on Arcade Creek. Grant dollars can be matched with in-kind services provided by City staff and volunteers.

**E. Stakeholders List**

A complete list of organizations and individuals concerned with this project is included in Appendix F.

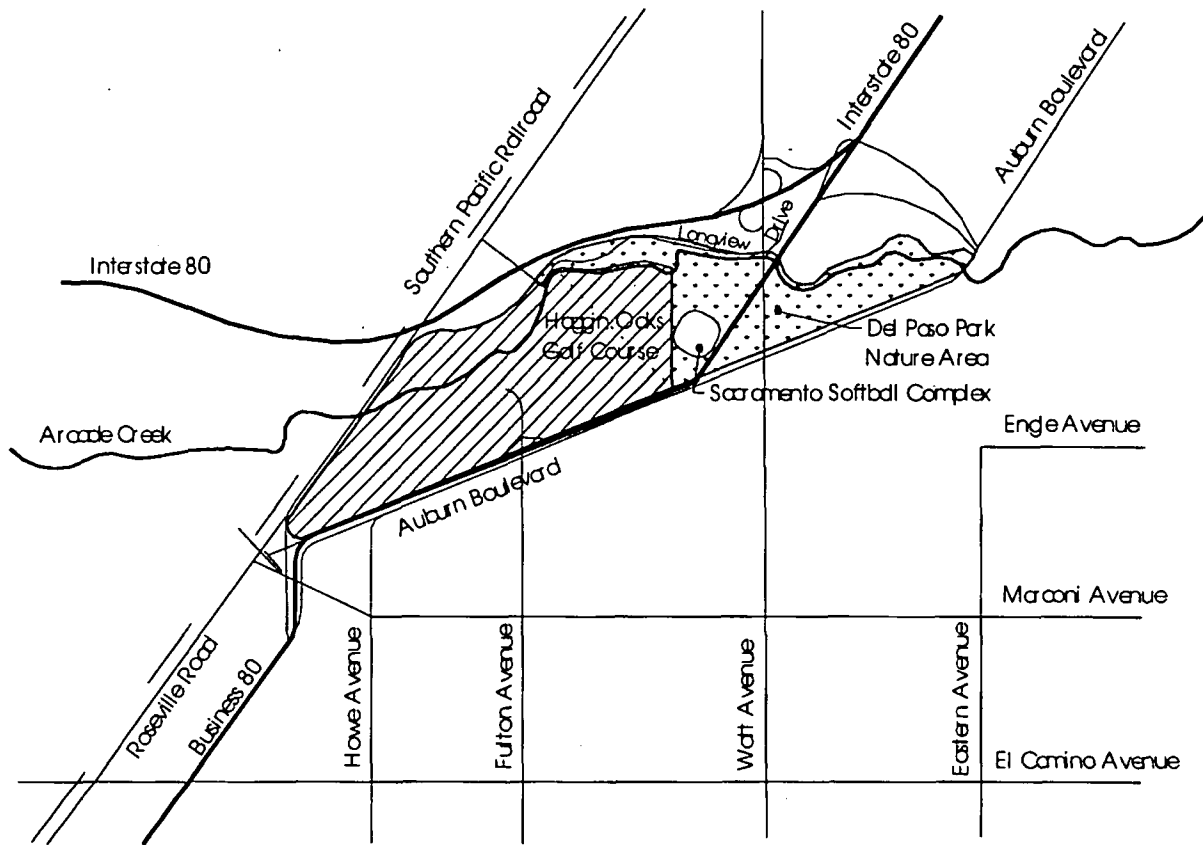
**Summary:**

This management plan will assist the City in meeting or exceeding its goals for the preservation of Arcade Creek. Managing floods and fire, maintaining the creek environment with trails as a passive recreational amenity, maintaining the golf course as an active recreational amenity, and restoring the natural environment in ways that provide high quality habitat for native species will balance the needs of all site users.

Additionally, through the development of a watershed protection plan, the City can work jointly with the concerned stakeholders and official agencies to develop long range plans that will benefit the community and preserve open space corridors for future generations.

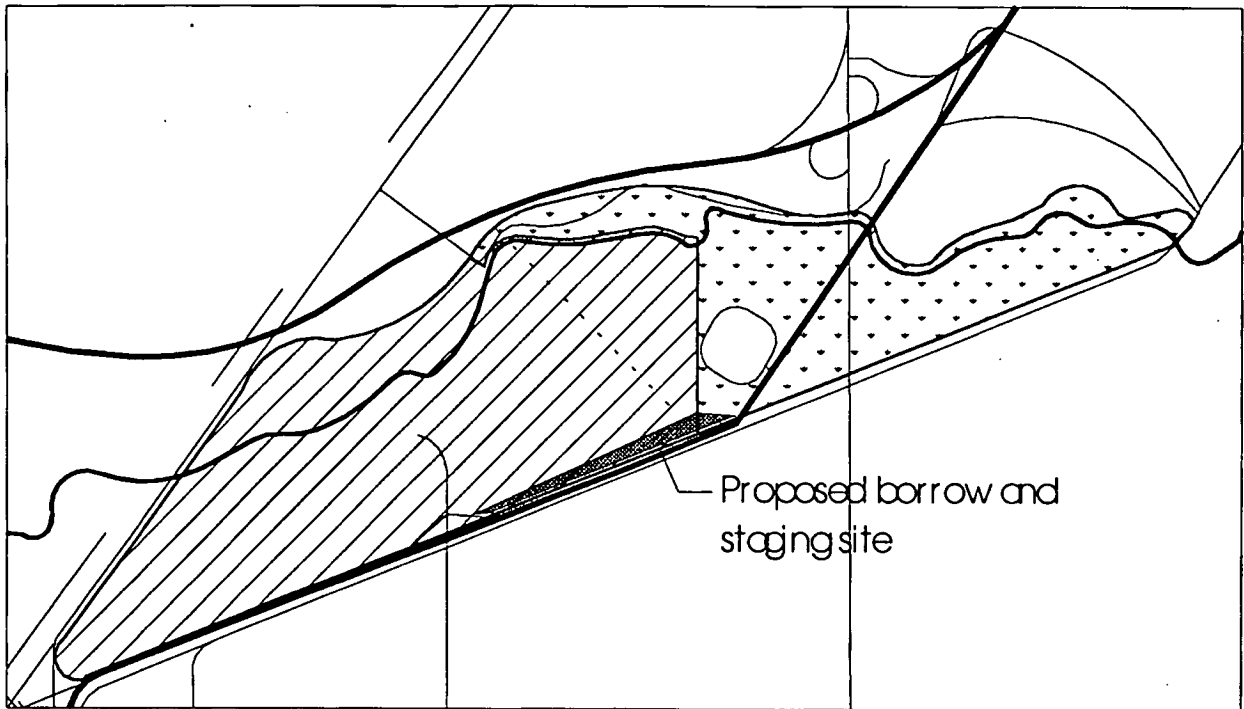
MAP 1

Del Paso Regional Park / Arcade Creek Location Map



MAP 2

Borrow and Storage Site



**APPENDIX A**

Memorandum of Understanding  
between  
The City of Sacramento  
and  
The California Department of Fish and Game

# DRAFT

## MEMORANDUM OF UNDERSTANDING

between

THE CITY OF SACRAMENTO  
and  
CALIFORNIA DEPARTMENT OF FISH AND GAME

regarding

### ROUTINE MAINTENANCE ACTIVITIES IN UNIMPROVED and IMPROVED CHANNELS

This Memorandum of Understanding (MOU) by and between the California Department of Fish and Game, hereinafter called the "Department", and the City of Sacramento, Utilities Department, hereinafter called the "City", is for the purpose of delineating and defining routine maintenance activities in unimproved natural channels and shall not require further notice and agreement in compliance of Section 1601 of the Fish and Game Code.

WHEREAS, Section 1601 of the Fish and Game Code allows the Department to propose reasonable modifications to certain City construction projects as would allow for the protection and continuance of existing fish and wildlife resources that may be substantially adversely affected by that construction project; and

WHEREAS, with regard to any project that involves routine maintenance and operation of water flow, drainage, or flood control, notice to, and agreement with, the Department is not required subsequent to the initial notification and agreement, unless the work as described in the agreement is substantially changed or conditions affecting fish and wildlife resources change, and the resources are adversely affected by the activity conducted under the agreement; and

WHEREAS, it is essential that the City perform routine maintenance activities within improved channels to maintain the designed capacity of the channel(s), to protect the City's investment, to prevent loss of life and property, and to promote efficient and wise use of disposal of water; and

WHEREAS, consistent with the policies of California Fish and Game Code Section 1600 et seq., the protection and conservation of the fish and wildlife resources of California are of utmost public interest, and fish and wildlife conservation is a proper responsibility of the State; and

WHEREAS, in order to avoid future conflicts, it is mutually beneficial to delineate and define routine maintenance, to establish procedures to expedite maintenance activities, and to provide for the protection and continuance of the existing fish or wildlife resources during such maintenance; and

WHEREAS, nothing in this agreement shall constitute a waiver of any future or current Department claims to the use and maintenance of natural conditions under the public trust doctrine; and



# DRAFT

WHEREAS, nothing in this agreement shall constitute a waiver of the City's ~~cleared~~ rights to maintain and operate the channel(s) solely from the flood control standpoint without a 1601 agreement; and

WHEREAS, the MOU is not intended to affect the City's rights under the Fish and Game Section 1601 (f) to undertake emergency work necessary to protect life or property.

NOW THEREFORE, the Department and the City agree as follows:

## I. DEFINITIONS

The following definitions shall govern this MOU:

Unimproved channel - An unimproved channel is defined as a channel of a stream or river in which significant man-made alterations and/or improvements have not occurred.

Improved channel - An improved channel is defined as the channel of a stream or river in which significant man-made alterations have occurred to improve the passage of flood flows, including straightening the channel or containing the flows within constructed banks and concrete-lined, riprapped, or earth channels with modified banks.

Channel banks, channel bottoms, low flow channels and other appurtenant features of unimproved channels are defined by the illustrations shown on Exhibits 2 and 3.

Maintenance activities - Maintenance activities in improved and unimproved channels are defined as the removal/displacement of sand, silt, sediment, debris, rubbish, woody or aquatic vegetation and other obstructions to flow; the control of weeds, grasses, and emergent vegetation; and the cleaning and clearing and erosion control facilities as authorized in this MOU.

