

Surficial Geology of the Readlyn (Iowa) 7.5' Quadrangle

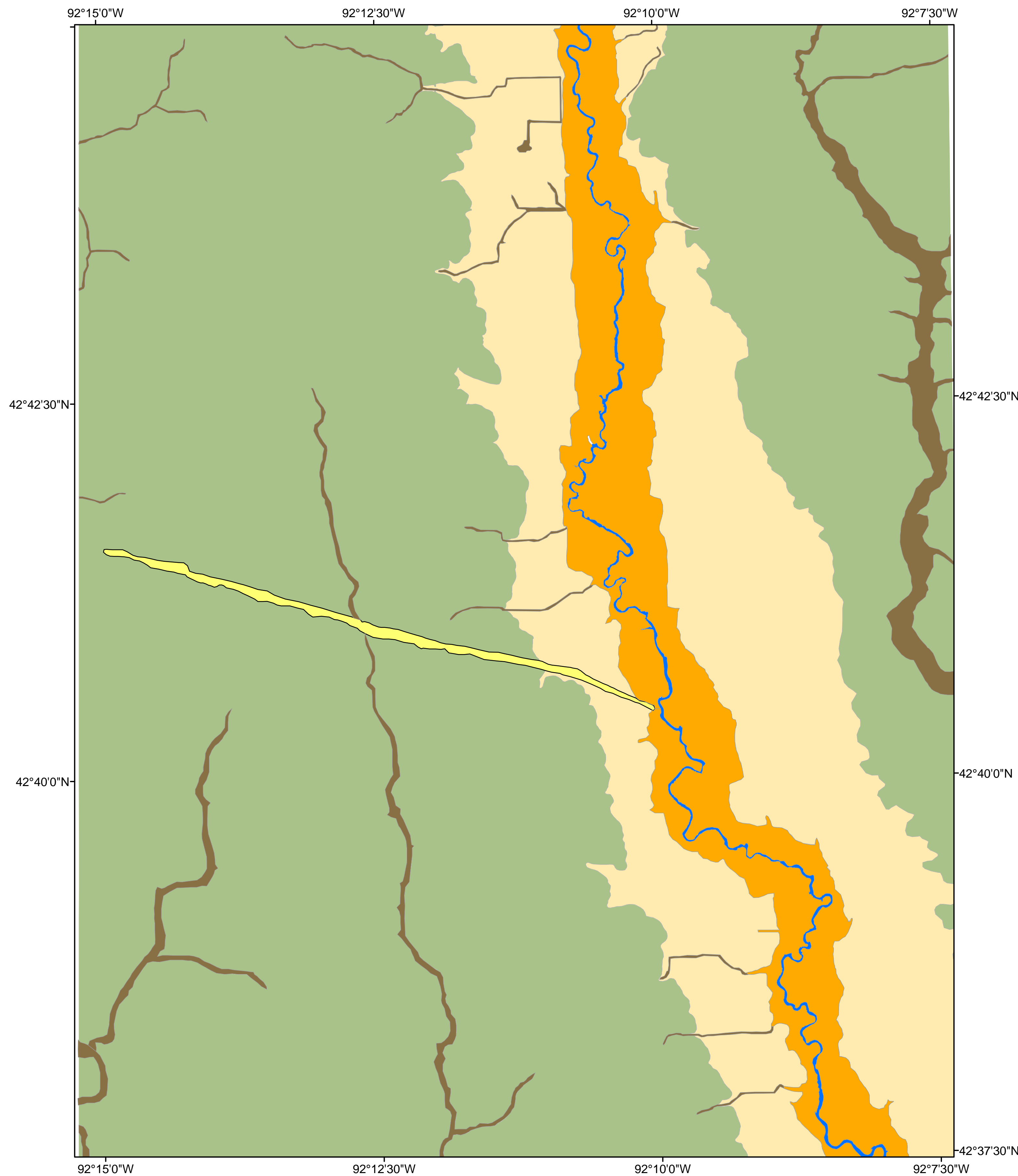
**COOPERATIVE MAPPING WITH THE IOWA GEOLOGIC AND WATER SURVEY (IGWS) AND THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS)
SURFICIAL GEOLOGIC MAP OF THE READLYN 1:24,000 QUADRANGLE**

