

trrp.**gateway**.precise plan  
modesto . ceres . stanislaus county . california

## Precise Plan Summary Report

**EDAW**

with  
HDR Engineering . McBain & Trush . Hagar Environmental Science . Fehr & Peers Transportation Consultants . Bollard Acoustical Consultants . Aspen Survey Company

September 13, 2005

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# Introduction

The Tuolumne River Regional Park Gateway Parcel is a 90-acre former orchard site located at the confluence of Tuolumne River and Dry Creek, in Modesto, California. This parcel is a key site within the 500-acre, 7-mile-long Tuolumne River Regional Park system (TRRP), located in the Central Valley's Stanislaus County.

In 2001, the Joint Powers Authority of the City of Modesto, City of Ceres, and Stanislaus County adopted a Master Plan and Master EIR for the entire TRRP. Due to the Gateway Parcel's central location within the regional park and to its adjacency to the commercial centers of Modesto and Ceres, the Parcel is envisioned in the TRRP Master Plan as a high-profile public gathering space. Additionally, the site is considered as having tremendous environmental value and potential for the region, since it is one of the few undeveloped large open spaces on the north bank of the lower Tuolumne River.

As a subsequent effort to the TRRP Master Plan, the purpose of the Precise Plan is to develop the landscape design for the Gateway Parcel park. Thereby interpreting the Master Plan's vision and providing a solid foundation for the future construction documentation phases. The ultimate goal of the Plan is to communicate to the public the spatial and technical aspects needed to build this first piece of the TRRP Master Plan, and to convey the look and feel of the park and its anticipated uses. Concurrently, a number of environmental assessments and studies, an Initial Study report, and all the environmental permitting associated with the Gateway Parcel are also being developed as part of the Precise Plan effort.

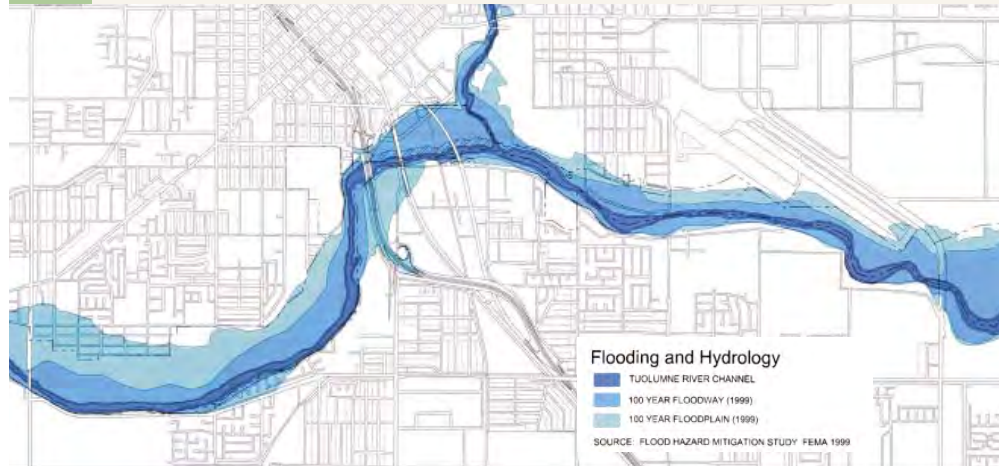
This document represents a summary of the work that was produced for the Gateway Parcel, including site analysis, concept development, design refinement and an interpretive program.



Figure 1. Introduction . The TRRP Gateway Parcel Precise Plan was developed to balance different types of park activities and public access, while emphasizing a rehabilitated natural setting and incorporating exemplary restoration practices.

# Context of the Precise Plan

## TRRP Master Plan



TRRP Flooding and Hydrology Map

scale : NTS

1999. Source: Flood Hazard Mitigation Study. FEMA

Figure 2. Understanding of the flooding hydrology of the Tuolumne River was crucial during the Master Plan phase.

The process of refining the Gateway Parcel design began with the understanding of the TRRP Master Plan. During the TRRP Master Plan phase, a concept plan was developed for the Gateway Parcel and the program for the site was determined. The Precise Plan departed from this original concept in some regards in order to further accommodate the scientific findings and advance the design concept. The progressive refinement of the Plan is shown in the following chapters.



TRRP Master Plan

scale : NTS  
12.01.2000

Figure 3. The Gateway Parcel is centrally located in the TRRP Master Plan.

The team of consultants involved in the development of the Precise Plan were charged with the tasks of creating: 1) a specific concept for the Gateway Parcel, in response to and consistent with the ideas presented in the Master Plan, but unique to the site as a literal gateway to the river and the TRRP; 2) a restoration and design precedent for other projects in the TRRP; and 3) a regional community space, serving Stanislaus County.

The role of the Plan is to bridge the TRRP Master Plan and the future construction document phases of the park.

There are two main goals outlined on the TRRP Master Plan for the Gateway Parcel:

- + Create a park where the recreational experience is oriented towards and compatible with the Tuolumne River, its water, natural resources, and processes.
- + Provide a park that is a source of pride for the citizens of Stanislaus County and reflects and accommodates the County's peoples and cultures.

These goals led the Precise Plan effort and informed the design results as outlined in this document.



Gateway Parcel site plan in the TRRP Master Plan

scale : NTS  
12.01.2000

Figure 4. The Gateway Parcel in the TRRP Master Plan was envisioned with a series of riparian terraces, curving paths, and specific access or vista points to the Tuolumne River. This plan was the design foundation for the Precise Plan development.



Figure 5. Artist's rendering of the Gateway Parcel's character with the new 9th Street Bridge and a pedestrian connection across Dry Creek.

The landscape elements for the Gateway Parcel as described in the TRRP Master Plan included the Riverwalk along Tuolumne, the Amphimeadow near Dry Creek, and a series of paths meandering throughout the site.

The Master Plan's general site structure shown in Figure 4 became the basis for the refinement of the Gateway Parcel Precise Plan design. Additionally, the Precise Plan incorporated the Gateway Parcel program elements as indicated in the TRRP Master Plan.

The Precise Plan effort began with the study of locations, proportions, and interfaces of elements in response to the ideas presented in the Master Plan. Ultimately, the final plan as presented in Chapter 7 evolved with information gathered through a number of environmental and engineering assessments, as well as with the design concept developed for the Gateway Parcel.

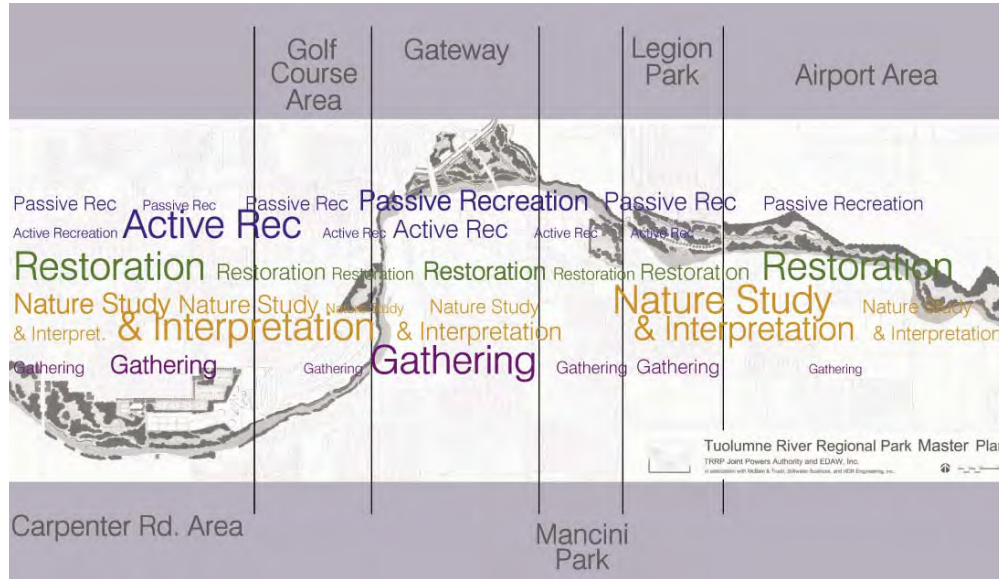


Figure 6. The TRRP Master Plan proposed different intensities of program throughout the park for optimization of usage and restoration integrity.

## TRRP Master EIR

The TRRP Master EIR identified a number of environmental issues, and proposed mitigation measures to lessen or avoid environmental impacts as a result of the implementation of the TRRP.

### Master EIR . Key Environmental Issues

- + Traffic and parking impacts associated with the special events.
- + Noise associated with special events.
- + Potential removal of elderberry bushes, habitat for the Valley Elderberry Longhorn beetle (Federally Threatened species).
- + Construction-period impacts.
- + Potential flooding, erosion and scour impacts.
- + Exposure to existing and unknown hazardous materials.

### Measures to Lessen or Avoid Environmental Impacts -determined during the Master Plan phase

- Detailed parking and traffic management plans.
- Amplified sound systems only allowed between specified hours.
- Additional acoustical analysis prior to construction of the amphimeadow.
- Elderberry bushes not removed unless authorized by the USFWS.
- Raptor surveys and mitigation if construction is proposed during nesting season.
- Detailed grading plans to ensure flood hazards do not increase.
- If hazardous materials are suspected on site, additional site investigations by a CA registered environmental assessor prior to construction to ensure hazardous materials issues are less-than-significant.



Figure 7. Study model of Gateway Parcel reflecting the concept design developed during the Master Plan phase.

# Site Overview



Current Aerial Photograph

scale : NTS

02.18.2004 Photo by: Geomaps.

Figure 8. The site was flown on February of 2004 to create this aerial photograph, which was used as a base for design and environmental assessments during the development of the Precise Plan.



Historic Aerial Photography

Figures 9 & 10. Historic aerial photographs reveal the evolution of the site. The walnut orchard that formerly occupied the site was abandoned and eventually removed when the site was acquired by the TRRP.



Figure 11. View of the confluence of Dry Creek and Tuolumne River, 2003. Confluence Point is a sandbar with emergent vegetation.



Figure 12. There is a large stand of about 50 mature Valley Oaks on site along the edge of Dry Creek and the Confluence Point area.



Figure 13. The site is dominated by open, leveled and plowed fields, which were once agricultural land. Large Valley Oaks line Dry Creek.



Figure 14. View of Dry Creek looking downstream, 2003. Annual grassland and riparian habitats are evident on the banks.



Figure 15. View of the project site East of 9th Street Bridge, 2004. Annual grassland is green during the rainy season.

The project site is generally composed of relatively flat, riverfront land within the Tuolumne River's 100 year floodplain with elevations ranging from 55 to 60 feet above mean sea level. The site was previously a walnut orchard but currently consists of disked open land and is no longer used for agriculture.

Little native vegetation exists on the site, except for a stand of valley oaks near the confluence of Dry Creek and the Tuolumne River, and a narrow strip of riparian vegetation along both waterways.



Figure 16. View of 7th Street Bridge, also known locally as the "Lions' Bridge", 2004. 7th Street Bridge is a historic landmark.



Figure 17. Four bridges traverse the site, 20 feet above the ground level of the park. This view shows 9th Street Bridge, Union RR trestle, and 7th Street Bridge, 2003.

Three bridges traverse the site, including Highway 99 on the east portion of the site, two vehicular bridges (7th and 9th streets), and one railroad wood trestle.

Land uses surrounding the Gateway Parcel include industrial uses such as warehouses, distribution centers, and food processing facilities to the north; industrial uses within the Gallo Winery complex to the east; commercial retail uses across Tuolumne River to the south; and residential uses across SR 99 to the west.



Figure 18 & 19. A number of utilities are currently found on the site.



Figure 20. View of the new 9th St Bridge under construction, 2003. The new bridge was being constructed during this study alongside of the old 9th St. bridge, which will eventually be demolished. Bridge work is scheduled to be finished in 2005.

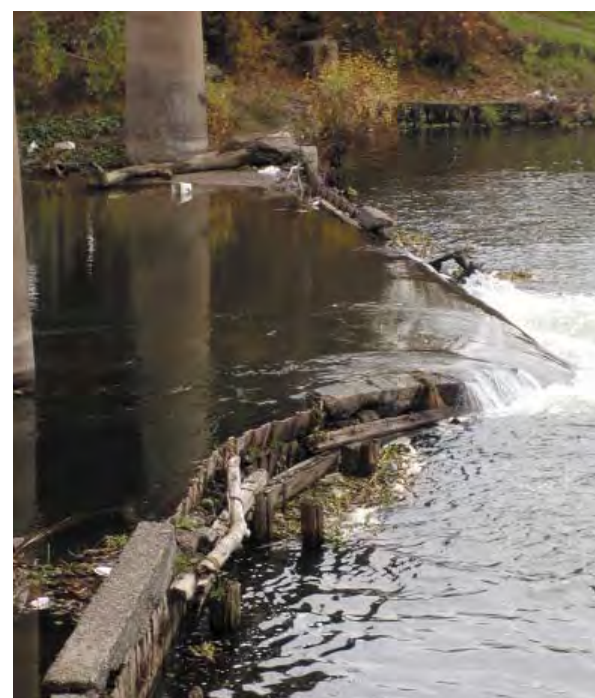


Figure 21. View of Dennett Dam, located under the 9th Street Bridge, 2003. The TRRP Master Plan recommended its removal to improve fish migration and permit boat passage on the Tuolumne River.



Figure 22. View of Union RR and 7th Street Bridge where they cross the Tuolumne River, 2003.

# Site Analysis and Design Parameters

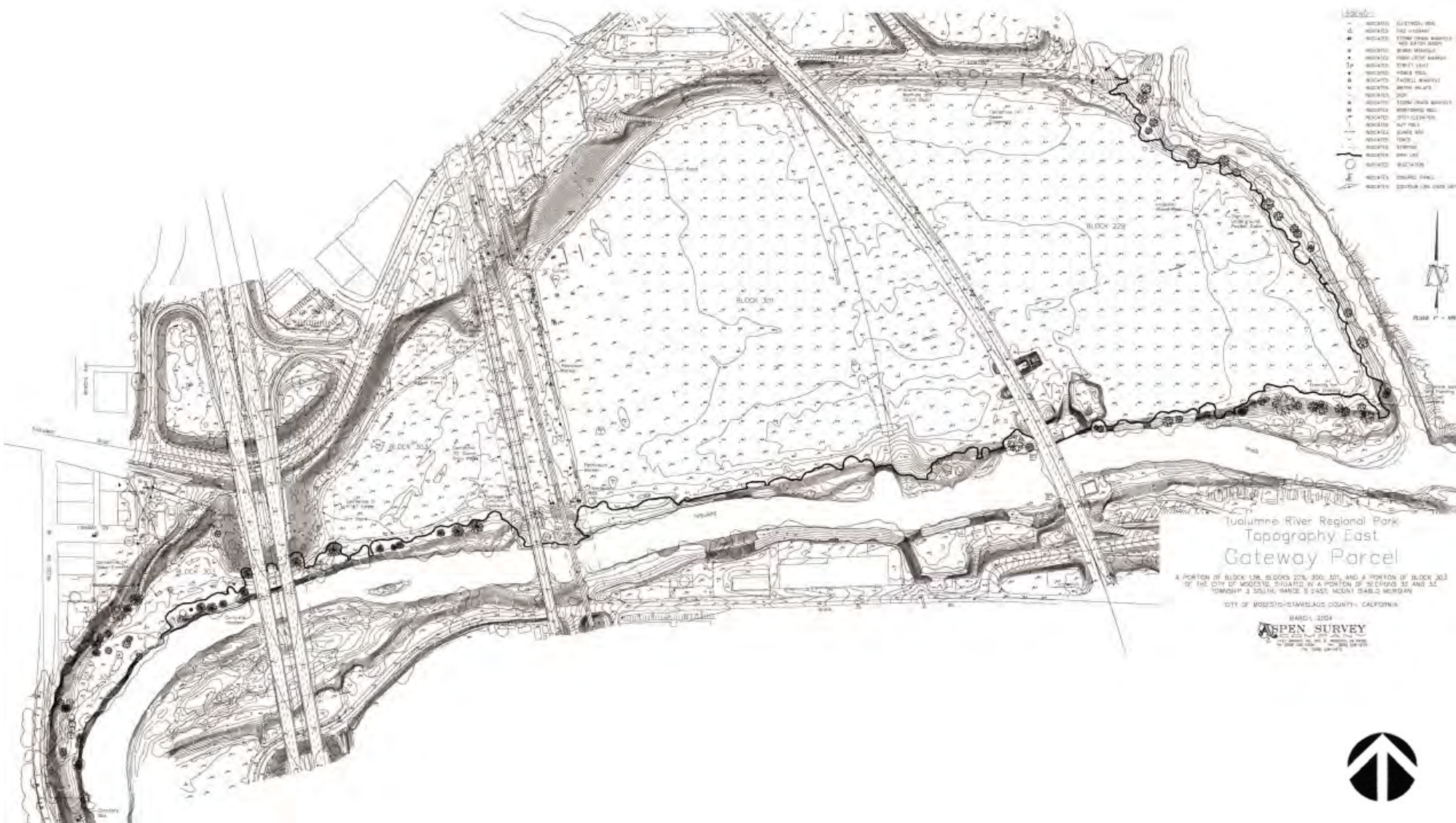
An important part of the Precise Plan was the development of a detailed site analysis, which included topography, biological assessments, hydrology, vegetation, wildlife, etc.

The diagrams in this chapter reflect a summary of the results of the site analysis. All of these factors were the basis for the development of the Precise Plan and became the design parameters for the Plan.

## Topographic Survey

As part of the Precise Plan, a detailed site survey of the Gateway Parcel was conducted in 2004. The information obtained included site topography, main site infrastructure and utility location, and a preliminary tree survey.

The site survey recorded the alignment of the old 9th Street bridge, which at the time of the survey was being replaced by a new bridge.



Existing Conditions Site Survey  
scale : NTS  
04.23.2004 Survey by: Aspen Survey Company

Figure 23. A detailed site survey was conducted in 2004. The information obtained included site topography, main site infrastructure and utility location, and a preliminary tree survey.



Figure 24. Site View from Confluence Point . The site is dominated by open, leveled and plowed fields, which were once agricultural land. Large Valley Oaks line Dry Creek. Adjacent industrial uses are located primarily on the park's north edge.

Legend

- Sample Point
- Annual Grassland
- Developed / Disturbed
- Plowed Field
- Non-Jurisdictional Riparian Woodland
- Waters of the U.S.
- Study Area



Wetland Delineation Plan

04.14.2004 Delineated by: T. Beyerl and R. Butz of EDAW

Figure 25. A Wetland Delineation was produced for the Precise Plan and it was established that Dry Creek and the Tuolumne River are the only areas that qualify as Waters of the U.S. thus, there are no habitats within the site that qualify as wetlands under Section 404 of the CWA.

Legend

- Developed / Disturbed
- Plowed Agricultural Field
- Non-native Grassland
- Early Successional Willow Scrub with planted Black Walnut
- Early Successional Willow Scrub without Black Walnut
- Valley Oak Riparian Forest
- Blue Elderberry Shrub (Valley Elderberry Longhorn Beetle critical habitat)
- Giant Reed Grass (Arundo donax)
- Open Water
- Numerous Nesting Birds (Including: Oak Titmouse, Nuttall's Woodpecker, Song Sparrow)
- Raptor Nest
- Undercut Bank (Potential Bank Swallow & Belted King Fisher nest)
- Raptor Nest



Existing Biological Conditions . Plant Communities & Wildlife Habitat

04.19.2004 Assessment by: R. Nichols and J. Hindley of EDAW

Figure 26. A detailed field assessment identified existing plant communities and wildlife habitats present on the site, and served as a baseline of existing biological conditions for the Precise Plan.

## Wetland Delineation

A wetland delineation was conducted to determine the extent of jurisdictional Waters of the U.S., including wetlands on the site.

Sites qualifying as Waters of the United States according to Section 404 of the CWA are shown in Figure 25. Delineation sample sites are also included in Figure 25 and are cross-referenced to the wetland determination data forms provided in the Wetland Delineation Report (see Chapter 10).

The result of this study showed that there are 19.2 acres of drainages that qualify as other Waters of the United States in the site (which represents the river channels). It also concluded that there are no habitats that qualify as wetlands under Section 404 of the CWA within the project site.

## Existing Biological Conditions Inventory

The Existing Biological Conditions Inventory conducted on the Gateway Parcel site is intended to serve as a baseline of existing biological conditions, and provides mapping and descriptions of habitats (see Figure 26), plant communities, and cover types on the property.

This assessment identified areas of sensitive habitat, such as the Elderberry bushes, and also mapped invasive non-native species like Giant Reed grass.

Legend

- 51 Valley Oak  
*Quercus lobata*
- 13 Boxelder  
*Acer negundo*
- 3 Fremont Cottonwood  
*Populus fremontii*
- 21 Black Walnut  
*Juglans nigra*
- 2 Eucalyptus  
*Eucalyptus spp.*
- 1 Weeping Willow  
*Salix babylonica*
- 1 Water Birch  
*Betula occidentalis*



Tree Inventory Diagram

04.23.2004 Survey by: Aspen Survey, City of Modesto and EDAW  
Figure 27. Trees with a trunk larger than 12" in diameter were located and identified by species for the Precise Plan.