*Maintenance of the*

## II. AUTHORIZED ACTIVITIES

The maintenance activities identified below, when performed on the unimproved channel(s) and work area(s) specified in Exhibit 1 and in accordance with the procedures described below, shall not require further notice to, or agreement with, the Department.

### A. Debris of Obstruction Removal

Removal of fallen trees, substantial amounts of debris, rubbish, and other obstructions from the area which significantly reduce channel capacity and/or would result in accelerated erosion.

All cleared vegetation and debris shall be removed from the 100-year flood plain.

### B. Silt, Sand, or Sediment Removal

Removal of accumulated sand, silt, sediment, and other obstructions to maintain channel capacity. Unimproved channels are to be cleared in strips

in alternating years in order to retain habitat for wildlife as indicated in Exhibit 8.

C. Vegetation Control

Control of aquatic vegetation and woody growth of less than four (4) inches in diameter to remove obstructions to flow in the channel bottom from toe to toe, as shown on Exhibit 4; control of the lower branches of woody growth, less than four (4) inches in diameter, growing in the channel bottom and lower stream banks from ground level to a distance of 6 feet above ground level; where appropriate, removal of non-native vegetation (bamboo, tree tobacco, castor bean, pampas grass, eucalyptus, acacia, etc.), including stump and root removal from top of bank to top of bank, as shown on Exhibit 5; control of aquatic vegetation and woody growth of less than four (4) inches DBH which restrict flow, by use of mechanical devices, chemicals, or hand labor in reaches of certain channels specified in Exhibit 1.

D. Repair of Previous Erosion Control Work

Repair of failed rock, low flow channels, sacked concrete, or gabion section. Maintenance activities shall be confined to the failed section and immediately adjacent areas (not to exceed ten (10) feet beyond the reach) affected by the failure.

E. Minor Erosion Control Work

Sloping, installation of rock, gabions, or other erosion control measures as shown in Exhibits 6 and 7, from the toe of slope in the channel to a maximum of ten (10) feet, measured vertically, above the channel invert to stabilize the eroded area. The length of the project shall be less than one hundred (100) feet. Project work shall be limited to periods when there is low streamflow. Project work shall be performed in a manner that minimizes stream turbidity. Removal of vegetation shall be minimized. Trees greater than four (4) inches DBH shall remain. To the extent possible, the stream channel shall be returned to its natural state and without creating a possible future bank erosion problem. Erosion control shall be confined to specific locations listed in Exhibit 6 and 7.

Upon project completion, the <sup>natural</sup> stream channel bottom shall be scarified from the work site to the equipment entrance, where activities have caused compaction of the streambed soil material. Unless agreed otherwise, any work area left barren of vegetation as a result of the maintenance activities shall be restored to its natural state by seeding, or other agreed upon means which MAY include ~~native~~ native species of trees, ~~shrubs~~ shrubs, and grasses, within thirty (30) days or by November 15th of the year the activity occurred.

III. TIME AND MANNER OF MAINTENANCE ACTIVITIES

Maintenance activities shall be performed at a time and in a manner so that the proposed maintenance activities minimize adverse impacts and provide for the protection and continuance of the fish and wildlife. Periods of implementation of

maintenance activities are April 15 to November 15, unless otherwise agreed to in writing.

IV. REPORTING REQUIREMENTS

The City shall provide a written report to Region 2 of the Department, discussing the proposed maintenance activities and time schedule. The report shall be submitted annually. The written report shall include the following information: Location, problem description, maintenance activity. For unanticipated routine maintenance activities at locations not previously identified in the annual notification, the City shall provide the Department written notice of such activities at least 14 days prior to commencement of the work, except for work as determined by the City Utilities Department.

*emergency*

V. FEES

An annual fee of \_\_\_\_\_ shall be paid to the Department on or before April 15 of each year that this MOU is in effect. This negotiated fee is based on the anticipated annual costs that will be reasonably incurred by the Department to administer and monitor the routine maintenance described in this MOU.

VI. AMENDMENT AND TERMINATION

This MOU cannot be amended or modified in any way except by a written agreement duly executed by the Department and the City. Any proposal for amendment or modifications must be delivered for review and approval by the Regional Manager or the official designated by the Regional Manager. If the City gives notice to and obtains the agreement of the Department to maintain additional specific facilities on unimproved channels, any such additional facilities shall be added to Exhibit q by written amendment to this MOU, and all provisions of this Agreement shall apply.

VII. ENTIRE AGREEMENT

This MOU, along with the exhibits attached hereto, constitutes the entire Agreement and understanding between the Department and the City for routine maintenance activities. This Agreement supersedes all prior contemporaneous routine activity agreements, representation, understanding, if any, whether oral or written.

\_\_\_\_\_  
Gary L. Hobgood  
Fish & Game Warden  
Department of Fish and Game  
Region 2

\_\_\_\_\_  
Bert McCollam  
Field Services Division Manager  
Department of Utilities

Dated: \_\_\_\_\_

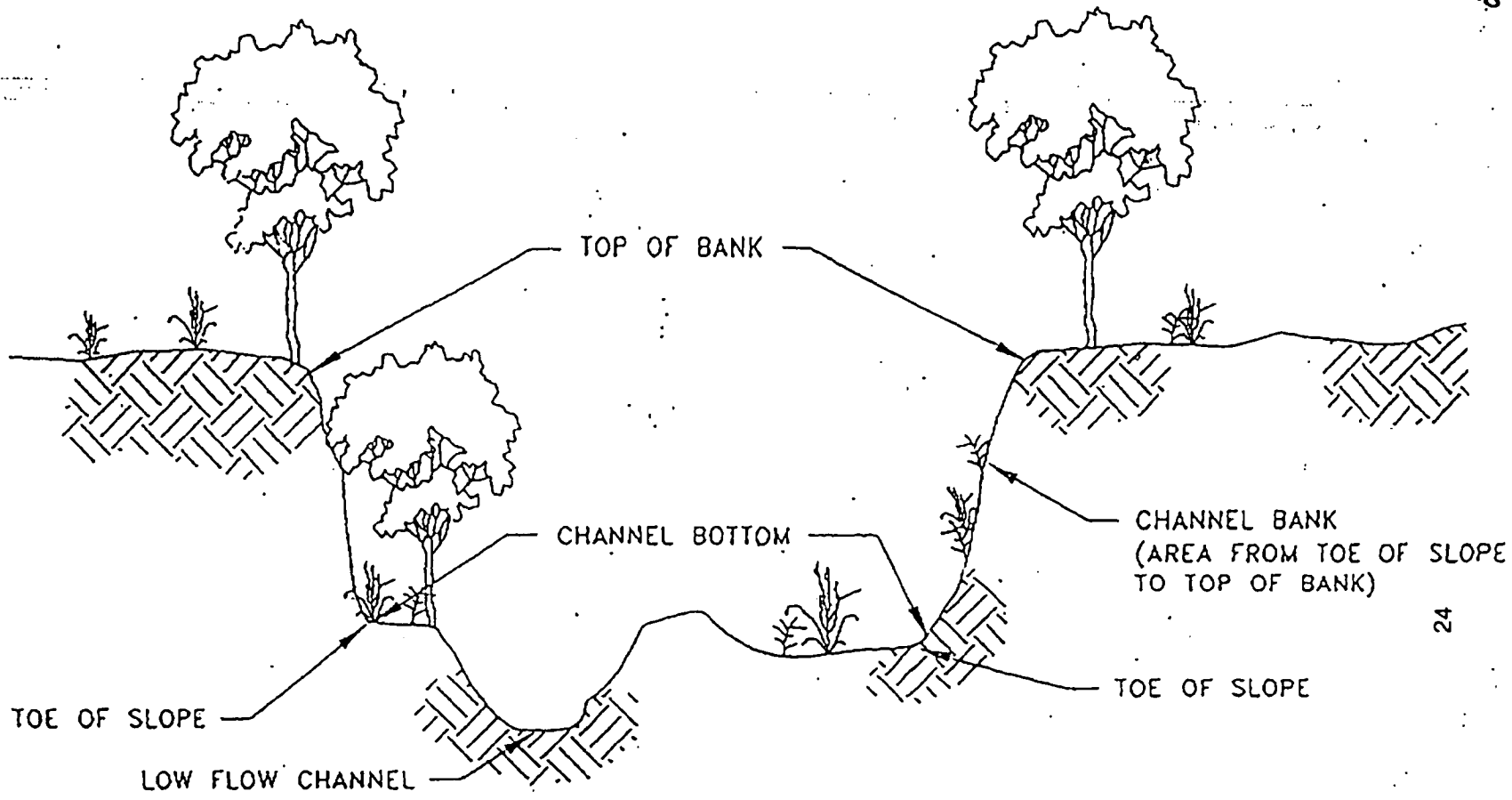
Dated: \_\_\_\_\_

DRAFT

Exhibit 1 is comprised one or more maps showing improved and unimproved channels. The exhibit should identify the location and type of maintenance is anticipated least every few years. A legend with abbreviation or code may be useful.

Example: Legend

- A = Debris or Obstruction Removal
- B = Silt, Sand, or Sediment Removal
- C = Vegetation Control
- D = Repair of Previous Erosion Control Work
- E = Minor Erosion Control Work (new)
- F = Hand Crews
- G = Mechanical Clearing



24

EXHIBIT 2  
UNIMPROVED CHANNEL  
DEFINITIONS  
CHANNEL BANK, BOTTOM, LOW FLOW CHANNEL ETC.

