

Culvert Replacement Instream Construction Activities

Prepared for:

**Premier Pacific Vineyards
Napa, CA**

August 2009

Prepared by:



Winzler & Kelly
495 Tesconi Circle
Santa Rosa, CA 95401
(707) 523-1010

CULVERT REPLACEMENT INSTREAM CONSTRUCTION ACTIVITIES

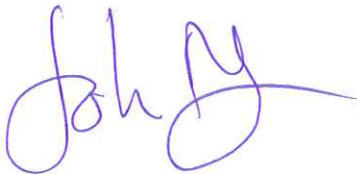
PREMIER PACIFIC VINEYARDS, NAPA, CA

PROJECT NO. 10259-05001 & 09001

Prepared for:

**Premier Pacific Vineyards
Napa, CA**

Prepared by:



**John Riley
Project Engineer**

Reviewed by:



**Dave Cantor
Project Manager**

**Winzler & Kelly
495 Tesconi Circle
Santa Rosa, CA 95404**

August 2009

1. INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

This report has been prepared at the request of Premier Pacific Vineyards to describe the instream construction activities associated with replacement and upgrade of existing culverts located on the Preservation Ranch Project roads. These activities also apply to the few sites where a new culvert is required to prevent continued degradation and erosion.

1.2 CONSTRUCTION SCHEDULING

All construction activities will be scheduled to occur during the normal dry weather construction season of April to October, and when the watercourses are dry. All construction activities shall be completed, with erosion and sediment control measures installed, prior to October 15th.

1.3 CONSTRUCTION EQUIPMENT

A backhoe or excavator will be used for trenching or digging activities, and will typically stay out of the watercourse by operating from the top of bank. A bulldozer, typically a Caterpillar D4, will be used for mass grading operations. Ten yard dump trucks will be used to move bulk materials such as aggregate or earth, and pickup trucks with trailers or flatbeds will be used to move culverts to the sites.

1.4 CONSTRUCTION BEST MANAGEMENT PRACTICES (BMP'S)

Erosion and sediment control practices shall be used for all construction activities. Figure 1, *Culvert Crossing*, indicates BMP's typical for a culvert installation or replacement at locations where the project roadway crosses a watercourse. Figure 2, *Ditch Relief Crossing*, indicates BMP's typical for a culvert installation or replacement at locations where a roadside ditch is required to cross the roadway. All other construction activity BMP's developed for the Preservation Ranch Project shall be used as appropriate; for example, good housekeeping BMP's.