Legend

- Valley Oak  
*Quercus lobata*
- Boxelder  
*Acer negundo*
- Fremont Cottonwood  
*Populus fremontii*
- Weeping Willow  
*Salix babylonica*
- Black Walnut  
*Juglans nigra*
- English Walnut  
*Juglans spp.*
- Green Ash  
*Fraxinus pennsylvanica*
- Eucalyptus  
*Eucalyptus spp.*
- Silver Maple  
*Acer saccharinum*
- Pecan  
*Carya illinoensis*



Recommended Tree Removals Diagram

09.13.2004 Survey & Recommendation by: City of Modesto and EDAW  
Figure 28. Invasive non-native trees present on the riparian edge, as well as native trees that were severely damaged and represented a potential hazard to users, were recommended for removal in the Precise Plan.

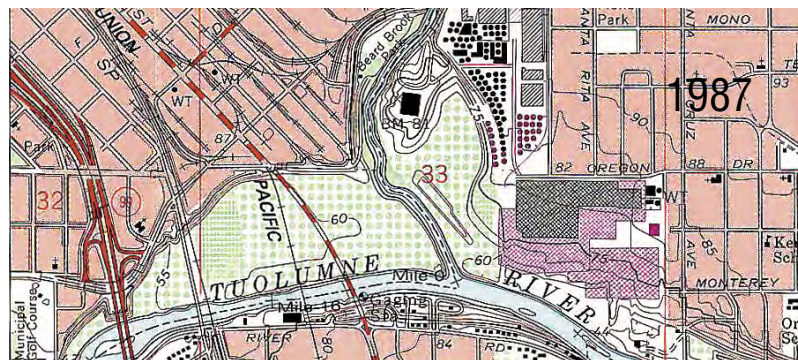
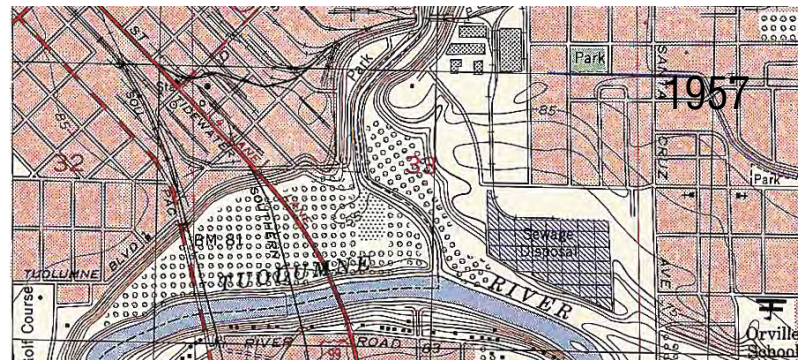
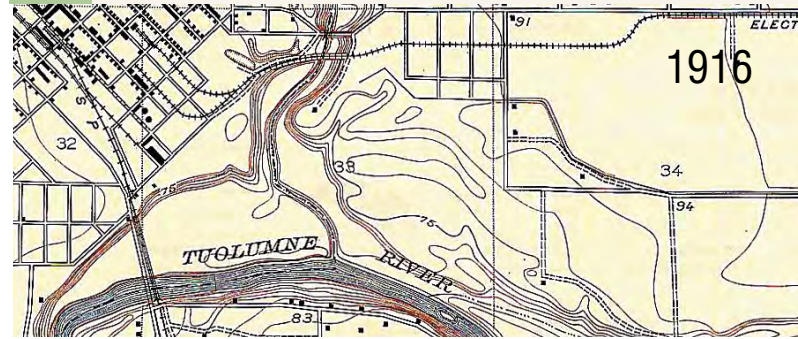
Tree Cover

A tree inventory was produced for the Precise Plan. The City of Modesto Arborist surveyed, tagged and inspected all site trees with a caliper larger than 12".

The subsequent assessment of tagged specimens on the project site identified a list of trees recommended for removal. Trees to be removed included non-native and invasive species, as well as some native trees that were severely damaged or ill and represented a potential hazard to users of the Gateway Parcel.



Figure 29. Existing Damaged Trees . Some trees have been damaged and require removal.

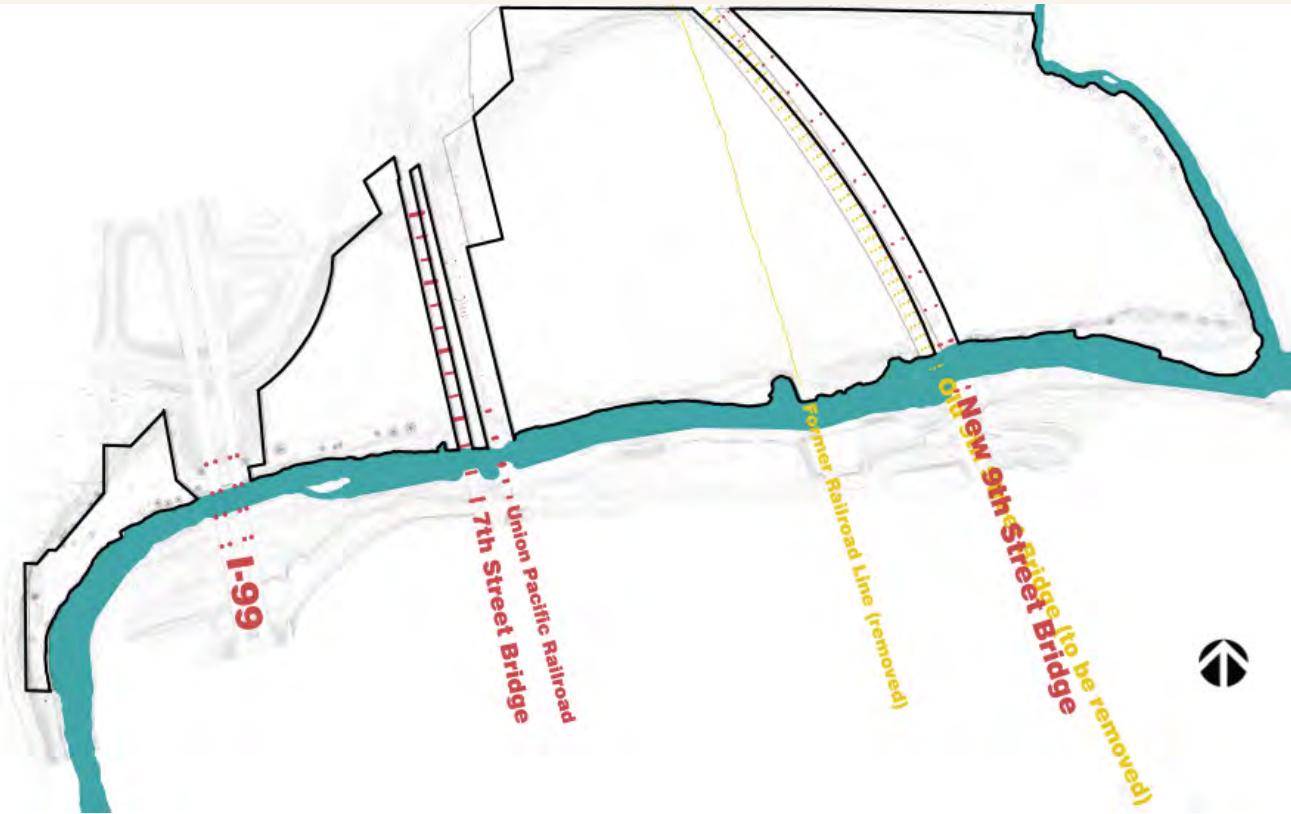


**Transportation Infrastructure Evolution**

scale : NTS

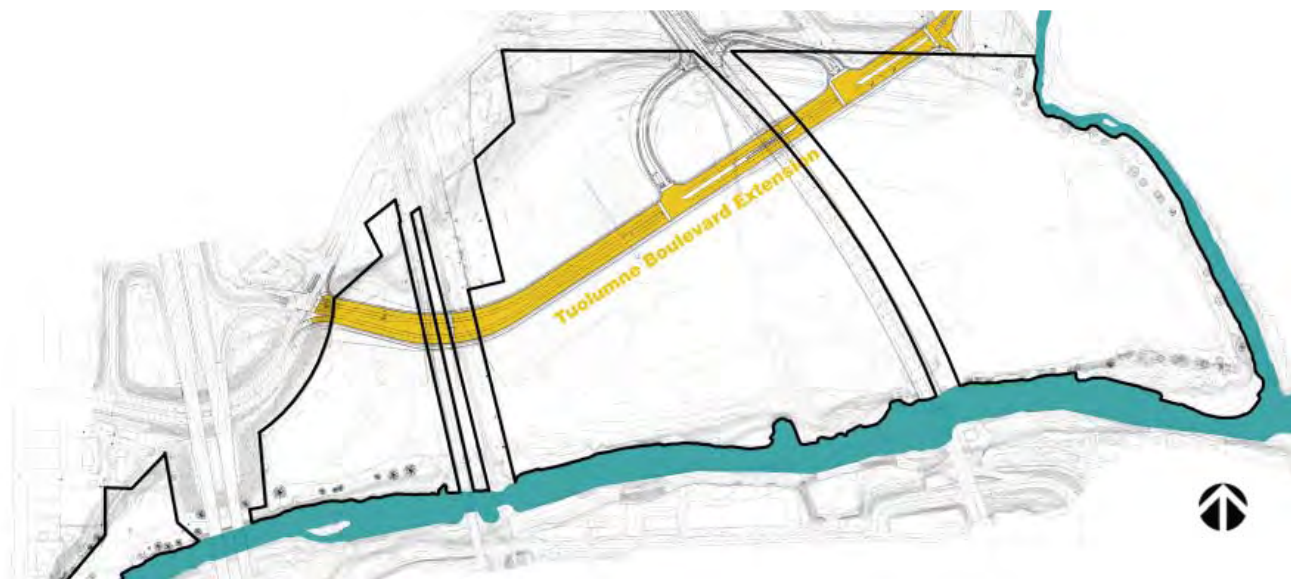
1916, 1957 & 1987. Source: USGS Riverbank, California Quadrangle. 7.5 minute series (topographic). 37120-F8-TF-024.

Figure 30. Transportation infrastructure has always been a part of the Gateway Parcel. Historic USGS maps show how different bridges were added on the site as the area transitioned from primarily agricultural land to a larger urban area.



**Transportation Infrastructure**  
2004

Figure 31. Four bridges currently traverse the Gateway Parcel (in red), and two more were once there (in yellow). These bridges have a significant presence on the park and their incorporation as part of the design was considered an opportunity to link the site with its own history.



**Tuolumne Boulevard Extension**

1999 Source: Tuolumne Blvd Extension Modesto Track Consolidation Project.

Figure 32. The proposed Tuolumne Boulevard Extension will cross through the park. The Precise Plan assumed that the boulevard will be constructed with the alignment shown in this diagram.

**Existing Infrastructure**

Research and surveys were conducted to inventory the existing and proposed infrastructure on site, including transportation infrastructure (roads, bridges, railroads), structures in the river channel, and utilities in general (water, gas, electricity, telephone).

Four bridges currently traverse the Gateway Parcel (Figure 31). These bridges have a significant presence on the park and their incorporation as part of the design was considered an opportunity to link the site with its own history, since transportation infrastructure has always been a part of the Gateway Parcel. Historic USGS maps shown on Figure 30 indicate how different bridges were added on the site as the area transitioned from primarily agricultural land to a larger urban area.

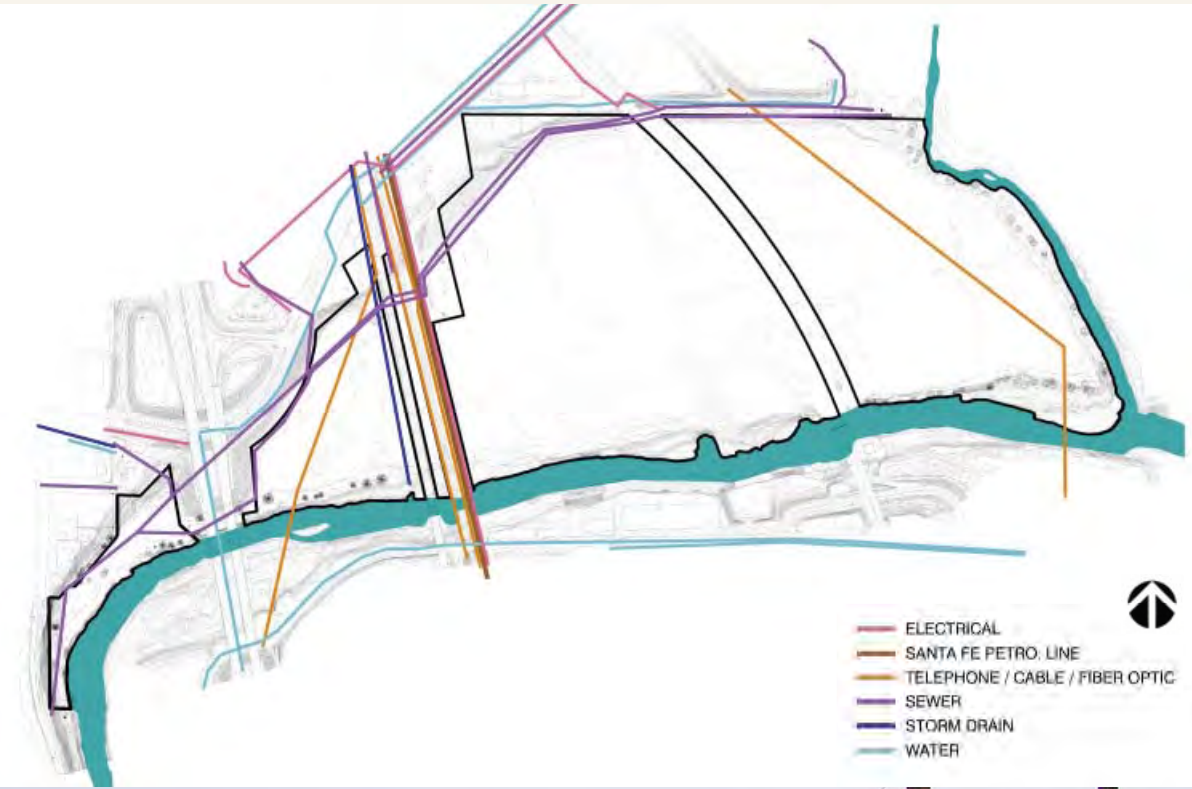
Utilities were mapped to prevent design and infrastructure conflicts during construction.

Point-source drainage outlets from the existing bridges and roads on site were also identified in the infrastructure inventories. Their connection to a passive cleaning system for a small portion of the runoff in the park is proposed.



Potential Point-Source Drainage

2004 Source: Tuolumne Blvd Extension Modesto Track Consolidation Project & 9th Street Bridge Replacement Project Plans.  
Figure 33. The existing storm drainage system\* and some of the proposed drainage for the 9th St Bridge and Tuolumne Blvd. Extension can be tapped to passively clean a small portion of runoff in the park.  
\*Further study on partial day-lighting of storm infrastructure is still required to confirm this concept.



- ELECTRICAL
- SANTA FE PETRO. LINE
- TELEPHONE / CABLE / FIBER OPTIC
- SEWER
- STORM DRAIN
- WATER



Dennett Dam

2004  
Figure 34. The TRRP Master Plan proposed the removal of Dennett Dam.



Existing Utilities Inventory

2004 Source: HDR Engineering  
Figure 35. Several utility lines were identified and mapped for the Precise Plan in order to prevent design and infrastructure conflicts. Utilities found included electrical, water and sewage, as well as telephone, fiber optics and a petroleum line.



River Radius of Curvature

2004 Source: HDR Engineering

Figure 36. The understanding of what would be the natural meander of the Tuolumne river, known as radius of curvature, became key in the refinement of the Gateway Parcel design and a clear way to represent the park as part of a larger natural system.

### Hydrology source of inspiration for the Precise Plan

The Tuolumne River and its flow is the main inspiration for the design of the park. On one hand, the understanding of what would be the natural meander of the channel, known as radius of curvature, became key in the spatial organization of the Gateway Parcel design and a clear way to represent the park as part of a larger natural system. On the other hand, the site's location within the 100-year flood plain of the Tuolumne River and Dry Creek prompted the designers to search for creative ways to connect the flooding regimen with public access.



Gateway Parcel Flooding and Hydrology Map

1999. Source: Flood Hazard Mitigation Study. FEMA

Figure 37. The entire Gateway Parcel is located in the flood plain of Tuolumne River and Dry Creek.

# Planning and Public Input

The Tuolumne River Regional Park Commission guided the Precise Plan effort, providing relevant input in different stages of the process.

Two advisory groups with representatives of all stakeholders were created for the Precise Plan to provide support to the TRRP Commission and to orient the design team in all aspects of the project.

Multiple meetings were conducted during the development of the Precise Plan. TRRP Commission, CAC, TAC, and public feedback was collected during presentations and in writing through input sheets distributed at the beginning of each meeting.

Public participation was encouraged during the Precise Plan development. Input and feedback received via meetings, emails, and mail was incorporated into the plan.



Figure 38. Multiple meetings were conducted during the development of the Precise Plan. TRRP Commission, CAC, TAC, and public feedback was collected during presentations and in writing through input sheets distributed at the beginning of each meeting.

## TRRP Commissioners

- Ray Simon, Chair
- Paul Caruso
- Denny Jackman
- Jim Ridenour
- DeLinda Moore

## Advisory Committees

### Technical Advisory Committee

- Alison Barratt-Green
- Ellis Calija
- Doug Critchfield
- Bob Quintella
- Garner Reynolds
- Firoz Vohra
- Jack Bond
- Larry Chavez
- Duane Frederick
- Robert Granberg
- Robert Howard
- Patrick Kelly
- David Leamon
- Dean Phillips
- Rich Sasser
- Gary Tornngren

### Citizens Advisory Committee

- David Duran, Chair
- Barbarie Boyette
- Karen Henry
- Dave Gianelli
- Mary Grogan
- Margaret Leaman
- Charles Stone
- Ronald West



Figure 39. During the first public meeting, attendants were asked to participate in an **Image Preference Survey**. Several images were presented in 3 categories: paths, amphitheatres, and overlooks. The images shown here represent the preferred images. This survey was helpful in developing a character for the site.

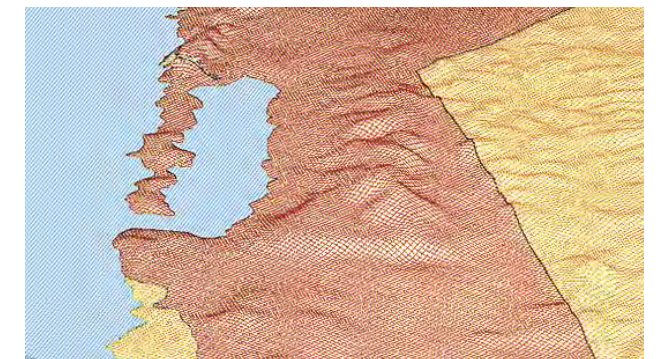
# Design Concept

## Water : Design Concept

Water is the element that defines this site. Drops, ripples and meanders inspire forms appropriate for the Gateway Parcel. More importantly, water is a means of incorporating objects into the landscape of the site. The smooth and long transitions of water-inspired forms encourage each element to merge within the larger context and to appear as "natural to the site".



Figure 40. Drops, ripples and meanders inspire forms appropriate for the Gateway Parcel, but more importantly they represent a way to incorporate elements into the project: with smooth and long transitions that encourage each element to merge with its environment and appear as "natural to the site".



1993. Source: JOHNSON, Haslam & Dawson. "The Great Central Valley" UC Press. p 7



1999. Source: Flood Hazard Mitigation Study. FEMA

Figure 41. The presence of water has shaped both the site as a flood plain and the entire Central Valley in California (shown above as it appeared 5 million years ago).

What PARAMETERS define the DESIGN from the point of view of: <b>ACCESS</b>	<b>DESIGN</b>	What PARAMETERS define the DESIGN from the point of view of: <b>RESTORATION</b>
<ul style="list-style-type: none"> <li>+ structures to endure flooding</li> <li>+ seasonal effect &amp; rotations</li> <li>+ organization of permanent program elements</li> <li>+ organization of temporary/seasonal program elements</li> </ul>	<p><b>Anchoring / Permanence</b> How rooted are things? How ephemeral?</p>	<ul style="list-style-type: none"> <li>+ plant material that is constant (perennial, evergreen) vs. non-constant (annuals, deciduous)</li> <li>+ plant palette selection according to their rooting systems</li> <li>+ design banks to prevent &amp; control erosion</li> <li>+ Valley Oaks to be preserved</li> </ul>
<ul style="list-style-type: none"> <li>+ programmable space requires to be dry for usage</li> <li>+ flooding could be a design element (lake, water feature)</li> <li>+ presence of water can organize space, by dividing areas</li> </ul>	<p><b>Permeability / Water Management</b> Where / How should water be collected? Where / How should it flow?</p>	<ul style="list-style-type: none"> <li>+ selection methods for water reclamation &amp; cleaning</li> <li>+ water should move within the site and should be absorbed within it</li> <li>+ hazardous materials issues</li> <li>+ plant palette selection according to their water requirements</li> </ul>
<ul style="list-style-type: none"> <li>+ people would like to access the space</li> <li>+ multi-modal options for movement in space is encouraged</li> <li>+ multi-modal interactions should be coordinated</li> <li>+ spatial experience is regulated by user's speed of movement</li> </ul>	<p><b>Traffic Control / Movement in Space</b> How fast users move in the space? Where can users go? How many users can go to any given place within the space?</p>	<ul style="list-style-type: none"> <li>+ prevention of habitat disturbance</li> <li>+ preservation &amp; creation of wildlife corridors</li> <li>+ prevention of vegetation disturbance during establishment periods</li> </ul>
<ul style="list-style-type: none"> <li>+ space organization: icons/landmarks vs. buffers/screens</li> <li>+ river visibility</li> <li>+ space hierarchy</li> <li>+ spatial depth of field</li> </ul>	<p><b>Visibility</b> What is most noticeable? What is less noticeable? What disappears?</p>	<ul style="list-style-type: none"> <li>+ wildlife protection / ability to hide</li> <li>+ making of the process visible for didactic purposes</li> <li>+ plant material that attracts wildlife</li> </ul>
<ul style="list-style-type: none"> <li>+ security &amp; sense of safety</li> <li>+ privacy vs. openness</li> <li>+ nightlife lighting</li> </ul>	<p><b>Enclosure / Illumination</b> Where is the light? The dark? How big is the space users inhabit? What determines the limits of each space within the overall space?</p>	<ul style="list-style-type: none"> <li>+ plants &amp; wildlife that require enclosure - physical barriers for protection</li> <li>+ sunlight control - plant material &amp; wildlife (fish)</li> <li>+ solar energy utilization</li> <li>+ noise control</li> <li>+ nocturnal wildlife disturbance</li> </ul>

Table 1. *Fusion Vocabulary for the Precise Plan.* Five categories were contemplated to accommodate both objectives of the design process -access and restoration. What emerged was a common vocabulary bridging the disciplines of design and environmental engineering.