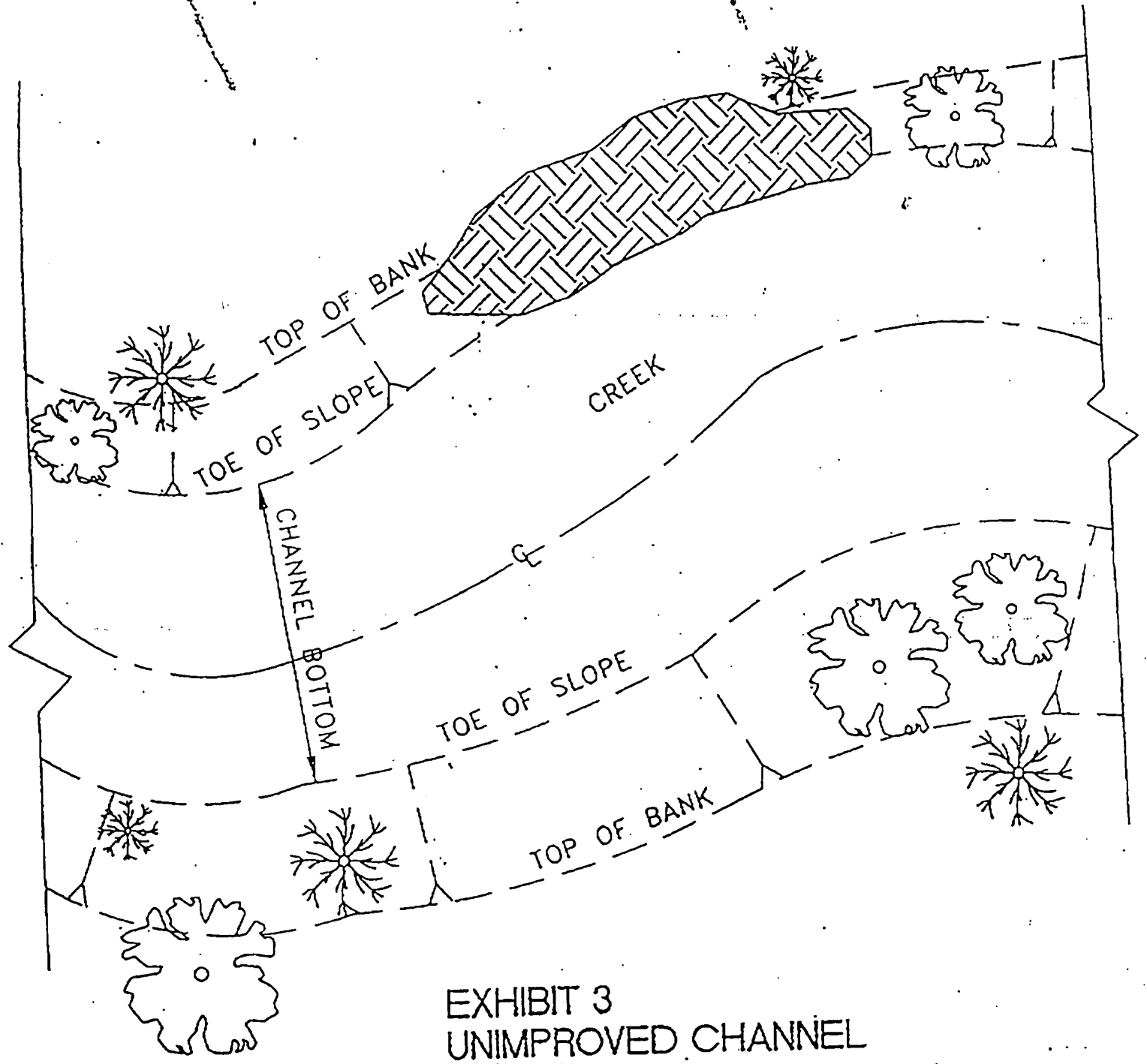


EXHIBIT 3  
UNIMPROVED CHANNEL  
DEFINITIONS

50

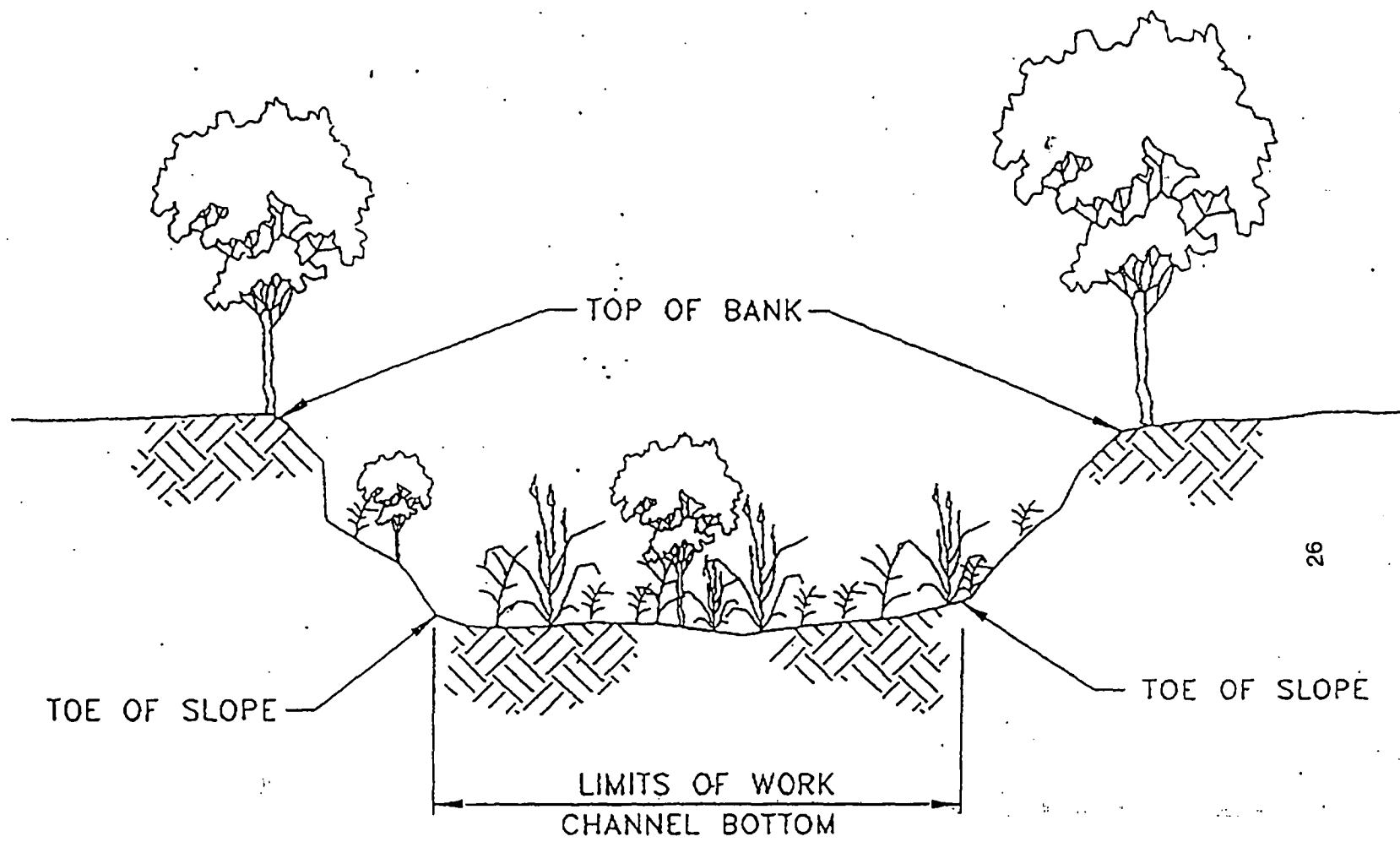


EXHIBIT 4  
CONTROL OF AQUATIC  
AND WOODY GROWTH

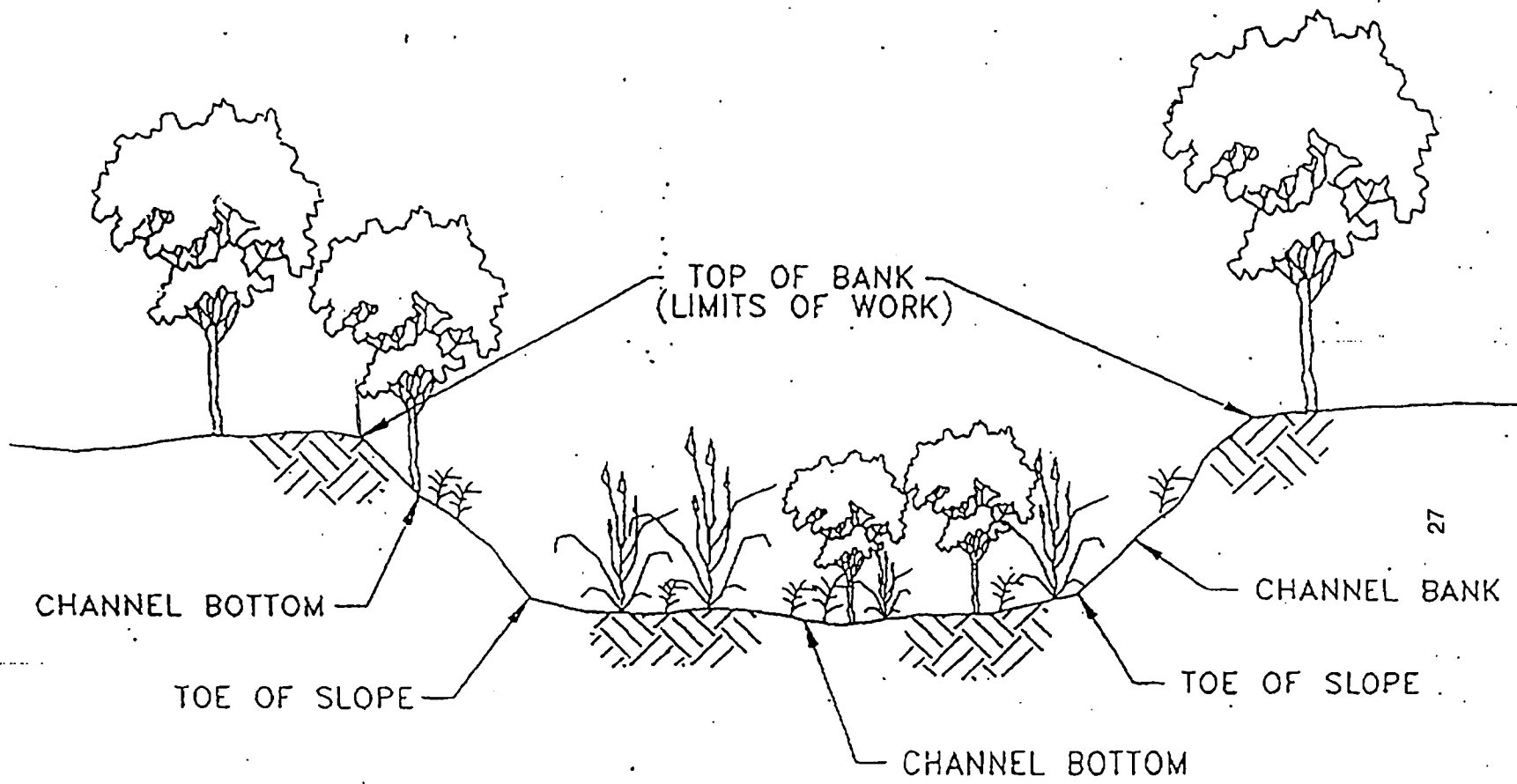


EXHIBIT 5  
CONTROL OF NON-NATIVE VEGETATION



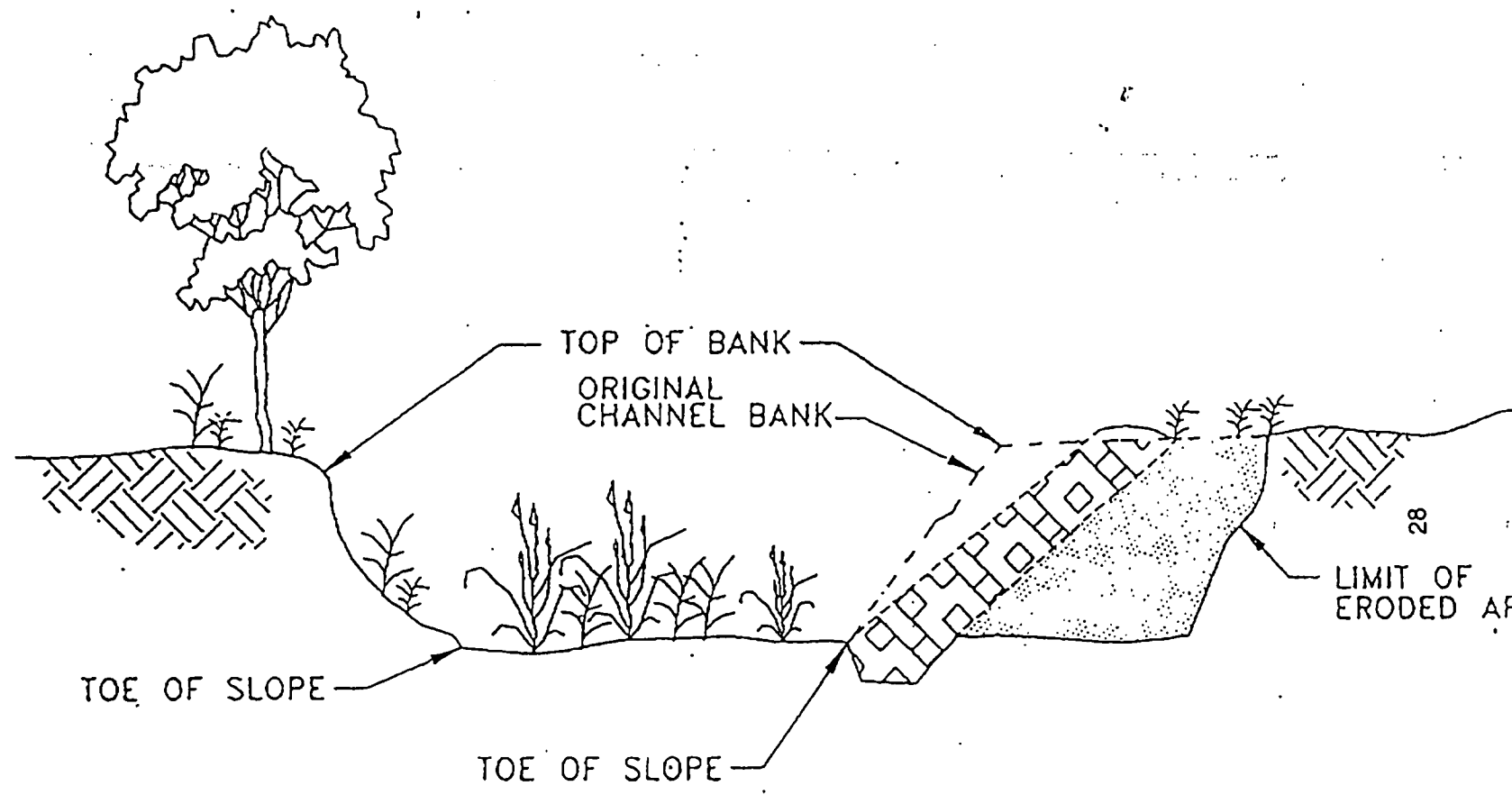


EXHIBIT 6  
MINOR EROSION CONTROL WORK

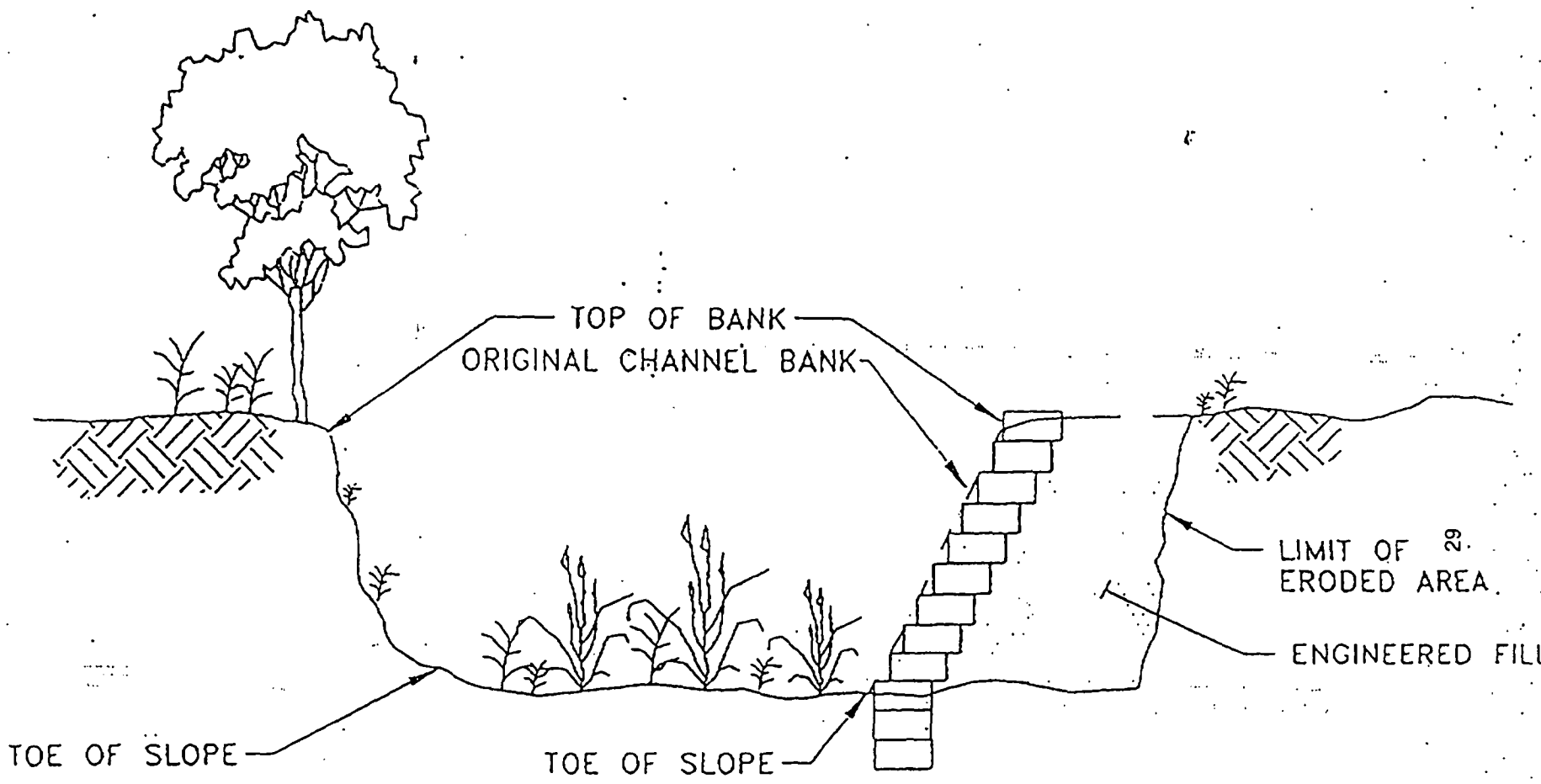
