

MEADOW VALLEY WASH

POST-FLOOD DAMAGE ASSESSMENT AND RECOMMENDATIONS

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Prepared For:

BUREAU OF LAND MANAGEMENT

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ACRONYMS AND ABBREVIATIONS

BLM	Bureau of Land Management
Cfs	Cubic feet per second
County	Lincoln County
GIS	Geographic information system
NDOT	Nevada Department of Transportation
r. right	The right side of the creek looking downstream
r. left	The left side of the creek looking downstream
UPRR	Union Pacific Railroad

1.0 INTRODUCTION

In January 2005, a severe flood event in Lincoln County closed nearly 120 miles of roads and washed out portions of the Union Pacific operated rail line within the Clover Creek and Meadow Valley Wash watersheds. The flood event and post-flood mechanical disturbance resulted in widespread impacts to resources that exposed and destabilized sediments and altered sediment transport patterns. Resource Concepts, Inc. (RCI) was requested by the BLM to conduct a damage assessment that can be used to assist the United States Department of Interior, Bureau of Land Management (BLM) Ely Field Office (EYFO) in making informed decisions to ensure effective implementation of stabilization and rehabilitation activities.

This report describes the project area, methods and findings of the damage assessment with recommendations for natural resource reclamation and repairs to infrastructure. The recommendations are prioritized and include a range of estimated costs.

2.0 DESCRIPTION OF PROJECT AREA

The Project Area (Figure 1) for the post-flood damage assessment includes approximately 75 miles of Meadow Valley Wash, from Caliente to Farrier and 20 miles of Clover Creek from Barclay to the confluence with Meadow Valley Wash in Caliente (Figure 1). The elevation of Clover Creek and Meadow Valley Wash ranges from 5,300 feet above sea level near Barclay on Clover Creek, to 4,400 feet at Caliente, to 1,600 feet at Farrier. The most prominent contributing watersheds originate in the Clover Mountains and the Delmar Mountains, both of which extend over 7,000 feet in elevation. The Clover Mountains are located on the south side of Clover Creek and the east side of Meadow Valley Wash. The Delmar Mountains are on the west side of Meadow Valley Wash. Both mountains have several springs. Average annual rainfall ranges from four to six inches in the southern part of the Project Area and eight to fourteen inches in the northern part. Precipitation increases at the higher elevations.

The general landscape geomorphology and the anthropogenic constraints or infrastructure are varied for different reaches of the Meadow Valley Wash-Clover Creek project area. Landscape geomorphology is indicative of channel characteristics. For instance, in narrow canyons stream flood velocities and erosive forces are expected to be relatively high and the stream channel likely to be single thread with perennial water. In the wide-open areas, stream flood velocities are expected to be relatively low, the channel likely braided, sediment deposition more likely than channel erosion, and only seasonally wet. Infrastructure presents constraints and features that warrant protection from erosion and sedimentation. Three distinct channel reaches within the project area are described for Clover Creek in Table 1. Seven distinct reaches of Meadow Valley Wash are described in Table 2. Figure 2 illustrates the reaches and surrounding geology.