

CAMP SACRAMENTO

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Sacramento, CA 95832
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December 1, 2012

Mark Egbert, District Manger
El Dorado County & Georgetown Divide
Resource Conservation Districts
100 Forni Rd.
Placerville, CA 95667

Dear Mark,

The City of Sacramento Department of Parks and Recreation and The Friends of Camp Sacramento wish to acknowledge the work you and your staff have done on behalf of Camp Sacramento.

Your work, which secured two grants, to fund the start of the Camp Sacramento Restoration and Habitat Improvement Project has made a real improvement to camp and to our stewardship of the El Dorado National Forest. You have provided oversight to the first two phases of the project with integrity and sensitivity to the camp schedule. Your production of a large project map and educational brochures are helping educate our guests to the importance of the project and an understanding of their role in protecting this true treasure.

The Friends of Camp Sacramento and the City of Sacramento look forward to providing contributing funds in future grant proposals and look toward your continued support in that effort. You are a great partner in our efforts to be good stewards of the land and helping us provide a wonderful camp that generations have enjoyed and will in the future.

With gratitude,

A handwritten signature in black ink that reads "Jones".

Chrisy Jones, President FoCS

A handwritten signature in black ink that reads "Timothy B. Holland".

Timothy B. Holland, Camp Manager



Engineering Specifications and Details

Sierra Nevada Conservancy-Progress Report

**Sierra Nevada Conservancy Grant Program
Safe Drinking Water, Water Quality and Supply, Flood Control
River and Coastal Protection Act of 2008 (Proposition 84)**

Grantee Name: El Dorado County Resource Conservation District

Project title: Camp Sacramento Erosion Control and Habitat Improvement Project

SNC Reference Number: SNC 327

Submittal Date: 12/3/12

Report Preparer: Mark Egbert

Phone #: 530-295-5630

Check one:

JE **6-Month Progress Report**
 Final Report

6-Month Progress Reports should reflect the previous six months. **Final Reports** should reflect the entire grant period.

A. Progress Report Summary: (Please provide a general description of work completed during this reporting period.)

Task 1. Project Coordination and Management.

- a. Administration elements completed during the reporting period focused on project scope, budget and timeline.

i. Project Scope:

1. All consulting/ contract agreements issued for this project have been closed out. Subcontracts were reviewed and have been determined to be complete and have met all conditions of the agreement. Enclosed in this final report are the remaining consultant invoices, final design and specifications, survey sheets, and technical specifications.
2. The project has complied with its environmental conditions outlined under in CEQA document (filed December 2011). This was a planning project which did not result in impacts that are significant when viewed with the effects of past projects, the effects of current projects, and the projects of probable future projects.
3. The District was able to leverage additional funding from the USFS under Title II of the Rural School Security Act for implementation of road work and stormwater drainage systems in the area from the bridge to camp. This project was implemented under a separate CEQA document completed by the District as well as a NEPA document completed in cooperation with the USFS.

ii. Project Budget:

All construction and professional services contracts issued for this project have been closed out. All invoices have been paid and deliverables met.

The project was completed within budget, within scope and in accordance to the authorized timeline.

Task 2. Survey of Entry Road.

A topographic survey of the camp is complete and included in this report.

Task 3. Survey of the Camp Grounds.

A topographic survey of the camp and cabins is complete and included in this report.

B. Deliverables or Outcomes completed during this Reporting Period or Milestones Achieved: (Include specific information, such as public meetings held, agency participation, partnerships developed, or acres mapped, treated or restored.)

The Camp Sacramento Erosion Control and Habitat Improvement Project (Project) is a multi-phased project that will implement erosion control measures within Camp Sacramento to reduce the amount of sediment that flows to the South Fork American River during runoff events. The Project was implemented through a grant from the Sierra Nevada Conservancy and a construction grant from the U.S. Forest Service (USFS).

Camp Sacramento is located along Highway 50, about 3 miles east of Strawberry at an elevation of 6500 feet. The camp has been in operation since 1920 serving individuals, families, and groups from throughout California.

The Project was managed by the El Dorado County Resource Conservation District (RCD) with support from the City of Sacramento (City) and Cardno ENTRIX. A Technical Advisory Committee (TAC) was initially formed and met several times to discuss project status, concept designs, and final designs. The TAC comprised of representatives from the City of Sacramento, USFS, CALTRANS, Friends of Camp Sacramento, and the engineering consultant, Cardno-Entrix. This group outlined the strategy for implementation of the grant to ensure everything needed for future implementation was accounted for. This allowed survey of hydrological features, stormwater conveyance systems, structures, trails, roads, vegetation, and any other feature that would be a restoration component to be captured in the planning documents. It also allowed for technical and practical review and analysis of the survey and engineering details to allow for a clear understanding of the process and products being developed effective the resource condition and functionality, including maintenance responsibilities, of the camp. The result is a complete survey and engineering specifications for future work throughout the camp. Implementation of restoration practices can utilize the information developed under this project which will save time and money.

Included in this process was the development of public information in the form of web-site postings, brochures, kiosks, and posters. The public outreach component was important as it provided information to the construction schedule that resulted in a temporary closure of camp during construction and allowed the public to understand the goals of the restoration project.

One major accomplishment was to use the project as a demonstration for developed camp site restoration throughout the Sierra. The USFS, SMUD, PG&E and other entities managing public camp grounds have a common problem of resource degradation by use of non-system trails and roads, erosion and vegetation damage by recreational users. Similar restoration projects are planned and the accomplishments at Camp Sacramento can demonstrate a successful approach in addressing these problems.

The Project was initiated in fall 2010 with a grant from the Sierra Nevada Conservancy. Construction of a portion of the entry road between the highway and camp was accomplished in 2012 with a grant from the USFS.

TAC meetings were held periodically to discuss the Project development and review interim products. The meetings were held on:

December 1, 2011
January 26, 2012
April 12, 2012

The meetings in December and January helped develop the concept design for the entry road and for erosion control within the entire camp. The January meeting led to a revision of the highway to bridge section of the entry road based on input from Caltrans. The subsequent meetings were held to discuss the detailed road design and also to review the draft and final road plans.

Other meetings were held with smaller groups to discuss specific issues, such as availability of construction materials from the City, Caltrans encroachment permit, and construction specifications.

Topographic Survey

In August 2011, Cardno ENTRIX conducted a detailed topographic survey of the Camp in the areas where erosion control features were likely to be placed or needed. The survey basis of bearing was established from fast static GPS observations and the datum was Caltrans Benchmark BM 25-364 (NVDG 1929).

The survey also included buildings, facilities, utilities, and other camp features. The topographic survey was used in the concept design of the erosion control in the camp and for the engineering design of the entry road. This map provides detailed information that the City and USFS can use for other planning and construction activities around camp.

Erosion Control Master Plan

Cardno ENTRIX developed a camp wide erosion control master plan. The plan was developed at a concept-level based on input from the TAC, site visits, and professional expertise. It included features to control erosion from the roads, parking areas, and trails. Details of several of the erosion control elements are also presented in the concept plan (Figure 3). Features included in the concept plan include:

- Americans with Disabilities Act (ADA) access to the lodge, dining hall, and ADA cabins
- Paved road throughout camp
- Paved and delineated parking
- Dripline trenches around cabins
- Runoff storage basins
- Underground storm drains
- Revegetation in disturbed areas
- Delineated trails in camp

The concept plan will need to develop into preliminary and final plan before construction can occur. This will occur in future phases of the Project as funding becomes available. The current concept plan shows the basic elements of the camp wide erosion control and has been reviewed and approved by the TAC. The plan shows how the erosion control elements work together as a complete erosion control approach.

The concept plan identifies how runoff will be controlled in the Riverside (eastern), main, and Tronson (western) sides of camp. On the Riverside portion of camp, the volume of runoff will be reduced through dripline trenches and revegetation of disturbed and compacted areas. Small basins that double as parking spots will collect and meter the runoff. Finally, the runoff is released from the basin behind Cabin 9 to the basin near the archery range. The archery basin was constructed as part of the road project described below. The current layout of camp and the location of temporary erosion control measures in camp will direct runoff to the archery basin thereby providing some erosion control in camp even though the campwide project is currently only at the concept design. In the Main camp, dripline trenches, revegetation, and an underground storm drain will be used to control the runoff. An underground storm drain currently exists and collects runoff from near the shop and discharges to a small watercourse near Cabin 58. The existing system is undersized and prone to clogging from sediment because of an improper design. The proposed system follows a similar alignment but discharge downslope from the existing discharge point. The system will be set at the correct grade to be self cleaning and have intermediate clean-out points.

The watercourse is fed by early season flows from springs located in camp. It is channelized through a portion of camp but spreads to a sheet flow condition just below the road near the power shed. It flows dispersed down the hill to the American River floodplain where it ponds.

On the Tronson side of camp, the volume of runoff is reduced through dripline trenches and revegetation.

For the entire camp, paving the roads will reduce the erosion that is experienced with the bare ground that currently exists. Although the pavement is impervious, the existing

condition of compacted soil is also highly impervious. Therefore, the net change in runoff is minimal. The advantage of the pavement is the ability to control and direct the runoff to the basins and the elimination of road erosion.

Road Design

Following the completion of the concept plans for the camp, the entry road concept was expanded to draft and final construction plans. The plansets were reviewed by the TAC and comments provided to Cardno ENTRIX for incorporation into final plans.

Significant comments were provided by the City, including a review of how the proposed facilities would work with the summer visitors. Caltrans provided comments on the highway to bridge section of the road.

Funding for construction of the entry road was provided by the USFS under a Title II grant. The funding wasn't sufficient to construct the entire road from the highway to the camp and so the road design was split into two phases. The first phase was from the bridge (over American River) to the camp. The draft and final plans were prepared along with a bid package (see "Construction" section below). The final plans were reviewed at a TAC meeting.

The second phase, from the highway to the bridge, is more complex and therefore more costly. It also requires an encroachment permit (EP) from Caltrans. A draft EP was submitted to Caltrans and the agency commented on the permit. The comments were incorporated into the final plans for the Highway to Bridge section of the road. The final plans were developed and a bid package will be developed under subsequent Project phases depending on funding.

Construction

Construction of the first phase of the road began in summer 2012. The plans and specifications were prepared into a bid package and released publicly on June 26, 2012 and advertised in the Mountain Democrat on July 2, 4, and 6, 2012. Cardno ENTRIX provided the final plans and technical specifications, and assisted the RCD in developing the "front end specifications" for the bid package. The RCD did not previously have detailed front end specifications and therefore the specifications provided for this project could be used for future RCD projects.

A prebid meeting was held on July 10, 2012 for interested contractors to explain the project and to answer questions. Four contractors attended the meeting. Bids were due July 13, 2012 and the bid opening was on July 13, 2012. Doug Veerkamp General Engineering was awarded the project.

Work was started on September 4, 2012 and concluded on September 13, 2012. Tim Holland of the City served as the construction manager and oversaw the construction activities. The City provided several elements for the project that offset costs to the USFS grant. The City provided:

- Construction management
- Large boulders used in the design

- Water for dust control and compaction
- Fire suppression, if needed
- Relocation of a primary electrical line
- Relocation of bear box (enclosed garbage can, set in concrete)
- Relocation of Lover's Leap information sign (set in concrete)

In addition, the City did not schedule campers during the two weeks of construction, which represented lost revenue to the City.

CONCLUSIONS

The initial grant funding was sufficient to kick off the Project and to get several elements accomplished. Specifically, the accomplishments to date include:

- Developed a detailed topographic map of the Project site. The map can also be used by the City in future planning or construction work at camp,
- Developed a concept plan for erosion control for the entire camp. The plan identifies road paving, revegetation, dripline trenches, detention basins, and trail development as means of controlling runoff and/or sediment,
- Concept-level details were prepared for the erosion control features in camp,
- Prepared a draft Encroachment Permit and submitted it to Caltrans for review and comment,
- Included Caltrans comments on the draft road plans and Encroachment Permit,
- Prepared final plans for the entry road from the highway to camp. Final plans were also developed for an extension of the road partially into camp to connect the lodge patio with the road and the dining hall,
- Prepared bid documents for the bridge to camp section of the road.
- Constructed the bridge to camp section of the road.

The project needs to obtain additional funding so that the remaining portion of the entry road can be constructed and the improvements in camp can be built. As a separate effort, the City installs temporary erosion control measures in camp every fall to capture storm runoff and snowmelt erosion.

This Project is important for water quality of the South Fork American River and can serve as a model for other similar measures in sierra camps, USFS campgrounds, trail systems, or other areas where visitor activities result in soil disturbance and erosion. The project design and concept plan for the entire camp includes measures that will assist the City in making the camp ADA compliant.

C. Challenges or Opportunities Encountered: (Please describe what has worked and what hasn't; include any solutions you initiated to resolve problems. If your project is not on schedule, please explain why here.)

We did not encounter any obstacles that inhibited us reaching our goals. We did encounter several opportunities and came out of the coordinated planning processes. Partnerships were created and working relationships were built. This component of the overall project will "pave" the way for future restoration projects. We have received excellent feedback from agencies and visitors alike. There were no negative comments or

consequences to the project. We also felt that the administrative elements through the SNC were very productive and enabled us to achieve success without burdensome, inconsistent requirements. We appreciate the role the SNC played in this project.

D. Unanticipated Successes Achieved: (Please describe any additional successes beyond completing scheduled tasks or meeting scheduled milestones.)

Because we were able to utilize SNC funding to conduct pre-project activities, additional funding was leveraged to implement one additional construction phase under a grant from the USFS (Title II). Without the SNC grant we would have not been able to leverage these additional resources.

E. Compare Actual Costs to Budgeted Costs: (Please refer to your grant agreement to list your deliverables/budget categories and budgeted costs compared to actual costs incurred during this reporting period in the table below.)

PROJECT BUDGET CATEGORIES	Budgeted SNC Dollars	Actual Dollars
Staff/ Personnel Expense	\$3,000.00	\$3,000.00
Contracts/ Consultants	\$124,000.00	\$124,000.00
Fees-CEQA	\$5,000.00	\$5,000.00
Printed Materials	\$7,500.00	\$7,500.00
Performance Measures Reporting	\$1,200.00	\$1,200.00
Administrative Costs	\$3,600.00	\$3,600.00
GRAND TOTAL	\$144,300.00	\$144,300.00

F. Do you have information to report on the project-specific Performance Measures for your project? (If so, please list the Performance Measures below and describe your progress.)

1. Number of People Reached. The entire camp plans and engineering documents have been shared with several departments within the City of Sacramento, 4 total, the USFS, 3 total, and has been shared with departments at CALTRANS, 6 total. Sharing these documents with CALTRANS is extremely important for future road improvements adjacent to Hwy 50. In addition, the Camp is visited by thousands of campers and visitors every year. Information about the restoration project and the cooperators whom made the project possible is posted in the informational kiosks at camp. We estimate that over 6000 people will see this information. Over 3000 brochures were provided that visitors will be able to take with them. These brochures (included as an exhibit to this report) will educate people of the before and after results and the resource protection measures obtained. The project was also highlighted at the California Association of Resource Conservation District Annual Meeting in November 2012. A poster series was presented (included as an exhibit to this report).

2. Resources leveraged for the Sierra Nevada. Due to pre-project planning activities we have been able to attain funding to improve Camp Hill road. A cost share agreement was signed between the El Dorado County Resource Conservation District and the USFS Resource Advisory Committee for \$71,000.00.
3. Number of new, improved, or preserved economic activities. The City of Sacramento, under their lease agreement with the USFS, must present a maintenance and management plan. The improvements that resulted from this project supersede the lease agreement requirement and reduced the annual maintenance costs of road repairs and stormwater conveyance systems. We were also able to hire two consulting firms, one directly under this SNC agreement, \$124,000.00, and another from the additional USFS in the amount of \$60,670.00
4. Number of collaboratively developed plans and assessments. The TAC mentioned earlier, completed the following:
 - Developed a detailed topographic map of the Project site. The map can also be used by the City in future planning or construction work at camp,
 - Developed a concept plan for erosion control for the entire camp. The plan identifies road paving, revegetation, dripline trenches, detention basins, and trail development as means of controlling runoff and/or sediment,
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 - Prepared final plans for the entry road from the highway to camp. Final plans were also developed for an extension of the road partially into camp to connect the lodge patio with the road and the dining hall,
5. Percept of pre-project and planning efforts resulting in project implementation.

Due to pre-project planning activities we have been able to attain funding to improve Camp Hill road. A cost share agreement was signed between the El Dorado County Resource Conservation District and the USFS Resource Advisory Committee for \$71,000.00. This represents a 49% return to date.

- G. Were there any other relevant materials produced under the terms of this Agreement that are not a part of the budgeted deliverables? If so, please attach copies.** (Include digital photos, maps, media coverage of project, or other work products.)

Pre and post photo documentation included in this report.

H. Next Steps: (Work anticipated in the next 6 months, including location and timing of any scheduled events related to the project.)

Much of the camp is still in a degraded state. Volunteer efforts coordinated through the Friend of Camp Sacramento is underway to address some of the immediate concerns. We feel as if we have a strong ability to leverage additional funding to implement the remaining phases of restoration due to the accomplishments of this project.

Please Complete this Section for FINAL Report ONLY

Capacity-Building Results and Collaboration and Cooperation with Stakeholders:

(What partnerships did you initiate or strengthen as a result of this project? How did they affect the project outcome? If applicable, how did this grant increase your organization's capacity? What is your plan to sustain this increase?)

As mentioned earlier, the Project was managed by the El Dorado County Resource Conservation District (RCD) with support from the City of Sacramento (City) and Cardno ENTRIX. A Technical Advisory Committee (TAC) was initially formed and met several times to discuss project status, concept designs, and final designs. The TAC comprised of representatives from the City of Sacramento, USFS, CALTRANS, Friends of Camp Sacramento, and the engineering consultant, Cardno-Entrix. This group outlined the strategy for implementation of the grant to ensure everything needed for future implementation was accounted for. This allowed survey of hydrological features, stormwater conveyance systems, structures, trails, roads, vegetation, and any other feature that would be a restoration component to be captured in the planning documents. It also allowed for technical and practical review and analysis of the survey and engineering details to allow for a clear understanding of the process and products being developed effective the resource condition and functionality, including maintenance responsibilities, of the camp. The result is a complete survey and engineering specifications for future work throughout the camp.

The RCD benefitted from the project through its participation on this coordinated resource management process. It serves as an example for future work involving multiple stakeholders and supports efficient use of resources. The RCD was able to provide staffing to meet the administrative and management requirements of the project. This capacity building is important to demonstrate the RCD's ability to manage these types of projects and to ensure we met all contractual obligations to ensure deliverables are met within budget and in accordance to the approved schedule.

Description of Project Accomplishments:

1. Most Significant Accomplishment

Describe in one concise, well-written paragraph, the most significant accomplishment that resulted from this grant.

This project provided all the necessary surveys and design elements to enable implementation. Resource benefits are not attained directly through development of plans, but through direct implementation. This project enabled the RCD to leverage implementation/ construction funding to attain the stated resource goals.

2. WOW Factor

If applicable, please describe anything that happened as a result of the project or during the project that is particularly impressive.

The biggest WOW factor was the ability to leverage implementation/ construction funds immediately following the completion of the survey and design specifications. Without these documents we would not have been able to leverage the additional funding.

3. Design and Implementation

When considering the design and implementation of this project, what lessons did you learn that might help other grantees implement similar work?

Grant funding is very competitive. Look for cost efficiencies by forming an effective advisory committee, utilizing existing resources, identify priorities, and be willing to implement a phased approach to large scale projects.

4. Indirect Impact

Please describe any indirect benefits of the project such as information that has been developed as a result of the project is being used by several other organizations to improve decision-making, or a conservation easement funded by this grant that encouraged other landowners in the area to have conservation easements on their property.

Several elements of the project included volunteer work. This was done to allow project budgets to be utilized on the more complicated elements of the project. Organizations such as the Boy Scouts of America, Friends of Camp Sacramento and other volunteer work days can greatly contribute to attaining resource goals, build advocacy, increase awareness, and provide a means of participating in the project while reducing the dependency of budgetary resources.

5. Collaboration and Conflict Resolution

If you worked in collaboration or cooperation with other organizations or institutions, describe those arrangements and their importance to the project. Also, describe if you encountered conflict in the project and how you dealt with it, or if there was conflict avoided as a result of the project.

This item was discussed in the previous sections; however, conflict and decision making processes were mandatory throughout the project. The RCD, as contract administrator under the SNC grant, was the project manager and final decision maker for all aspects of the grant. To ensure any conflicts were addressed appropriately, the RCD had to spend a lot of time pulling together meetings, holding off-line conversations, and allow project options to be considered. The project must work within budget, scope and schedule. Conflict can result in non-attainment of goals and objectives. However, collaboration can lead to opportunity. I believe we were able to achieve more than expected based on the overall project administration and overall contributions of everyone involved because we all had common goals and a willingness to help each achieve those goals.

6. Capacity-Building

SNC is interested in both the capacity of your organization, as well as local and regional capacity. Please describe the overall health of your organization including areas in need of assistance. SNC is interested in the strength and involvement of your board, significant changes to your staff, size and involvement of membership. In addition, describe how your project improved capabilities of partners, or the larger community.

The SNC has provided funding to the RCD for several complicated, large-scale construction and planning projects (Finnon Lake Restoration and Habitat Improvement Project, Fish Friendly Farming). Successful implementation of these projects has enabled the RCD to address similar projects in the region. Our staffing is dynamic and professional. Our Board of Directors is engaged and accountable. The RCD is a leader in local watershed management planning through the South Fork American River Watershed Group and Regional as a Coordinating Committee member of the CABY IRWMP. We feel that we will continue to see successful conservation through collaborative planning, coordinated resource management, and accountable, transparent management of our organization.

7. Challenges

Did the project face internal or external challenges? How were they addressed? Describe each challenge and any actions that you took to address it. Was there something that SNC did or could have done to assist you? Did you have to change any of your key objectives in response to conditions “on the ground”?
None.

8. Photographs

Grantees are strongly encouraged to submit photos, slides or digital images whenever possible. These images will be used for SNC publications such as annual reports or on the website. Please make sure you clearly identify location, activity, and your project with each submitted image. Images will be credited to the submitting organization, unless specified otherwise.

Included in this report are pre- and post photographs of the project.

9. Post Grant Plans

What are the post-grant plans for the project if it does not conclude with the grant? Include a description of the following (if applicable): (1) Changes in operations or scope; (2) Replication or use of findings; (3) Names of other organizations you expect to involve; (4) Plans to support the project financially, and; (5) Communication plans?

- (1) Changes in operations or scope. The City of Sacramento has modified their annual operations and maintenance plan to incorporate the activities accomplished under this and other grant programs that resulted in on-the-ground improvements within camp. These improvements have allowed for additional improvements that were previously not feasible. These include additional trail systems, authorized vehicle roadways and parking area designations, and ADA compliance measures.
- (2) Replication or use of findings. We are currently conducting presentation to various recreational land managers to convey the successes of this project. We feel that these entities could replicate our methods to achieve similar successes.
- (3) Names of other organizations you expect to involve. SMUD, PG&E, State Parks, CALFIRE, Fire Safe Councils, El Dorado County. (These are listed beyond the TAC listed above).
- (4) Plans to support the project financially. The City of Sacramento and Friends of Camp Sacramento will continue to implement an operations and management plan for the camp. The RCD and other partners will continue to seek additional funding to implement the remaining restoration phases.
- (5) Communication plans. Outreach of the recent accomplishments will be primarily through the website and informational brochures available at camp. Kiosks will also describe the restoration elements of the camp. Outreach for future needs will be through direct communication with funding agencies, fundraising, volunteer events, and site visits.

10. Post Grant Contact

Who can be contacted a few years from now to follow up on the project? Please provide name and contact information.

Mark Egbert

District Manager

CPESC #6350

El Dorado County & Georgetown Divide Resource Conservation Districts

100 Forni Road, Suite A. Placerville, CA 95667

(p) 530-295-5630

(f) 530-295-5635

Mark.Egbert@ca.usda.gov

SNC-approved Performance Measures: (Please list each Performance Measure for your Project, as identified in your Grant Agreement, and the results/outcomes.)

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Engineering Plans and Specifications

EL DORADO COUNTY & GEORGETOWN DIVIDE RESOURCE CONSERVATION DISTRICTS

CAMP SACRAMENTO EROSION CONTROL PROJECT, PHASE 1

(BRIDGE TO CAMP)

JUNE 2012



 298 STATELINE, SUITE 1
 STATELINE, NV 89449
 (775) 588-0089
 CALL BEFORE YOU DIG
 CONTACT UNDERGROUND SERVICE ALERT (USA)
 1-800-277-6600
 PRIOR TO ANY CONSTRUCTION WORK

OWNER:
EL DORADO COUNTY & GEORGETOWN DIVIDE RESOURCE CONSERVATION DISTRICTS

FUNDING AGENCIES:
SERRANO AREA CONSERVANCY
SERRANO AREA CONSERVANCY
SERRANO AREA CONSERVANCY

DESIGNED BY:


 Stephen H. Pickett, P.E.
 State of California No. C81113

APPROVED BY:

APPROVED BY: _____ DATE: _____
 DISTRICT MANAGER - GEORGETOWN DIVIDE RESOURCE CONSERVATION DISTRICTS

RECORD DRAWINGS:

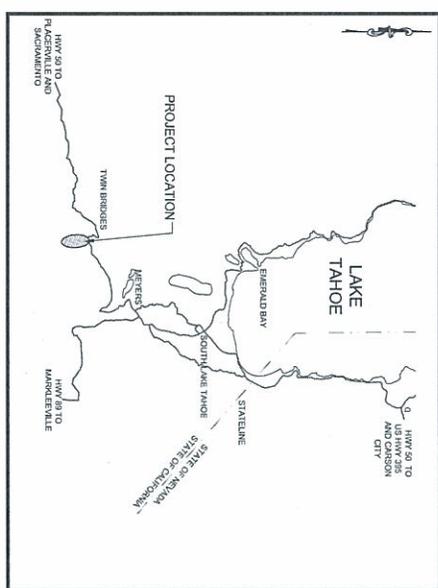
ADJUSTMENTS MADE IN THE FIELD DURING CONSTRUCTION, I.E. CORRECTIONS OF PERMANENT EROSION CONTROL MEASURES, THE REVISIONS OF PERMANENT EROSION CONTROL MEASURES, BRUSHING, RESOURCE CONSERVATION DISTRICT ANOOR CAMP REMOVAL AND BELLS. THE ENGINEER OR RECORD PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR OR LIABLE FOR CHANGES TO THESE PLANS NOT AUTHORIZED BY THE ENGINEER OF RECORD.