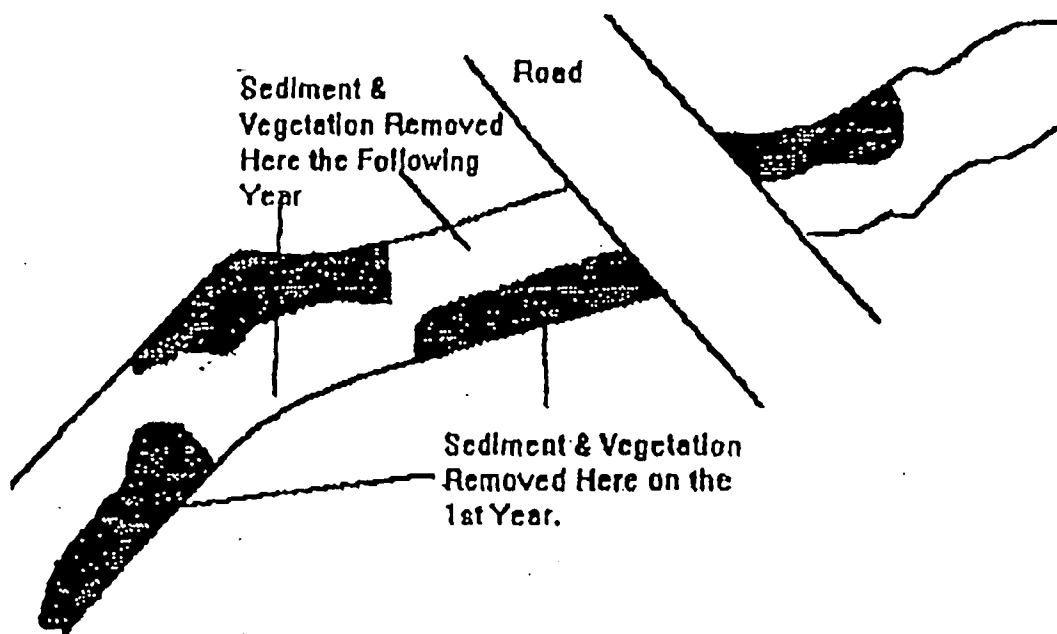


EXHIBIT 7  
MINOR EROSION CONTROL WORK

This exhibit contains maps and illustrations of areas where extensive sediment and emergent vegetation must be removed on a regular basis. The idea here is to remove sediment (and attached vegetation) in strips thus leaving some sediment and vegetation behind. The following year sediment and vegetation removal can take place at the undisturbed area.



