Appendix B
Reclamation Plan

KINGS RIVER SAND AND GRAVEL

SURFACE MINING
AND
RECLAMATION PLAN

Pursuant to
Surface Mining and Reclamation Act (SMARA)
(Public Resources Code Section 2710 et seq.); the State Mining and Geology Regulations for Surface Mining and Reclamation Practice [California Code of Regulations (CCR) Title 14, Chapter 8, Article 1, Section 3500 et seq.; Article 9, Section 3700 et seq.]; and the Fresno County Zoning Ordinance (FCZO) (Section 858)

Calaveras Materials Inc.

CALAVERAS
HEIDELBERGCEMENTGroup

Fresno County, California
Unclassified Conditional Use Permit
Application 3052

Revised February 12, 2007

Prepared by

Calaveras Materials Inc.

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1.0 INTRODUCTION

1.1 Background

The proposed Calaveras Materials Inc. (Calaveras) project involves an approximately 454-acre site adjacent to the Kings River, between the Cities of Sanger and Reedley in Fresno County. The project site includes the southeast quarter of Section 31, T14S/R23E, part of the west quarter of Section 5, T15S/R23E, and the northeast quarter and some nearby land in Section 6, T15S/R23E. The land is located between the Kings River on the south, Cameron Slough on the east, Goodfellow Avenue on the north and the extension of Riverbend Avenue on the west. (Figures 1 & 2)

1.1.1 Owners of All Surface Mining and Mineral Interests

The project site (Figure 4, Appendix A) is owned by the applicant, Calaveras, 3451 West Shaw Avenue, Fresno, CA 93711. Calaveras is a wholly-owned subsidiary of Lehigh Cement Company, which is ultimately controlled by HeidelbergCement Group of Germany.

1.2 Project Description

The proposed Calaveras project will excavate sand and gravel (aggregate) from approximately 315 acres of the project site. Mining will only occur off-channel of the Kings River. No mining will occur within the river channel or within the Designated Floodway or Flood Zone (FEMA Zone A) as shown in Figure 5a, Appendix A. Approximately 140 acres will be excluded from mining including setbacks, farmland within the Designated Floodway or Flood Zone adjacent to the Kings River, and all existing riparian and woodland, wildlife habitat adjacent to the Cameron Slough and the Kings River.

The aggregate will be processed on-site to produce quality construction materials for use in asphalt and concrete roads, as well as for use in concrete in residential, agricultural, commercial, and industrial buildings and structures.

The operation will supply material to Calaveras' asphalt plant located at Central and Cedar Avenues in Fresno and to Calaveras' ready-mix concrete plants. Material will also be sold to outside contractors, companies, and individuals. Calaveras does not operate aggregate haul trucks; however, contracts will be secured with outside trucking companies to deliver materials to our plants. Trucking of aggregate sold to outside contractors, companies, and individuals will be arranged by the purchaser. Ready-mix concrete produced on-site will be hauled by Calaveras mixer trucks.

Shipment of aggregate will be limited to a maximum of one (1) million tons per year (Mtpy). Mining and processing of aggregate will proceed in the following sequence:

- Phase 1 will be mined with an excavator, dredge (powered by electricity), and/or a dragline and the material will be processed using a portable processing plant located within the northern section of Phase 8.

- Phases 2 through 8 will be mined with an excavator, dredge, and/or a dragline and the material will be processed using a permanent processing plant located within the boundaries of Phase 9. The portable plant will be removed from the site when the permanent aggregate plant is producing.

- Phase 9 will be mined using a portable plant to be placed within the area just north of this phase that will not be mined. The permanent plant will be dismantled and removed from the property as part of the mining of Phase 9.

Operations will last approximately 30 years at the proposed levels of production. An onsite ready-mix concrete plant will consume a small portion of the total aggregate produced, with an average production of approximately 700 cubic ypd.

Aggregate will be mined to a depth of approximately 80 feet below the ground surface. Excavation will be done by a dragline, dredge, and/or excavator. Excavation will extend below the groundwater table. Exposed groundwater will not be pumped out (de-watered) to create dry excavation phases. Some exposed groundwater in the lakes will be utilized as process water.

The processing operation will utilize a temporary, portable aggregate processing plant for the initial and final operations. Permanent operations will include an aggregate processing plant and a ready-mix concrete plant. Processing water to wash excavated materials will be recycled via a closed circuit recirculation system. Supplemental water, to replace water retained by the materials during processing, will initially be pumped from existing on-site wells. Once sufficient groundwater is exposed in the excavation phases, supplemental water will be pumped from the lakes created by excavation.

All existing riparian and woodland areas and areas within the designated floodway are to be excluded from mining. The site will be reclaimed to two (2) private, deep water, wildlife lakes, approximately 115 acres and 170 acres in size, with riparian habitat. The reclaimed use will help towards replacing California's original wetlands of which 95% have been filled or drained.

2.0 GENERAL ENVIRONMENTAL DATA

2.1 Environmental Setting

2.1.1 Existing Land Use

Historically, this site was used for agricultural purposes. It is surrounded by large and small farms, ranging from grape, tree fruit or walnut operations to large, rural residential homes with backyard pastures or fruit trees. [Figure 3, (Page 2-2), and Figure 5, (Appendix A)]

The total project site consists of five contiguous parcels operated as a single farm described as follows (see Figure 4, Appendix A):

Enos Ranch. Northerly 30 acres (APN 333-06-131) planted with field and row crops and permanent pasture, irrigated by water from the Hanke Ditch. A three acre parcel (APN 333-06-130) on the east side of Cameron Slough, which includes a house and an outbuilding, is not included in the project.

Tocher Ranch**.** Center 127 acres (APN 333-06-135 and 137) planted with field and row crops, irrigated by water from the Hanke Ditch.

River Ranch. Southerly 297 acres (APN 360-02-049 and 050) adjacent to the Kings River planted with field and row crops. Irrigation is by water from the Hanke ditch and water pumped from Cameron Slough and the Kings River.

Currently, two other sand and gravel operations mine the Kings River deposit upstream of the project site. The Central Valley Ready-Mix operation is just under two miles due north of the project site and the Vulcan Materials operation is approximately four miles northeast of the project.

2.1.2 Vegetation Types and Conditions

The majority of the site had been farmed as tree fruit orchards until 1995. Currently 385 acres are in farming including field and row crops and pasture. Due to historical farming operations on the site, native vegetation exists only as riparian trees and understory along the edge of Cameron Slough and the Kings River.

2.1.3 Soil Types and Conditions

Native surface soils are almost equally divided between Hanford and Grangeville soils including the following as shown on maps #63, 64, 73 and 74 of and as described in the Soil Survey of Eastern Fresno Area, California, USDA, Soil Conservation Service, (October 1971):

Hanford fine sandy loam (Hm); well-drained, fertile, moderately coarse-textured soils formed in recent granitic alluvium. Capability unit I, Storie Index rating 100.

Grangeville fine sandy loam (Gf); Moderately coarse-textured soils formed in recent granitic alluvium. Capability unit I, Storie Index rating 90.

Grangeville soils, channeled (Gp); Sandy soils and fine sandy soils occurring along riparian areas. Capability unit II, Storie Index rating 36.

2.1.4 Groundwater Elevation

In November 1994, when test holes were completed at the project site, the depth to groundwater in most of the holes ranged from 15 to 25 feet. Periodic measurements of water levels in monitoring wells and irrigation wells on the project site beginning in 1997 indicate groundwater levels fluctuate between 6 to 17 feet.

2.1.5 Surface Water Characteristics

In November 1994, the approximate elevation of the surface water in the Kings River channel along the south boundary of the project site ranged from 300 feet above mean sea level (msl) downstream to 307 msl feet upstream. In April 1996 the river elevation ranged from 310 feet msl downstream to 311 feet msl upstream. In November 1994 the approximate elevation of the Cameron Slough channel along the east boundary of the project site ranged from about 300 feet msl to 320 feet msl. In April 1996 the elevation of the Slough was 310 feet msl to 324 feet msl. The land surface of the project site averages about 15 feet above the channels of the Cameron Slough and the Kings River.

2.1.6 Average Annual Rainfall

The project area exhibits a Mediterranean climate typical of the San Joaquin Valley region. Mean seasonal precipitation is estimated to be above 10 inches per year and occurs primarily in the winter months.

2.2 Geological Description

2.2.1 General Geological Setting

The project site is within the Great Valley geomorphic province, lying between the Coast Ranges province and the Sierra Nevada province. The Great Valley province is characterized by relatively flat-lying alluvial sediments formed by the coalescence of successive alluvial fans derived from the Sierra Nevada and Coast ranges. The Kings River deposits were derived from the Sierra Nevada.

Granitic rock types compose the majority of clast types within the Kings River fan. Ultramafic rock types are also found, with the majority of the remainder of the

deposit composed of quartzite, fine-grained basaltic volcanics, and fine-grained metavolcanics. The Kings River is geomorphologically similar to the San Joaquin River, except that it has a broader floodplain and a thicker section of recent sand and gravel.

Unlike the San Joaquin River deposits, a persistent underlying clay layer has not been reported in existing aggregate operations on the Kings River. No materials deleterious to the production of quality aggregate have been found in the Kings River deposits. (Mineral Land Classification: Aggregate Materials in the Fresno Production-Consumption Region Cole et al., [1988])

2.2.2 Principal Rocks Present

The aggregate deposits are primarily sand, gravel and cobbles (aggregate) placed by the Kings River in its streambed and adjacent bars and have been termed the Quaternary Older Alluvium.

2.2.3 Detailed Geological Description of Deposits to be Extracted

The deposit is at the extreme downstream edge of the Kings River alluvial fan. This type of deposit is known as a "braided stream" deposit, primarily because during its many meanders over time it has become horizontally and vertically intertwined, or "braided".

Relatively coarse-grained deposits of the ancestral Kings River are generally predominate in the subsurface above a depth of 210 to 220 feet. Some interlayered clay and silt deposits are also present, but these are generally thin and discontinuous. Also clay is intermixed with the coarse-grained deposits in some depth intervals. Generally, the shallowest substantial clay layers are found from about 90 to 100 feet in depth.

The State of California has classified this site as being within MRZ-2 (Mineral Resource Zone containing mineral resources, i.e. sand and gravel). The State has designated this site as having construction grade aggregate deposits that are of regional significance. (SMARA Designation Report #8, Designation of Regionally Significant Construction Aggregate Resources in the Fresno Production Consumption Region, [1988]).

Land surface elevations on the site range about 335 feet msl near the northwest corner of the project site to about 320 feet msl along the banks of the Kings River at the south boundary of the site. An estimated average of 15 feet of overburden, ranging from about 5 to 20 feet, overlays an average thickness of about 40 feet of sand, gravel and cobbles (aggregate).

2.3 Surface and Groundwater

2.3.1 Quantity and Quality of Groundwater

(Source: Groundwater Conditions and Potential Impacts of Gravel Extraction at the Calaveras Materials Inc., Kings River Ranch, Kenneth Schmidt and Associates, May 1996)

a. Quantity: In November 1994, when test holes were completed at the project site, the depth to water in most of the holes ranged from 15 to 25 feet. The main sources of recharge to groundwater in the vicinity are deep percolation from irrigation return flow, canal seepage, seepage from the Kings River and Cameron Slough, and groundwater inflow from the north. Seepage from the Kings River is indicated to be a significant source of groundwater recharge during high stages in the river. Conversely during low river stages, little or no seepage to groundwater is expected. The main sources of groundwater discharge are pumping and groundwater outflow to the south, including the Kings River during low river stages.

b. Quality: Chemical analyses of water were made by Fresno County, Department of Public Health, from six domestic wells within one mile of the site. Total dissolved solids (TDS) concentrations in water from these wells ranged from about 70 to 250 milligrams per liter (mg/l). The lowest TDS concentration (about 70 to 90 mg/l) are indicated to be influenced by canal, slough, or river seepage. The highest TDS concentrations (250 mg/l) are indicated to be primarily influenced by irrigation practices. A nitrate concentration of 51 mg/l, exceeding the Maximum Contamination Level (MCL) of 45 mg/l, was found in water from one well east of the project site in March 1985. Iron and manganese concentrations are common in water from some of these wells and have exceeded the respective MCLs of 0.03 mg/l and 0.05 mg/l. The high iron and manganese concentrations are common in shallow groundwater near streams, and are attributed to natural factors. Dibromochloropropane (DBCP) concentrations ranging from 0.2 to 12 parts per billion (ppb), equal to or exceeding the present MCL of 0.2 ppb, have been found in water from six wells west or southwest of the project site. Regional information indicates that groundwater below a depth of about 250 feet is of suitable quality for domestic use and public supply.

Two irrigation wells on-site sampled in 1994 indicated that the only detected trace organic chemical was DBCP at 0.02 ppb, less than the MCL, in one well. Several former gasoline and diesel storage tanks were located near the central portion of the site. Groundwater assessment analyses collected from five groundwater monitoring wells indicated the presence of petroleum hydrocarbons beneath a narrow (apparently less than 100 feet wide) plume, extending to the south of the former tanks. A remediation program was completed in 1996 and a case closure was issued by the California Regional Water Quality Control Board on December 10, 1996.

2.3.2 Quantity and Quality of Surface Water

(Source: Groundwater Conditions and Potential Impacts of Gravel Extraction at the Calaveras Materials Inc., Kings River Ranch, Kenneth Schmidt and Associates, [May 1996])

a. Quantity: According to the Kings River Water District, all of the project site is in the District. The District has senior water rights on the river, and has delivered an average of 3.5 to 4.0 acre-feet per acre per year to the site. For the project site, this would total 1,400 acre-feet per year. The total crop consumptive use of applied water was about 1,010 acre feet per year. Of the 1,400 acre-feet per year average river water diversion, an estimated 390 acre-feet per year was in excess of crop consumption use, and thus became groundwater recharge.

3.0 MINING PLAN

3.1 Legal Description

See Application, Appendix B

3.2 Statement of Operations

3.2.1 Commencement of Operations

Mining and processing operations will begin upon approval of this Conditional Use Permit, the Mining and Reclamation Plan, the acceptance of Financial Assurances, the approval of a Site Plan Review and all other necessary approvals.

3.2.2 Proposed Hours and Days of Operation

A typical workday would be 6:00 am to 3:30pm. However, hours of operation need to be flexible in order to meet variable business needs. Table 1 shows the proposed typical hours of operations for the excavation, processing and loading activities. Maintenance of mobile and plant equipment will extend beyond these hours. During periods of public emergency and or major public road projects affecting the health and safety of the community, continuous 24 hours a day operations may be required. Major public road projects may be required to be completed during night hours or on weekends to avoid traffic conflicts. Such projects may require loading operations beyond the hours and days of operation shown.

Table 1
PROPOSED TYPICAL HOURS AND DAYS OF OPERATION

Activity	Proposed Hours[1,2]
Excavation:	7:00 am - 7:00 pm, Weekdays
Aggregate Processing Plant:	
Production:	7:00 am 7:00 pm, Weekdays
Loading[3]:	6:00 am - 9:00 pm, Weekdays
Ready-Mixed Concrete Plant:	4:00 am-6:00pm, Weekdays, May-Oct 5:30 am-6:00pm, Weekdays, Nov-Apr 7:00 am-2:00pm, Saturdays

[1] Maintenance of mobile and plant equipment extend beyond these hours.
[2] During periods of public emergency and or major public works projects affecting the health and safety of the community, continuous 24 hours a day operations may be required.
[3] Major public works projects may be required to be completed during night hours or on weekends. . Such projects may require loading operations beyond the hours and days of operation shown.

3.2.3 Anticipated Duration of Operation

At the proposed level of production, operations are expected to continue for approximately 30 years depending on varying market conditions.

3.2.4 Estimated Type and Volume of the Extractable Resources

The aggregate reserves are estimated to be approximately 28 million tons.

3.2.5 Method of Excavation

a. Phasing: The area to be mined is divided into 9 phases, totaling 315 acres (Figures 6-16, Appendix A). Depending on mining conditions, Phases 2, 3, and 4 may be configured differently than shown in Appendix A figures but will consist of similar size and shape.

b. Removal and Storage of Topsoil: Topsoil will be removed from each phase using paddlewheel scrapers and/or excavators and stored for later use as the final cover for reclamation.

c. Removal of Overburden: Excavation of the aggregate must be preceded by the removal of overburden to expose the resource (Figure 7, Appendix A). Areas where overburden is to be removed will be irrigated before removal begins, if removal occurs during the dry season, to minimize dust. As the overburden is removed, it will be transported to previously excavated areas to shape the lake edges.

d. Excavation Method: A dragline, dredge, and/or excavator may be used for excavation of aggregate during all phases of the project. Equipment used to excavate aggregate is described in Section 3.2.7.

A 50-foot wide native alluvium levee will not be mined between the southern boundary of Phases 2 and 3 and the northern boundary of Phase 5. The native alluvium will allow groundwater to continue to move through the alluvium in the existing groundwater flow pattern.

The dragline, dredge, and/or excavator will place the raw material into a temporary surge pile that will allow water collected with the excavated material to drain back into the excavation pit. The drained material will be transferred to a series of overland conveyors and/or haul trucks which will carry the material to the processing plant Approximately 2,000 feet of conveyor will connect the excavation area to the processing plant. The conveyor system will be moved as the excavation operations progress to subsequent mining phases, where the process will begin again. Sections of overland conveyor may be removed and stored for future placement. The deposit contains a certain amount of clay, which is detrimental to the mining and processing of the sand and gravel. Because the clay is braided into the sand and gravel strata, it becomes an integral part of the deposit and will be mined along with the sand and gravel. Separation of the unwanted clay from the sand and gravel fractions will be required. A solids recovery system will be implemented in conjunction with the

aggregate processing plant to separate clay from the sand and gravel (see 3.2.6e). Fine-grained sediments removed by the solids recovery system will be transported via pipeline to designated silt placement areas (Figure 6, Appendix A).

e. Interim Farming: Farming will continue on the project site until each phase is ready to be mined. Irrigation is primarily from the Hanke ditch located on the west property line and from the pumps in the Cameron Slough and the Kings River. The piping system that carries ditch water will be left in place as long as possible for farming as well as to wet down areas, if necessary to meet the San Joaquin Valley Air Pollution Control District's (SJVAPCD) fugitive dust requirements, before removal of overburden. The groundwater pumps are no longer used. Porta-ditches (flexible plastic tubing) or temporary piping systems will be used to transport irrigation water as portions of the irrigation system are removed for mining.

f. Wildlife Habitat: All wildlife habitat for rare, threatened or endangered species will be avoided.

g. Native Woodlands, Natural Riparian and Wildlife Habitat. No existing native woodlands, natural riparian, or wetlands habitats will be removed as a result of excavation. Only areas that have been used or are currently used for agriculture or open grazing land are to be mined.

h. Setbacks: Excavation of material or overburden will be set back a minimum of 100 feet from any property line, Goodfellow Avenue, or the top of the banks of Cameron Slough and the Kings River or setback 1-1/2 times the width of the drip-line as measured from the trunks of nearby mature riparian trees, whichever is greater. In addition, a minimum 50-foot setback will be maintained from, and no mining will occur within the Flood Zone (FEMA – Zone A) as delineated during the Site Plan Review process (see Figure 5a, Appendix A).

1. Tree Screen: Prior to the commercial processing of aggregate materials, a screen of citrus and/or nut trees will be planted along the Goodfellow Avenue frontage (Figure 19, Appendix A). The tree screen will be approximately 60feet wide and create a setback area approximately 100 feet deep from the right-of-way along Goodfellow. The trees will be planted in at least two (2) staggered rows, with spacing set at approximately twenty (20) feet between each row and tree. The trees will create a visual and noise screen between Goodfellow Avenue and the aggregate operations.

2. Cameron Slough: A 100-foot excavation setback will be left from the top edge of the bank of the slough (Figures 20 and 22, Appendix A). Existing riparian habitat will be preserved as a wildlife buffer zone along the slough. Open areas, where no riparian vegetation exists within the setback area, will be used as staging areas to store overburden for use in bank shaping. Overburden will not be stored within the Flood Zone (FEMA – Zone A), within 25 feet of any property line or within the area 1-1/2 times the width of the drip-line as measured from the trunk of any mature riparian tree.

3. Kings River: A minimum 100-foot excavation setback will be left from the top edge of the riverbank. Existing riparian habitat will be preserved as a wildlife buffer zone (Figure 23, Appendix A).

4. Landscaped Screens: A landscaped screen of riparian trees will be planted in the southwestern area of the project site along the Kings River to screen the views of the site from adjacent existing residences across the Kings River to the South. Such planting will take place prior to or concurrent with the beginning of excavation. (Figure 26, Appendix A).

i. Farmland and Nature Reserve: A 25 to 30 acre parcel in the southwest of the corner of Phase 8 adjacent to the River and extending upstream will be preserved as a farmland and a nature reserve and will not be mined. (Figure 6, Appendix A).

j. Phasing Schedule: The timing of the phasing and scheduling shown in Table 2 are estimates only. Actual excavation may occur sooner or later depending on the actual volume of material available in each phase, the level of production, and market conditions at the time.

Table 2
ESTIMATED PHASING & RECLAMATION SCHEDULE at 1 Mtpy[1]

PHASE	ACRES (Approx.)	COMMENCE EXCAVATION (Years)	COMPLETE RECLAMATION (Years)
1	7	2008	2038[2]
2	45	2009	2018[3]
3	47	2015	2024[3]
4	37	2021	2029[3]
5	37	2026	2032[3]
6	44	2029	2035[3]
7	50	2032	2037[3]
8	18	2034	2038[3]
9	30	2035	2041[3]
Total Mined Area	315		

[1] Dates are estimates only and are based on approval of the permit in 1999 and assume production rates of 1 Mtpy. Actual excavation and reclamation dates (Refer to 4.1.2) will vary with market demand and actual depth and volume of material. (Refer to Fig. 6 Appendix A for phase location).

[2] Phase 1 will initially be used as a settling pond Final reclamation will occur when it is mined with Phases 6 & 9 and the plant is dismantled.

[3] Actual final reclamation of each phase will depend on the volume and availability of overburden and silts occurring on site.

3.2.6 Method of Processing

a. Plant Site: The 40 acre site was chosen primarily to reduce noise and aesthetic impacts to immediate neighbors along Goodfellow Ave. The next closest residence to the plant site is approximately 900 feet to the northwest of the plant site.

This site is designed to be the last phase of mining. The site is low and requires raising and re-sloping to the east for interior drainage, prior to the construction of the plant. Overburden from any of Phases 1 through 4 will be used to re-grade the site to redirect storm water runoff and stockpile drainage water to the east (Figures 6, 8 & 17, Appendix A).

b. Settling Pond: The seven acre area on the southeast corner of the plant site is Phase 1 (Figure 8, Appendix A) in mining progression. Approximately 18 feet of overburden is expected to be removed to expose the usable material. Overburden removed from this phase will be spread over the northerly adjacent 40 acre plant site (Phase 9, Figures 6 & 17, Appendix A). This fill, along with overburden from Phase 2, will raise the westerly side of the future plant site to redirect storm water runoff and stockpile drainage water to the east.

c. Portable Aggregate Plant: A temporary, portable aggregate plant will be located in Phase 8. The portable plant will be used to: 1) create a 7 acre settling pond (Phase 1); 2) provide overburden material to grade and slope the permanent plant site; 3) provide aggregate for the off-site asphalt plant until the permanent plant is constructed and in production; and 4) produce aggregate base for on-site roads.