CONTRACTORS SIGNATURE _____ DATE _____

REGISTERED ENGINEER OR RESOURCE CONSERVATION DISTRICT MANAGER'S SIGNATURE _____ DATE _____
 (STAMP OR SEAL)

NOTES:

CONTRACTORS LICENSE CLASSIFICATIONS IN ACCORDANCE WITH THE PROVISIONS OF CALIFORNIA PUBLIC CONTRACT CODE A COMBINATION OF CLASS 012, 027 AND 034 CALIFORNIA CONTRACTORS LICENSES AT THE TIME BIDS ARE RECEIVED FOR THE CONTRACT.
CONSTRUCTION SHALL CONFORM TO THE CONTRACT DOCUMENTS, THE STANDARD PLANS, THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THESE PROJECT PLANS.



VICINITY MAP
N.T.S.

INSTRUCTIONS TO CONTRACTOR:

48 HOURS NOTICE REQUIRED PRIOR TO COMMENCING WORK. BEFORE COMMENCING WORK, ALL PLANS AND SPECIFICATIONS MUST BE REVIEWED AND APPROVED BY THE DISTRICT MANAGER. THE DISTRICT MANAGER'S APPROVAL DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION OR TRANSPORTATION STANDARD SPECIFICATIONS, THE DISTRICT MANAGER'S APPROVAL DOES NOT CONSTITUTE A GUARANTEE OF THE CAMP MANAGER'S HOURS IN ADVANCE OF THE TIME OF COMMENCEMENT AT.

EL DORADO COUNTY & GEORGETOWN DIVIDE RESOURCE CONSERVATION DISTRICTS
 535-555-5558
 CAMP SACRAMENTO MANAGER
 TMI HOLLAND
 916-884-8189

NO.	REVISIONS	DATE	APPROV

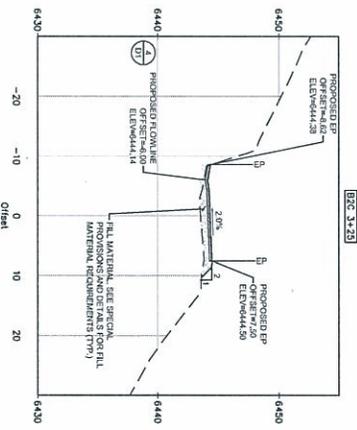
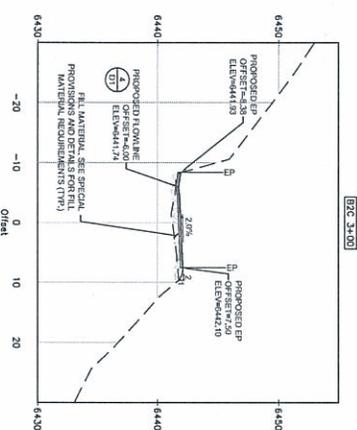
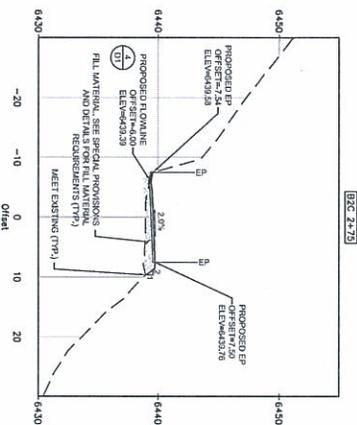
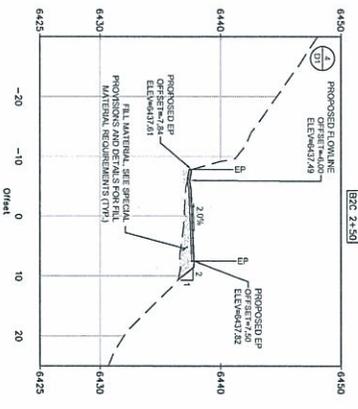
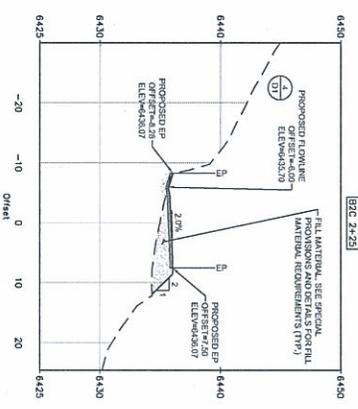
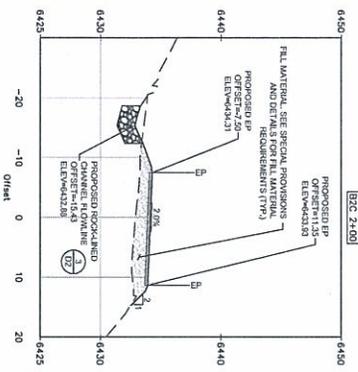
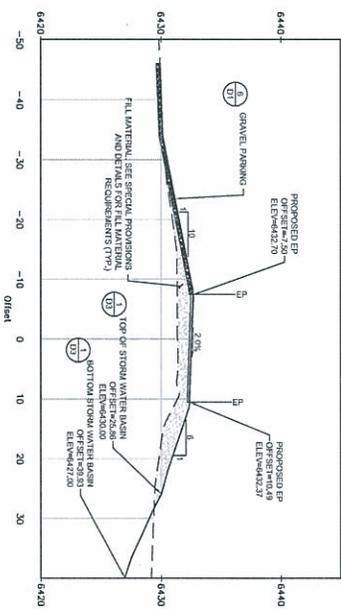
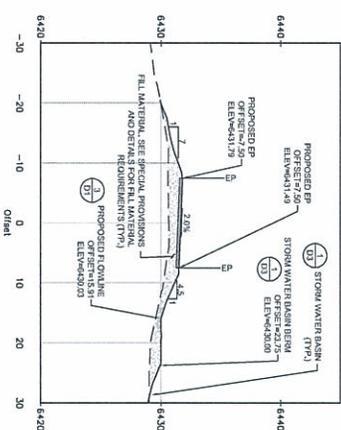
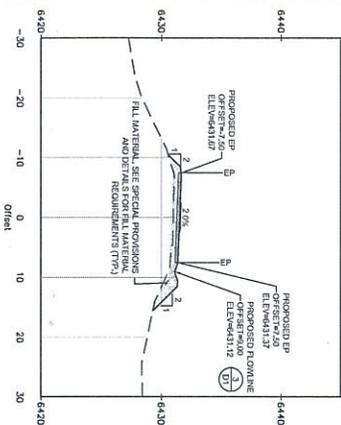

 EL DORADO COUNTY & GEORGETOWN DIVIDE
 RESOURCE CONSERVATION DISTRICTS
 100 FORNI ROAD, SUITE A
 PLACERVILLE, CA 95667
 PH: (530) 255-5508



CAMP SACRAMENTO EROSION CONTROL PROJECT
PHASE 1 - BRIDGE TO CAMP
TITLE SHEET
 TWIN BRIDGES, CALIFORNIA

DESIGNER/PROGRAM	SR
CHECKED	SR
DATE	06/04/12
SCALE	AS SHOWN
JOB NO.	33252011.00
FIGURE NO.	1

SECTIONS
HORIZONTAL SCALE 1"=10'
VERTICAL SCALE 1"=5'



CAUTION: ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND NEED TO BE RECORDED FROM CONSTRUCTION TO CONSTRUCTION. PRIOR TO ANY CONSTRUCTION WORK

CALL BEFORE YOU DIG - CONTRACTOR RESPONSIBLE FOR SERVICE ALERT FROM RESOURCE CONSERVATION DISTRICT (775) 858-8089



NO.	REVISIONS	DATE	APPROV

EL DORADO COUNTY & GEORGETOWN DIVISION
RESOURCE CONSERVATION DISTRICT
100 FORNI ROAD, SUITE 4
PLACERVILLE, CA 95267
PH: (530) 255-9536

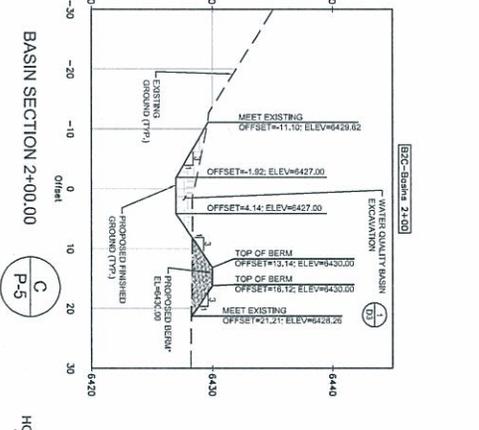
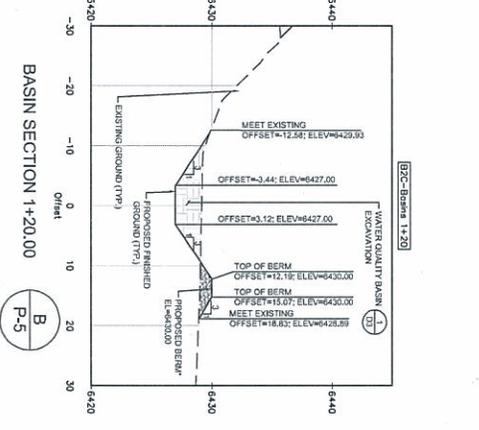
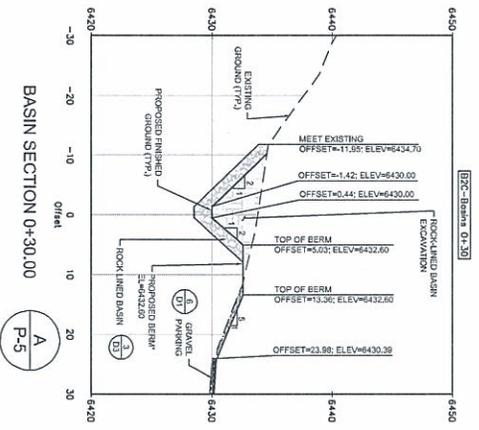
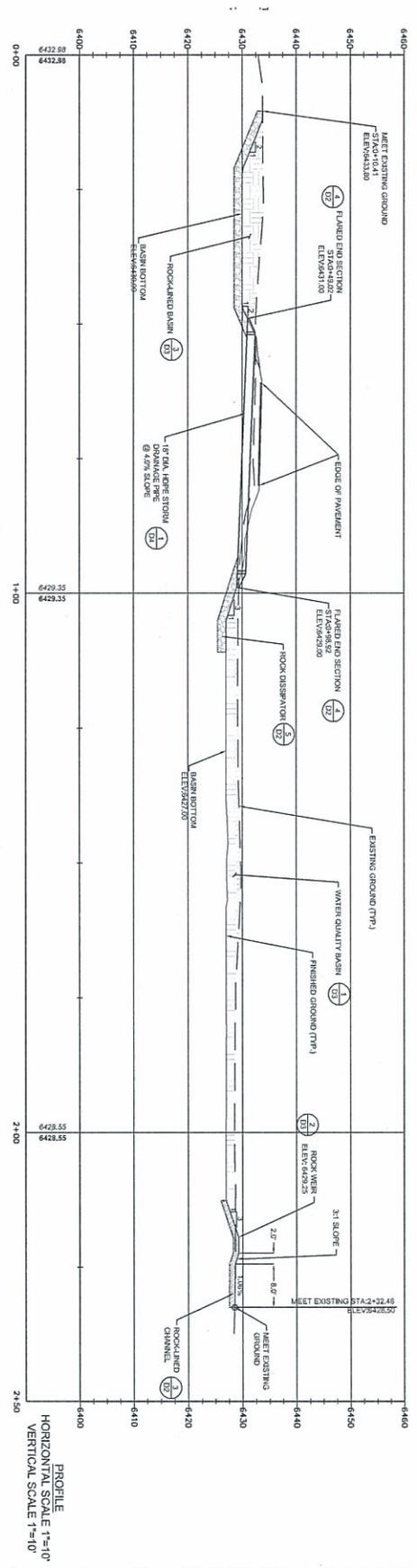


CAMP SACRAMENTO EROSION CONTROL PROJECT
PHASE 1 - BRIDGE TO CAMP
CROSS SECTIONS - STA (B2C) 1+25 - 3+25
TWIN BRIDGES, CALIFORNIA

DESIGNED BY: [Name]
CHECKED BY: [Name]
DATE: [Date]
SCALE: AS SHOWN
JOB NO.: 33229011.00
FIGURE NO.: P-3
OF

- NOTES:
- SEE DETAIL 101 FOR CROSS-SECTIONS FROM STATION 1+25 THRU 2+00.
 - SEE DETAIL 201 FOR CROSS-SECTIONS FROM 2+00 THRU 3+25.

PROFILE - BASINS



REBAR TO BE CONSTRUCTED WITH STRUCTURAL T&E AND COMPACTED TO 90% RELATIVE COMPACTION. SEE SPECIAL PROVISIONS.

CAUTION: ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND NEED TO BE RECORDED FROM 1" CONSTRUCTION PLAN.

CALL BEFORE YOU DIG - CONTRACT UNDER THE ALERT PROGRAM
 800-272-5800
 PRIOR TO ANY CONSTRUCTION WORK
 CARTRIX
 288 HIGHLAND AVENUE
 SUITE 100
 PLACERVILLE, CA 95667
 (775) 588-9889

SECTIONS
 HORIZONTAL SCALE 1"=10'
 VERTICAL SCALE 1"=5'

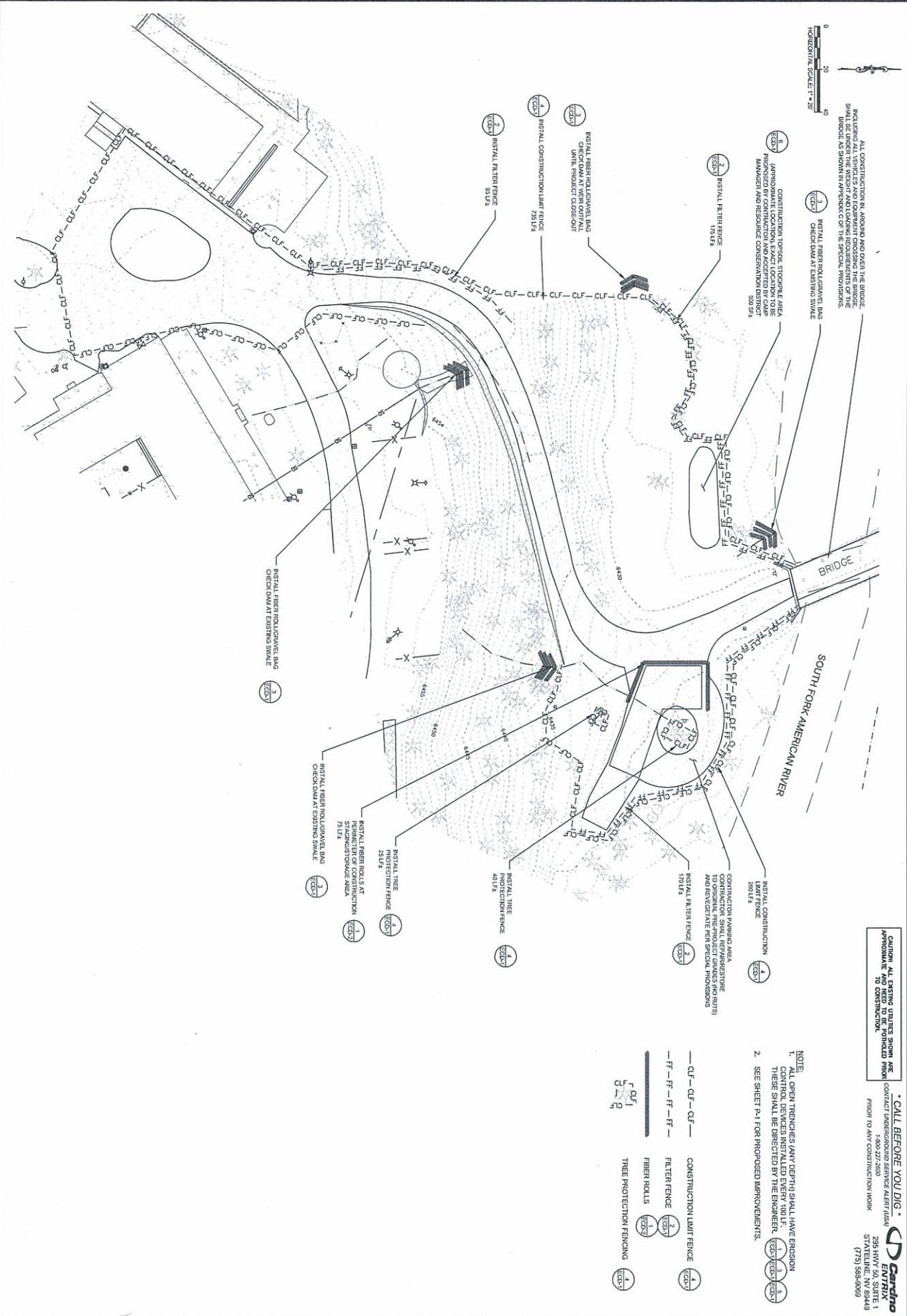
DATE	BY	REVISIONS
06/01/12	SR	DESIGNED/ISSUED
06/01/12	SR	SCALE AS SHOWN
06/01/12	SR	FIGURE NO. P-5

CAMP SACRAMENTO EROSION CONTROL PROJECT
 PHASE 1 - BRIDGE TO CAMP
 BASINS PROFILE AND SECTIONS
 TWIN BRIDGES, CALIFORNIA



EL DORADO COUNTY & GEORGETOWN DIVISION
 RESOURCE CONSERVATION DISTRICT
 100 FORN ROAD, SUITE A
 PLACERVILLE, CA 95667
 PH: (531) 294-6536

NO.	REVISIONS	DATE	APPROV



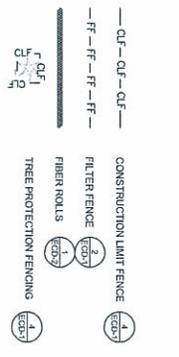
ALL CONSTRUCTION IN AND AROUND AND OVER THE BRIDGE, INCLUDING THE WEIR AND LOWER REQUIREMENTS OF THE BRIDGE AS SHOWN IN APPENDIX C OF THE SPECIAL PROVISIONS.

- 1. INSTALL FIBER ROLLBACK BAG CHECK DAM AT EXISTING SWALE
- 2. CONSTRUCTION TOPSOIL STORAGE AREA APPROVED BY CONTRACTOR AND ACCEPTED BY CAMP MANAGER AND RESOURCE CONSERVATION DISTRICT 500 50'S
- 3. INSTALL FIBER FENCE 175 L.F.
- 4. INSTALL FIBER ROLLBACK BAG UNTIL PROJECT CLOSE-OUT
- 5. INSTALL CONSTRUCTION LIMIT FENCE 75 L.F.
- 6. INSTALL INTERFENCE 50 L.F.

BRIDGE
 SOUTH FORK AMERICAN RIVER

- 1. INSTALL FIBER ROLLBACK BAG CHECK DAM AT EXISTING SWALE
- 2. INSTALL FIBER ROLLBACK BAG CHECK DAM AT EXISTING SWALE
- 3. INSTALL FIBER ROLLBACK BAG CHECK DAM AT EXISTING SWALE
- 4. CONSTRUCTION PARKING AREA CONSTRUCTION SHALL REPAIR/RESTORE (P.175) AND REVEGETATE PER SPECIAL PROVISIONS
- 5. INSTALL FIBER FENCE 175 L.F.
- 6. CONSTRUCTION LIMIT FENCE 200 L.F.
- 7. INSTALL TREE PROTECTION FENCE 491 L.F.
- 8. INSTALL TREE PROTECTION FENCE 25 L.F.
- 9. INSTALL FIBER ROLLBACK BAG PERIMETER OF CONSTRUCTION STORAGE AREA 75 L.F.
- 10. INSTALL FIBER ROLLBACK BAG CHECK DAM AT EXISTING SWALE

NOTE:
 1. ALL OPEN TRENCHES (ANY DEPTH) SHALL HAVE EROSION CONTROL DEVICES INSTALLED EVERY 10 FEET. THESE SHALL BE DESIGNED BY THE ENGINEER.
 2. SEE SHEET P-1 FOR PROPOSED IMPROVEMENTS.



CAUTION: ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND NEED TO BE RECORDED FROM 18 CONSTRUCTION.

CALL BEFORE YOU DIG
 CONTACT UNDERGROUND UTILITY ALERT (TOLL FREE) 1-800-327-2500 PRIOR TO ANY CONSTRUCTION WORK

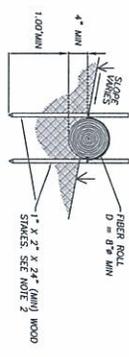
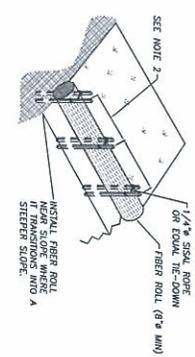
Carlin
 CIVIL ENGINEER
 298 SHILOH, NV 89449
 (775) 884-0069

NO.	REVISIONS	DATE	APPROV

CAMP SACRAMENTO EROSION CONTROL PROJECT
 PHASE 1 - BRIDGE TO CAMP
 EROSION CONTROL PLAN
 TWIN BRIDGES, CALIFORNIA

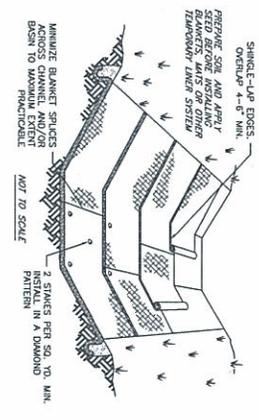
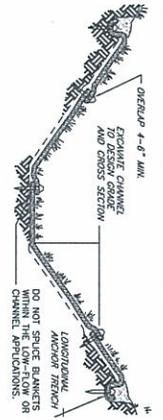
EL DORADO COUNTY & GEORGETOWN DIVIDE
 RESOURCE CONSERVATION DISTRICTS
 100 FORN ROAD, SUITE A
 PLACERVILLE, CA 95667
 PH: (531) 295-6636

DESIGNED BY: RYAN ANDERSON
 CHECKED BY: [Signature]
 DATE: 06/20/12
 SCALE: AS SHOWN
 JOB NO.: 33229011.00
 PLOT NO.: ECP-1
 OF



NOTE: 1. INSTALL FIBER ROLL ALONG LINE, CENTER.
2. SET CAUTION STAKES FOR ADDITIONAL DETAILED INFORMATION. INFORMATION ON THIS SHEET IS GENERAL AND FOR INFORMATIONAL PURPOSES ONLY.

TYPICAL FIBER ROLL INSTALLATION
ECD-2
1



EROSION CONTROL BLANKET
ECD-2
2

CAUTION: ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND NEED TO BE RECORDED FROM A SURVEY PRIOR TO ANY CONSTRUCTION WORK.

CALL BEFORE YOU DIG - CONTRACTOR RESPONSIBILITY SERVICE ALERT (dial 811) PRIOR TO ANY CONSTRUCTION WORK

ENTRIX
2881 LITTLE BLVD
SUITE 100
SANTA ANA, CA 92705
(714) 835-0889

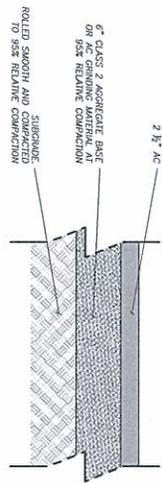
NO.	REVISIONS	DATE	APPROV

EL DORADO COUNTY
& GEORGETOWN DIVIDE
RESOURCE CONSERVATION DISTRICTS
100 FORNI ROAD, SUITE A
PLACERVILLE, CA 95667
PH: (530) 295-9536



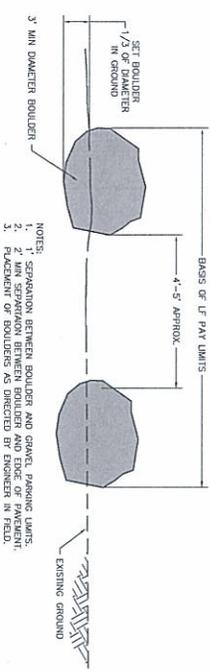
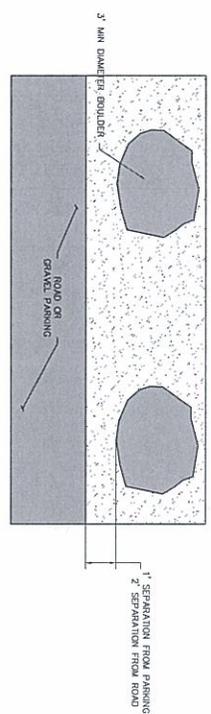
CAMP SACRAMENTO EROSION CONTROL PROJECT
PHASE 1 - BRIDGE TO CAMP
EROSION CONTROL DETAILS
TWIN BRIDGES, CALIFORNIA

DESIGNED BY: [Signature]
SERIAL NO.: [Blank]
DATE: 06/20/12
SCALE: AS SHOWN
JOB NO.: 33128001.00
PROJECT NO.: ECD-2
OF

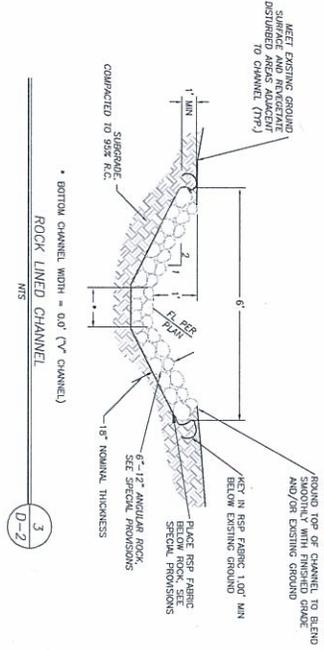


NOTES:
 1. SUBGRADE SHALL BE COMPACTED TO 95% (GV 231F OR ASTM 1559), TOP 6" OF MAKE-UP SUBGRADE WILL BE COMPACTED TO 95%, AS WELL AS CLASS 2 AC BASE & SUBGRADE.
 2. ASPHALT CONCRETE SHALL BE TYPE B, 1/2 INCH AGGREGATE GRADATION PER CALTRANS SPECIFICATION 55. SEE SPECIAL PROVISIONS.