**APPENDIX B**

Agreement regarding Proposed Stream Alteration  
between  
The City of Sacramento Utilities Division  
and  
The California Department of Fish and Game



CITY OF SACRAMENTO  
**DEPARTMENT  
OF UTILITIES**

December 17, 1998

Gary L. Hobgood  
Fish & Game Warden  
1701 Nimbus Road Suite A  
Rancho Cordova, CA 95670

Dear Mr. Hobgood:

The City of Sacramento Utilities Department requests that Agreement #II-141-98 be extended for one year until December 31, 1999.

This agreement deals with maintenance activities along Arcade Creek east from Marysville Boulevard to Auburn Boulevard. There are no changes to the scope of work described in the original notification.

If you have any questions regarding this request, please contact me at 433-6217.

Rod McCarley  
Superintendent, Utilities, Storm Drainage

## DEPARTMENT OF FISH AND GAME

REGION 2

1701 NIMBUS ROAD, SUITE A

RANCHO CORDOVA, CALIFORNIA 95670

PHONE (916) 358-2900



December 17, 1998

Rod McCarley  
 City of Sacramento - Department of Utilities  
 5730 24<sup>th</sup> Street, Bldg. # 19  
 Sacramento, CA 95822

Subject: **Request to Renew Streambed Alteration Agreement II-141-98**

Dear Mr. McCarley:

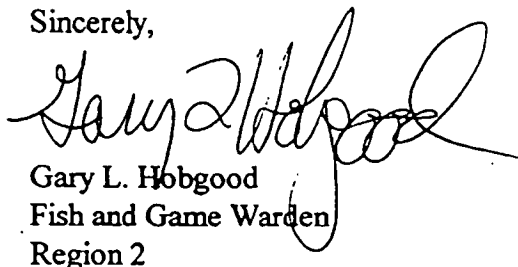
I have received your request for a renewal of Streambed Alteration Agreement, Notification No. II-141-98, for the maintenance activities within Arcade Creek in Sacramento County. The agreement will be extended from **December 31, 1998 to December 31, 1999**. All conditions in the original agreement will remain in effect unless otherwise noted below. The renewal becomes effective on receipt of the \$109.00 extension fee and return of this letter.

Special conditions for renewal:

1. All work shall be done according to the plans submitted to the Department. The Operator shall notify the Department of any modifications made to the project plans submitted to the Department. At the discretion of the Department, minor plan modifications may require an amendment to this streambed alteration agreement. At the discretion of the Department, if substantial modifications are made to the original plans, this agreement becomes void and the Operator must submit a new application.
2. The Operator shall notify the Department within two working days of beginning work within the stream zone of Arcade Creek. In addition, the Operator/Contractor shall notify the Department within two working days of the completion of work within the stream zone on this project. Notification shall be a FAX transmittal to fax number 916-983-5162. Refer to Notification Number II-141-98 when notifying the Department.
3. Copy of this letter and a copy of the original streambed alteration agreement must be provided to contractor and subcontractors working within the stream zone. Copy of this letter and the original streambed alteration agreement must be readily available at the project site. When request by any Department of Fish & Game employee and agency with inspection authority, this letter and the original streambed alteration agreement must be presented.

Please sign below indicating your acceptance of these terms and return to the Department of Fish and Game, Region 2, 1701 Nimbus Road, Suite A, Rancho Cordova, CA 95670.

Sincerely,

  
 Gary L. Hobgood  
 Fish and Game Warden  
 Region 2

Operator Rod McCarley  
 Title Drainage Supt.  
 Organization City of Sacramento util. div.  
 Date 1-11-99



**AGREEMENT REGARDING PROPOSED STREAM ALTERATION**

**THIS AGREEMENT**, entered into between the State of California, Department of Fish and Game, hereinafter called the Department, and Rod McCarley, representing the City of Sacramento - Utilities of Sacramento, State of California, hereafter called the City, is as follows:

**WHEREAS**, pursuant to Division 2, Chapter 6 of California Fish and Game Code, the City, on April 14, 1998, notified the Department that he intends to substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of, the following water: Arcade Creek, in the County of Sacramento, State of California.

**WHEREAS**, the Department (represented by Gary L. Hobgood has made an inspection of subject area on May 15, 1998, and) has determined that such operations may substantially adversely affect existing fish and wildlife resources including: Warm water fish species, amphibians, reptiles, and other aquatic and terrestrial plant and wildlife species.

**THEREFORE**, the Department hereby proposes measures to protect fish and wildlife during the City's work. The City hereby agrees to accept the following recommendations as part of his work:

*This agreement pertains to stream maintenance activities on Arcade Creek from Auburn Boulevard to Marysville Boulevard. Stream maintenance activities within Arcade Creek are conducted to maintain the designed flow capacity of Arcade Creek. Maintenance activities in Arcade Creek are defined as the removal/displacement of sand, silt, sediment, debris, rubbish, woody or aquatic vegetation and other obstructions to flow; the control of weeds, grasses, and emergent vegetation in order to maintain the designed capacity of Arcade Creek.*

**Stream Zone Defined:** The stream zone is that portion of the stream channel that restricts lateral movement of water. The stream zone is delineated at the top of the bank or the outer edge of any riparian vegetation, whichever is more landward.

1. The time limit for completing the work within the stream zone of Arcade Creek shall be restricted to periods of low stream flow and dry weather and shall be confined to the following periods:

**Mechanical crews - June 15 to October 31** (heavy equipment used for sediment removal, large debris removal and mowing & grubbing activities)

**Hand crews - June 15 to March 1** (regular cleaning, cutting trimming and spraying activities)

Critical Locations Anytime debris build-up at bridges or culverts threatens to flood existing structures or facilities.

If Operator finds more time is needed to complete the authorized activity, the City shall submit a written request for a time extension to the Department 7 to 10 days before the above date is reached. The time extension request shall detail the extent of work already completed and the scope of work remaining and time required to complete operations within the stream

Notification Number II-141-98  
Arcade Creek - Stream Maintenance

- zone. Time extensions are issued at the discretion of the Department.
2. All work shall be done according to the plans submitted to the Department. The City shall notify the Department of any modifications made to the project plans submitted to the Department. At the discretion of the Department, minor plan modifications may require an amendment to this agreement. At the discretion of the Department, if substantial modifications are made to the original plans, this agreement becomes void and The City must submit a new application.
  3. The City shall notify the Department prior to beginning work within the stream zone on these maintenance activities within the stream zone of Arcade Creek. Notification may be made by phone (916-983-5162), by FAX transmittal (FAX # 916-983-5162) or by mail (Department of Fish and Game, 1701 Nimbus Road, Suite A, Rancho Cordova, CA 95670). Refer to Notification Number II-141-98 when notifying the Department.
  4. A copy of this agreement shall be provided to crew supervisors who works within the stream zone of this project. A copy of this agreement must be available upon request at the work site. A designated crew supervisor shall be on site the entire time a work crew is working near the stream zone. The crew supervisor shall be completely familiar with the terms and conditions of this agreement and shall ensure compliance with all terms and conditions.
  5. Precautions to minimize turbidity/siltation shall be taken into account during silt, sand, and sediment removal activities. Silt, sand, and sediment removal operations shall be limited to periods of low stream flow. Temporary siltation barriers shall be placed in the stream downstream of silt removal operations. Siltation barriers shall be built from materials such as straw bales, straw bales wrapped with filter fabric, or clean crushed gravel. Siltation control devices shall be placed and maintained until silt removal operations are complete. Turbidity levels downstream of the siltation barriers shall not exceed 20% of natural turbidity levels as measured 200 feet upstream of the silt removal site.
  6. Only that vegetation (aquatic vegetation, weeds, grasses, shrubs and other woody growth) that obstructs stream flow shall be cut down, trimmed, sprayed or removal. Within the Arcade Creek channel bottom, all woody vegetation can be cleared from toe of slope to toe of slope. Islands within the stream channel shall be treated the same as the stream slope and high bank area.
  7. Control of aquatic and terrestrial vegetation may be performed with the use of mechanical devices (such as, rubber tired tractor with a brush cutter attachment), chemicals (such as, Rodeo), or hand labor (such as, chain saws).
  8. The Arcade stream channel should be cleared in such a manner that trees greater than four (4) inches in diameter are avoided or are trimmed as is necessary to gain access. Trees with trunk diameters greater than four (4) inches DBH (4 ½ feet) shall not be removed without consultation with the Department.
  9. The lower branches of large trees growing within the stream channel may be trimmed from



Notification Number II-141-98  
Arcade Creek - Stream Maintenance

ground level to a distance of 6 feet above the ground level. The four (4) inch diameter restriction does not apply to low hanging limbs that block flow or catch debris.

10. In areas where small trees (less than 4 inches) are contiguous on both sides of the watercourse present a flow passage problem, thinning of trees may be the appropriate maintenance technique. (Thinning is the selective cutting of 50 to 80 percent of the smaller individual trees; leaving larger individual trees to maintain canopy.) Cutting trees and shrub brush in an alternating pattern from one of the stream one year to the other of the stream the following year is the preferred maintenance technique. Removal of all vegetation along long reaches (greater than 200 feet) of the stream bank shall be avoided. Isolated patches of vegetated habitat shall remain as nesting and cover material. Leaving a 10 to 15 foot fringe of undisturbed vegetation along the waters' edge is an approved maintenance technique.
11. Cleared trash and made-made debris shall be removed from the stream zone or vegetative debris may be cut to appropriate sizes, "chipped" and scattered as "mulch" at the maintenance sites or removed from the stream zone.
12. The following non-native plants may be chemically treated or removed without restrictions; bamboo, tree tobacco, castor bean, pampas grass, eucalyptus, tamarisk, and acacia. Other invasive non-native plants may be added to the list with Department approval.
13. Only herbicides registered with the California Department of Pesticide Regulation shall be used. All herbicides shall be applied in accordance with regulations set by the California Department of Pesticide Regulation. All herbicides shall be used according to labeled instructions. Labeled instructions for the herbicide used shall be made available to the Department upon request.
14. If any wildlife is encountered during the course of routine maintenance, said wildlife shall be allowed to leave the maintenance area unharmed, and shall be flushed, hazed, or herded in a safe direction away from the project site.
15. Chemicals, oil, gas or other petroleum products, or any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter a stream or lake, by The City or any party working under contract, or with the permission of The City, shall be removed immediately. The Department shall be notified immediately by The City of any spills and shall be consulted regarding clean-up procedures.
16. All exposed/disturbed areas and access points within the stream zone left barren of vegetation as a result of the construction activities shall be restored to its natural state by seeding with a blend native and non-native erosion control grass seeds. Revegetation shall be completed as soon as possible after construction activities in those areas cease. Seeding placed after October 15 must be covered with broadcast straw.