The capacity of the portable plant will be approximately 300 tons per hour of finished material. Sales from the portable plant are expected to be 300,000 to 500,000 tons per year. The portable plant will be removed from the site when the permanent plant is producing. A portable plant will be used again to complete mining of the plant site (Phase 9) after the permanent plant is removed.

d. Permanent Aggregate Processing Plant: During the time that the portable aggregate plant is processing material from Phase 1, a permanent aggregate processing plant will be constructed within the boundaries of Phase 9. Material from Phases 2through 8 will be processed at the permanent aggregate processing plant. Processing volume will be a maximum of one million tons per year by approximately 2006. The maximum process rate for this plant is expected to be 750 tons per hour.

The following describes the general processing cycle. Components may be periodically relocated to different parts of the plant to produce different products and/or upgraded to incorporate more efficient technology. The raw materials will be elevated to a large surge pile. A tunnel under the surge pile will deposit material onto a conveyor that feeds the primary screen and crushers. After screening, the coarse material will be crushed and conveyed to a wet screen where the sand will be separated from the rock. The sand fraction will be further sorted into various sand products, dewatered and conveyed to stockpiles for shipment or later use in the on-site concrete plant. The rock will be conveyed to a dry screen for separation into multiple products for stockpiling and oversize. The oversize will be sent to secondary crushers for reduction and returned to the dry screen. The product of this dry screen will be split and conveyed to wet screens. The wet screens will make washed concrete aggregates that will be conveyed to individual stockpiles for use in the on-site concrete plant or for shipment. The dry screen will make several dry products for use

in asphalt plants or for road base materials, which will be conveyed to individual stockpiles for shipment.

e. Process Water Recycling and Solids Recovery System: Process water will be recycled back to the processing plant using a closed circuit recirculation system. Approximately 4,500 gpm will be used to wash aggregate. Approximately 95% of the process water or 4,275 gpm will be recycled.

Solids content of the wash water will be high. A sophisticated solids recovery system will be required to avoid large, dedicated settling ponds. The deposit not only contains a certain amount of clay, as indicated earlier, it also contains a certain amount of friable materials which must be reduced to stable particle sizes. The rocky nature of the deposit requires significant crushing resulting in more waste fines produced. Added to the clay content, the total amount of non-marketable fines created as a by-product is projected to be 10 to 15% of the total amount excavated.

The solids recovery system is projected to remove up to approximately 38 tons per hour of solids. The system consists of biodegradable flocculating agents, mechanical flock removal systems (thickeners), and pumps and pipelines to transport the water-solids slurry to designated silt placement areas (Figure 6, Appendix A) to create undulating shorelines with varying slopes.

Phase 1 (Figure 8, Appendix A) is designed to be a backup settling pond for process waters of the crushing and screening plant. This pond is designed to be used during the initial stages of Phase 2 and subsequently only in the event of mechanical breakdown of the process water recycling system during the mining of Phases 2through 5. The recycling system would be bypassed and all process waters sent to this settling pond until repairs or adjustments were complete. Once Phase 5 is excavated the newly created south lake, beginning with Phase 5, can function as a backup settling pond.

f. Ready-Mix Concrete Plant: The ready-mix concrete plant will have an average production of approximately 700 ypd.. Sand and gravel from the processing plant will be stored in stockpiles. Aggregate will be transported from the stockpiles by loaders and then conveyed into the plant's overhead aggregate bins.

Cement will be imported by truck and loaded into the cement silos by a vacuum air-charging system. Each silo will be equipped with a baghouse to control dust emissions. To batch ready-mix concrete, aggregate will be placed into a weigh-hopper and then deposited to the mixer truck drum. Cement will be placed in a weigh-hopper and then deposited directly into the mixer truck drum. Water is added to the truck and the concrete is mixed during transportation to the delivery site. Water will be supplied from an on-site well.

At least once a day, the mixer on each truck will be washed out at a water and concrete recycling station. Water will be added to the mixer to flush-out any remaining concrete and the mixture will be deposited into a recycle system (See 3.2.7d). The recovered water and aggregate will be recycled.

3.2.7 Equipment

a. Excavation Equipment: Excavation equipment will include a dragline, dredge, and/or an excavator. A dragline is a diesel engine powered excavating machine with a long straight boom from which an open-mouthed bucket is suspended by a cable. The boom is used to cast the bucket away from itself. The bucket is pulled back towards the machine with another cable, loading the bucket with sand and gravel. The bucket is then hoisted over and dumped into either a stockpile or an open-topped haul truck for transport.

The dredge operates with a vertically movable boom which is equipped with a chain of bolted on buckets. The dredge will be mounted on a floating barge. The boom will be pivoted on the barge on one end and supported by cables on the other. The cable support will allow the ladder to be raised or lowered as desired. In addition to this vertical control, the barge will be tethered to the bank by cables and winches, which allows for full movement in all directions. These winches allow the operator to sweep the ladder horizontally as well as vertically.

An excavator is a diesel engine powered machine using the same principle as the dragline; an open-mouthed bucket is drawn back towards the machine through the sand and gravel, thereby filling the bucket. The difference is, the bucket is solidly attached to a multi-jointed, hydraulically operated boom. This machine is faster, but cannot dig as deep as the dragline.

b. Permanent Aggregate Plant: The equipment for the aggregate processing plant will include front-end loaders, conveyors, screens, crushers, washers, sand cyclones, recycle water pumps, computer control room, and other accessory equipment. A portable crusher may be added to improve material specifications. A non-chemical gold recovery system may be added to the aggregate processing plant if it is determined to be economically feasible.

c. Ready-Mix Concrete Plant: Equipment for the ready-mix concrete plant will include front loaders, aggregate storage bins, conveyors, cement silos, storage building, batch office and other accessory equipment.

d. Concrete Reclaimer. The concrete plant will include a system to recycle concrete wash-out. Water and aggregate will be separated by a concrete reclaimer unit. Aggregate will be conveyed to bunkers for re-use. Water will be pumped to several concrete-lined holding basins. After the settling out of solids, water will be recycled to the concrete plant. Residual sediment in the holding tanks will be mixed with base rock for use in road base.

e. Portable Aggregate Plant: Equipment for the proposed portable aggregate plant will include front-end loaders, crushers, screens and conveyors to be powered by enclosed diesel powered generators and/or electrical power. Fuel will be stored in aboveground concrete vaulted storage tanks. Electrical power may be extended to the portable plant site to replace the diesel powered generators.

f. Wheelwash: Prior to exiting the plant site, trucks will drive over a wheel wash unit to prevent tracking mud and dirt onto the public road. The unit consists of a drive-over grate, the width of the truck, with concrete-lined catch basins beneath the grate. Water sprays will be used to wash off debris from the wheels and wheel wells. Spray water and sediment from the wheels will be drained through the grate to concrete lined basins under the truck. Water for the sprays will be recycled water from the spray wash basins and supplemented by well water and/or surface water if necessary. Sediment collected in the basins will be mixed with base rock for use in road base.

g. Loading: Processed aggregate will be loaded into trucks by front-loaders for transportation to off-site locations.

h. Topsoil and Overburden Removal Equipment: Removal of topsoil and overburden will be accomplished primarily with paddle-wheel scrapers. Additional equipment may include an excavator and haul trucks.

i. Haul Trucks: Material excavated from Phases 1 and 9 will be transported to the processing plant site by haul trucks. Trucks may be periodically used to transport material to a drive-over grizzly at the beginning of the conveyor system until a section of conveyor can be relocated.

j. Excavation Conveyors: Excavated material will be transported to the processing plant from Phases 2 through 8 by an overland conveyor system. (See Section 3.2.5.d)

k. Trucking: The ready-mix concrete operation will include a fleet of mixer trucks which will be stored on-site. Other outside concrete companies may purchase ready-mix concrete and transport it in their own trucks. Cement will be imported by independent trucking firms. Aggregate products will be hauled off-site by independent trucking firms or independent operators.

l. Night Lighting: Night lighting will be arranged and controlled so as not to illuminate public rights-of way, adjacent properties or wildlife habitat.

3.2.8 Operating Practices Proposed to Minimize Noise Vibration and Dust

a. Noise: Mining operations will be conducted consistent with all policies of the Noise Element of the Fresno County General Plan. Noise suppression measures for this facility will include:

1. Rubber or polyurethane-coated screening material for the permanent plant;
2. Rubber lining of rock chutes or other methods of minimizing rock on metal contact;
3. Loader back-up alarms are federally mandated. Strobe lights will replace audible back-up alarms during non-daylight working hours;
4. All mobile equipment will be equipped with noise suppression mufflers in compliance with all applicable local, state, and federal laws and regulations;
5. The dredge, with new ladder technology and electrically driven, is the most silent of available mining tools;

6. A screen of citrus and/or nut trees will be planted along Goodfellow Avenue from the Hanke Ditch on the west to the Cameron Slough on the east before any processed material is removed from the site. The tree screen will be approximately 60 feet wide ;
7. Acoustical barriers, such as sound absorbing quilt blankets, screens made by hanging conveyor belting, etc. will be used around the primary screens at the south end of both the portable and permanent plants;
8. Acoustical barriers, such as sound absorbing quilt blankets, screens made by hanging conveyor belting, etc. will be used around crushers and transfer points as necessary to comply with Noise Ordinance standards;

b. Dust: The aggregate and concrete plants will require an Authority to Construct and Permits to Operate from the San Joaquin Valley Air Pollution Control District (SJVAPCD). The concrete plant will be equipped with dust collectors in the form of baghouses. The processing operations will comply with the SJVAPCD's Regulation VIII regarding fugitive dust. A Fugitive Emissions Control Plan (Table 3) will be implemented including the following measures:

1. Stockpiles will contain natural moisture from having been excavated below the groundwater level and having absorbed moisture during the washing and processing operation;
2. Stockpile conveyors will be equipped with water spray nozzles at appropriate transfer points to minimize dust;
3. The main access drive and the gate entrance will be paved;
4. Plant roads will be wet down by a water truck as often as needed to keep down dust and dust palliatives. Lignon sulfonate or calcium chloride may be applied as necessary;
5. Prior to removal of overburden, the area will be irrigated or sprayed by water trucks if removal occurs during the dry season;
6. Truck loads with dry materials will be wet down if necessary before leaving the site;
7. Trucks will drive through a wheel wash spray area to remove loose material before leaving the plant site (see 3.2.7f);
8. Dust accumulated on the asphalt roads will be washed off by water trucks as necessary to meet the SJVAPCD fugitive dust requirements.

Table 3

FUGITIVE DUST EMISSIONS CONTROL PLAN

(This Fugitive Dust Emissions Control Plan is to be in effect on active work days when soil moisture is insufficient to meet the requirements of the San Joaquin Valley Unified Air Pollution Control District's Regulation VIII)

SOURCE NO./NAME	CONTROL MEASURE	DESCRIPTION
A. Earth Moving (Removal of overburden and excavation above the groundwater table)	1. Watering	a. Sufficient water will be applied to effectively limit dust emissions in accordance with Rule 8010, section 3.33[1].
	2. High Wind Contingency	a. Water will be applied to soil to effectively limit dust emissions in accordance with Rule 8010, section 3.33[1]; or b. Removal of overburden will cease.
B. Stockpiles	1. Wet Suppression	a. As a result of the wet production process the wet stockpiles will have a moisture content sufficient to effectively limit dust emissions in accordance with Rule 4101[1]. b. On dry stockpiles, spray bars will apply water as the materials discharge to stockpiles sufficient to form a crust on the stockpile surface and to effectively limit dust emissions in accordance with Rule 4101[1]. c. The dry storage piles will be periodically sprayed by sprinklers or by the water truck to effectively limit visible dust emissions in accordance with Rule 8010, section 3.33[1].
	2. Loading	a. Dry materials will be sprayed by sprinklers or water truck prior to loading or movement of material when necessary in accordance with Rule 8010, section 3.33[1].
	3. High Wind Contingency	a. Water will be applied by sprinklers or water truck as necessary to effectively limit dust emissions in accordance with Rule 8010, section 3.33[1].
C. Unpaved Roads	1. Chemical Dust Stabilizer	a. Primary traffic roads will be treated with a chemical dust stabilizer, meeting State Water Quality Control Board standards, when necessary to effectively limit dust visible dust emissions in accordance with Rule 8010, section 3.33[1].
	2. Watering	a. Water trucks will apply water to haul roads sufficient to effectively limit dust visible dust emissions in accordance with Rule 8010, section 3.33[1]
	3. High Wind Contingency	a. Water will be applied to soil to effectively limit dust emissions in accordance with Rule 8010, section 3.33[1]; or b. All vehicular traffic will be stopped.
D. Paved Roads	1. On-Site Roads	a. Entrance/exit area and access apron to the public road will be paved b. Road from entrance/exit to the plant site will be paved
	2. Watering	a. Water trucks and/or automated sprinklers will apply water as necessary to remove any built-up dust
	3. Public Roads	a. The public road adjacent to the entrance will be monitored on a daily basis. Any accumulation of rock or sand will be removed.

Table 3 (Cont'd)
FUGITIVE DUST EMISSIONS CONTROL PLAN

SOURCE NO./NAME	CONTROL MEASURE	DESCRIPTION
E. Trucks	1. Staging Areas	a. Staging areas will be designed with signage where drivers will be required to trim their loads in accordance with VC23114 prior to exiting the site.
	2. Loading	a. Material will be wet to a moisture content sufficient to effectively limit dust visible dust emissions in accordance with Rule 8010, section 3.33[1]; or b. Loads will be required to have six (6) inches of freeboard space from the top of the transport container; or c. The material will be covered.
	3. Conveyor	a. Conveyor will be used instead of haul trucks to transport excavated material to the processing plant
F. Unpaved Vehicle Equipment Parking, Shipping, Receiving, Transfer, Fueling and Service Areas	1. Gravel	a. Gravel will be applied to cover the entire area and reapplied as necessary; or
	2. Chemical Dust Stabilizer	a. A chemical dust stabilizer, meeting State Water Quality Control Board standards, will be applied; or
	3. Watering	a. Water will be applied at least once a day, or as frequently as necessary , to effectively limit dust emissions in accordance with Rule 8010, section 3.33[1].
G. Processing Equipment	1. Enclosure	a. Crushers will be enclosed with dust enclosures, if required, in order to comply with Rule 8010, section 3.33[1].
	2. Covers on Screens	a. Screens will be covered, if required in order to comply with Rule 8010, section 3.33[1].
H. Automated Truck Loadout System	1. Conveyor-Fed Truck Loading System	a. Automated truck loadout system will reduce traffic routes and accompanying fugitive dust and engine emissions. Reduction in use of loaders will reduce fugitive dust from loading and loader travel.

1. Rule 8010, Section 3.33, Visible Dust Emissions: visible dust of such opacity as to obscure an observer's view to a degree equal to or greater than an opacity of 40%, for a period or periods aggregating more than three (3) minutes in any one (1) hour.

2. Rule 4101: (no discharge)…for a period or periods aggregating more than three (3) minutes in any one hour which is:…as dark or darker in shade as that designated as No. 1 Ringlemann Chart,…

3.2.9 Estimate of Quantity and Quality of Water Required

a. Excavation: Dewatering, or removal of exposed groundwater from excavation phases to assist the mining process will not take place. No pumping will occur from the lakes except for makeup water to compensate for stockpile and evaporation losses at the processing plant. A positive benefit to the aquifer will be the increase in water recharge due to the large storage basin created by mining.

b. Permanent Aggregate Plant: At full production, approximately 2.7 million gallons per day (gpd) will be used to wash the aggregate. Approximately 2.43 million gpd will be recycled back to the plant. The balance of 270,000 gpd is retained by the sand and gravel during processing (some of which percolates into the groundwater from the stockpiles) or is lost to evaporation. The lost water, 270,000 gpd, will be supplemented by water from the lakes. The water in the settling pond contains native silts washed out when the excavated material is processed. Only non-toxic, biodegradable materials will be added during processing.

c. Ready-Mix Concrete Plant: The concrete plant will use approximately 24,500 gpd at full production in the mixing of concrete and the rinsing of trucks. The water is derived from a groundwater well on the site. The water is considered lost from the water budget due to either being trucked out in the concrete or dispersed as evaporation losses from the concrete recycle system's holding basins (see 3.2.7d).

d. Dust Control: Water-tank trucks and/or automated sprinklers will spray unpaved roads, the temporary, portable plant site area and the main plant site area as needed to control dust. Approximately 96,000 gpd will be used during the dry summer months and will be considered lost due to evaporation.

e. Domestic Use: Restrooms will utilize 1,000 gpd.

f. Summary of Water Usage: At full production, consumptive use of water is anticipated to total 391,500 gpd (aggregate processing 270,000 gpd, ready-mix concrete 24,500 gpd, dust control 96,000 gpd, domestic use 1,000 gpd).

3.2.10 Methods Employed to Prevent Pollution of Surface and/or Groundwater

a. Pollution Control Programs: Pollution control programs will include: Stormwater Pollution Prevention Plan, Hazardous Materials Business Plan, a Spill Prevention Control and Countermeasure Plan, Employee Training, Record Keeping, Preventative Maintenance and Best Management Practices.

b. Equipment and Vehicle Parking/Storage Areas: These areas will be graded to prevent storm water run-off to surface water or into the groundwater.

c. Vehicle Maintenance and Repair: Mobile vehicles will be maintained and repaired in a covered shop or on paved surfaces. Such areas will be designed to collect pollutants. All pollutants will then be disposed of in accordance with local, state, and federal regulations. Inspection and maintenance programs will be established to ensure that vehicles are operating properly and leaks are prevented to the extent feasible.

d. Excavation Equipment: Excavation equipment will be maintained and repaired at the excavation phases. All pollutants will be managed in accordance with local, State and Federal regulations to prevent pollutants from entering surface or groundwater.

e. Vehicle and Equipment Fueling: Vehicles will be fueled next to the containment area adjacent to the shop. The fueling area will be designed to handle stormwater in accordance with local, state, and federal regulations. Fueling of excavators and draglines will be performed in accordance with local, state and federal regulations.

f. Vehicle and Equipment Washing and Steam Cleaning: Vehicle washing will take place in specific paved areas adjacent to the shop which will drain to holding ponds, a concrete lined sump, or a holding tank to prevent stormwater run-off to surface or groundwater. Steam cleaning will take place on concrete or hard surface pads or in the enclosed shop, which will be designed to collect pollutants. Such pollutants will then be disposed of in accordance with local, state and federal regulations.

g. Waste Handling and Disposal: Wastes from the facility will be stored in designated containers adjacent to the shop in the containment area and/or within the shop and will be disposed of in accordance with local, state, and federal regulations.

h. Outdoor Loading and Unloading of Materials: All loading and unloading of materials will take place in designated areas which are graded and designed to prevent stormwater run-off from entering the lakes or the river.

i. Outdoor Container Storage of Liquids: All containers containing potentially hazardous materials will be stored in containment areas engineered in accordance with the Spill Prevention Control and Countermeasure Plan.

j. Outdoor Process Equipment Operations and Maintenance: An inspection and maintenance program will be established to ensure that equipment is operating properly and leaks are prevented to the extent feasible.

k. Outdoor Storage of Raw Materials, Products and By Products: The processing site will be graded to prevent run-off from raw materials, products and by-products from entering the river. The plant site will be raised and graded to ensure that drainage of stockpiles and storm water will be retained on-site.

l. Containment of Erodible Areas: All erodible surfaces within the plant areas will be graded to prevent stormwater run-off to the river.

m. Sediment: The site will be graded to prevent sediment from the stockpiles or the excavation areas from entering the river.

n. Agricultural Surface Water Runoff: Temporary berms will be placed between the created lakes and farmland to prevent surface water runoff from entering the lakes.

o. Site Drainage: The above measures will contain and prevent pollution of groundwater and surface water by all hazardous or pollutant materials. Since the stockpiles on the plant site contain only native materials excavated from the site, the remainder of the plant site and roadways will be graded to direct drainage to the excavated phases to prevent storm water from leaving the site.

p. Grading Plan: A grading plan will be submitted during the Site Plan Review process to address the above pollution prevention measures.

3.2.11 Protection of Habitat

The following performance standards for the protection of wildlife habitat will be applied.

Only open areas used for farming are to be excavated. No woodland or natural riparian vegetation adjacent to the Kings River or to Cameron Slough will be removed. Riparian vegetation re-growth that occurs in excavated areas where mining has not been completed, or where the reclamation plan indicates the area will be used for some other use, may be removed

3.2.12 Disposal of Tailings or Waste

The following performance standards for Disposal of Tailings or Waste will be applied.

Overburden and non-marketable material will be used to contour the bottom of the lakes or as base fill for reclamation. Banks above the water level will be covered with a final layer of topsoil from stored stockpiles.

3.2.13 Number of Employees

The number of employees fluctuates with the seasonal demand. The portable plant will utilize approximately nine employees. At full production the average number of employees at the site is expected to be approximately 22 to 27 (4 for the excavation operation, 4 for the aggregate processing, 2 office/administrative staff, 2 for the concrete plant, and 10 to 15 mixer drivers).

3.2.14 Traffic

a. Traffic from the site fluctuates with seasonal demand. Table 4 on the following page shows the project traffic at full production (one million tons per year).

Table 4 shows project trips at a production rate of one (1) Mtpy:

Table 4
VEHICLE TRIPS PER DAY at 1 Mtpy

	Average	Peak Season
Truck Trips		
Calaveras Contract Aggregate Trucks, and Other Aggregate[1]	176	198
Calaveras Concrete Mixer Trucks	142	190
Cement Trucks[1]	14	22
Total Truck Trips	332	408
Auto Trips[2]		
Mixer Drivers	34	34
Office, Plants, Excavation	20	20
Total Auto Trips[2]	54[2]	54[2]
TOTAL TRUCK & AUTO TRIPS	**386**	**462**

1. Outside Independent Trucking Contractors or Operators
2. Automobile trips including personal vehicles operated by mixer truck drivers, and office, plant, and excavation personnel arrive onsite and leave during non-peak hours

3.3 Conceptual Site Plan

Refer to Site Plans, Figures 6 – 17, Appendix A

3.3.1 Roads

Refer to Site Plan, Figure 6, Appendix A

a. Ingress and Egress Roads: Access to the site will be from Goodfellow Avenue, a designated arterial route. The Site Plan, Figure 6, Appendix A, shows the location of the paved access road. Improvements required during the Site Plan Review process will include a driveway approach and acceleration/deceleration lanes on Goodfellow Avenue constructed to County standards.

b. On-Site Roads: The Site Plan, Figure 6, Appendix A, shows the location of the main excavation access road and plant site road. Auxiliary roads will be temporarily located as necessary to provide access to individual mining phases.

c. Surface Treatment: The main access drive to the plant site, including the first 100 feet of the gate entrance, will be paved 30 feet wide with asphalt.

d. Means to Limit Dust: Plant roads will be wet down by a water truck as often as needed to keep down dust and/or dust palliatives may be applied, such as lignon sulfonate or calcium chloride.

