3.0 DESCRIPTION OF PROJECT AND ALTERNATIVES

CHAPTER 3.0 DESCRIPTION OF PROJECT AND ALTERNATIVES

3.1 INTRODUCTION

The proposed project is the draft Off-Channel Mining Plan (OCMP) for lower Cache Creek (October 30, 1995) and its implementing ordinances, the draft Off-Channel Surface Mining Ordinance and the Surface Mining Reclamation Ordinance. The OCMP will serve as an area plan for approximately 23,174 acres, extending up to one and one half miles on either side of Cache Creek for a distance of 14.5 miles, from Capay Dam downstream to a levied section of the creek near the town of Yolo.

The OCMP represents the first of two key plans prepared by the County of Yolo (lead agency) to manage the resources of the mining reach of Cache Creek. The OCMP addresses a variety of issues relevant to mining outside the creek channel. The other key plan is the Cache Creek Resources Management Plan (CCRMP) which focuses on resources within the creek channel, and is the subject of a separate Program EIR being prepared concurrently with the OCMP Program EIR. Though the plans are meant to stand-alone, it is proposed that the final OCMP and CCRMP be joined together after adoption, as one printed document entitled the Cache Creek Area Plan.

The draft OCMP identifies approximately 216 million tons of aggregate on up to 2,887 acres of the planning area, as feasible to mine over the next fifty years. Regulation of this mining would occur through the OCMP and implementing ordinances, and project-specific conditional use permits for which consistency with the OCMP and CCRMP would be required.

3.2 SETTING

Regional Location

Cache Creek traverses Yolo, Lake and Colusa counties in northern California. Its drainage basin extends from the upper basin highlands north and northeast of Clear Lake to the Yolo Bypass east of the City of Woodland (see Figure 3.2-1). The 14.5-mile segment of lower Cache Creek that would be subject to the requirements of the OCMP and its implementing ordinances falls between Capay Dam and the town of Yolo, at the western margin of the Sacramento Valley in central Yolo County (see Figure 3.2-2). Unincorporated towns in the vicinity of the project area include Capay, Esparto, Madison,

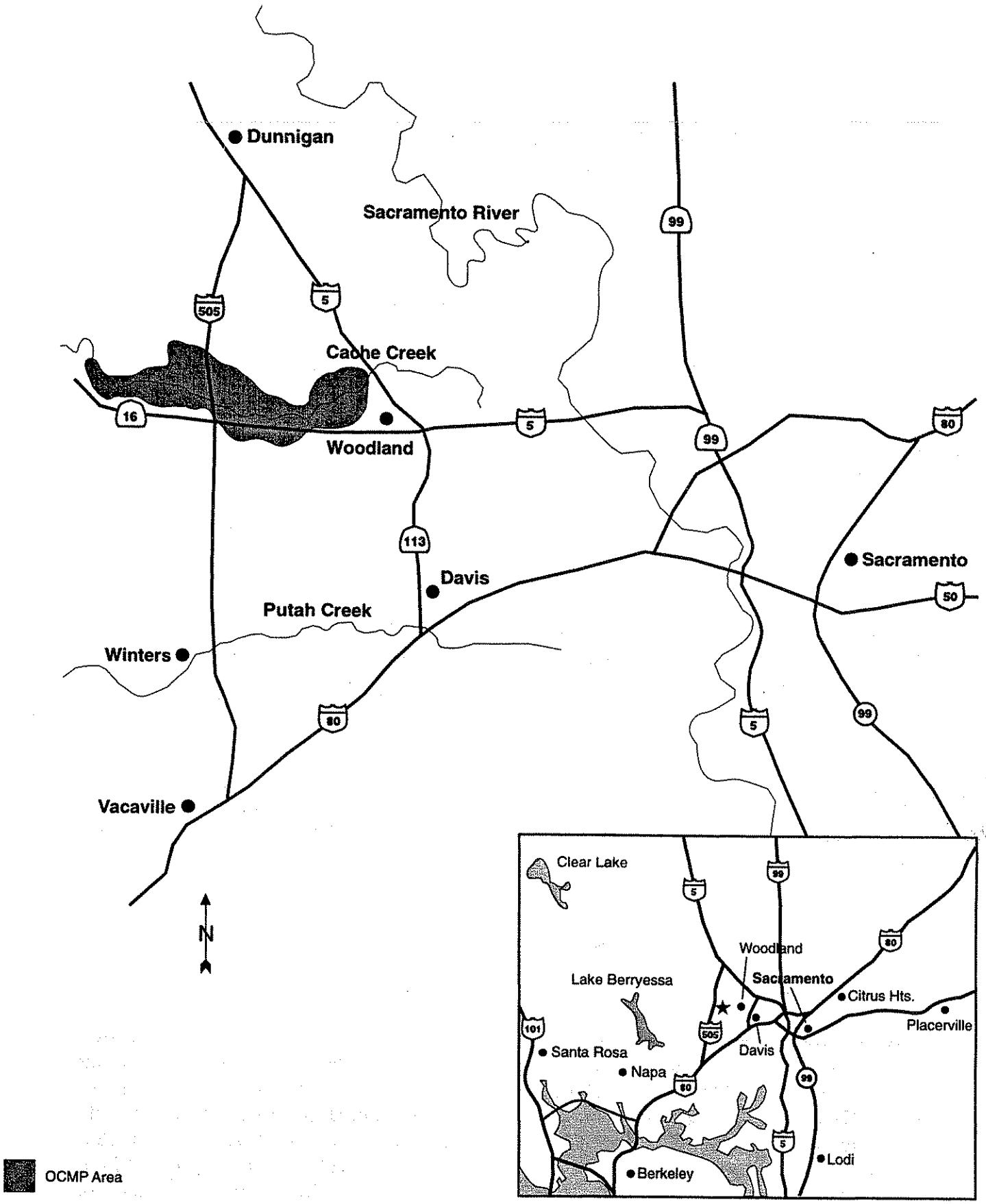


Figure 3.2-1 Regional Location

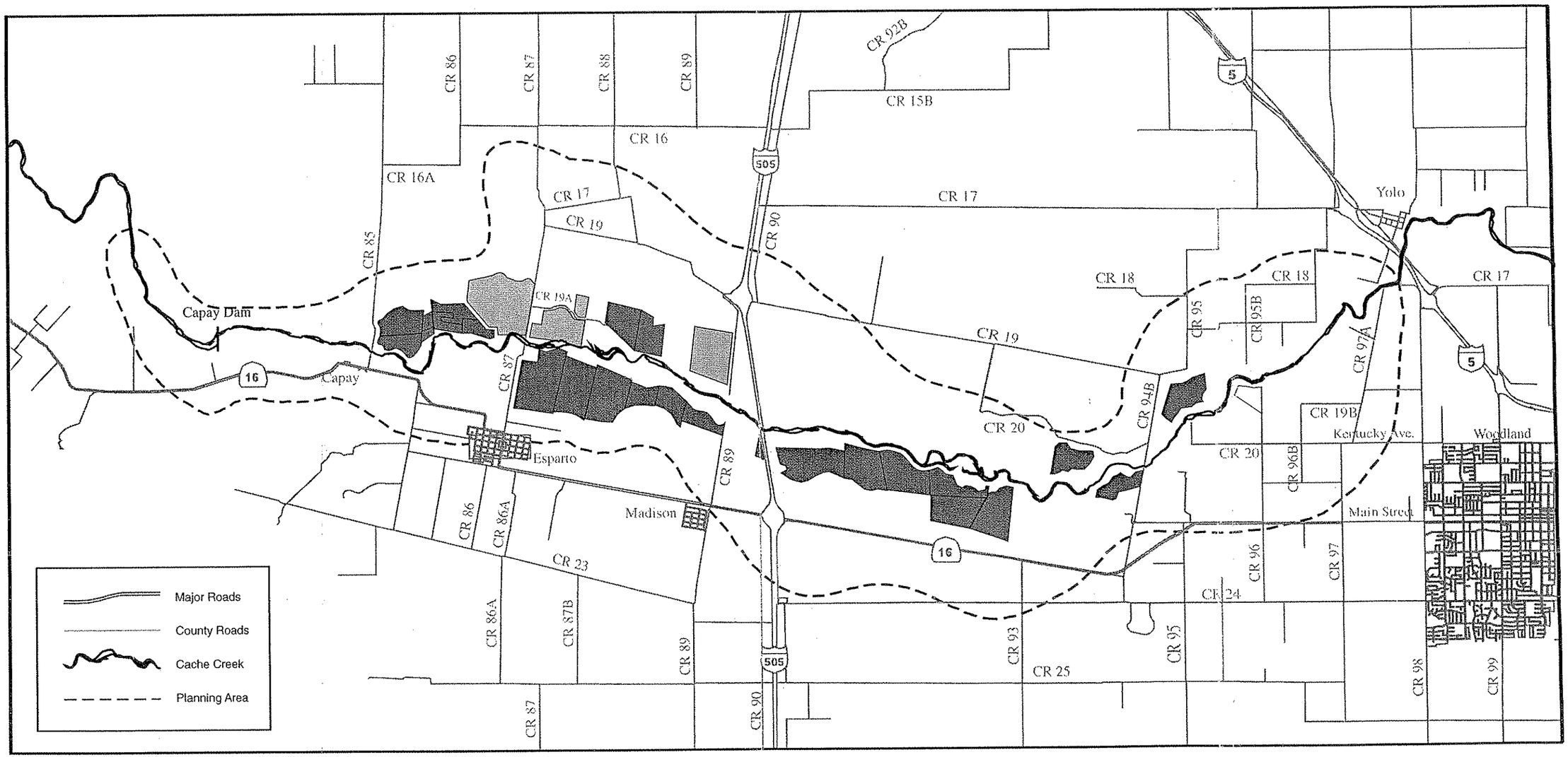


Figure 3.2-2 Site Location Area

SOURCE: INDIVIDUAL MINING APPLICATIONS

and Yolo. The City of Woodland, the county seat, is located to the southeast of the planning area.

The regional topography consists of low rolling hills and broad alluvial plains formed at the base of the eastern flank of the California Coast Range. The predominant land use for the region is agriculture.