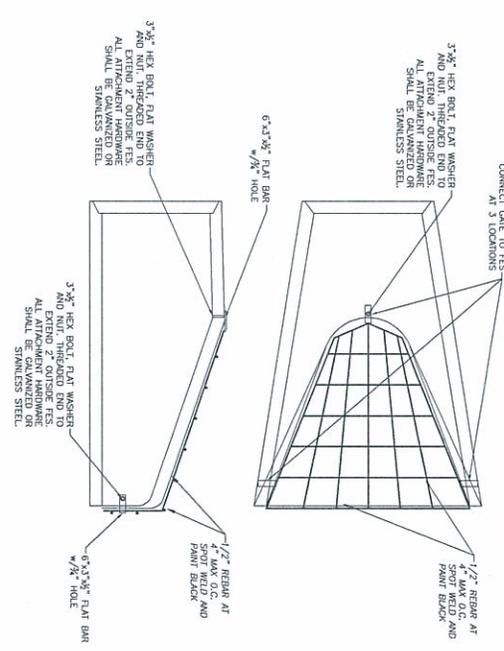
TYPICAL PAVEMENT SECTION
 MTS
 1
 D-2



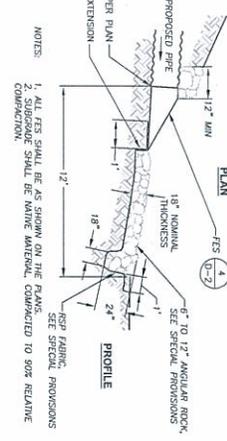
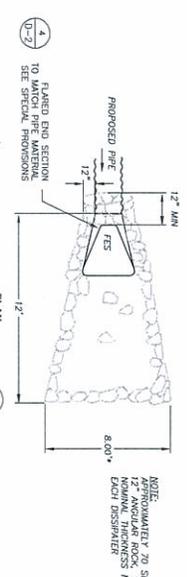
BOULDER BARRIER
 MTS
 2
 D-2



ROCK LINED CHANNEL
 MTS
 3
 D-2



FLARED END SECTION (FES)
 MTS
 4
 D-2



ROCK DISSIPATOR
 MTS
 5
 D-2

CAUTION: ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND NEED TO BE RECORDED FROM A SURVEY.
 * CALL BEFORE YOU DIG *
 CONTACT UNDERGROUND UTILITY ALERT (UAS) PRIOR TO ANY CONSTRUCTION WORK
 1-800-337-2800
 925 HAVEN DRIVE, SUITE 101
 STATEVILLE, NY 13154
 (715) 588-8089
Carolina
CONCRETE

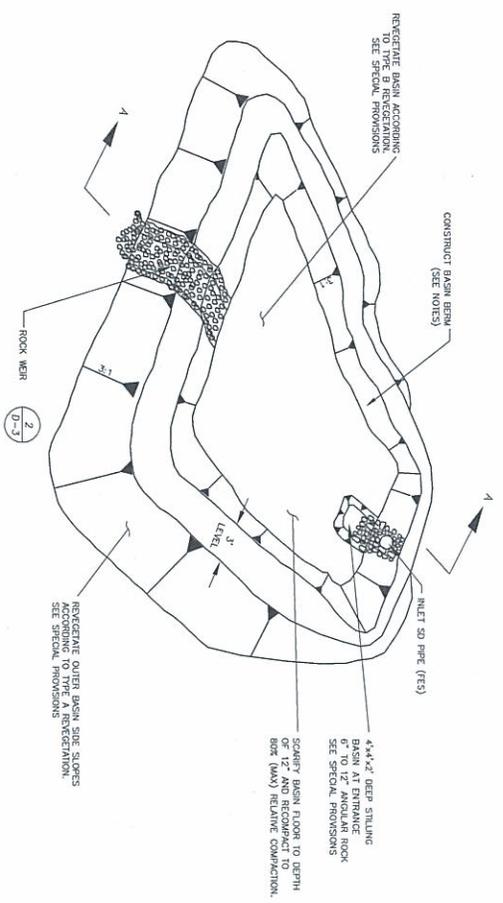
NO.	REVISIONS	DATE	APPROV

EL DORADO COUNTY & GEORGETOWN DIVIDE
 RESOURCE CONSERVATION DISTRICT
 100 FORN ROAD, SUITE A
 PLACERVILLE, CA 95667
 PH: (530) 295-6536

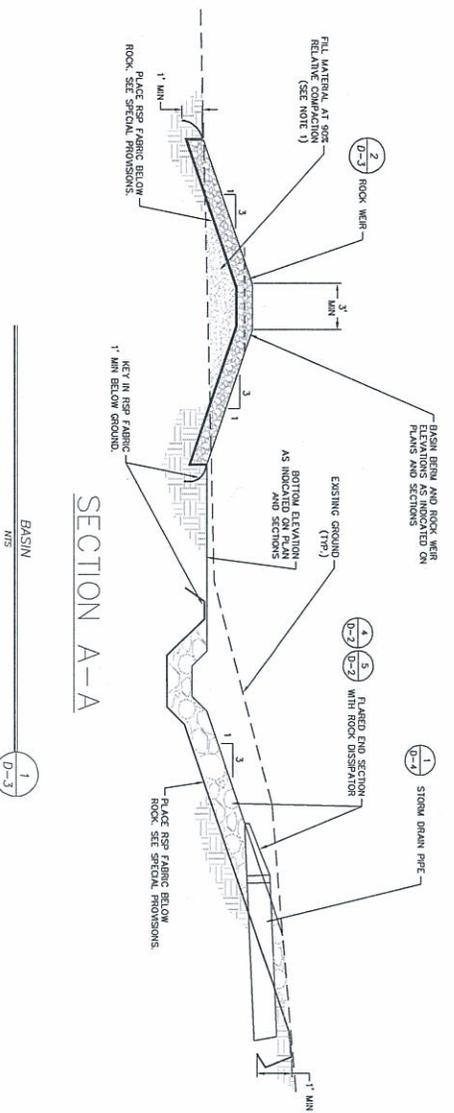


CAMP SACRAMENTO EROSION CONTROL PROJECT
PHASE 1 - BRIDGE TO CAMP
DETAILS
 TWIN BRIDGES, CALIFORNIA

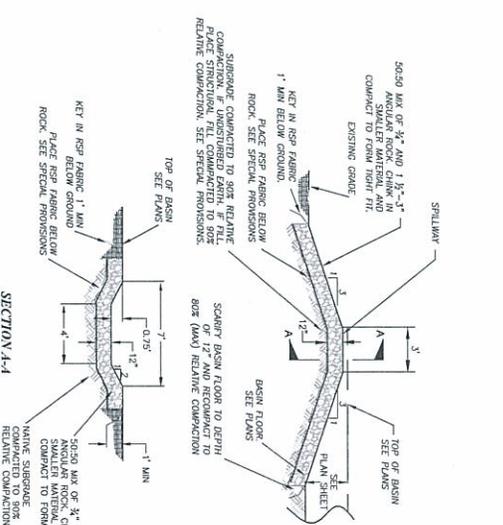
DESIGNED BY	SR
CHECKED BY	SR
DATE	06/20/12
SCALE	AS SHOWN
TOTAL NO.	2,000 NOS.
FIGURE NO.	33292011.00



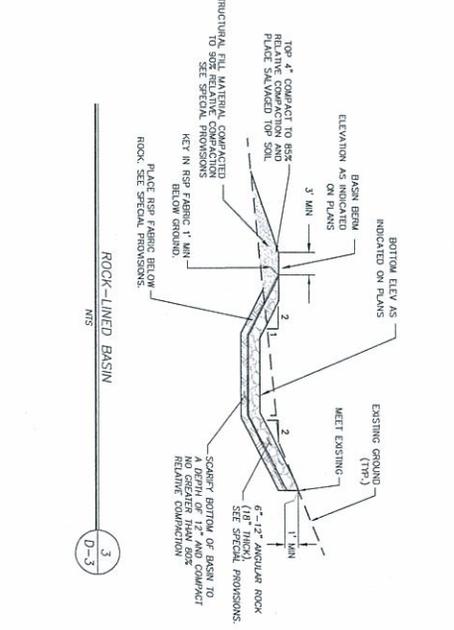
NOTES:
 1. BASIN SHALL BE CONSTRUCTED WITH STRUCTURAL FILL PER THE SPECIAL PROVISIONS AND COMPACTED TO 85% RELATIVE COMPACTION.
 2. TOP 4" OF BERM SHALL BE COMPACTED TO 85% RELATIVE COMPACTION TO PROMOTE VEGETATIVE GROWTH.



SECTION A-A
 BASIN
 M/S



SECTION A-1
 ROCK WEIR
 M/S



SECTION A-3
 ROCK-LINED BASIN
 M/S

CALL BEFORE YOU DIG -
 CONTACT UNDERGROUND
 1-800-327-2800
 PRIOR TO ANY CONSTRUCTION WORK

ENTRIX
 398 HIGHLAND
 STATEVILLE, NC 28169
 (770) 588-9889

NO.	REVISIONS	DATE	APPROV

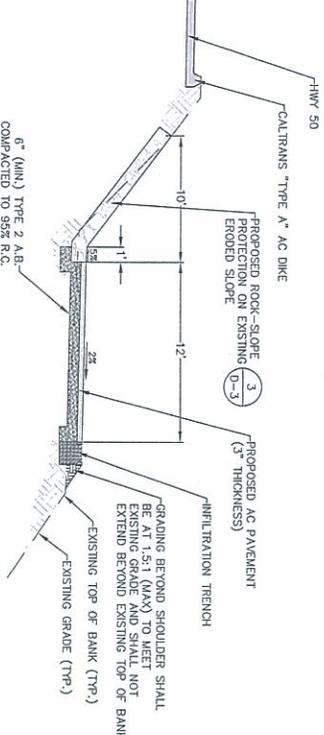
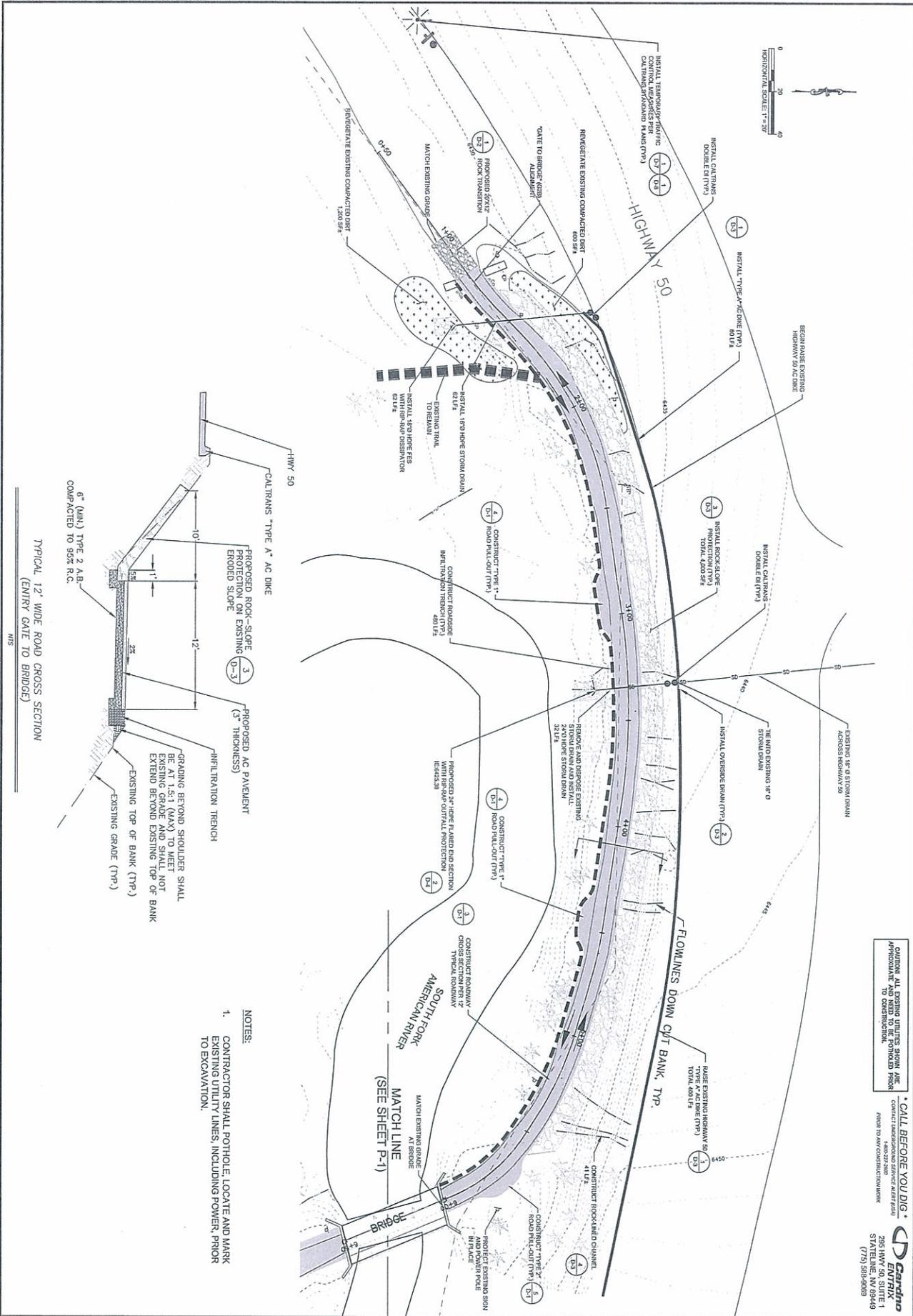
EL DORADO COUNTY
 & GEORGETOWN DIVIDE
 RESOURCE CONSERVATION DISTRICTS
 100 FORN ROAD, SUITE A
 PLACERVILLE, CA 95667
 PH: (530) 295-6536



CAMP SACRAMENTO EROSION CONTROL PROJECT
 PHASE 1 - BRIDGE TO CAMP
 DETAILS
 TWIN BRIDGES, CALIFORNIA

DESIGNED/DRAWN	SR
CHECKED	SP
DATE	06/2012
SCALE	AS SHOWN
DRAWING NO.	2008100
FIGURE NO.	33292001100

D-3
 OF

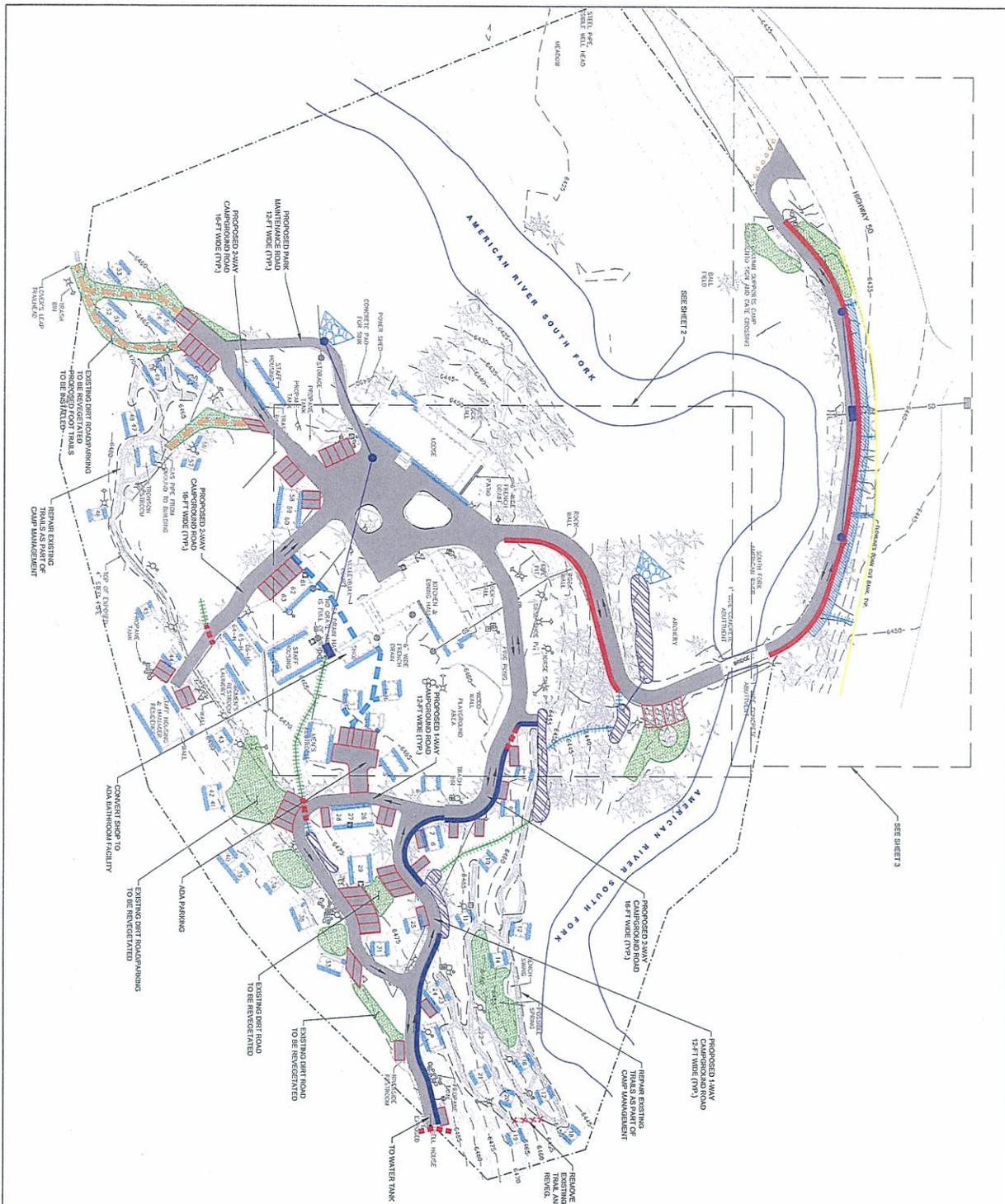


- NOTES:**
1. CONTRACTOR SHALL POTHOLE, LOCATE AND MARK EXISTING UTILITY LINES, INCLUDING POWER, PRIOR TO EXCAVATION.

CALL BEFORE YOU DIG
 CONTACT INFORMATION FOR ALL UTILITIES
 1-800-272-2600
 FROM TO ANY CONSTRUCTION WORK

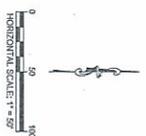
Sanitro
 ENVIRONMENTAL
 295 HWY 50, SUITE 1
 SACRAMENTO, CA 95849
 (775) 588-9093

<p>CAMP SACRAMENTO EROSION CONTROL PROJECT PLAN SHEET - GATE TO BRIDGE TWIN BRIDGES, CALIFORNIA</p>		<p>CITY OF SACRAMENTO DEPARTMENT OF PARKS & RECREATION 915 STREET, FIFTH FLOOR SACRAMENTO, CA 95814 PH: (916) 608-5200</p>		<p>50% DESIGN NOT FOR CONSTRUCTION</p>	
<p>DESIGNED BY SPRINGER</p>	<p>CHECKED BY SP</p>	<p>DATE 01/09/12</p>	<p>SCALE AS SHOWN</p>	<p>FIGURE NO. P4</p>	<p>FIGURE NO. 33220011.00</p>



LEGEND

- MAJOR CONTOUR (5 FT)
- MINOR CONTOUR (1 FT)
- EXISTING FLOWLINE
- AC DIKE
- AC SWALE
- CIRB AND GUTTER
- VALLEY CUTTER
- DRIP LINE TRENCH
- ROCK-LINED CHANNEL
- VEGETATED SWALE
- SEDIMENT / STORM DRAIN SEDIMENT TRAP
- STORM DRAIN VAULT
- DETENTION BASIN
- ROCK-SLOPE PROTECTION
- ROCK DISSIPATOR
- ROCK / POST BARRIERS
- AC PRECIPITANT
- AC PARKING
- GRANUL PARKING
- ADN PATH
- PROPOSED TRAIL
- AREA TO REVEGETATE



NO.	REVISIONS	DATE

SEAL

POSTED AND SEALED
 PROJECT NO. 15-001
 DATE: 07/15/15
 TWIN BRIDGES, CALIF. 95748
 www.cardnoentrrix.com

CAMP SACRAMENTO EROSION CONTROL PROJECT	
OVERALL CONCEPT PLAN	
TWIN BRIDGES, CALIFORNIA	
DATE:	MONTH
DRAWN BY:	SJR
CHECKED BY:	SP
SCALE:	AS SHOWN
ENTRIX JOB NO.:	1505001
FIGURE NO.:	

X-1

***CAMP SACRAMENTO
EROSION CONTROL
PROJECT, PHASE 1
BRIDGE TO CAMP***

**SPECIAL PROVISIONS -
TECHNICAL SPECIFICATIONS
(SECTION 10)**



6/4/12

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Publications

Brochures

Posters

Original Budget

Task 4 Printed Materials/ Outreach

	Budget	Summary
Total Contract	\$7,500.00	
SNC Inv # 1	\$0.00	
SNC Inv # 2	\$0.00	
SNC Inv # 3	\$2,550.00	
SNC Inv # 4	\$4,950.00	
Total Invoice Summary	\$7,500.00	
Balance	\$0.00	

Camp Sacramento Erosion Control and Habitat Restoration Project

INITIAL CONSTRUCTION PHASE Entry Road from River to Camp

The first phase of the Project entailed paving a portion of the Entry Road from the South Fork American River to Camp Sacramento, and constructing two detention basins to capture runoff from the road and camp. Detailed topography was developed for construction and planning efforts



BEFORE

Erosion present on entry road.



AFTER

Newly paved entry road.



BEFORE

Erosion near the archery range.



AFTER

Archery Basin, adjacent to the archery range.



Camp Sacramento Erosion Control and Habitat Restoration Project



Lover's Leap parking area.



Durable surface and revegetation at Lover's Leap parking area.



Erosion at the base of Camp Hill.



Camp Hill detention basin at the base of the hill below Cabin 9.

Runoff from the road and runoff that travels down Camp Hill enters the Camp Hill Basin. It then flows through a culvert under the Entry Road to the Archery Basin for storage and infiltration. Any outflow from the Archery Basin would sheet flow into the forest.

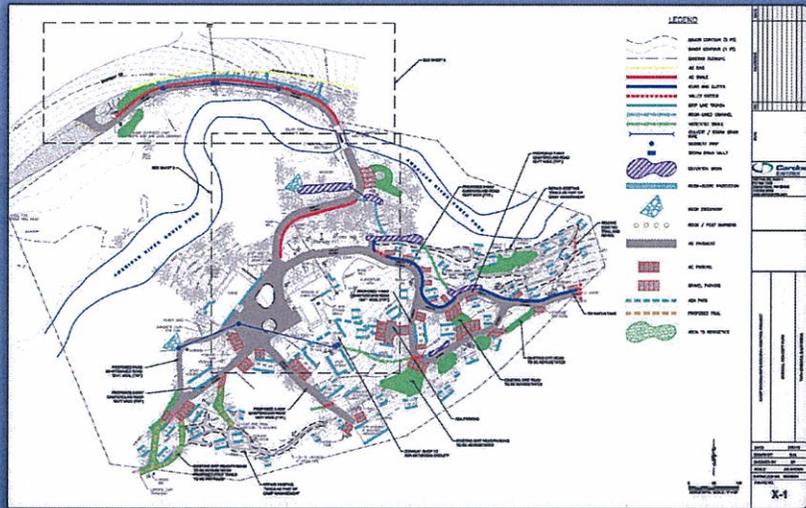
NEXT STEPS

The next steps include paving the Entry Road from Highway 50 to the river and implementing BMPs in camp.



Camp Sacramento Erosion Control and Habitat Restoration Project

Camp Sacramento has served campers since 1920 and in just the past year received over 2,600 visitors. It is also the trailhead for Lover's Leap. As with other recreation facilities in the Sierras the foot and car traffic detaches soil that then washed off during a storm. The soil may end up in the South Fork American River. Currently, runoff and soil are captured in temporary BMPs.



Dripline trenches and defined pathways will reduce runoff volume and define flow direction.

CONCEPT PLAN

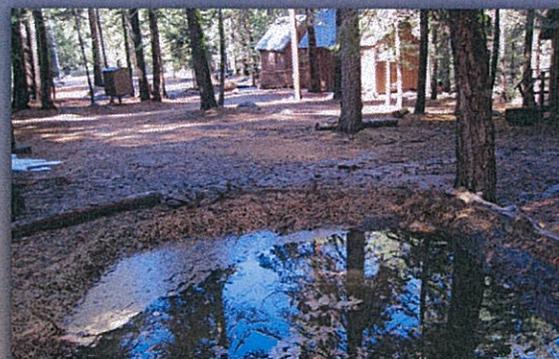
The Concept Plan provides a roadmap for phased implementation of erosion control and habitat restoration at Camp Sacramento.

Planned Features

- Dripline Trenches at Cabins
- Detention Basins
- Defined Drainage Pathways
- Paved Driving and Parking Surface
- ADA Compliance
- Storm Drains at Selected Locations
- Revegetation
- Highway Improvements



Addresses overflow from Highway 50.



Detention Basins in Camp

Pre-Construction Pictures



Figure 4. Sediment Discharge into Camp Sacramento Meadow.