Figure 42. *Fusion as a design strategy is defined as a product that is more than the sum of two parts; it is a new direction.*

## Fusion : Design Process

The approach for the development of the Precise Plan is rooted in the idea of *fusion* design, a philosophy that suggests that environmental and design needs (in this case river restoration and public access) are addressed in conjunction. The expected result is a new direction represented by an innovative hybrid solution, as opposed to the simple juxtaposition of two different or contrasting approaches to physical intervention.



Figure 43. *Gateway Parcel has the potential to create an excellent and healthy riparian area -restoration-, as well as a remarkable public open space -access-. Considering this, the Precise Plan focused on achieving a good balance between these two objectives.*

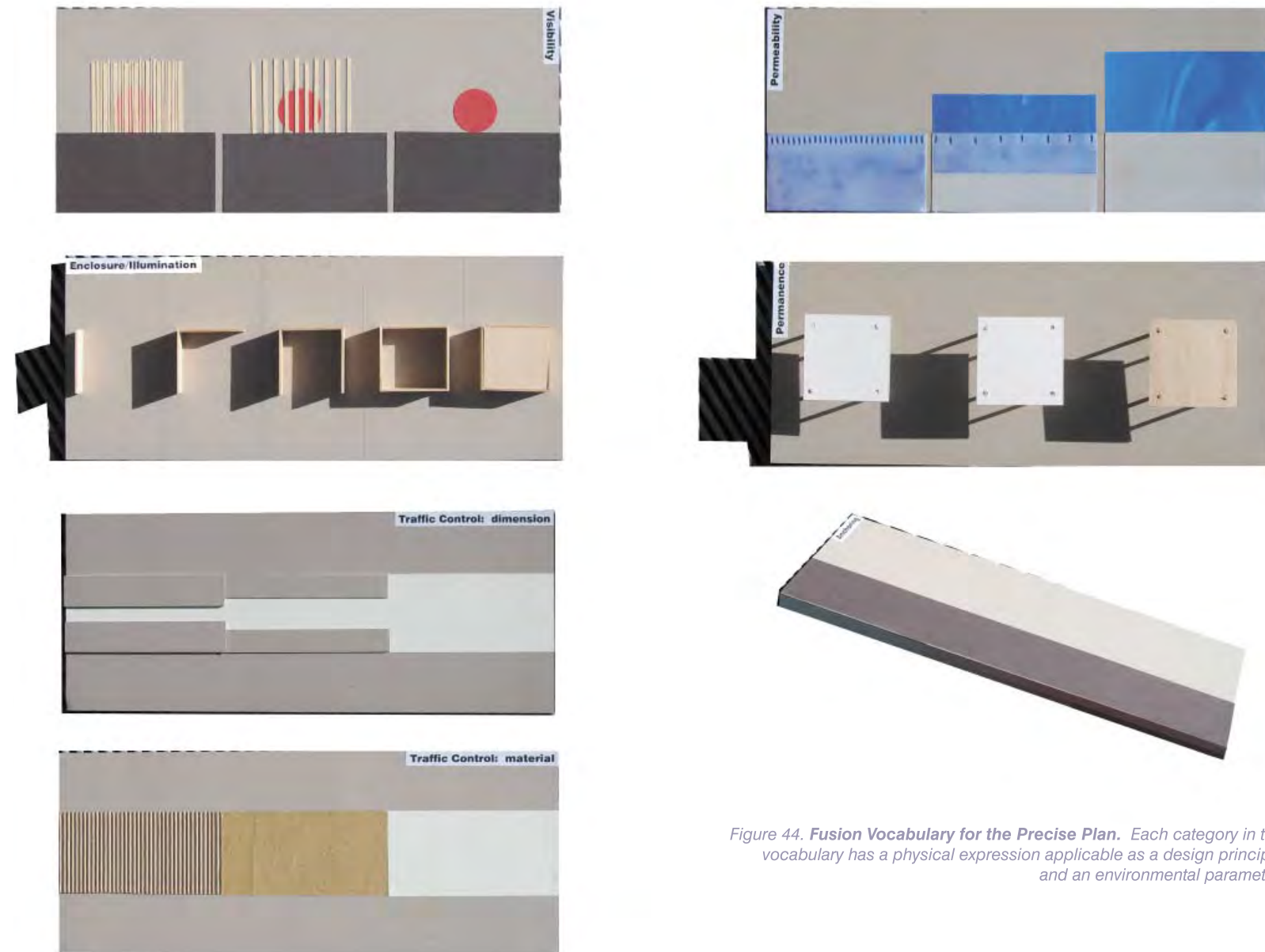


Figure 44. *Fusion Vocabulary for the Precise Plan.* Each category in the vocabulary has a physical expression applicable as a design principle and an environmental parameter.

## Water + Fusion : Design Vocabulary

Permeability, Permanence, Visibility, Traffic Control, Enclosure

The coexistence of public access and the restoration of the Tuolumne River and Dry Creek was the main goal of the Gateway Parcel's Precise Plan. At first, access and restoration were seemingly incompatible or contradictory. However, by creating a common design vocabulary (see Table 1), it was clear that both objectives could in fact be facilitated.

What emerged out of the process of *fusioning* these aspects of the project was a common vocabulary bridging the disciplines of design, and environmental engineering. This design vocabulary informed the design process from framework to detail design and helped provide the park a unique character.

Five categories were contemplated to accommodate the two objectives of access and restoration in the Gateway Parcel: permeability, permanence, visibility, traffic control, and enclosure. Because each category in the vocabulary has a physical expression, it is applicable as a design principle and an environmental parameter. Likewise, each category has at least three levels of intensity in its expression.

For example, the design was organized under the parameter of *visibility* suggesting that spaces could be highlighted, screened or made invisible to satisfy the diverse requirements of human users and sensitive wildlife, excluding neither one.

### Sample Calendar of Special Events

GATEWAY PARCEL ENCLOSED EVENTS			
MONTH	DAY	AMPHIMEADOW	MARKET SITE
APR	25		
	26		FARMERS' MARKET
	27		
	28		
	29		
	30		
	31		
MAY	1		
	2		FARMERS' MARKET
	3		
	4		FARMERS' MARKET
	5	CINCO DE MAYO	
	6		
	7		
	8		
	9		FARMERS' MARKET
	10		FARMERS' MARKET
	11		
	12		
	13		
	14		
	15		
	16		FARMERS' MARKET
	17	FAMILY CYCLING FEST	
	18		
	19		
	20		
	21		
	22		
	23		FARMERS' MARKET
	24		
	25		FARMERS' MARKET
	26		
	27		
	28		
	29		
	30		FARMERS' MARKET
	31		FARMERS' MARKET
JUNE	1		
	2		
	3		
	4		
	5		
	6		
	7		FARMERS' MARKET
	8		
	9		
	10		
	11		
	12		
	13		
	14		FARMERS' MARKET
	15		
	16		
	17		
	18		
	19		
	20		FARMERS' MARKET
	21		FARMERS' MARKET
	22		
	23		
	24		
	25		
	26		
	27		FARMERS' MARKET
	28	SUMMER MUSIC FEST	FARMERS' MARKET
	29		
	30		
JULY	1		
	2		
	3		
	4	4TH OF JULY	FARMERS' MARKET
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		FARMERS' MARKET
	13		
	14		
	15		
	16		
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	19		FARMERS' MARKET
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	21		
	22		
	23		
	24		
	25		
	26		
	27		FARMERS' MARKET
	28		
	29		
	30		
	31		
AUG	1		
	2		FARMERS' MARKET
	3		
	4		
	5		
	6		
	7		
	8		
	9		FARMERS' MARKET
	10		
	11		
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	23		FARMERS' MARKET
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	26		
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	28		
	29		
	30		FARMERS' MARKET
	31		
SEP	1		
	2		
	3		
	4		
	5		
	6		FARMERS' MARKET
	7		
	8		
	9		
	10		
	11		
	12		
	13		FARMERS' MARKET
	14		
	15		
	16	SEPTEMBER 15TH	
	17		
	18		
	19		
	20		FARMERS' MARKET
	21		
	22		
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	16		
	17		
	18		FARMERS' MARKET
	19		
	20		
	21		

- Legend
- Set Up
  - EVENT
  - Take Down
  - Recovery

Table 2. Sample Calendar of Special Events. Some of the events at the Gateway Parcel will be enclosed to prevent foot traffic from damaging sensitive areas of the park. This calendar reflects one possible scenario of events and approximate periods of setup, takedown and plant recovery.

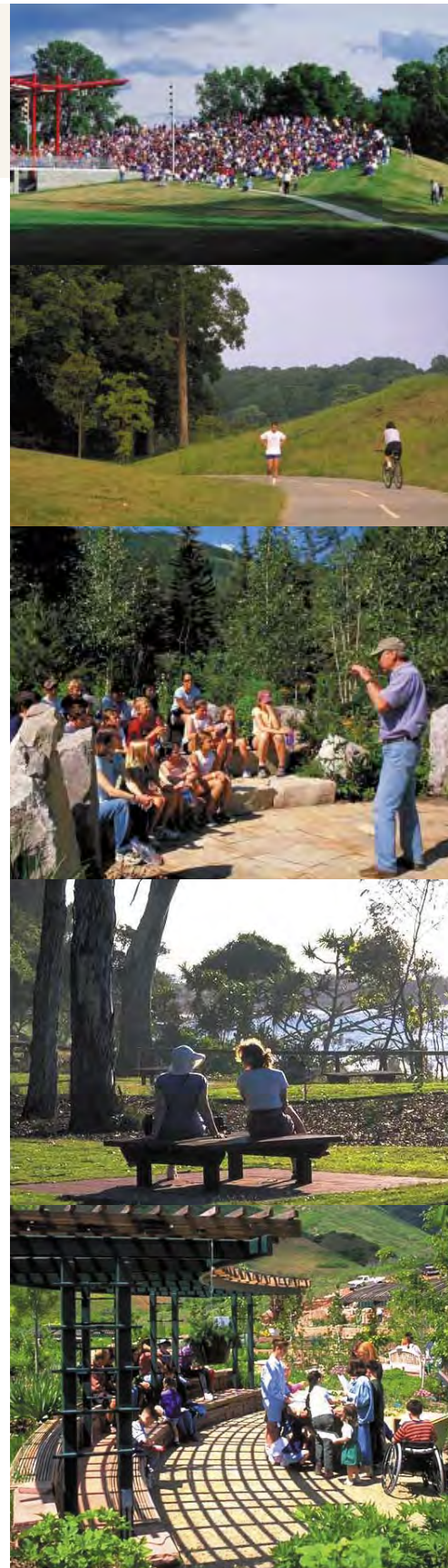


Figure 45. Activities in the Gateway Parcel will be primarily gathering and passive recreation.

## Program and Events

### Gateway Parcel Program

As established in the TRRP Master Plan, the Gateway Parcel will include the following program elements:

- Regional Gathering space
- Terraced Riparian Corridor
- Confluence Point and Pedestrian Bridge
- Multi-Use meadows
- Amphimeadow
- Vista Points and Pier Overlooks
- Children's Play Area

These program elements can be summarized in two main activities: gathering and passive recreation.

#### Gathering Program

Special events at Gateway Parcel will be enclosed with temporary fencing to prevent foot traffic from damaging sensitive areas of the park (see Figure 76). Additionally, the special events in the amphimeadow and the farmer's market area will be coordinated and scheduled to allow enough plant recovery time. The sample calendar shown in Table 2 represents one possible scenario of events and approximate periods for setup, takedown and plant recovery.

#### Passive Recreation Program

Providing passive recreation opportunities such as walking, picnicking, biking and jogging along the Riverwalk and the park's network of trails is one of the main objectives of the programming for Gateway Parcel. Trails will be accessible to all users at all times, including the periods while special events take place in the park. The multiple paths and trails in the park design assure that uninterrupted access to the Riverwalk is provided.

**\* Note Regarding Programming of Events in the Gateway Parcel:**

For the purposes of design and analysis, the Precise Plan assumed that the Tuolumne Boulevard extension will be constructed prior to operation of the park's large event facilities, which include the amphimeadow and the farmer's market area for special large events. However, construction of the Tuolumne Boulevard extension may not occur for several years due to funding issues.

To address this uncertainty, no special events, or amphimeadow events, will be programmed in the park until the Tuolumne Boulevard extension is constructed or an alternate access to the park is provided.

## TRRP Gateway Parcel Precise Plan

In response to the goal of the TRRP project to create a park where the recreational experience is oriented towards and compatible with the Tuolumne River, its water, natural resources, and processes, the Gateway Parcel was designed to accommodate multiple purposes including recreation, wildlife habitat, and education and interpretation.

The design team analyzed implications of the multiple environmental assessments, and the interpretation of the guidelines established for the Gateway Parcel in the TRRP Master Plan and devised a design concept where the Tuolumne River and its flow were the main inspirations. Thus, the aspects of the river studied by biologists and engineers became a physical expression in the design, and the requirements of public access helped organize the different types of restoration on the entire site.

Diverse public input also informed the design process. The consultant team developed the site plan shown in this chapter with this input and with the strong design concept centered on the dynamics of the Tuolumne River. The plan preserves the magnificent Valley Oak stand at Confluence Point and introduces new riparian terraces along Tuolumne River, a back-water channel on Dry Creek and swales and filtration areas throughout the site. Gateway Parcel's plan also provides ample public access and engages the community with a multi-modal pathway system, an amphimeadow event space, two playgrounds, picnic grounds, and a farmer's market area. The design reflects true fusion between use and restoration.

The main elements of the Gateway Parcel Precise Plan, which include the Amphimeadow, the Farmers' Market Area, the Riverwalk, the Multi-Use Meadow, the Outdoor Classroom, the Acorn Boardwalk, the Fishing Pier, the Fishing Deck and the Orchard Vista Point at the bluff, are illustrated in Figure 46 and are described in further detail below.



\* Potential storm water detention basin. Further analysis required to assess feasibility.

### Illustrative Site Plan

scale : NTS  
10.25.2004

Figure 46. **Precise Plan.** The Master Plan framework, environmental factors, public input and the design concept produced this final site plan, which reflects true fusion between use and restoration.



Illustrative Site Section A

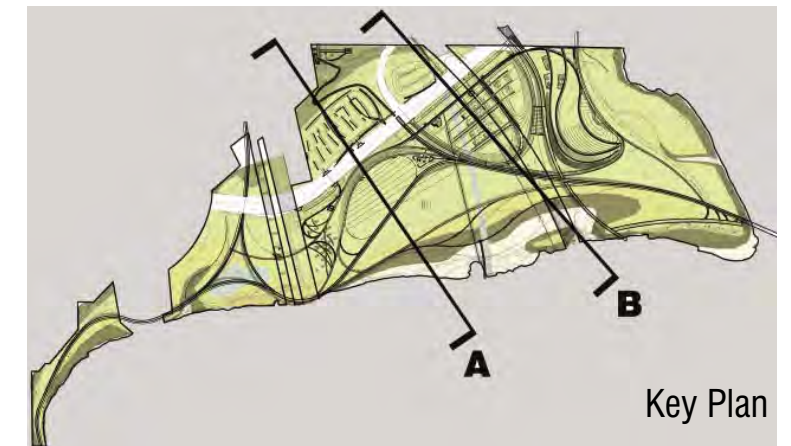
scale : NTS  
10.25.2004

Figure 47. **Section A.** The elevations in the park change to allow periodic inundation and foster diverse plant and wildlife habitats in the park.

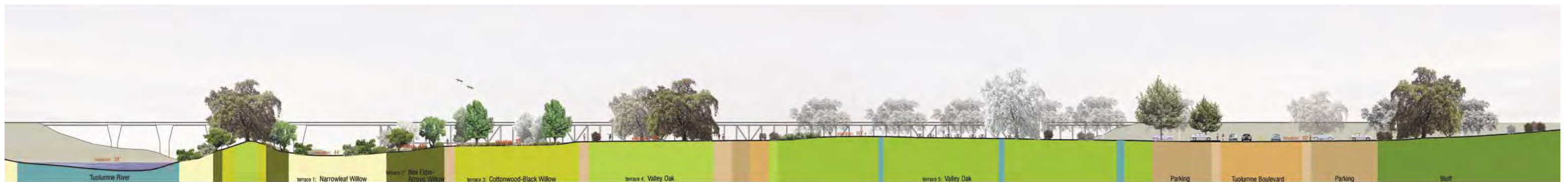
The concept of water is applied to the plan and results in a series of smooth, large, arched paths and trails that provide a complete experience of the site. As the user moves through the site, he is transported into a quieter zone along the river. Trails get narrow to encourage close observation of the environment.

Two central areas organize the space in the park, the amphimeadow to the East, and a gathering zone where weekly events, such as a farmers' market can take place.

In section, the different areas of the park slowly transition towards the river level with a series of terraces. Pathways (shown in tan color in the sections) are narrower near the river, where the vegetation is more dense, to encourage wildlife habitat.



Key Plan



Illustrative Site Section B

scale : NTS  
10.25.2004

Figure 48. **Section B.** Within the riparian terraces a piece of land was left at its current elevation in order to preserve some of the existing Valley Oaks. The small island is a wildlife refuge.



Amphimeadow in the Summer

### The Amphimeadow

An amphimeadow is proposed near Dry Creek on the eastern edge of the Gateway Parcel. The amphimeadow is a 70,000-square-foot grassy outdoor amphitheater with a natural “meadow-like” setting that includes native mowable grasses, decomposed granite paths, and narrow stone edges. No formal seating would be provided; audiences would sit on grassy slopes oriented toward the stage within the bowl-shaped landform. The amphimeadow would accommodate up to 3,000 people for concerts and other performances and community events. The amphimeadow would host performances during the summer months. In the winter the space would be allowed to over grow and visually merge with the surrounding riparian vegetation.



Amphimeadow in the Winter

Figure 49. The **Amphimeadow** is a large open space with mowable native grasses where outdoor performances can take place during the summer months. During the winter (see insert) the grasses are allowed to overgrow.

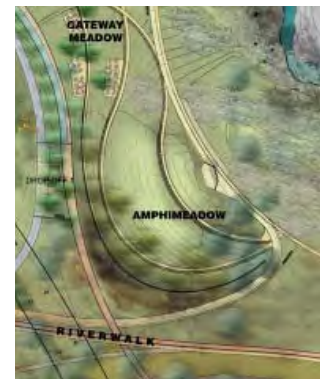




Figure 50. The **Acorn Boardwalk** protects the roots of the existing Valley Oaks from foot traffic, and provides an excellent location to appreciate and learn about the riparian restoration on site.

## The Acorn Boardwalk

The 500-foot-long boardwalk located near the confluence of Tuolumne River and Dry Creek is a feature intended to protect the roots of the existing Valley Oaks from foot traffic, and to provide an opportunity to appreciate and learn about the riparian restoration on site.

The handrail of the Acorn Boardwalk acts as a mechanism to discourage people from climbing into the lower terraces at Confluence Point. The handrail will also feature interpretive signage and an interactive interpretive installation where children will collect and deposit the Valley Oak acorns into the handrail meanwhile learning about the traditional practices of the Yokuts (the Native Americans who inhabited this part of the Central Valley).





## The Riverwalk

Diverse paths will run parallel to the Tuolumne River providing the opportunity to walk along the riparian edge and to access the river from strategic points. The Riverwalk is thus not a single path, but a braided system of pathways and trails that traverse the site from east to west and connects the Gateway Parcel with the rest of the sites of the Tuolumne River Regional Park.

The configuration of the Riverwalk allows for different visual and physical levels of contact with the river, while facilitating better understanding of the diverse plant communities and habitats of the riparian terraces. The Riverwalk provides access to the riparian terraces and opportunities to observe restoration areas. All of the paths comply with Americans with Disabilities Act (ADA) standards.

Figure 51. **Riverwalk.** Diverse paths will run parallel to the Tuolumne River providing access to a passive recreation area, and to the river from strategic points.





Farmers' Market Area in the Summer



Farmers' Market Area in the Winter

### The Farmers' Market Area

The area adjacent to the newly replaced Ninth Street Bridge provides space for small gatherings, group picnics, and weekly community events, such as a farmers' market. This area, which is enclosed by the only vehicular road south of the Tuolumne Boulevard, would be a very active space with easy access.

The Farmers' Market area is an arching landform with four large stepping terraces, where seasonal native meadow vegetation would be planted in rows to celebrate the agricultural past of the site and resemble fields with patches of color. The four terraces would provide 16 large market sites (each comprising approximately 300 square feet) and 64 small market sites (comprising approximately 50 square feet each) for temporary vending stalls. Five picnic areas would provide approximately 250 picnic tables for public use.