Project Location

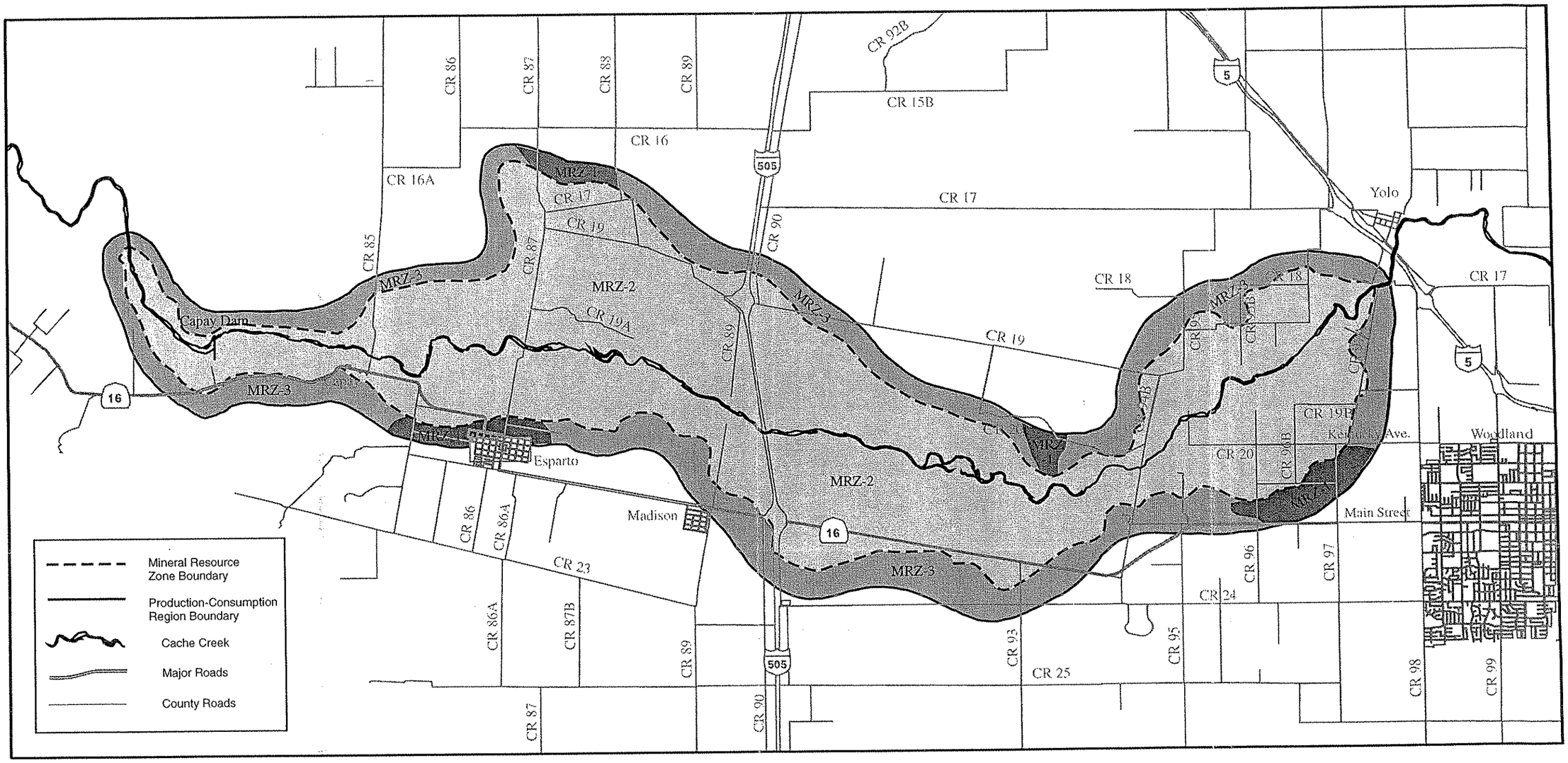
The project location for the OCMP is defined as the area contained within the Mineral Resource Zones (MRZs) delineated by the Department of Conservation as potentially containing mineral aggregate resources, minus the in-channel area to be regulated under the Cache Creek Resource Management Plan (see Figure 3.2-3). The planning area for the CCRMP is equal to the in-channel area of the creek system, as defined by the present channel bank line or the 100-year flood elevation described in the Westside Tributaries Study prepared by the U.S. Army Corps of Engineers, whichever is wider (see Figure 3.2-4). The in-channel area encompasses around 4,956 acres, including several hundred acres located in the floodplain north of the City of Woodland. Subtracting this acreage from the 28,130 acres included in the State MRZs, leaves a total of approximately 23,174 acres within the planning area of the OCMP. With the exception of resources within the Cache Creek channel, mining within the mineral resource zone would be subject to the guidance and standards of the OCMP. Feasibly minable reserves would likely occur on less than 2,887 acres of the total. The reserves associated with this acreage will be used as the basis for the cumulative analysis in this EIR.

3.3 PROJECT OBJECTIVES

Background

Cache Creek has long served as a regional source for aggregates. Mining within the creek dates back to at least the turn of the century, when sand and gravel were removed and shipped by rail to be used in the reconstruction of San Francisco after the devastating 1906 earthquake. Many of the early excavations were small and scattered along a wide expanse, meeting both local needs as well as those of large public projects such as the Golden Gate Bridge. With the post-World War II economic boom in the 1950s, however, the scale and intensity of mining began to increase. The building of airports, schools, hospitals, highways, dams, and residential suburbs created a strong need for concrete and other construction materials. The production of sand and gravel in Cache Creek has continued to escalate over the past several decades, responding to the robust growth in California, particularly in the Bay Area and Sacramento metropolitan areas.

Yolo County has been actively involved in studying and attempting to resolve surface mining issues along Cache Creek for over two decades. Concerns over the environmental impacts of in-stream mining led to the formation by the Board of Supervisors of the



MRZ-1 ADEQUATE INFORMATION INDICATES NO SIGNIFICANT MINERAL DEPOSITS, OR LITTLE LIKELIHOOD OF THEIR PRESENCE.

ACRES	%OF TOTAL AREA
1,458	5.2

MRZ-2 ADEQUATE INFORMATION INDICATES SIGNIFICANT MINERAL DEPOSITS, OR HIGH LIKELIHOOD OF THEIR PRESENCE.

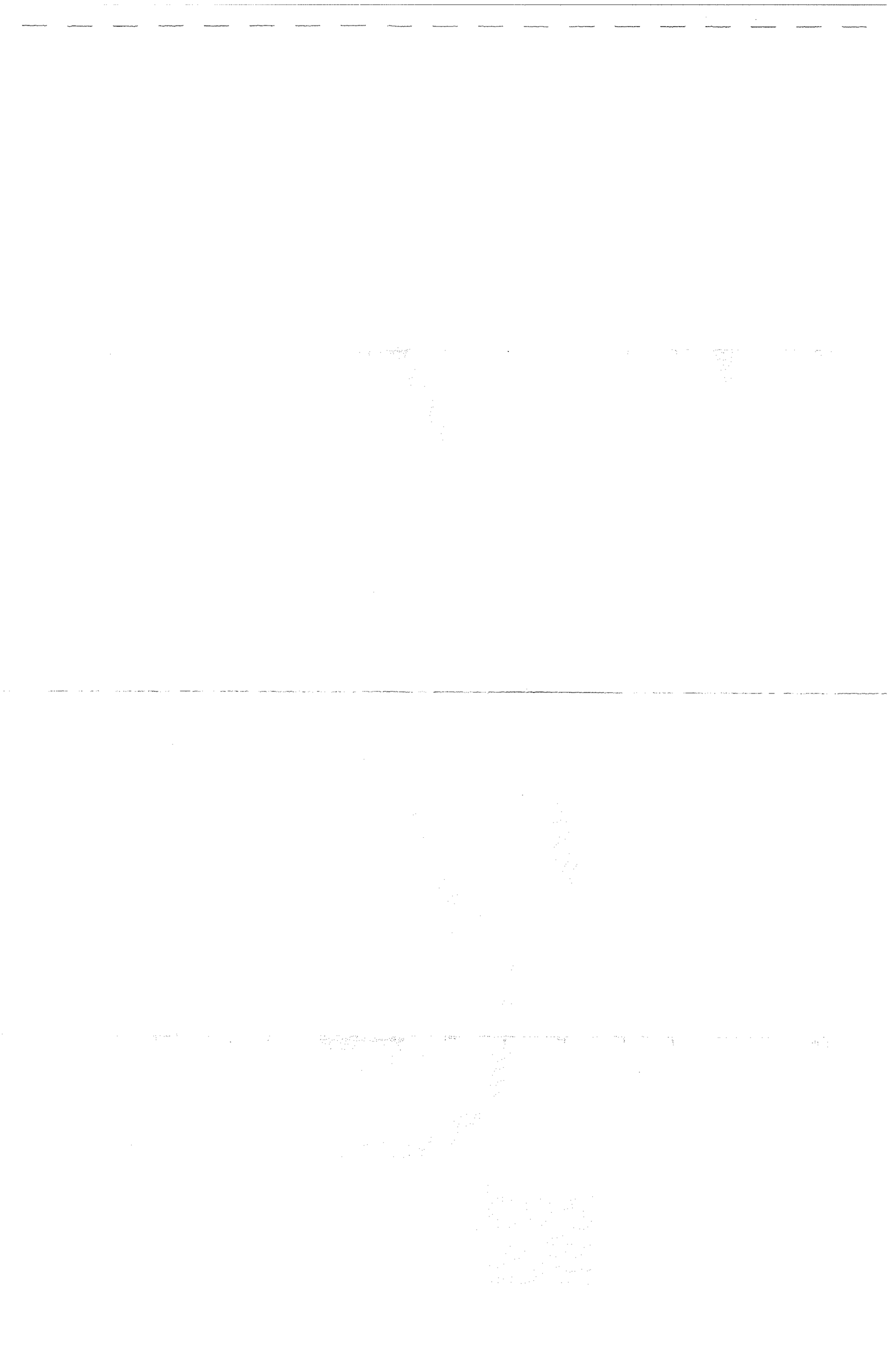
ACRES	%OF TOTAL AREA
18,452	65.6

MRZ-3 SIGNIFICANCE OF MINERAL DEPOSITS CANNOT BE DETERMINED FROM AVAILABLE DATA.