Note: Picture is taken looking south.



Figure 7. Outlet of Caltrans Culvert under Highway 50.

Note: Picture is taken from the Entry Road looking north, SF American River is immediately south.



Figure 8. Outlet Channel from Culvert under Highway 50.

Note: Picture is taken from the Entry Road looking south toward SF American River.



Figure 10. Erosion on Camp Hill Road

Note: Picture is taken looking south toward camp. SF American River is about 75 feet north.

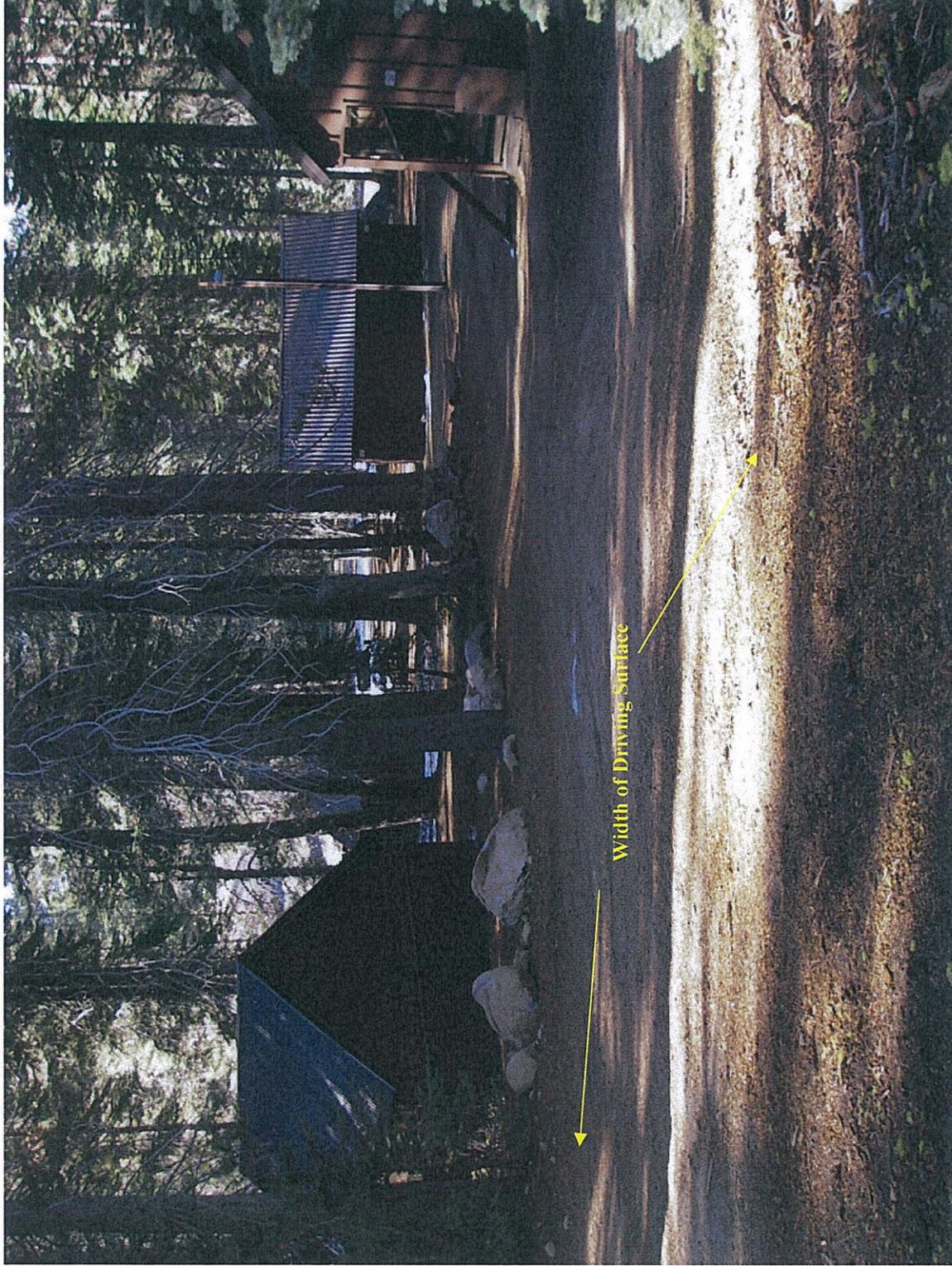


Figure 11. Over-wide Roads in Camp

Note: Picture is taken looking south.



Figure 12. Failed Erosion Control Structure on Riverside Hill.

Note: Failed structure is the level board held up by rebar. Board was originally vertical. A log has been added to the top to repair the structure.



Figure 13. Sediment Buildup in the Riparian Zone.

Note: Picture is taken at the base of Riverside Hill.



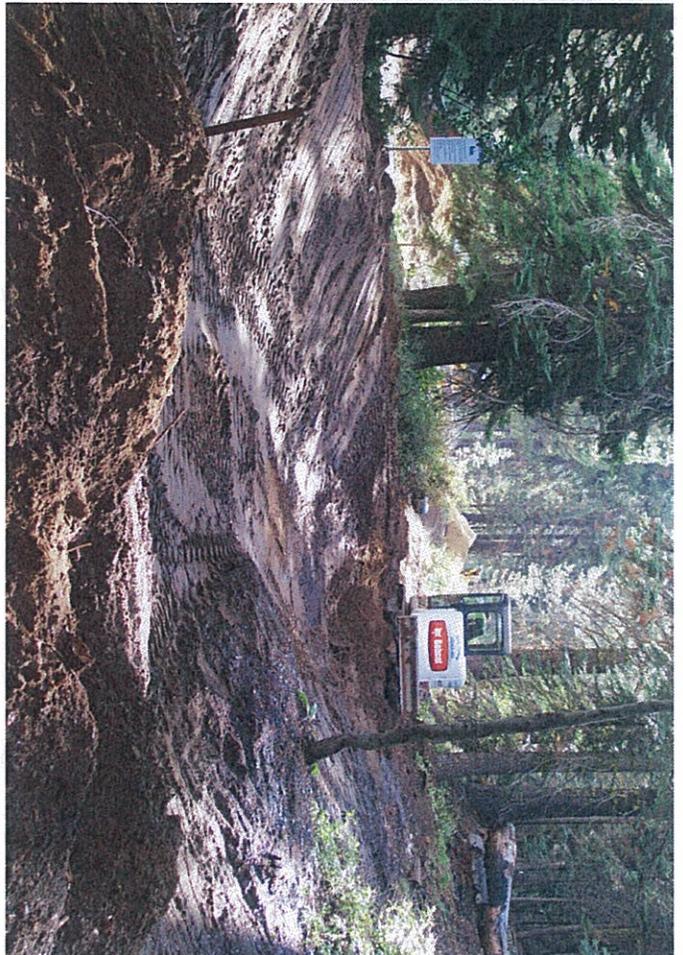
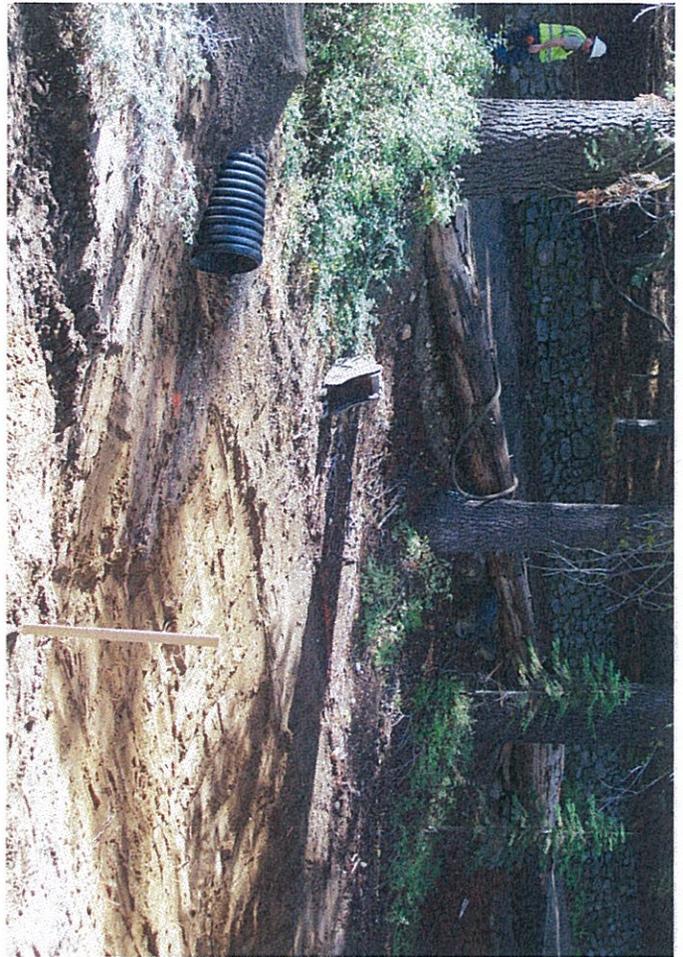
Figure 14. Horseshoe Pit Hill.

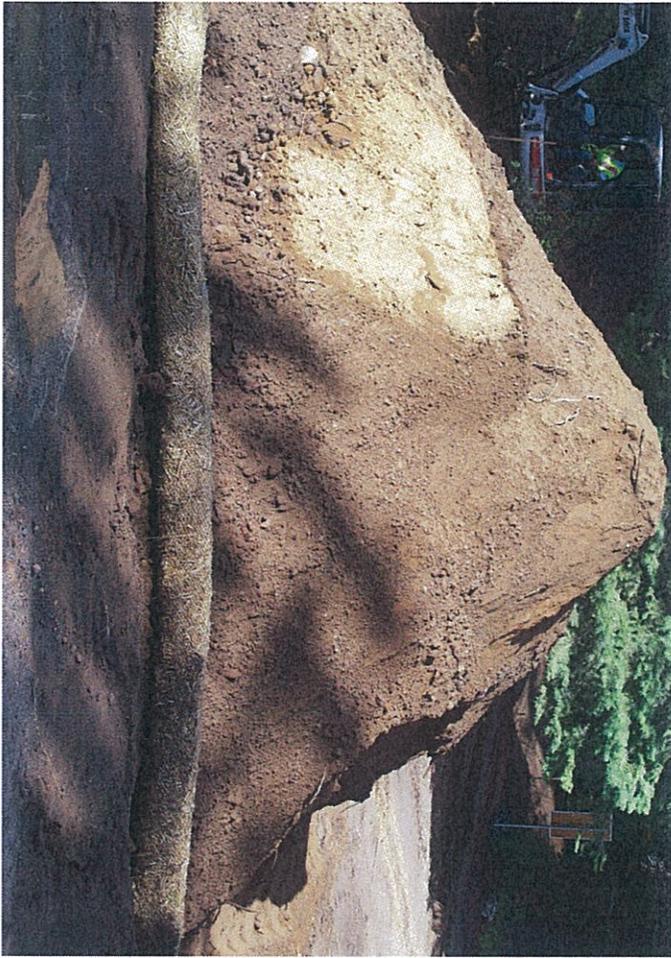
Note: Picture is taken from Camp Hill Road.

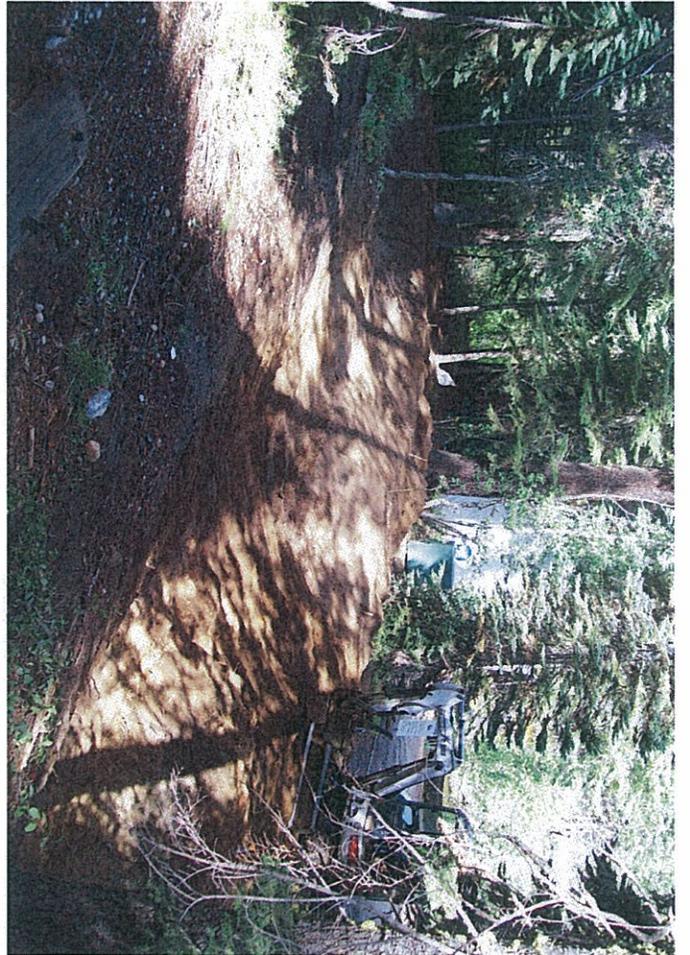
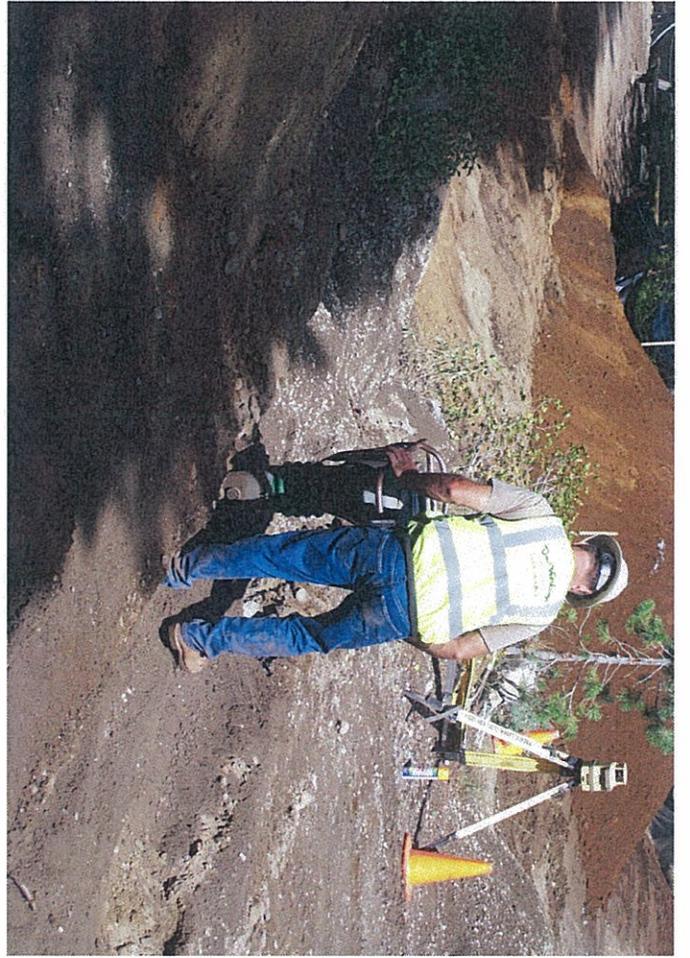


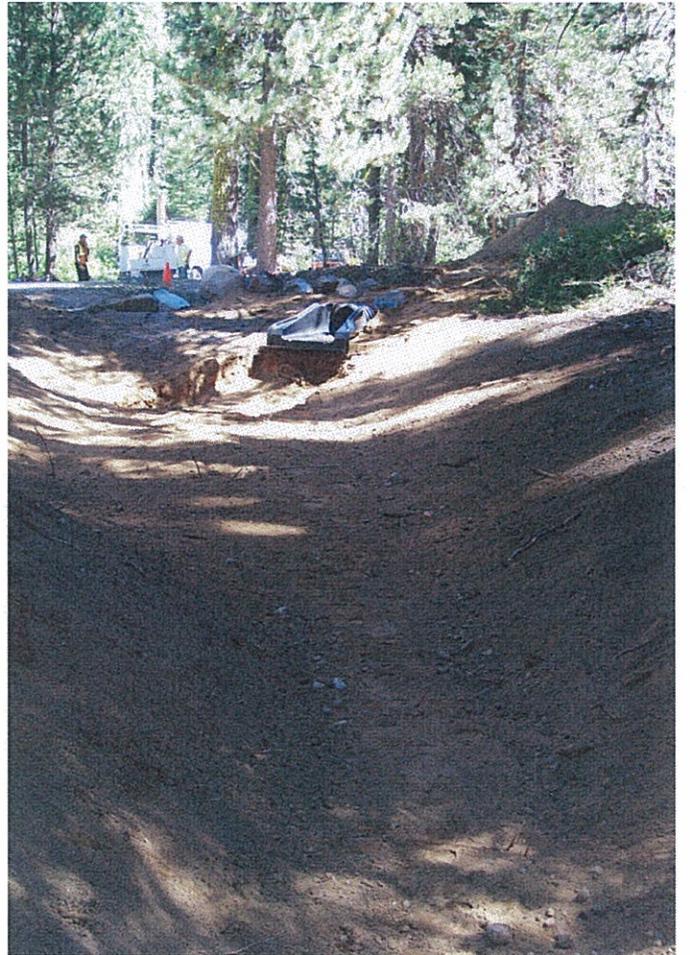
Figure 15. Erosion on Water Tower Road

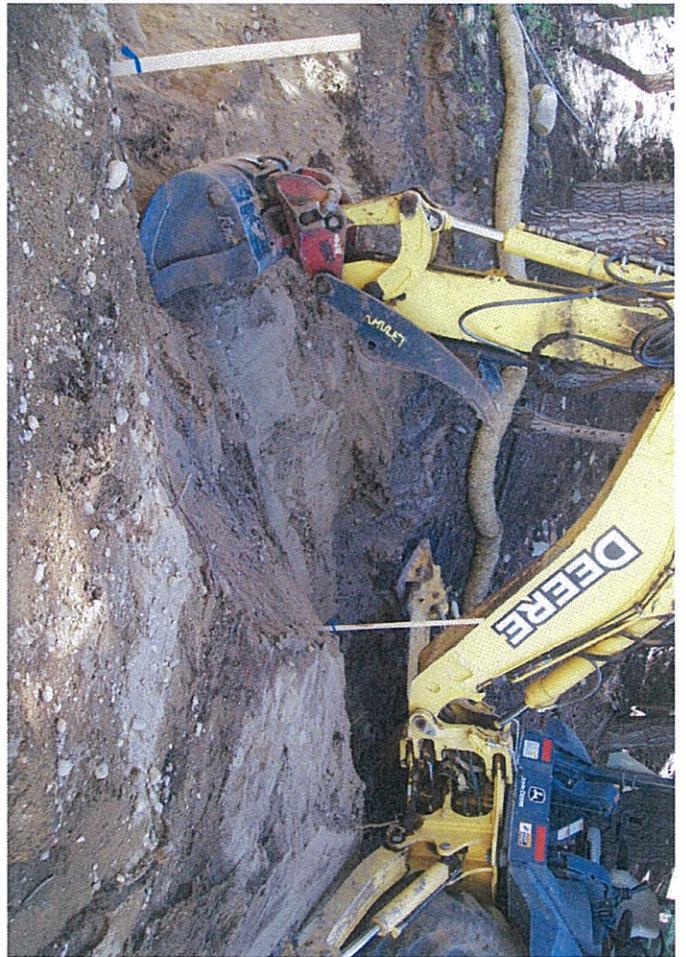
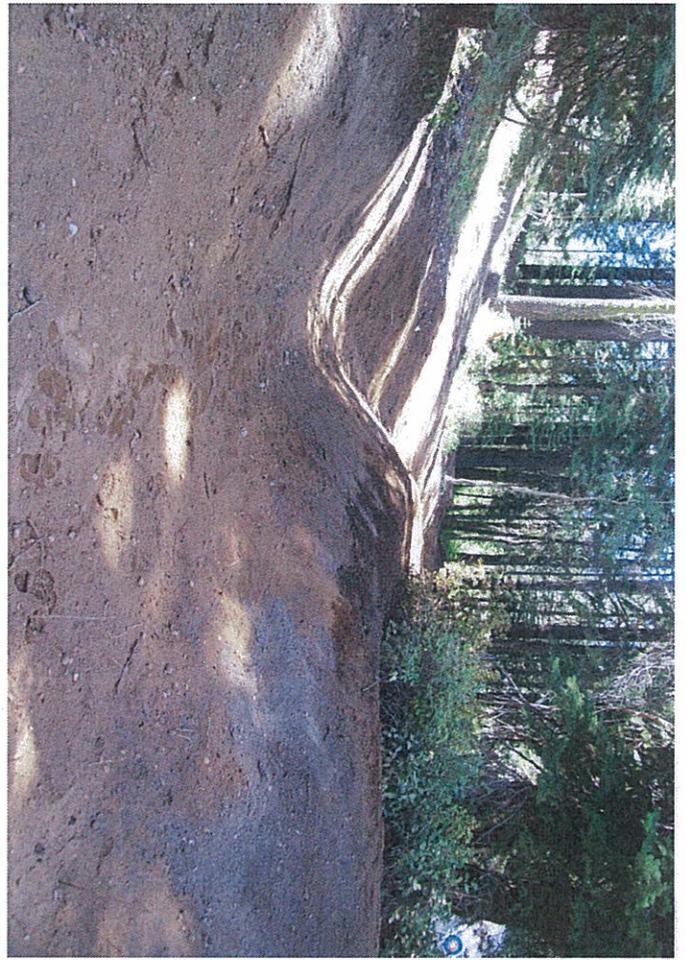
Post Construction Pictures

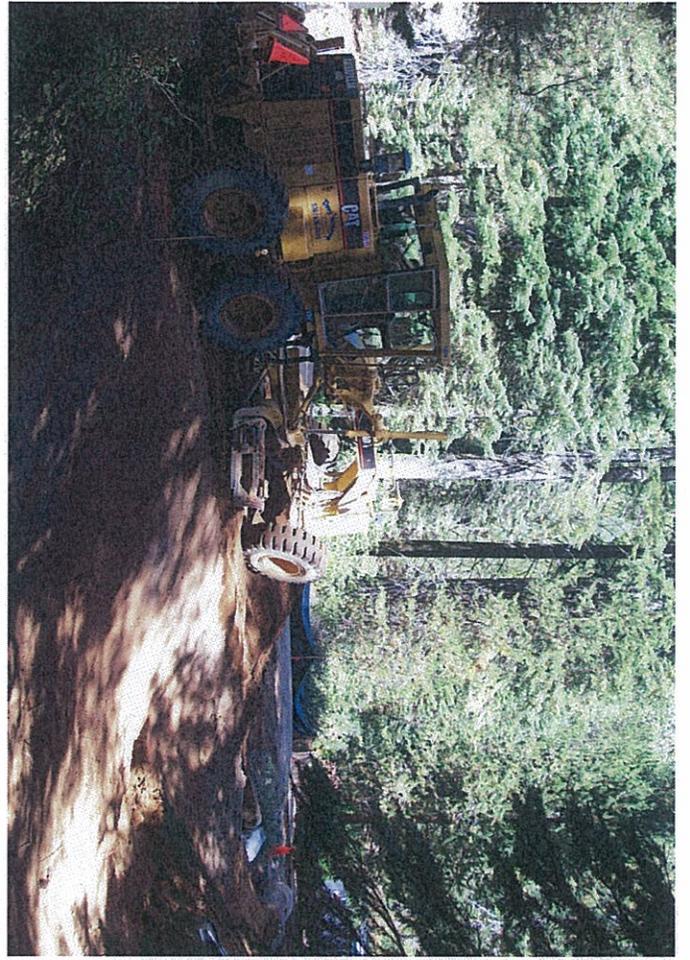




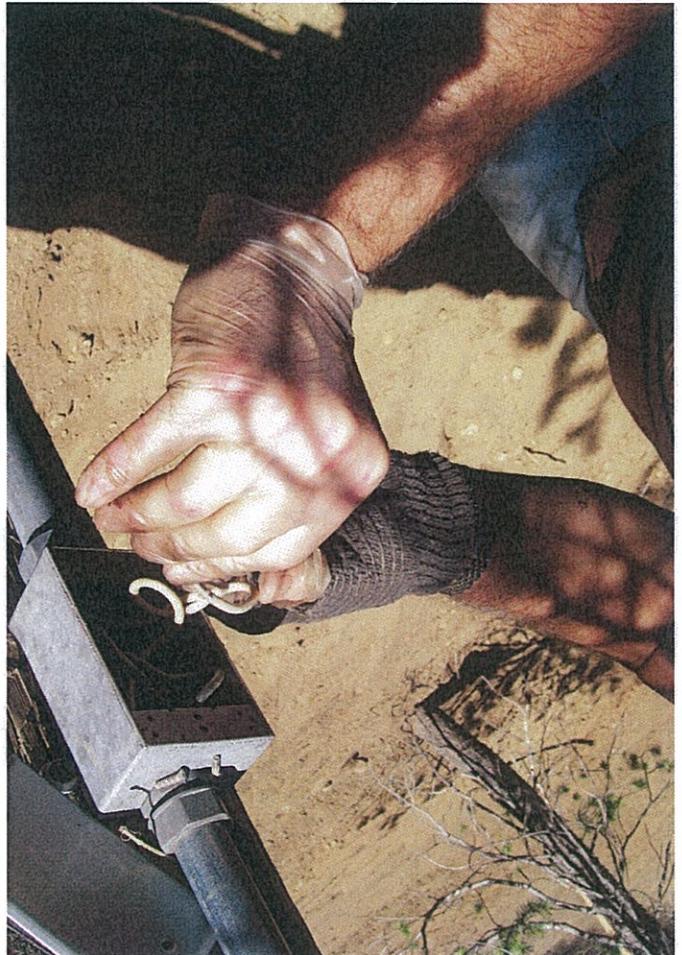
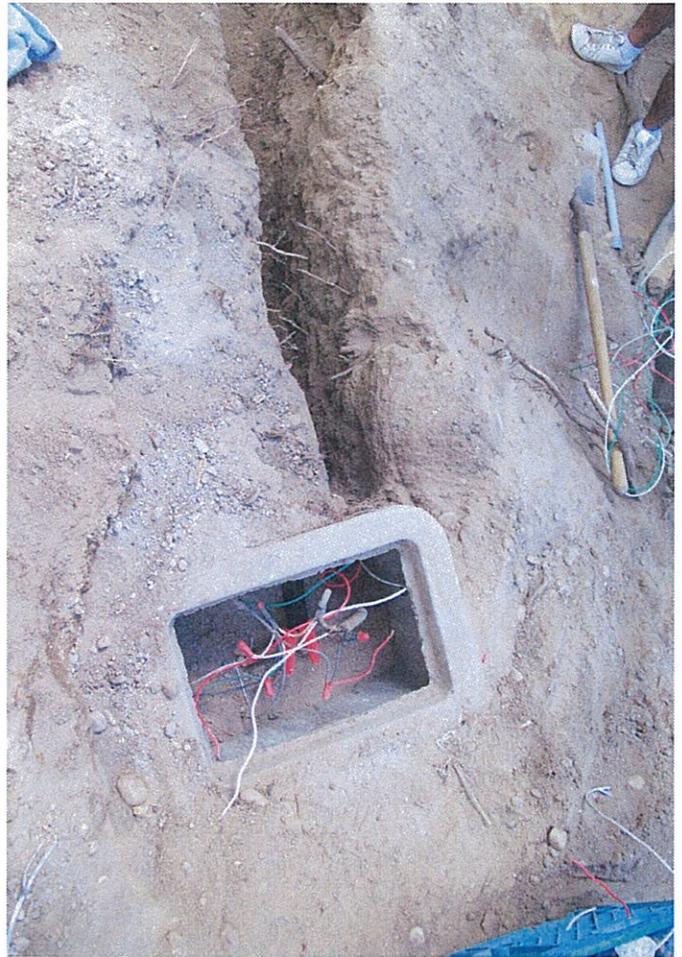