3.3.2 Processing and Storage Areas

Refer to Figures 6 and 17, Appendix A

3.3.3 Extent and Configuration of Slopes to be Maintained in Excavation Areas

Excavation slopes are usually mined 1:1 (horizontal to vertical). No production will create a final slope steeper than 2:1 within 100 feet of a property boundary and no steeper than 1 1/2:1 elsewhere on the property, except that steeper slopes may be created in the conduct of extraction for limited periods of time prior to grading the slope to its final reclamation configuration (Figures 19 – 25, Appendix A).

3.3.4 Proposed Fencing, Gates, Parking and Signs

a. Fencing: A four foot high fence**,** consisting of not less than three strands of barbed wire, will surround the project site. The fence will be located along the north and west property lines and at the top of the bank or the project side of existing riparian vegetation along Cameron Slough and the Kings River.

b. Parking & Gates: Location of parking and entrance gate are shown on Figures 6 & 17, Appendix A. The entrance gate will be constructed to County standards, will be at least 24 feet wide and will include a stacking area adequate to hold a double truck and trailer within the stacking area and off the public road. Parking for employees will be provided at the office, ready-mix plant and maintenance shop. Visitor parking will be provided at the office. Parking for mixer trucks will be provided adjacent to the ready-mix concrete plant. Mobile plant equipment will be parked adjacent to the maintenance shop.

c. Signs: Traffic control and warning signs will be installed at the site entrance and on Goodfellow Avenue as required by the Director of Public Works during the Site Plan Review process.

3.3.5 Cross-Sections (Typical) Defining Planned Slopes

When the final edges of a mined area are reached and they will not be disturbed by further mining, fill material (consisting of overburden and recovered fines) will be placed to form the final slopes (Section 4.3.1 and Figures 19-25, Appendix A).

3.3.6 Extent of Overburden

The extent of overburden varies from 5 to 20 feet deep, with an average depth of about 15 feet.

3.3.7 Extent of Sand and Gravel Deposits

The average depth of aggregate extends to about 60 feet below the ground level with an anticipated maximum depth of approximately 80 feet.

3.3.8 Water Table

In November 1994, when test holes were completed at the project site, the depth to water in most of the holes ranged from 15 to 25 feet with an average depth of 20 feet.

4.0 RECLAMATION PLAN

4.1 Description of the Proposed Use After Reclamation

The majority of the project site will be reclaimed as two private, exposed groundwater lakes with riparian habitat. Wildlife habitat that existed in the agricultural areas that will be mined will be replaced by this wetland, riparian or upland habitat (Figures 18-26, Appendix A). Final locations and configurations of lakes and reclaimed levels will vary according to the actual depth of material, the groundwater table and other unknown conditions found on the site during mining.

4.1.1 Description of the Manner in Which Reclamation will be Accomplished

a. Exposed Groundwater Lakes with Riparian Habitat: The excavated areas will be divided into two large, deep-water lakes (Figure 18, Appendix A). A fifty (50) foot levee of native alluvium will be left between the north lake and the south lake to minimize the overall lake leveling influence. A two-tiered or stair-stepped lake level will more closely approximate and minimize influence on surrounding groundwater levels. Silt recovered from the process water recycle system will be placed on the north side of levee along Phases 2 and 3. The silts will be of low enough permeability to prevent excessive percolation from the north lake to the south lake, but will continue to allow water to flow through the levee to the south lake.

The banks, adjacent to the 100' setback area, will meander to match the existing tree line (See Figure 18, Appendix A). Overburden from the mining phase or adjacent phases will be used to slope the banks and to create an undulating shoreline. The elevation of the bottom of these areas will have a natural undulation due to the variation in the depth of the mining resource in any phase. The final location, elevations and shape of the lakes will vary according to actual depth of excavated material, amount of overburden available on the site, the groundwater table and other unknown conditions found on site during mining.

Experience with existing areas on the Kings River has shown that native vegetation will rapidly re-colonize the lake banks creating substantial riparian habitat. In addition, supplemental manual revegetation with native species will be done in accordance with the revegetation plan outlined in Section 4.2.3.

b. Upland Habitat: Upland areas away from permanent or intermittent water will be reclaimed as upland habitat similar to that which historically occurred on Kings River flatlands away from the riparian corridor. This includes the top of the banks of lakes the perimeter areas of the site away from water. Experience with existing areas at other mining areas on the Kings River has shown that native vegetation will rapidly re-colonize such areas creating substantial upland habitat. In addition, supplemental manual revegetation with native species will be done in accordance with the revegetation plan outlined in Section 4.2.3 including planting of native grasses, shrubs and forbs.

c. Fill Areas: The perimeter areas shown will be filled with overburden and non-marketable materials and covered with topsoil. The reclaimed elevations of such areas will be above the groundwater table. Final elevations of all areas will depend on the volume of available fill material and the groundwater table.

d. Settling Pond: The settling pond will be removed with the mining of Phase 6.

e. Plant Site: The plant site will be mined leaving a 15 to 20 acre irregularly shaped area. After completion of mining this area will be revegetated per Section 4.2.3.

f. Slopes: The reclaimed slopes shown on Figures 19-25, Appendix A, are "not to exceed" minimums. Final slopes may be shallower but will not be steeper than those shown. No slopes will be steeper than 2:1 (horizontal to vertical). Slopes of 1.5:1 will be maintained 5 feet below the lowest water table on the property as experienced in the preceding 3 years (typical summer water elevation).

g. Noise: Mining operations will be conducted consistent with all policies of the Noise Element of the Fresno County General Plan.

4.1.2 Timing

The reclamation schedule will be in accordance with that shown on Table 2, Section 3.2.5.j depending on production levels. Reclamation of any excavated portion of a phase will normally be completed within three (3) years. However, due to the depth of mining and the volume of overburden to be removed and used for sloping of excavated banks, reclamation of any excavated portion of a phase may take longer than three (3) years, but no longer than one (1) year after commencing operation in any subsequent phase. Timing of actual, final reclamation per phase, or section thereof, will depend on the volume and availability of overburden and silts. Where there is an interim use of a mined area prior to its final reclaimed use (e.g. a settling pond, silt placement site), reclamation will be completed one year, after the interim use is terminated. Completion of reclamation includes final shaping of banks and fill areas, removal of equipment (Section 4.6), removal of haul roads if required and manual revegetation where required by the Revegetation Plan described in Section 4.2.3.

4.1.3 Effect of Reclamation on Future Mining On-Site and in the Surrounding Area

Mining as proposed would remove all the resource that is currently economically feasible to mine. Deeper mining could possibly take place in the future with an additional permit if economical methods are found to mine deeper.

4.2 Site Plan

Refer to Figures 6-26, Appendix A.

4.2.1 New Contouring

Refer to Figures 6-26, Appendix A.

4.2.2 Water Features and Methods to Overcome Stagnation

The average depth of the lakes, will be about 40 feet. During the summer and winter, the water in fresh water lakes becomes stratified into different temperature layers, which don't mix. Twice a year, in the fall and spring, the waters at all layers of these lakes mix in overturns that equalize the temperatures at all depths. These overturns bring oxygen from the surface water to the lake bottom and also bring nutrients from the lake bottom to the surface. (Living in the Environment, G. Tyler-Miller, 1998)

In addition, groundwater will flow into the lakes from the north since the groundwater gradient flow is from north to south. The levee separating the north and south lake will be native alluvium which will allow water to flow through the levee to the south lake. The seasonal vertical movement of water and the lateral groundwater movement precludes the occurrence of stagnation.

4.2.3 Revegetation Plan

The revegetation plan for reclamation after mining is based on the Biological Assessment Study ("Biological Assessment Report and Conceptual Reclamation Guidelines for proposed Sand and Gravel Project - Kings River, Stewart & Nuss" John Stebbins et al, 1995) prepared for this project. The vegetation plan is designed to supplement existing riparian vegetation and enhance natural colonization of native vegetation and habitat that rapidly occurs after the completion of mining and to reflect the historical as well as present-day vegetation patterns (Figure 2 of Biological Assessment Report). In general, those areas which are, or will be, adjacent to surface water will be vegetated with native riparian species. Those upland areas which will not be adjacent to surface water and which historically supported upland habitat will be vegetated with native upland species. All species were selected for their value as wildlife habitat, their local availability and their strong potential for success with little or no maintenance after the first or second season following planting. The planting densities and species ratio specifications are based upon the combination of numerous years of experience by the biologists in studying and analyzing riparian habitats in the immediate vicinity.

The following performance standards will be applied:

a. Riparian Planting: Manual planting will supplement natural revegetation on riparian pond banks. Liner stock of the native species listed in Category 1 on Table 5, will be manually planted with at an average density of two trees per 150 feet and 3 shrubs per 200 feet of pond edge. The average densities will be maintained, but the trees and shrubs will be planted in "clusters" to increase wildlife and aesthetic values. Riparian tree and shrub species will be obtained from local sources and/or from seed and cuttings gathered in the immediate vicinity.

b. Erosion Control - Upland Bank and Open Area Plantings: Manual planting will supplement natural revegetation on upland banks and open areas away from surface water. Such areas will be seeded with the species of native grasses and forbs listed in Category 2 on Table 5, at the indicated quantity per acre to control erosion. These species were selected because of their ability to rapidly colonize bare, loose soils and because they provide an excellent wildlife food source. In some cases natural re-colonization of native grasses may occur before seeding can be done. In these cases manual seeding will only be done on banks where natural revegetation has not occurred. These areas are also expected to slowly be colonized by the natural reproduction of the native woody shrub species currently growing in the surrounding area.

c. Kings River: A 100-foot riparian habitat setback is planned for this area. Open areas will be vegetated with riparian trees and shrubs in accordance with Table 5.

Table 5
SPECIES LIST FOR REVEGETATION

Category 1. New Great Valley Mixed Riparian

Trees[1]

Species	Common Name	Size[2]	Mix (%)[3]
Alnus rhombifolia[4]	White alder	Liner	10
Artemesia douglasiana	Mugwort	Liner	5
Cephalanthus occidentalis	Button willow	Liner	10
Fraxinus latifolia[4]	Oregon ash	Liner	5
Platanus racemosa[4]	Sycamore	Liner	10
Quercus lobata	Valley oak	Liner	15
Rosa califonica	California rose	Liner	2.5
Rubus ursinus	California blackberry	Liner	2.5
Salix goodingii[4]	Black willow	Liner	10
Salix lasiolepis[4]	Arroyo willow	Liner	15
Vitis californica	California grape	Liner	5

Shrubs[5]

Species	Common Name	Size[2]	Mix(%)[3]
Atriplex lentiformis	Quail bush	Liner	20
Baccharis pilularis	Coyote bush	Liner	20
Cercis occidentalis	Red bud	Liner	15
Heteromeles arbutifolia	Toyon	Liner	15
Lonicera interrupta	Honeysuckle	Liner	15
Rhamnus californica	California coffeeberry	Liner	15

Category 2. Grasses and Forbs Erosion Control for Upland Bank and Open Areas

Species	Common Name	Quantity[6]
Briza minor	Quaking grass	5.0 lb/ac
Bromus hordeaceus	Soft chess	10 lb/ac
Bromus laevipes	Brome	10 lb/ac
Vulpia myuros var.hirsuta	Annual fescue	2.5 lb/ac
Vulpia myuros var.myuros	Annual fescue	2.5 lb/ac
Castilleja exserta	Owl's clover	5.0 lb/ac
Eschscholzia califonica	California poppy	5.0 lb/ac
Lupinus bicolor	Minature lupine	5.0 lb/ac
Melilotus albus	Sweet clover	7.5 lb/ac
Nemophila menziesii	Baby blue eyes	2.5 lb/ac

[1] Manual planting will be used to supplement natural revegetation. Density: Average 2 trees per 150 feet of bank with periodic "clustering" of stands for more favorable wildlife habitat and aesthetics.

[2] Cuttings from on-site species may be substituted for liner (seedlings less than one-gallon) stock.

[3] Mixes shown may be varied depending on availability.

[4] Screening Trees as indicated in Fig 16, Appendix A

[5] Manual planting will be used to supplement natural revegetation. Density: 3 per 200 square feet bank with periodic "clustering" of stands for more favorable wildlife habitat and aesthetics.

[6] Manual seeding will be used to supplement natural revegetation. Mixes shown may be varied depending on availability, subject to review by the biological consultant.

d. Compacted Areas: Where surface mining activities have resulted in compaction, areas to be revegetated will be ripped or disced to eliminate compaction and to establish a suitable root zone. In areas where topsoil is to be replaced, ripping or discing will occur prior to the placement of topsoil.

e. Time of Planting: Seeding will take place in late Fall or when the soil has sufficient moisture to allow germination. Cuttings of trees and shrubs will be made and planted in early Spring when buds begin to swell. Potted trees and shrubs will be transplanted between late Fall and late Spring.

f. Irrigation: Manual or automatic irrigation will be provided if necessary to establish vegetation. Irrigation will be discontinued at least two years before the end of the five year monitoring period (Section 4.2.3j) to establish the self-sustaining ability of the vegetation with no irrigation.

g. Weed Management: Grass areas will be mowed as necessary to control weeds and to eliminate fire hazards. Areas around trees and shrubs will be sprayed with weed control as necessary and mulched with straw to discourage weeds and to maintain soil moisture.

h. Vegetation Protection Measures: Trees and shrubs will be caged with netting or wire, if necessary, to protect them from destruction by wildlife until they are large enough to survive without such protection.

i. Replacement and Coverage:

1. Planted seedlings will be replaced as required to maintain a minimum 70% survival rate of the original number planted five years after planting.
2. Grasses and forbs will provide an 80% cover.

j. Revegetation Monitoring Plan: In addition to the annual monitoring of the permit by the County, all of the above components of the Revegetation Plan will be monitored annually, prior to June of each year, for five years following each phase of installation. Monitoring will be performed by independent, qualified personnel acceptable to the California Department of Fish & Game using acceptable quantitative and qualitative standards. The results of monitoring over time may dictate modifications in the vegetation plan to achieve the stated goals. The results of monitoring will be documented and forwarded to the County by June of each year.

4.3 Soil Salvage Plan

The following performance standards will be applied:

4.3.1 Replacement of Soil

a. Topsoil Removal: Topsoil will be removed as a separate layer. Due to the length of the phases topsoil may be removed from a portion of a phase more than one year in advance of mining to complete the reclamation of an excavated phase.

b. Topsoil Storage: As topsoil is removed it is normally transported to an excavated phase to complete finished slopes. Topsoil that cannot be used immediately will be stockpiled separately from subsoil overburden around the perimeter of an excavation phase. Stockpiled topsoil will be planted with a vegetation cover or will be protected by other equally effective means if necessary to prevent water and wind erosion. Topsoil on the site has high soil index ratings (refer to 2.1.3). Since the topsoil will

not be altered, no soil analysis to determine its suitability for revegetation purposes will be necessary.

c. Topsoil Use: Topsoil will be used as the final cover for finished slopes at a stable uniform depth consistent with the planned revegetation in accordance with the Reclamation Schedule shown in Table 2, Section 3.2.5.

d. Overburden: Overburden will be retained to complete the planned reclamation. Prior to the removal of overburden the area will be irrigated or sprayed by water truck if removal occurs during the dry season. When the overburden is removed to expose the resource it is either placed directly into a completed mining area as fill and for sloping banks or is stored along the perimeter of the mining phase until needed.

Due to the length of the phases, overburden may be removed more than one year in advance of mining from a portion of a phase to complete the reclamation of an excavated phase. Overburden will not be stored within the Designated Floodway or Flood Zone (FEMA – Zone A), within 25 feet of any property line, or within the area 1-1/2 times the width of the drip-line as measured form the trunk of any mature riparian tree.

4.3.2 Definition of and Sources of Refill Material

The following performance standards will be applied:

Overburden along with other non-marketable excavation materials will be used to shape the slopes and for the fill areas. Non-marketable material (i.e. clay, rocks too big to crush, etc.) that is uncovered during mining will be used to contour the bottoms of the ponds or will be used as the base for fill areas.

4.4 Phasing Plan and Schedule

Refer to Estimated Phasing and Reclamation Schedule Table 2, Section 3.2.5.

4.5 Drainage, Diversion Structures, Waterways and Erosion Control.

The following performance standards will be applied:

4.5.1 Groundwater:

The quality of water, recharge potential and storage capacity of the groundwater aquifer will be protected in accordance with the Regional Water Quality Control Board Wastewater Discharge Permit, the State Water Resources Control Board Storm Water Pollution Prevention Plan and with the measures identified in Section 3.2.9 and 3.2.10.

4.5.2 Erosion and Sedimentation:

Erosion and sedimentation will be controlled in accordance with the Regional Water Quality Control Board Wastewater Discharge Permit, the State Water Resources Control Board Storm Water Pollution Prevention Plan and with the measures identified in Section 3.2.10.

4.5.3 Surface Water Runoff and Drainage:

Surface water runoff and drainage will be controlled in accordance with the State Water Resource Control Board Stormwater Pollution Prevention Plan and the measures identified in Section 3.2.10.

4.5.4 Natural Drainages:

No natural drainages will be covered, restricted or rerouted.

4.6 Disposition of Equipment and Structures

The following performance standards will be applied:

4.6.1 Mining and Plant Equipment

The plant will be removed as the final phase of mining for the project. All mining and processing structures and equipment and accessory structures will be removed with the completion of mining and reclamation operations. Septic systems will be removed per Fresno County standards.

4.6.2 Control of Contaminants:

All hazardous materials will be controlled in accordance with the Hazardous Materials Business Plan required by the Fresno County Environmental Health Department, the Storm Water Pollution Prevention Plan, the Spill Prevention Control and Countermeasure Plan required by the California Regional Water Quality Control Board, and other measures as identified in Section 3.2.10.

4.6.3 Closure of Water Wells:

Any water or monitoring well not used for farming or water monitoring activities will be abandoned in accordance with all applicable local and state requirements.

4.6.4 Access and Treatment

The access drive and plant entrance will be retained in place to provide access to the properties after mining and reclamation have been completed. Haul roads not necessary for access will be disced and seeded with native grasses in accordance with

the revegetation plan. Temporary barriers will be installed if necessary to prevent unauthorized traffic from interfering with reclamation of such roads.

4.7 Financial Assurances

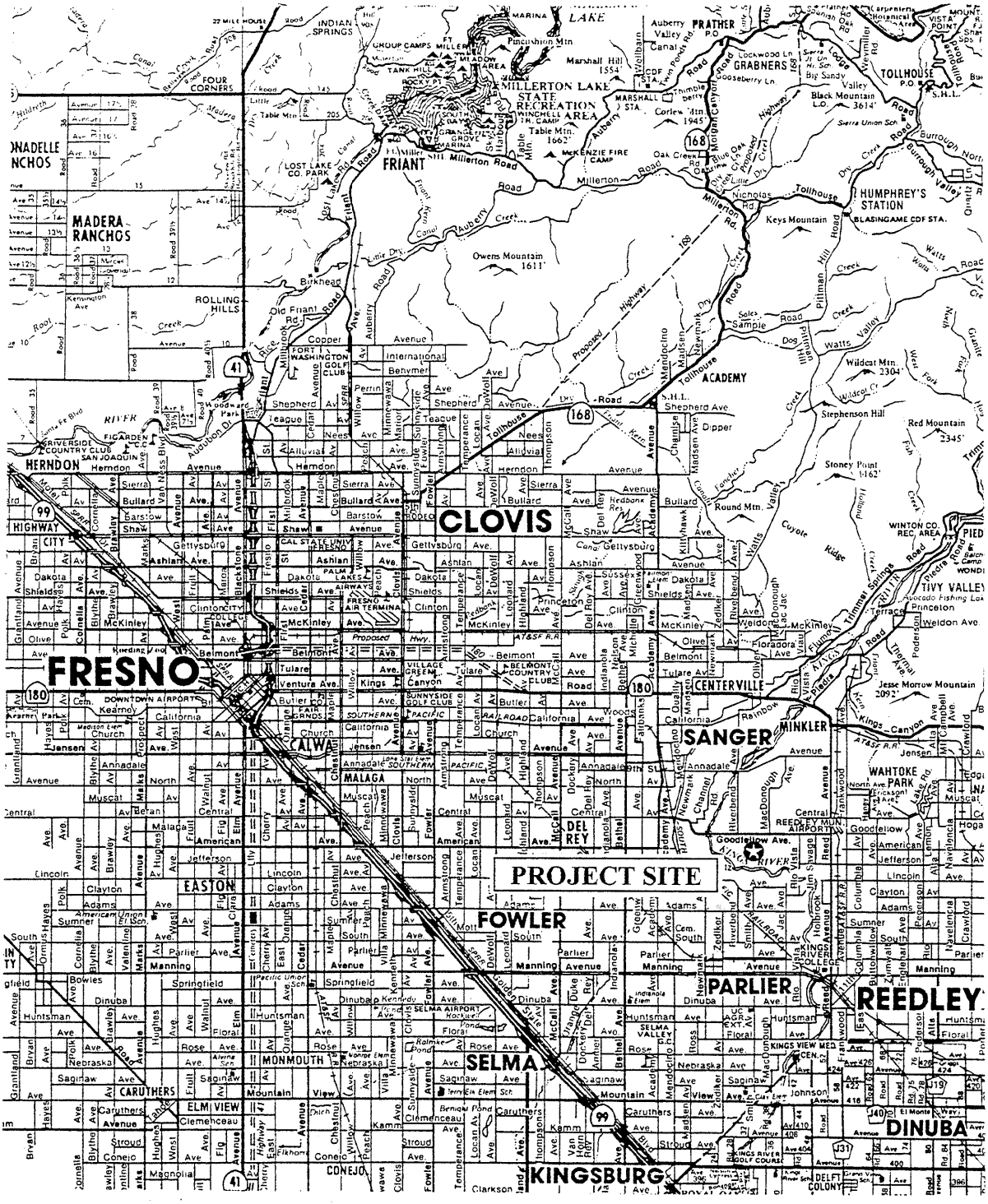
Financial assurances for reclamation will be provided, payable to Fresno County and the California Department of Conservation, prior to approval of the Site Plan Review. Such Financial Assurances will be adjusted annually to account for new lands disturbed by the surface mining operation, inflation, and reclamation of lands accomplished in accordance with the approved Mining and Reclamation Plan.

4.8 Reclamation Agreement

Prior to the excavation of any material, a recordable agreement will be executed to perform all reclamation in the manner prescribed by the approved CUP and Mining and Reclamation Plan. Such agreement will be binding upon all successors, heirs or assigns.