Notification Number II-141-98  
Arcade Creek - Stream Maintenance

17. All provisions of this Agreement remain in force throughout the term of the Agreement. Any provisions of the Agreement may be amended or the Agreement may be terminated at any time provided such amendment and/or termination is agreed to in writing by both parties.
18. Stream alteration construction work authorized by this agreement expires on December 31, 1998. This agreement shall remain in effect for that time necessary to satisfy the terms/conditions of the agreement including mitigation measures.
19. This agreement may be renewed. Requests for **Renewals** must be submitted in writing to the Department prior to expiration of the agreement. (A renewal is a request to complete a project activities during next year's maintenance season). Renewals are for maintenance activities that have no changes in the work period (dates) or scope of work described in the original notification. The cost of a renewal is \$109.00.
20. The Department reserves the right to suspend and/or revoke this agreement if the Department determines that the circumstances warrant. The circumstances that could require a reevaluation include, but are not limited to, the following: A) Failure to comply with the terms/conditions of this agreement. B) The information provided by DWR in support of the agreement/notification is determined by the Department to be incomplete, or inaccurate. C) When new information becomes available to the Department representative(s) that was not known when preparing the original terms/conditions of this agreement. D) The project as described in the notification/agreement has changed, or conditions affecting fish and wildlife resources change.
21. If, in the opinion of the Department, conditions arise or change in such a manner as to be considered deleterious to aquatic life, operations shall cease until corrective measures are taken.

**SIGNATURE PAGE**

The City, as designated by the signature on this agreement, shall be responsible for the execution of all elements of this agreement. A copy of this agreement must be provided to contractor and subcontractors and must be in their possession at the work site.

Failure to comply with the provisions of this agreement and with other pertinent Code Sections, including but not limited to Fish and Game Code Sections 5650, 5652 and 5948, may result in prosecution.

Nothing in this agreement authorizes the City to trespass on any land or property, nor does it relieve the City of responsibility for compliance with applicable federal, state, or local laws or ordinances.

THIS AGREEMENT IS NOT INTENDED AS AN APPROVAL OF A PROJECT OR OF SPECIFIC PROJECT FEATURES BY THE DEPARTMENT OF FISH AND GAME. INDEPENDENT REVIEW AND RECOMMENDATIONS WILL BE PROVIDED BY THE DEPARTMENT AS APPROPRIATE ON THOSE PROJECTS WHERE LOCAL, STATE, OR FEDERAL PERMITS OR OTHER ENVIRONMENTAL REPORTS ARE REQUIRED.

*This agreement becomes effective on receipt of signed agreement by all parties. This agreement terminates on December 31, 1998 for project construction activities only. This agreement shall remain in effect for that time necessary to satisfy the terms/conditions of the agreement including mitigation measures.*

Operator Ruel M. Carby Gary L. Hobgood  
Title Orange Supt Title Gary L. Hobgood  
Department Representative  
Fish and Game Warden

Organization City of Sacramento Department of Fish and Game  
State of California

Date 5-27-98 Date 5/19/98

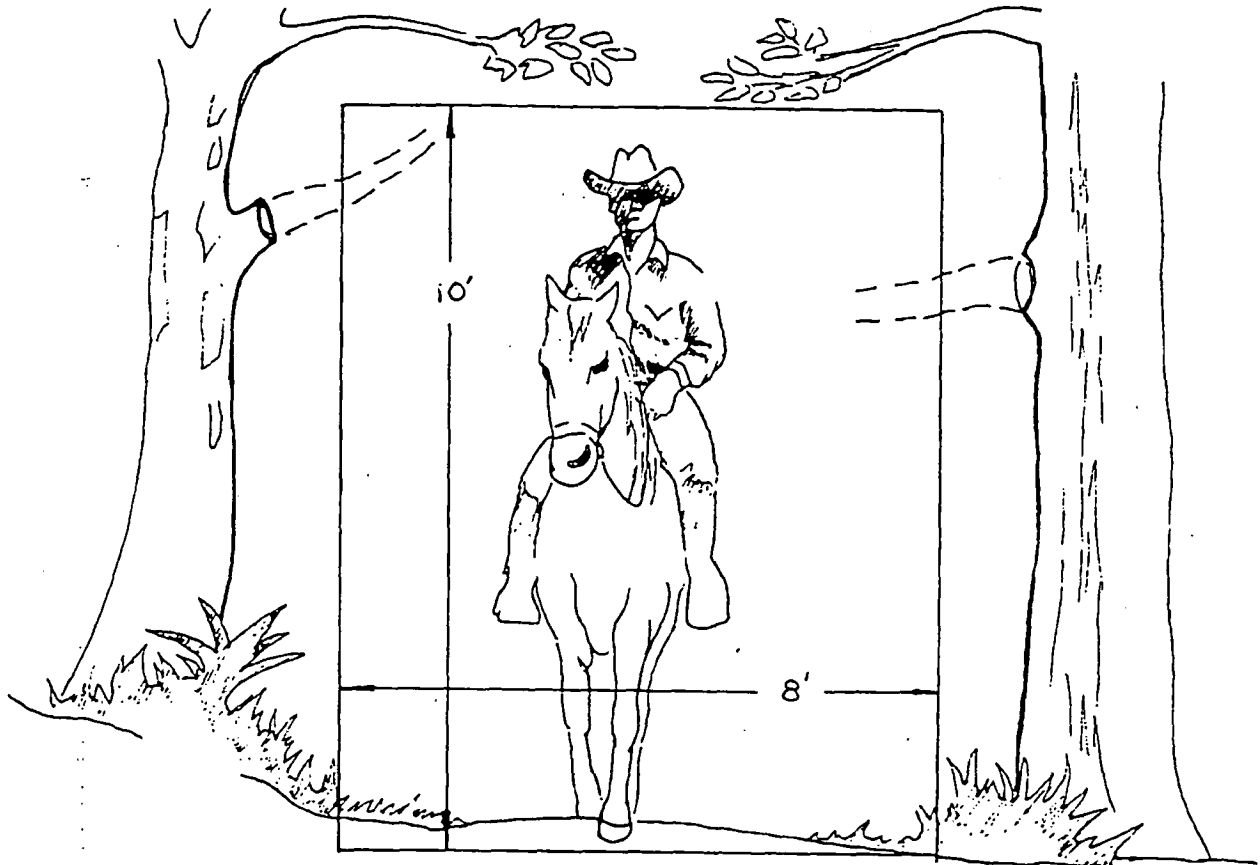
Contractor N.A. Company \_\_\_\_\_

Title \_\_\_\_\_ Date \_\_\_\_\_

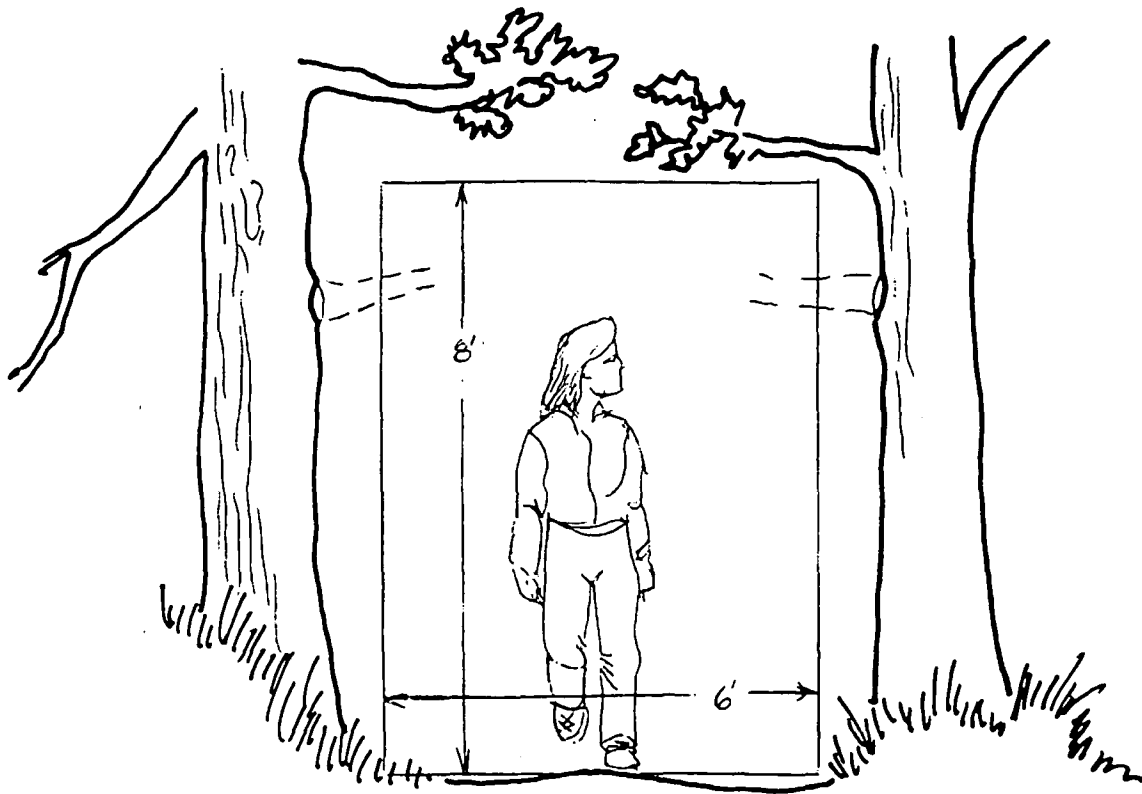
**APPENDIX C**

Tree and Brush Trimming Guidelines  
excerpted from  
California Trails Foundation  
Klamath District's Trail Manual  
California Department of Parks and Recreation

