DESCRIPTION OF MAP UNITS

- Brown (10YR 6/2) mostly silt, sand, and chert gravel; locally derived from loess, alluvium, and map unit gravel quarries, and as building pads. Thickness generally 1–2 m, but 20 quarries and some bridge approaches.

Alluvium (Holocene)

- Brown (10YR 6/6) and light-brown (10YR 7/4) silt with <10 percent sand and <10 percent clay (Spann, 1998). Regionally, loess is predominantly quartz with minor amounts of plagioclase, orthoclase, and dolomite (Gelderloos, 1996). Borings reveal loess is 2–20 m thick.

Terrace deposit (Pleistocene)

- Brown (10YR 6/2) silt with <10 percent sand and <10 percent clay (Spann, 1998). Regionally, loess is predominantly quartz with minor amounts of plagioclase, orthoclase, and dolomite (Gelderloos, 1996). Borings reveal loess is 2–20 m thick.

Claiborne Group, upper part (Eocene)

- Brown (10YR 6/2) silt with <10 percent sand and <10 percent clay (Spann, 1998). Regionally, loess is predominantly quartz with minor amounts of plagioclase, orthoclase, and dolomite (Gelderloos, 1996). Borings reveal loess is 2–20 m thick.

INTRODUCTION

The City of Memphis lies within the upper Mississippi embayment, which is seismically active (Schweig and Van Arsdale, 1996) and near the New Madrid Seismic Zone (NMSZ) (fig. 2). Proximity to the NMSZ raises concerns that: 1) the site of the 1811, 1812, and 1821 New Madrid earthquakes is only 26 km southwest of the city, 2) the site of the 1843 earthquake in the NMSZ, near Marked Tree, Ark. (Stover and Coffman, 1993), and (3) in the mid-continent, earthquake.