E5. Soils Data

Master Management Plan Update and Associated Park Improvement Projects
Draft Environmental Impact Report

EDAW

APPENDIX E5
SOIL DESCRIPTIONS AND CHARACTERISTICS

There are 30 distinct soil types and complexes found within Bidwell Park. What follows are descriptions of the soil characteristics accompanied by a summary table.

- 100 – Anita-Galt Complex, 0 to 3 percent slopes

  This soil complex is found in low foothill (170'–315' elevation) drainage ways and basins, typically at the distal edge of terraces. With up to 35% clay content, these soils are associated with vernal pools in low spots and gravelly pan nearer the foothills. *Anita* soils have a 10"–20" depth to hardpan; its shallower depressions are associated with low energy downcutting at the pan. Its available water capacity is very low and its land capability classification is 7w-2. *Galt* soils have a 20"–40" depth to pan and are found closer to channels that carved deeper into the pan layer. Its available water capacity is low and its land capability classification is 5w-2. The high clay content holds water and makes these soils subject to ponding and flooding. Both soils have slow permeability and are poorly drained. This land type is used for wildlife habitat and watershed management.

- 300 – Redsluff Gravelly Loam, 0 to 2 percent slopes

  This is a deep, moderately well-drained soil found on low fan terraces (175'–400' elevation) on the east side of the Sacramento Valley. Up to 15% of the surface may be covered with rounded cobbles or gravels. Available water capacity is about 5.5" (moderate). Land with this soil can be used for a wide variety of uses including homesite development, irrigated crops, livestock grazing, woodland, wildlife habitat, and watershed management. Land capability unit 2s-11 (irrigated), 3s-11 (non-irrigated).

- 302 – Redtough-Redswale Complex, 0 to 2 percent slopes

  Soils in this complex are generally found in northwest Butte County on the eastern margin of the Sacramento Valley at elevations of 200'–400'. The soils, while relatively flat, are comprised of loamy alluvium layers over cemented cobbles and gravels which make them impermeable with very high runoff potential. *Redtough loam* forms the mounds of high fan terraces with a depth to hardpan of 10" to 20". Its available water capacity is about 1.6" (very low) with land capability unit 7s-8. *Redswale loam* is shallower, with a depth to hardpan of 4" to 10", and forms the swales of high fan terraces. It also has very low available water capacity (0.7") and its land capability is 8s-8. Vernal pools may be found in this soil complex. Major uses for land with this soil include livestock grazing, development, wildlife habitat and watershed management.

- 340 – Rock Outcrop-Thermalrocks-Campbellhills Complex, 2 to 15 percent slopes

  This soil complex, characterized by visible rocky outcrops, is found on moderate to steeply sloping hillsides at the top of and in fractures of basalt plateaus in the foothills (150' to 1,580' elevation) of central Butte County. *Thermalrocks very gravelly loam* is moderately shallow, with up to 60% coverage by coarse angular gravels and cobbles, is somewhat poorly drained with high runoff potential, has a about 0.4" available water capacity (very low) and is assigned to land capability unit 8s-8. *Campbellhills gravelly loam* is a deeper soil, with up to 30% coverage by angular cobble and gravels, exhibits low runoff potential, is somewhat poorly drained and has about 4.1" available water capacity (low). Its land capability unit is 6e-4. Land types with this soil complex can support livestock grazing, recreation, wildlife habitat and watershed management.

- 353 – Cherokee Spring Gravelly Silt Loam, 2 to 15 percent slopes

  This soil is found on benches and side slopes of basalt plateaus in the central Butte County foothills, elevation 550'–970'. It is a deep well-drained soil with low runoff potential and about 8.1" available water capacity (high) that supports a variety of open space land uses including livestock grazing, olive orchards, wildlife habitat and watershed management. Land capability unit 3e-1.