Trailway Clearing

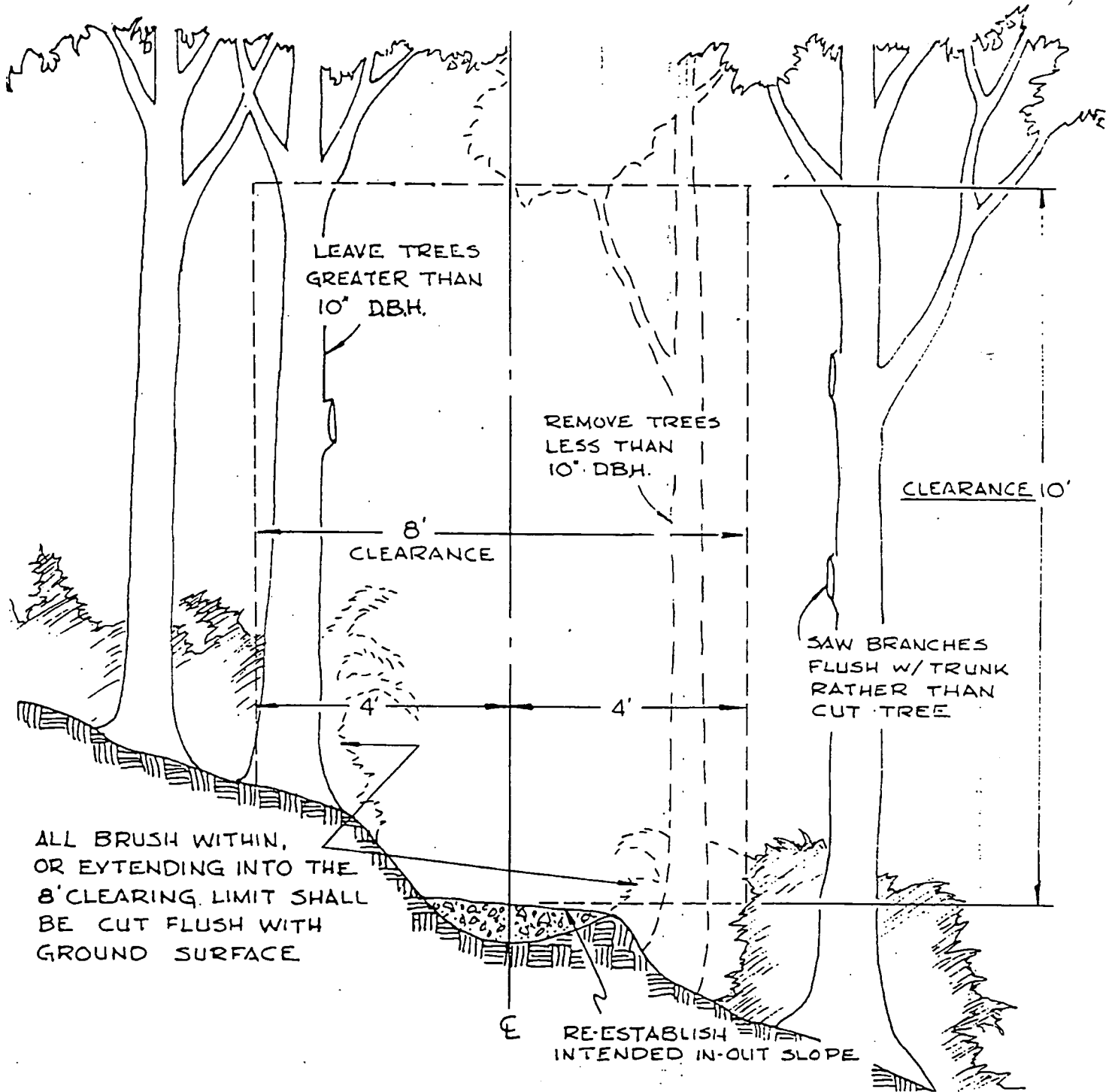


Horse Trails

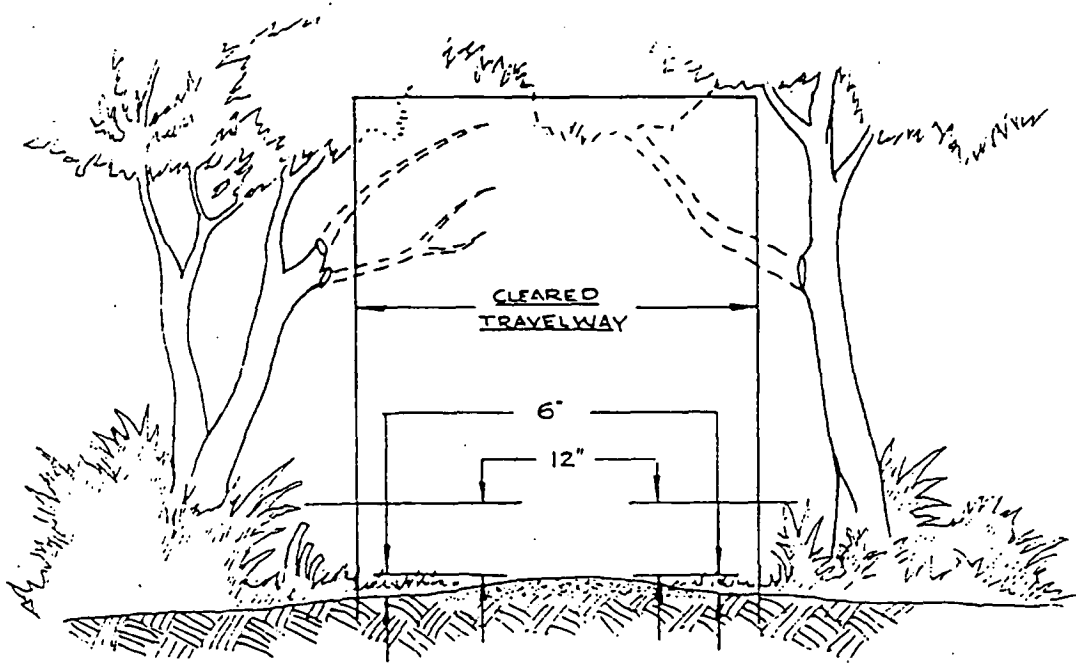


Foot Trails

Trailway Clearing Limits



Brushing Maintenance



Flat Ground



**APPENDIX D**

Selected Plant List  
from  
California Native Plant Society  
and  
The Outdoor World  
of the Sacramento Region  
A Local Field Guide

All selections are native to natural riparian, oak woodland, grassland and vernal pool ecosystems in this area.

Trees

Riparian and oak woodland habitats:

- |                    |                                  |
|--------------------|----------------------------------|
| Juglans hindsii    | Northern California Black Walnut |
| Salix goodingii    | Goodings Black Willow            |
| Populus fremontii  | Fremont Cottonwood               |
| Quercus lobata     | Valley Oak                       |
| Quercus douglasii  | California Blue Oak              |
| Quercus agrifolia  | California Live Oak              |
| Quercus wislizenii | Interior Live Oak                |
| Platanus racemosa  | California Sycamore              |
| Fraxinus latifolia | Oregon Ash                       |
| Cornus sp          | Dogwoods                         |

Shrubs

Riparian and Mixed Woodland habitats

- |                      |                                  |
|----------------------|----------------------------------|
| Artemisia spp        | Mugwort                          |
| Baccharis pilularis  | Coyote Brush                     |
| Cephalanthus         | Buttonbush                       |
| Hibiscus lasiocarpus | California Hibiscus (CNPS list2) |
| Rosa californica     | California Rose                  |
| Rubus ursinus        | California blackberry            |
| Salix sp             | Willows                          |
| Sambucus mexicana    | Elderberry                       |
| Vitis californica    | Wild Grape                       |

Wetland Plants

Vernal Pool habitat

- |                                 |                                 |
|---------------------------------|---------------------------------|
| Callitriche sp.                 | Mermaid's tresses               |
| Castilleja campestris           | Brass buttons                   |
| Cotula coronopifolia            | Bogg's Lake dodder              |
| Cuscuta howelliana              | Dwarf Downingia (CNPS list2)    |
| Downingia pusilla               | Coyote thistle                  |
| Downingia bicornuta             | Bogg's Lake hedge-hyssop (end.) |
| Downingia ornatissima           | Spikerush                       |
| Eryngium pinnatisectuar         | Toad rush                       |
| Gratiola heterosepala           | Ahart's dwarf rush (cat. 1)     |
| Heleocharis sp.                 | Rushes                          |
| Hordeum marinum                 | Goldfields                      |
| Juncus bufonius                 | Slender Orcutt grass (end.)     |
| Juncus leiospermus var. Ahartii | Sacramento Orcutt grass (end.)  |
| Juncus sp.                      | Smartweed                       |
| Lasthenia sp.                   |                                 |
| Orcuttia tenuis                 |                                 |
| Orcuttia viscida                |                                 |
| Orcuttia inaequalis             |                                 |
| Orcuttia pilosa                 |                                 |
| Polygonum sp.                   |                                 |

Riparian edge and seasonal wetlands plants

- |                      |   |
|----------------------|---|
| Carex barbata        | Santa Barbara sedge                     |
| Carex praegracille   | Slender sedge                           |
| Scirpus sp.          | Tule / Bulrushes                        |
| Sagittaria sanfordii | Sanford's Arrowhead (USFWS C2, CNPS 1B) |
| Typha sp.            | Cattails                                |

Grasses and Forbs

Grassland and oak woodland habitat

- |                          |                      |
|--------------------------|----------------------|
| Amsinka sp.              | Fiddlenecks          |
| Brodiaea laxa            | Wally basket         |
| Chlorogalum sp.          | Soapplant            |
| Dichelostemma pulchellum | Blue dicks           |
| Layia chrysanthemoides   | Tidy tips            |
| Leymus triticoides       | Creeping Wild Rye    |
| Mimulus sp.              | Monkeyflower         |
| Orthocarpus erianthus    | Butter and eggs      |
| Plagiobothrys sp.        | Popcorn flower       |
| Ranunculus californicus  | California Buttercup |
| Wyethia sp.              | Mule's ears          |

**APPENDIX E**

Preliminary Report  
United States Geological Survey  
National Air and Water Quality Assessment

## USGS NAWQA PROGRAM – ARCADE CREEK MONITORING

Monitoring of Arcade Creek continued in 1997/98 under NAWQA Monitoring program conducted by the USGS (last year's Annual Report provides detailed information on the NAWQA program). Samples were collected twice monthly from July 1997 through March 1998. Although no report is yet available on this work-in-progress, USGS staff provided water quality data to the Permittees for review. Based on a review of data from July 1997 through March 1998, the following potentially toxic constituents continue to be detected in Arcade Creek:

### Volatile Organics:

- Acetone
- Chloroform
- Benzene
- Toluene
- MTBE

### Pesticides:

- Carbaryl (exceeded water quality criteria for protection of fresh water life)
- Chlorpyrifos
- Diazinon (exceeded water quality criteria for protection of fresh water life)
- DPCA
- Malathion
- Metolachlor
- 2,4D
- Triclopyr
- Diruon
- Metibuzin sencor
- Tebuthiuron
- Simazine

### Metals (not compared with water quality criteria):

- Chromium
- Copper
- Nickel
- Zinc

USGS will continue intensive sampling through early 1999. Intensive sampling will be followed by a two year period of data analysis and four years of reduced sampling efforts.