A farming heritage play area would also be provided near the Farmers' Market on a seasonal basis. Other features within the Farmers' Market area would include restroom facilities, parking, and gravel swales for drainage.

Figure 52. **Farmers' Market Area.** The area adjacent to the 9th Street Bridge provides a space for small gatherings, group picnics and weekly community events such as a farmers' market.

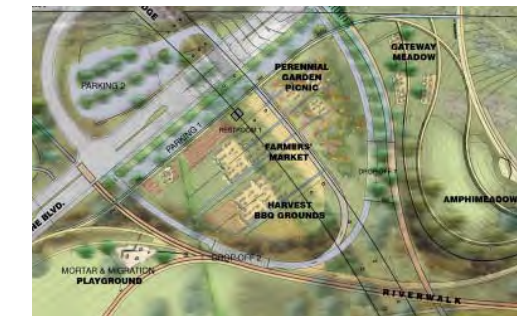




Figure 53. **Playground.**  
Alternative play equipment allow the playground to merge with the surrounding open meadow.



### Valley Oak Meadow

This would be a multi-use meadow offering picnic and playground facilities as well as passive recreation opportunities. The playground would include alternative play equipment in earth tones to blend with the surrounding landscape and would include some interpretive features. The meadow would be planted with low, native grasses and would provide opportunities for passive recreation activities such as walking, casual play, Frisbee, and kite-flying. The Valley Oak Meadow would also provide family picnic sites and restroom facilities.

### Outdoor Classroom

An area near the Seventh Street bridge would contain benches and tables for educational use. From this area, visitors would be able to observe the Tuolumne River and stormwater management facilities, and take interpretive walks along the park trails. This area would also provide an opportunity to display interpretive signage at the historic Seventh Street bridge.

### Fishing Deck

This feature would be constructed near the Seventh Street bridge at the edge of the Tuolumne River. The 18 foot-wide deck would provide a view of the river and its riparian corridor as well as fishing access.

## Other Features

### Fishing Pier

The fishing pier, an eight-foot-wide boardwalk on pylons, would be constructed on top of the riparian terraces and would extend into the Tuolumne River bed. The pier would allow visitors to stand approximately three feet above the water surface for fishing or observation.

### River Overlook

The River Overlook would consist of a path extending from Tenth Street south through the Gateway Parcel to the Tuolumne River. The southernmost portion of the River Overlook would be elevated on a 20-foot-high boardwalk above the riparian terraces that would extend to the river's edge.

### Orchard Vista Point

Located on top of a bluff to the north of the Gateway Parcel, the Orchard Vista Point contains existing vacant buildings that could serve as the site of a visitor/interpretation center. Its elevated vantage point offers views of the Gateway Parcel. Restroom facilities and family picnic sites are proposed at this site.

### Pedestrian Bridge

A pedestrian bridge is proposed near the confluence point of the Tuolumne River and Dry Creek. The 170 foot-long, 12-foot-wide bow truss bridge would extend from the eastern edge of the Gateway Parcel across Dry Creek to the Gallo property. This bridge is intended to eventually connect the Gateway Parcel to other park sites within Tuolumne River Regional Park, as proposed in the TRRP Master Plan.

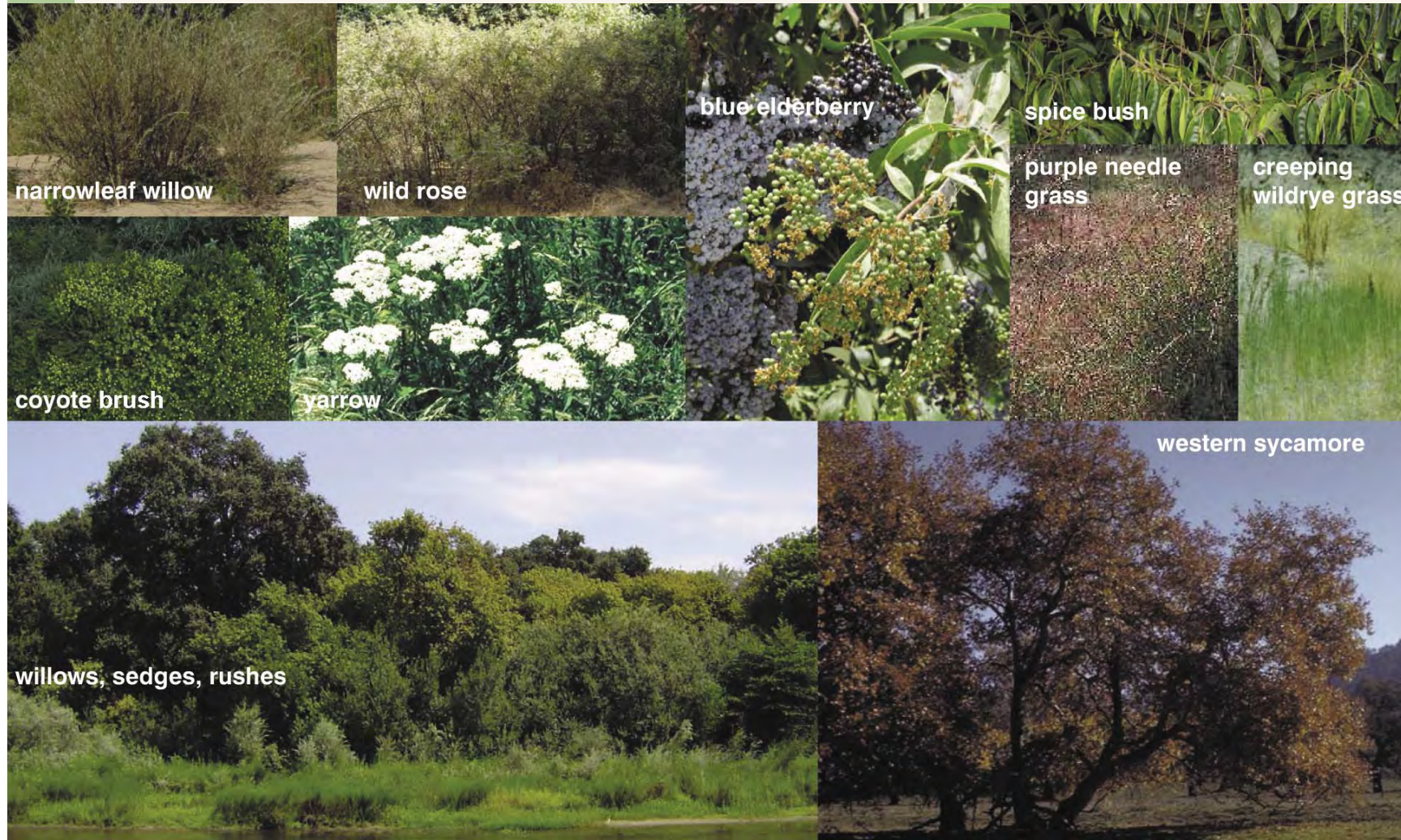


Figure 54. An all-native vegetation palette was selected for the Gateway Parcel. The different terraces will be populated with the appropriate plant species according to inundation frequency and corresponding plant associations.

- Terrace 1**  
Narrow Leaf Willow . Elevation 44 ft . 1.5 Year Flood . 4,000 cfs
- Terrace 2**  
Box Elder, Arroyo Willow . Elevation 48 ft . 2.2 Year Flood . 6,000 cfs
- Terrace 3**  
Fremont Cottonwood, Black Willow . Elevation 55 ft . 5 Year Flood . 11,500 cfs
- Terrace 4**  
Valley Oak . Elevation 60 ft . 10 Year Flood . 20,000 cfs
- Terrace 5**  
Valley Oak . Elevation >61 ft . 50-100 Year Flood . >20,000 cfs

## Riparian Terraces Definition

To encourage healthier river dynamics, and to favor diverse vegetation and wildlife habitat in the park, the team of designers, biologists and engineers proposed the creation of five terraces (levels) on the Tuolumne River's north bank. The different terraces are proposed to be populated with appropriate plant species according to inundation tolerances and plant associations.

### Legend

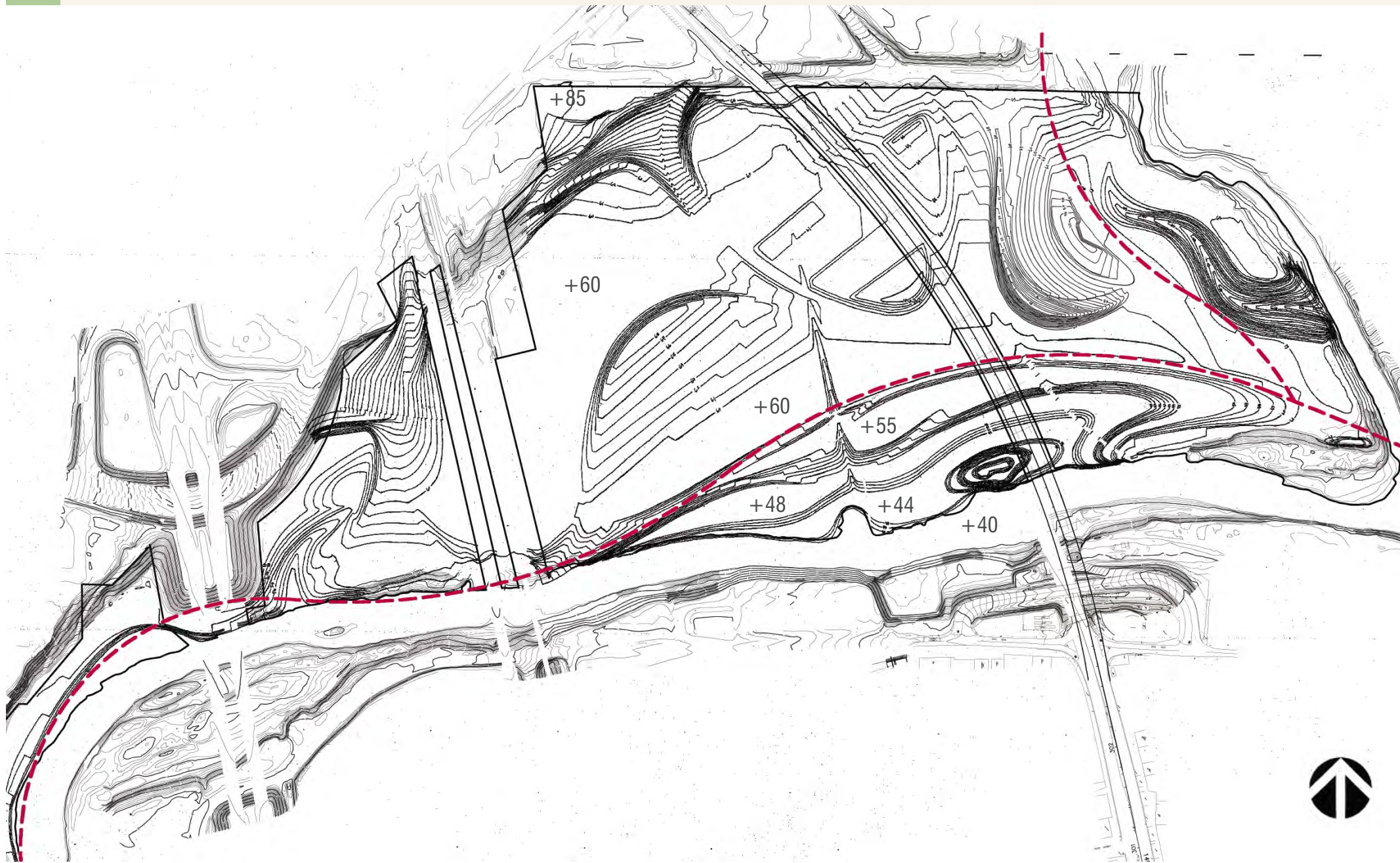
- TERRACE 1
- TERRACE 2
- TERRACE 3
- TERRACE 4
- TERRACE 5
- SWALES & RETENTION AREAS



## Riparian Terraces Plan

scale : NTS  
05.25.2004

Figure 55. Five terraces were carved out from the steep banks of the Tuolumne river. This will favor diverse vegetation and wildlife habitats.



## Grading Plan

The main goal of the grading for the Gateway Parcel was to create landforms that would allow uninterrupted water flow throughout the site during the different flooding events of the Tuolumne River. Additionally, perfect cut and fill balance was required to minimize earthwork cost.

The design accomplished these two objectives by digging out new terraces along the river, and by using the extracted material to create three large interlocking landforms, whose form is responsive to expected flow patterns. The hydraulic engineers in the team determined the horizontal extent of the lower terraces (1.5, 2.2, and 5-year floods) based on the Tuolumne River's 1800-ft radius of curvature, while the biologists helped determine the elevations for each terrace, based on inundation requirements for riparian plants and habitats. These lower terraces, with the highest frequency of flooding will ultimately encourage more natural river dynamics on the site, than the current single-terrace steep-slope river bank.

The design team worked together to massage the terraces into the rest of the park design. They also translated the cut and fill balance requirement into a concept of balance on park usage: the new terraces, back-water channel, and swales (or cut areas) are the zones with an emphasis on habitat creation, while the large landforms (or fill areas) are the zones where the main programmatic uses of the park occur (main gathering spaces), such as the amphimeadow, the farmers' market site, and the multi-use meadow.

## Grading Plan

10.25.2004

Figure 56. Based on the terrace design, the grading plan was developed to achieve a perfect cut and fill balance. The limit for the first 3 terraces along the Tuolumne River was determined by the Radius of Curvature established in the site analysis - shown in red (also see Figure 36).

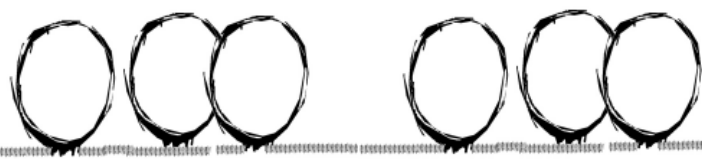
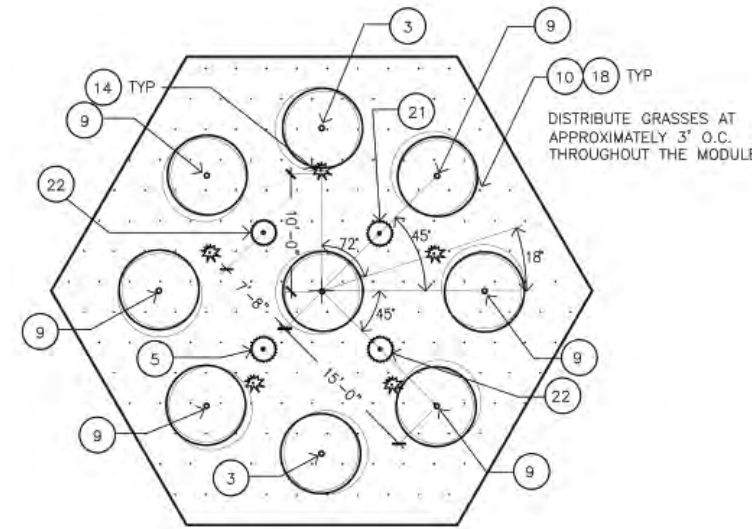
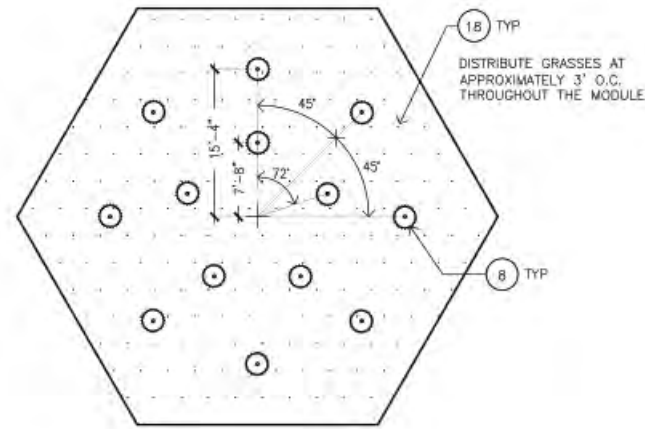


## Vegetation and Planting Plan

The design team developed the planting for Gateway Parcel with a restoration method that distributes the native vegetation in hexagonal modules. Each planting module is a unique combination of native plants appropriate for this stretch of the Tuolumne River. After the initial modular planting, in which small tree saplings and groundcovers are planted in the specified configuration, plant survival rates and recruitment will eventually refine the vegetation patterns of the riparian zone. Within about three years from installation, the rigid form of the hexagon dissolves as certain plants die and others take over, filling the gaps.

The overall final effect of planting in the project will reflect the restoration focus. The initial modular approach for design and installation of the plants allowed the designers to reinforce the park's design vocabulary by creating enclosures, facilitating movement from space to space, and providing different degrees of visibility (responding to users' safety requirements, while protecting sensitive wildlife habitat).

In some areas of the upper terrace, the team of designers and biologists proposed planting with "exploded" modules, where individual plants in rows or groupings would follow features of the park, highlighting areas, or creating enclosures. The hexagons in the plan (Figure 58) represent plant combinations or restoration modules. Some modules include trees and groundcovers, while others include only grasses. The larger pink zones in Figure 58 indicate planting in non-modular arrangements, and the smaller hexagons indicate large specimen trees.



**BBSH - Buttonbush**

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY
8	Cephalanthus occidentalis var. californicus	Button bush	13
18	Carex barbarae	Santa Barbara Sedge	115



**MCTN - Mixed Cottonwood**

KEY	BOTANICAL NAME	COMMON NAME	QUANTITY
3	Fraxinus latifolia	Oregon Ash	2
9	Populus fremontii	Fremont Cottonwood	7
22	Rosa californica	Wild Rose	2
10	Leymus triticoides	Creeping Wildrye	38
18	Carex barbarae	Santa Barbara Sedge	38
14	Artemisia douglasiana	Mugwort	5
5	Rubus ursinus	California Blackberry	1
21	Vitis californica	Wild Grape	1

Figure 57. Restoration Planting Module Samples. Each of the hexagons in the plan represent a plant combination or restoration module, like the ones shown above. Some modules include trees and groundcovers, while others are only grasses.

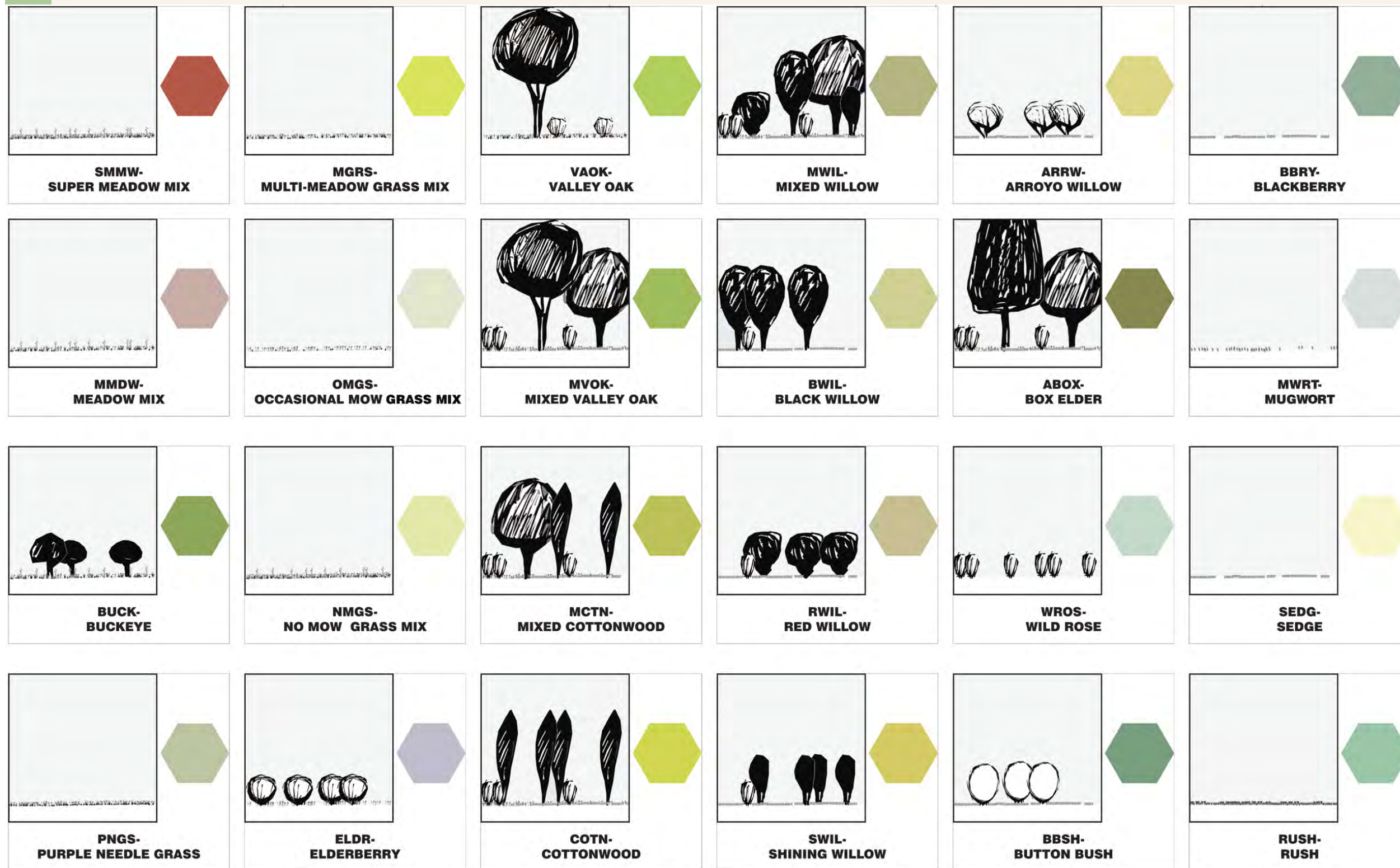


Legend

-  Restoration Planting Modules
-  Specimen Trees (in addition to Restoration Modules)
-  Specimen Planting Areas (shrubs and understory)

Planting Plan  
10.25.2004

Figure 58. The planting for the Gateway Parcel was developed with a restoration method that distributes the native vegetation in a modular fashion. Plant survival and recruitment eventually defines the patterns that will appear in the riparian zone. Additionally, some areas in the upper terrace were planted with specimen plants to follow the landforms in the park.