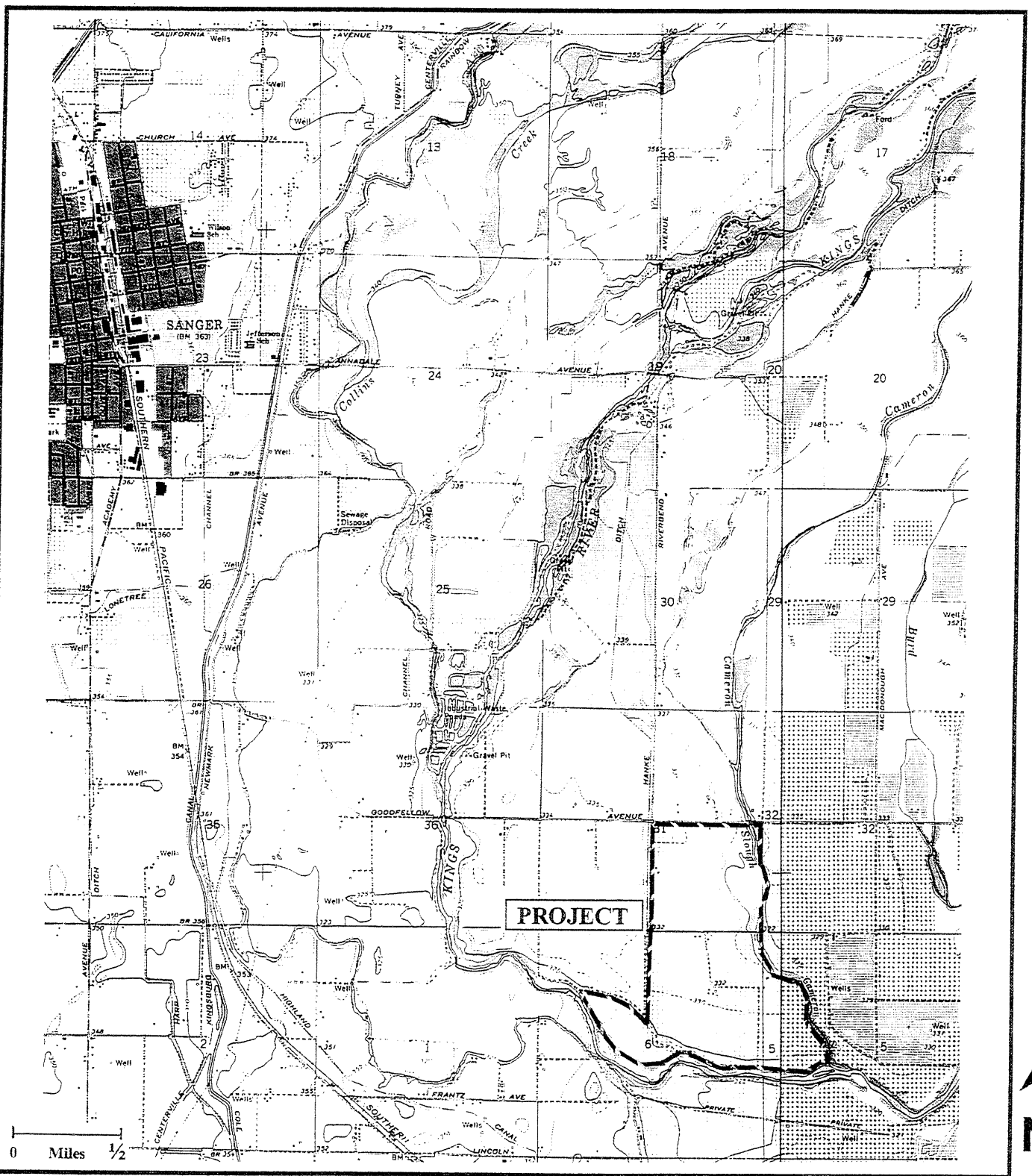
APPENDIX A

FIGURES

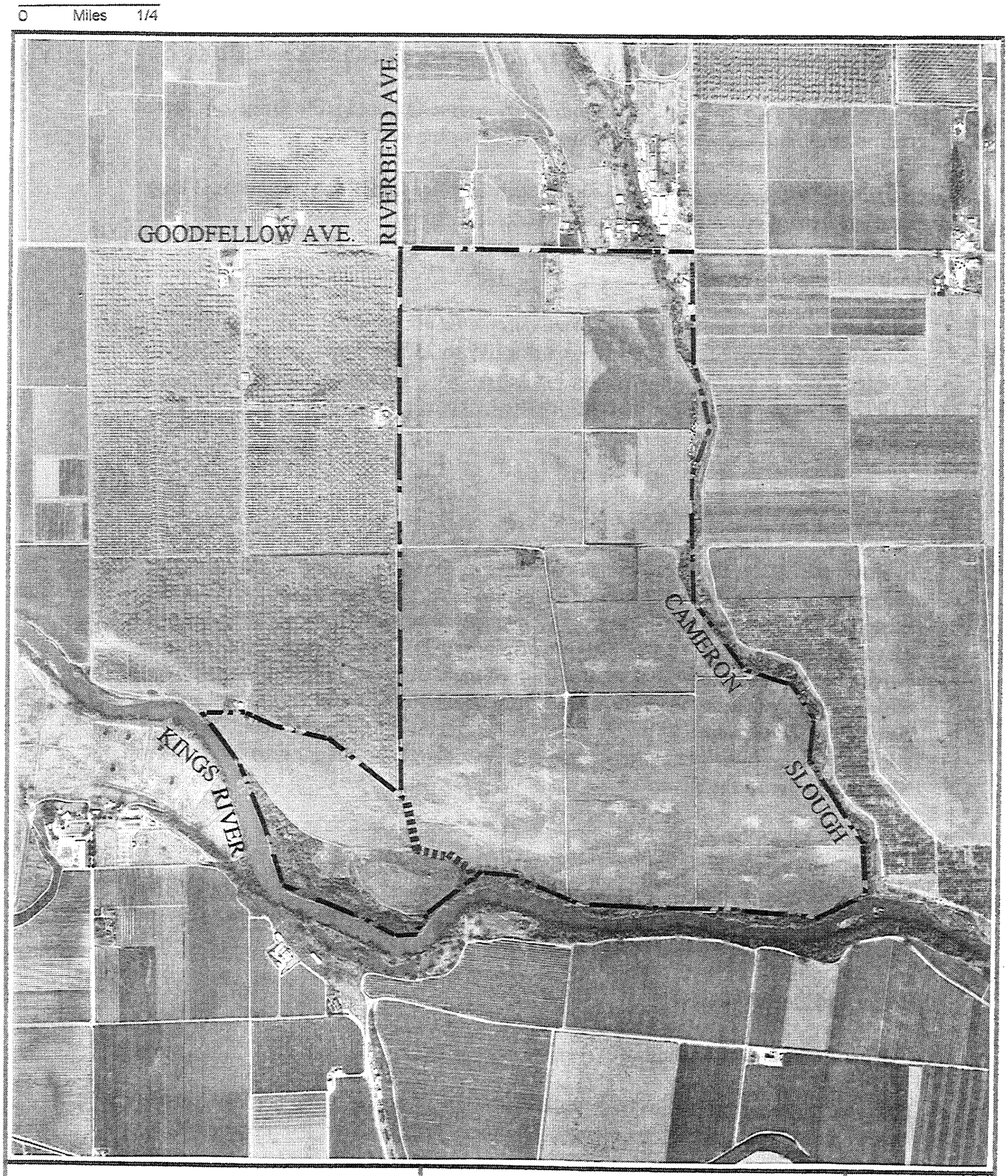


Calaveras Materials Inc. **KINGS RIVER SAND AND GRAVEL**	**REGIONAL LOCATION**	**Figure 1**

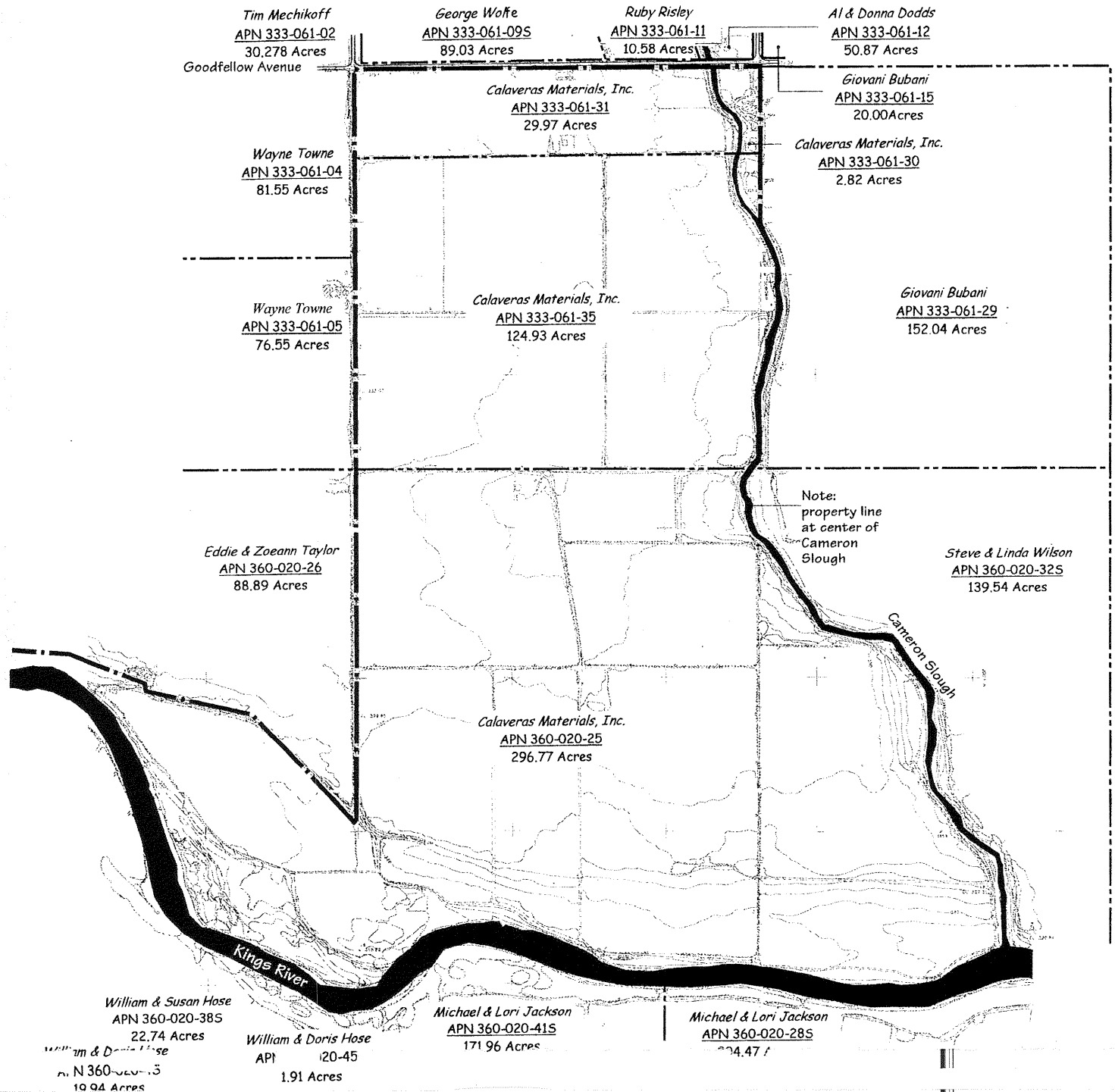
Sanger USGS 7.5' Quad



Calaveras Materials Inc. KINGS RIVER SAND AND GRAVEL	PROJECT LOCATION	Figure 2



Calaveras Materials Inc. KINGS RIVER SAND AND GRAVEL	EXISTING LAND USE (Aerial Photo 2/96)	Figure 3



KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno , California 93711

Figure 4
OWNERSHIP

Legend

Property Line

Parcel Line

Date: 4/6/98
Revised: 5/18/99

Scale
0' 500' 1000'

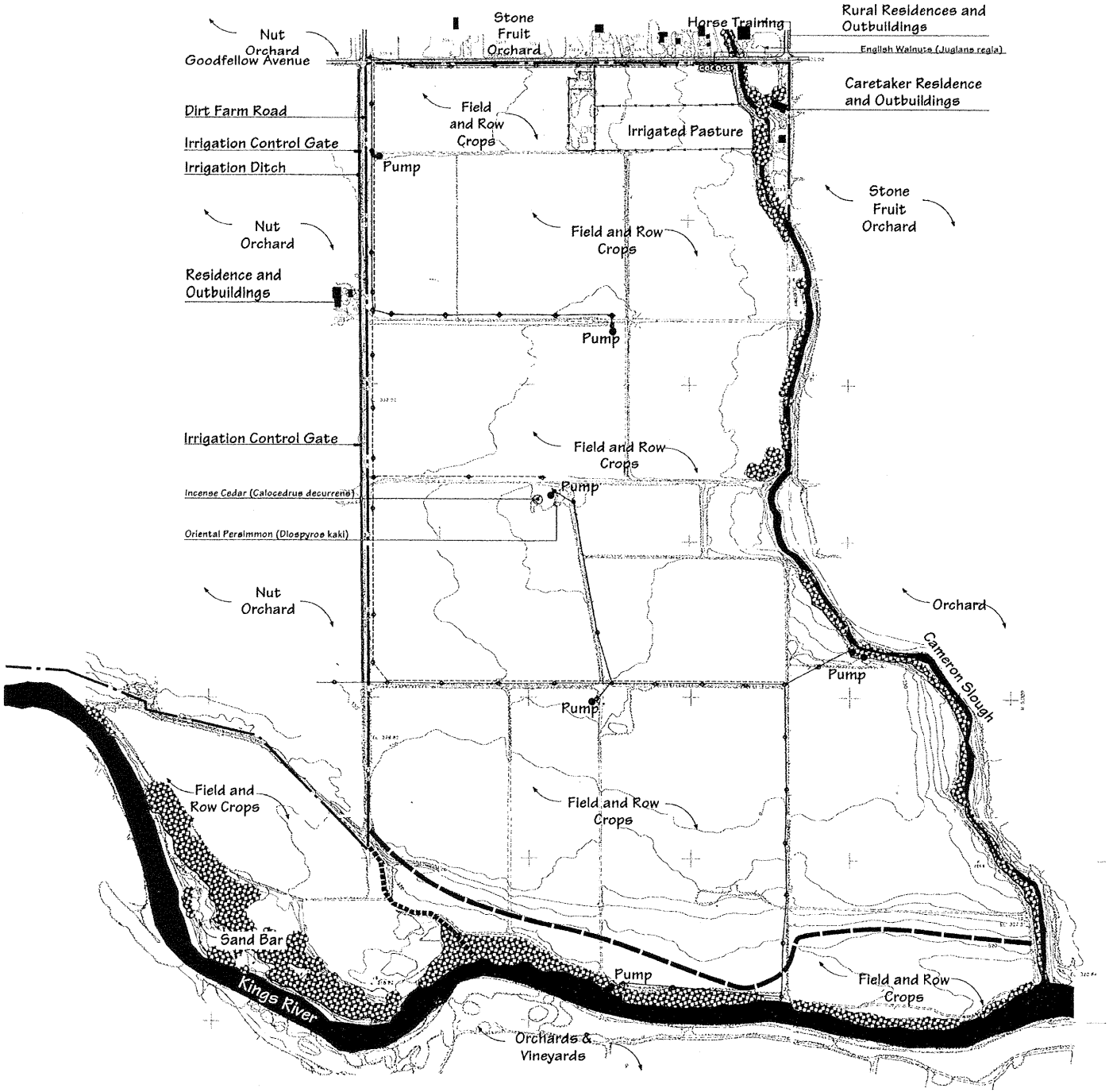
North

This drawing is conceptual and for planning and permit-processing purposes only. Program information, scale, location of areas, and other information shown are subject to field evaluation and modification.

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

BUADA ASSOCIATES



KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno, California 93711

Figure 5
EXISTING CONDITIONS

Legend

- Property Line
- Permit Boundary
- Above Ground Utility Line
  - Power
  - Telephone
- Existing Great Valley Mixed Riparian
- Fenceline
- Structures
- Designated Floodway

Date: 4/6/98
Revised:

Scale
0' 500' 1000'

North

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Base topography by:
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2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
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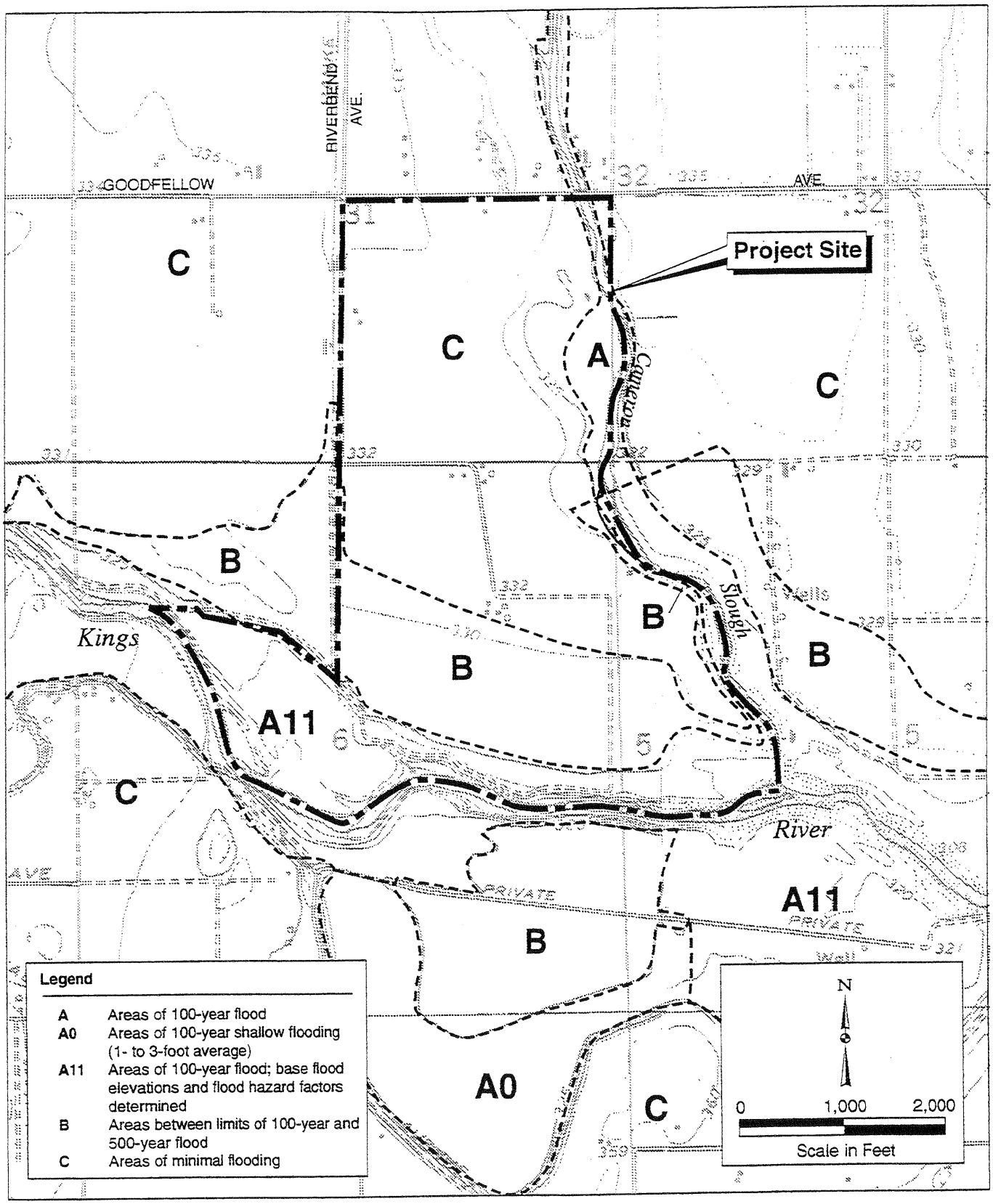
414 W. Bethel, Suite 106
Fresno, California 93711
(209) 432 4402

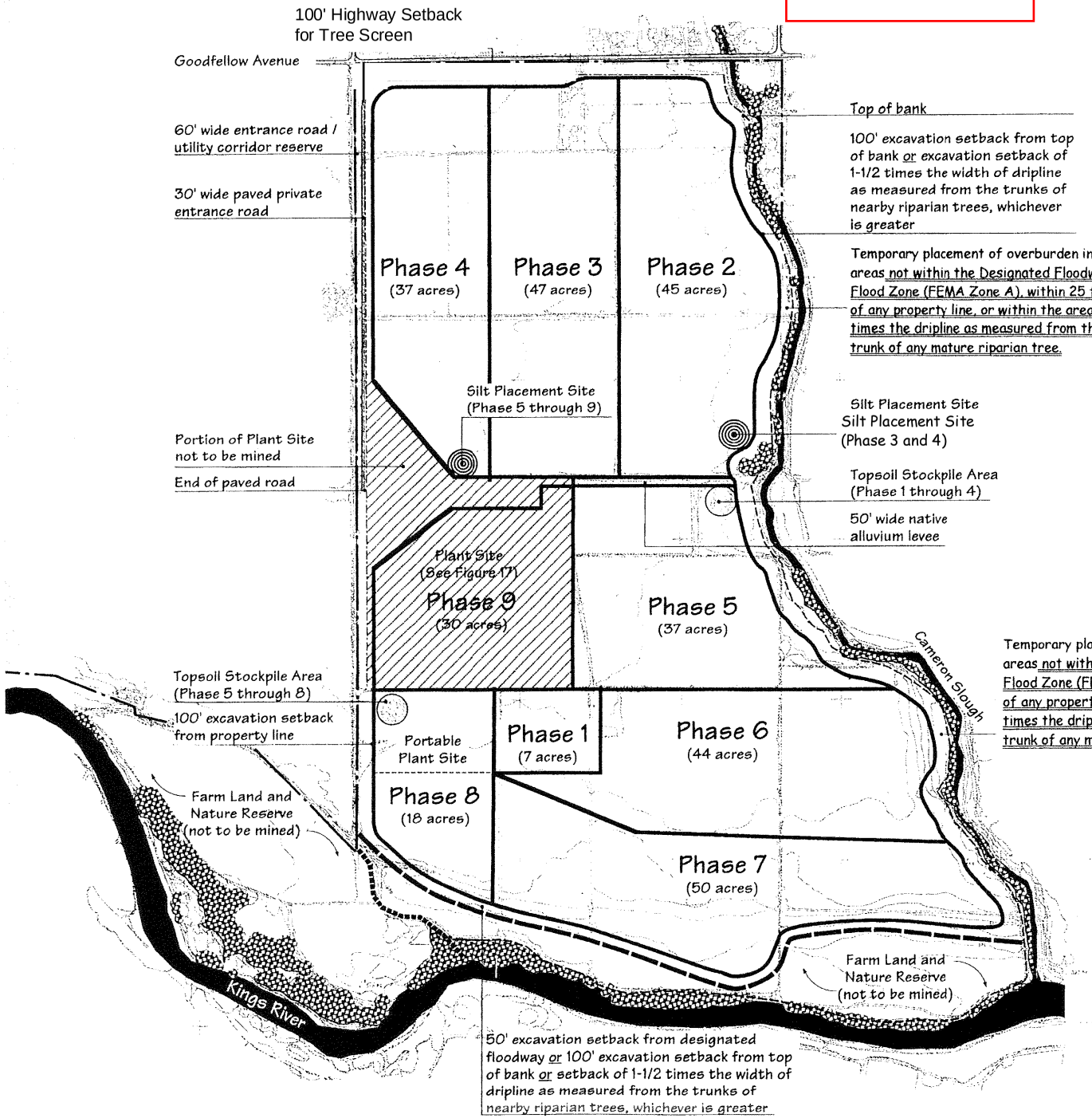


Source: Federal Emergency Management Agency 1982.
Base map: USGS Sanger, California 1965 (PR 1981) and Wahtoke, California 1966 7.5-minute quadrangles.