**APPENDIX F**

**Existing and Potential  
Stakeholders List**

CITY OF SACRAMENTO – DEL PASO REGIONAL PARK/ARCADE CREEK MANAGEMENT PLAN

---

The following is a list of the individuals and groups with an interest in the management of the Del Paso Park/Arcade Creek project:

Local Agencies:

American River Natural History Association  
American River Parkway Foundation  
City of Sacramento, Councilmember Rob Kerth  
City of Sacramento, Park Maintenance  
City of Sacramento, Public Works  
City of Sacramento, Utilities  
City of Sacramento, Environmental Affairs  
City of Sacramento, Engineering Development  
City of Sacramento, Neighborhood Services,  
Landscape Architecture Section  
City of Sacramento, Tree Services  
City of Sacramento, Golf Maintenance  
City of Sacramento, Fire Prevention Division  
City of Sacramento, Police Department  
Sacramento Air Quality Management District  
Sacramento Area Flood Control Agency  
Sacramento Municipal Utilities District (SMUD)  
Pacific Gas and Electric (PG&E)  
Sacramento County, Fire Prevention  
Sacramento County, Office of Education  
Sacramento County, Public Works  
Sacramento County, Parks and Recreation

State Agencies:

California State Lands Commission  
California Department of Water Resources  
California Environmental Protection Agency  
California Resources Agency  
State Water Resources Control Board  
Regional Water Quality Control Board #5  
Natural Resources Conservation Service  
Cal Trans

Federal Agencies:

US Geological Survey  
US Bureau of Land Management  
US Bureau of Reclamation  
US Fish and Wildlife Service  
US Environmental Protection Agency  
US Army Corps of Engineers

Community Groups and Organizations:

Arcade Creek Parks and Recreation District

Fulton/El Camino Parks and Recreation District  
Arcade Creek Restoration Committee  
Environmental Council of Sacramento  
California Native Plant Society  
Sacramento Science Center  
Urban Creeks Council  
The Nature Conservancy  
Sacramento Horseman's Association  
Arcade Trail and Community Association  
Sacramento Tree Foundation  
Sacramento Housing and Homeless Coalition

Schools:

North Sacramento School District  
Del Paso Heights School District  
Mira Loma High School  
American River College  
University of California at Davis

**EXHIBIT B**

**Del Paso Park Nature Area  
Interim Management Program**





# CITY OF SACRAMENTO

## DEPARTMENT OF PARKS AND COMMUNITY SERVICES

PARKS DIVISION

GENE ROBINSON  
Parks Superintendent

September 10, 1985

MEMO TO: Robert P. Thomas, Director

SUBJECT: Del Paso Park Natural Area Interim Management Program

This Del Paso Park Natural Area Interim Management Program has been developed through the dedicated efforts of a group of concerned citizens and City of Sacramento Parks Division personnel.

The following citizens participated in this project:

*Muriel Simmons*

Tim Vendlinski, Arcade Creek Restoration Project  
Nancy Lindsey, Arcade Creek Restoration Project  
Steven Talley, Phd., Arcade Creek Restoration Project  
Alta Tura, Audobon Society *Done*  
Steven Cates, Environmental Council of Sacramento  
Art Keefer, Sacramento Horsemen's Association

The following Parks Division personnel participated in this project:

Johnie Bramble, Assistant Parks Superintendent  
Ron Billat, Parks General Supervisor  
Martin Fitch, Administrative Assistant  
Bob Fleming, Parks Supervisor

This Management Program is sensitive to the preservation and restoration of Del Paso Park's natural habitat. With the use of this program the development of this area will be preserved for future generations.

*Johnie Bramble*  
JOHNIE BRAMBLE  
Assistant Parks Superintendent

DEL PASO PARK NATURAL AREA INTERIM MANAGEMENT PROGRAM  
JULY 1985

I. Introduction

Del Paso Park is located in the northeast portion of the City of Sacramento, spreading east and west of Watt Avenue adjacent to Business I-80 and Auburn Boulevard. Arcade Creek and its surrounding natural area provide the park with a unique resource. This 100+ acre natural resource has significant examples of locally native oak species (blue oak, valley oak, and interior live oak) as they naturally occur on frequently flooded streamside, infrequently flooded high terrace, and upland terrace. These ecosystems represent rare and declining resources throughout the Central Valley. This management program is sensitive to the preservation and restoration of this natural habitat. Until considerable, additional technical data has been obtained and analyzed, a permanent management program cannot be adopted.

It is apparent that the least amount of maintenance possible is the preferred solution for both preservation and restoration of the area. There are, however, some definite ongoing maintenance needs which must be addressed. These maintenance needs include: flood control, trail maintenance, revegetation, preservation of natural habitat, refuse collection, exotic vegetation removal, and fire control.

Park maintenance crews must provide for these maintenance needs within the Del Paso Park Natural Area. Maintenance crews will use extreme care to minimize the impact of their activities.

II. Maintenance Criteria

A. Flood Control

The City will conform to the Natural Streams Policy and Floodplain Management Guidelines prepared by the County. Arcade Creek will be maintained as follows:

1. As a first priority, the active stream channel will be kept free of drainage obstructions which may impede the flow or redirect the stream bed.
2. Entire plants will not be removed unless they have fallen within the stream channel.
3. Trimming will be done where limbs, roots, and foliage are blocking or interfering with the stream flow. However, exposed roots supporting healthy plant material not otherwise affecting stream flow will be left undisturbed.

B. Trail Maintenance

Trail maintenance is required to provide erosion control, a smooth, safe trail surface, and for enhancement of the park's recreational use. A single, dominant main upland trail on each side of Arcade Creek will be established. The primary access points to the main upland trails will be cleared of brush and tall grass. All maintenance of the lower creek side

trails will cease. The annual City trail maintenance efforts will be confined to the two main upland trails on either side of the creek. An agricultural wheeled tractor will be employed and it shall be restricted to trail maintenance only. No grading will take place on undisturbed trail margins or elsewhere in the natural area. Potholes, ruts, and gullies which cannot be leveled and repaired with the existing trail materials will be brought back to grade by importing appropriate soil, sand, and gravel. Poison oak will be controlled along trail margins where personal exposure is a problem. Poison oak will be controlled by mechanical means only. Shrubs and trees will be trimmed where limbs or foliage are blocking or interfering with the trail. Parks personnel will meet with the various interested trail user groups and a citizens advisory committee to determine the rerouting of the upland trail. These parties shall continue to meet whenever additional route changes are contemplated. An approved trail route plan has been established as shown on attachment A. To encourage the use of the main upland trails, brush and downed limbs may be selectively placed at the more obvious access points to the lower trails. The lower trails will be allowed to revegetate naturally. Grant funds should be solicited to fund trail and interpretive signing. Trail repair in the Cal Trans Watt Avenue/Interstate 80 interchange easement is needed. This capital improvement project needs to be engineered and budgeted.

C. Revegetation and Preservation of Natural Habitat

An integral part of the Del Paso Park maintenance program is to minimize damage to the existing native ecosystem and promote its restoration where it has been damaged. Introduced species which compete with and alter the natural ecosystem will be discouraged. Efforts have been made to eliminate Eucalyptus species in a number of park locations and these efforts will continue. Almond, Black Locust, and Bamboo have also been introduced to the park environment and will be discouraged and removed in deference to native plants. Locust removal will receive the lowest priority and the existing groves of mature locust may be left undisturbed. See Attachment A showing the location of these exotic species. Removal will take place as labor and funds become available.

The Parks and Community Services Department believes that the best method of revegetation is through natural seeding. Locally native plant species will be encouraged along the trail borders to enhance the natural experience and more clearly define trail margins. The City will also promote and encourage the planting of native oaks by community volunteer groups in appropriate park areas as approved by a citizens advisory committee. Irrigation of these planted oaks will be dependent upon the volunteer groups. Any additional native plants will be planted only with the approval of a citizens advisory committee. The promotion and restoration of native plant materials will insure vitality of the existing associated natural wildlife. The existing and introduced native plant material in the natural habitat area will not be maintained. There will be no cultivation within the designated natural area. Grass cutting and tree or shrub trimming will be limited to mowing and trimming within designated

fire breaks and where required for trail safety. Standing and fallen, dead plant material will be left as found, except where it obstructs the stream flow or trail access. The stream bed area will be trimmed to remove low growth obstructing stream flow.

D. Refuse Collection, Weed Abatement, and Fire Control

Littering and dumping of glass, metal, paper products, plastic, bricks, dirt, automobile parts and fluids, tires, construction materials, garden refuse, cattle and horse manure, beverage containers, dead animals, poisons, appliances, mattresses, and all other home and industrial materials shall be prohibited and subject to applicable illegal dumping fines. City crews will provide routine policing and cleanup when and where illegal dumping occurs in the park. Weed abatement will be avoided as much as possible except in perimeter areas where fire protection is required. A 20-foot fire break will be maintained adjacent to all roads. Shrubs and trees growing in the fire break will not be disturbed.