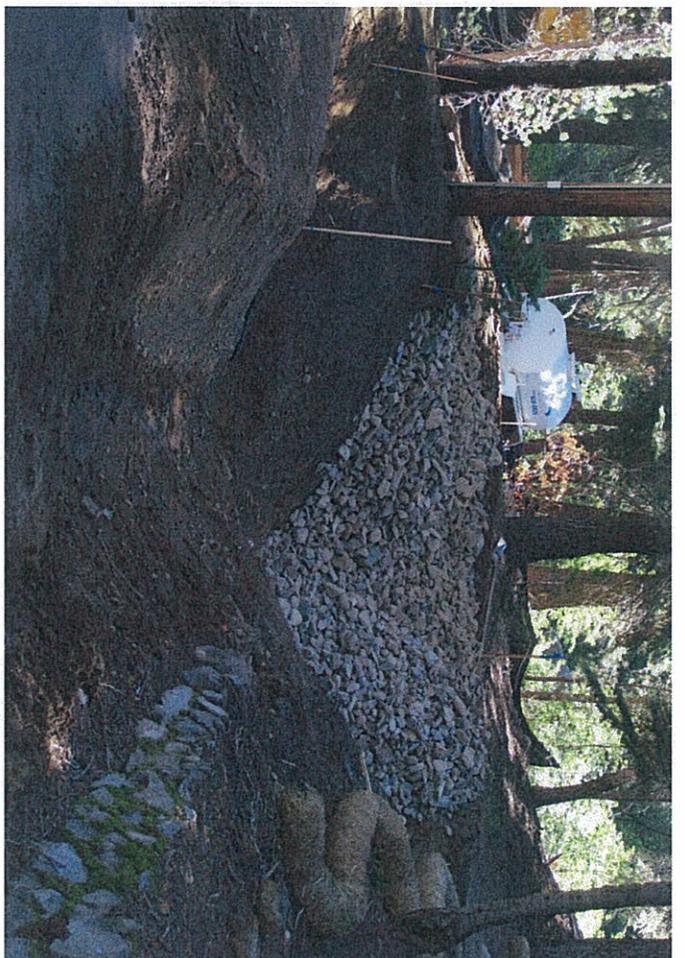
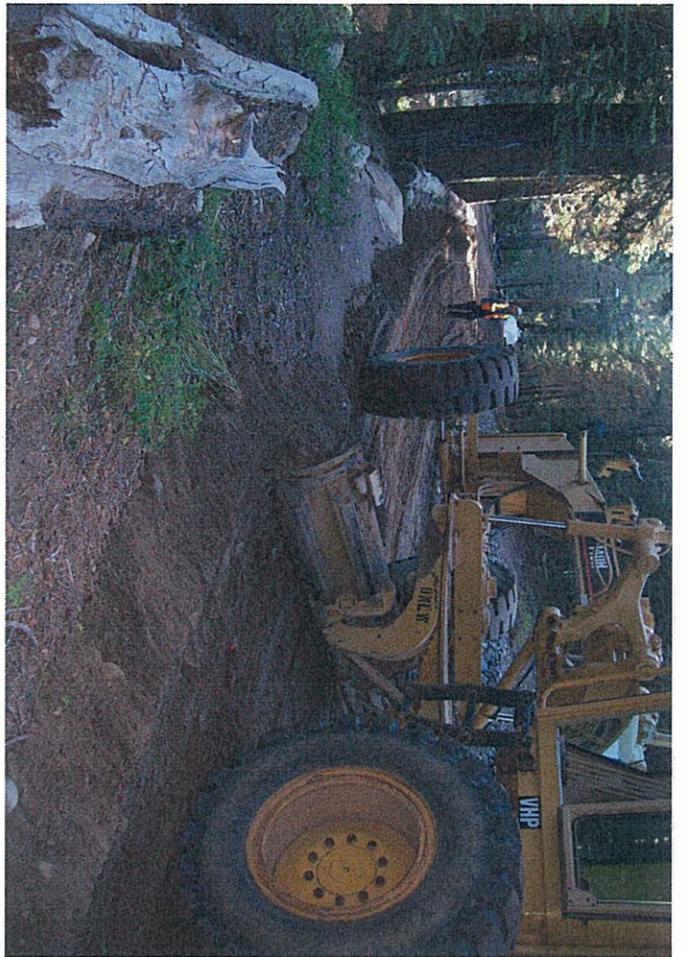
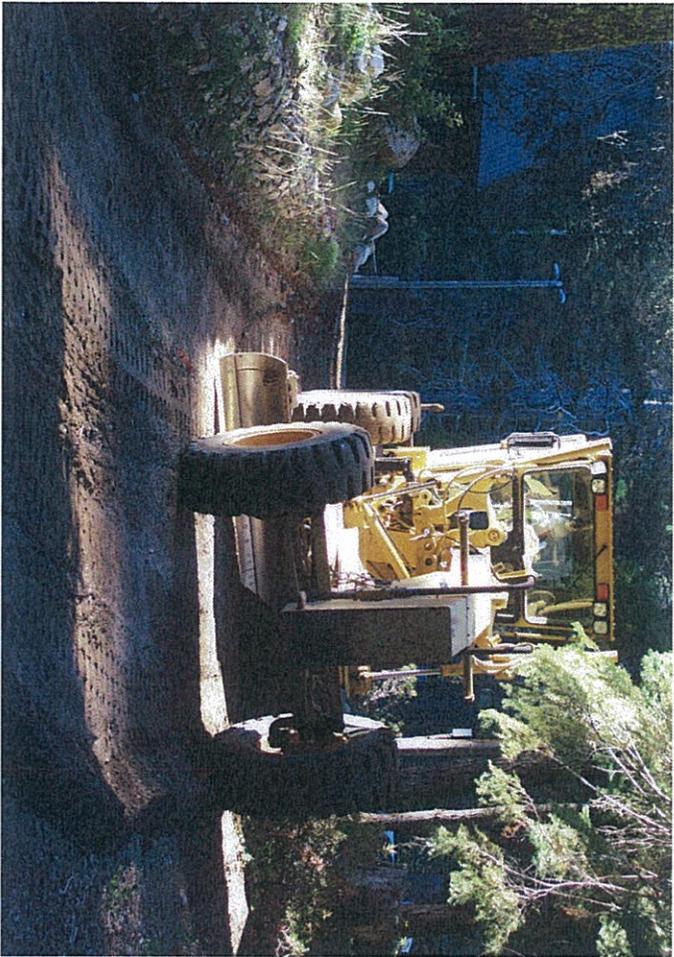


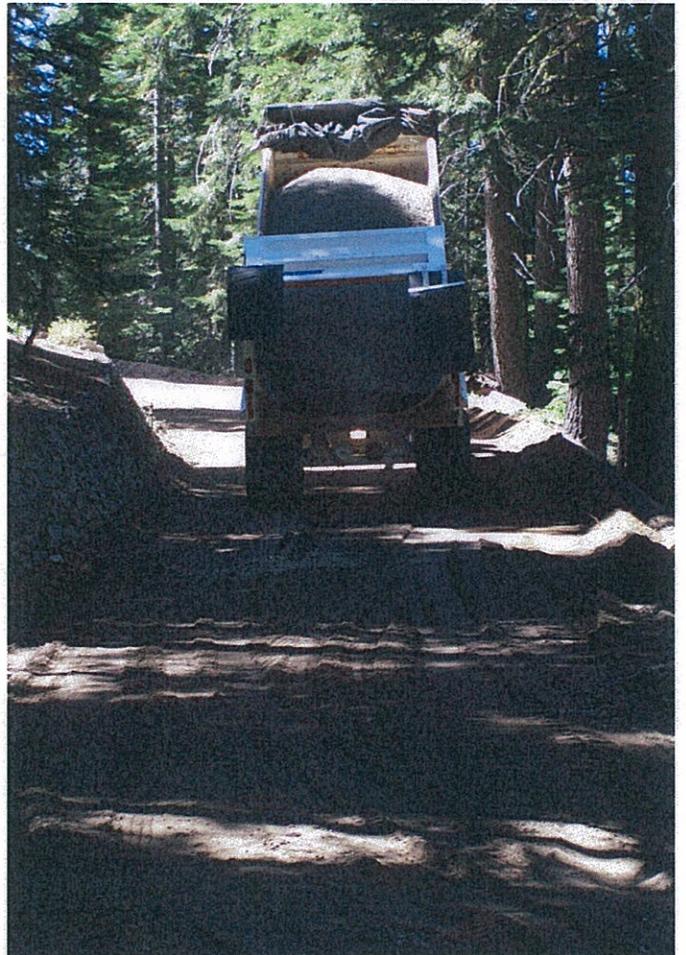


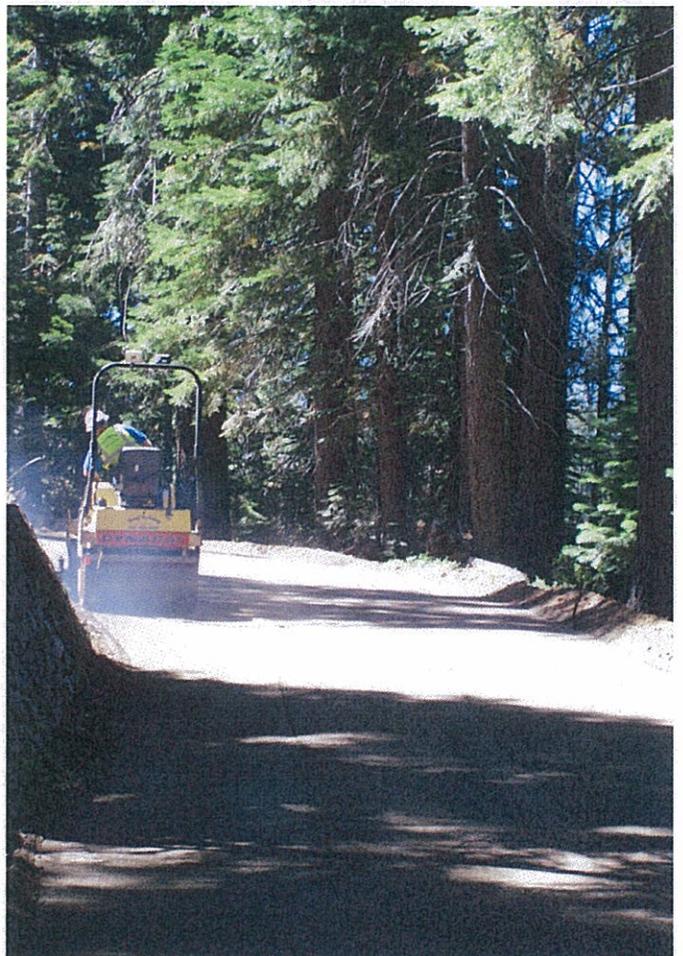


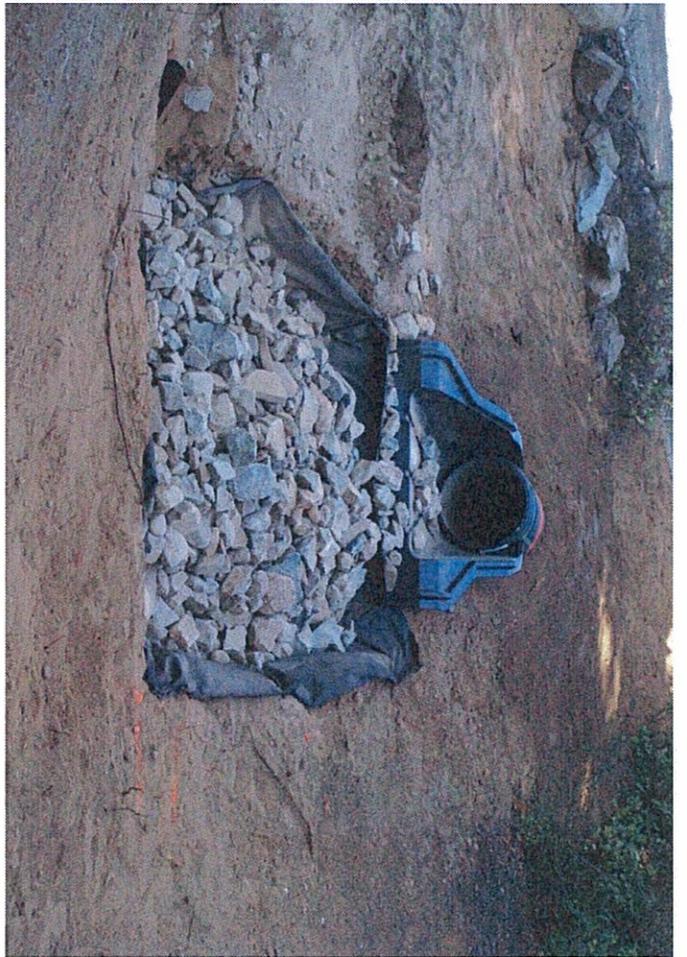
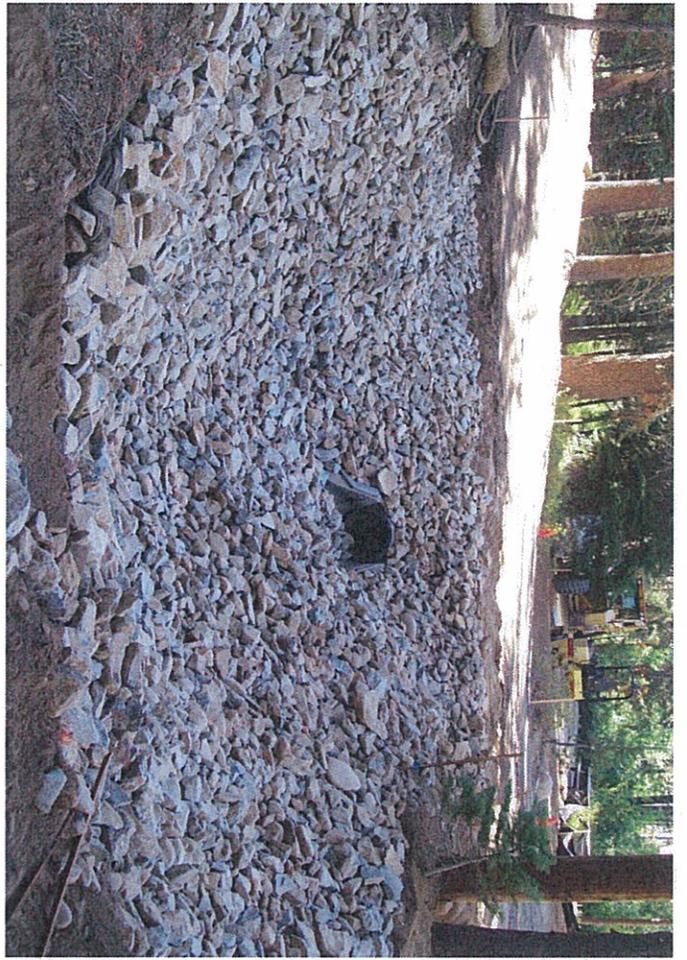


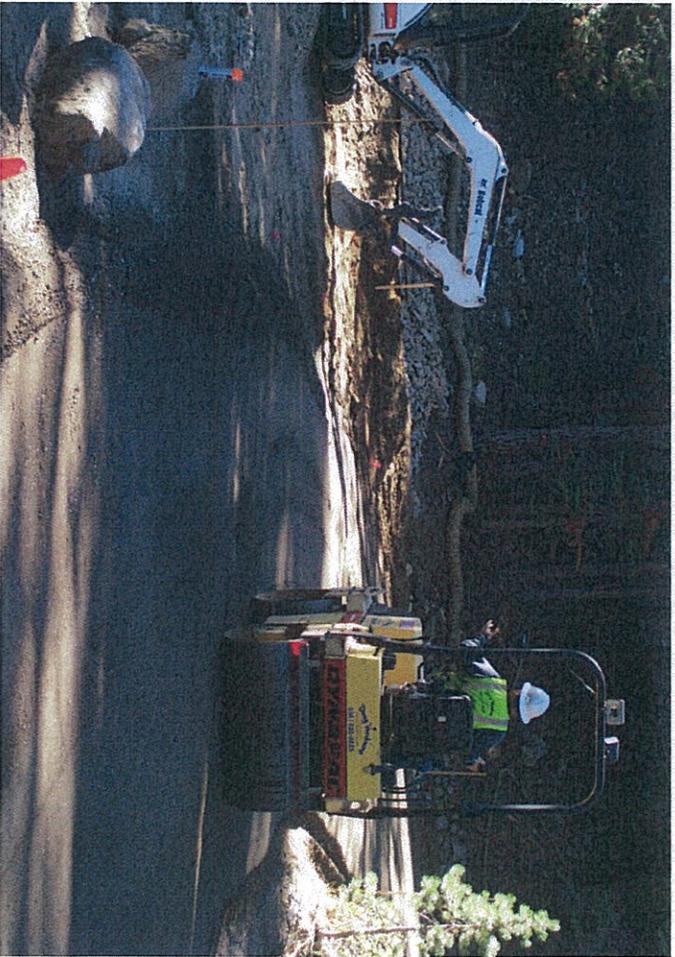
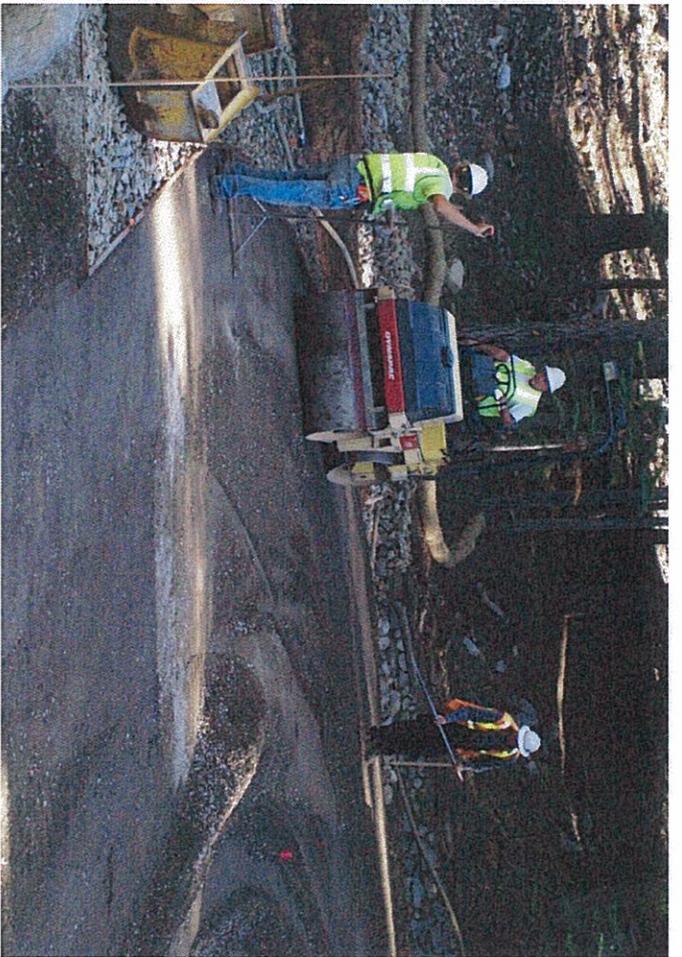
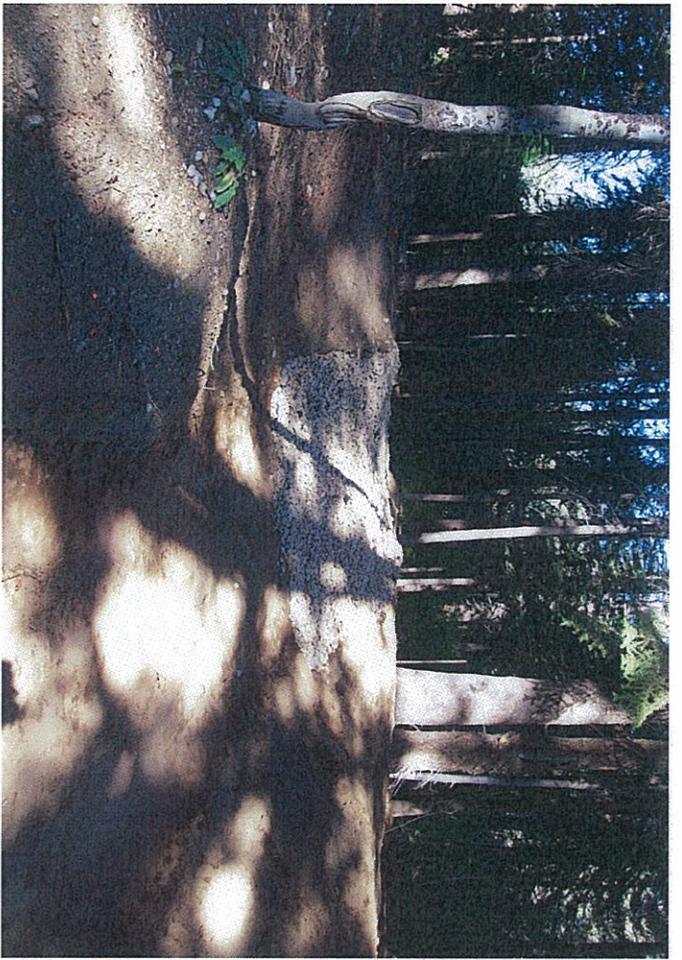