ACRES	%OF TOTAL AREA
8,220	29.2

Figure 3.2-3 Yolo County MRZ Area

SOURCE: YOLO COUNTY COMMUNITY DEVELOPMENT AGENCY



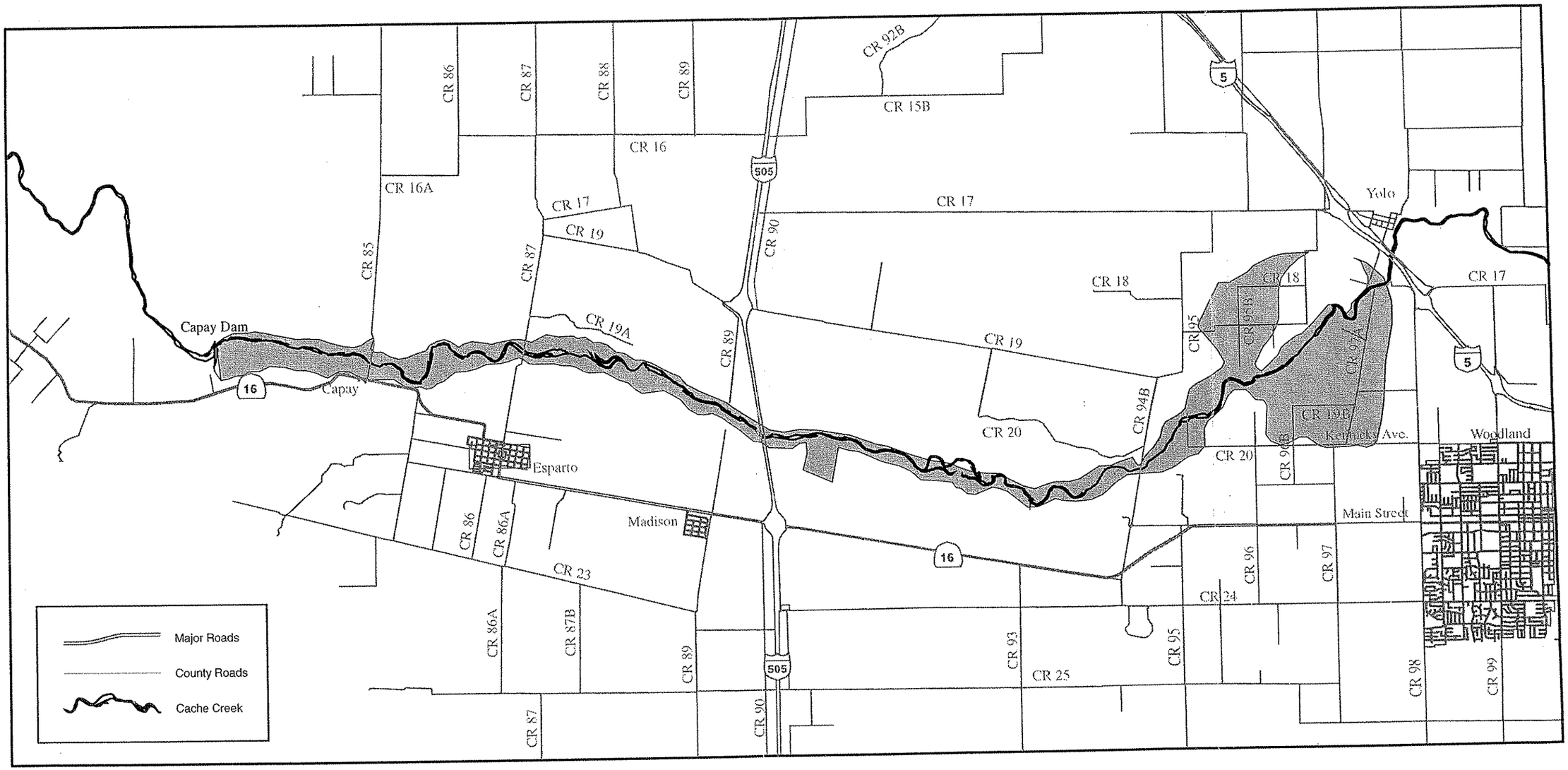


Figure 3.2-4 Lower Cache Creek Channel Boundary

SOURCE: YOLO COUNTY COMMUNITY DEVELOPMENT AGENCY

Aggregate Resources Advisory Committee (ARAC) in 1975. The ARAC commissioned Woodward-Clyde Consultants to prepare a report, analyzing the potential relationships between adverse environmental conditions and the aggregate excavations operating along Cache Creek. The study was released in 1977, and made several suggestions regarding future management of the creek, including: require use permits for all mines operating at the time; establish a maximum depth of excavation; encourage the development of off-channel mining; allow for the channel to be widened in appropriate areas; emphasize erosion control measures; and improve monitoring. It was recommended that these issues be evaluated in the context of County-adopted aggregate resources management policies.

In response to the recommendations made by the ARAC, and as required by the California Surface Mining and Reclamation Act (SMARA) enacted in 1976, the Board of Supervisors adopted in-channel mining and reclamation ordinances. The ordinances, adopted in 1979, required all surface mining operations to apply for use permits and reclamation plans. This was accomplished the following year, with the approval of eight permits/reclamation plans and certification of an EIR (ENVIRON) which analyzed the impacts of mining along the stream. The EIR concurred with the ARAC's recommendation for the development of a broad-based aggregate resource management program. In addition, the EIR included the following recommendations: allow for the development of off-channel mining; protect mineral resources against encroachment; permit mining within the A-P (Agricultural Preserve) Zone; consider reclaimed uses other than agriculture in the A-P Zone, such as groundwater storage and/or recharge; revise the interim ordinances; and gather more data about the creek.

The Aggregate Technical Advisory Committee (AgTAC) was formed by the Board of Supervisors in 1979 to develop a Resource Management Plan (RMP) for the Cache Creek area, as recommended by the ARAC. A draft RMP was submitted in 1984, containing 11 alternative scenarios for the future of the creek. The recommended plan outlined the creation of an engineered floodway to ensure that there would be sufficient capacity to safely accommodate 100-year flood events. In-stream mining would be minimized to maintenance levels, while aggregate mining would take place in deep, off-channel pits. Improvements and maintenance of the creek were to be managed by a separate public or private agency. Finally, AgTAC reiterated support for revising the mining and reclamation ordinances, as well as a review of the compatibility of the A-P Zone requirements with off-channel mining.

A draft Program EIR (Dames & Moore) was prepared in 1989, examining the alternatives discussed in the draft AgTAC plan. Before any recommendations could be adopted, however, the draft Program EIR was subjected to significant controversy regarding the adequacy of its analysis. As a result, the document was abandoned by the County in 1991. Over the next two years, a series of public workshops was held by the Community Development Agency in order to develop a specific project description to form the basis of a Resource Management Plan. This effort was later taken up by a subcommittee of the Board of Supervisors, who made their findings in March of 1994.

In June of 1994, the Board of Supervisors adopted a conceptual framework of goals and objectives for the Cache Creek Resource Management Plan (CCRMP). A work schedule was also approved, describing four primary tasks: (1) adoption of a resource management plan to protect and restore the creek; (2) adoption of an off-channel mining plan and implementing ordinances (the subject is this Program EIR); (3) processing of long-term off-channel mining and reclamation applications; and (4) processing of temporary off-channel mining and reclamation applications to allow operations to continue during development of the necessary plans.

In addition to adopting the conceptual framework, the Board also directed the preparation of the *Technical Studies and Recommendations for the Lower Cache Creek Resource Management Plan* (Technical Studies). The Technical Studies provide baseline data and historical information about the streamway morphology, groundwater resources, and riparian habitat, so that an accurate assessment can be made of the creek's present condition. Constraints and opportunities for activities such as mining, flood control, channel stabilization, groundwater management, and habitat restoration are also identified in the report. The Technical Studies include an extensive list of recommendations on improving the natural resources of Cache Creek. On October 24, 1994, the Board accepted the Technical Studies and directed staff to utilize them as the basis for preparing both the OCMP and the CCRMP.

Overview of the Plan

On June 14, 1994, the Yolo County Board of Supervisors adopted goals and objectives for the Cache Creek Resource Management Plan (CCRMP) and the Off-Channel Mining Plan (OCMP). In doing so, the Board recognized that although mining is an important consideration, the creek is integrally bound to the environmental and social resources of the County, including drainage/flood protection, water supply and conveyance, wildlife habitat, recreation, and agricultural productivity. As such, development of these plans is based on the key assumption that the creek must be viewed as an integrated system and that activities which occur in one area affect the other. The Streamway Influence Boundary (see Figure 3.3-1) described in the Technical Studies' recommendations shows the approximate area subject to these interrelationships, based on the historical extent of the channel. Thus, although the planning areas for the two plans are mutually exclusive, both plans include goals and policies that acknowledge the interrelationships between in-channel and off-channel concerns.

The OCMP establishes a number of goals to assist in this overall management, balancing issues and concerns within the overriding vision of enhancing the variety of resource needs for the region. The OCMP seeks to allow for the development of a sufficient supply of aggregate to meet the future needs of society, while increasing the level of environmental protection and monitoring. In order to provide a sufficient source of sand and gravel over the next 50 years, approximately 2,932 acres would be rezoned to include the SG (Sand and Gravel) Zone and SGR (Sand and Gravel Reserve) overlays. This would clearly delineate where the County would encourage future mining, so that land use decisions

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could be planned accordingly. It also ensures that additional reserves would be available for development once the mining applications processed under the OCMP are completed. Those areas within the mineral resource zones that do not have the SG or SGR overlay would be conserved for mining beyond the year 2047 or perpetuity. In addition to the SG overlay, the OCMP contains a commitment to maintain the existing agricultural zoning within the planning area. This not only reinforces the County's general policy of encouraging the agricultural industry, but would ensure that mining is buffered from residential and other sensitive land uses.

Although the County recognizes that mining is important to the regional economy, it also acknowledges that mining is an activity that carries with it the potential for adverse environmental impacts. The OCMP includes several provisions to regulate surface mining more effectively to reduce or prevent adverse effects. Specific performance standards have been incorporated into the proposed off-channel mining and reclamation ordinances, based on the Technical Studies, as well as standard procedures used in the industry and other jurisdictions. These standards complement the requirements already mandated by SMARA and the State Reclamation Regulations. The OCMP also recommends a 30-year maximum term for any off-channel mining permit, in order to prevent the establishment of vested rights and to allow for eventual review and update. Similarly, the requirements for annual reporting have been substantially expanded, to provide staff with better information to monitor both mining operations and reclamation efforts.

The OCMP has included the Recommended Management Activity Zones described in the Technical Studies. These zones divide Cache Creek into five physically related reaches and describe what types of uses would be most beneficial within each. The Recommended Management Activity Zones are intended to be used as a guide for off-channel mining applications, so that the individual reclamation efforts of each operation can be combined with others within that zone to meet system-wide management objectives.

Objectives of the County

Goal statements and identified objectives listed in the OCMP include the following:

Aggregate Resources

Goals

2.2-1 Protect lands containing identified mineral deposits from the encroachment of incompatible land uses so that aggregate resources remain available for future use, as needed.

2.2-2 Encourage the production and conservation of mineral resources, while giving consideration to recreation, watershed, wildlife, agriculture, aesthetics, flood control, and other environmental factors.

2.2-3 Prevent or minimize the adverse environmental effects of surface mining.

2.2-4 Eliminate or minimize hazards to the public health and safety that are associated with surface mining operations.

2.2-5 Ensure that mined areas are reclaimed to a usable condition which are readily adaptable for alternative land uses.

2.2-6 Provide a responsive process to consider future changes in environmental and regulatory conditions.

2.2-7 Maintain an economically viable and competitive local aggregate industry that provides a stable job base and tax revenue to Yolo County and contributes to other resource enhancements through the investments in improved technology and reclamation planning.

Objectives

2.3-1 Recognize that the aggregate deposits along Cache Creek are significant to the economy of Yolo County, as well as surrounding jurisdictions.

2.3-2 Discourage the encroachment of incompatible land uses into areas designated for future off-channel surface mining operations.

2.3-3 Provide standards and procedures for regulating surface mining operations so that hazards are eliminated or minimized and potential adverse environmental effects are reduced or prevented.

2.3-4 Coordinate individual surface mining reclamation plans so that regional goals may be achieved.

2.3-5 Create regular opportunities to incorporate new information into the OCMP.

2.3-6 Structure mining so that the disturbance of the existing landscape is short-lived and temporary, as much as possible, and will be reclaimed so that the property can be used and enjoyed in perpetuity by current and future generations.

Water Resources

Goals

3.2-1 Promote the conjunctive use of surface and groundwater to maximize the availability of water for a range of uses, including habitat, recreation, agriculture, water storage, flood control, and urban development.

3.2-2 Maintain the quality of surface and groundwater so that nearby agricultural productivity and available drinking water supplies are not diminished.

3.2-3 Improve the gathering and coordination of information about water resources so that effective policy decisions can be made.

Objectives

3.3-1 Encourage the development of a Countywide water management program, including the participation of the YCFCWCD and other relevant agencies, to coordinate the monitoring and analysis of both surface and groundwater supplies.

3.3-2 Improve the recharge capability along Cache Creek through the development of off-channel ponds, lakes, and canals that have the ability to raise local groundwater levels.

3.3-3 Ensure that off-channel surface mines are operated such that surface and groundwater supplies are not adversely affected by erosion, lowering of the water table, and/or contamination.