The University of Northern Iowa
Earth Science
July 2010

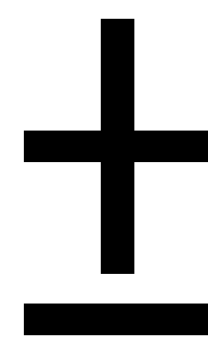
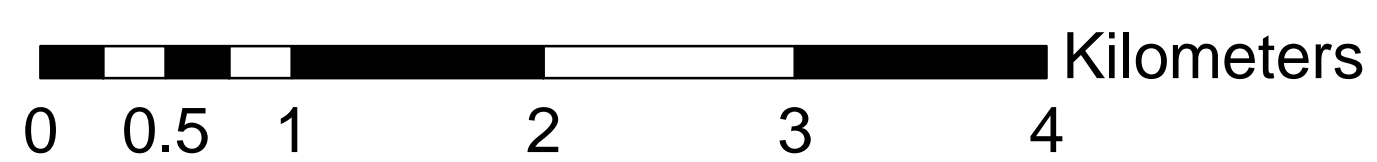
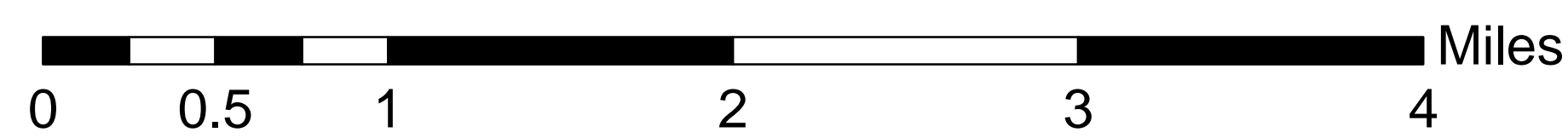
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1:24,000



Legend

Cenozoic Quaternary System

Hudson Episode

- Qal** **Qal - Alluvium** (DeForest Formation-Undifferentiated) Variable thickness of less than 1 to 5 m (3-16 ft) of very dark gray to brown, noncalcareous to calcareous, massive to stratified silty clay loam, clay loam, loam to sandy loam alluvium and colluvium in stream valleys, on hill slopes and in closed depressions. May overlie Noah Creek Formation, Wolf Creek or Alburnett formations or fractured Devonian carbonate bedrock. Associated with low-relief modern floodplain, closed depressions, modern drainage ways or toeslope positions on the landscape. Seasonal high water table and potential for frequent flooding.
- Qal_lt** **Qallt - Low Terrace** (DeForest Formation-Camp Creek Mbr. and Roberts Creek Mbr.). Variable thickness of less than 1 to 5 m (3-16 ft) of very dark gray to brown, noncalcareous, stratified silty clay loam, loam, or clay loam, associated with the modern channel belt of the Shell Rock and West Fork Cedar river valleys. Overlies the Noah Creek Formation. Occupies lowest position on the floodplain ie. modern channel belts. Seasonal high water table and frequent flooding potential.
- Qe** **Qe - Sandy Sediment** Generally 1 to 3 m of yellowish sandy loam and fine sandy loam, well sorted, massive to well-stratified, medium to fine quartz sand. Occur as elongated northwest to southeast trending stringers a top glacial till. May contain solifluction features, stone lines, ventifacts, and silt bands.