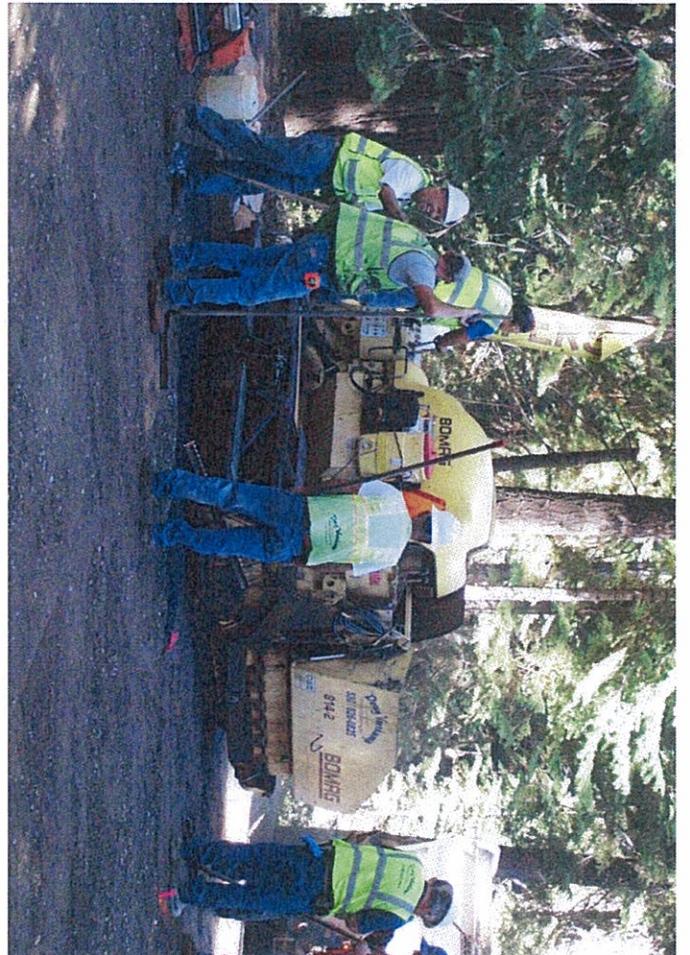
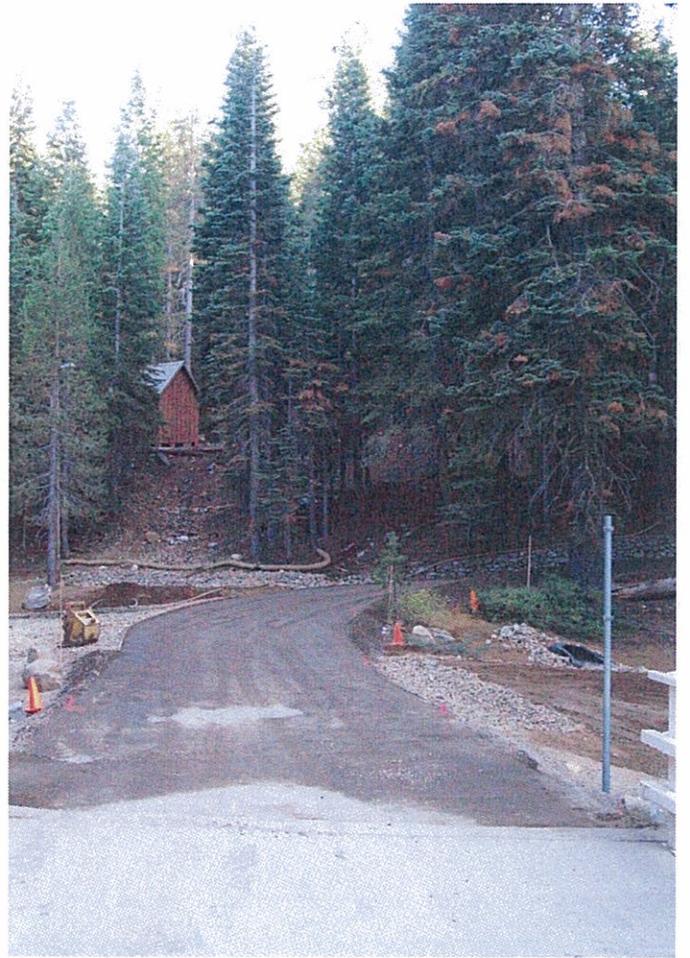
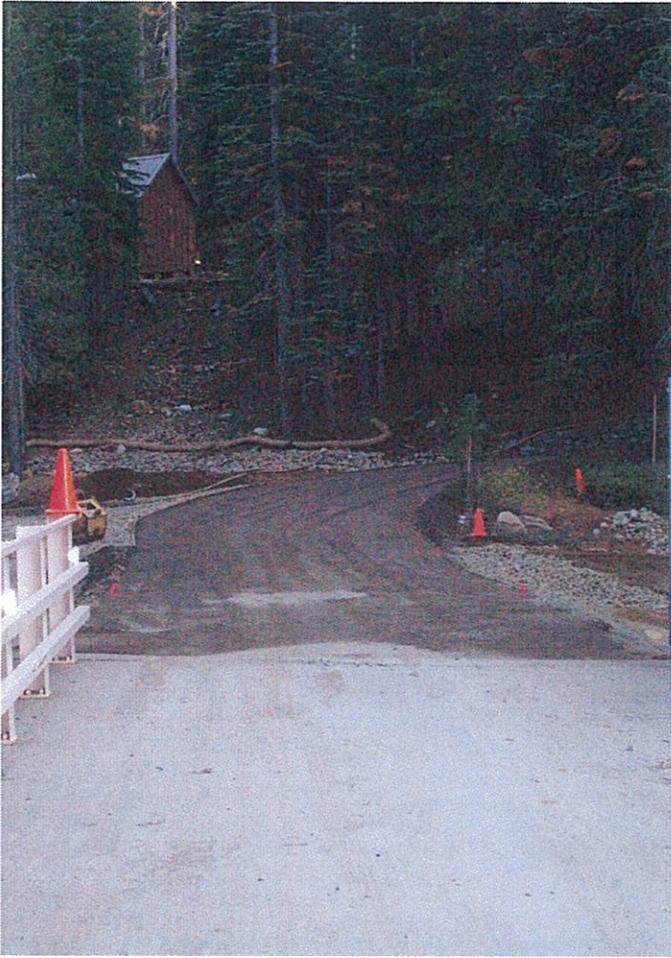


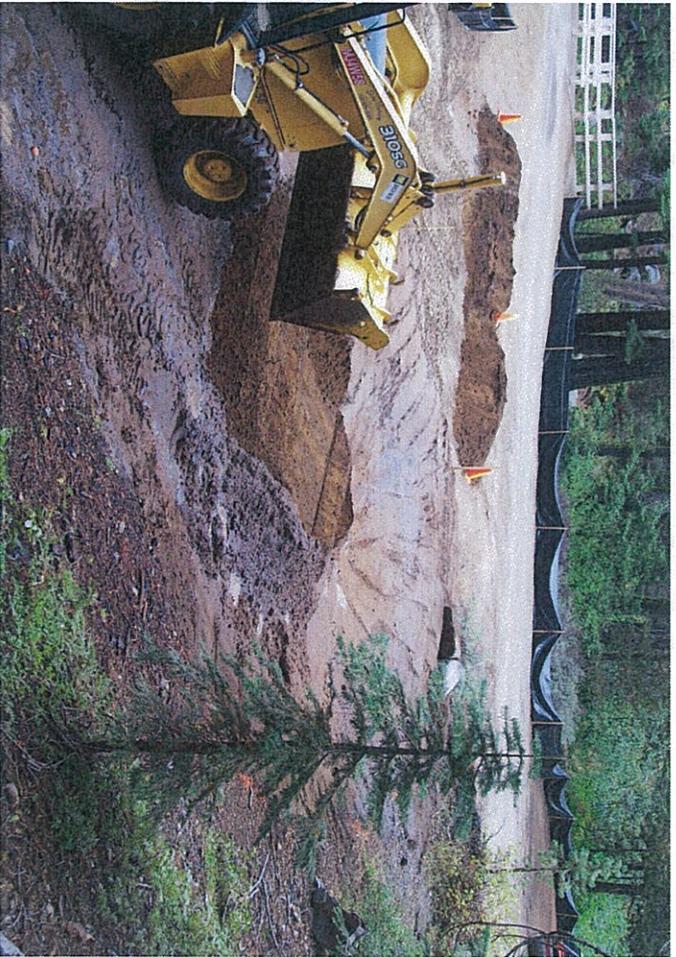
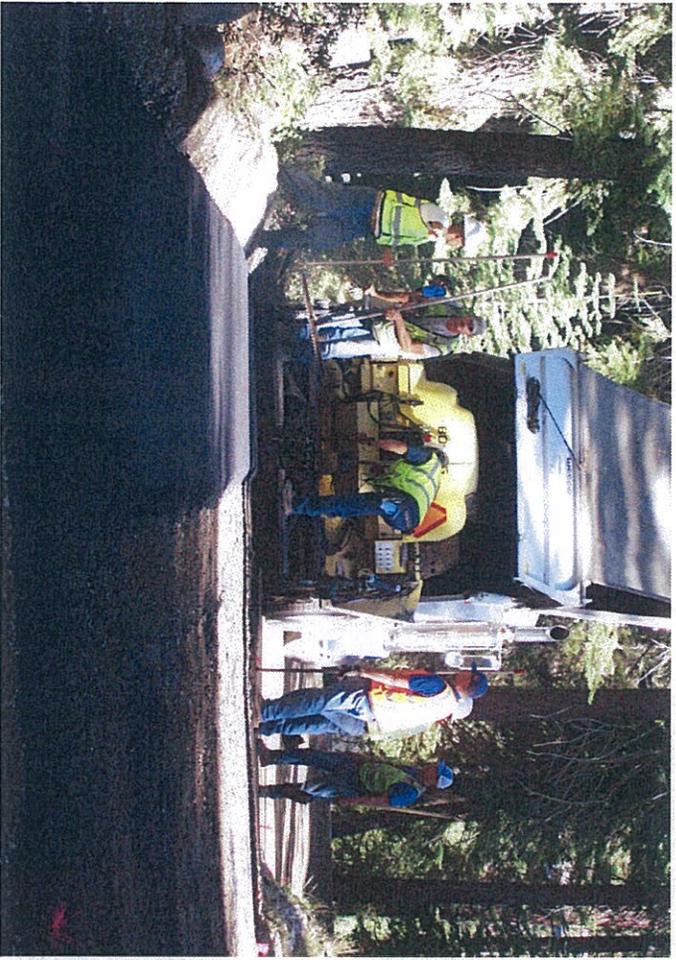
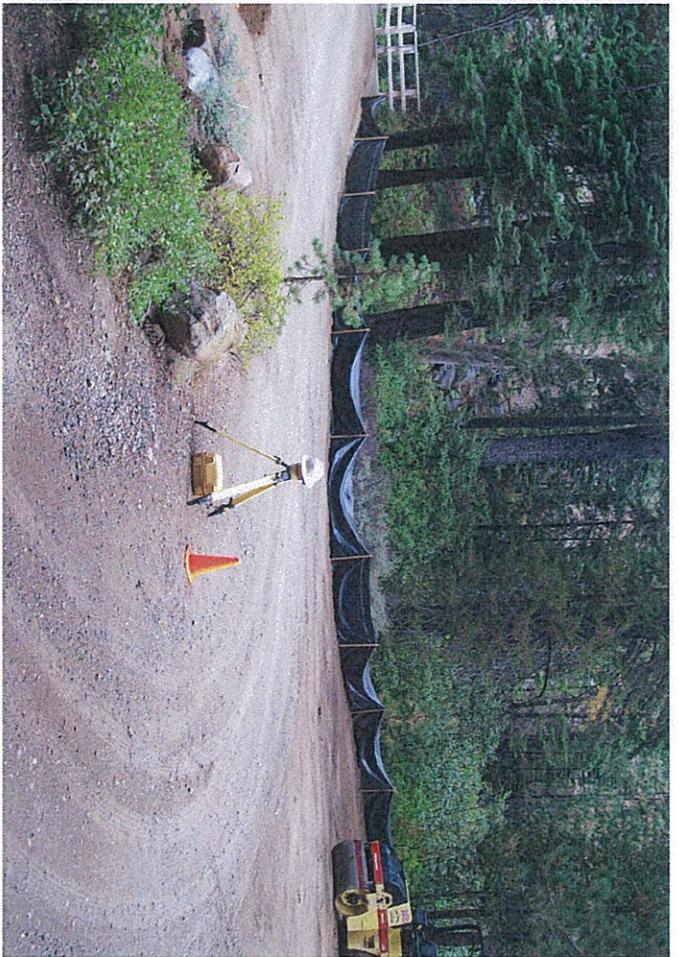
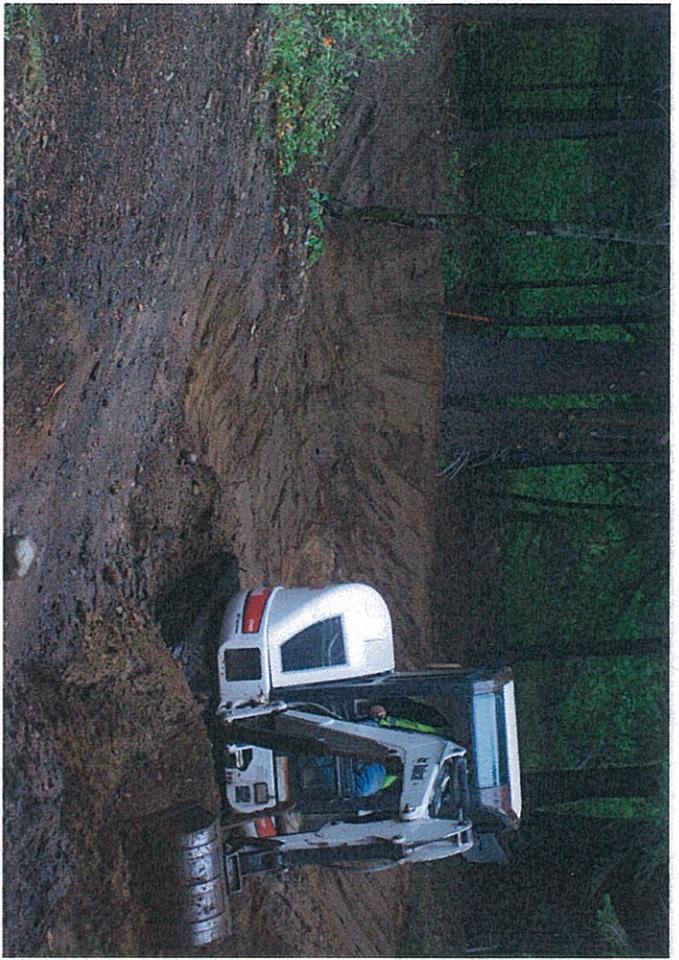


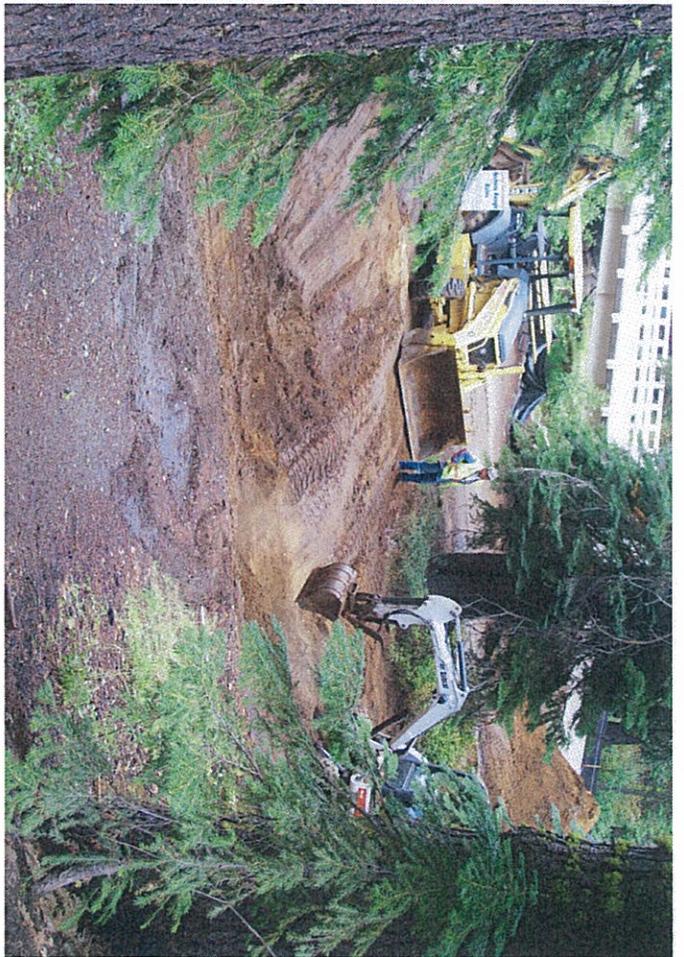
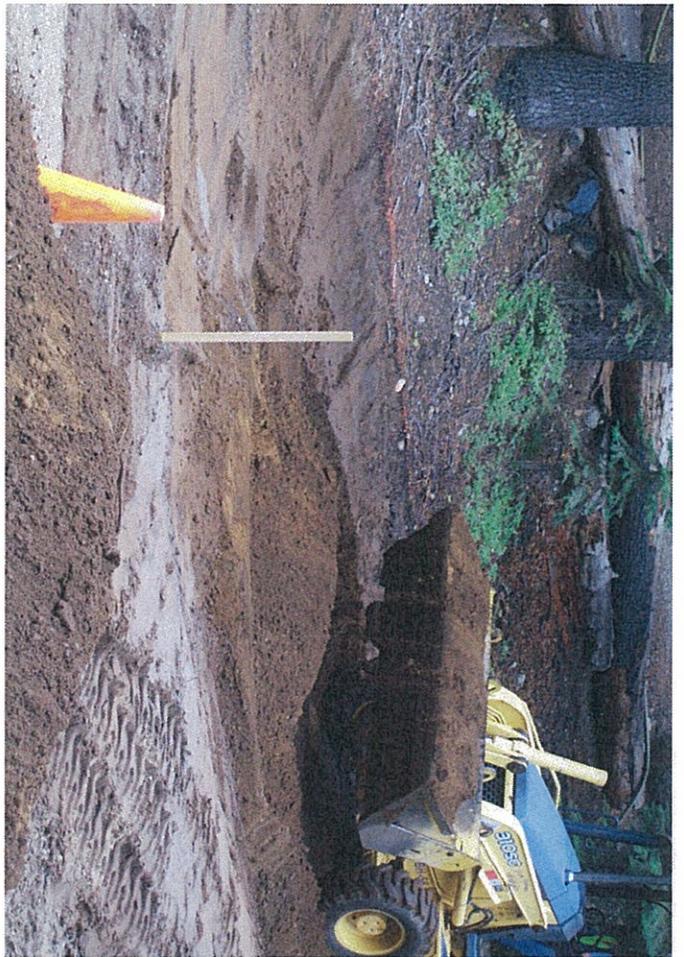
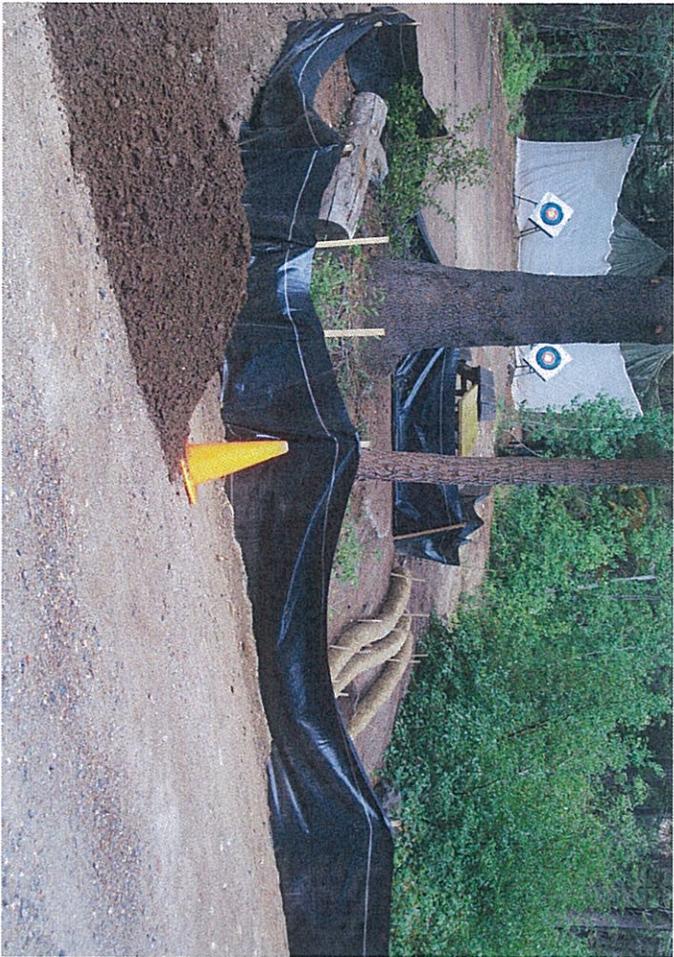


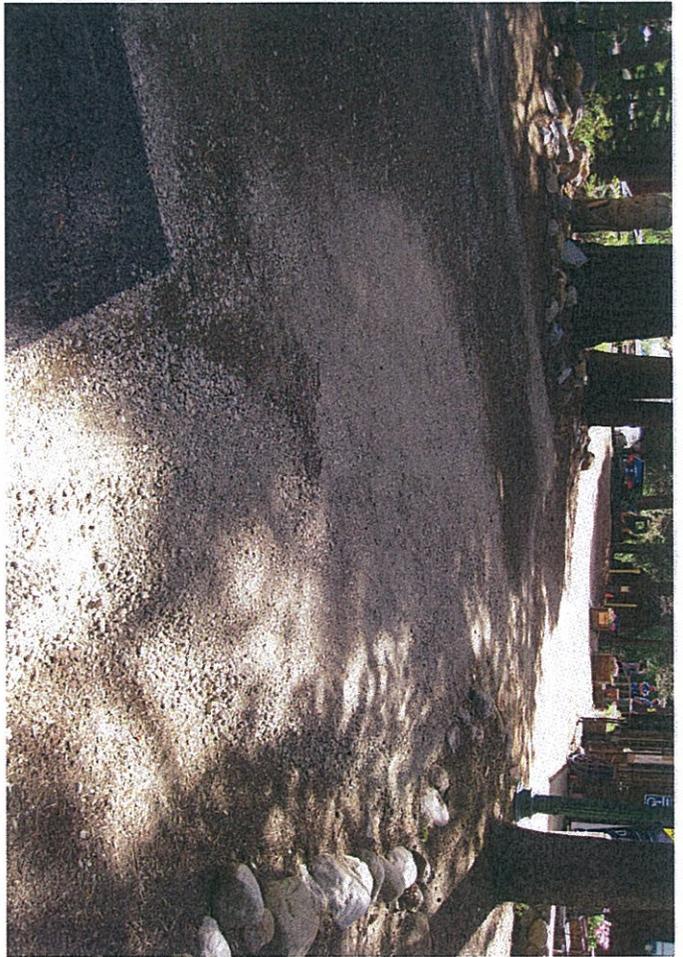
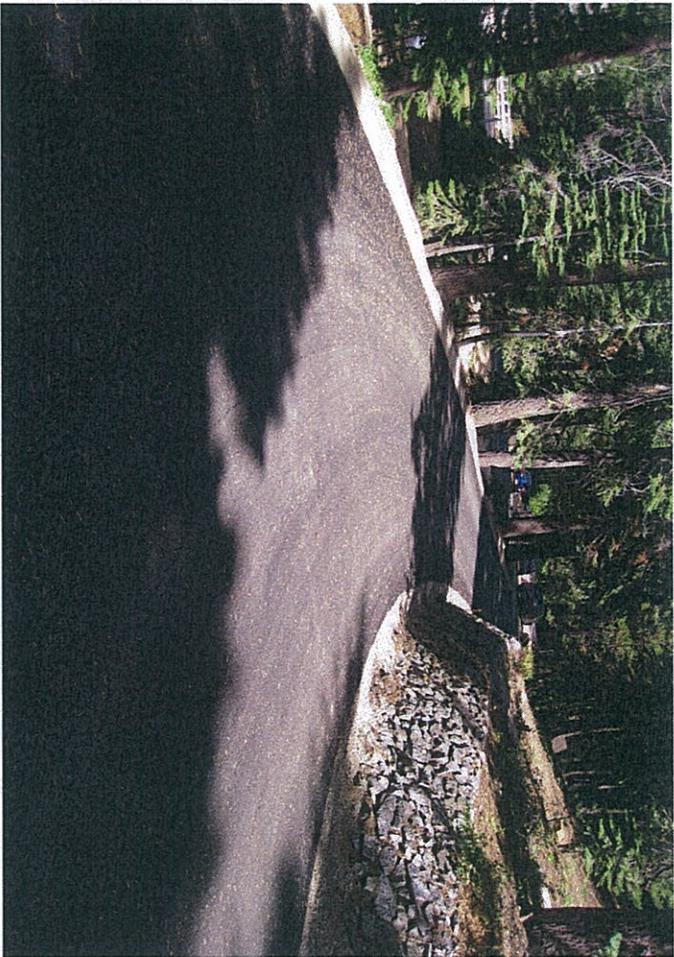