- 418 – Almendra Loam, 0 to 2 percent slopes

  Found on low-elevation (140'–250') broad, leveled alluvial fans, Almendra loam is a very deep, well-drained soil with high available water capacity and slight wind and water erosion hazard. This soil qualifies as prime farmland suitable for walnut and almond orchards and some row crops. Land capability unit is 1 (irrigated) or 3c (non-irrigated). Almendra loam soil is generally free of limitations that would require additional management considerations.

- 425 – Vina Fine Sandy Loam, 0-2 percent slopes

  Vina fine sandy loam is found on low-elevation (145'–230') alluvial fans that have been extensively modified and leveled for agriculture. It is a relatively flat, deep, well-drained soil with moderate available water capacity and moderate water and wind erosion hazard. The soil supports a variety of irrigated crops and orchards and its management is limited primarily by its water erodibility. It is classified as land capability unit 1 (irrigated) and 2s (non-irrigated). This land type could also be used for wildlife habitat, native woodland and watershed management purposes. Native vegetation associated with this soil type includes valley oaks, sycamores and cottonwoods as well as annual grasses and forbs.

- 447 – Charger Fine Sandy Loam, 0 to 2 percent slopes

  This soil type is found in northwest Butte County where canyon streams enter the east side of the Sacramento Valley. This is a deep, moderately well-drained soil located on alluvial fans in the 180'–600' elevation range. With about 7.2" available water capacity on relatively flat slopes, there is very low runoff potential. The soil is classifies as land capability unit 2s-11 (irrigated) or 3s-11 (non-irrigated). Land types with this soil are typically useful for home site development, orchards, livestock grazing, woodland, wildlife habitat and watershed management. Native vegetation found on these soils includes riparian forest and valley oak savannah.

- 615 – Doemill-Jokerst Complex, 3 to 8 percent slopes

  Found in the southern Cascade foothills of north-central Butte County between 160'–1,000' in elevation, this complex is characterized by somewhat poorly drained, shallow soils on ridge top mounds and foothill terraces. The complex is includes 50% Doemill gravelly loam and 40% Jokerst very cobbly loam. *Doemill gravelly loam* is 10"–20" to bedrock with moderately slow permeability above bedrock. Up to 20% of its surface is covered by subangular boulders, cobbles, gravels and stones. There is about 2.1" available water capacity (very low) and very high runoff potential. Doemill gravelly loam has a land capability unit of 6e-8. *Jokerst very cobbly loam* is 2"–10" above bedrock with moderate permeability above bedrock. Its surface is covered by up to 50% subangular stones, up to 30% subangular cobbles and less than 10% subangular boulders and cobbles. There is about 0.4" available water capacity (very low) and very high runoff potential. The land capability classification for Jokerst very cobbly loam is 8e-8. Land types with this soil complex typically support livestock grazing, home site development, wildlife habitat and watershed management.

- 617 – Doemill-Jokerst-Typic Haploxeralfs Complex, 15 to 30 percent slopes

  This soil complex is generally found on southern Cascade foothill side slopes of north central Butte County between 255' and 880' in elevation. Comprised of 35% Doemill gravelly loam, 35% Jokerst very cobbly loam and 25% Haploxeralfs gravelly loam, this shallow, poorly drained complex has very little available water capacity and very high runoff potential. *Doemill gravelly loam* is 10"–20" to bedrock and somewhat poorly drained with moderately slow permeability above bedrock. Up to 20% of its surface is covered by subangular boulders, cobbles, gravels and stones. There is about 2.1" available water capacity (very low) and very high runoff potential. Doemill gravelly loam has a land capability unit of 6e-8. *Jokerst very cobbly loam* is 2"–10" above bedrock, poorly drained, with moderate permeability above bedrock. Its surface is covered by up to 50% subangular stones, up to 30% subangular cobbles and less than 10% subangular boulders and cobbles. There is about 0.4" available water capacity (very low) and very high runoff potential. *Typic Haploxeralfs gravelly loam* is well-drained and has a depth of 20"–60" to bedrock. Because of the slope this soil has high runoff potential

and about 4.6" available water capacity (low). Land capability classification for these soils are, respectively 6e-8, 8e-8 and 4e-1. This land type is used for livestock grazing, wildlife habitat and watershed management.