Restoration Planting Modules

10.25.2004

As mentioned earlier, each planting module represents combinations of native plants appropriate for the five terraces proposed in the project.

Figure 59. Each planting module represents a unique combination of native plants from the master planting list selected for this stretch of the Tuolumne river.

## Site Materials and Paving Plan

Paving materials for the Gateway Parcel were selected according to how their permeability, texture and durability matched different uses and characters in the park. Materials, which include turf block, gravel, decomposed granite, boardwalks and permeable asphalt, help the park user transition from the city edge (wide, smooth paths for faster movement) into the riparian zones (narrow, textured trails for slower movement). The materials' textures and the dimensions of the paths thus help organize different users (strollers, walkers, joggers, bikers, drivers) and discourage abuse of sensitive areas.

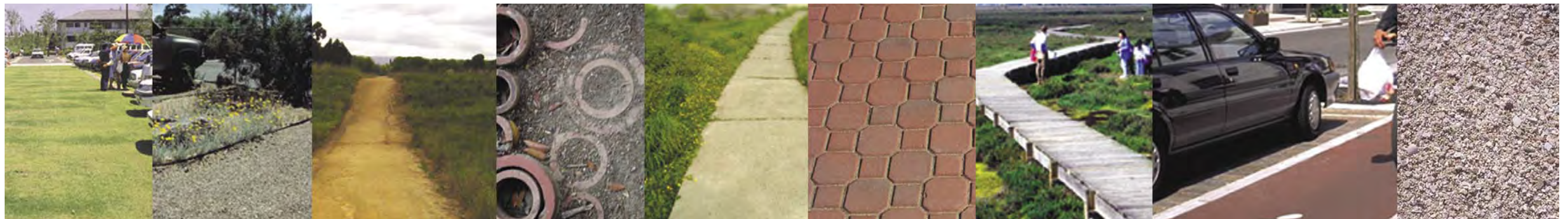
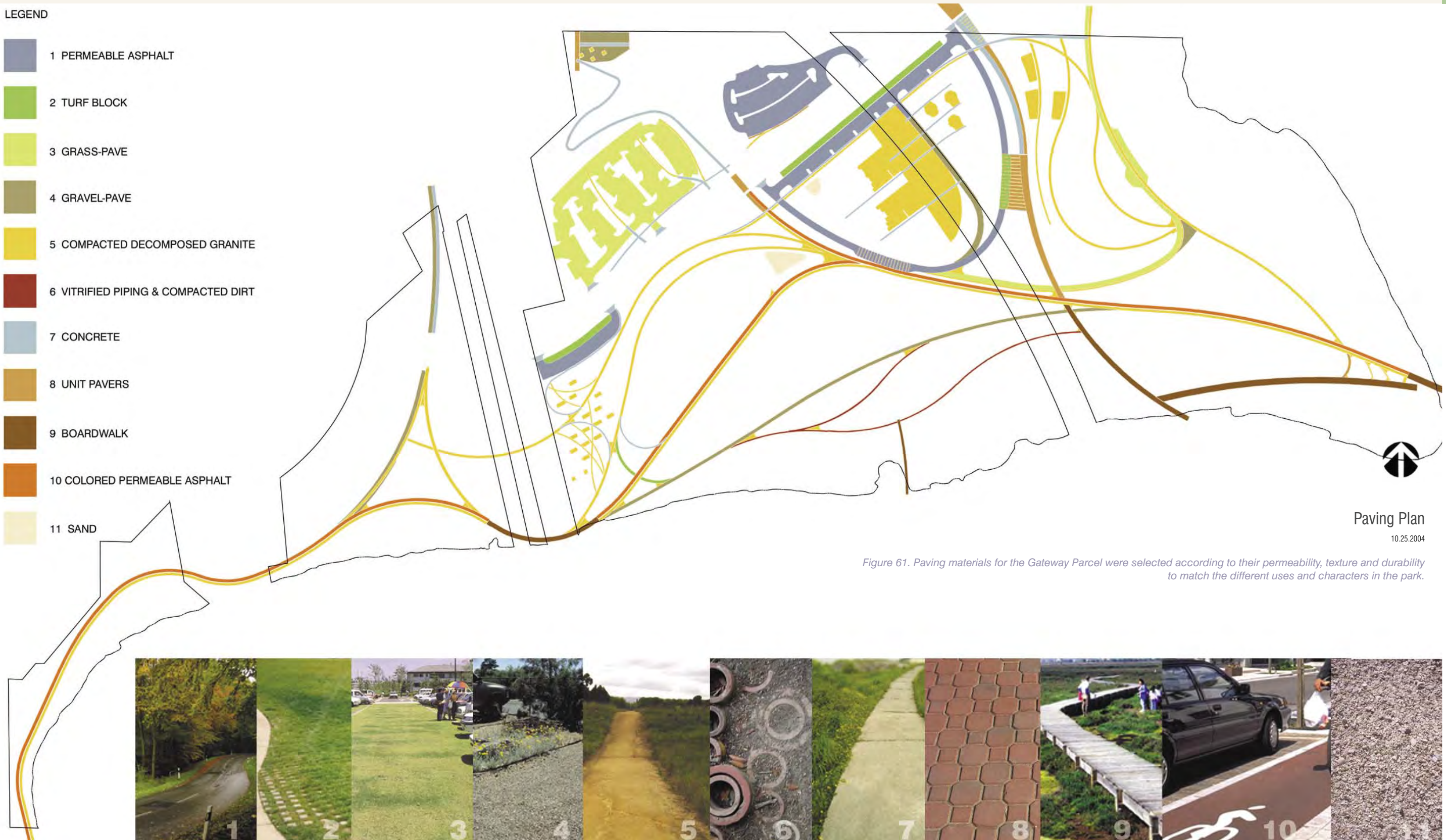


Figure 60. Turf block, gravel, decomposed granite, boardwalks and permeable asphalt are just some of the materials suggested for use in the park.

LEGEND

-  1 PERMEABLE ASPHALT
-  2 TURF BLOCK
-  3 GRASS-PAVE
-  4 GRAVEL-PAVE
-  5 COMPACTED DECOMPOSED GRANITE
-  6 VITRIFIED PIPING & COMPACTED DIRT
-  7 CONCRETE
-  8 UNIT PAVERS
-  9 BOARDWALK
-  10 COLORED PERMEABLE ASPHALT
-  11 SAND



Paving Plan  
10.25.2004

Figure 61. Paving materials for the Gateway Parcel were selected according to their permeability, texture and durability to match the different uses and characters in the park.





Fishing Pier



Bluff Path



Riparian Terraces Trail



Upper Terraces Path



Riverwalk



Fishing Deck



Loop Road and 10th St. Entry

key material	location	dimension	frequency	speed	texture	visibility	permeability
1 permeable asphalt	daily parking	43': 25' lane+ 18' stall	high	normal	smooth	high	low
	Loop Road	20': one-way road					
2 turfblock	weekly parking	18' stall	weekly	slow	medium	medium	medium
3 grasspave	overflow parking	43': 25' lane+ 18' stall	low	very slow	coarse	low	high
	Amphimeadow maintenance road	20'					
4 gravelpave	Lion Swale maintenance road	20'	low	very slow	coarse	low	high
	upper riparian terrace	8'					
5 compacted dg	plaza	50'	medium	medium	medium	high	medium
	park paths	18:10+8					
	in the park	10' & 8'					
6 vitrified piping	riparian terrace paths	5'	low	slow	coarse	medium	high
7 concrete	vista point path	8'	high	fast	smooth	high	low
	10th street entry	15'					
	7th street entry	8'					
8 unit pavers	10th street entry	47-20'	high	fast	smooth	high	low
9 boardwalk	acorn boardwalk	20'	low	slow	coarse	high	high
	fishing deck	16'					
	fishing pier	8'					
	river overlook	15'					
10 colored permeable asphalt	riverwalk-bike path	20:10+2+8	high	fast	smooth	high	low
11 sand	playgrounds	-	medium	slow	smooth	medium	high

Paving and Materials Palette

Table 3. Materials palette. Each material in the Gateway Parcel was chosen to control the speed of movement and the quantity of users each specific location of the park.

Figures 62 to 68. Typical Site Sections. In addition to material selections, each path in the park was dimensioned according to its traffic requirement for safe and comfortable use of the park.

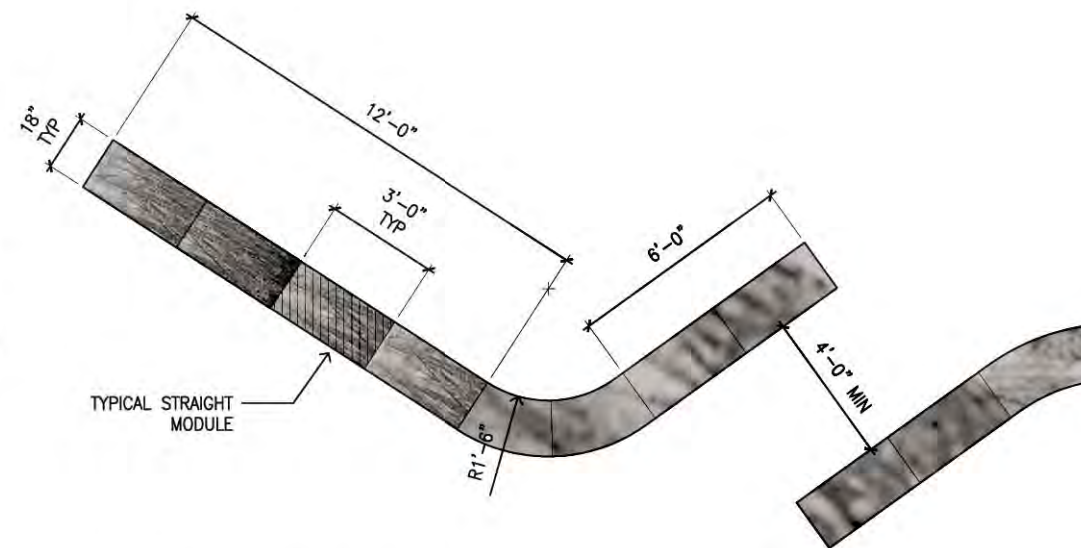
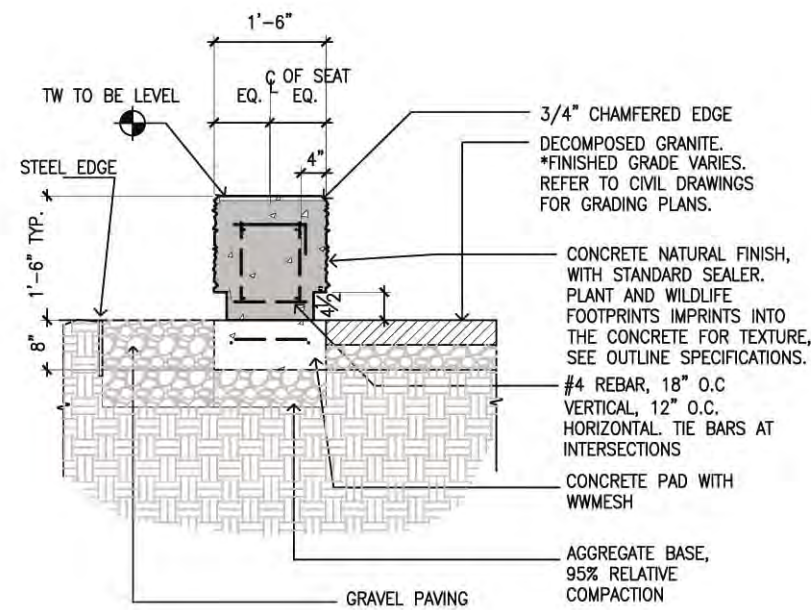


Playground Equipment

Figure 70. **Playground Equipment.** New and alternative options in playground equipment were studied for the Gateway Parcel.



Figure 69. **Permanent Site Furnishings.** Preliminary site furnishings selected for the Gateway Parcel.



NOTE:  
1. PRE-CASTED MODULES ARE 18"Hx18"Wx36"L.  
2. MODULES ARE STRAIGHT OR CURVED AND PLACED ON TOP OF CONCRETE SLAB WITHOUT ADHESIVES OR ANCHORING, AS PER LAYOUT PLANS.

## Site Furnishings

### Permanent Site Furnishings

The idea for the site furnishings is to keep a simple, sturdy and clean palette allowing the diverse environments to stand out. The approved installation method for elements situated on a flood plain such as the Gateway Parcel is to limit permanently fixed items in the area (deep concrete footings and permanent anchoring). Thus pre-cast concrete for furnishings is the preferred material since they do not require anchoring.

Benches and waste containers will be "imprinted" with plant shapes to reflect the terrace in which the piece of furniture is located.

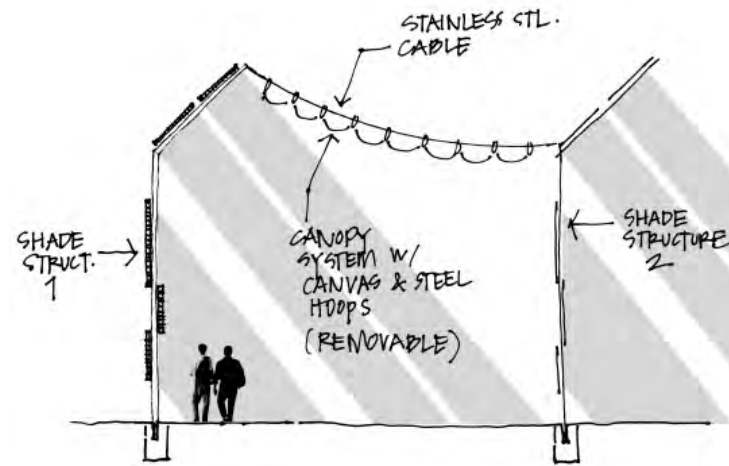
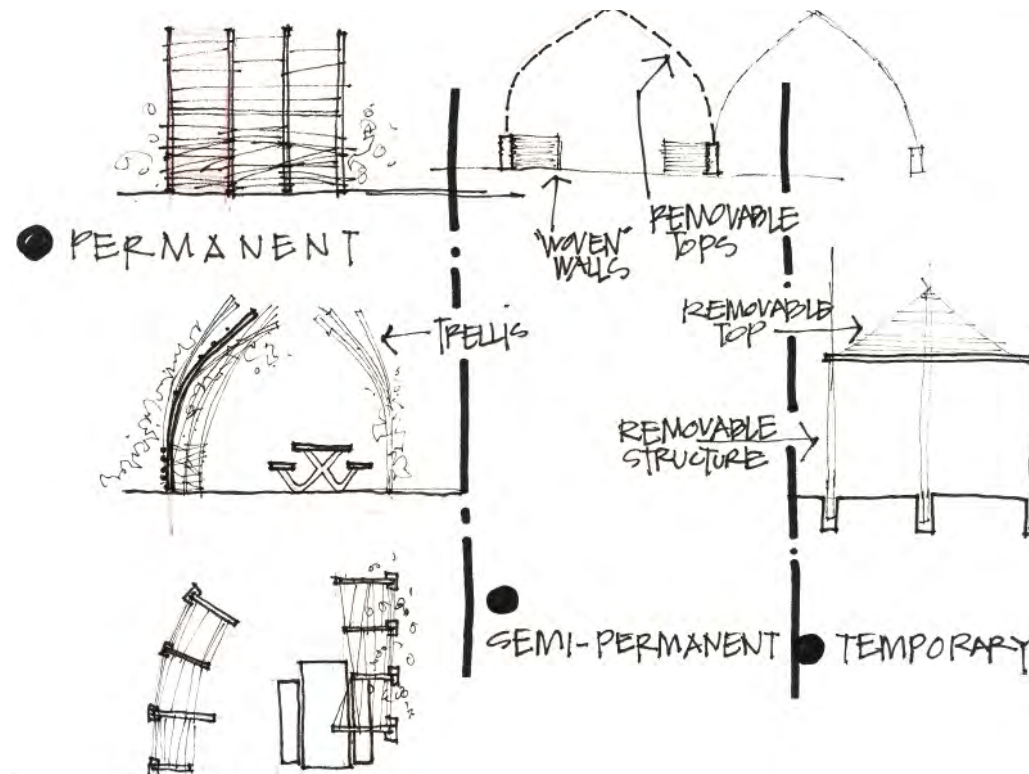


Figure 71. Seasonal and Removable Furnishings. Removable canopies and fencing will be used in the park.



### Seasonal and Removable Site Furnishings Concepts

Some structures and furnishings in the park will be temporary to provide flexibility and to create an effect of the park going “dormant” during the winter months.

For example, some picnic sites in the farmers market area will have temporary canopies used only in the hot summer months. Another example is the removable fencing for the amphimeadow during events.

# Park Usage and Functional Diagrams



Parking Types Diagram  
scale : NTS

Figure 73. Parking is classified in 3 types.

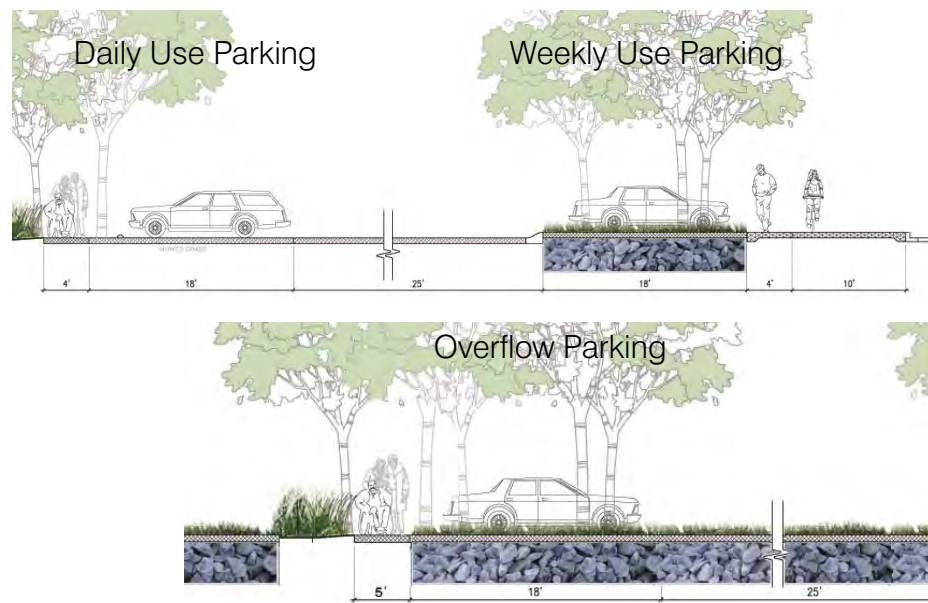


Figure 72. Weekly and overflow parking function as underground retention areas where runoff can be stored and slowly absorbed.



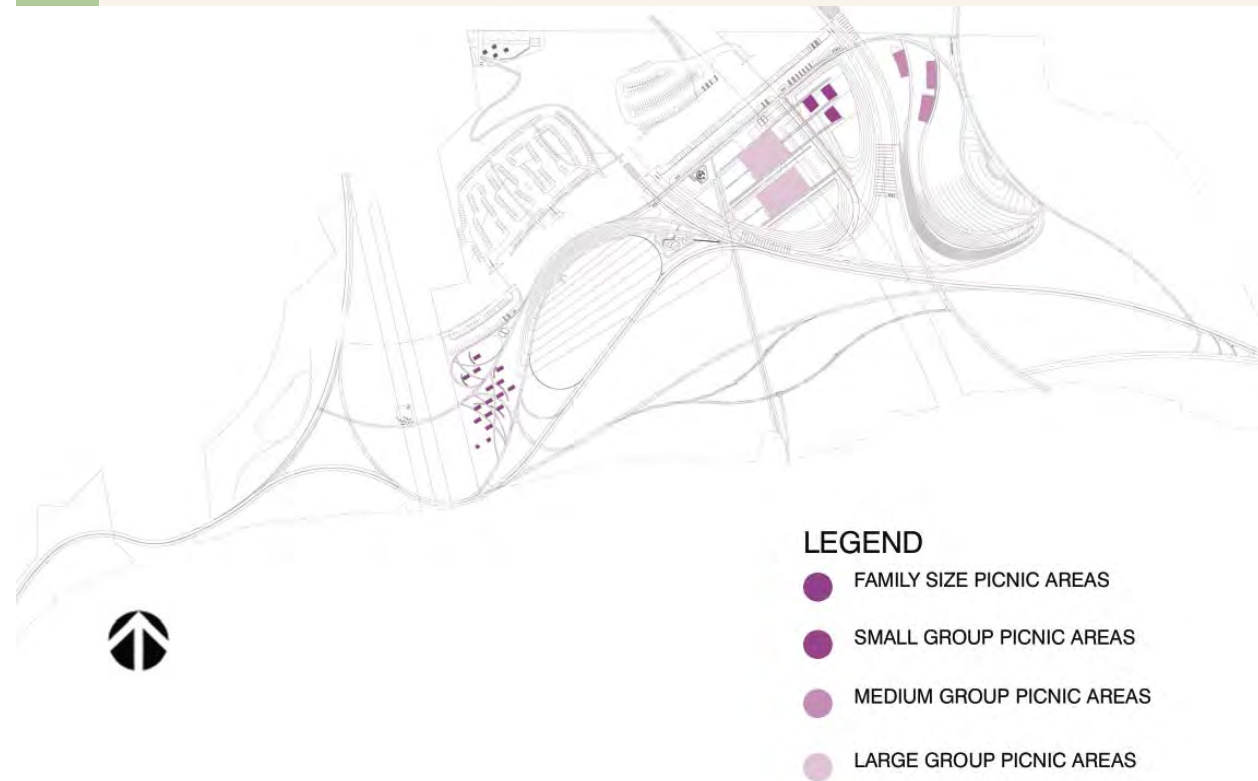
Circulation Diagram  
scale : NTS

Figure 74. Circulation is organized for fluid movement across the park with emphasis on the pedestrian network. The loop road delineates active zones.

