

11 SURVEY AND MAPPING

Mountain Pacific Surveys (MPS) conducted topographic mapping at selected areas around Lake Berryessa. MPS utilized provided topographic maps as the baseline for the updated survey.

The aerial mapping effort at Lake Berryessa was undertaken in early May of 2002. Upon completion of the initial research required to develop the appropriate datum and GPS control network, field crews placed and controlled ground targets to facilitate the aerial mapping effort. The aerial consultant flew the site and compiled the required mapping at the selected areas. The mapping product was compiled at 1"=200' with a 5' contour interval using NAD 83/NAVD 88 control monuments.

Aerial mapping for the sewage pond areas for Markley Cove, Putah Creek Resort, and Pleasure Cove was provided. Access roads to the sewage ponds were reflected on the maps. The survey also located the two new boat storage buildings at Steele Park. The location of these sewage ponds relative to the specific resorts are not on the same datum and therefore, cannot be accurately plotted on the topographic maps.

Electronic and hardcopy versions of previous topographic maps prepared by others, were provided by Reclamation to Kleinfelder and Mountain Pacific Survey. The topographic maps provided were compiled in both metric units and standard English units (feet). Per Reclamation guidance, the NAD83/NAVD88 control monuments, established at the lake by Reclamation, were utilized for the basis of the coordinate systems. Unfortunately, these datums were not the basis for either of the previous topographic mapping products provided by Reclamation. This means that the new mapping products produced by MPS cannot be registered to the older products without some manipulation. The process to correct the datum conflicts would consist of a horizontal datum shift and rotation (NAD 27 to NAD 83), as well as a vertical translation of about 3 feet (NGVD 29 to NAVD 88). There would be some inherent loss of accuracy, primarily in the vertical component, in the conversion process, however, since the topographic mapping was performed for planning level assessments only, the merged product would still be suitable for this level of engineering analysis.

Copies of the topographic survey maps for each resort are included in Appendix C for reference.