- 620 – Doemill-Jokerst-Ultic Haploxeralfs, Thermic Complex, 3 to 8 percent slopes

  Found on foothill ridge tops of the southern Cascade foothills (400'–1,700') of north central Butte County, this soil complex is characterized by 40% *Doemill gravelly loam*, 25% *Jokerst very cobbly loam* and 20% *Ultic Haploxeralfs, thermic gravelly loam*. Doemill gravelly loam is 10"–20" to bedrock and somewhat poorly drained with moderately slow permeability above bedrock. Up to 20% of its surface is covered by subangular boulders, cobbles, gravels and stones. There is about 2.1" available water capacity (very low) and very high runoff potential. *Doemill gravelly loam* has a land capability unit of 6e-8. *Jokerst very cobbly loam* is 2"–10" above bedrock, poorly drained, with moderate permeability above bedrock. Its surface is covered by up to 50% subangular stones, up to 30% subangular cobbles and less than 10% subangular boulders and cobbles. There is about 0.4" available water capacity (very low) and very high runoff potential. *Ultic haploxeralfs thermic gravelly loam* has a 20"–40" depth to bedrock, is moderately well drained with moderate slow permeability above bedrock. Up to 10% of its surface is covered by subangular stones and boulders, 20% fine subangular gravel and up to 80% subangular cobbles. There is about 3.0" available water capacity (low) and high runoff potential. Land capability classifications for these soils are, respectively, 6e-8, 8e-8 and 4e-8. Land types with this soil complex are used for livestock grazing, wildlife habitat, and watershed management.

- 621 – Doemill-Jokerst-ultic Haploxeralfs, Thermic Complex, 8 to 15 percent slopes

  Found on southern Cascade foothill ridge tops (400'–1,700') in north central Butte County, this soil complex is comprised of 30% *Doemill gravelly loam*, 30% *Jokerst very cobbly loam* and 20% *Ultic Haploxeralfs, thermic gravelly loam*, the soil types described above. This land type is used for livestock grazing, wildlife habitat and watershed management.

- 622 – Xerorthents-Typic Haploxeralfs-Rock Outcrop, Cliffs Complex, 15 to 30 percent slopes

  This soil complex is found in the 200'–1,500' elevation range on side slopes in the southern Cascade foothill canyons of north central Butte County. The complex is comprised of 40% Xerorthents gravelly clay loam, 30% Typic Haploxeralfs gravelly loam and 15% rock outcrop cliffs. *Xerorthents gravelly clay loam* is a moderately well drained shallow soil (2"–20" to bedrock) with up to 40% subangular boulders and stones and up to 25% cobbles and gravels on the surface. There is about 1.1" available water capacity (very low) and runoff potential is very high. Its land capability is 7s-8. *Typic Haploxeralfs gravelly loam* is well-drained and has a depth of 20"–60" to bedrock. Because of the slope this soil has high runoff potential and about 4.6" available water

capacity (low). Its land capability is 4e-1. Major uses of this land type include livestock grazing, wildlife habitat and watershed management.

- 623 – Xerorthents-Typic Haploxeralfs-Rock Outcrop, Cliffs Complex, 30 to 50 percent slopes

  This soil complex is comprised of the same soils described above, 40% *Xerorthents gravelly clay loam* and 25% *Typic haploxeralfs gravelly loam*, and 20% *rock outcrops and cliffs* found between 300' and 1,500' in elevation along foothill canyon side slopes. Major uses of the steep soils in this land type include livestock grazing, wildlife habitat and watershed management.

