

19 CONTROL SURVEYS AND GEODETIC REDUCTIONS

Asterisks (*) indicate problems that have partial answers given in Appendix G.

19.1 Define the *geoid* and *ellipsoid*.

From Section 19.2, paragraph 1: "The geoid is an equipotential gravitational surface located approximately at mean sea level, which is everywhere perpendicular to the direction of gravity."

From Section 19.2, paragraph 2: "The ellipsoid is a mathematical surface obtained by revolving an ellipse about the Earth's polar axis. The dimensions of the ellipse are selected to give a good fit of the ellipsoid to the geoid over a large area, and are based upon surveys made in the area."

19.2 What are the possible monumentation types for a control station with a quality code of A?

From Section 19.11, paragraph 3: "Quality code A monuments are the most reliable and are expected to hold a precise elevation. These monuments are typically rock outcrops, bedrock, and similar features plus massive structures with deep foundations; large structures with foundations on bedrock; or sleeved deep settings (10 ft or more) with galvanized steel pipe or galvanized steel, stainless steel, or aluminum rods."