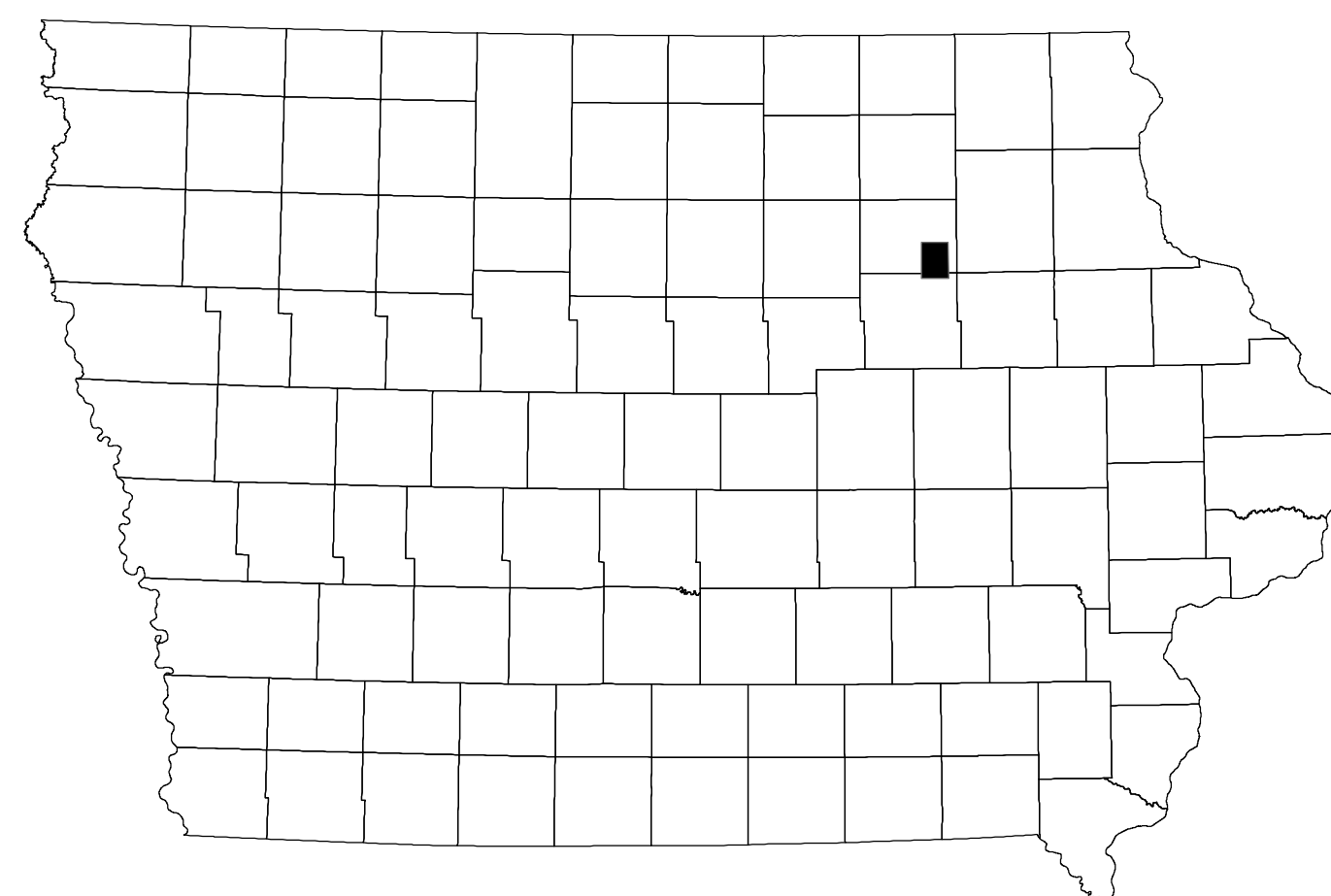
Hudson and Wisconsin Episode

- Qnw2** **Qnw2 - Sand and Gravel** (Noah Creek Formation) Generally 2 to 8 m (6-26 ft) of yellowish brown to gray, poorly to well sorted, massive to well stratified, coarse to fine feldspathic quartz sand, pebbly sand and gravel with few intervening layers of silty clay. A thin mantle of loess, reworked loess or fine grained alluvium (Qal) may be present. This unit includes silty colluvial deposits derived from the adjacent map units. In places this unit is mantled with 1 to 3 m (3-10 ft) of fine to medium, well sorted sand derived from aeolian processes affecting adjacent alluvial deposits. This unit encompasses deposits that accumulated in low-relief stream valleys during the Wisconsin and Hudson Episodes. Seasonal high water table and some potential for flooding.