- 624 – Ultic Haploxeralfs, Mesic-Rockstripe Complex, 2 to 15 percent slopes

  The soils in this complex are found between 900' and 2,200' in elevation on foothill ridge tops. The composition is 60% Ultic Haploxeralfs, Mesic gravelly loam and 25% Rockstripe very gravelly loam. *Ultic Haploxeralfs, Mesic gravelly loam* is a well drained soil, 20"–60" to bedrock. It has available water capacity of 3.8" (low) and high runoff potential. Its land capability is classified as 3e-1 9irrigated and 3e-3 (non-irrigated). *Rockstripe very gravelly loam* is a somewhat poorly drained, shallow (2"–10" to bedrock) soil with very low available water capacity (about 1.1") and very high runoff potential. Its land capability is classified as 7s-8. Major uses of this land type include home site development, wildlife habitat and watershed management.

- 625 – Ultic Haploxeralfs, Mesic-Rockstripe Complex, 15 to 30 percent slopes

  This soil complex is comprised of the same soils described above, 60% *Ultic Haploxeralfs, mesic gravelly loam* and 35% *Rockstripe very gravelly loam*, found between 500' and 2,600' in elevation on ridge tops and shoulder slopes of the southern Cascade foothills in north central Butte County. Land capability is 4e-1 and 7s-8, respectively. This land type is suitable for home site development, wildlife habitat and watershed management.

- 626 – Ultic Haploxeralfs-Rockstripe-Rock outcrop, Cliffs Complex, 15 to 30 percent slopes

  This soil complex is comprised of 40% *Ultic Haploxeralfs, mesic gravelly loam*, 35% *Rockstripe very gravelly loam* (as described above) and rock outcrop-cliffs, found on canyon back slopes and side slopes between 600' and 2,500' elevation in the southern Cascade foothills in north central Butte County. With land capability classifications of 6e-1 and 7s-8, respectively, this land type is suitable for wildlife habitat and watershed management.

- 629 – Slideland Gravelly Loam, 3 to 15 percent slopes

  This soil can be found on benches in foothill canyons of north central Butte County between 415' and 1,875' in elevation. It is a deep, well-drained soil with medium runoff potential. The available water capacity is about

9.0” (high). Its land capability classification is 3e-1. This land type can support home site development, wildlife habitat and watershed management.

- 640 – Ultic Haploxeralfs, Sandstone, 50 to 70 percent slopes

  This soil is a very fine sandy loam derived from marine sandstone exposed in canyons in southern cascade foothills between 715’ and 1,800’ in elevation. It is a deep (40”–80” to bedrock) well-drained soil with high runoff potential due to its steepness. With a land capability classification on 7e-1, the land type is used for wildlife habitat and watershed management.

- 642 – Chinacamp Gravelly Loam, 3 to 15 percent slopes

  This soil can be found on the footslopes of Big Chico, Little Chico, Butte and Little Butte Creek Canyons in the foothills between 300’ and 1,800’ in elevation. It is a very deep well-drained soil with available water capacity of 6.3” (moderate). Its surface may be covered with up to 30% stones, 20% cobbles, 15% boulders and 10% gravels. Runoff potential is high. Land capability classification is 4e-1. Major uses for this land type include home site development, wildlife habitat and watershed management.

- 643 – Chinacamp Gravelly Loam, 15 to 30 percent slopes

  This soil can be found on the backslopes of Big Chico, Little Chico, Butte and Little Butte Creek Canyons in the foothills between 400’ and 2,000’ in elevation. It is a very deep well-drained soil with available water capacity of 6.3” (moderate). Its surface may be covered with up to 30% stones, 20% cobbles, 15% boulders and 10% gravels. Runoff potential is high. Land capability classification is 6e-1. Major uses for this land type include wildlife habitat and watershed management.

- 644 – Chinacamp Gravelly Loam, 30 to 50 percent slopes

  This soil can be found on the backslopes of Big Chico, Little Chico, Butte and Little Butte Creek Canyons in the foothills between 400’ and 2,000’ in elevation. It is a very deep well-drained soil with available water capacity of 6.3” (moderate). Its surface may be covered with up to 30% stones, 20% cobbles, 15% boulders and 10% gravels. Runoff potential is high. Land capability classification is 6e-1. Major uses for this land type include wildlife habitat and watershed management.

