USDA icon **Natural Resources Conservation Service**

Major Land Resource Area 077E
Southern High Plains, Breaks

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Ecological site keys

MLRA 77E ES Key

I. Sites that receive additional moisture from runoff of adjacent slopes, overbank flooding from intermittent/perennial streams, or have a water table.

A. Subirrigated soils with continuous water table from 15 to 122 cm (6 to 48 in). Site is very deep with poorly drained to somewhat poorly drained, moderately slow to moderately rapid permeability soils on flood plains of larger streams and rivers ... R077EY571TX – Wet Bottomland 16-24" PZ

B. Soils with less than 18% clay and greater than 60% sand in the subsoil. Fluctuating seasonal high water table from 50 to >200 cm (20 to >80 in). Site is very deep with somewhat poorly drained to well drained, rapidly permeable soils on flood plains of larger streams and rivers ... R077EY065TX – Sandy Bottomland 16-24" PZ

C. Soils with greater than 18% clay in the subsoil. Site is very deep with well drained, moderately permeable soils on well-developed flood plains of larger streams and rivers ... R077EY058TX – Loamy Bottomland 16-24" PZ

D. Soils with greater than 18% clay in the subsoil. Site is very deep with well drained, moderately permeable soils on draws adjacent to uplands, on smaller drainageways without a defined flood plain ... R077EY052TX – Draw 16-24" PZ

E. Fine-textured soils with high shrink swell and wetness features (redoximorphic features) in the upper part of the soil. Site occurs in dips and swales on terraces or interfluves that accumulate additional moisture into closed depressions with potential or apparent ponding. Site is very deep, with poorly drained, very slowly permeable soils on playas ... R077EY098OK – Depression 16-24" PZ

II. Site does not receive significant additional moisture.

A. Soil depth very shallow (<10” (25cm)), shallow (10-20” (25-50cm)) skeletal (>35% coarse fragments by volume in top 20” (50cm”))

1 Loamy soils with depth to restrictive layer of very shallow (<25 cm (<10 in)) over calcareous arenaceous limestone (caliche) colluvium or petrocalcic developed in cobbly caliche colluvium, slopes are greater than 8% up to 80%. Site is somewhat excessively drained, moderately rapidly permeable, and occurs on steep hillslopes and breaks ... R077EY062TX – Breaks 16-24" PZ

2 Loamy soils with depth to restrictive layer of very shallow (<25 cm (<10 in)) or shallow (25 to 50 cm (10 to 20 in)) over calcareous arenaceous limestone (caliche) residuum, with slopes are less than 8%. Site is well drained, and occurs on hillslopes and structural benches ... R077EY068TX – Very Shallow 16-24" PZ

B. Soil depth moderately deep to very deep (>20” (50cm)) without root restricting layer that inhibits the productivity potential

1 Soils are skeletal (>35% coarse fragments by volume)

i. Loamy-skeletal soils with >35% gravels in the subsoil and > 50 percent quartzite gravels on the soil surface formed in sandy and gravelly alluvium. Site is well drained, moderately permeable, and occurs on hillslopes ... R077EY053TX – Gravelly 16-24" PZ

2 Soils are NOT skeletal (<35% coarse fragments by volume in top 20” (50cm”))

i. Soils highly calcareous (>15% CCE)

a. Coarse-loamy soils developed in calcareous arenaceous limestone (caliche) colluvium that grade to highly calcareous subsoils (calcic horizons) within 100 cm (40 in) of the soil surface and fractured and degraded caliche. Site is moderately deep to very deep, well drained, and moderately permeable soils that occur on hillslopes ... R077EY057TX – Limy Upland 16-24" PZ

b. Coarse-loamy and sandy soils developed in mixed ancient sandy and gravelly alluvium with stratified heterogeneous subsoils. Some soils, but not all, have moderate accumulations of calcium carbonate in the subsoil (calcic horizon). Site is moderately deep to very deep, well drained to excessively drained, moderately rapidly permeable to rapidly permeable soils that occur on hillslopes and alluvial fans ... R077EY061TX – Mixedland Slopes 16-24" PZ

ii. Soils NOT highly calcareous (<15% CCE)

a. Fine-loamy soils with no clay accumulation (no argillic) in the subsoil, formed in loamy eolian deposits emplaced on hillslopes. Site is very deep, well drained, and moderately permeable and occurs on hillslopes ... R077EY055TX – Hardland Slopes 16-24" PZ

b. Fine-loamy soils with well-developed subsoils (argillic horizon) and clay loam surface textures. Site is very deep, well drained, moderately permeable soils on formed from mixed alluvial and eolian processes on broad erosion remnants and interfluves ... R077EY051TX – Clay Loam 16-24" PZ

c. Fine-loamy soils with well-developed subsoils (argillic horizon) and loam, silt loam, or clay loam surface textures. Site is very deep, well drained, moderately permeable soils formed from ancient alluvial deposition on stream terraces ... R077EY056OK – Loamy Upland 16-24" PZ

iii. Sites on upland positions formed by deposition of eolian sands (<18% clay).

a. Soils with a surface texture of sandy loam or fine sandy loam and a well-developed subsoil (argillic horizon) of sandy loam, sandy clay loam, loam, or clay loam. Site is very deep with well drained, moderately permeable soils on sand sheets ... R077EY066TX – Sandy Loam 16-24" PZ

b. Soils with a surface texture of loamy sand, loamy fine sand, or sand and a lesser developed (argillic horizon) of loamy sand or loamy fine sand. Site is very deep with excessively drained, rapidly permeable soils on low dunes ... R077EY064TX – Sandy 16-24" PZ

c. Soils have little or no subsoil accumulation of clay (no argillic horizon). Site is very deep with excessively drained, rapidly permeable soils on dunes ... R077EY063TX – Sand Hills 16-24" PZ