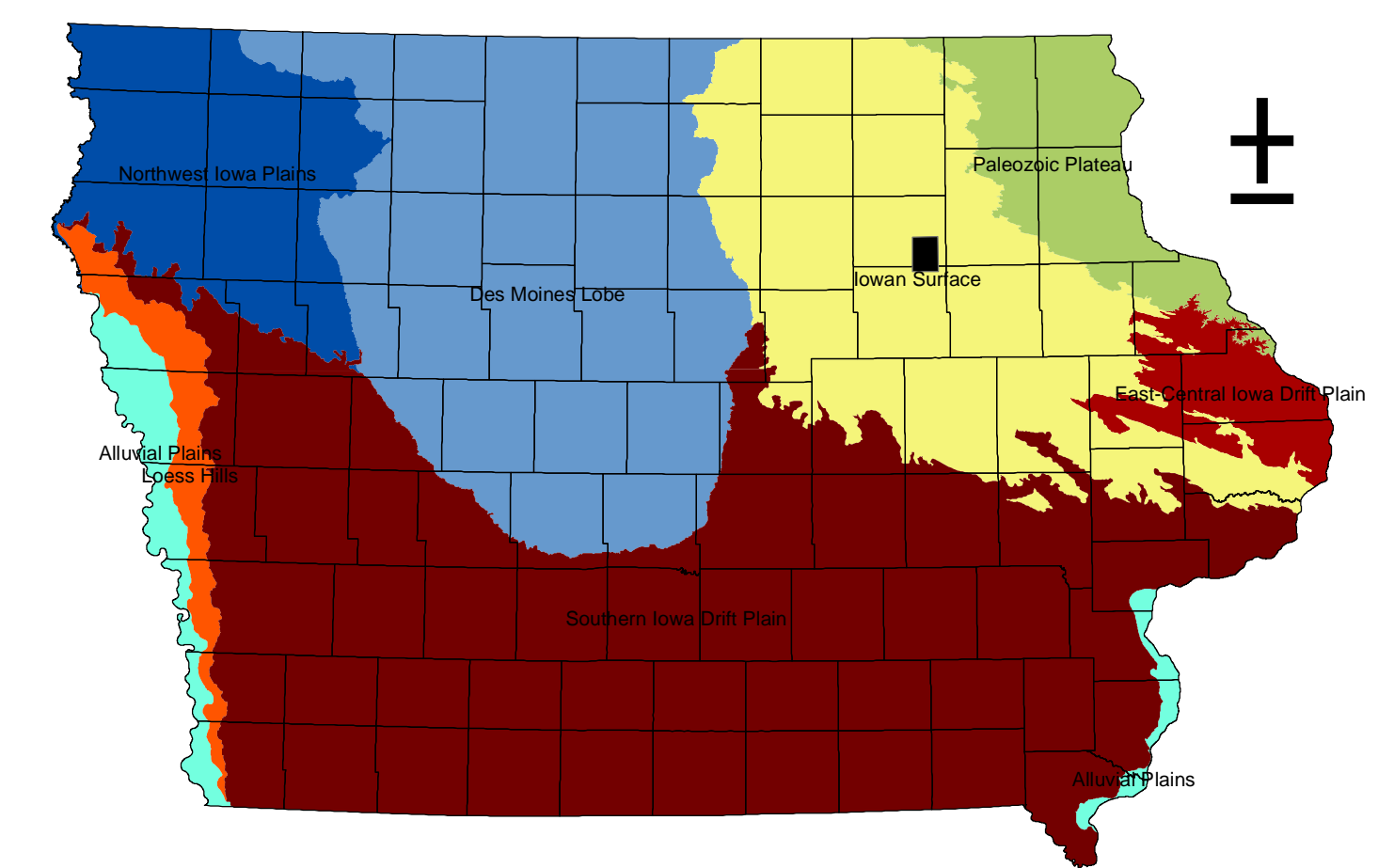
Wisconsin Episode

- Qwa2** **Qwa2 - Loamy and Sandy Sediment Shallow to Glacial Till** Generally 1 to 6 m of yellowish brown to gray, massive to weakly stratified, well to poorly sorted loamy, sandy and silty erosion surface sediment.

Readlyn Quadrangle Location



Iowa's Landform Regions



Legend

- Alluvial Plains
- Iowan Surface
- Paleozoic Plateau
- Des Moines Lobe
- Loess Hills
- Southern Iowa Drift Plain
- East-Central Iowa Drift Plain
- Northwest Iowa Plains

Base map from USGS Readlyn 7.5" Digital Raster Graphic which was scanned from the Waverly 7.5" Topographic Quadrangle map, published by the United States Geological Survey in 1971

Topographic contours and land features based on 1967 aerial photography, field checked in 1971

Land elevation contours (10' interval) based on NGVD1929

Map projection and coordinate system based on Universal Transverse Mercator (UTM) Zone 15, datum NAD83

The map and cross section are based on interpretations of the best available information at the time of mapping. Map interpretations are not a substitute for detailed site specific studies.