## Circulation and Parking Concept

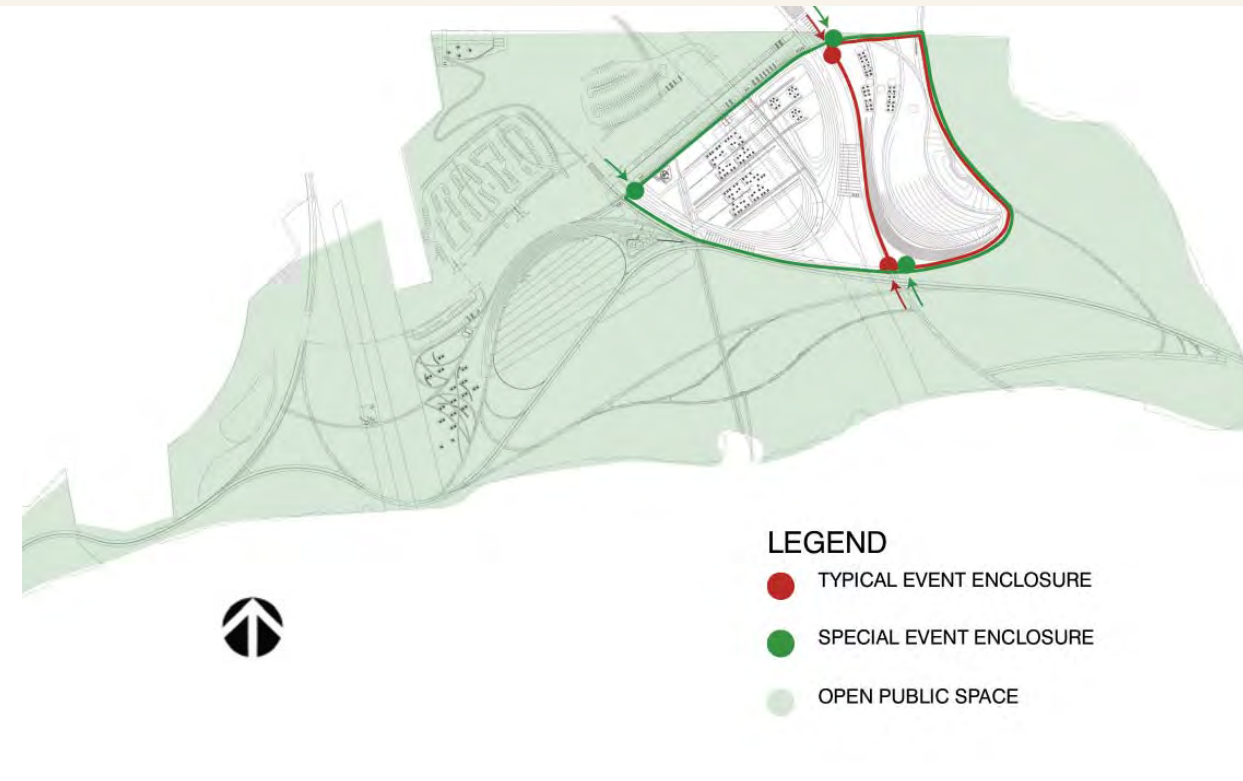
Circulation in the park was designed to allow maximum pedestrian usage, uninterrupted bicycle movement along the Riverwalk and easy connection with the adjacent TRRP parcels (future East-West extension of the Riverwalk). Vehicular circulation is concentrated along the Tuolumne Boulevard Extension and in the proposed loop road. The loop road will provide access and drop-off areas to the event spaces only (i.e. amphimeadow and farmers' market area).

Parking areas are located adjacent to the Tuolumne Boulevard Extension and are classified in three types according to their frequency of use. Daily and weekly use parking lots will be utilized by bikers and picnickers primarily on weekends. The overflow parking lot located north of Tuolumne Boulevard will be planted with grasses and shrubs. The grasses will be mowed during the summer months to provide parking for park event attendees.



Picnic Facilities Diagram  
scale : NTS

Figure 75. Picnic sites are grouped in 4 categories depending on group size. The larger groups are located around the Farmers' Market area, while the smaller groups are in quieter zones of the park.



Event Enclosure Diagram  
scale : NTS

Figure 76. Events will require crowd control to prevent damage of riparian zones from excessive foot traffic. This diagram illustrates the zones of enclosure during 2 types of events. The larger portion of the park will remain open and usable to most park users during any event.

## Park Facilities

Facilities in the Gateway Parcel include picnic sites for individuals and groups. Two subdivisible large group sites accommodate a maximum of 288 persons each. Three medium size group sites have a capacity of 96 people each, while three small group picnic areas accommodate a total of 48 visitors each. Additional family size picnic facilities are located in the bluff and the area west of the multi-use meadow.

The facilities for large gatherings are the amphimeadow and the farmers' market area where special events will take place in the summer months. It is recommended that crowd control measures are implemented during these events to prevent damage of the riparian zones of the park. The park was thus designed to facilitate two enclosure conditions as illustrated in Figure 76. Temporary fencing aligned adjacent to park paths will delineate the extent of the special events preventing excessive foot traffic in sensitive areas or the park. The larger portion of the park (indicated as "open public space" in Figure 76) will remain open and usable to regular park users during all special events.



Legend

- POWER
- POTABLE WATER
- IRRIGATION P.O.C.
- FIRE HYDRANT
- SEWER P.O.C.

Site Utilities Points-of-Connection  
scale : NTS

Figure 77. Basic utilities are provided in picnic sites, restrooms, and the amphimeadow.



Legend

- SINGLE LIGHT POST 15' H
- ⊖ DOUBLE LIGHT POST 15' + 20' H
- ⊖ DOUBLE LIGHT POST 20' + 20' H
- ⊖ BOLLARD LIGHT ~ 39" H
- ⊖ BOLLARD LIGHT ~ 21" H
- ⊖ BUG LIGHT
- ⊖ SOLAR LIGHT POST
- +— LED LIGHT IN HANGAR
- ⊖ WALL MOUNTED LIGHT
- ⊖ SCIENCE
- GENERAL ILLUMINATION
- LOW ILLUMINATION SOLAR FIXTURES
- INTENSE & CONSTANT ILLUMINATION
- SPECIAL EVENT ILLUMINATION ONLY

Lighting Concept Diagram  
scale : NTS

Figure 78. Lighting in the park is distributed to provide sufficient illumination while protecting wildlife areas from excessive night light.

## Lighting Concept

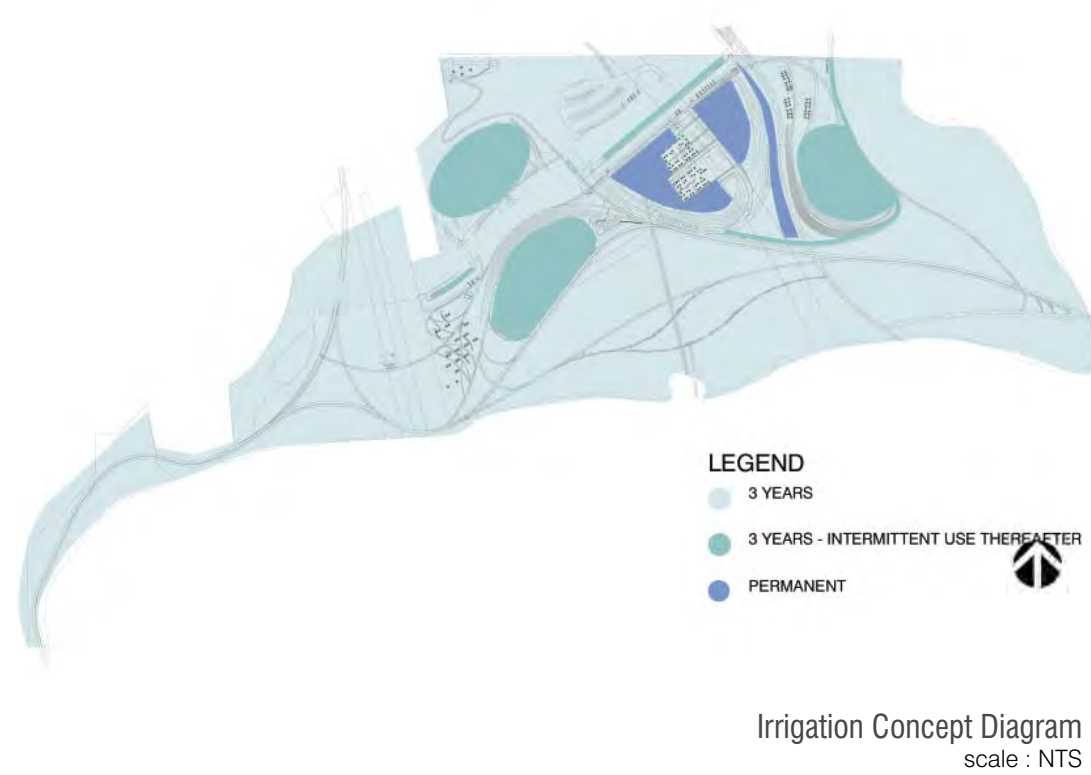
Lighting for the Gateway Parcel is proposed to balance the safety requirements of the park with the desired natural character of the project. The goal is to provide sufficient illumination for park users, while protecting wildlife areas from excessive night light.

This concept is achieved by distributing low-illumination solar fixtures in the riparian zones and intense, constant illumination fixtures in the farmers' market area. Seasonal areas, such as the amphimeadow and the overflow parking lot will be illuminated only during events. In general illumination zones, light fixtures will be directed away from the habitat areas.



**Fire Combatment Diagram**  
scale : NTS

Figure 79. Main trails in the park are accessible to fire engines. Additionally, hydrants will be placed in the hard-to-reach areas.



**Irrigation Concept Diagram**  
scale : NTS

Figure 80. Irrigation will be installed as a temporary utility in the riparian zone.

## Fire Combatment and Irrigation Concept

A spray irrigation system will be installed as per design layouts for each planted polygon (See Figure 80). The amount of irrigation, as well as outlet type will vary depending on the planted species and location. All of these methods will be adjusted annually as deemed necessary to improve revegetation performance, and all adjustments will be reported to the County on an annual basis.

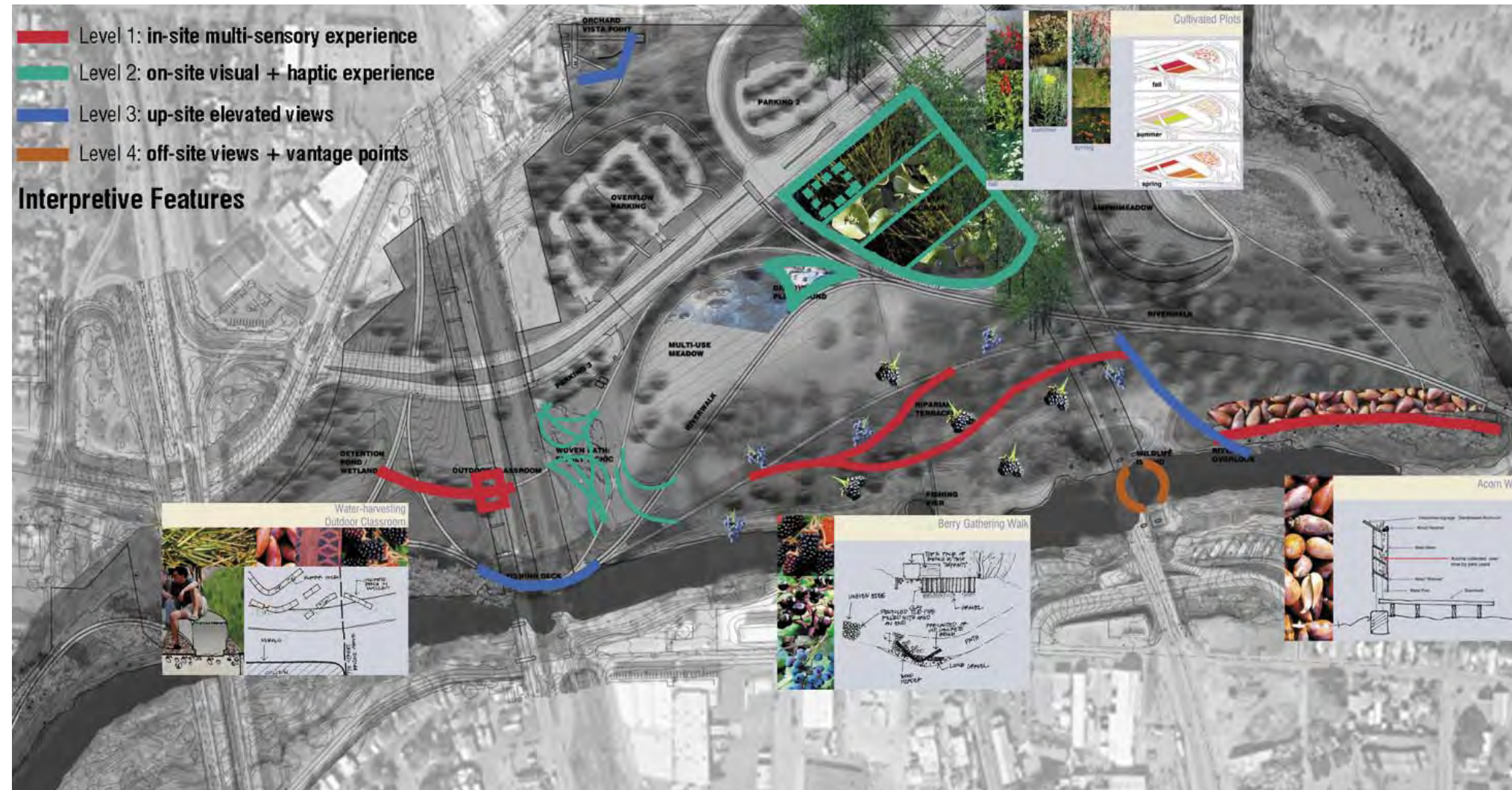
The restoration areas will be irrigated to promote plant survival during the drier months of the year, primarily the summer months. Irrigation may be used in winter months to simulate a normal or above normal rainy season if natural precipitation is lacking.

It is anticipated that periodic irrigation will be phased out after 2 to 3 years once the landscape is established. A permanent irrigation system may be left in place for fire protection during unusually dry years. The necessity for a permanent irrigation system will be determined during Construction Documentation in coordination with the City of Modesto maintenance crews.

Additionally, a system of fire hydrants will be installed on site for fire protection.

# Interpretation and Education

Legend



## Interpretive Plan

Historically, the Tuolumne floodplain was an important resource. Beginning with Native American hunting and gathering through to modern-day agriculture, the site has served human needs because of the presence of water. Tracking the history of different ways of connecting to the water of the Tuolumne is the premise of the interpretive elements on the site.

The Gateway Parcel design presents a number of opportunities to express and interpret the history that has shaped the Central Valley in general and this site in particular. The interpretive experiences on site are organized into 4 levels of interaction; each one demanding a deeper immersion into the park for its enjoyment. Features labeled as level 1 for example, engage the user in a multi-sensory experience, whereas the level 4 elements simply highlight views into the park from off-site locations and vantage points.

As both a restoration site and recreational space, the Gateway Parcel is poised to become an important public space for educational purposes on environmental issues as well as an outdoor interpretive site for local history.

Interpretive Program Elements and Levels of Interaction

scale : NTS

Figure 81. The interpretive program will provide interest and destination points to the park. The elements in the interpretive plan will engage the visitor in 4 levels, each one involving different sensory connections.

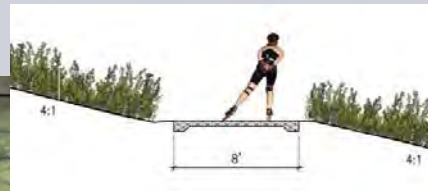


Gateway Parcel, view from Vista Point, 2004

## Orchard Vista Point

### Level 3 . up-site elevated views

- TRRP visitor center
- signage about the history of the site & the park



Tuolumne River, view from 9<sup>th</sup> st Bridge, 2003

## Belvedere

### Level 4 . off-site views + vantage points

- panoramic view of park from 9<sup>th</sup> st bridge
- direct view into "wildlife island"
- signage about riparian habitats



## Interpretative Features Levels 4 and 3

Levels 3 and 4 interpretive features are located where opportunities for panoramic vistas are possible. Conventional signage illustrates different aspects of the site and invites the visitor to explore further.



Tuolumne River & 9<sup>th</sup> st Bridge, 2003

## River Overlook

### Level 3 . up-site views + vantage points

- river flow & flooding regimens
- vantage point to see different terraces & experience them on the way
- signage integrated in boardwalk/bridge



Tuolumne River, RR Trestle & 7<sup>th</sup> street Bridge, 2004

## Fishing Deck

### Level 3 . up-site views + vantage points

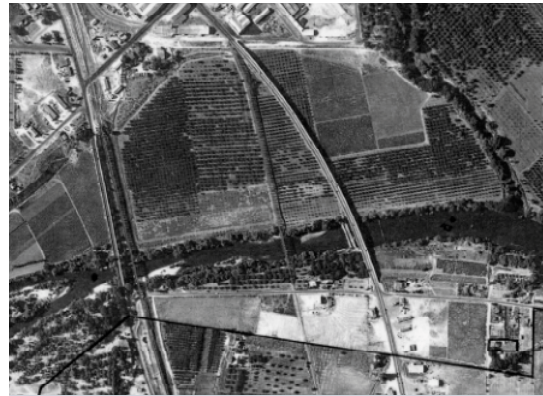
- water: runoff, detention
- river dynamics & fish migrations
- art opportunity to integrate signage in handrail



Level 4 is the Belvedere from the top of the new Ninth Street Bridge.

Level 3 features include the Orchard Vista Point on top of the bluff, the River Outlook at the end of the 10th Street pedestrian access, and the Fishing Deck located under the 7th Street and the RR Bridges. These areas feature interactive signage narrating different aspects of the site's history.

Figure 82. Interpretive Features Levels 3 & 4.

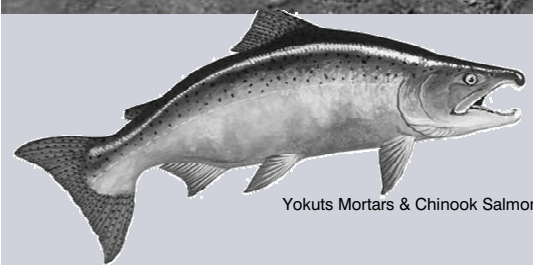
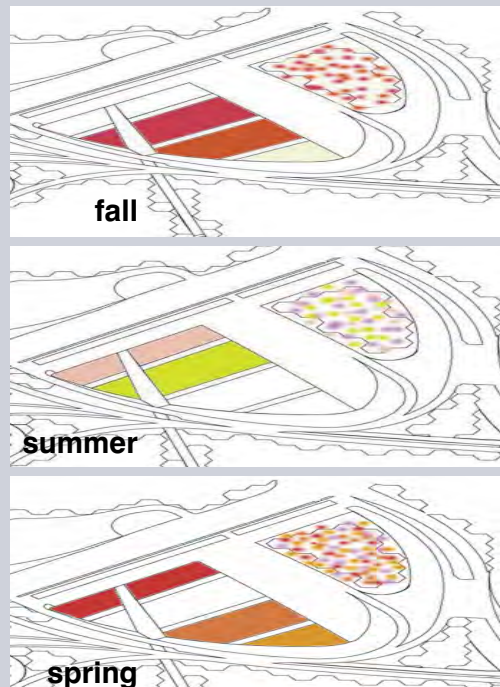


Gateway Parcel . Aerial Photo, ca.1937

### Cultivated Plots

Level 2 . on-site visual + haptic experience

- agricultural heritage
- native plants “fields”
- native black walnut orchard



Yokuts Mortars & Chinook Salmon

### Mortar & Migration Play

Level 2 . on-site visual + haptic experience

- river dynamics : sediment transport
- fish migration
- Yokuts heritage : mortar for acorn pounding



"BOLDR" playground equipment



### Interpretative Features Level 2

Levels 2 interpretive features engage the user in active interpretation and are located where opportunities for viewing and learning are possible.

Features in this level include the Cultivated Plots in the farmers' market area, the Mortar and Migration Play, the Farming Heritage Play (see page 43) and the Woven Paths.