Date 5/21/99

KINGS RIVER SAND AND GRAVEL
Calaveras Materials Inc.

Figure 5a
Flood Zone Map



Summary - Areas to be Mined

Phase 1	7	acres
Phase 2	45	acres
Phase 3	47	acres
Phase 4	37	acres
Phase 5	37	acres
Phase 6	44	acres
Phase 7	50	acres
Phase 8	18	acres
Phase 9	30	acres
Total Mined Area	315	acres

KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno, California 93711

Figure 6
GENERAL PHASING & SETBACKS

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Setback Line
- Top of Bank (River / Slough)
- Designated Floodway

Date: 4/13/98
Revised: 5/18/99

Scale
0' 500' 1000'

North

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Base topography by:
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Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

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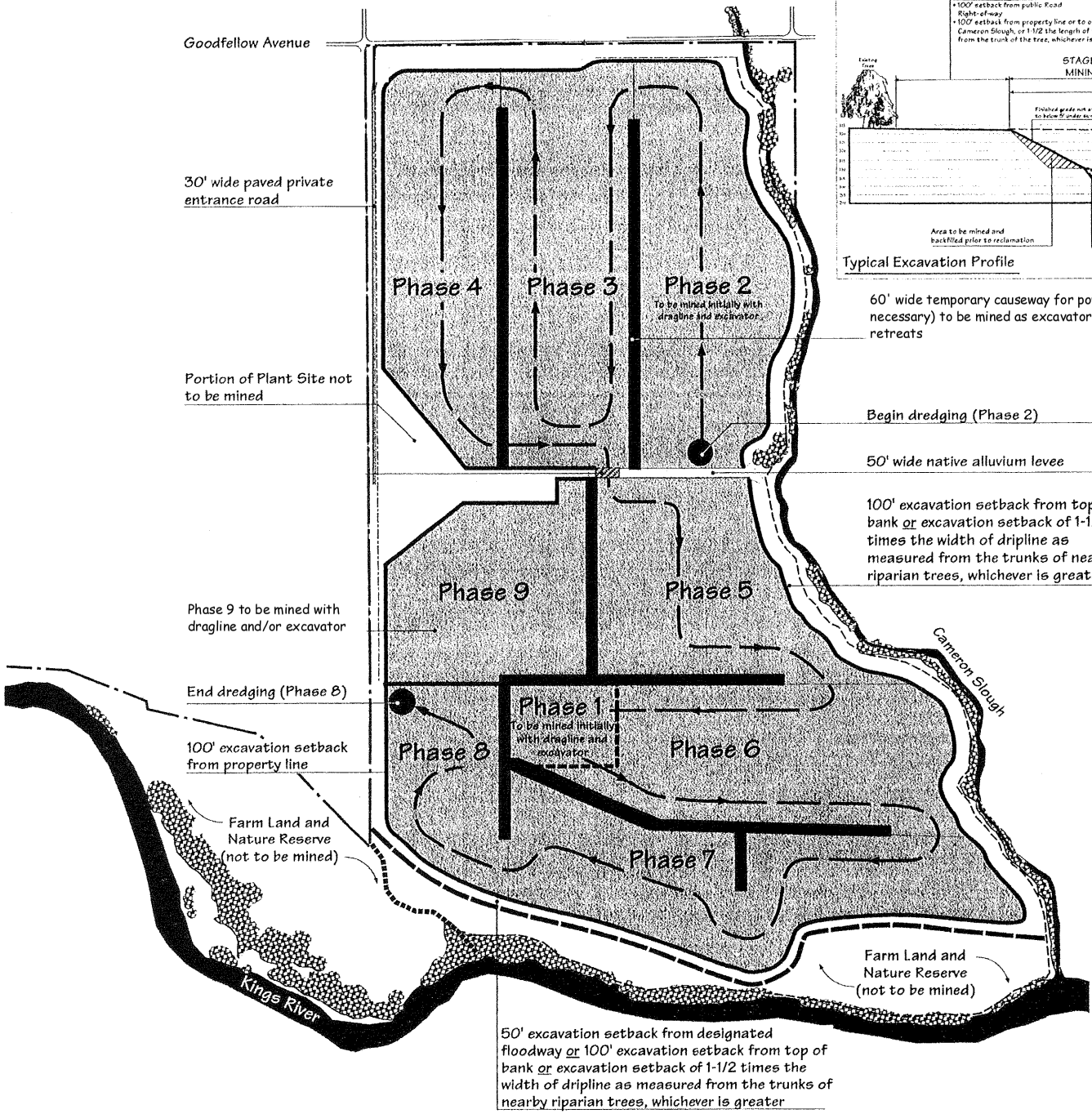

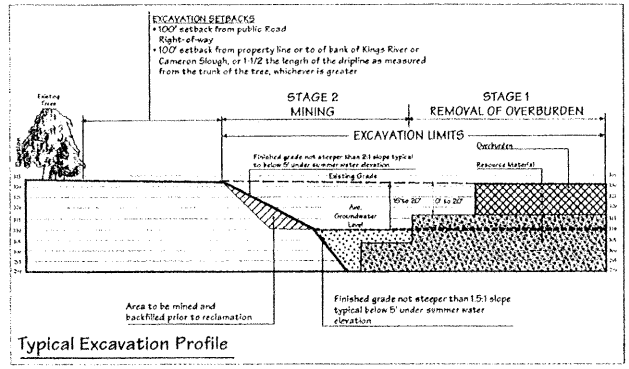

Typical Excavation Profile

KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno , California 93711

Figure 7

Excavation Methods and Process

Legend

- Property Line
- Permit Boundary
- Area of Excavation
- Existing Great Valley Mixed Riparian
- Setback Line
- Top of Bank (River / Slough)
- Temporary Levee for Overland Conveyor
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

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Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
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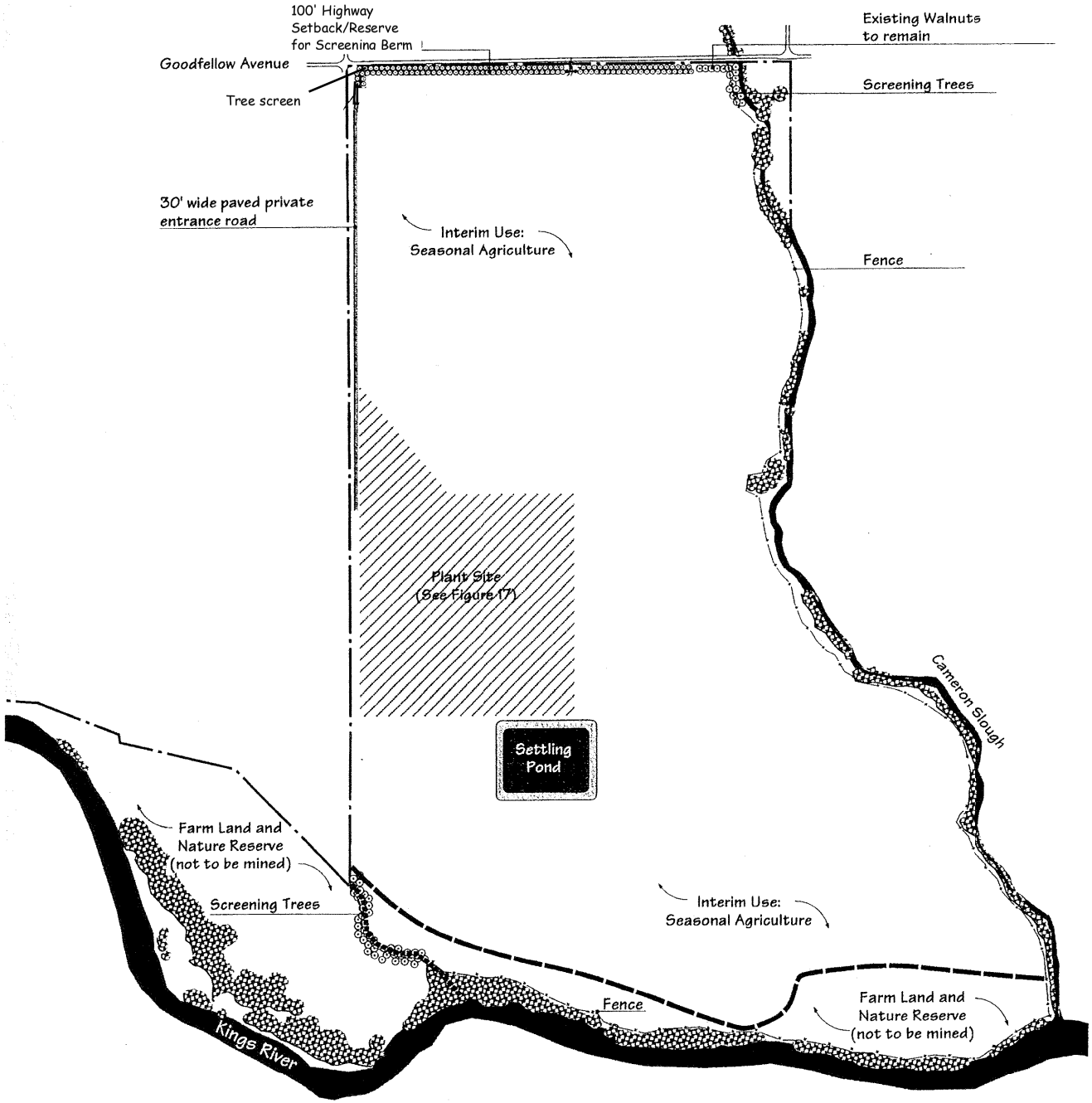

KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno , California 93711

Figure 8
PHASE 1
7 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Designated Floodway

Date: 4/13/98
Revised: 4/17/98 5/18/99

Scale
0' 500' 1000'

North

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Base topography by:
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2929 Larkin Ave.
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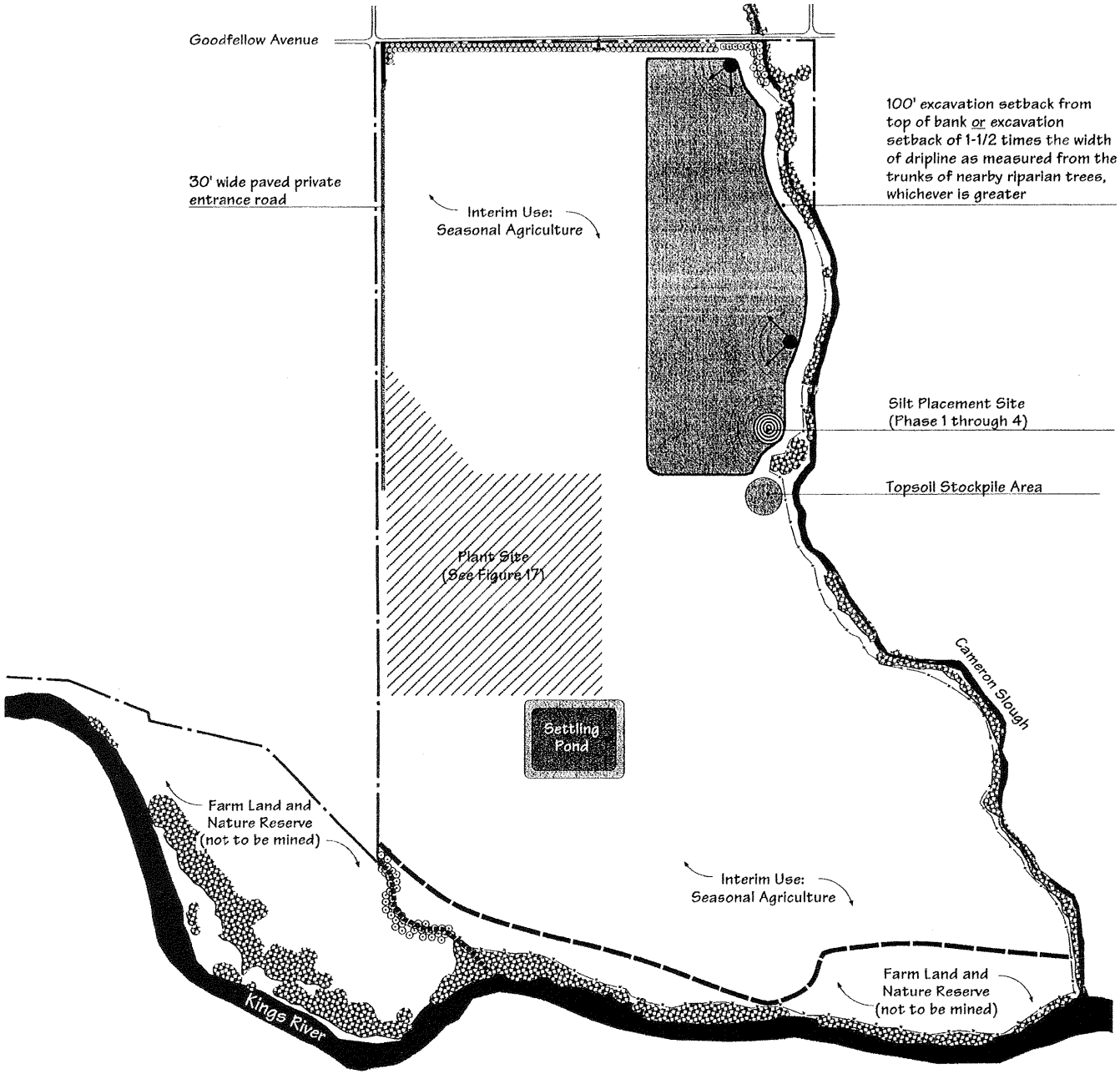
Fresno, California 93711
(209) 432-6902



KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno , California 93711

Figure 9
PHASE 2
45 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Typical Excess Overburden Placement Point
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

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Base topography by:
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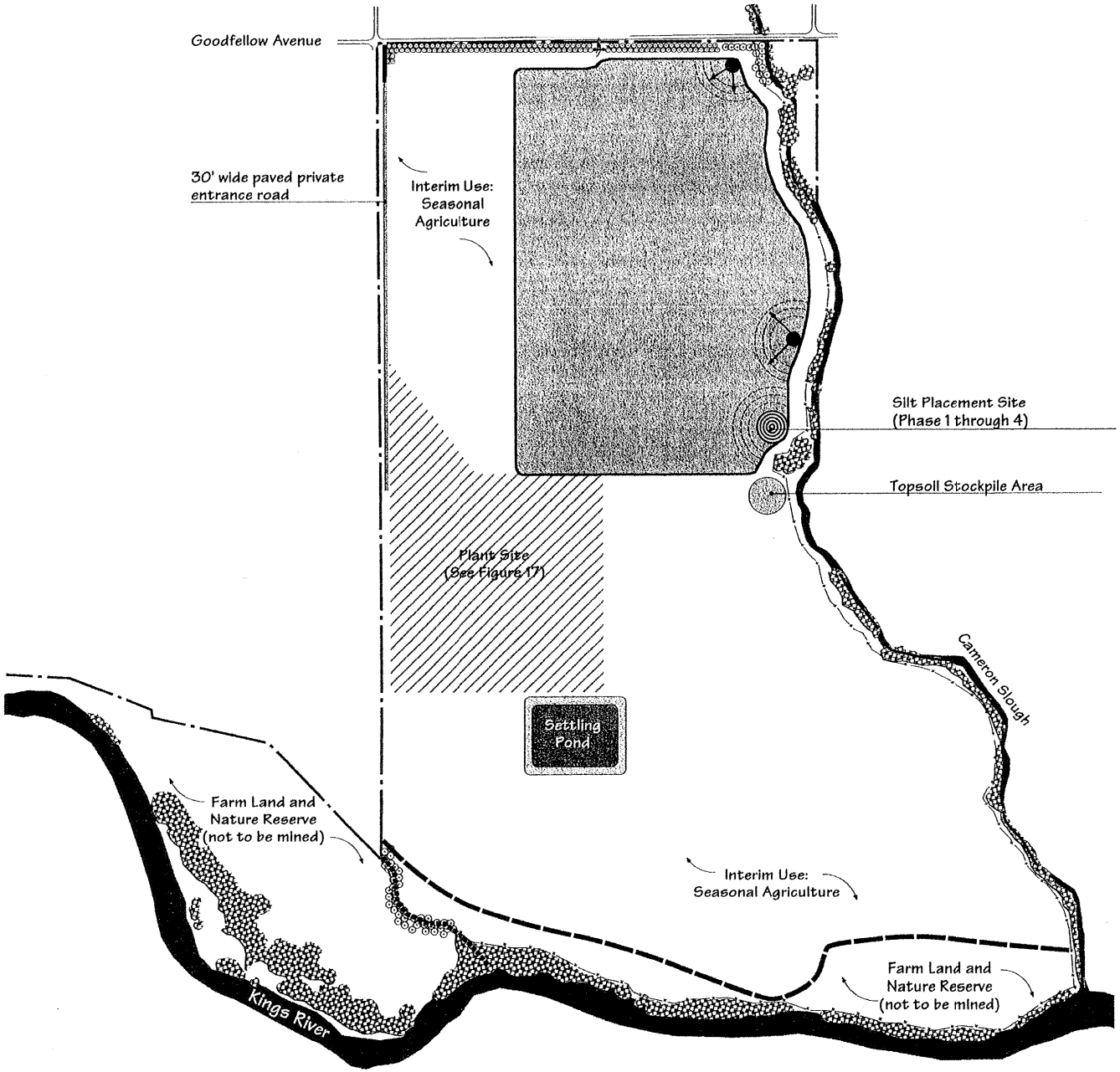

KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno, California 93711

Figure 10
PHASE 3
47 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Typical Excess Overburden Placement Point
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

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Base topography by:
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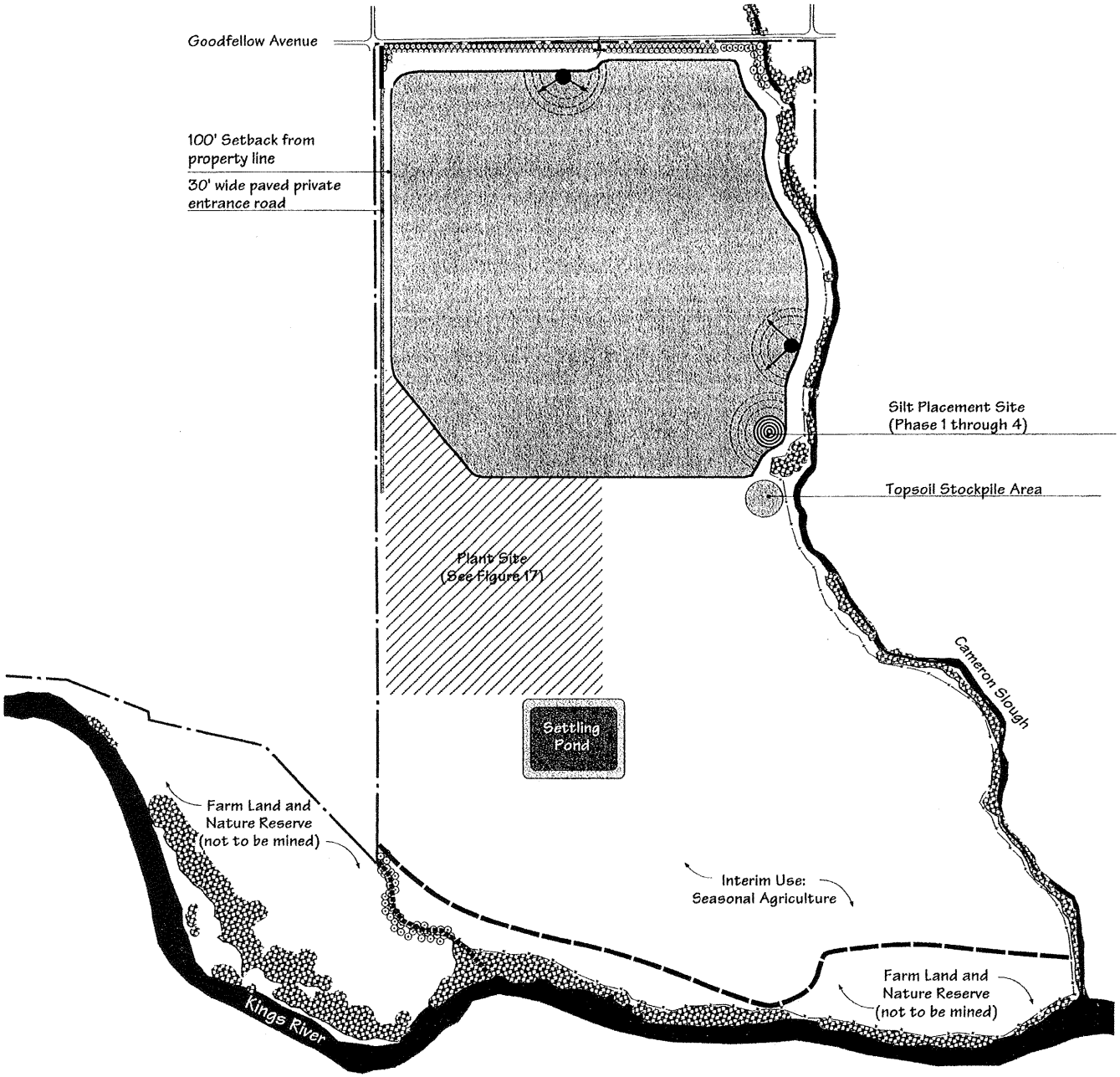
414 W. Bedford, Suite 106
Fresno, California 93711
(209) 431-4692

Landscape Architecture
Stockton, California
(209) 951-5813
California LA. No. 1710



KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno , California 93711

Figure 11
PHASE 4
37 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Typical Excess Overburden Placement Point
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