Floodway and Channel Stability

Goals

4.2-1 Recognize that Cache Creek is a dynamic stream system that naturally undergoes gradual and sometimes sudden changes during high flow events.

4.2-2 Coordinate land uses and improvements along Cache Creek so that the adverse effects of flooding and erosion are minimized.

4.2-3 Establish a more natural channel floodway capable of conveying floodwaters without damaging essential structures, causing excessive erosion, or adversely affecting adjoining land uses.

Objectives

4.3-1 Provide flood management as required to protect the public health and safety.

4.3-2 Determine an appropriate flood capacity standard for Cache Creek, so that the extent of a more stable channel configuration may be designed.

Agricultural Resources

Goals

5.2-1 Improve soil and water resources so that a diverse agricultural economy, supporting a variety of crops and products, is maintained.

5.2-2 Ensure the compatibility of land uses adjacent to agricultural operations, so that productivity is not adversely affected.

Objectives

5.3-1 Encourage the preservation of prime and important farmland along Cache Creek, while giving consideration to other compatible beneficial uses, such as groundwater storage and recharge facilities, surface mining operations, riparian habitat, and public recreation.

5.3-2 Ensure the use of appropriate agricultural management practices in reclaiming mined areas to productive farmland.

Biological Resources

Goals

6.2-1 Provide for a diverse riparian ecosystem within the off-channel planning area along Cache Creek, that is self-sustaining and capable of supporting wildlife.

6.2-2 Create a continuous corridor of riparian and wetland vegetation to link the foothill habitats of the upper watershed with those of the settling basin.

Objectives

6.3-1 Conserve and protect existing riparian habitat within the off-channel planning area.

6.3-2 Establish conditions to encourage the development of a variety of natural riparian habitat types along the Cache Creek channel.

Open Space and Recreation

Goals

7.2-1 Preserve scenic resources within the off-channel planning area.

7.2-2 Establish a variety of outdoor recreational and educational opportunities along Cache Creek for use by the public.

7.2-3 Ensure the compatibility of recreational facilities with surrounding land uses, in order to minimize adverse impacts.

Objectives

7.3-1 Include use of the "Open Space" zoning designation for the area located within the creek's existing banks and other areas where resource management and habitat protection is warranted.

7.3-2 Consider reclamation plans that include recreational elements as meeting all or a portion of the "net gain" requirement.

7.3-3 Create a continuous corridor of natural open space along the Creek and provide for limited access, at specific locations, to recreational and educational uses.

7.3-4 Discourage the encroachment of incompatible uses into areas surrounding designated recreation sites.

7.3-5 Design recreational facilities to maintain the privacy and security of surrounding property owners.

3.4 PROJECT COMPONENTS AND CHARACTERISTICS

Draft OCMP

The OCMP is organized into an Introduction and six "elements" similar to the organization of the June 1994 Statement of Goals, Objectives and Policies. Each of the six "elements" includes an introduction, and a list of goals, objectives, actions and performance standards. Provided below is a summary of each chapter.

Introduction

Chapter 1.0 of the OCMP provides an overview of relevant history and background information including the work of the Aggregate Resources Advisory Committee, the Aggregate Technical Advisory Committee, the 1994 Statement of Goals, Objectives and Policies, and the Technical Studies which provide baseline and historical information about the streamway fluvial morphology, groundwater resources, and riparian habitat.

This chapter also discusses the resources estimated to exist in the MRZ-2 (Mineral Resources Zone 2). Including in-channel reserves, it is projected that there are currently 807 million tons of high-grade (Portland Cement Concrete or PCC) aggregate within the planning area (excluding in-channel material below the theoretical thalweg). This compares to a 1982 estimate of 257 million tons along the American River and Morrison Creek in Sacramento County. Demand for Cache Creek resources (assumed at 26 percent of total regional production) has been forecasted as totalling approximately 289 million tons of aggregate, or about 5.8 million tons annually over the 50-year period covered by the OCMP.

Aggregate Resources Element

Chapter 2.0 is the Aggregate Resources Element of the OCMP. It notes that the present total permitted mineral reserves are insufficient to meet the long-term demand for aggregate in Cache Creek, and proposes to rezone some 2,932 acres to include SG (Sand and Gravel) and SGR (Sand and Gravel Reserve) overlay zones. Application of these zones would clearly delineate where the County will allow mining over the next 50 years, so that land use decisions can be coordinated with this commitment. This element also includes the Recommended Management Zone Activities discussed in the Technical Studies. These general recommendations for restoring the creek will provide guidelines for coordinating individual reclamation plans adjoining the channel to maximize their cumulative benefits. Additional performance standards governing both mining and reclamation activities are also contained within this chapter. The primary actions recommended within this element are as follows:

- Establish 30 years as the maximum length of time for granting a mining permit. Reviews that would revise the permit to account for unanticipated environmental effects and/or regulatory changes are recommended every 10 years. Permits will be eligible for an additional 20-year extension, based on the satisfactory performance of the operation.

- Update the OCMP every ten years to account for the results of monitoring programs and reclamation efforts, so that the plan remains responsive to the changing conditions of the creek.

- Encourage recycling, so that less sand and gravel is mined.

- Create a Technical Advisory Committee to provide the County with technical expertise in managing the resources of Cache Creek.

- Improve the County's monitoring requirements, so that the County can more accurately evaluate the success of reclamation efforts and assess the impacts of off-channel mining.

Water Resources Element

Chapter 3.0 is the Water Resources Element of the OCMP. It describes how rainfall, surface water diversion, and pumping are the most important factors in determining the availability of groundwater. Although groundwater levels have generally declined in the past 40 years, the basin has a significant capacity for recovery. The OCMP outlines several actions for improving groundwater levels, through the reclamation of mined areas to water recharge, storage, and conveyance facilities. This will provide additional increments of water that may be used to further the restoration of riparian habitat. The recommended actions included within this element include:

- Coordinate with the Yolo County Flood Control and Water Conservation District (YCFCWCD) to develop an integrated aquifer recharge plan for Cache Creek, in order to increase available groundwater supplies.

- Require a groundwater monitoring program for all off-channel wet pit mining operations and designate County staff to compile and analyze the data to be used as reference material in regional water planning efforts.

- Consider evapotranspiration losses as an acceptable result of exposed groundwater in the provision of wet pit areas for recreation and/or habitat.

- Ensure that proposed off-channel wet pits do not adversely affect the groundwater levels or water quality of nearby (within 1,000 feet) active off-site wells.

Floodway and Channel Stability Element

Chapter 4.0 of the OCMP is the Floodway and Channel Stability Element. Although flooding and stability issues will be more thoroughly discussed in the CCRMP and its Program EIR, these issues overlap between both plans, within the Streamway Influence Boundary as set forth in the Technical Studies. This boundary describes the historical extent of Cache Creek and is used to establish the area where pit capture is of greatest concern. This chapter summarizes the chain of events that have led to the creek's present

condition, including: forest clearing and livestock grazing, surface water diversion, flood protection structures, bridge and road construction, agricultural expansion, and in-stream mining. It is noted that simply leaving the creek alone will not guarantee the reestablishment of a natural equilibrium. The recommended actions described in this section include:

- Adopt a new in-channel mining boundary to more accurately reflect the difference between in-channel and off-channel areas (the 1979 In-Channel Boundary is shown in Figure 3.4-1).
- Ensure that subsequent studies use data and assumptions consistent with those in the Technical Studies, so that a regional model of the creek can be maintained and updated.
- Coordinate with other agencies, such as the YCFCWCD, Department of Water Resources, Federal Emergency Management Agency (FEMA), and the City of Woodland, to create a regional solution to managing flood events along Cache Creek.
- Encourage the use of spillways and other features to allow for controlled filling of the off-channel pits to increase flood protection in other reaches of the creek.

Agriculture Resources Element

Chapter 5.0 of the OCMP is the Agriculture Resources Element. This chapter recognizes that agriculture will remain the primary activity within the 23,174-acre planning area. In order to ensure this, all areas outside of the unincorporated communities (Capay, Esparto, Madison, and Yolo), will remain in either A-1 (General Agriculture) or A-P (Agricultural Preserve) Zoning (see Figure 3.4-2). Approximately 988 acres of the 2,211 acres proposed for mining would be returned to agriculture (row crops, tree crops, and pasture). An additional 3,282 acres owned by the aggregate companies will remain in crop production and will not be mined. The remaining area of approximately 1,223 acres of mined land would be reclaimed to a variety of uses, including habitat, haul/maintenance roads, and open water features. Although a substantial acreage of farmland will be lost to productive agricultural uses, the goal of the OCMP is to balance the various resources that coexist along Cache Creek. Recommended actions within the Agricultural Resources Element include:

- Revise the A-P Zone to allow for the operation of commercial surface mining on contracted land within the areas identified for mining. This would keep more property in the Williamson Act and would discourage the development of uses that are incompatible with agriculture. The permitted mineral reserves within contracted land would be subject to additional property tax.
- Allow the use of wet pit mining, in order to minimize the amount of agricultural acreage disturbed, and to allow for reclamation to other beneficial uses.
- Allow for the transfer of sediment fines from areas where groundwater recharge is encouraged to areas more suitable for agricultural reclamation.