- 646 – Coalcanyon Taxadjunct, 3 to 15 percent slopes

  Generally found on canyon benches in the southern Cascade foothills of north central Butte County between 600’ and 1,100’ in elevation, Coalcanyon Taxadjunct very gravelly loam is a deep, well-drained soil with high runoff potential. The surface may have up to 60% subangular gravels, up to 50% subangular cobbles, up to

25% subangular stones and up to 20% subangular boulders. There is about 5.5" available water capacity (moderate). Land capability classification is 4s-7. Major uses of this land type are wildlife habitat, watershed management and livestock grazing.

- 647 – Coalcanyon Taxadjunct, 15 to 30 percent slopes

  Generally found on canyon side slopes in the southern Cascade foothills of north central Butte County between 635' and 1,275' in elevation, Coalcanyon Taxadjunct very gravelly loam is a deep, well-drained soil with high runoff potential. The surface may have up to 60% subangular gravels, up to 50% subangular cobbles, up to 25% subangular stones and up to 20% subangular boulders. There is about 5.5" available water capacity (moderate). Land capability classification is 4s-7. Major uses of this land type are wildlife habitat, watershed management and livestock grazing.

- 648 – Coalcanyon Taxadjunct, 30 to 50 percent slopes

  Generally found on canyon side slopes in the southern Cascade foothills of north central Butte County between 435' and 1,555' in elevation, Coalcanyon Taxadjunct very gravelly loam is a deep, well-drained soil with very high runoff potential. The surface may have up to 60% subangular gravels, up to 50% subangular cobbles, up to 25% subangular stones and up to 20% subangular boulders. There is about 5.5" available water capacity (moderate). Land capability classification is 6s-7. Major uses of this land type are wildlife habitat, watershed management and livestock grazing.

- 649 – Coalcanyon Taxadjunct, 50 to 70 percent slopes

  Generally found on canyon side slopes in the southern Cascade foothills of north central Butte County between 675' and 1,915' in elevation, Coalcanyon Taxadjunct very gravelly loam is a deep, well-drained soil with very high runoff potential. The surface may have up to 60% subangular gravels, up to 50% subangular cobbles, up to 25% subangular stones and up to 20% subangular boulders. There is about 5.5" available water capacity (moderate). Land capability classification is 7s-7. Major uses of this land type are wildlife habitat, watershed management and livestock grazing.

- 656 – Rock Outcrop, Cliffs-Coalcanyon Taxadjunct Complex, 15 to 50 percent slopes

  This soil complex is composed of 40% rock outcrop/cliffs and about 40% Coalcanyon Taxadjunct very gravelly loam, as described above. It can be found in southern Cascade foothill escarpments between 295' and 2,200' in elevation. The land capability classification is 6s-7. The land type is useful for wildlife habitat, watershed management and livestock grazing.

- 676 – Carhart-Anita Taxadjunct Complex, 0 to 12 percent slopes

  This soil complex is comprised of 50% Carhart clay and 40% Anita Taxadjunct clay. It can be found in basins, as well as on toeslopes, footslopes and headslopes in the southern Cascade foothills between 140' and 495' in elevation. *Carhart clay* is a poorly drained soil with 20"–40" depth to bedrock. Its surface may have up to 5% coverage of subrounded gravels or cobbles. Available water capacity is about 4.5" (low) and runoff potential is very high. Land capability classification is 5w-2. *Anita Taxadjunct clay* is also poorly drained, with about 10"–20" depth to bedrock. Its surface may have up to 5% subrounded gravel and 10% subrounded cobbles. Available water capacity is about 1.2" (very low). Land capability classification is 7w-2. Major uses of this land type are livestock grazing, home site development, wildlife habitat and watershed management.