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2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
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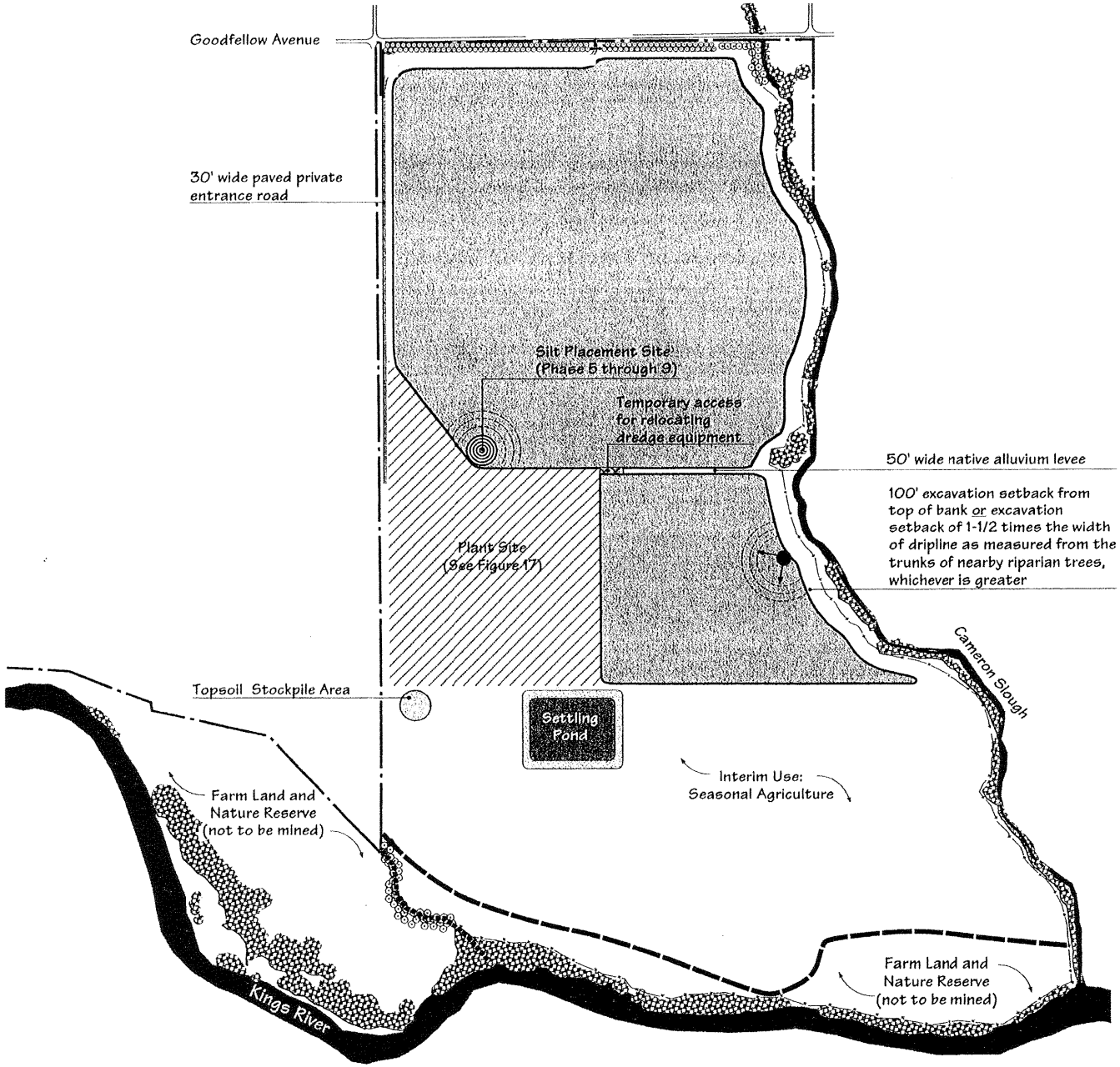

KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno, California 93711

Figure 12
PHASE 5
37 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Typical Excess Overburden Placement Point
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

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Base topography by:
Aerial Photomapping Services
2928 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

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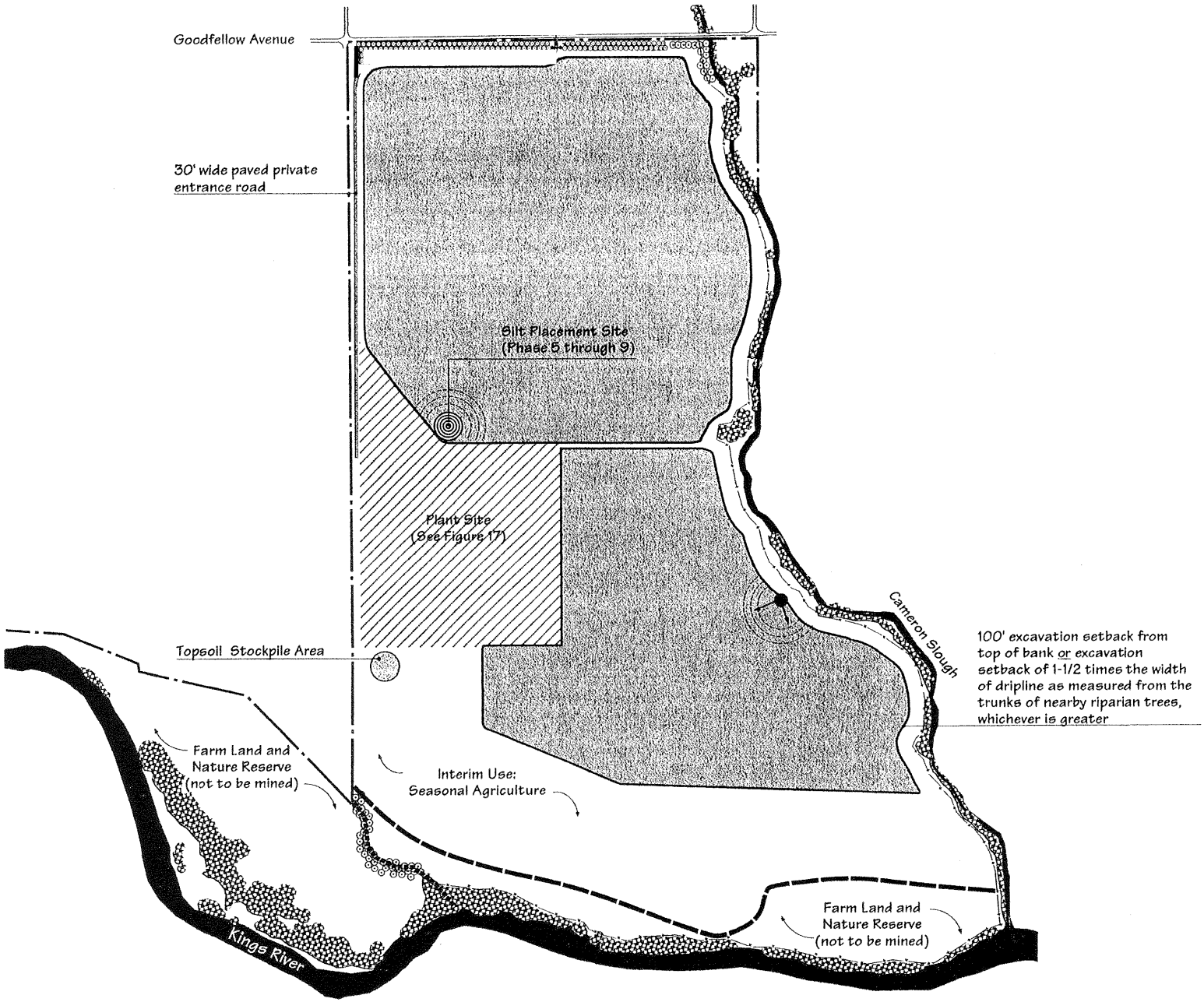
414 W. Bedford, Suite 108
Fresno, California 93711
(209) 431-4902



KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno, California 93711

Figure 13
PHASE 6
44 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Typical Excess Overburden Placement Point
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

This drawing is conceptual and for planning and permit-processing purposes only. Program information, scale, location of areas, and other information shown are subject to field evaluation and modification.

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

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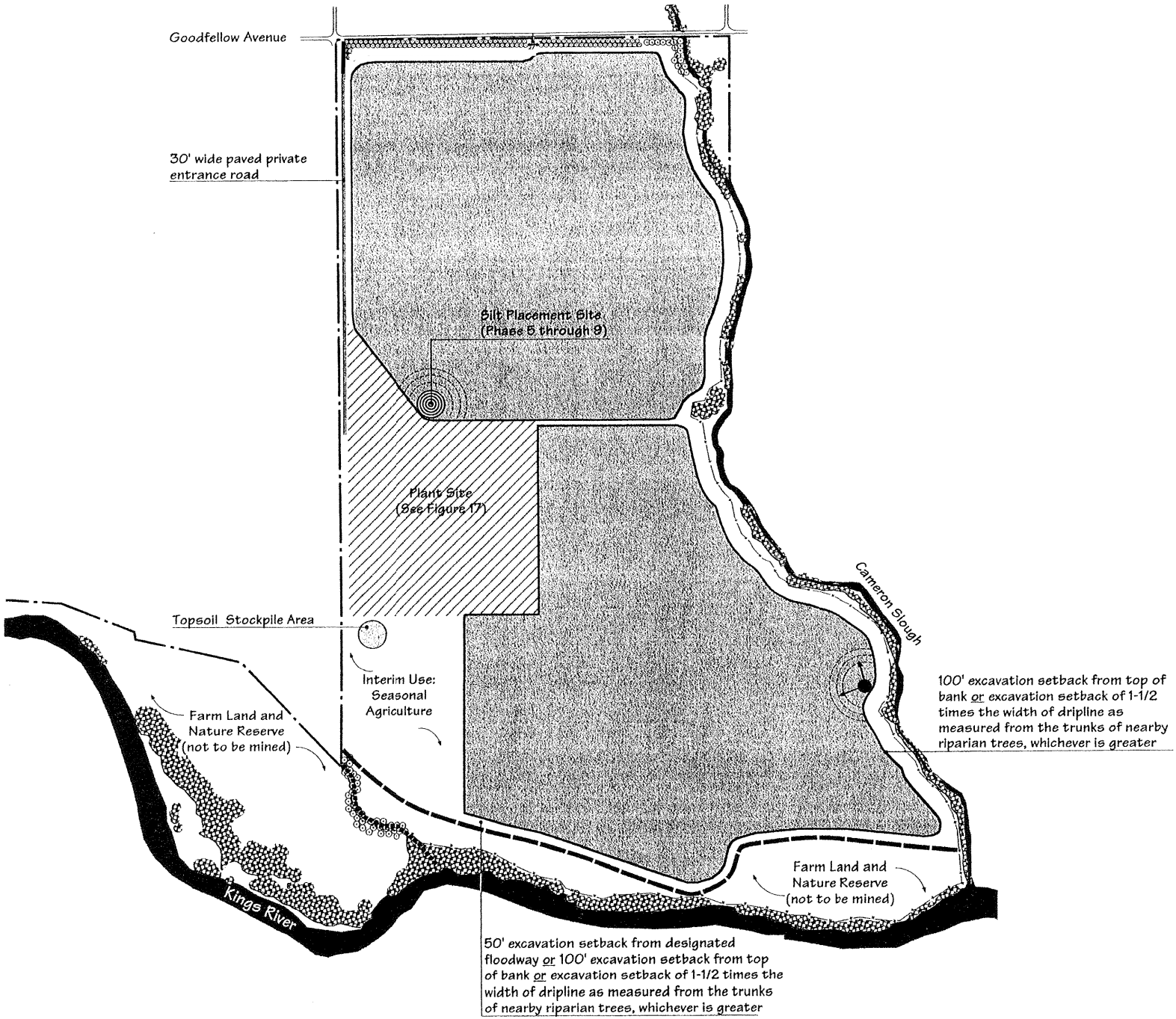
410 W. Bertrand, Suite 106
Fresno, California 93711
(209) 432-6602



KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno, California 93711

Figure 14

PHASE 7

50 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Typical Excess Overburden Placement Point
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

This drawing is conceptual and for planning and permit-processing purposes only. Program information, scale, location of areas, and other information shown are subject to field evaluation and modification.

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

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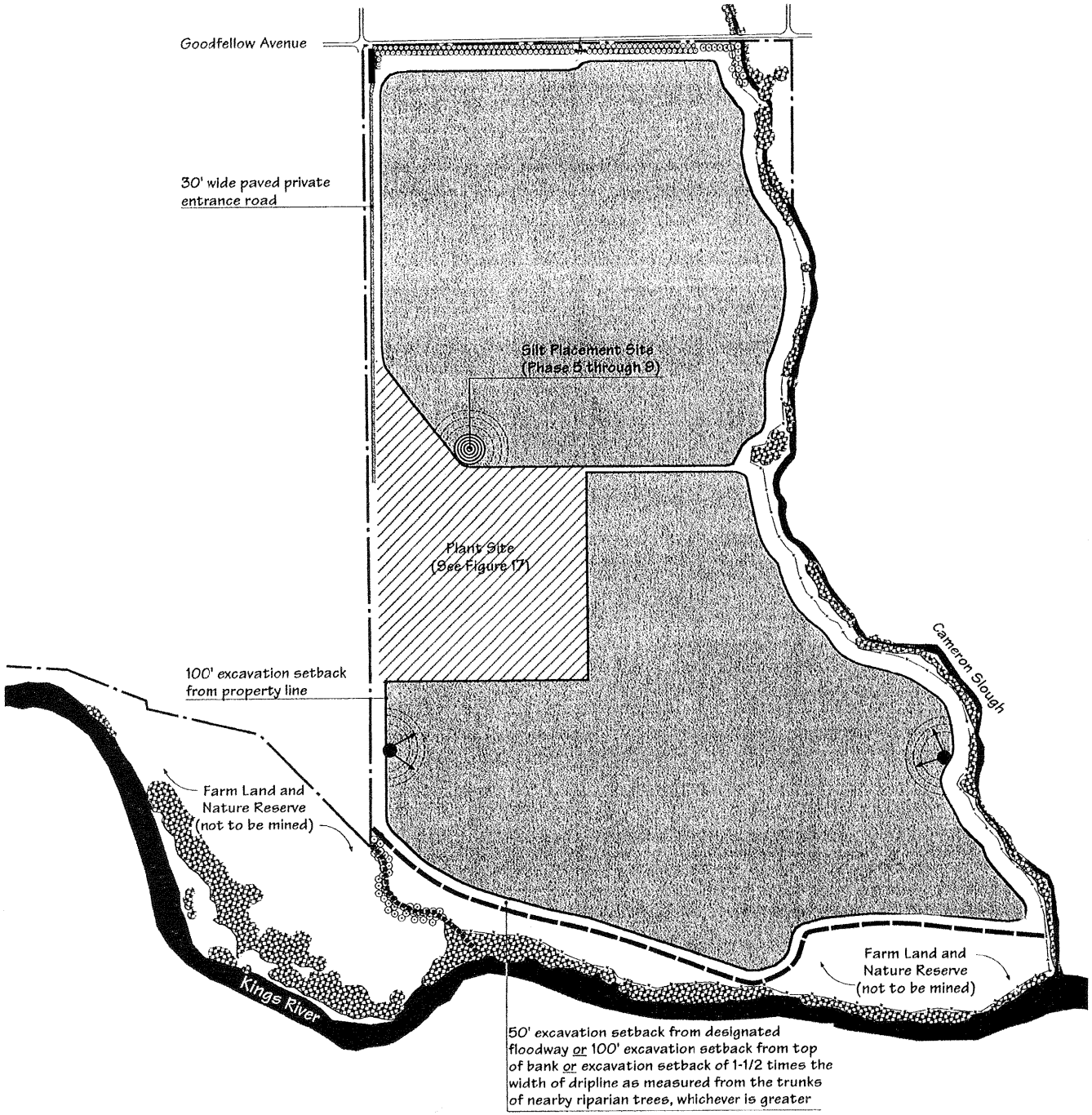
414 W. Bedford, Suite 106
Fresno, California 93711
(209) 432-4962



KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno, California 93711

Figure 15

PHASE 8

18 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Typical Excess Overburden Placement Point
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

This drawing is conceptual and for planning and permit-processing purposes only. Program information, scale, location of areas, and other information shown are subject to field evaluation and modification.

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

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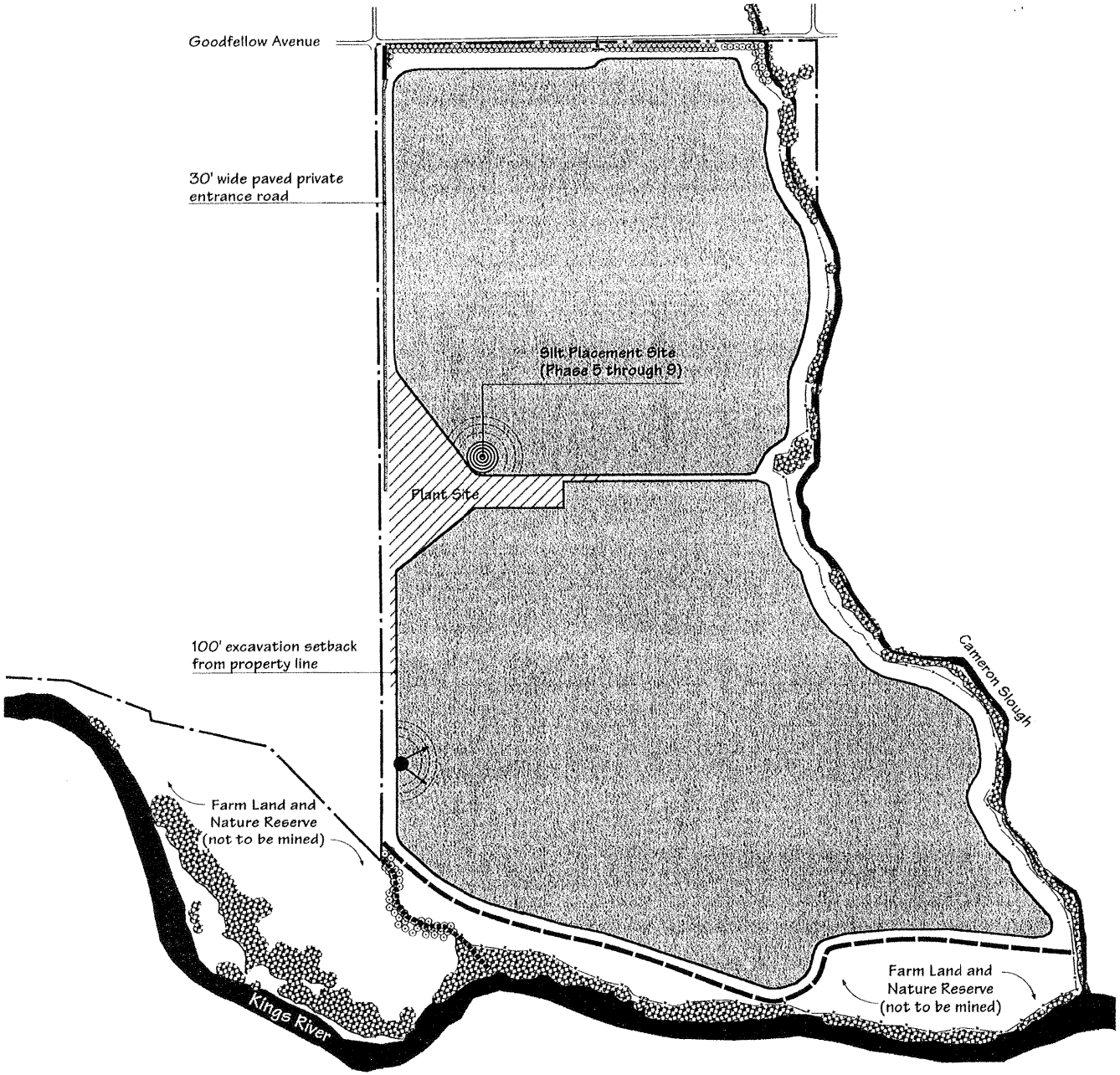
414 W. Bedford, Suite 104
Fresno, California 93711
(209) 432-4902



KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno , California 93711

Figure 16

PHASE 9

30 acres

Legend

- Property Line
- Permit Boundary
- Plant Site
- Existing Great Valley Mixed Riparian
- Typical Excess Overburden Placement Point
- Designated Floodway

Date: 4/13/98
Revised:

Scale
0' 500' 1000'

North

This drawing is conceptual and for planning and permit-processing purposes only. Program information, scale, location of areas, and other information shown are subject to field evaluation and modification.

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

BUADA ASSOCIATES
414 W. Bedford, Suite 108
Fresno, California 93711
(209) 432-4902