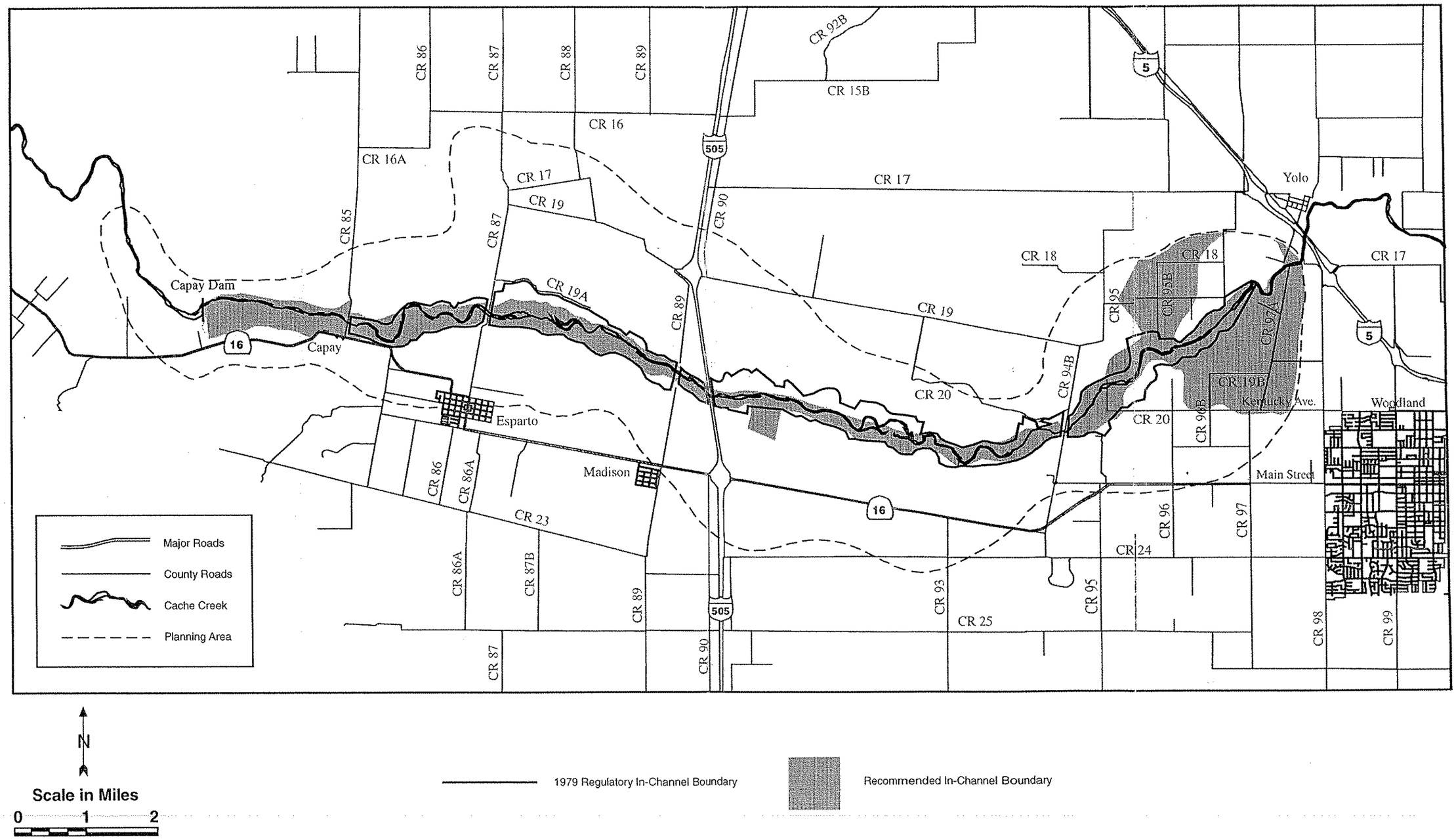
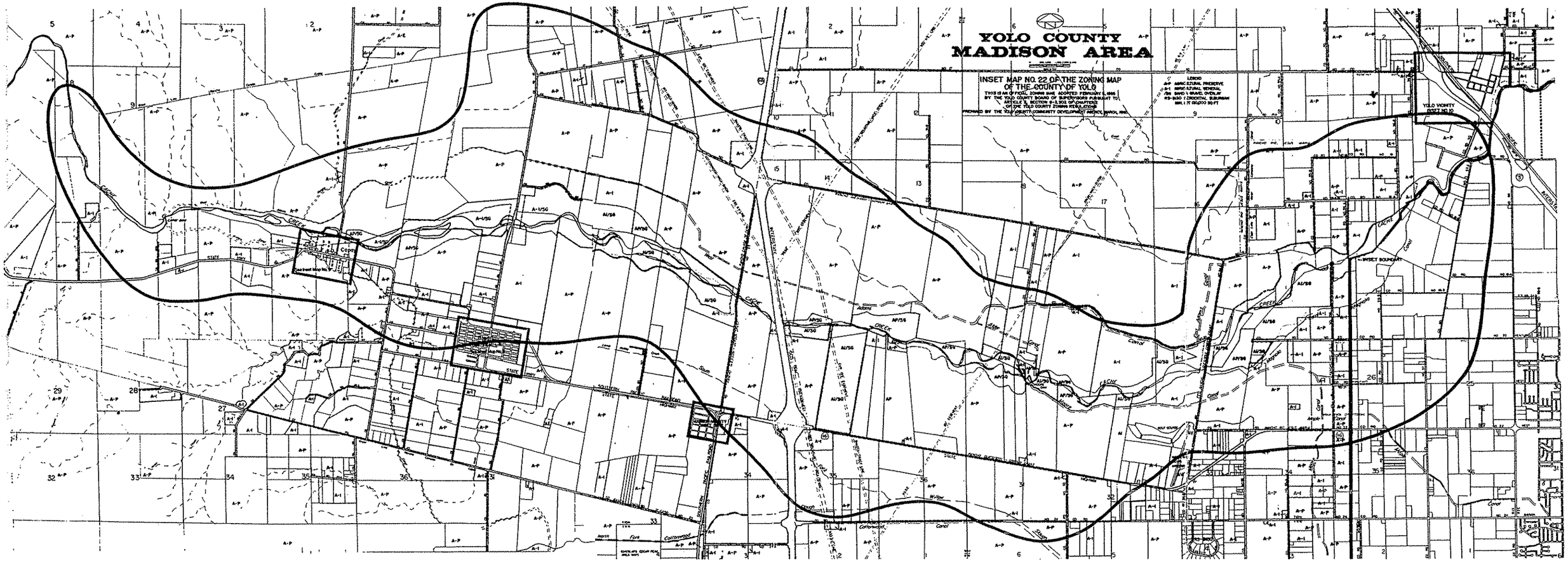


Figure 3.4-1 1979 Regulatory In-Channel Boundary

SOURCE: YOLO COUNTY COMMUNITY DEVELOPMENT AGENCY



N

Scale in Miles
0 1 2

A-P AGRICULTURAL PRESERVE

A-1 AGRICULTURAL GENERAL

/SG SAND & GRAVEL OVERLAY

PLANNING AREA

Figure 3.4-2 A-1 and A-P Zoning Within the Planning Area

SOURCE: YOLO COUNTY COMMUNITY DEVELOPMENT AGENCY

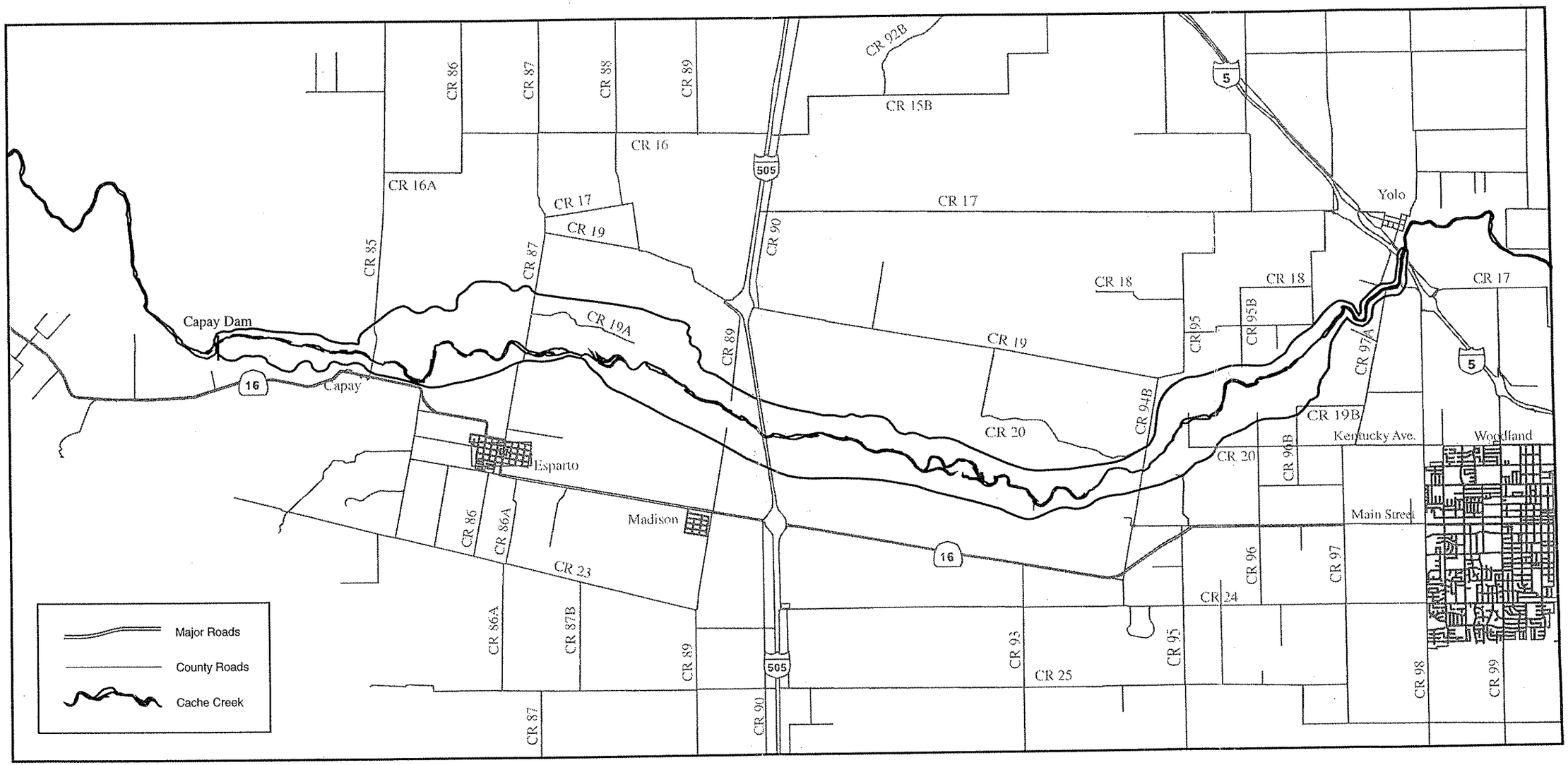


Figure 3.3-1 Streamway Influence Boundary

SOURCE: YOLO COUNTY COMMUNITY DEVELOPMENT AGENCY

Biological Resources Element

Chapter 6.0 of the OCMP is the Biological Resources Element. This chapter discusses the complex series of events that contributed to the decline of riparian habitat along Cache Creek. The four main influences have been: the narrowed stream channel, lack of surface water, lowered groundwater levels, and in-stream mining. As a result, riparian habitat is now concentrated in two areas along the 14.5-mile portion of Cache Creek within the planning area. One is located upstream of the Capay Bridge, while the other is located approximately between Moore Crossing and the Stephens Bridge. The OCMP includes several recommended actions for restoring the extent of riparian habitat, as follows:

- Explore the feasibility of entering into a Memorandum of Understanding (MOU) with the YCFCWCD to provide a regular source of surface water within the losing reaches of Cache Creek, when there is sufficient rainfall.
- Coordinate with groups such as the Cache Creek Conservancy, Army Corps of Engineers, and HAWK, to ensure that proposed restoration projects do not conflict with the OCMP.
- Encourage reclamation plans to include features that promote the development of wildlife habitat, such as permanent vertical banks and shallow wet pit areas.
- Promote the eradication of invasive species, such as the giant reed and tamarisk, where appropriate.
- Include vegetated buffer areas between restored habitat areas and adjoining farmland, in order to minimize the potential impacts of predators and pests on crops, while protecting habitat from dust, noise, and spraying.
- Encourage the use of cooperative agreements and voluntary conservation easements with private landowners, such as the Moore Dam Sanctuary, to preserve the biological resources of Cache Creek.

Open Space and Recreation Element

Chapter 7.0 of the OCMP is the Open Space and Recreation Element. Currently, the high proportion of land in private ownership along Cache Creek severely restricts public access. This chapter suggests the designation of future recreation sites, on reclaimed mined lands that are distributed about every two miles along Cache Creek. These areas are conceptual in nature and serve to identify potential sites so that they may be considered by the County at a future date. The downstream sites would largely provide passive recreational activities, such as horseback riding, hiking, and birdwatching. Upstream areas could support more intensive activities, including boating, fishing, and picnic grounds. The upstream sites could also provide new parks and tourism opportunities for Capay, Madison, and Esparto. The Open Space and Recreation Element contains the following recommended actions:

- Coordinate with the Bureau of Land Management to investigate the eventual linkage of recreational uses along the upper watershed to the proposed recreational nodes within the planning area.
- Develop and manage recreational sites so that trespassing, vandalism, and other undesirable activities are prevented.