- 677 – Tuscan-Fallager-Anita, Gravelly Duripan, Complex, 0 to 3 percent slopes

  This soil complex is comprised of 40% Tuscan gravelly loam, 25% Fallager loam and 15% Anita, Gravelly Duripan gravelly clay. The complex can be found on southern Cascade foothill strath terraces between 140' and 540' elevation in central Butte County. *Tuscan gravelly loam* forms the mounds on strath terraces. This soil features duripan at 10"–20" depth, is impermeable, somewhat poorly drained and has very high runoff potential. Its surface may have up to 25% medium rounded gravels and 5% rounded cobbles. Available water capacity is about 1.5" (very low). Its land capability classification is 7s-8. *Fallager loam* forms the swales on strath terraces. This soil features duripan at 4"–10" depth, is impermeable, poorly drained and has very high runoff potential. Available water capacity is about 0.9" (very low) and its land capability classification is 8w-2. *Anita, Gravelly Duripan gravelly clay* forms clay swales on strath terraces. This soil has duripan at a depth of 10"–20", is impermeable, poorly drained and has very high runoff potential. Available water capacity is about 1.7" (very low) and its land capability classification is 7w-2. This land type may be used for livestock grazing, wildlife habitat, watershed management and home site development.

- 687 – Xerothents-Typic Haploxeralfs Complex, 2 to 15 percent slopes

  This soil complex is comprised of 40% Xerorthents gravelly clay loam and 30% Typic Haploxeralfs gravelly loam. It can be found on footslopes of the southern Cascade foothills of north central Butte County at an elevation range of 275'–1,000'. *Xerorthents gravelly clay loam* is a moderately well drained shallow soil (2"–20" to bedrock) with up to 40% subangular boulders and stones and up to 25% cobbles and gravels on the surface. There is about 1.1" available water capacity (very low) and runoff potential is very high. Its land capability is 7s-8. *Typic Haploxeralfs gravelly loam* is well-drained and has a depth of 20"–60" to bedrock. The soil surface may contain up to 20% each subangular cobbles, subangular stones and subangular boulders. There is high runoff potential and about 4.6" available water capacity (low). The land capability classification for this

soil is 3e-1. Major uses for this land type include livestock grazing, home site development, wildlife habitat and watershed management.

- 991 – Xerofluvents, Frequently Flooded, 0 to 4 percent slopes

  This soil is found in the flood plains of southern Cascade foothill canyons of north central Butte County and in areas of Butte Creek that are confined by levees. The soil can occur between 200’ and 4,440’ in elevation. These soils are deep, have moderately rapid permeability, but are moderately poorly drained with very low runoff potential and frequent flooding. The soil surface can have up to 75% medium rounded gravel, 40% rounded cobbles and 5% rounded stones. Available water capacity is about 5.7” (moderate). Land capability classification is 3w-2. Major uses for this land type include wildlife habitat, watershed management, livestock grazing and recreation.