The Cultivated Plots are meadows of native vegetation planted in agricultural patterns near the Farmer's Market area to remind visitors of the agricultural heritage of the site. At the Mortar & Migration Play kids will learn about the ancient practice of the Valley Oak acorns pounding while they play on boulder-like structures that tell the story of the Tuolumne River transport of sediment and the fish migration patterns.

These interpretive features will have limited signage. The goal of the Level 2 interpretation program is to allow the activities involving the user to convey the story of the site.

Figure 83. Interpretive Features Levels 2: Cultivated Plots and Mortar & Migration Play.

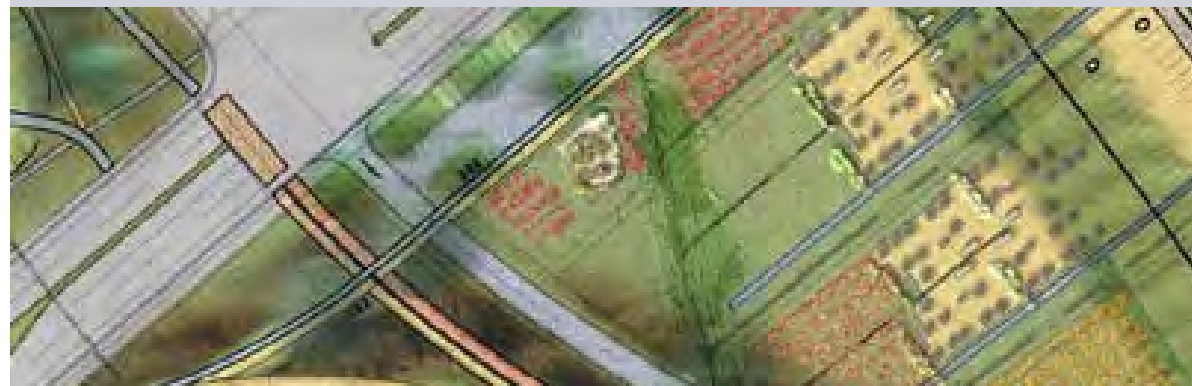


Agricultural Fileds

### Farming Heritage Play

Level 2 . on-site visual + haptic experience

- agricultural heritage
- ever-changing playground



Yokut basket

### Woven Paths

Level 2 . on-site visual experience

- native american's basketry
- suggested experience



Figure 84. Interpretive Features Levels 2: Farming Heritage Play and Woven Paths.

#### Level 2 Interpretive Features

The Farming Heritage Play are temporary installation of hay "castles" setup during weekend farmer's markets or during special events. This element will build-on and celebrate the rural character of the site.

The Woven Paths are narrow and interlacing paths located at the family picnic sites. Visitors will traverse this area of the site and will learn about the Native American's basketry through limited signage.

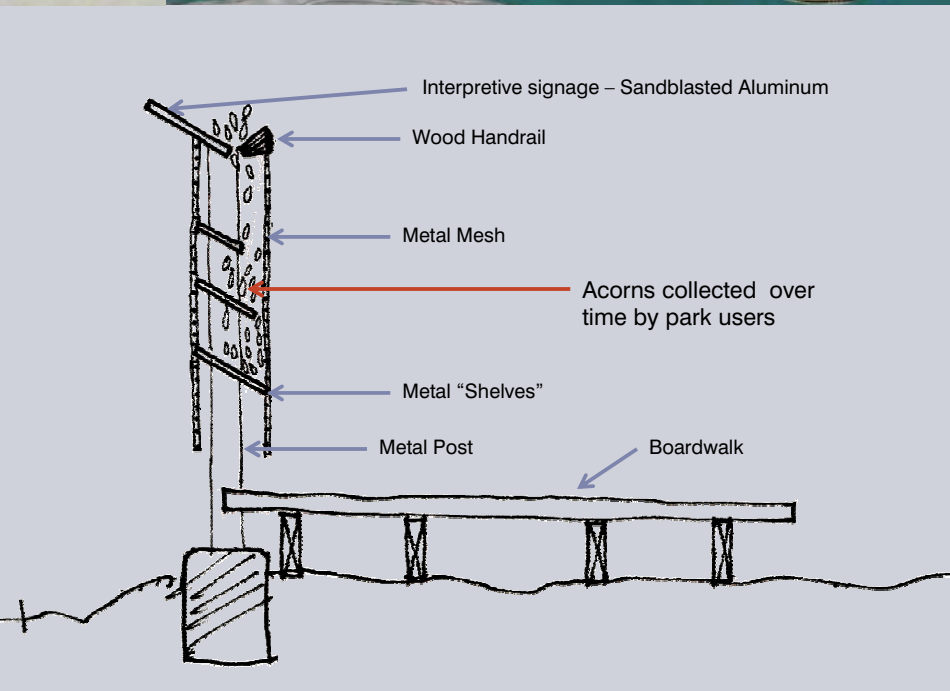
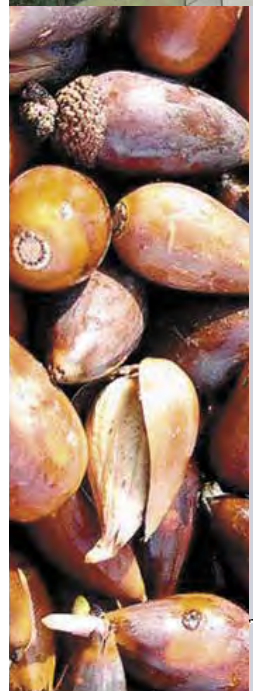


Gateway Parcel, under the Valley Oaks, 2003

### Acorn Walk

Level 1 . in-site multi-sensory experience

- Valley Oaks
- acorns as source of food
- Yokuts heritage

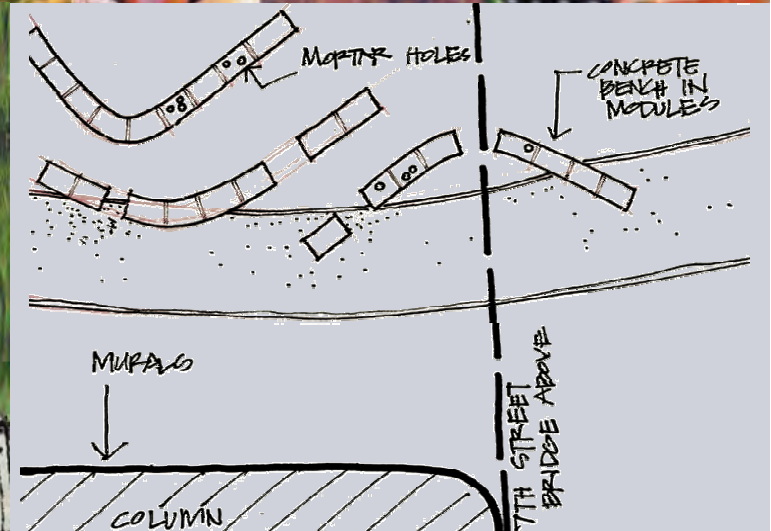


Gateway Parcel, 7th street Bridge, 2004

### Water-harvesting Outdoor Classroom

Level 1 . in-site multi-sensory experience

- destination point for all interpretive walks
- water harvesting & stormwater management observation
- art opportunity to integrate signage with 7th st historic bridge



### Interpretative Features Level 1

Level 1 sites will require more immersion in the park and user engagement with interpretive activities. Signage is minimal, and most of the experience is “lived”, rather than learned. Features in this category include the Acorn Walk, the Berry Gathering Walk (see page 45), and the Water-Harvesting Outdoor Classroom.

The Acorn Walk is an interactive feature to encourage kids and park visitors to learn about the ancient practices of the Yokuts - former inhabitants of this region. The low fence that protects the riparian vegetation at Confluence Point is envisioned as a cage where park users will deposit the Valley Oak acorns. The fence-cage will become a display of texture and color.

The Water-harvesting Outdoor Classroom, located under the 7th Street Bridge has a number of precast seatwalls imprinted with different textures reflecting all aspects of the Gateway Parcel's interpretive program. Textures will include native grasses, wildlife footprints, acorns, berries, basketry patterns, water texture, etc.

Figure 85. Interpretive Features Levels 1 : Acorn Walk & Water-harvesting Outdoor Classroom.



Caswell Park, elderberries, 2004

### Berry Gathering Walk

#### Level 1 . in-site multi-sensory experience

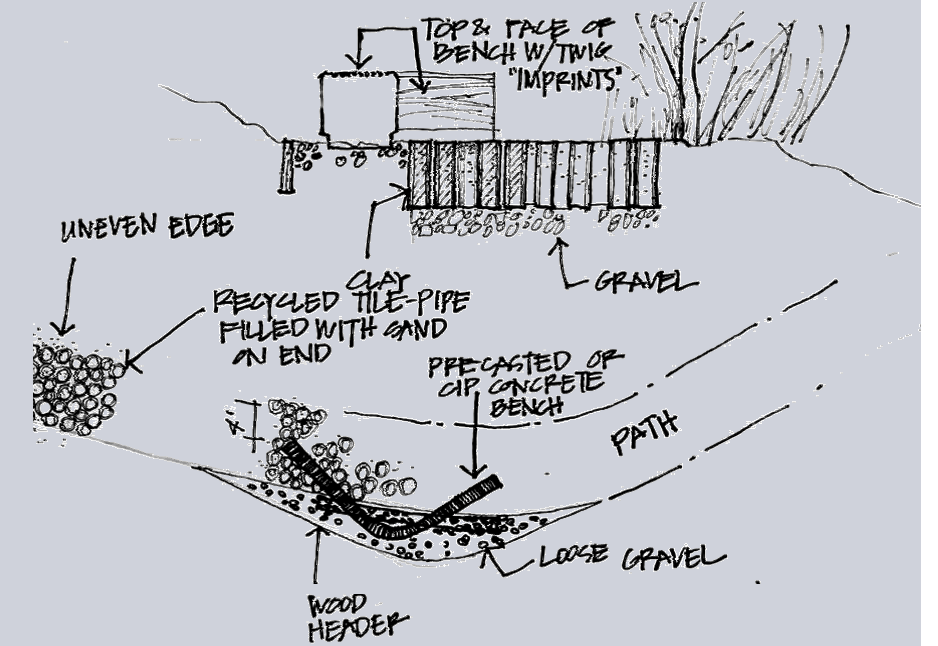
- native plants as source of food & habitat
- restoration & habitat awareness



Figure 86. Interpretive Features Levels 1 : Berry Gathering Walk.



### Berry Gathering Walk



#### Level 1 Interpretive Features

The Berry Gathering Walk will extend throughout the riparian terraces and will highlight the presence of the native fruit producing plant species of this region of California.

Small rest places will have concrete seat walls with imprints of the plant varieties displayed in the Berry Walk, and footprints of the wildlife that they attract.



## Environmental Studies

Parallel to the design development for the Gateway Parcel, the Precise Plan will include the following environmental and technical studies:

1. Preliminary Delineation of Waters of the United States, Including Wetlands
2. Existing Habitats, Plant Communities and Cover Types - Memorandum
3. Special-Status Species Memorandum
4. Aquatic Habitat and Special-Status Fish Species Technical Memorandum
5. Geotechnical Engineering Study - Pedestrian Bridge Crossing
6. Basis of Hydraulic Design Technical Memorandum
7. Ecological Restoration Plan
8. Preliminary Acoustical Analysis - Amphimeadow
9. Transportation Impact Analysis Report (Traffic and Parking Management Plans)

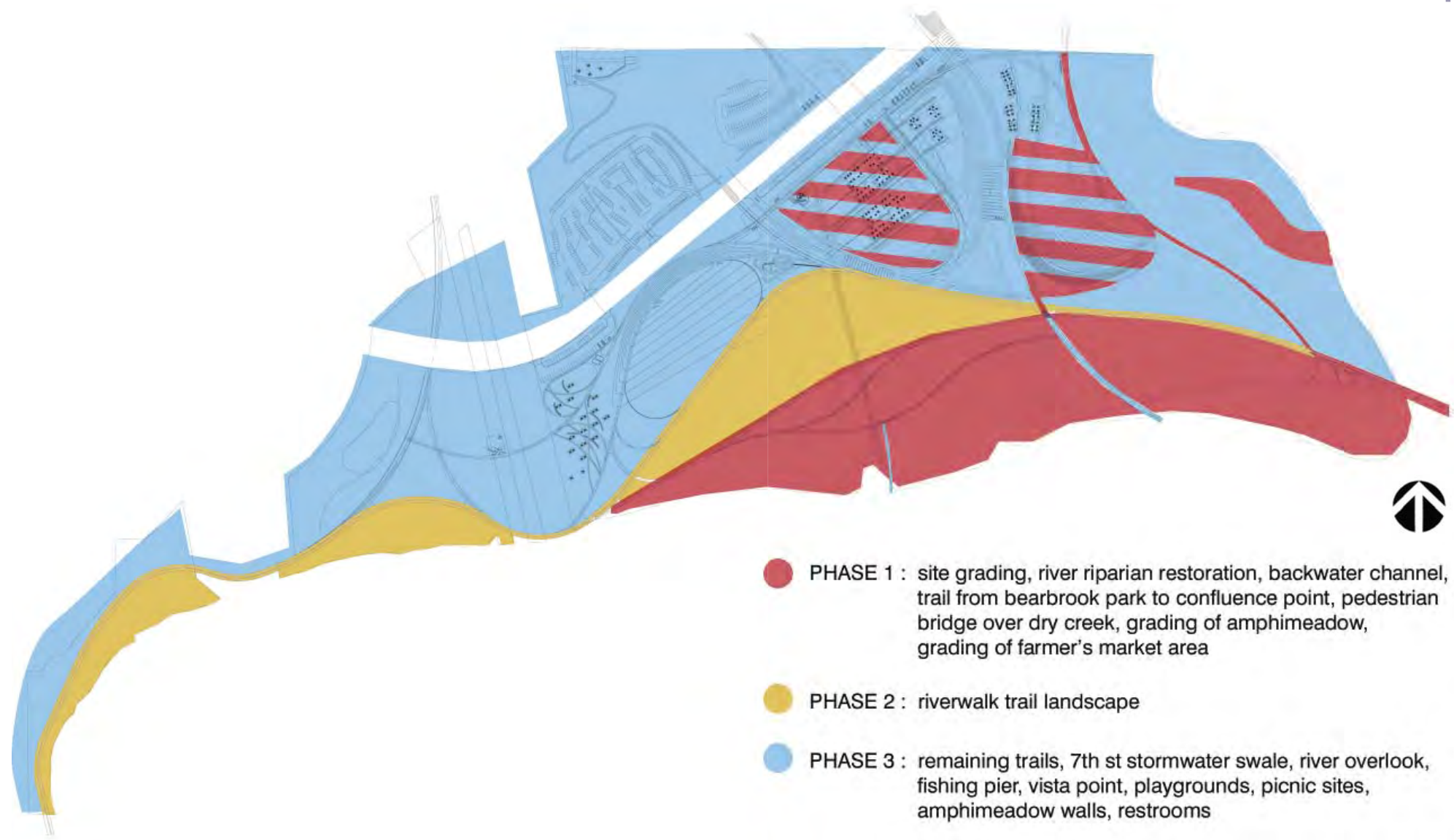
These reports and memoranda were the basis for the preparation of the Initial Study and Findings of Fact document.

## Environmental Permitting

The Precise Plan will include the following environmental permits:

1. Jurisdictional Waters of the US - USACE (Section 404, Section 10)
2. Streambed Alteration Permit - CDFG (Section 1601)
3. Water Quality - RWQCB (Section 401)
4. Federally Listed Species - USFWS, NMFS (Section 7)
5. State Listed Species - CDFG (Section 2080.1)

# Implementation Strategy and Phasing



- PHASE 1 : site grading, river riparian restoration, backwater channel, trail from bearbrook park to confluence point, pedestrian bridge over dry creek, grading of amphimeadow, grading of farmer's market area
- PHASE 2 : riverwalk trail landscape
- PHASE 3 : remaining trails, 7th st stormwater swale, river overlook, fishing pier, vista point, playgrounds, picnic sites, amphimeadow walls, restrooms

## Project Phasing Diagram - Preliminary

Implementation of the Gateway Parcel Precise Plan is divided into three phases. Phasing of the project will assure necessary funding is secured and will allow time for the restoration area to establish.

Phase 1 would include site grading, riparian restoration, backwater channel, trail from Bearbrook Park to Confluence Point, pedestrian bridge over Dry Creek, grading of the amphimeadow, grading of the armer's market area. Phase 2 would include the development of the Riverwalk trail and landscape. Phase 3 would include the remaining trails, Seventh Street stormwater swale, river overlook, fishing pier, vista point, playgrounds, picnic sites, amphimeadow walls, and restroom facilities. Construction is scheduled to begin in Spring 2006.

Project Phasing Diagram - Preliminary  
scale : NTS

Figure 87. Phasing of the project will assure securement of necessary funding and will allow establishment time for the restoration area.

# Preliminary Estimate of Probable Cost

Table 4 . Preliminary Estimate of Probable Cost.

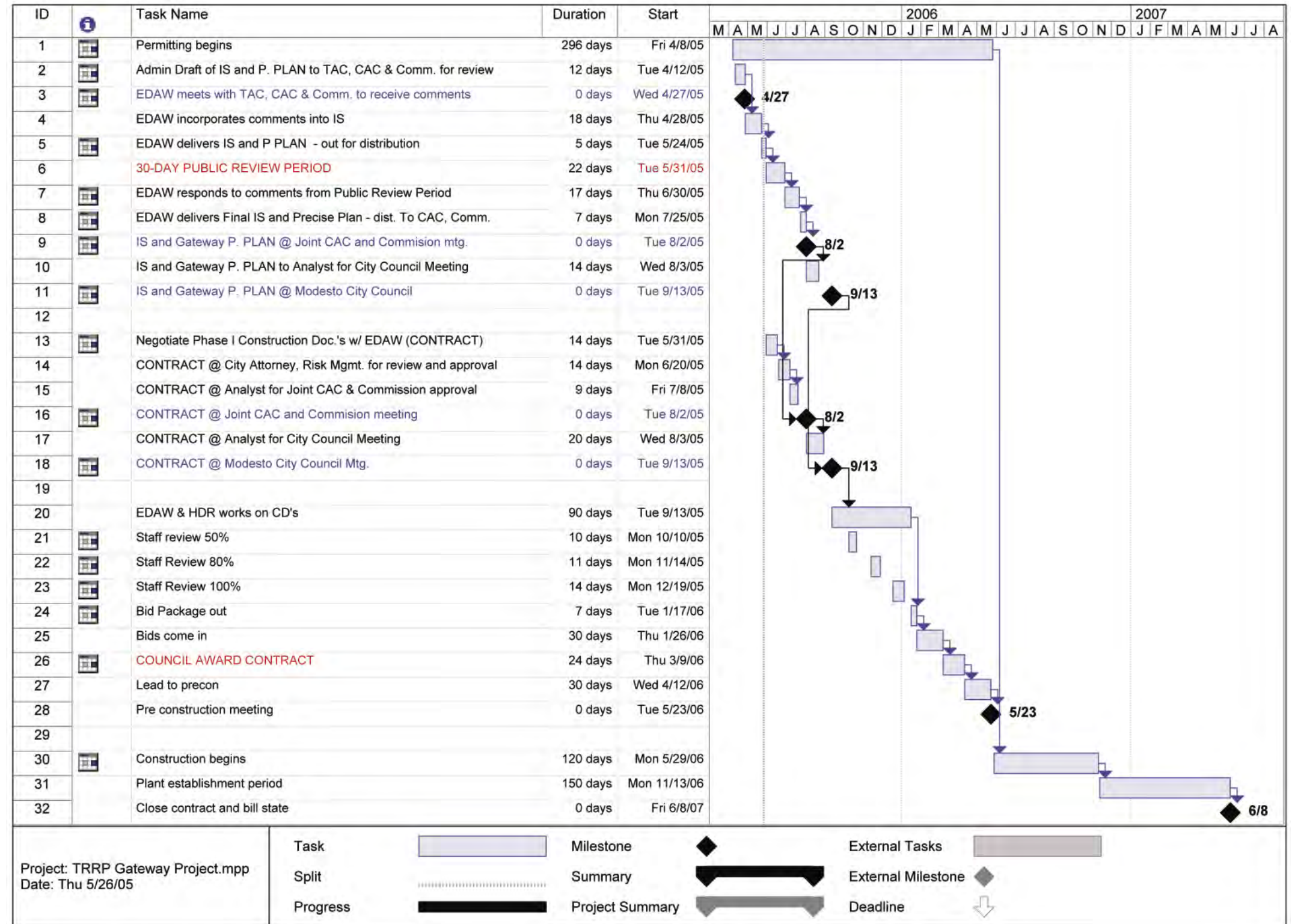
						Markup / Adjustment Descriptions			Markup Structure	
							Overhead	10.0%		
							Profit	5.0%		
<b>Tuolumne River Regional Park - Gateway Parcel</b>						Mobilization/Demobilization/Bonds/Insurance			5.0%	
<b>Precise Plan Estimate of Probable Cost</b>						Contingency			20.0%	
<b>Date:</b>	11/1/2004									
<b>Printed:</b>	4/13/2005									
Specification Section	Description	Quantity	Unit	Base @ Cost Unit	Markup	Unit Price	Sub totals	Totals		
<b>DIVISION 2</b>										
<b>SITE PREPARATION</b>										
	Clearing and Grubbing (> 5 acres)	117.8	ac	\$ 2,000.00	\$ 800.00	\$ 2,800.00	\$ 329,840.00			
	Demolition of Trees	11	ea	\$ 500.00	\$ 200.00	\$ 700.00	\$ 7,700.00			
	Removal of Tree Stump	11	ea	\$ 150.00	\$ 60.00	\$ 210.00	\$ 2,310.00			
	Removal of Storm Inlet or Manhole	4	ea	\$ 700.00	\$ 280.00	\$ 980.00	\$ 3,920.00			
	Temporary Construction Fence (1 year)	6,000	lf	\$ 7.00	\$ 2.80	\$ 9.80	\$ 58,800.00			
	Project Construction Sign	4	ea	\$ 1,100.00	\$ 440.00	\$ 1,540.00	\$ 6,160.00			
	Signs required for Prop 40	4	ea	\$ 800.00	\$ 320.00	\$ 1,120.00	\$ 4,480.00			
<b>GRADING &amp; DRAINAGE</b>										
	Rough Grading / Earthwork (> 5 acres)	299,000	cy	\$ 5.50	\$ 2.20	\$ 7.70	\$ 2,302,300.00			
	Manholes (up to 7' depth)	4	ea	\$ 2,000.00	\$ 800.00	\$ 2,800.00	\$ 11,200.00			
	Roadway Excavation on loop road	1,525	lf	\$ 25.00	\$ 10.00	\$ 35.00	\$ 53,374.65			
	Excavation for underground detention areas (under weekly and overflow parking)	6,149	cy	\$ 8.10	\$ 3.24	\$ 11.34	\$ 69,735.27			
	Drain Rock for underground detention areas	6,149	cy	\$ 67.50	\$ 27.00	\$ 94.50	\$ 581,127.23			
<b>02100</b>	<b>WATER SUPPLY</b>									
	Potable water supply and Appurtenances	1	ls	\$ 250,000.00	\$ 100,000.00	\$ 350,000.00	\$ 350,000.00			
<b>02500</b>	<b>SITE PAVING &amp; SURFACING</b>									
	Porous asphalt Type I - 8" Thick	58,082	sf	\$ 2.34	\$ 0.94	\$ 3.28	\$ 190,276.57			
	Porous asphalt Type II, integral color red - 8" Thick	116,164	sf	\$ 2.38	\$ 0.95	\$ 3.33	\$ 387,058.31			
	Pre-cast Interlocking Turf-block Unit Pavers	19,974	sf	\$ 9.01	\$ 3.60	\$ 12.61	\$ 251,952.04			
	Grass-Pave paving subsurface support system	115,682	sf	\$ 2.50	\$ 1.00	\$ 3.50	\$ 404,887.00			
	Gravel-Pave paving subsurface support system	48,996	sf	\$ 2.50	\$ 1.00	\$ 3.50	\$ 171,486.00			
	Decomposed Granite with batch mixed natural binder, golden in color	218,300	sf	\$ 3.50	\$ 1.40	\$ 4.90	\$ 1,069,670.00			
	6"dia x 3' depth Vitrified Clay Piping with compacted dirt, 8" drain rock subbase	8,255	sf	\$ 5.00	\$ 2.00	\$ 7.00	\$ 57,785.00			
	Concrete Paving Type I : Integral Color, Light Sanblast Finish	49,829	sf	\$ 12.00	\$ 4.80	\$ 16.80	\$ 837,127.20			
	Pre-cast Interlocking Unit Pavers	23,812	sf	\$ 9.01	\$ 3.60	\$ 12.61	\$ 300,364.57			
06000	Wood Decking Paving, IPE wood, natural finish	37,831	sf	\$ 25.00	\$ 10.00	\$ 35.00	\$ 1,324,085.00			
	Sand, 3' deep	7,236	sf	\$ 3.50	\$ 1.40	\$ 4.90	\$ 35,456.40			
<b>02810</b>	<b>IRRIGATION SYSTEM</b>									
	Irrigation	102	ac	\$ 13,000.00	\$ 5,200.00	\$ 18,200.00	\$ 1,849,751.34			
<b>02870</b>	<b>SITE FURNISHINGS</b>									
	Barbecue Grills - Large	25	ea	\$ 736.32	\$ 294.53	\$ 1,030.85	\$ 25,771.20			
	Barbecue Grills - Small	14	ea	\$ 313.29	\$ 125.32	\$ 438.61	\$ 6,140.48			
	Picnic Table, natural color concrete, 3 different finishes	158	ea	\$ 920.40	\$ 368.16	\$ 1,288.56	\$ 203,592.48			
	Waste Container, 23" dia x 33" H, pre-cast concrete	106	ea	\$ 449.58	\$ 179.83	\$ 629.41	\$ 66,717.67			
	Bicycle Rack, 4 Arms Unit	27	ea	\$ 2,000.00	\$ 800.00	\$ 2,800.00	\$ 75,600.00			