- Encourage restored habitat areas and/or recreational areas to be dedicated to the County or an appropriate land trust, in order to provide a future continuous open space corridor along Cache Creek.

- Develop an Open Space and Recreation Plan to provide a range of public activities and uses along Cache Creek.

Off-Channel Surface Mining Ordinance

Mining areas located outside of Cache Creek are currently governed by Chapter 2 of Title 8 of the Yolo County Code, which provides procedures for the processing of use permits, including off-channel mining permits. Chapter 2 provides sufficient authorization to process off-channel mining permits and, when supplemented by CEQA, ensures that adverse environmental impacts are minimized or eliminated. However, as both the scale and intensity of off-channel mining increases, there is a need for specific performance standards that address the potential impacts of off-channel mining.

The existing interim mining ordinance for Yolo County was used as a basis for the new Off-Channel Mining Ordinance. This foundation was then expanded to include SMARA (Surface Mining and Reclamation Act) mandated procedures, the Technical Studies, standards established in the short-term mining permits, policy documents issued by the Department of Conservation and the State Mining and Geology Board, as well as relevant contributions from current mining ordinances in effect in other jurisdictions. As a result, the Off-Channel Mining Ordinance contains several recommended new provisions, including:

- New operating and design standards specific to the requirements of off-channel mining, and consistent with the performance standards discussed in the OCMP.

- Additional application requirements to ensure that the County has sufficient information with which to judge the merits of the project.

- Expanded annual reporting submissions to give the County a clear and accurate depiction of surface mining operations and how they conform with the conditions of approval, mitigation measures, reclamation plan, and other agency requirements.

- Procedures for amendments and modifications to mining use permits.

- Detailed provisions for appeals, public hearings, and violations.

Surface Mining and Reclamation Ordinance

The Yolo County Surface Mining and Reclamation Law applies to all mine sites within the unincorporated areas of the County, both in-channel and off-channel. Like the interim in-stream regulations, the Reclamation Ordinance has not been substantially updated since the early 1980s and is long overdue for revision. Over the past five years, SMARA has been extensively amended, especially in the area of reclamation plans. Consequently, the revised Reclamation Ordinance contains many recommended new components, including:

- New off-channel reclamation standards. These are in addition to those already required by the State Mining and Geology Board Reclamation Regulations.

- Expanded application requirements.

- Methods for considering financial assurances to guarantee that sufficient money will be available to reclaim the mined area should the operator abandon the site.

- Procedures for the submission of interim management plans, to describe how the mined site will be maintained during extended idle periods.

- Detailed provisions for appeals, public hearings, and violations.

Applications for Mining

On September 27, 1995 notices were sent to all property owners within the study area notifying them of a deadline of December 1, 1995 for acceptance of applications for off-channel surface mining consistent with the OCMP. Five mining and reclamation applications were received; they include:

- Cache Creek Aggregates (a subsidiary of R.C. Collet);
- Solano Concrete Co.;
- Syar Industries;
- Teichert Aggregates - Esparto; and
- Teichert Aggregates - Woodland.

These five applications collectively constitute the reasonably foreseeable implementation of the OCMP over the next 50 years, and would represent the cumulative impact of the OCMP. delete WRONG

Two existing operators will continue to operate under their existing permits. Granite's reserves equate to approximately their annual allocation and therefore have been assumed to be exhausted by the end of 1996 for the purposes of this plan. It is assumed that Schwarzgruber may propose modest expansion of their operations sometime in the next five years. Thus, Scharzgruber will be considered as an existing short-term non-conforming use.

All together, the applicants (plus assumptions for Schwarzgruber) are proposing to mine a total of some 179.5 million tons over the next thirty years, which will be sufficient to meet regional demand. Mining during this initial phase would take place over approximately 2,211 acres within the planning area (see Figure 3.4-3). The preliminary plans of each operator over the next thirty years are summarized in Table 3-1. Table 3-2 outlines total disturbed acreage for the proposed off-channel mining operations over the next 30 years in five year increments.

TABLE 3-1
REASONABLY FORESEEABLE MINING OPERATIONS UNDER THE OFF-CHANNEL MINING PLAN

	Cache Creek Aggregates	Solano Concrete	Syar Industries	Teichert-Esparto	Teichert-Woodland	Schwarzgruber[1]	Granite	County (maintenance)	TOTAL
Total Controlled Acreage	1,220	1,828	1,590	290	578	132			5,638
Total Mined Acreage	360	598	734	148	~~203~~ 281	88			2,211
Total Mined Tonnage	32,280,000	33,630,000	65,060,000	22,940,000	20,820,000	4,750,000			179,480,000
Total Sold Tonnage	30,000,000	27,910,000	58,430,000	19,500,000	17,700,000	4,510,000			158,050,000
Total Tonnage Mined Wet[2]	31,300,000	33,270,000	65,060,000	22,940,000	20,820,000	4,750,000			178,140,000
Total Tonnage Mined Dry	980,000	360,000	0.00	0.00	0.00	0.00			1,340,000
Total Mined Acreage Under Contract	334	558	561	60	0	0			1,523
Total Mined Acreage Not Under Contract	16	40	173	88	283	88			688
Row Crop Acreage Reclaimed	69	223[3]	235	0	115	0			642
Tree Crop Acreage Reclaimed	0	223	223[4]	0	0	0			446
Pasture Acreage Reclaimed	45	0	0	0	0	0			45
Habitat Acreage Reclaimed	76	65	7	31	6	88			273
Slopes and Maintenance Roads (acres)[5]	28	26	74	19	~~32~~ 38	0			179
Lake Acreage Reclaimed	142	161	240	98	130	0			771
Number of Lakes at Final Reclamation	3	4	1	1	2	0			11
Borrow Areas	0	0	45	0	0	0			45
Habitat Acreage Restored[6]	34	30	8	0	40	0			112
Proposed Extraction Over 30 Years (sold: mined tonnage ratio)	30,000,000: 32,280,000	27,910,000: 33,630,000	58,430,000: 65,060,000	19,500,000: 22,940,000	17,700,000: 20,820,000	1,083,000: 1,140,000		9,900,000: 11,000,000[7]	164,523,000: 186,870,000
30-Year Annual Average (sold: mined tonnage)	1,000,000: 1,076,000	930,333: 1,121,000	1,947,666: 2,168,666	650,000: 764,666	590,000: 694,000	36,100: 38,000		330,000: 366,666	5,484,100: 6,229,000
Reasonably Foreseeable Maximum Annual Allocations (sold: mined ratio, tons/year)[8]	1,000,000: 1,075,269	1,200,000: 1,445,783	1,950,000: 2,166,667	1,000,000: 1,176,471	1,200,000: 1,411,765	108,300:114,000[9] 158,650:167,000[10]		1,080,000:1,200,000[9] 180,000:200,000[10]	7,538,300:8,589,955[9] 6,638,300:7,589,955[10]
Years of Operational Life at Continuous Maximum Annual Allocation Rates	30.00	23.26	29.96	19.50	14.75	10.00	0.95[11]		
Increase in Proposed Maximum Annual Allocation over Existing Allocation	+43.63%	+87.18%	+125.49%	+56.86%	+32.66%	0.00%	0.00%[12]	+100.00%	

TABLE 3-1 (CONTINUED)
REASONABLY FORESEEABLE MINING OPERATIONS UNDER THE OFF-CHANNEL MINING PLAN

Total Proposed Maximum Annual Allocations at Continuous Maximum Production (sold: mined ratio)[13]	**1997-2001**		7,538,300:8,589,955
	2002-2006		6,638,300:7,589,955
	2007-2011		6,530,000:7,475,955
	2011-2016		5,330,000:6,064,190
	2016-2020		4,330,000:4,887,719
	2020-2026		3,130,000:3,441,936
	2026-2046		1,603,200:1,798,000

Source: Yolo County, 1996.

[1] Schwarzgruber has not submitted a mining/reclamation permit application at this time. The information for Schwarzgruber has been estimated for the purposes of preparing a conservative cumulative analysis, since they can be considered a reasonably foreseeable project.

[2] The terms wet and dry refer to the ultimate mining condition of an excavation. Thus, if a pit will eventually be mined to a depth below the groundwater table, all of the material mined from the pit is counted as wet aggregate.

[3] The total reclaimed acreage for Solano Concrete includes an additional 100 acres contained within the Hutson parcel. The Hutson parcel has an approved Reclamation Plan, which is being amended through this process.

[4] Reclaimed tree crop acreage includes 45 acres of reclaimed borrow area.

[5] Slope areas would be reclaimed to grasslands which have habitat value, but at a lower intensity than areas specifically reclaimed to habitat.

[6] The restored habitat acreage refers to areas located outside of the proposed mining areas (e.g.: "net gain"). The 40 acres listed in the Woodland column is also applicable to Esparto

[7] Assumes 1.2 million tons mined annually during the 1997-2001 period, and 200,000 tons mined during the 2002-2026 period.

[8] Assumes the following: 1) 7% waste for Cache Creek Aggregates; 2) 17% waste for Solano Concrete Co.; 3) 10% waste for Syar Industries; 4) 15% waste for Teichert-Esparto and Teichert-Woodland; and 5) 5% waste for Schwarzgruber (in the 1997-2001 period).

[9] 1997-2001 period, assuming 5% waste for Schwarzgruber and 10% waste for County maintenance mining.

[10] 2002-2026 period.

[11] Assumed to end in 1996.

[12] Assumed to end in 2005.

[13] Assumes the following: 1) channel sculpting completed by 2001; 2) Schwarzgruber ends operation in 2005; 3) Teichert-Woodland ends operation in 2011; 4) Teichert-Esparto ends operation in 2016; 5) Solano Concrete Co. ends operation in 2020; 6) Syar Industries and Cache Creek Aggregates end operations in 2026; 7)reserve tonnage averaged-out over 20 years, plus maintenance mining; and 8) assumes 15% waste for Lowe and 10% waste for Syar Industries and Stephens.