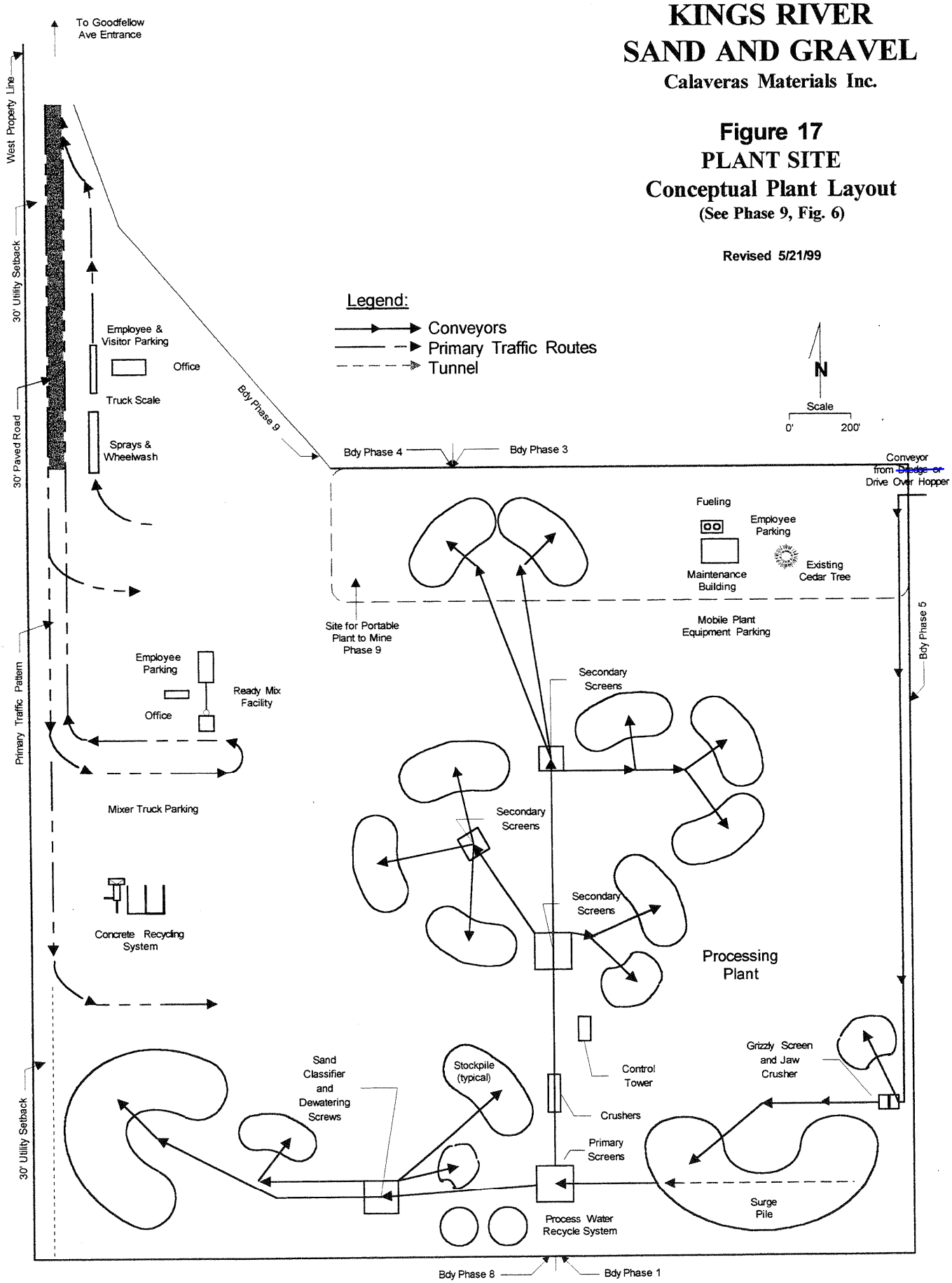
KINGS RIVER SAND AND GRAVEL

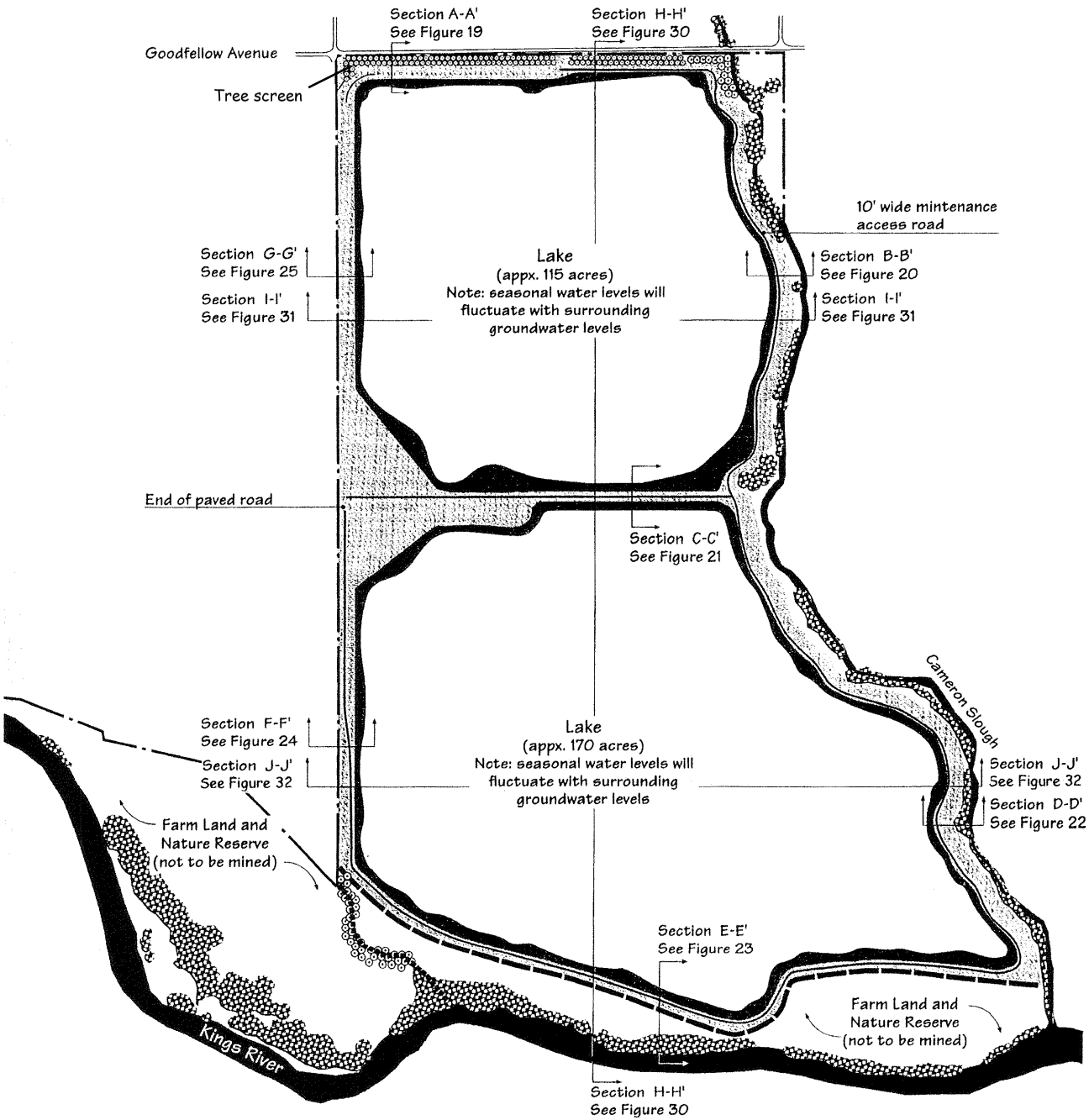
Calaveras Materials Inc.

Figure 17
PLANT SITE
Conceptual Plant Layout

(See Phase 9, Fig. 6)

Revised 5/21/99





KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno , California 93711

Figure 18

RECLAMATION SITE PLAN: LANDFORM

Legend

- Property Line
- Permit Boundary
- Open Water / Wetlands
- Existing Great Valley Mixed Riparian
- Mined slope (not steeper than 2:1)
- Area disturbed by mining activities to be brought to natural grade
- Designated Floodway

Date: 4/13/98
Revised: 4/17/98, 7/2/98 5/18/99

Scale
0' 500' 1000'

North

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Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

Buada Associates
414 W. Bedford, Suite 106
Fresno, California 93711
(209) 432-4903

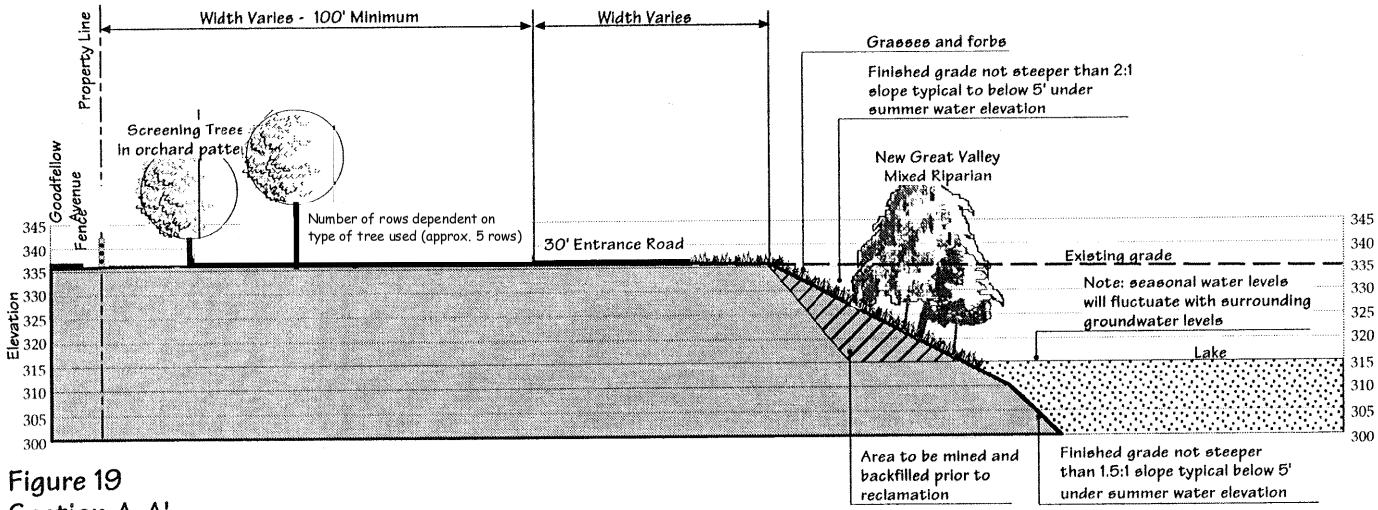

Figure 19
Section A-A'

Notes:

- all mined slopes will be backfilled and/or contoured so as not to exceed a 2:1 gradient
- slopes around areas indicated as "Overburden Placement Points" on Figure 6 and Figures 8 through 16 may be a 2:1 gradient or shallower

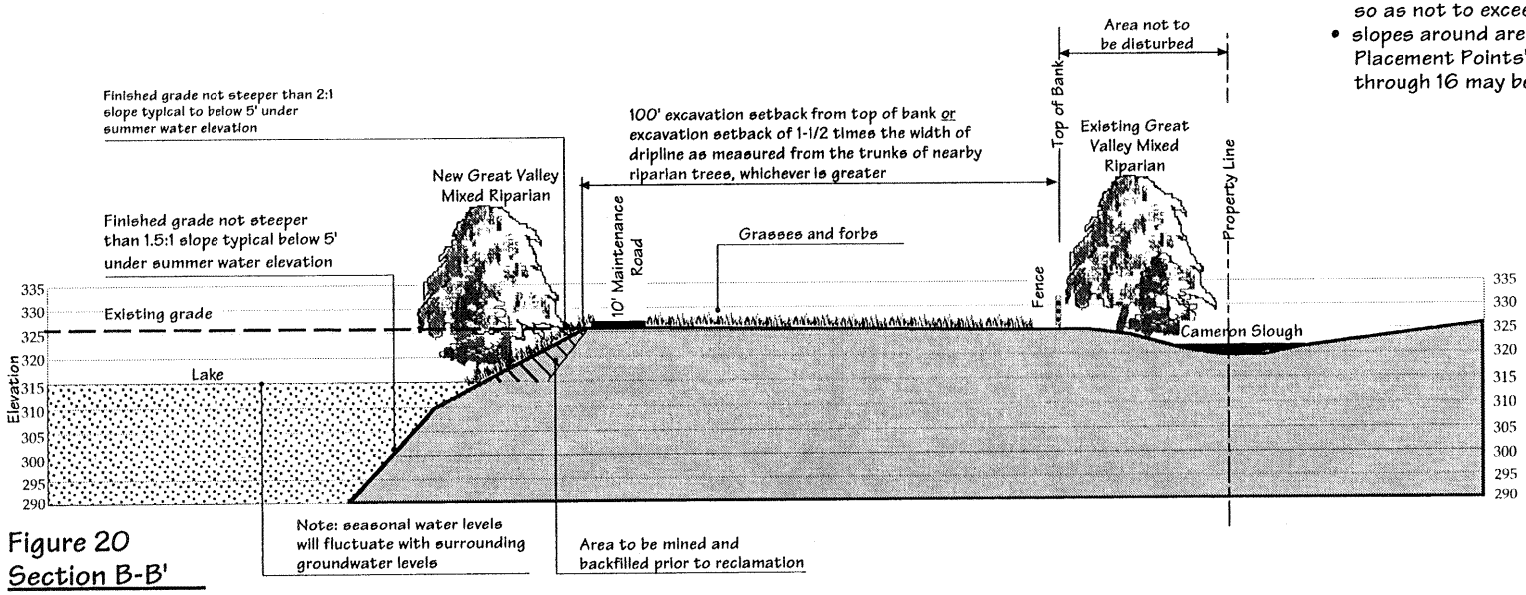

Figure 20
Section B-B'

Scale
0' 10' 20' 40'

Date: 4/13/98
Revised: 4/17/98

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612
Date of Photography: 11/21/94
Contour Interval = 2'

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KINGS RIVER SAND AND GRAVEL

Calaveras Materials Inc.

3451 West Shaw
Fresno, California 93711

Buada Associates

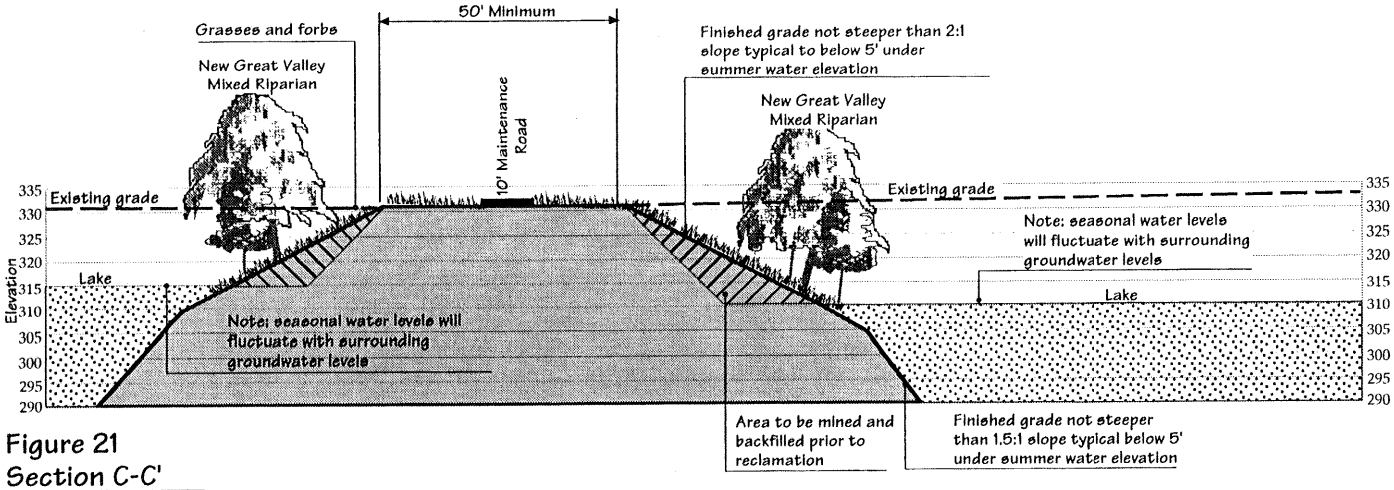

Figure 21
Section C-C'

Notes:

- all mined slopes will be backfilled and/or contoured so as not to exceed a 2:1 gradient
- slopes around areas indicated as "Overburden Placement Points" on Figure 6 and Figures 8 through 16 may be a 2:1 gradient or shallower

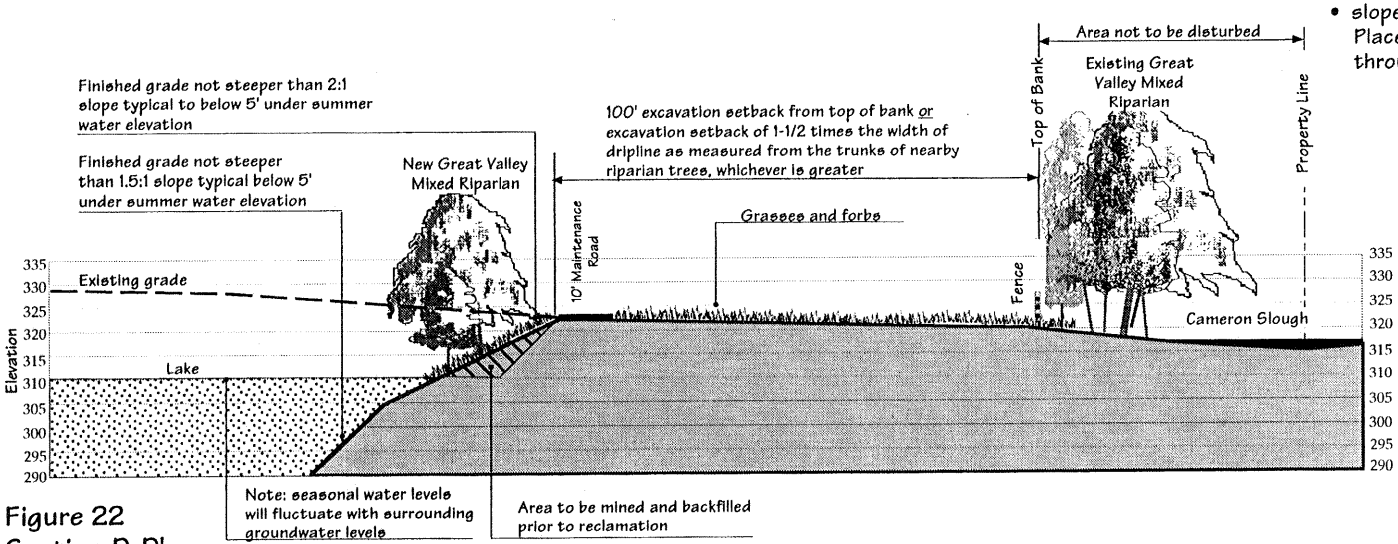

Figure 22
Section D-D'

Scale
0' 10' 20' 40'

Date: 4/13/98
Revised:

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612
Date of Photography: 11/21/94
Contour Interval = 2'

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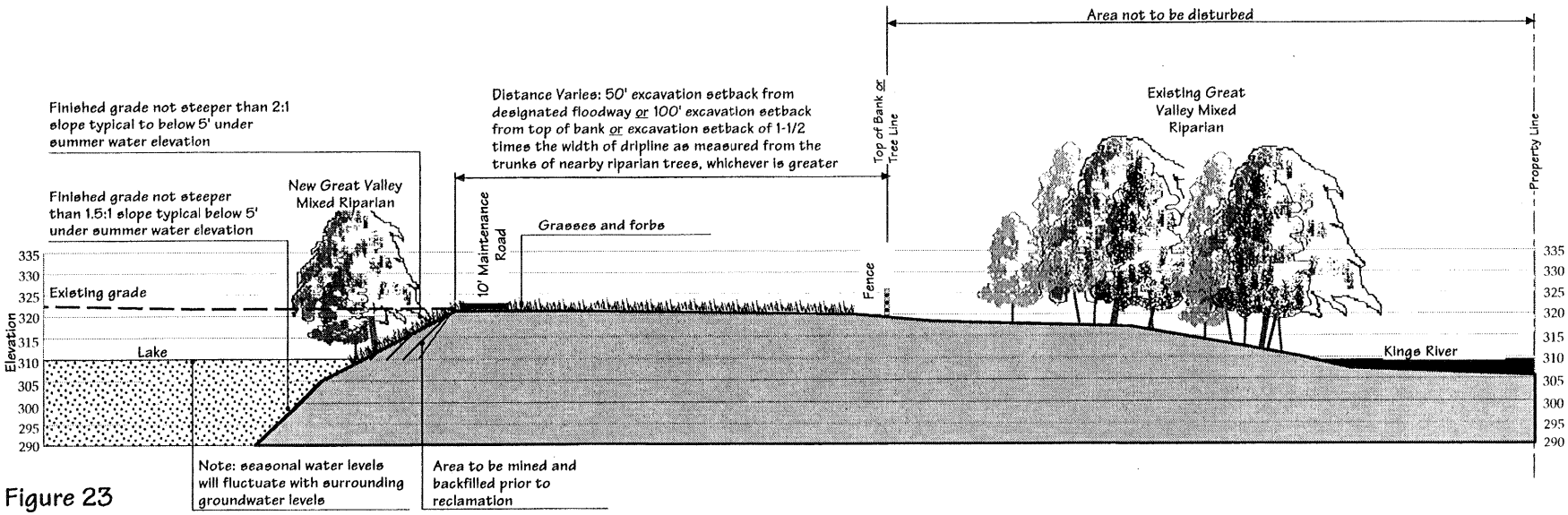

Figure 23
Section E-E'

Notes:

- all mined slopes will be backfilled and/or contoured so as not to exceed a 2:1 gradient
- slopes around areas indicated as "Overburden Placement Points" on Figure 6 and Figures 8 through 16 may be a 2:1 gradient or shallower

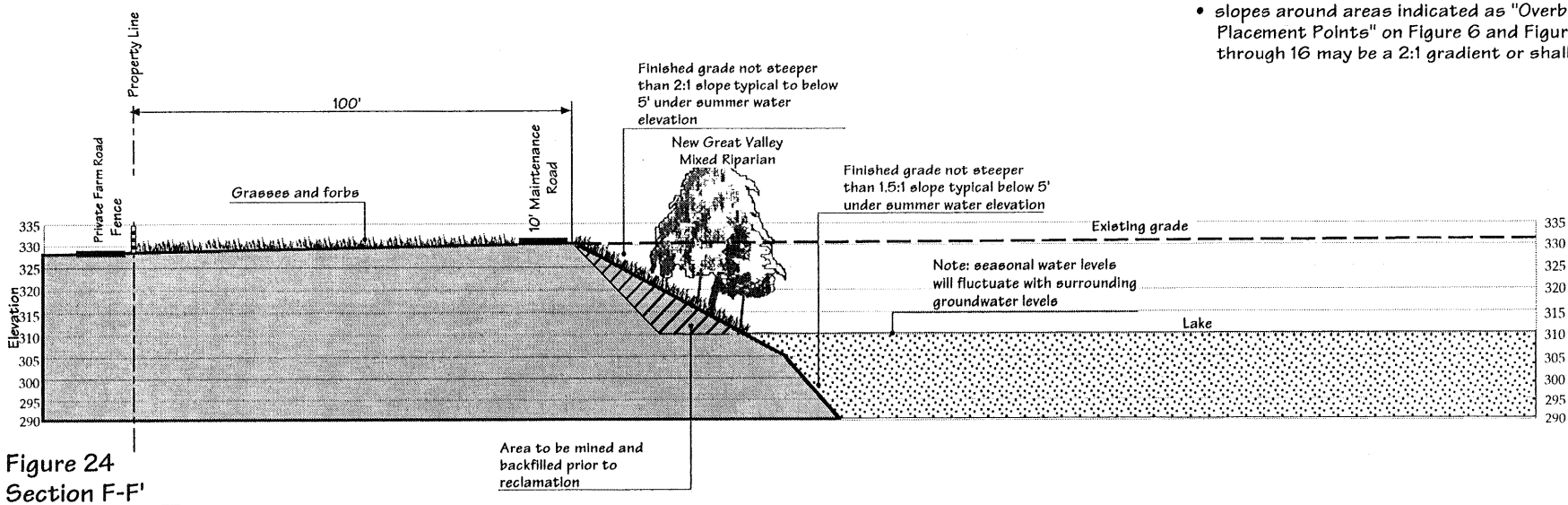

Figure 24
Section F-F'

Scale
0' 10' 20' 40'

Date: 4/13/98
Revised:

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612
Date of Photography: 11/21/94
Contour Interval = 2'

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Calaveras Materials Inc.
3451 West Shaw
Fresno, California 93711

Beada Associates

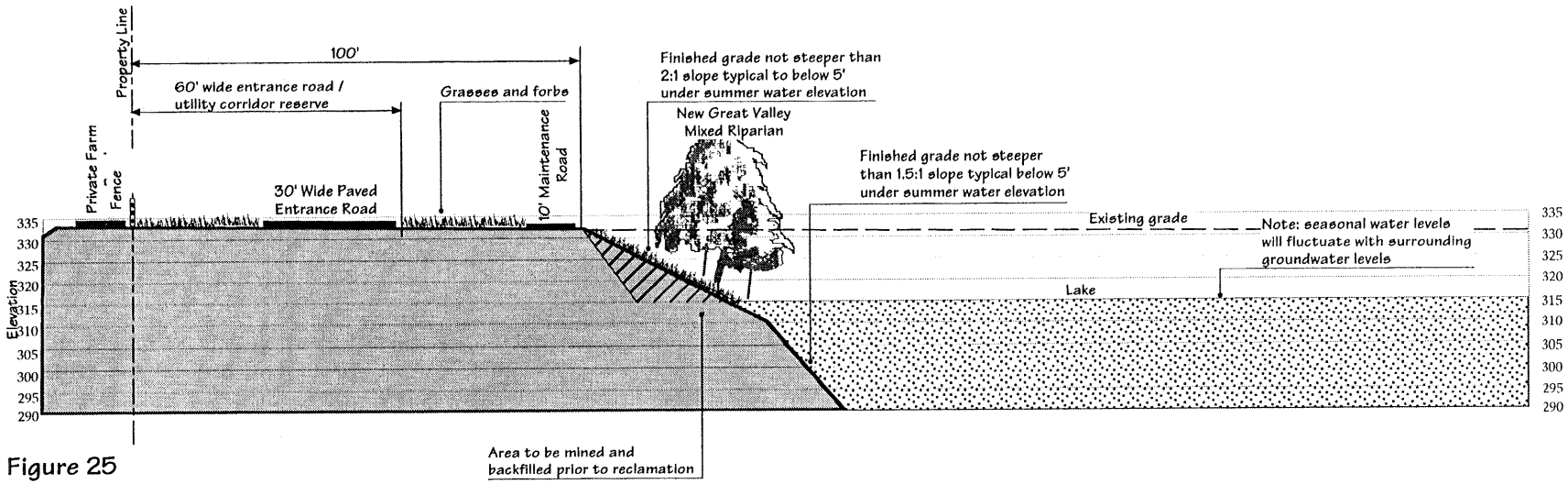

Figure 25
Section G-G'

