

SURVEYING AND MAPPING REQUIREMENTS

1.0. Surveying and Mapping.

1.1. General. Surveying and mapping are normally performed by the District, and topographic maps and other survey data are provided to A-E. When surveying and mapping are performed by A--E, work shall be accomplished by qualified personnel licensed in such work, in accordance with the following requirements and those contained in DM 4-805-10, "Sacramento District Design Manual for Surveying and Mapping".

1.2. Procedures. In addition to any specific survey requirements prescribed in the scope of work for the project, the following shall also apply:

a. Basic mapping control, "P" lines for route surveys, as-built control, and cadastral surveys shall be conducted to 3rd Order accuracy, both horizontally and vertically, and comply with the standards and Specifications for Geodetic Control Networks (Sept 84). NOAA Federal Geodetic Control Committee.

b. When surveys include legal land surveys or descriptions, work shall be accomplished in accordance with Bureau of Land Management methods and procedures, state statutes where appropriate, and by or under supervision of a professional land surveyor holding a current license issued by the state in which the work is located.

c. All extension of survey control and mapping accomplished by photogrammetric methods and procedures shall comply with the National Map Standards of Accuracy.

d. The A-E shall inform the Government of his proposed methods, procedures, and type of equipment to be used, and the work will be subject to inspection by government personnel. However, the A-E will retain responsibility for the quality of the work within the limits prescribed in the scope of work.

1.3. Topographic Drawings. Topographic and planimetric data shall be plotted to prescribed scale and contour interval on polyester drafting film of approved quality in accordance with Sacramento District Drafting Standards. When specific instructions are not furnished, the following shall apply:

a. Contours shall be shown with fine, solid line. Every fifth (guide) contour shall be somewhat heavier and periodically broken for insertion of the contour elevation. In general, identification of guide contours shall follow a regular pattern to allow for "easy map reading."

b. All survey stations, bench marks, designations, and elevations are to be shown on topographic drawings in accordance with Sacramento District Drafting Standards.

c. Buildings and structures shall be shown with solid lines, omitting cross hatching or complete blanking.

d. Maps and drawings shall be so oriented that north will be toward top of sheet, when practicable, or toward the left of the sheet if top orientation is impractical.

e. Items to appear on all completed topographic drawings are as follows:

- (1) North arrow.
- (2) Grid ticks and values.
- (3) Scale and graphic scale.
- (4) Grid system, projection, and vertical datum with latter referenced to National Geodetic Vertical Datum (NGVD 1929).
- (5) Date aerial photography flown, if applicable.
- (6) Date of ground survey.
- (7) Survey control points, identification, and elevations where appropriate.