										Markup / Adjustment Descriptions			Markup Structure			
											Overhead	10.0%				
											Profit	5.0%				
<b>Tuolumne River Regional Park - Gateway Parcel</b>										Mobilization/Demobilization/Bonds/Insurance			5.0%			
<b>Precise Plan Estimate of Probable Cost</b>													Contingency		20.0%	
<b>Date:</b>	11/1/2004															
Printed:	4/13/2005															
Specification Section	Description			Quantity	Unit	Base @ Cost Unit	Markup	Unit Price	Sub totals	Totals						
	Drinking Fountain with Dog Fountain Attachment			5	ea	\$ 3,045.00	\$ 1,218.00	\$ 4,263.00	\$	21,315.00						
	Hydrant for Playground area			1	ea	\$ 3,750.00	\$ 1,500.00	\$ 5,250.00	\$	5,250.00						
	Custom Playground Equipment - BLDR 4 boulders for Playground 1			1	ls	ALLOW	-	\$ 150,000.00	\$	150,000.00						
	Custom Tables for Outdoor Classroom area			2	ea	\$ 5,000.00	\$ 2,000.00	\$ 7,000.00	\$	14,000.00						
<b>02900</b>	<b>PLANTING &amp; LANDSCAPING</b>										<b>\$</b>	<b>4,429,852.29</b>				
	Alder	Alnus rhombifolia	Treeband 14	220	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	1,570.80						
	Arroyo Willow	Salix lasiolepis	Treeband 14	176	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	1,256.64						
	Ash	Fraxinus latifolia	Treeband 14	480	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	3,427.20						
	Black Willow	Salix goodingii	Treeband 14	193	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	1,378.02						
	Blackberry	Rubus ursinus	Treeband 9	540	ea	\$ 3.70	\$ 1.48	\$ 5.18	\$	2,797.20						
	Blue Bunchgrass	Festuca idahoensis	Treeband 5	2,822	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	7,308.98						
	Blue Wildrye	Elymus glaucus	Treeband 5	9,990	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	25,874.10						
	Buttonbush	occidentale	Treeband 9	806	ea	\$ 3.70	\$ 1.48	\$ 5.18	\$	4,175.08						
	California Brome	Bromus carinatus	Treeband 5	7,686	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	19,906.74						
	California Buckeye	Aesculus californica	Treeband 14	315	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	2,249.10						
	California Fuschia	Epilobium canum	Treeband 6	21	ea	\$ 3.00	\$ 1.20	\$ 4.20	\$	88.20						
	California Poppy	Eschscholzia californica	Broadcast Seed .04 ac	112	ea	\$ 0.90	\$ 0.36	\$ 1.26	\$	141.12						
	Clover	Trifolium depauperatum	Broadcast Seed .04 ac	436	ea	\$ 10.80	\$ 4.32	\$ 15.12	\$	6,592.32						
	Cottonwood	Populus fremontii	Treeband 14	554	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	3,955.56						
	Creeping Wildrye	Leymus triticoides	Plug	44,192	ea	\$ 0.20	\$ 0.08	\$ 0.28	\$	12,373.76						
	Deer Grass	Muhlenbergia rigens	Treeband 5	100	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	259.00						
	Evening Primrose	Hirsutissima	Broadcast Seed .04 ac	112	ea	\$ 0.64	\$ 0.26	\$ 0.90	\$	100.35						
	Farewell to Spring	Clarkia amoena	Broadcast Seed .04 ac	378	ea	\$ 1.44	\$ 0.58	\$ 2.02	\$	762.05						
	Golden Currant	aureum	Treeband 6	29	ea	\$ 3.00	\$ 1.20	\$ 4.20	\$	121.80						
	Miniature Lupine	Lupinus bicolor	Broadcast Seed .04 ac	436	ea	\$ 4.30	\$ 1.72	\$ 6.02	\$	2,624.72						
	Mugwort	Artemisia douglasii	Treepot 5	1,779	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	4,607.61						
	Purple Needle Grass	Nasella pulchra	Treeband 5	16,404	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	42,486.36						
	Red Willow	Salix laevigata	Treeband 14	267	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	1,906.38						
	Red-Ribbons	Clarkia concinna	Broadcast Seed .04 ac	112	ea	\$ 60.00	\$ 24.00	\$ 84.00	\$	9,408.00						
	Rush	Juncus balticus	Treeband 9	2,262	ea	\$ 3.70	\$ 1.48	\$ 5.18	\$	11,717.16						
	Rush	Juncus effusus	Treeband 9	2,223	ea	\$ 3.70	\$ 1.48	\$ 5.18	\$	11,515.14						
	Scarlet Bugler	centranthifolius	Treeband 5	21	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	54.39						
	Scarlet Monkey Flower	Mimulus cardinalis	Treeband 6	21	ea	\$ 3.00	\$ 1.20	\$ 4.20	\$	88.20						
	Sedge	Carex barbarae	Plug	63,558	ea	\$ 0.20	\$ 0.08	\$ 0.28	\$	17,796.24						
	Shining Willow	Salix lucida	Treeband 14	22	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	157.08						
	Showy Milkweed	Asclepias speciosa	Broadcast Seed .04 ac	112	ea	\$ 5.60	\$ 2.24	\$ 7.84	\$	878.08						
	Slender Wheatgrass	Elymus trachycaulus	Treeband 5	166	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	429.94						
	Toyon	Heteromeles arbutifolia	Treeband 6	70	ea	\$ 3.00	\$ 1.20	\$ 4.20	\$	294.00						
	Tufted Field Sedge	Carex praegracilis	Treeband 5	14,122	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	36,575.98						
	Valley Oak	Quercus lobata	Treeband 14	856	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	6,111.84						
	Western Columbine	Aquilegia formosa	Treeband 5	21	ea	\$ 1.85	\$ 0.74	\$ 2.59	\$	54.39						
	Western Sycamore	Platanus racemosa	Treeband 14	369	ea	\$ 5.10	\$ 2.04	\$ 7.14	\$	2,634.66						

										Markup / Adjustment Descriptions			Markup Structure	
											Overhead	10.0%		
											Profit	5.0%		
											Mobilization/Demobilization/Bonds/Insurance	5.0%		
											Contingency	20.0%		
<b>Tuolumne River Regional Park - Gateway Parcel</b>										<b>Precise Plan Estimate of Probable Cost</b>				
Date:	11/1/2004													
Printed:	4/13/2005													
Specification Section	Description		Quantity	Unit	Base @ Cost Unit	Markup	Unit Price	Sub totals	Totals					
	Wild Grape	Vitis californica	300	ea	\$ 3.70	\$ 1.48	\$ 5.18	\$ 1,554.00						
	Wild Rose	Rosa californica	1,114	ea	\$ 3.70	\$ 1.48	\$ 5.18	\$ 5,770.52						
	Yarrow	Achillea millefolium	490	ea	\$ 0.32	\$ 0.13	\$ 0.45	\$ 219.52						
	Black Walnut Tree	Juglans californica	50	ea	\$ 450.00	\$ 180.00	\$ 630.00	\$ 31,500.00						
	Western Sycamore Tree	Platanus racemosa	71	ea	\$ 450.00	\$ 180.00	\$ 630.00	\$ 44,730.00						
	Valley Oak Tree	Quercus lobata	40	ea	\$ 450.00	\$ 180.00	\$ 630.00	\$ 25,200.00						
	Interior Live Oak Tree	wislizenii	20	ea	\$ 294.00	\$ 117.60	\$ 411.60	\$ 8,232.00						
	Blue Oak Tree	Quercus douglasii	50	ea	\$ 180.00	\$ 72.00	\$ 252.00	\$ 12,600.00						
	Special Planting Areas - Shrubs, Grasses, Groundcover, Perennials		442,721	sf	\$ 6.00	\$ 2.40	\$ 8.40	\$ 3,718,853.93						
02910	Mulch - power mulcher /straw		4,427,207	sf	\$ 0.04	\$ 0.01	\$ 0.05	\$ 229,639.23						
	Metal Edging		17,123	lf	\$ 4.50	\$ 1.80	\$ 6.30	\$ 107,874.90						
<b>02970</b>	<b>LANDSCAPE MAINTENANCE</b>													
	Maintenance, 3 years		1	ls	\$ 600,000.00	\$ 240,000.00	\$ 840,000.00	\$ 840,000.00	\$ 840,000.00					
<b>DIVISION 3</b>	<b>PRE-CAST CONCRETE</b>								\$ 97,565.31					
	Pre-cast Concrete Wheel Stop		530	ea	\$ 45.00	\$ 18.00	\$ 63.00	\$ 33,390.00						
	Pre-cast Seatwall Straight Module with special texture - 18" x 18" x 3' (0.25 cy ea)		80	cy	\$ 356.63	\$ 142.65	\$ 499.28	\$ 39,692.36						
	Pre-cast Seatwall Curved Module with special texture - 18" x 18" x 3' (0.25 cy ea)		27	cy	\$ 445.78	\$ 178.31	\$ 624.09	\$ 16,538.48						
	Pre-cast Preparation Table - 14'-0" x 4'-6" x 6" (1.17 cy ea)		20	cy	\$ 285.30	\$ 114.12	\$ 399.42	\$ 7,944.46						
<b>03310</b>	<b>CAST-IN-PLACE CONCRETE</b>								\$ 658,150.11					
	Concrete pad for small barbecue - 48" x 48" x 8" (0.39 cy ea)		5	cy	\$ 285.30	\$ 114.12	\$ 399.42	\$ 2,180.83						
	Concrete pad for double large barbecue base - 14' x 4'-6" x 8" (1.55 cy ea)		19	cy	\$ 285.30	\$ 114.12	\$ 399.42	\$ 7,738.76						
	Concrete pad for picnic table - 4' x 5'-6" x 8" (0.54 cy ea)		85	cy	\$ 285.30	\$ 114.12	\$ 399.42	\$ 34,078.51						
	2x4' Concrete seatwall on top level of amphimeadow and around playgrounds		1,251	lf	\$ 250.00	\$ 100.00	\$ 350.00	\$ 437,850.00						
	2x4' Special Concrete seatwall with mortar holes for Playground 1		86	lf	\$ 350.00	\$ 140.00	\$ 490.00	\$ 42,140.00						
	18" Rolled Concrete Curb for weekly parking edge		973	lf	\$ 10.00	\$ 4.00	\$ 14.00	\$ 13,622.00						
	12" Concrete Mow Strip		5,740	sf	\$ 15.00	\$ 6.00	\$ 21.00	\$ 120,540.00						
<b>DIVISION 4</b>	<b>UNIT MASONRY</b>								\$ 21,509.25					
<b>04200</b>	<b>UNIT MASONRY</b>								\$ 21,509.25					
	CMU bases for prep tables and bbqs		1,808	sf	\$ 8.50	\$ 3.40	\$ 11.90	\$ 21,509.25						
<b>04400</b>	<b>STONE</b>								\$ 87,900.12					
	Dry Stone Low Wall (40-45 sf/ton)		3,488	sf	\$ 18.00	\$ 7.20	\$ 25.20	\$ 87,900.12						
<b>DIVISION 5</b>	<b>METAL FABRICATIONS</b>								\$ 3,030,496.00					
<b>05500</b>	<b>METAL FABRICATIONS</b>								\$ 3,030,496.00					
	Canopy Type I - Woven Path Trellis		8	all	\$ 7,500.00	\$ 3,000.00	\$ 10,500.00	\$ 84,000.00						
	Canopy Type II - Screen at Large Picnic sites		8	all	\$ 10,000.00	\$ 4,000.00	\$ 14,000.00	\$ 112,000.00						
	Canopy Type III - Movable canopy at Amphimeadow picnic sites, galvanized stl.		6	all	\$ 15,000.00	\$ 6,000.00	\$ 21,000.00	\$ 126,000.00						
05520	Guardrail Type I : Stainless Steel & Wood Rest on Bridges, Fishing Pier and Deck		2,613	lf	\$ 525.00	\$ 210.00	\$ 735.00	\$ 1,920,555.00						

						Markup / Adjustment Descriptions		Markup Structure	
							Overhead	10.0%	
							Profit	5.0%	
<b>Tuolumne River Regional Park - Gateway Parcel</b>						Mobilization/Demobilization/Bonds/Insurance		5.0%	
<b>Precise Plan Estimate of Probable Cost</b>						Contingency		20.0%	
<b>Date:</b>	11/1/2004								
Printed:	4/13/2005								
Specification Section	Description	Quantity	Unit	Base @ Cost Unit	Markup	Unit Price	Sub totals	Totals	
05520	Guardrail Type II : Stainless Steel & WW Mesh, special rail for Acorn Boardwalk	834	lf	\$ 675.00	\$ 270.00	\$ 945.00	\$ 787,941.00		
<b>DIVISION 16</b>									
<b>16000</b>	<b>ELECTRICAL</b>								<b>\$ 420,000.00</b>
	Site electrical for light fixtures	1	ls	\$ 300,000.00	\$ 120,000.00	\$ 420,000.00	\$ 420,000.00		
<b>16520</b>	<b>SITE LIGHTING</b>								<b>\$ 1,222,440.10</b>
	Fixture A : Area Lights - Single Light Post 15'H	72	ea	\$ 2,500.00	\$ 1,000.00	\$ 3,500.00	\$ 252,000.00		
	Fixture B : Area Lights - Double Light Post 15'H + 20'H	16	ea	\$ 3,500.00	\$ 1,400.00	\$ 4,900.00	\$ 78,400.00		
	Fixture C : Area Lights - Double Light Post 20'H + 20'H	39	ea	\$ 3,500.00	\$ 1,400.00	\$ 4,900.00	\$ 191,100.00		
	Fixture D : Area Lights - Solar Light Post 14'H	45	ea	\$ 5,000.00	\$ 2,000.00	\$ 7,000.00	\$ 315,000.00		
	Fixture E : Bollard Light 21"H	61	ea	\$ 729.00	\$ 291.60	\$ 1,020.60	\$ 62,256.60		
	Fixture F : Bollard Light 39"H	50	ea	\$ 883.50	\$ 353.40	\$ 1,236.90	\$ 61,845.00		
	Fixture G : Bug Light	56	ea	\$ 1,339.50	\$ 535.80	\$ 1,875.30	\$ 105,016.80		
	Fixture H : LED Light	53	ea	\$ 730.50	\$ 292.20	\$ 1,022.70	\$ 54,203.10		
	Fixture I : Wall Mounted Light (seat walls in Amphimeadow)	92	ea	\$ 766.50	\$ 306.60	\$ 1,073.10	\$ 98,725.20		
	Fixture J : Sconce	9	ea	\$ 309.00	\$ 123.60	\$ 432.60	\$ 3,893.40		
<b>SPECIAL FEATURES</b>									
	2 New Restroom facilities (building, all composting bathroom fixtures, and utilities)	1	ls	ALLOW	\$ -	\$ 1,875,000.00	\$ 1,875,000.00		
	Pre-fabricated Pedestrian Bridge over Dry Creek - 250'L x 12'W	1	ls	\$ 320,000.00	\$ 128,000.00	\$ 448,000.00	\$ 448,000.00		
	Pre-fabricated Pedestrian Bridge at Overlook (over terraces) 180'L x 12'W	1	ls	\$ 230,400.00	\$ 92,160.00	\$ 322,560.00	\$ 322,560.00		
	Pre-fabricated Pedestrian Bridge over Swale - 109'L x 15'W	1	ls	\$ 230,400.00	\$ 92,160.00	\$ 322,560.00	\$ 322,560.00		
	Fishing Deck steel structure to support wood decking - 368'L x 15'W	1	ls	ALLOW	\$ -	\$ 175,000.00	\$ 175,000.00		
	Educational Signage	1	ls	ALLOW	\$ -	\$ 180,000.00	\$ 180,000.00		
<b>TOTAL</b>								<b>\$ 25,360,266.59</b>	

# Precise Plan Schedule



# Schematic Design Package : List of Drawings

## GENERAL

- G01 Cover and Site Context
- G02 Existing Conditions Survey
- G03 Aerial Photography

## UTILITIES

- U01 Utilities Plan
- U02 Site Utilities POC Plan

## ILLUSTRATIVES

- L01 Illustrative Site Plan
- L02 Site Cross-Section A
- L03 Site Cross-Section B

## CIVIL

- C01 Grading Plan

## LAYOUT AND MATERIALS

- M01 Layout, Materials and Furnishings Plan
- M02 Farmers' Market Site Design
- M03 Amphimeadow Site Design

## PLANTING

- P01 Master Plant List
- P02 Restoration Planting Plan
- P03 Restoration Planting Modules
- P04 Infill Planting Aereas
- P05 Specimen Planting Plan
- P06 Specimen Planting Special Layout
- P07 Planting Details

## IRRIGATION

- I01 Concept Irrigation Plan

## LIGHTING

- E01 Concept Site Lighting Plan

## DETAILS

- D01 Illustrative Typical Sections
- D02 Illustrative Typical Sections
- D03 Illustrative Typical Sections
- D04 Site Details
- D05 Site Details

## Project Team

### SUB CONSULTANTS

#### Transportation Consultants

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John Hindley, Biologist  
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Steve Hanson, Principal Design Advisor  
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#### Team

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**EDAW Project Number 03010015.01**