1.5 CONSTRUCTION PERMITTING

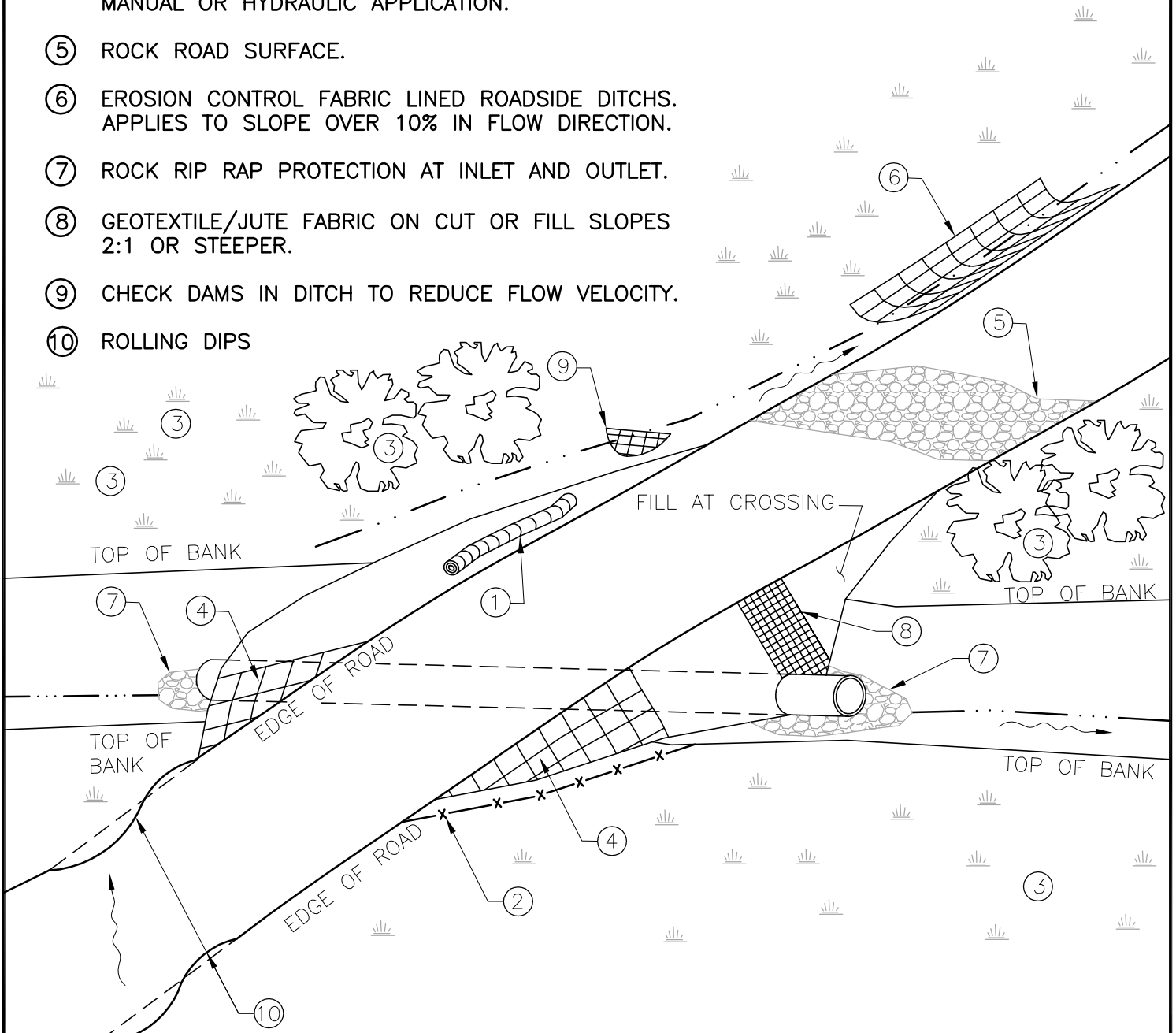
All necessary federal, state, and local permits shall be obtained prior to construction; including California Department of Fish and Game 1602 Streambed Alteration permits and Army Corp of Engineers 404 permits.

Figures

CONSTRUCTION BMPs:

TYPICAL EXAMPLES OF EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHOWN. REFER TO APPROVED BMP REFERENCE MANUAL FOR ADDITIONAL INFORMATION. BMP'S APPLIED TO ANY PARTICULAR CONSTRUCTION SITE WILL VARY BASED ON SITE CONDITIONS.

- ① STRAW WATTLES TO LIMIT SLOPE LENGTH ON EXPOSED SOILS.
- ② SILT FENCE AT LIMITS OF DISTURBED SOILS.
- ③ PRESERVE EXISTING VEGETATION.
- ④ SEED, STRAW AND MULCH DISTURBED AREAS MANUAL OR HYDRAULIC APPLICATION.
- ⑤ ROCK ROAD SURFACE.
- ⑥ EROSION CONTROL FABRIC LINED ROADSIDE DITCHES. APPLIES TO SLOPE OVER 10% IN FLOW DIRECTION.
- ⑦ ROCK RIP RAP PROTECTION AT INLET AND OUTLET.
- ⑧ GEOTEXTILE/JUTE FABRIC ON CUT OR FILL SLOPES 2:1 OR STEEPER.
- ⑨ CHECK DAMS IN DITCH TO REDUCE FLOW VELOCITY.
- ⑩ ROLLING DIPS