Soils Summary Table							
Soil Number	Soil Name	Slope	Permeability	Runoff	Drainage	Land Capability	Water Capacity (water-holding capacity)
100	Anita-Galt Complex	0 to 3	Slow[1]	Ponded[1]	Poor[1]	7w-2, 5w-2[1]	Very low to low[1]
300	Redsluff Gravelly Loam	0 to 2	Moderately slow	Low	Moderately well	2s-11, 3s-11	5.5 inches
302	Redtough-Redswale Complex	0 to 2	Impermeable	Very high	Somewhat poor to poor	7s-8, 8s-8	0.7 – 1.6 inches
340	Rockoutcrop-Thermalrocks-Campbellhills-complex	2 to 15	Moderately slow to Moderate	Low to very high	Somewhat poor	8s-8, 6e-4	0.4 – 4.1 inches
353	Cherokee Spring gravelly silt loam	2 to 15	Slow	Low	Well	3e-1	8.1 inches
418	Almendra Loam	0 to 2	Moderate	Low	Well	1, 3c	High
425	Vina Fine Sandy Loam	0 to 2	Moderately rapid	Low	Well	1, 2s	6.6 inches
447	Charger Fine Sandy Loam	0 to 2	Moderately rapid	Very low	Moderately well	2s-11, 3s-11	7.2 inches
615	Doemill-Jokerst Complex	3 to 8	Moderately slow to moderate	Very high	Somewhat poor to poor	6e-8, 8e-8	0.4 – 2.1 inches
617	Doemill-Jokerst-Typic Haploxeralfs Complex	15 to 30	Slow to moderate	Very high	Poor to well	6e-8, 8e-8, 4e-1	0.4 – 4.6 inches
620	Doemill-Jokerst-Ultic Haploxeralfs, Thermic Complex	3 to 8	Moderately slow to moderate	High to very high	Poor to moderately well	6e-8, 8e-8, 4e-1	0.4 – 3.0 inches
621	Doemill-Jokerst-ultic Haploxeralfs, Thermic Compl	8 to 15	Moderately slow to moderate	High to very high	Poor to well	6e-8, 8e-8, 4e-8	0.4 – 3.0 inches
622	Xerorthents-Typic Haploxeralfs-Cliffs Complex	15 to 30	Slow to moderately slow	Very high	Moderately well to well	7s-8, 4e-1	1.1 – 4.6 inches
624	Ultic Haploxeralfs, Mesic-Rockstripe Complex	2 to 15	Moderately slow	High to very high	Somewhat poor to well	7s-8, 6e-1	1.1 – 3.8 inches
625	Ultic Haploxeralfs, Mesic-Rockstripe Complex	15 to 30	Moderately slow	High to very high	Somewhat poor to well	4e-1, 7s-8	1.1 – 3.8 inches
626	Ultic Haploxeralfs-Rockstripe-Rock Outcrop, Cliffs Complex	30 to 50	Slow to moderately slow	Very high	Somewhat poor to well	6e-1, 7s-8	1.1 – 7.5 inches
629	Slideland Gravelly loam	3 to 15	Slow	Medium	Well	3e-1	9.0 inches
640	Ultic Haploxeralfs, Sandstone	50 to 70	Moderate	High	Well	7e-1	4.8 inches
642	Chinacamp Gravelly Loam	3 to 15	Slow[1]	Medium	Well	3e-1	6.3 inches
643	Chinacamp Gravelly Loam	15 to 30	Slow[1]	High	Well	4e-1	6.3 inches
644	Chinacamp Gravelly Loam	30 to 50	Slow[1]	High	Well	6e-1	6.3 inches
646	Coalcanyon Taxadjunct	3 to 15	Slow	High	Well	4s-7	5.5 inches
647	Coalcanyon Taxadjunct	15 to 30	Slow	High	Well	4s-7	5.5 inches
648	Coalcanyon Taxadjunct	30 to 50	Slow	Very high	Well	6s-7	5.5 inches
649	Coalcanyon Taxadjunct	50 to 70	Slow	Very high	Well	7s-7	5.5 inches
656	Rock Outcrop-Coalcanyon Taxadjunct	15 to 50	Slow	Very high	Well	6s-7	5.5 inches
676	Carhart-Anita Taxadjunct Complex	0 to 12	Slow	Very high	Poor	5w-2, 7w-2	1.2 – 4.5 inches
677	Tuscan-Fallager-Anita, Gravelly Duripan, Complex	0 to 3	Impermeable	Very high	Somewhat poor to poor	7s-8, 8w-2, 7w-2	0.9 – 1.7 inches
687	Xerorthents-Typic Haploxeralfs Complex	2 to 15	Slow to moderately slow	High to very high	Moderately well to well	7s-8, 3e-1	1.1 – 4.6 inches
991	Xerofluvents, Frequently Flooded	0 to 4	Moderately rapid	Very low	Somewhat poor	3w-2	5.7 inches

[1] Andrew Conlin, NRCS, personal communication 12/21/04.