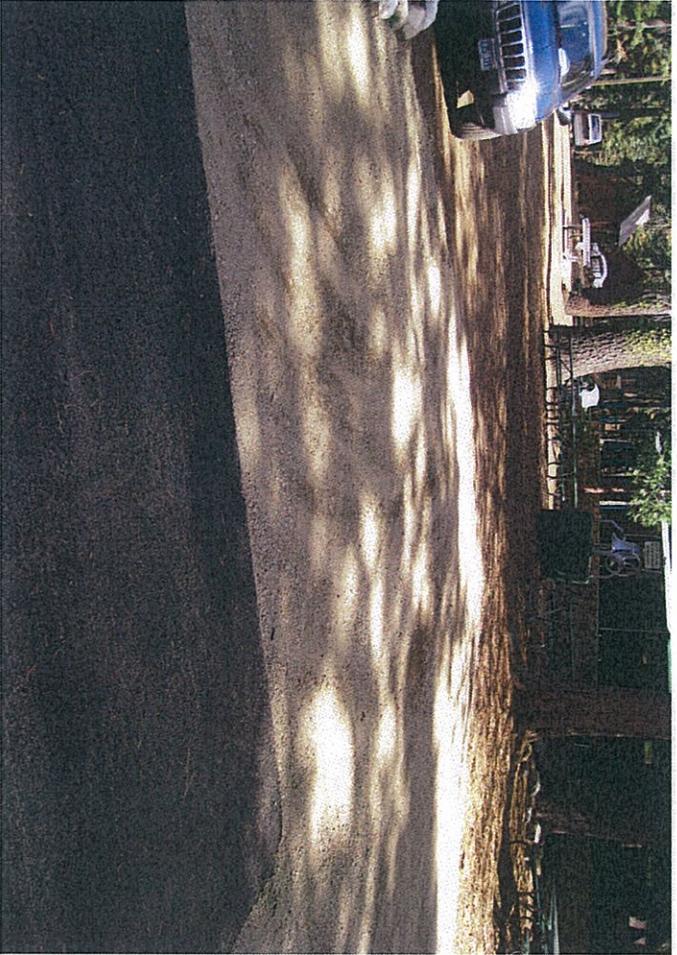
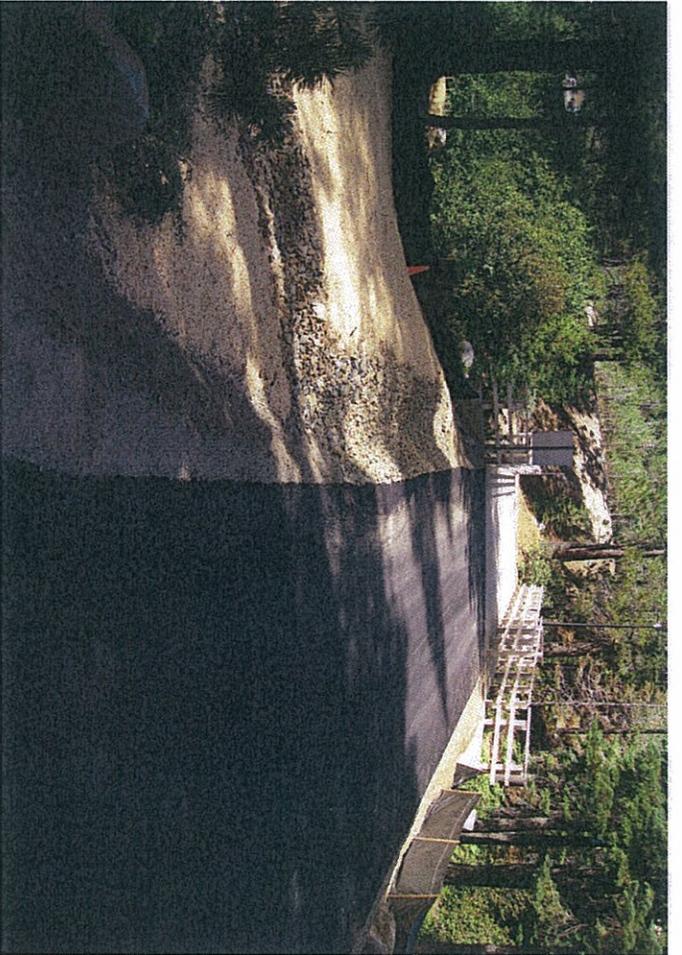
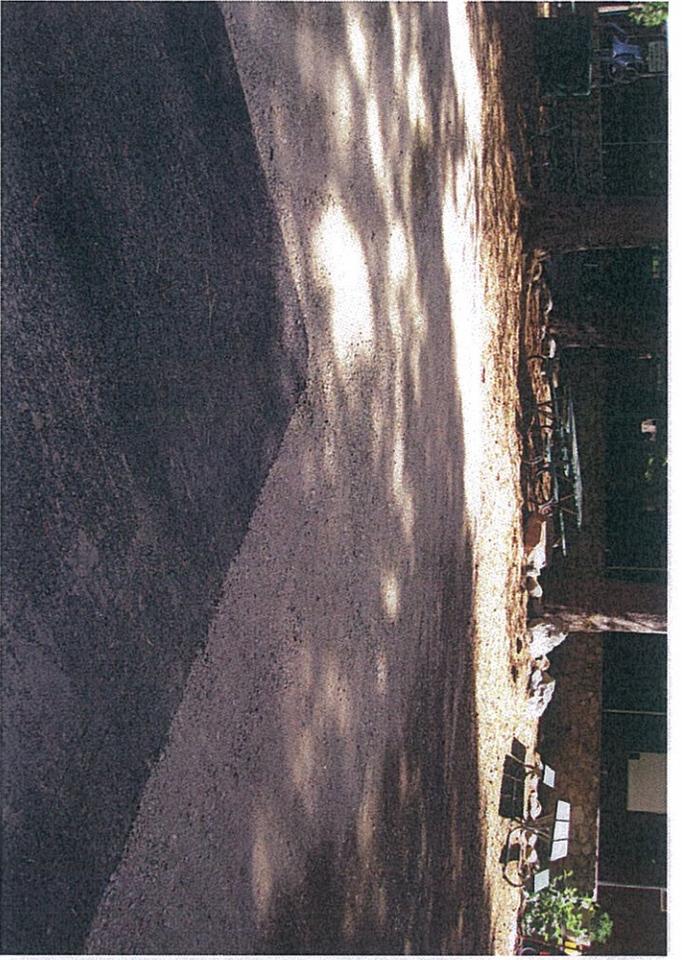


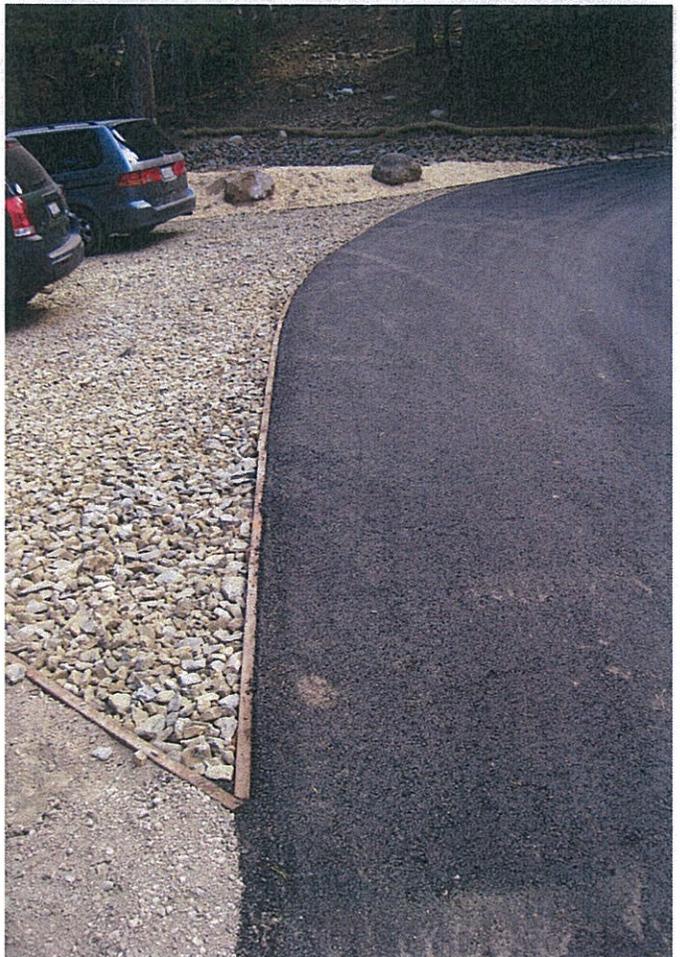
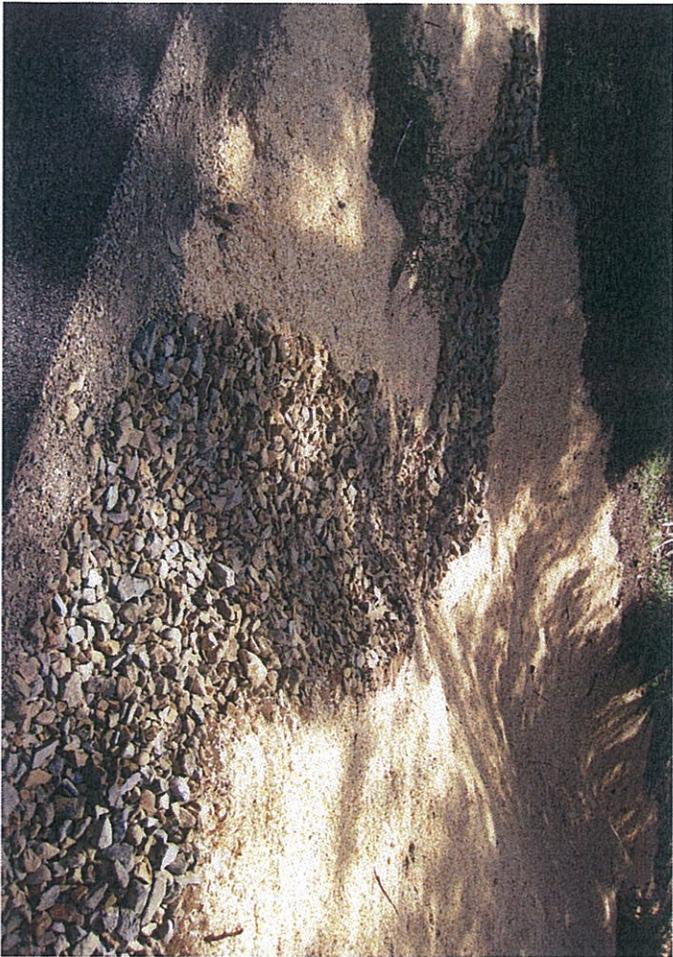


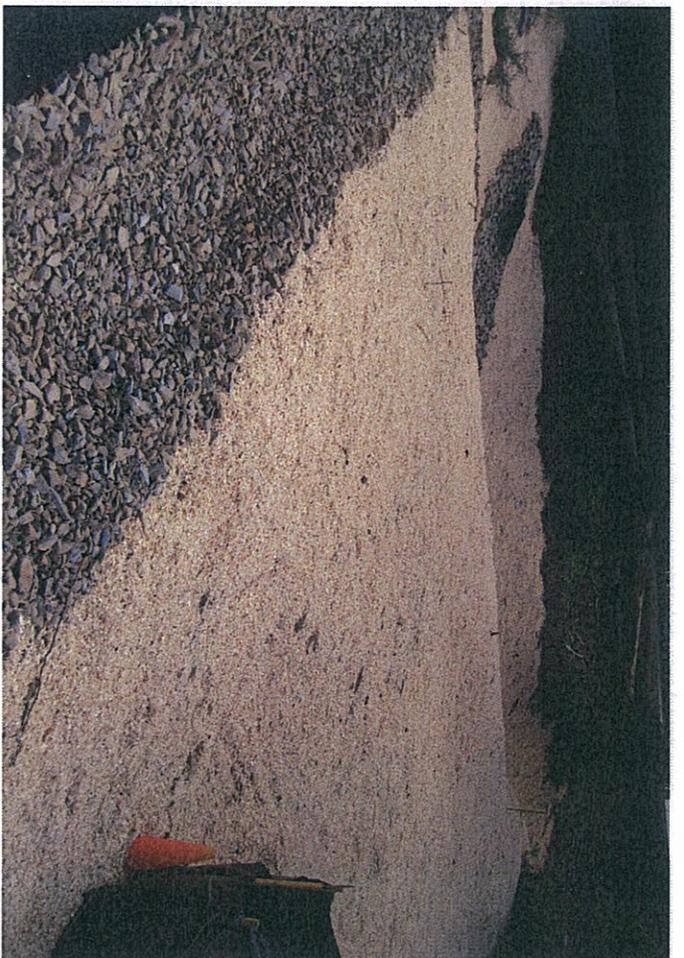
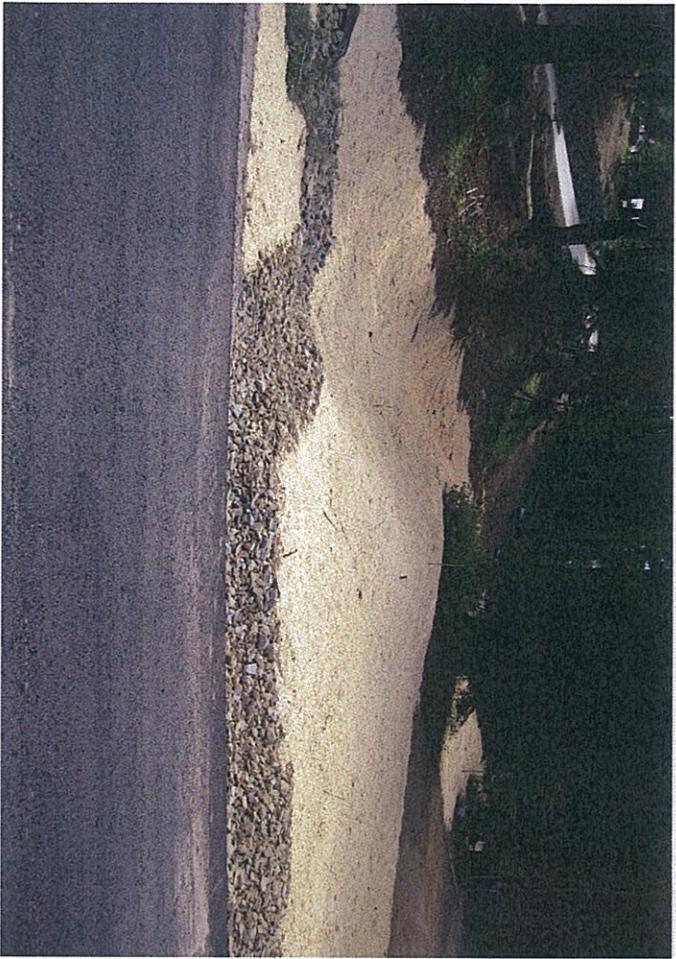


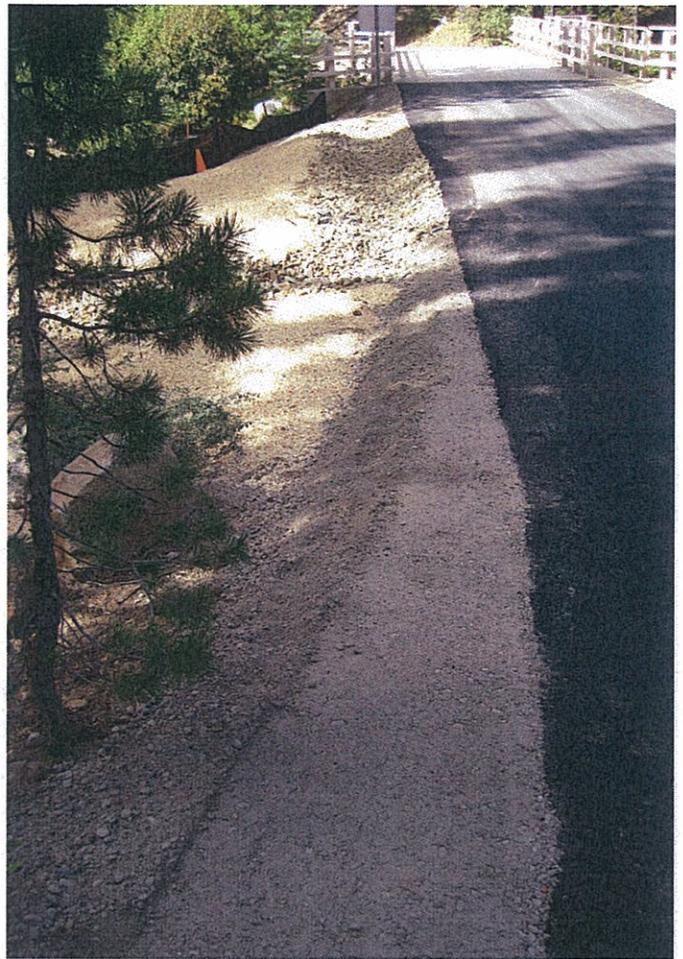


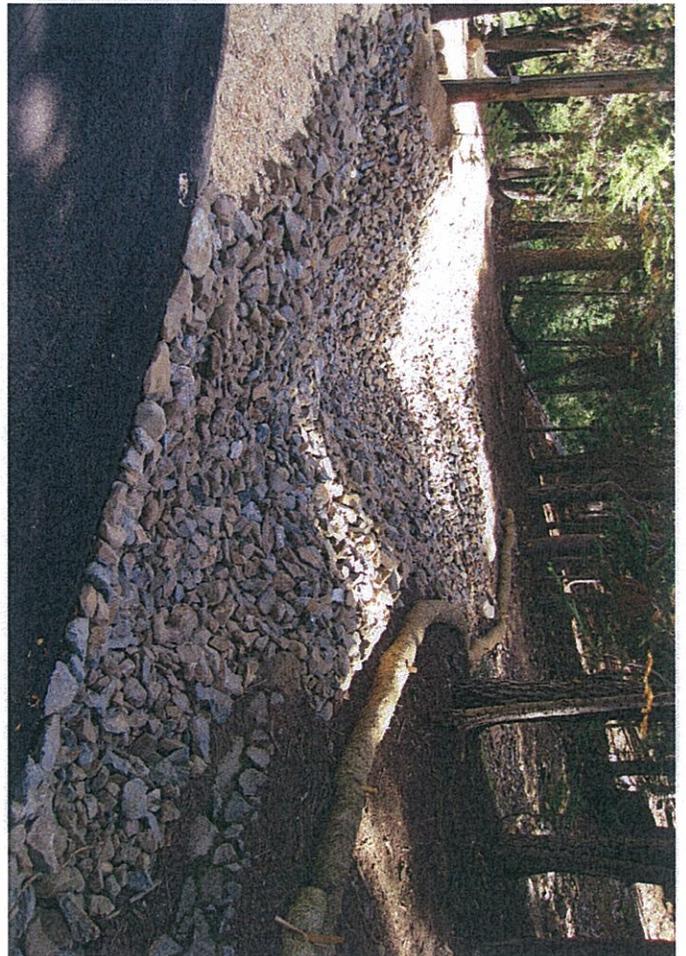
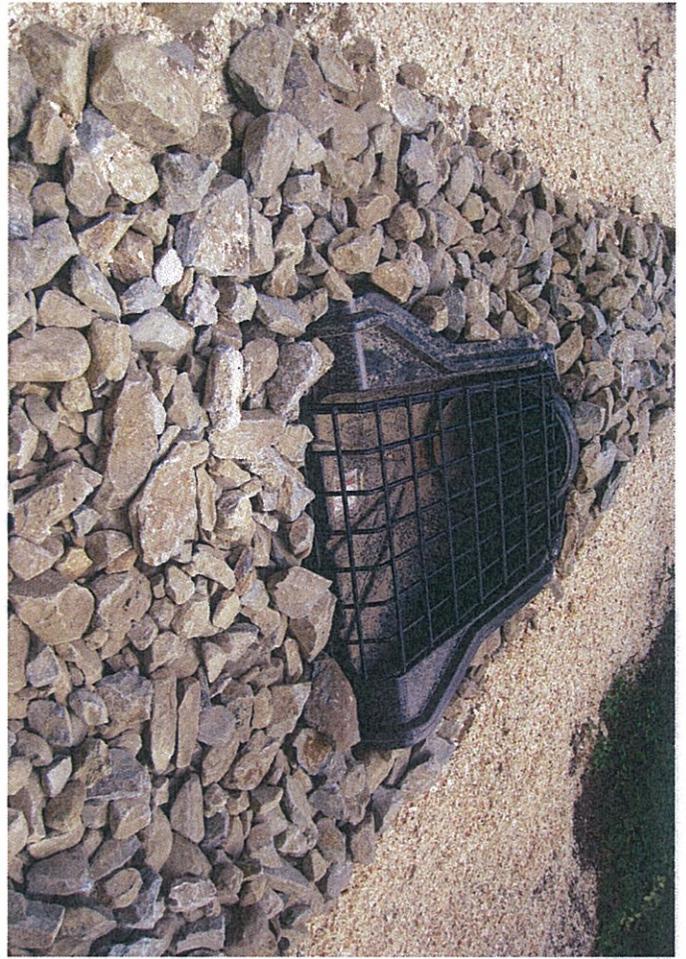


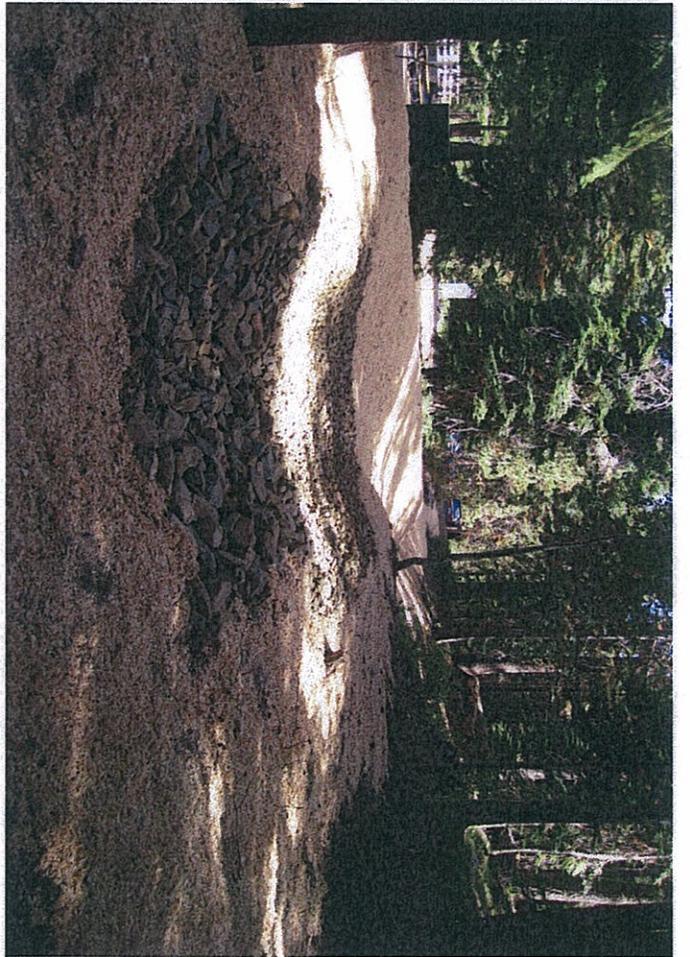
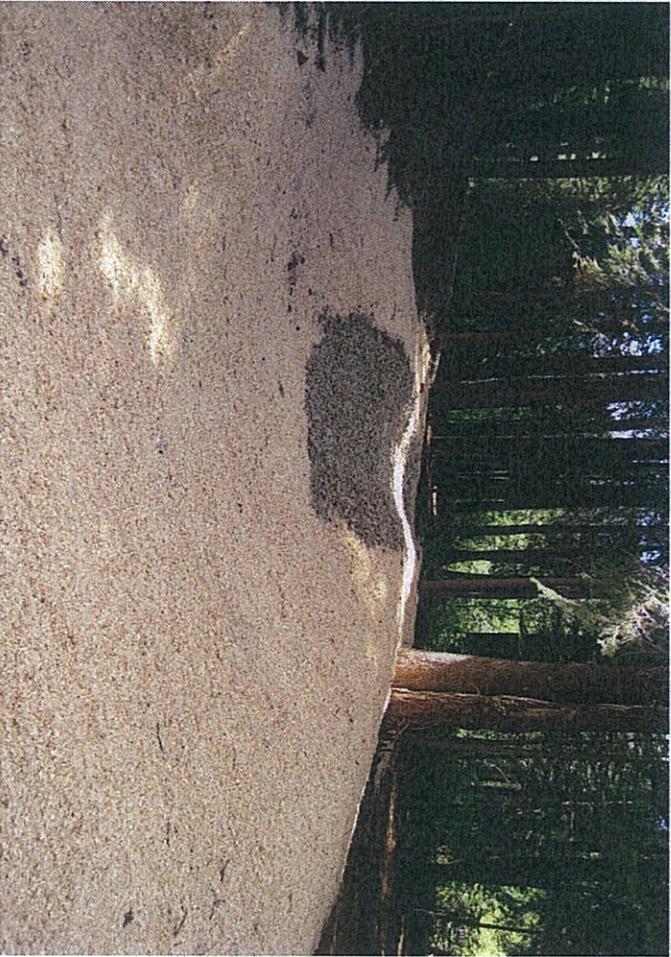
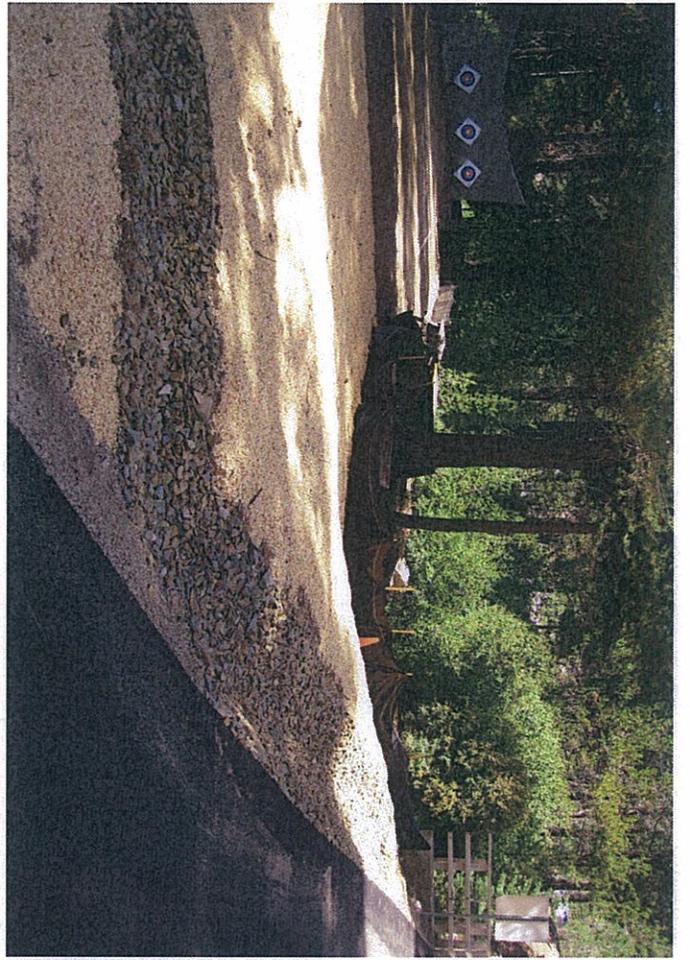