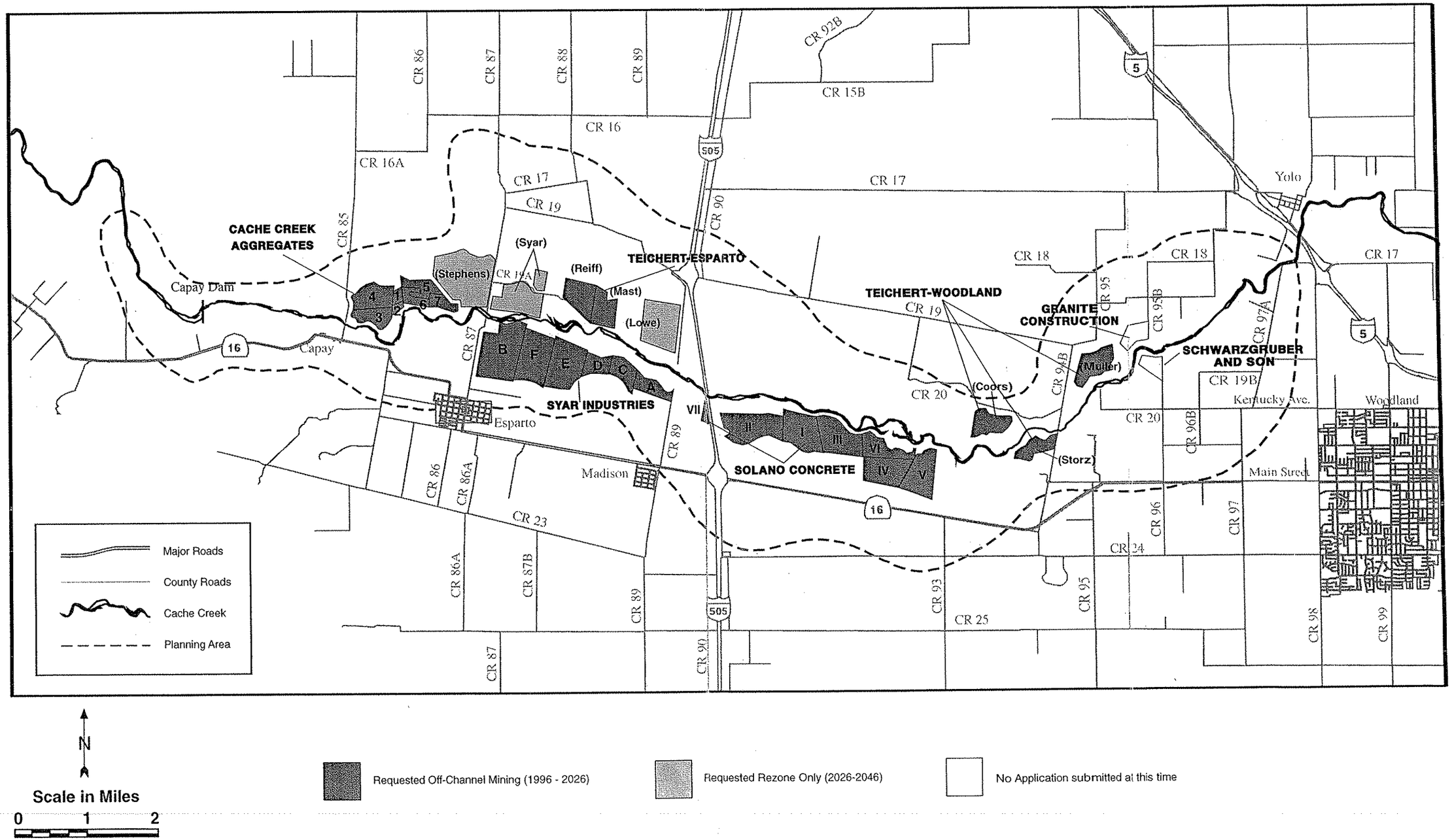


Figure 3.4-3 Requested Off-Channel Mining and Rezoning, 1996-2046

SOURCE: INDIVIDUAL MINING APPLICATIONS

County of Yolo
March 26, 1996

Table 3-2: Total Disturbed Acreage for the Proposed Off-Channel Mining Operations								
Year	5	10	15	20	25	30	35	Total
Cache Creek Aggregates	53	60	60	55	55	5	0	288
Solano Concrete	60	55	133	50	136	15	0	449
Syar Industries	54	70	61	17	57	0	0	259
Teichert-Esparto	50	50	50	50	50	0	0	250
Teichert-Woodland	50	50	50	50	50	0	0	250
Total	267	285	354	222	348	20	0	1,496

Viewing these preliminary proposals as a group, the total acreage proposed for mining represents 40 percent of the land owned or controlled by the applicants, and 8 percent of the land identified by the Department of Conservation within the Mineral Resource Zones. The applicants collectively are proposing that 99 percent of the total tonnage be mined to depths below the groundwater table . Reclamation of the 2,356 acres shown to be disturbed (including a borrow area and the Hutson parcel) would be 48 percent agriculture (27 percent row crops, 19 percent tree crops, and 2 percent pasture), 12 percent habitat, 33 percent open water areas, and the remainder for slopes and haul roads. Of the total acreage proposed for new mining, 68 percent is currently covered by a Williamson Act contract, and would require expiration of the contract under the County's current regulations. The following information provides a summary of the proposed mining operations. Acreages and depths reflect mined conditions and include slope areas. Depths represent approximate averages for each pit.

Cache Creek Aggregates (R.C. Collet)

1 pit (34 acres) to 10 feet
1 pit (20 acres) to 20 feet
2 pits (70 acres) to 30 feet
2 pits (33 acres) to 50 feet
1 pit (43 acres) to 55 feet
1 pit (87 acres) to 75 feet
1 pit (73 acres) to 90 feet

Solano Concrete

1 pit (15 acres) to 26 feet
1 pit (11 acres) to 30 feet
5 pits (200 acres) to 50 feet
6 pits (372 acres) to 70 feet

Syar Industries

1 pit (7 acres) to 35 feet
7 pits (116 acres) to 40 feet
2 pits (31 acres) to 45 feet
8 pits (130 acres) to 50 feet
7 pits (114 acres) to 60 feet
1 pit (26 acres) to 70 feet
3 pits (310 acres) to 80 feet

Teichert-Esparto

1 pit (148 acres) to 150 feet

Teichert-Woodland

1 pit (92 acres) to 29 feet
1 pit (137 acres) to 37 feet
1 pit (54 acres) to 47 feet

Rezoning Applications

In addition, the County has also received requests to designate certain lands for long-term mining beyond the 30-year recommended life of requested mining permits. The OCMP recommends that a new SGR (Sand and Gravel Reserve) Overlay Zone be used to indicate that the property is appropriate for off-channel mining within the next thirty to fifty years, but that re-examination of environmental conditions and conditions of approval will be necessary. This has been requested on 676 acres, in addition to the area proposed to be mined. It is estimated that these rezoned lands contain 36.5 million tons of aggregate, in addition to the 179.5 proposed to be mined initially, for a total of 216 million tons available during the fifty year plan horizon. The proposed rezone applications provided by each operator are summarized in Table 3-3.

TABLE 3-3
PROPOSED REZONING APPLICATIONS

	Lowe	Stephens	Syar	TOTAL
Total Controlled Acreage	625 ~~662~~	821	160	1,603
Total Mined Acreage	250	296	130	676
Total Mined Tonnage (million tons)	6.00	24.58	5.95	36.53

Source: Yolo County, 1996.

Assumptions for Cumulative Analysis

In order to look at total cumulative effects, other assumptions had to be included for: 1) channel stability improvements within the creek; 2) recycling of aggregate materials; 3) existing agricultural operations; and 4) area and regional development such as Pheasant Glen, Wild Wing, Woodland growth, Esparto growth, the Cache Creek Casino, and other background growth. Channel stability improvements are assumed to total 11 million tons over 30 years (1.2 million tons per year for the first five years (1997 through 2001) and 200,000 million tons for the remaining 25 years (2002 through 2027). Recycling of aggregate materials is assumed as an additional four percent of total production (7.2 million tons over 30 years), with one-half that amount generating new truck trips. It is assumed that agriculture is the primary land use within the 23,174 acres covered by the Plan. The populations and number of housing units within this acreage is not known, but is assumed to be quite low given regulations covering minimum lot size. It is estimated that

there are approximately 2,720 people living in the study area, 2,480 within the towns of Capay, Madison and Esparto. It is estimated that there are 960 dwelling units in the area, 875 within the three communities. Growth in the area, including buildout of Wild Wing (337 single family units), the Pheasant Glen Golf Course, the three towns, and Woodland, over the next 30 years is assumed at 1.6 percent per year on average.

Required Actions

Certification of the Program EIR

The County must certify that the EIR was completed in compliance with CEQA, that there was independent review and consideration of the information in the EIR prior to taking action on the project, and that a Mitigation Monitoring Plan was adopted to ensure implementation of feasible mitigation measures identified in the EIR.

Adoption of the Off-Channel Mining Plan

County staff is recommending adoption of the OCMP to provide the necessary structure to address a variety of issues relevant to mining outside of the creek channel. The Plan should be updated a minimum of every ten years to take into account the results of monitoring programs and reclamation efforts.

Adoption of the Mining and Reclamation Ordinances

County staff is recommending adoption of these ordinances, which include specific performance standards for both mining and reclamation, in order to implement the OCMP.

Zoning Code Text Amendments

This action allows surface mining in the Agricultural Preserve (A-P) Zone consistent with state law, and establishes a new combining zone called the Sand and Gravel Reserve (SGR) Overlay Zone.

Adoption of Development Agreements Ordinance

This action allows the County to enter into development agreements with the mining applicants so that the development agreements may be used as entitlements to ensure certain mitigations over time.

3.5 ALTERNATIVES

Introduction

The purpose of the alternatives analysis is to allow for informed decision making and meaningful public participation [Section 15126(d)(5) of the CEQA Guidelines]. The EIR must describe a range of reasonable alternatives to the project, or its location, that would feasibly attain most of the basic objectives, but would avoid or substantially lessen any of the significant effects of the project. The comparative merits of the alternatives must be evaluated [Section 15126(d)].

The EIR must include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project [Section 15126(d)(3)]. This becomes the factual basis for reaching conclusions about the feasibility of various alternatives. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, this must be discussed, but at a lesser level of detail.

Range of Alternatives

The range of alternatives to be examined in the EIR is governed by the "rule of reason" that requires that only those alternatives necessary to permit a reasoned choice need be addressed. The CEQA Guidelines require that the number of alternatives analyzed be limited to those that would avoid or substantially lessen any of the significant effects of the project [Section 15126(d)(5)]. Of those alternatives, the EIR need only examine in detail those that the lead agency determines could feasibly attain most of the basic objectives of the project. Among the factors that a lead agency can consider in determining feasibility, the CEQA Guidelines specifically identify site suitability, economic viability, availability of infrastructure, general plan consistency, other plan or regulatory limitations, jurisdictional boundaries, and whether there is a reasonable ability to acquire, control, or otherwise have access to an alternative site [Section 15126(d)(5)(A)].

No one of these factors establishes a fixed limit on the scope of reasonable alternatives. However, the CEQA Guidelines indicate that an EIR need not consider an alternative "...whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" [Section 15126(d)(5)(C)].

The following eight alternatives (by name and assigned number) have been identified by the County for examination and analysis in this EIR:

Alternative 1a: No Project (Existing Conditions);
Alternative 1b: No Project (Existing Permits and Regulatory Condition);
Alternative 2: No Mining (Alternative Site);
Alternative 3: Plant Operation Only (Importation);

Alternative 4: Shallow Mining (Alternative Method/Reclamation);
Alternative 5a: Decreased Mining (Restricted Allocation);
Alternative 5b: Decreased Mining (Shorter Mining Period); and
Alternative 6: Agricultural Reclamation (with Mining Operations as Proposed).

Description of Alternatives

All of the proposed alternatives will be analyzed in Chapter 4.0 (Environmental Analysis) at a level of detail equivalent to that given the project. This level of detail is not required by CEQA, but was determined by the County to be appropriate in order to fully address public concerns and to provide full information disclosure. A summary comparison of the alternatives is provided in Table 3-4 below, and additional detail is presented in the text which follows.

Alternative 1a: No Project (Existing Conditions)

Under this alternative, the County would not adopt the OCMP (or the Cache Creek Resources Management Plan). Mining would continue based on 1995 actual production for each producer. Continuation of all regulations in place as of December 31, 1995 would be assumed, including the 1979 regulatory channel boundary and existing "interim" regulations. Tonnage for overall extraction would be based on total 1995 production (mined tonnage) which was 2,461,343 tons both in- and off-channel. The assumed resulting gravel extraction over 30 years would be 73.8 million tons. Annual maximum tonnage for individual producers under this alternative cannot be provided because the information is proprietary.