WINZLER & KELLY
 495 TESCONI CIRCLE, SANTA ROSA, CA 95401
 PH (707) 523-1010 ♦ FAX (707) 527-8679
 WWW.W-AND-K.COM



PRESERVATION RANCH

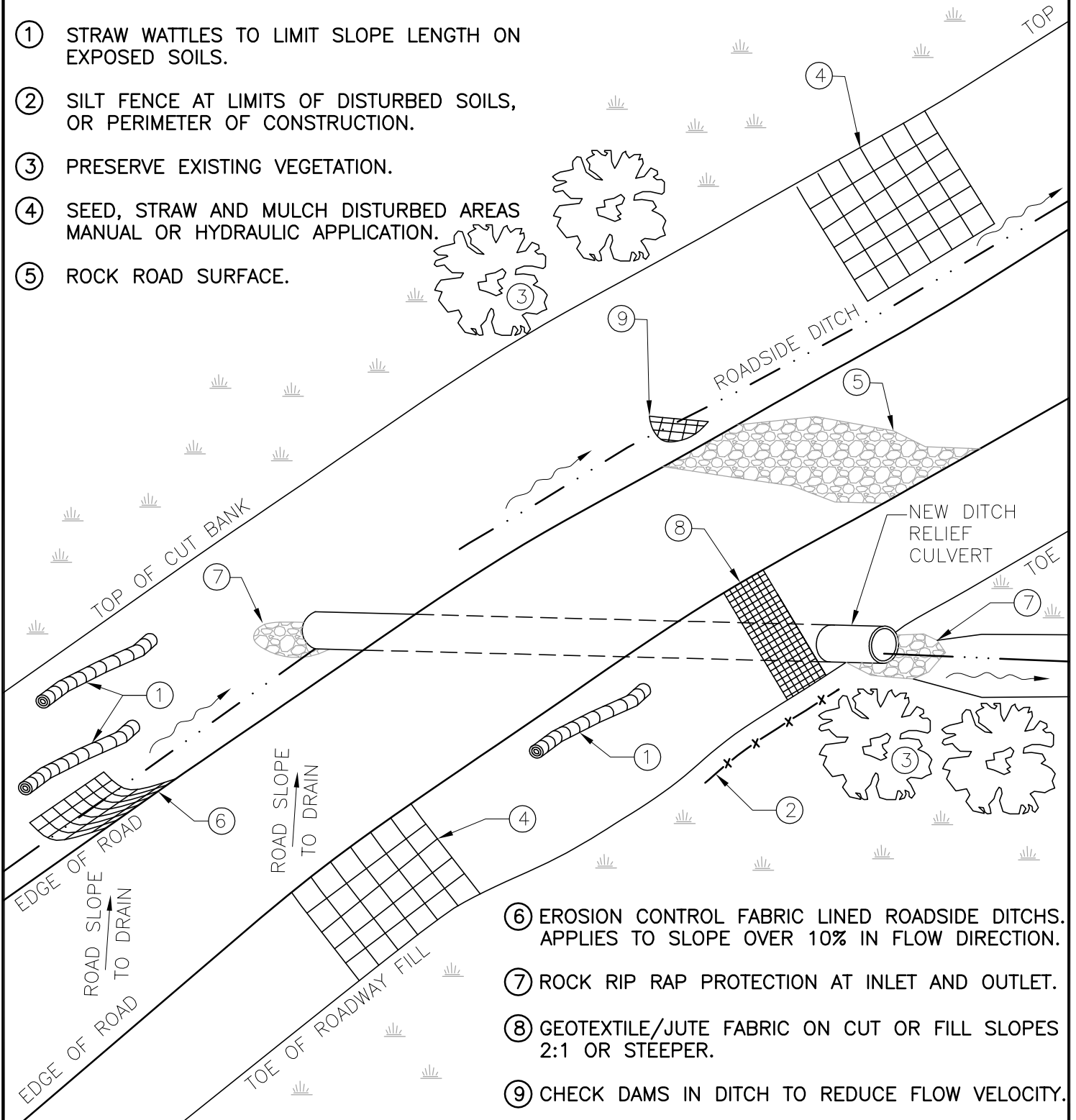
**FIGURE 1
 CULVERT CROSSING**

JOB NO.: 10259-05001
 DATE: 10/12/2008
 SCALE: NO SCALE
 DRAWN BY: BV
 CHECKED BY: JR

CONSTRUCTION BMP'S:

TYPICAL EXAMPLES OF EROSION CONTROL BEST MANAGEMENT PRACTICES (BMPs) SHOWN. REFER TO AN APPROVED BMP REFERENCE MANUAL FOR ADDITIONAL INFORMATION. BMPs APPLIED TO ANY PARTICULAR CONSTRUCTION SITE WILL VARY BASED ON SITE CONDITIONS.

- ① STRAW WATTLES TO LIMIT SLOPE LENGTH ON EXPOSED SOILS.
- ② SILT FENCE AT LIMITS OF DISTURBED SOILS, OR PERIMETER OF CONSTRUCTION.
- ③ PRESERVE EXISTING VEGETATION.
- ④ SEED, STRAW AND MULCH DISTURBED AREAS MANUAL OR HYDRAULIC APPLICATION.
- ⑤ ROCK ROAD SURFACE.



- ⑥ EROSION CONTROL FABRIC LINED ROADSIDE DITCHS. APPLIES TO SLOPE OVER 10% IN FLOW DIRECTION.
- ⑦ ROCK RIP RAP PROTECTION AT INLET AND OUTLET.
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FIGURE 2 DITCH RELIEF CROSSING

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