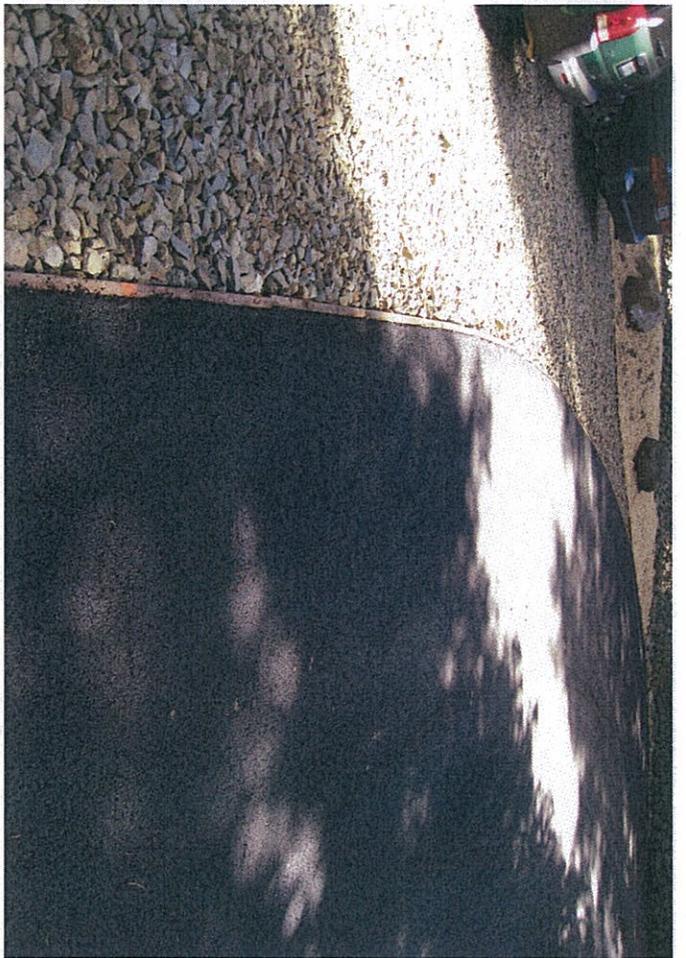
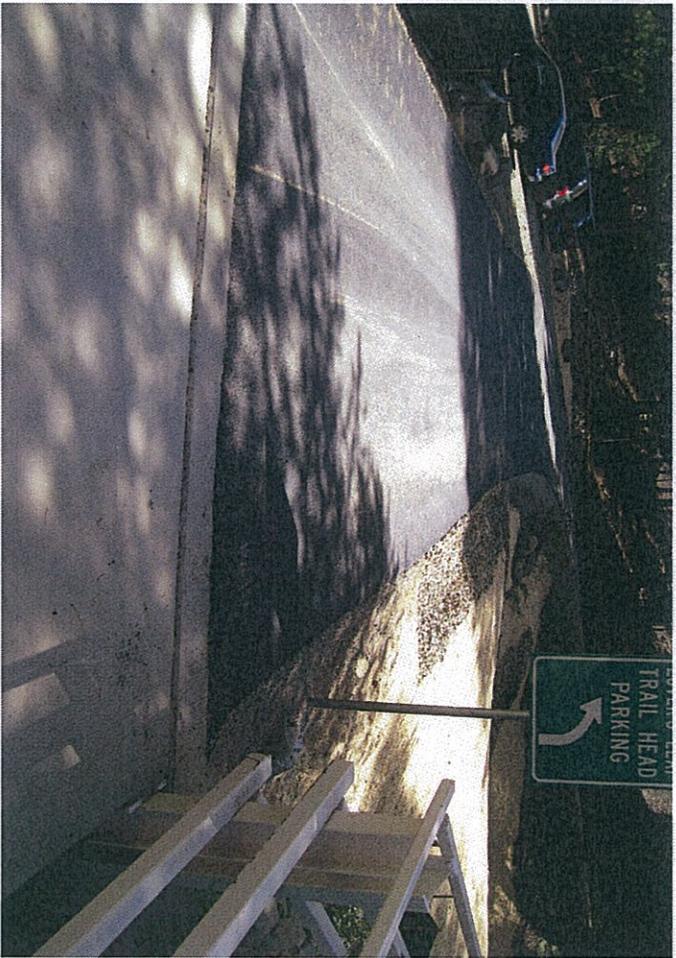
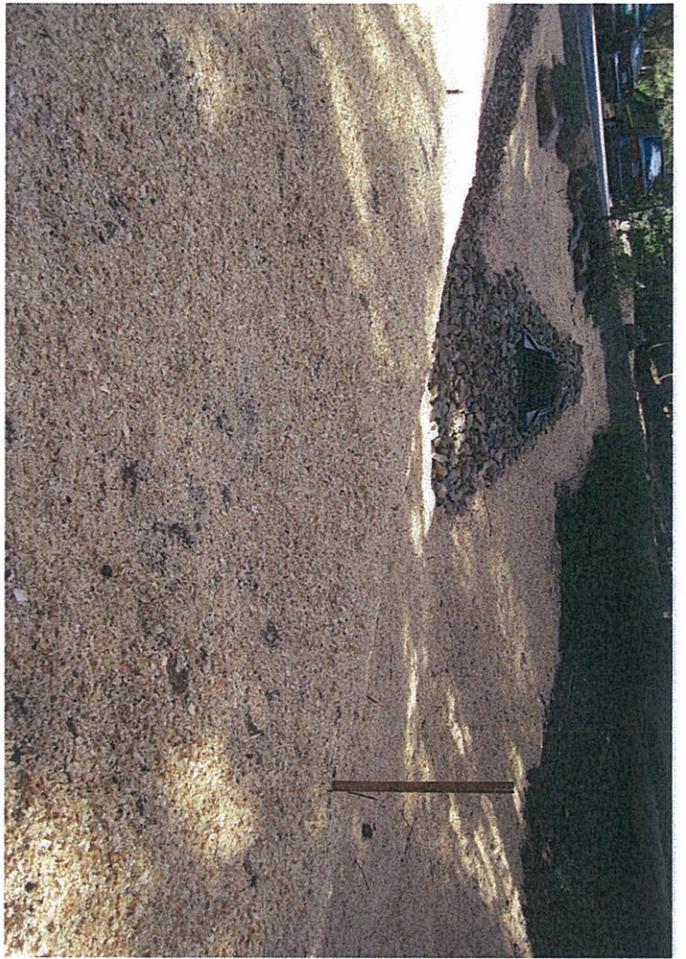
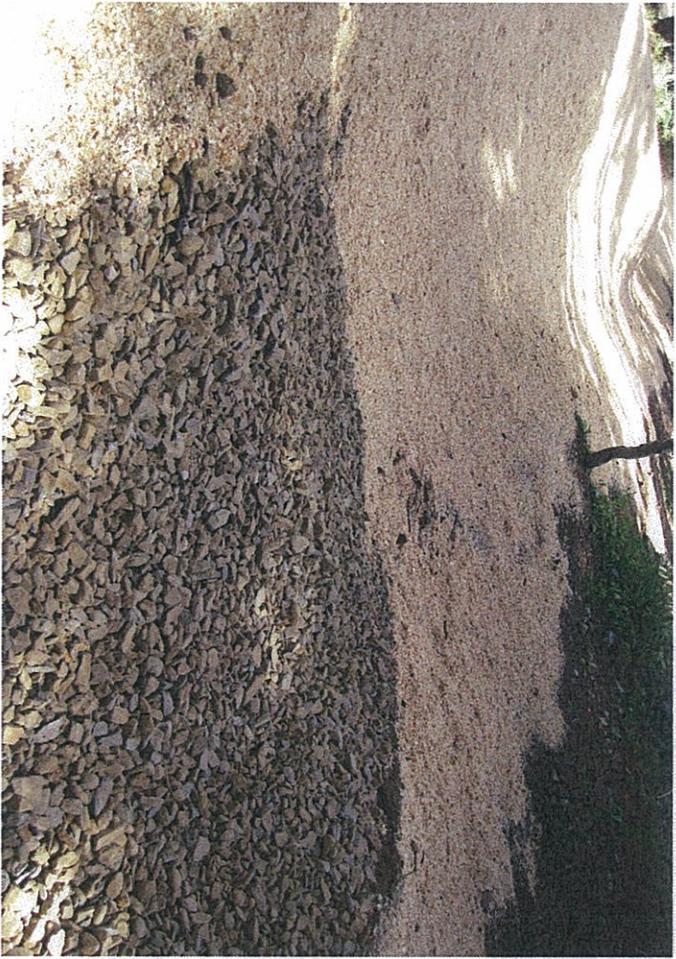


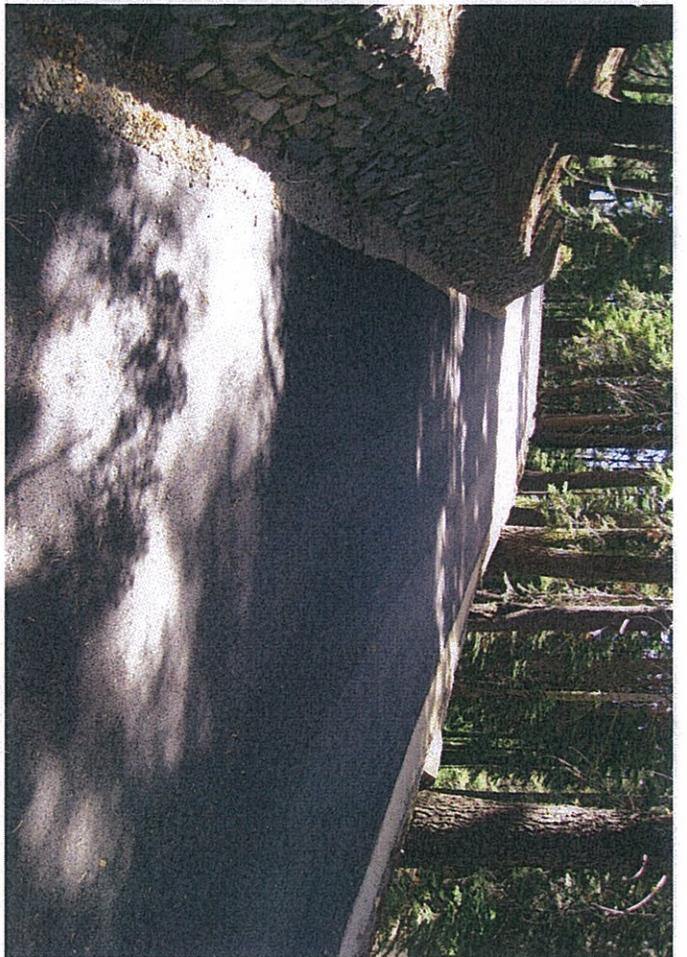
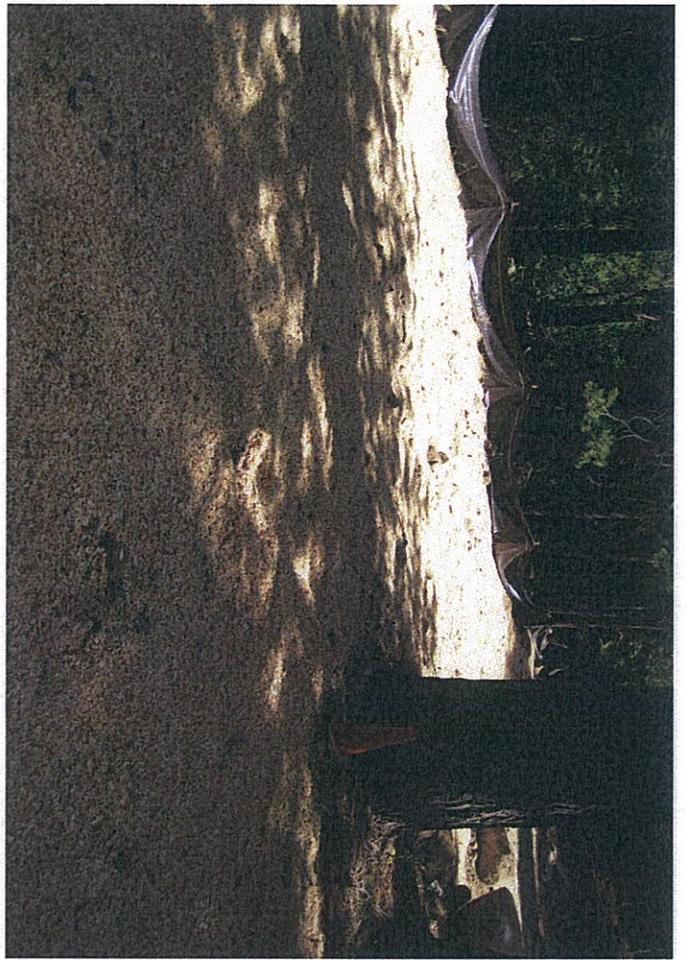
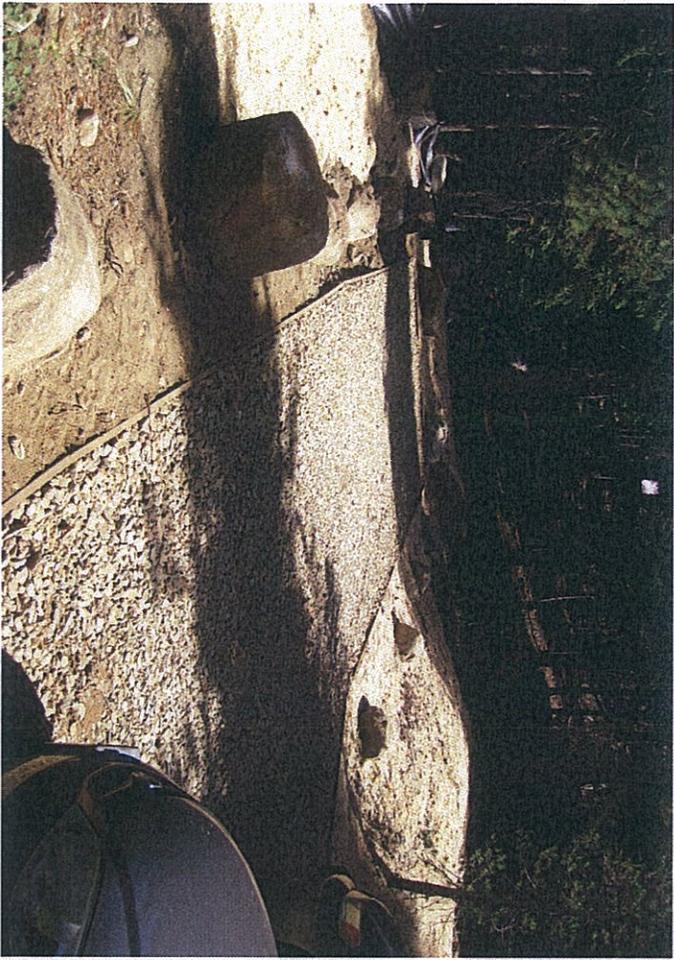












Leveraged Funding for Implementation

**2008 - 2011 Secure Rural Schools
Public Law 110-343
TITLE II PROJECT SUBMISSION FORM
USDA FOREST SERVICE
EL DORADO COUNTY RESOURCE ADVISORY COMMITTEE**

Project Status: Approved**Funding Fiscal Year:** 2011 - 4th year**2. Project Name:** Camp Sacramento Erosion Control & Habitat Improvement Project**3a. State:** California**3b. County:** California - Eldorado**4. Project Submitted by:** El Dorado County Resource Conservation District**5. Date:** 11/29/2010**6. Contact Phone:****7. Contact E-Mail:****8. Project Location****a. National Forest:** Eldorado**b. Forest Service District:** Placerville Ranger District**c. Location (Township-Range-Section)**18880 Hwy 50, Twin Bridges, 3 miles east of Strawberry. 10N-17E-16 Latitude 38°48'10.183" N
Longitude -120°6'58.012" W**9. Project Goals and Objectives:**

The goal of the project is to utilize a broad base of agency and non-profit collaboration to provide additional investment to the on-going maintenance and restoration of designated road and trail systems within Camp Sacramento to ensure long-term economic, recreational and environmental sustainability. The objectives of the project are to improve existing road and trail infrastructure, restore and protect upland, riparian, and aquatic habitats, and promote watershed restoration and maintenance.

10. Project Description:

a. Brief: *(in one sentence)* Reduce erosion and sediment. Erosion from camp during rainfall events and snowmelt is a contributor of suspended sediment to the South Fork American River, this project would address the erosion problems through several approaches.

b. Detailed:

Over the 90 years of operation, campers have formed trails and driving areas have expanded that have left some areas of the camp denuded of low-growing shrubs that help break-up raindrop impact and reduce erosion. This has led to runoff carrying sediment to the river resulting in a water quality impacts to the South Fork American River. The Riverside area of camp has shown extensive signs of erosion from runoff originating upslope at the Water Tower Road and flowing down the steep hill and to the river. The impacts of both the current recreational use of Camp Sacramento and the highway runoff to camp facilities can be mitigated with some basic land management practices. The practices fall into the following primary categories.

- Controlling runoff in camp,
- Paving the specific roads in camp,
- Define camp roadway and trail system, and
- Revegetate denuded areas in camp.

The erosion control measures proposed for Camp Sacramento include:

Controlling runoff in camp. With the reduced flow in camp, the runoff from rainfall events can be controlled in a series of basins and small channels. The volume of runoff to capture will be manageable in these basins. Controlling runoff in camp can be accomplished with small detention basins that also double of parking spaces. Small basins have been constructed in camp for the past two years and visual observations each June have shown that the basins effectively trap sediment that flowed during spring and winter rainfall events.

Another approach to controlling runoff will be achieved with revegetation and changes to the road system

to further reduce the volume of runoff and promote infiltration from dirt surfaces that are currently compacted. These actions are discussed below.

Finally, a rock trench will be installed along the dripline of each cabin to capture roof runoff and allow it to infiltrate into the ground. This will further reduce the runoff in camp by eliminating the rainfall runoff shed by each cabin.

Paving specific roads in camp. This action includes paving the Entry Road from the highway turnout to the bridge over SF American River and Camp Hill Road from the bridge to the dining hall. It also includes paving four parking spaces in camp for access to handicapped cabins. The paved roads will include installing sediment traps and a curb to control runoff. The purpose of these measures is to eliminate erosion from the road surface, and to prevent discharge of runoff and sediment to the river. The road on the two sides of the river will be treated separately. For the Entry Road, drainage from the access road and the highway currently flows to the meadow, the riparian corridor adjacent to the road, and directly to the river. With paving, the runoff from the access road will be collected and directed west to the highway turnout where it can spread into the meadow with a greater dispersion than current conditions. Two sediment traps will be used to collect the sediment from the embankment and the road abrasives and remove the sediment from the flow stream. The sediment trap will periodically have to be cleaned. On the south side of the river, Camp Hill Road is steep and typically drains to the archery area or the river. Runoff on this road will be directed to a small detention basin constructed at the bottom of Horseshoe Pit Hill. This basin can also be used for parking for the Lover's Leap Trail. The basin will collect runoff, trap sediment and promote infiltration.

The road to the water tower is steep and for many years has funneled runoff into camp that would otherwise flowed across the road and dissipated in the forest. The first 200 feet from the Riverside Restroom will be paved and be bordered with a rock strip to promote infiltration. The rock strip will be 2 feet wide and up to 2 feet deep and be filled with crushed rock. Runoff from the paved road will be directed to the strip and then to the forest. The reduction of the flow into camp will, in-turn reduce the erosion in camp.

Define camp roadway and trail system. The trail system in camp will be properly designed to keep campers on defined paths to access cabins or restrooms. This will avoid foot traffic that seeks its own path. The trail system will be wide enough for ADA compliance (primarily the main camp) and use single trails to access multiple facilities. Natural barriers such as rocks and logs will be used to define the trails. This will narrow the trail in most locations and eliminate unnecessary trails. The reclaimed land will be revegetated.

The road system in camp has not been properly defined and has resulted in areas of over-wide roads. Part of this condition is from car parking in camp. The road system will be defined to allow access to the cabins but eliminate over-wide roads. The parking spaces will be defined for each cabin to avoid random locating of cars. Natural barriers will be used to define the roads and parking spaces. The reclaimed areas will be scarified and in-filled with soil as necessary, then revegetated. This action will eliminate the areas of compacted soil and replace them with typical understory from the area. This will promote infiltration, reduce erosion, and provide habitat for birds and mammals.

Forest Stand Improvement. Clumps of trees in and around camp require limbing and basic fuels management activities. These activities will help protect the camp from catastrophic wildfires.

Revegetate denuded areas in camp. Areas in camp that have no vegetative cover but are not currently disturbed will be replanted with understory plants from the area. These areas will be irrigated for the first several years to get plants started. In addition to the roadside areas mentioned above, revegetation areas include Riverside Hill, Horseshoe Pit Hill, Camp Hill, and the Beach.

Land and Water Benefits

This project is structured to provide the maximum benefit to the water resources of the South Fork American River. The solutions proposed in this grant directly affect water quality by controlling sediment flow that is entering the river.

The direct benefits to land and water resources of the SF American River include:

- Reduction in the sediment loading to the SF American,
- Increased infiltration into the soil,
- Increased and improved wildlife habitat,
- Increased recreation experience and opportunities,
- Stabilization of hill sides in camp, and
- Expanding environmental educational opportunities for camp guests.

The El Dorado County RCD has collaborated with the Eldorado National Forest to complete NEPA.

Because of the short construction season at camp, funding opportunities, and the need to avoid construction activities interfering with guests, the project should be phased. The phasing approach selected depends on the available funding, the weather, and the operational needs of camp. The approach is presented below to show the range of options available for implementing the project.

The phasing option has five phases (Table 1). The phases are based on distinct elements of the overall

erosion control project. The phases could occur one per year or several phases per year, depending on the activities within the phase. The identified phases are based on construction activities and the disturbance per phase and also based on the accomplishments per phase. Combining several phases, especially with the road paving would create an economy of scale based on mobilization of equipment and the purchase of asphalt. The project priorities are set by the camp managers. First priority is the camp and cabin surveys and the engineering. A grant application with the Sierra Nevada Conservancy for surveys is currently pending. Second priority is the paving of the entry road, which is most impacted by runoff from Hwy 50 and delivers the most sediment into the South Fork American River. The funding of each phase will be decided on the availability of grant opportunities.

Table 1. Detailed Budget by Phase

PHASE 1 (1st priority)

Engineering (for Road) \$10,000
 Entry Road (AC Paving) \$70,000
 Administration \$5,000
 Total \$85,000

PHASE 2

Engineering (for Road) \$10,000
 Camp Hill Road (AC Paving) \$53,300
 Administration \$5,000
 Total \$68,300

PHASE 3

Engineering (for Road) \$5,000
 Water Tower Road (AC Paving) \$23,000
 ADA Parking (AC Paving) \$10,800
 Administration \$5,000
 Total \$43,800

PHASE 4

Dripline trench \$27,000
 Forest Stand Improvement \$32,000
 Administration \$5,000
 Total \$64,000

PHASE 5

Revegetation \$40,000
 Administration \$5,000
 Total \$45,000

Total Cost For All Phases \$306,100

11. State/Private/Other lands involved? NO

If Yes, specify:

12. How does the proposed project meet purposes of the Legislation? (check at least 1)

Restores and improves land health, Restores water quality

13. Project Type:

a. Check all that apply: (check at least 1) Soil Productivity Improvement, Watershed Restoration & Maintenance, Forest Health Improvement, Wildlife Habitat Restoration, Fish Habitat Restoration, Fuels Management/Fire Prevention, Reestablish Native Species

b. Primary Purpose (*select only 1*)

14. Identify what the project will accomplish

2	Miles of road maintained
1	Miles of trails maintained
1	Miles of trails obliterated
66	Number of structures maintained/improved
23	Acres of soil productivity improved
Acres of hazardous fuel treatment	
0.5	Miles of stream/river restored/improved
16	Acres of forest health improved
23	Acres of wildlife habitat restored/improved
0.5	Miles of fish habitat restored/improved
12	Acres of native species established
1	Jobs generated in full time equivalents (FTE) to nearest tenth. One FTE is 40 hours per week x 52 weeks
2850	Number of people reached (for environmental projects/fire prevention)
	Describe direct economic benefit Increase visitation to Camp Sacramento.
	Describe other accomplishments Recreation

15: Estimated Project Start Date:
05/01/2011

16: Estimated Project Completion Date:
09/01/2013

17. List known partnerships or collaborative opportunities.

City of Sacramento, Camp Sacramento
Friends of Camp Sacramento
Eldorado National Forest
Georgetown Divide Resource Conservation District
BoyScouts

18. Identify benefits to communities.
(*max 12 lines*)

- Reduction in the sediment loading to the SF American River resulting in improved water quality,
- Increased and improved wildlife habitat,
- Increased recreation experience and opportunities,
- An understanding of the importance of good stewardship to improve and sustain our natural resources,
- Expanding environmental educational opportunities for camp guests.

19. How does this project benefit federal lands/resources? (*max 12 lines*)

This project is structured to provide the maximum benefit to the water resources of the South Fork American River. The solutions proposed in this grant directly affect water quality by controlling sediment flow that is entering the river.

The direct benefits to land and water resources of the SF American River include:

- Reduction in the sediment loading to the SF American,
- Increased infiltration into the soil,
- Increased and improved wildlife habitat,

- Increased recreation experience and opportunities,
- Stabilization of hill sides in camp, and
- Expanding environmental educational opportunities for camp guests.

20. What is the proposed method(s) of accomplishment? *(check at least 1)*
 Americorps, YCC/CCC Crews, Contract, Federal Workforce, Volunteers, Grant

21. Will this project generate merchantable timber? No

22. Anticipated Project Costs

- a. Please fill out a project cost form for each fiscal year the project will be funded
- b. Is this a multi-year funding request? No

24. Monitoring Plan *(Input or attach below)*

a. Provide a plan that describes your process for tracking and explaining the effects of this project on your environmental and community goals outlined above.

A. The following monitoring activities will be implemented:

- o Measuring the amount of soil collected in the established sediment basins pre and post restoration;
- o Photo-documentation to compare pre and post restoration activities;
- o Visual behavioral changes of camp visitors due to outreach activities associated with the project.

b. Identify who will conduct the monitoring:

El Dorado County Resource Conservation District

c. Identify total funding needed to carry out specified monitoring tasks:

d. Identify remedies for failure to comply with terms of the agreement.

If project cannot be completed under the terms of this agreement:

If other is selected, explain:

Project Recommended by: Dale Van Dam
 Chairperson, RAC

Project Approved by:
 Forest Supervisor, Eldorado National Forest

Project Cost Analysis

Item	Column A Fed. Agency Appropriated Contribution	Column B Requested Title II Contribution	Column C Other Contributions	Column D Total Available Funds
a. Field Work & Site Surveys	0	0	0	0
b. NEPA/CEQA	3682.56	0	1800	5482.56
c. ESA Consultation	0	0	0	0
d. Permit Acquisition	0	0	0	0
e. Project Design & Engineering	0	0	124000	124000
f. Contract/Grant Preparation	0	0	600	600

g. Contract/Grant Administration	0	25000	0	25000
h. Contract/Grant Cost	0	25000	4170	29170
i. Salaries	0	0	9085	9085
j. Materials & Supplies	0	256100	0	256100
k. Monitoring	0	1200	0	1200
l. Other				
	0	0	0	0
Partner Indirect Costs	0	0	0	0
	0	0	0	0
m. Project Sub-Total	3682.56	307300	139655	450637.56
n. FS Indirect Costs	0	0	0	0
Total Cost Estimate	3682.56	307300	139655	450637.56