Alternative 1b: No Project (Existing Permits and Regulatory Condition)

Under this alternative, the County would not adopt the OCMP (or the CCRMP). Currently approved maximum annual allocations would establish the maximum intensity of mining that would be allowed. It would be assumed that all regulations in place as of December 31, 1995 would remain in place, including the 1979 regulatory channel boundary and existing "interim" regulations. The assumed resulting gravel extraction would be 130.0 million tons over 30 years. Annual maximum tonnage for individual producers would be as follows:

Cache Creek Aggregates	748,650 tons per year in-channel
Solano Concrete Company	772,417 tons per year in- or off-channel
Teichert (Esparto)	750,000 tons per year off-channel
Teichert (Woodland)	1,064,224 tons per year off-channel
Schwarzgruber and Son	114,000 tons per year in-channel
Syar Industries	960,871 tons per year in-channel
TOTAL	4,410,162 tons per year ~~through 2005 (4,296,162 after 2005)~~

Table 3-4: SUMMARY COMPARISON OF OCMP CEQA ALTERNATIVES									
Alternatives	**OCMP**	**1a**	**1b**	**2**	**3**	**4**	**5a**	**5b**	**6**
Condition	Proposed Project	No Project Existing Conditions	No Project Existing Maximum Allocation	No Mining Alternative Site - Importation of Finished Product	Plant Operation Only - Importation of Raw Materials	Shallow Mining - Alternative Method and Reclamation	Decreased Mining- Restricted Allocation	Decreased Mining - Shorter Mining Period	Agricultural Reclamation Alternative
Mining in Yolo County?	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Processing in Yolo County?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Implementation of OCMP?	Yes	No	No	No	No	Yes	Yes	Yes	Yes
Total Tonnage (in million tons)/ Period of Mining	179.2mined/30 years	18.8 mined/ 7.6 years	18.8 mined/ 4.25 years	65.0 imported/ 30 years	112.8 processed/ 30 years	33.6 mined/ 30 years	65.6 mined/ 30 years	110.3 mined/ 15 years	179.5 mined/ 30 years
Total Maximum Annual Tonnage (in million tons)	7.4 mined	2.5 mined	4.4 mined	2.2 imported	4.8 imported	1.2 mined	2.3 mined	7.4 mined	7.4 mined
Wet Pit Mining?	Yes - 99%	Yes[1]	Yes[1]	No - 0%	No - 0%	No - 0%	Yes - 99%	Yes - 99%	Yes - 99%
Assumed Reclamation	Agriculture 49% Open Lakes 33% Habitat 12% Roads/Slopes 6%	In-Channel: graded slopes, no revegetation except Collet; Off-Channel: agriculture	In-Channel: graded slopes, no revegetation except Collet; Off-Channel: agriculture	Unknown - Out of County	Unknown - Out of County	Agriculture 80% Habitat 20%	Agriculture 49% Open Lakes 33% Habitat 12% Roads/Slopes 6%	Agriculture 49% Open Lakes 33% Habitat 12% Roads/Slopes 6%	Agriculture 80% Open Lakes and Habitat 20%
Total Disturbed Acreage in County	2,211 acres	543 acres	543 acres	0	0	2,211 acres	1,105 acres	1,105 acres	5250 acres[2]
In Channel or Off Channel?	Off-Channel 100%	In-Channel 41%; Off-Channel 59%	In-Channel 41%; Off-Channel 59%	Unknown	Unknown	Off-Channel 100%	Off-Channel 100%	Off-Channel 100%	Off-Channel 100%

Source: Yolo County, February 1994.

[1] Solano-Hutson - exhausted in 1995. Solano-Farnham West short-term (3 year approval, through 1998).

[2] Includes 2,994 acres for borrow activities.

Alternative 2: No Mining (Alternative Site)

Under this alternative, the County would not adopt the OCMP (or the CCRMP). It is assumed that existing permits to mine in- or off-channel and/or operate plants, for all producers would be voided as of December 31, 1996. Mining would occur elsewhere and be trucked into the County in response to market demand for construction. Market demand for the County would be assumed at 65 million tons over the next thirty years, or approximately 2.2 million tons per year based on interpolations of the State Geologist's estimates. This alternative would examine the potential for satisfying local demand from reserves of PCC-grade aggregate material known to occur in dredger tailings ("gold fields") east of Yuba City and Marysville (zoning and land use is assumed to allow aggregate mining), alluvium deposits underlying Mather Air Force Base in the Rancho Cordova area of Sacramento (industrial zoning and land use area assumed with vernal pool wetland resources), sand and gravel deposits along Morrison Creek in Sacramento (open space mining land uses and zoning are assumed with riparian resources) and alluvial deposits and tailings from Folsom (residential and commercial zoning and land uses are assumed). It should be noted that although gravel reserves are known to occur along the American River, open space and land use and zoning was assumed to preclude access for mining. No assumptions have been made for reclamation on alternative sites as it would be highly speculative.

Alternative 3: Plant Operation Only (Importation)

Under this alternative, the County would not adopt the OCMP (or the CCRMP). This alternative assumes that existing permits to mine would be voided as of December 31, 1996, but that existing processing plants continue to operate to the extent and capacity that they are individually permitted (based on air permit limits). it is assumed that 112.8 million tons would be processed over 30 years. Raw material for processing would be assumed to come from the same alternative sources identified in Alternative 2: No Mining (Alternative Site) based on the same market demand. Tonnage for plant operations would be as follows:

Cache Creek Aggregates	0 tons per year (not permitted to process import)
Solano Concrete Company	936,000 tons per year (existing plant Air Quality Permit)
Teichert (Esparto)	1,100,000 tons per year (existing plant Air Quality Permit; to expire in 1998)
Teichert (Woodland)	1,450,000 tons per year (existing plant Air Quality Permit)
Schwarzgruber and Son	57,000 tons per year (existing plant Air Quality Permit)
Syar Industries	1,242,640 tons per year (existing plant Air Quality Permit)
TOTAL	4,785,640 tons per year through 1998 (3,685,640 after 1998)

Alternative 4: Shallow Mining (Alternative Method/Reclamation)

Under this alternative, the OCMP would limit all new mining to depths no greater than 10 feet above the historic average high groundwater elevation within the same total mined acreage (2,211) assumed for the OCMP (based on information provided by the applicants). The assumed resulting gravel extraction would be 33.6 million total tons, substantially less than the 179.5 million tons proposed over thirty years. Schwarzgruber would continue as presently approved because they are not requesting any new or modified entitlements. The proposed revised channel boundary would be assumed (as would adoption of the CCRMP). Reclamation would be assumed as primarily (80 percent) to agricultural uses, with the remaining amount (20 percent) to habitat restoration and other uses. Tonnage for individual producers would be as follows:

Cache Creek Aggregates	476,533 tons per year (14,295,990 total tons)(lower water table than other sites)
Solano Concrete Company	41,409 tons per year (1,242,278 total tons)
Teichert (Esparto)	246,667 tons per year (7,400,01 total tons)
Teichert (Woodland)	316,667 tons per year (9,500,010 total tons)
Schwarzgruber and Son	114,000 tons per year (1,140,000 total tons based on 10 years estimated remaining reserves)
Syar Industries	0 tons/year (overburden 15 ft. deep; groundwater 25 ft below the surface)
TOTAL	1,195,276 tons per year through 2005 (1,081,276 after 2005)

Alternative 5a: Decreased Mining (Restricted Allocation)

Under this alternative, the OCMP would limit gravel extraction to no more than 2.26 million annually over thirty years (65.6 million total). This alternative assumes that mining proposals would be restricted to one-half of the current annual allocation on half the land area (1,105 acres). The proposed revised channel boundary would be assumed (as would adoption of the CCRMP). All new mining would occur off-channel as proposed, using primarily wet pit methods, as requested. Schwarzgruber would continue at their approved allocation because they are not requesting any new or modified entitlements. Reclamation would be assumed at 49 percent agricultural uses, 13 percent habitat, and 38 percent open water areas which is the same proportional split of reclaimed uses as is currently proposed with slopes and haul roads included proportionally as part of the other uses. Tonnage for individual producers would be as follows:

Cache Creek Aggregates	374,325 tons per year
Solano Concrete Company	386,209 tons per year
Teichert (Esparto)	375,000 tons per year
Teichert (Woodland)	532,112 tons per year

Schwarzgruber and Son	114,000 tons per year (10 year estimated reserves)
Syar Industries	480,436 tons per year
TOTAL	2,262,082 tons per year through 2005 (2,148,082 after 2005)

Alternative 5b Decreased Mining (Shorter Mining Period)

Under this alternative, the OCMP would limit the period of gravel extraction for an individual permit to 15-years, with a potential 10-year renewal based on performance. The assumed resulting gravel extraction would be 110.3 million tons over 15 years. Permits would be reviewed every five years to account for unanticipated changes in environmental or regulatory circumstances. Requested allocations would be assumed on one-half the land area (1,105 acres). The proposed revised channel boundary would be assumed (as would adoption of the CCRMP). All new mining would occur off-channel as proposed, using primarily wet pit methods as propose. Schwarzgruber would continue at their approved allocation because they are not requesting any new or modified entitlements. Reclamation would be assumed at 49 percent agricultural uses, 13 percent habitat, and 38 percent open lake, which is the same proportional split of reclaimed uses as is currently proposed, with slopes and haul roads included proportionally as part of the other uses. Tonnages for individual producers would be as follows:

Cache Creek Aggregates	1,075,269 tons per year
Solano Concrete Company	1,445,783 tons per year
Teichert (Esparto)	1,176,471 tons per year
Teichert (Woodland)	1,411,765 million tons per year
Schwarzgruber and Son	114,000 tons per year
Syar Industries	2,166,667 million tons per year
TOTAL	7,389,955 tons per year through 2005 (7,275,955 after 2005)

Alternative 6: Agricultural Reclamation (with Mining Operations as Proposed)

Under this alternative, all new mining would occur off-channel as proposed, using primarily wet pit methods. Annual gravel extraction would be the same as for the project, 179.5 million tons over 30 years. This alternative assumes the CCRMP is also adopted. The OCMP would not allow for alternative forms of reclamation. A minimum performance standard for individual producers of 80 percent agricultural reclamation would be established; slopes, habitat, and/or water areas lakes could occur in the remaining 20 percent. Total disturbed acreage would be approximately 5,705 acres, which is substantially greater than the 2,256 acres anticipated to be disturbed under the proposed OCMP. It is assumed for the purposes of the analysis that the additional land needed for borrow would come from acreage immediately adjoining the proposed projects. The alternative would assume extensive earth-borrow activities on other lands not proposed for mining, in order to generate pit fill material, as follows:

Cache Creek Aggregates	435 additional acres (lowered 15 feet average)
Solano Concrete Company	598 additional acres (lowered 9 feet average)
Teichert (Esparto)	1,000 additional acres (lowered 11 feet average)
Teichert (Woodland)	350 additional acres (lowered 9.5 feet average)
Syar Industries	1,111 additional acres (lowered 12 feet average)
TOTAL	3,994 acres