Notes:

- all mined slopes will be backfilled and/or contoured so as not to exceed a 2:1 gradient
- slopes around areas indicated as "Overburden Placement Points" on Figure 6 and Figures 8 through 16 may be a 2:1 gradient or shallower

Scale
0' 10' 20' 40'

Date: 4/13/98
Revised:

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612
Date of Photography: 11/21/94
Contour Interval = 2'

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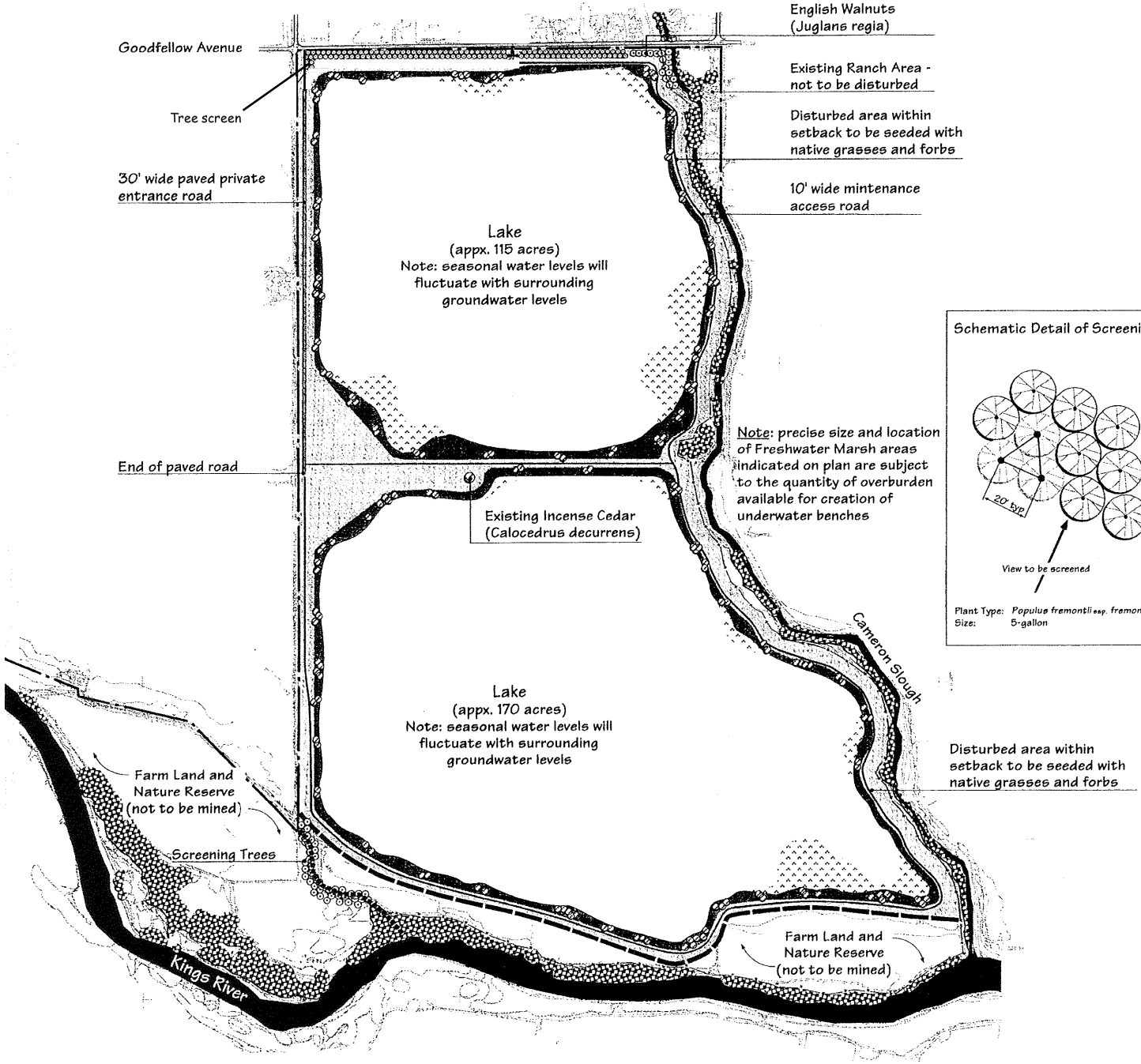

Schematic Detail of Screening Trees

Plant Type: *Populus fremontii* ssp. *fremontii* Fremont Cottonwood
Size: 5-gallon

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Fresno , California 93711

Figure 26
RECLAMATION SITE PLAN: VEGETATION

Legend

- Property Line
- Permit Boundary
- Open Water / Wetlands
- Existing Great Valley Mixed Riparian
- Mined slope / Grassland
- Graded area / Grassland
- New Great Valley Mixed Riparian
- Designated Floodway

Date: 4/13/98
Revised: 4/17/98 5/18/99

Scale
0' 500' 1000'

North

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Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612

Date of Photography: 11/21/94
Contour Interval = 2'

Brada Associates
416 W. Bedford, Suite 104
Fresno, California 93711
(209) 432-7800

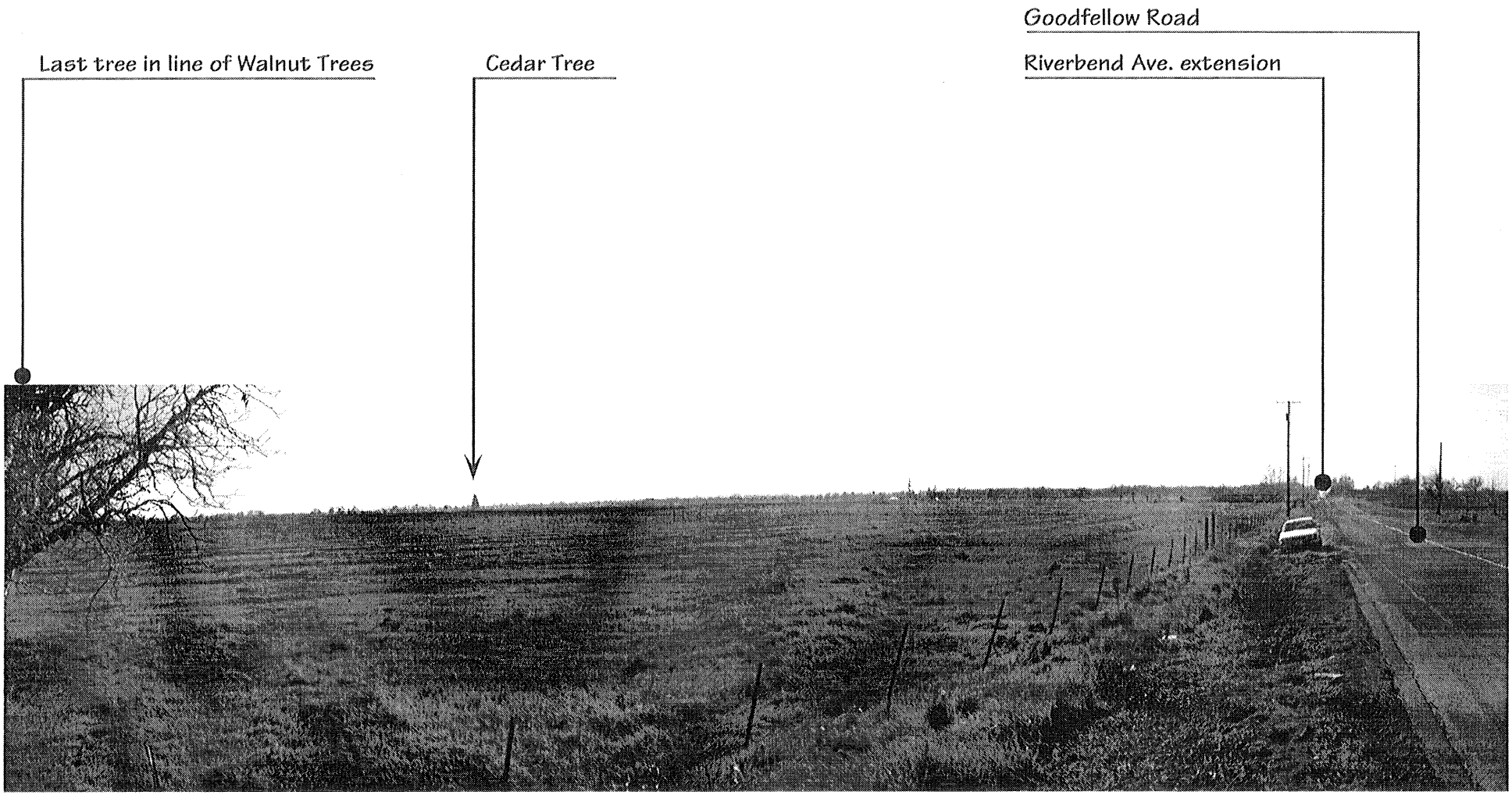

Figure 27

View to mining area and plant site looking west along Goodfellow Avenue

KINGS RIVER
SAND AND GRAVEL

Calaveras Materials Inc. - dba
Stewart & Nuss
PO Box 886
Fresno , California 93714

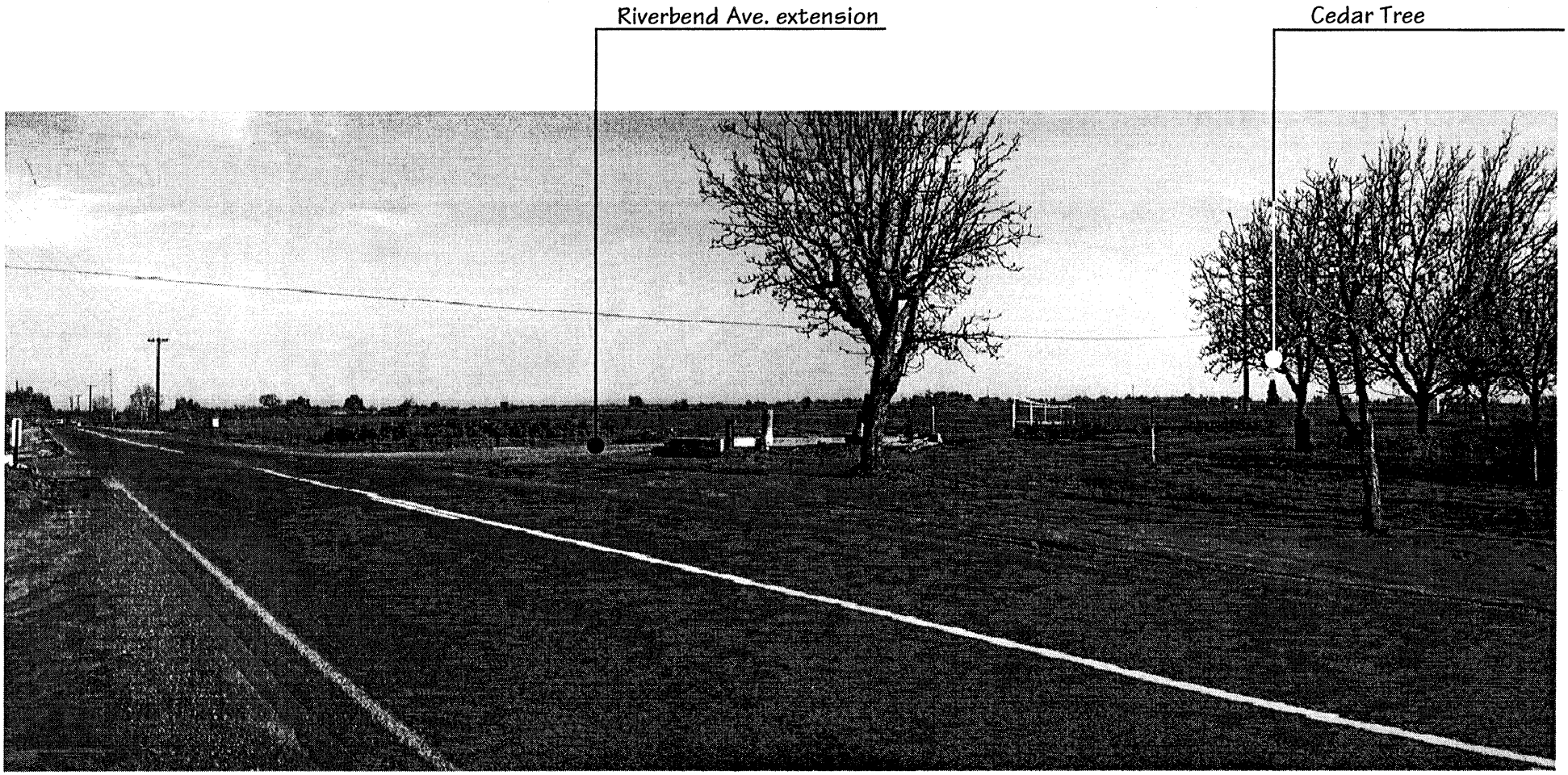

Figure 28

View to mining area and plant site looking east from Goodfellow Avenue at entrance

KINGS RIVER
SAND AND GRAVEL

Calaveras Materials Inc. - dba
Stewart & Nuss
PO Box 886
Fresno , California 93714

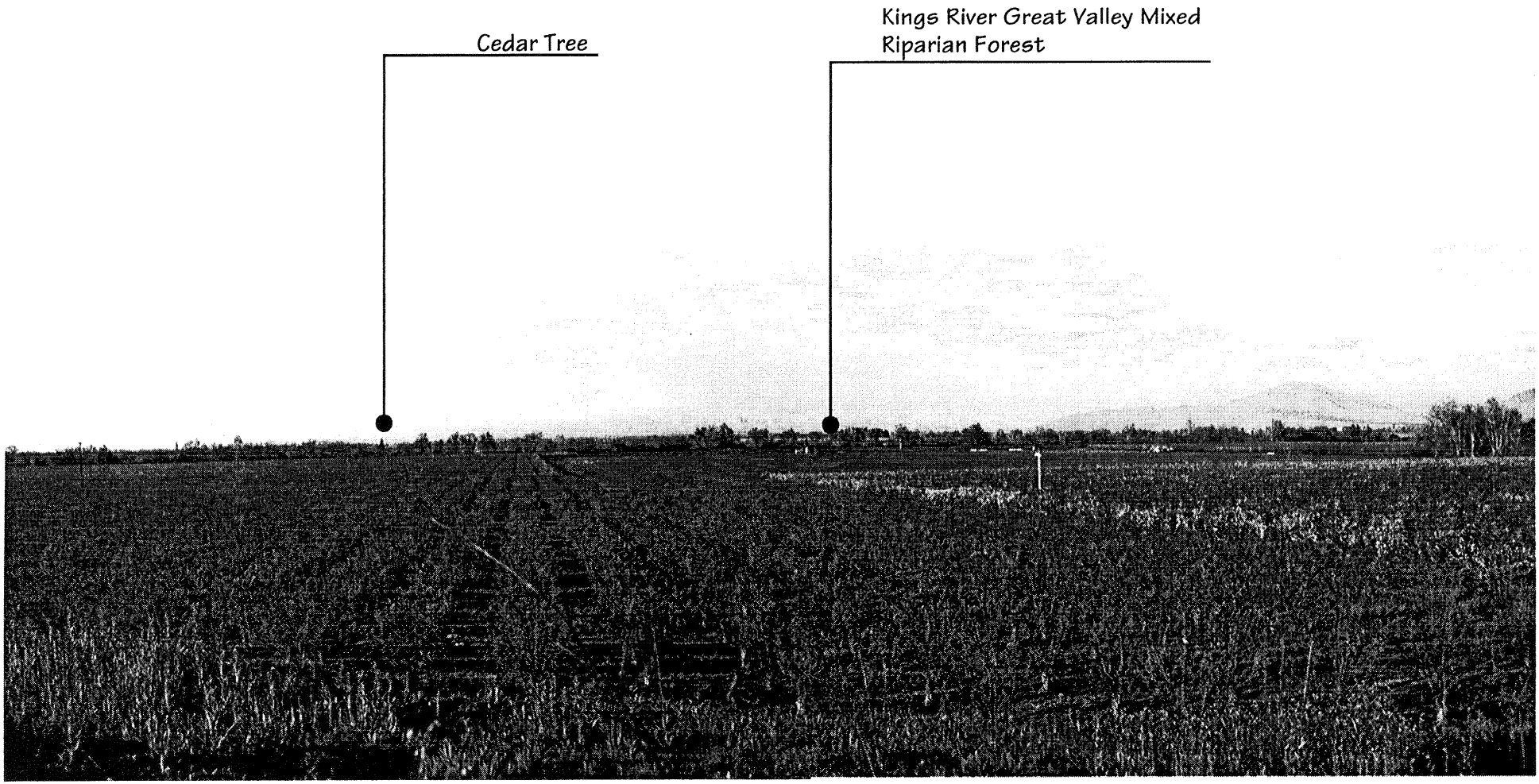

Figure 29

View to mining area and plant site looking north from Lincoln Avenue

KINGS RIVER
SAND AND GRAVEL

Calaveras Materials Inc. - dba
Stewart & Nuss
PO Box 886
Fresno , California 93714

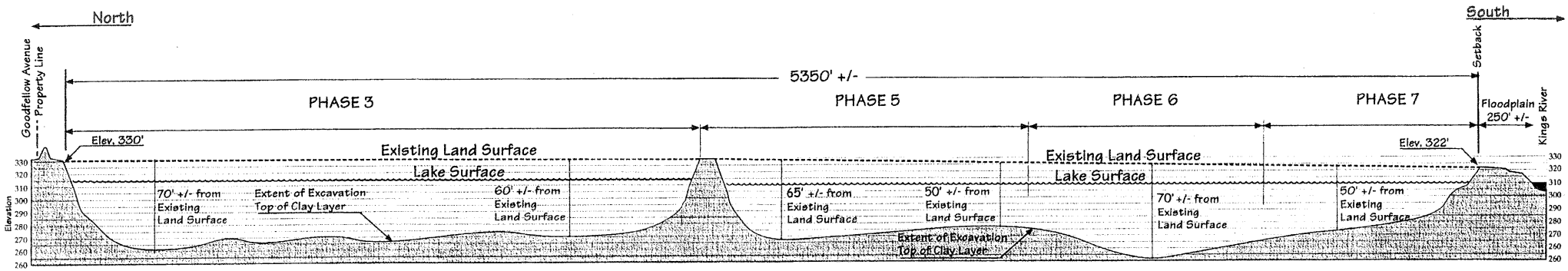

Figure 30
Section H-H'

NORTH LAKE
Average Depth 40' +/-

SOUTH LAKE
Average Lake Depth 40' +/-

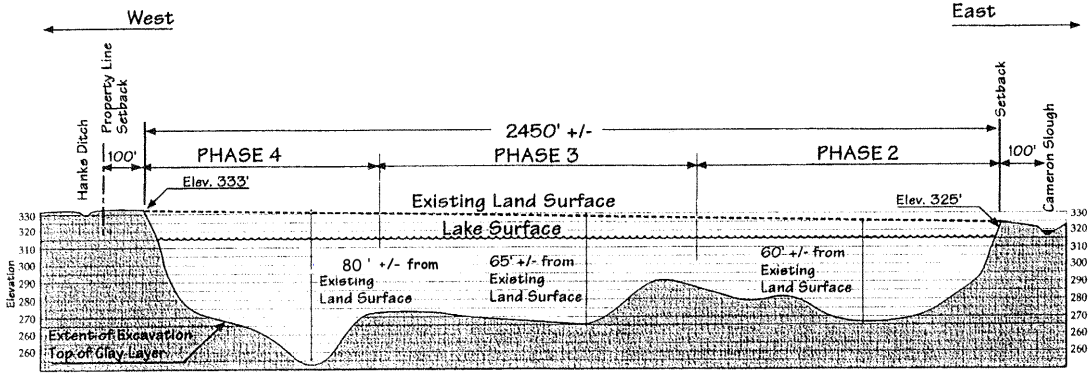

Figure 31
Section I-I'

NORTH LAKE
Average Lake Depth 40' +/-

Vertical Scale
0' 20' 40' 80'

Horizontal Scale
0' 100' 200' 400'

Note: Because vertical and horizontal scales are different, steepness of landforms appear exaggerated.

Date: 7/2/98
Revised:

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612
Date of Photography: 11/21/94
Contour Interval = 2'

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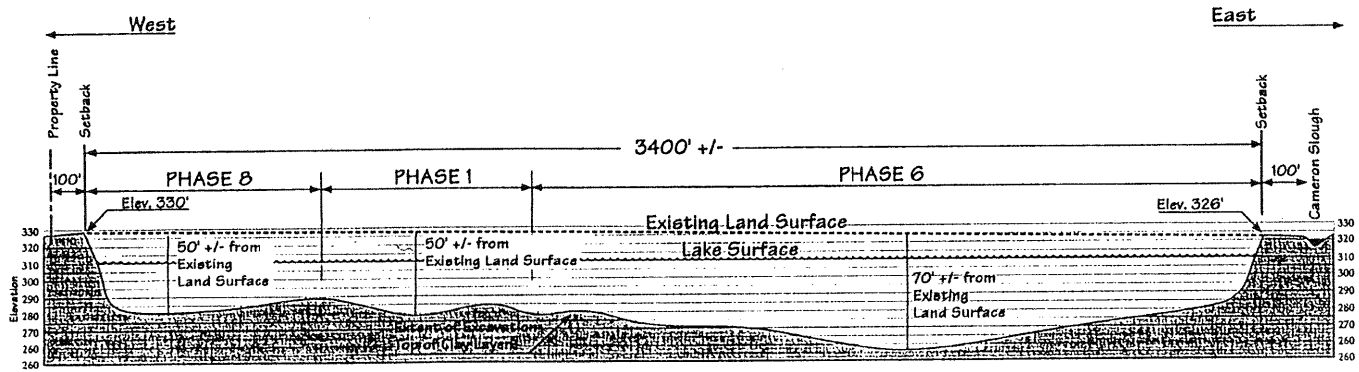
BUADA ASSOCIATES
414 W. Bedford, Suite 106
Fresno, California 93711
(209) 432-4502



Section

SOUTH LAKE
Average Lake Depth 40' +/-

Figure 32
Section J-J'

Vertical Scale
0' 20' 40' 80'

Horizontal Scale
0' 100' 200' 400'

Note: Because vertical and horizontal scales are different, steepness of landforms appear exaggerated.

Date: 7/2/98
Revised:

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
Clovis, CA 93612
Date of Photography: 11/21/94
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Scale
0' 10' 20' 40'

Date: 4/13/98
Revised:

Base topography by:
Aerial Photomapping Services
2929 Larkin Ave.
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