

Appendix R2.4

Geology and Soils

Appendix R2.4 Geology and Soils

This appendix presents data supporting the analysis in Volume IV, Chapter IV.4. This appendix includes 3 tables that present:

- Acreage of soil textures within DFAs in each alternative
- Acreage of erosive soils within DFAs in each alternative
- Acreage of expansive soils within DFAs in each alternative

Note on Rounding of Data. The following general rounding rules were applied to calculated values: values greater than 1,000 were rounded to nearest 1,000; values less than 1,000 and greater than 100 were rounded to the nearest 100; values of 100 or less were rounded to the nearest 10, and therefore totals may not sum due to rounding. In cases where subtotals are provided, the subtotals and the totals are individually rounded. The totals are not a sum of the rounded subtotals; therefore the subtotals may not sum to the total within the table.

**Table R2.4-1
Acreage of Soil Textures within Developable Areas for each Alternative**

Soil Texture	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Clay	8,000	2,000	0	4,000	0	2,000
Clay loam	40,000	17,000	0	17,000	0	7,000
Coarse sand	0	0	0	0	0	0
Coarse sandy loam	230,000	7,000	5,000	8,000	6,000	6,000
Cobbly fine sandy loam	25,000	0	0	18,000	0	0
Cobbly sand	52,000	43,000	43,000	45,000	43,000	43,000
Extremely gravelly sandy loam	188,000	1,000	200	39,000	1,000	200
Fine sand	255,000	86,000	46,000	157,000	75,000	51,000
Fine sandy loam	73,000	6,000	6,000	7,000	6,000	6,000
Gravelly loam	10,000	0	0	0	0	0
Gravelly loamy coarse sand	0	14,000	14,000	14,000	14,000	14,000
Gravelly sand	43,000	32,000	19,000	32,000	22,000	31,000
Gravelly sandy loam	48,000	8,000	500	10,000	200	8,000
Loam	0	10	10	10	10	10
Loamy fine sand	363,000	115,000	88,000	116,000	101,000	103,000
Loamy sand	1,639,000	553,000	311,000	724,000	461,000	478,000
Sand	316,000	115,000	48,000	152,000	97,000	102,000
Sandy loam	792,000	175,000	16,000	206,000	50,000	166,000
Silt loam	0	0	0	0	0	0
Silty clay	54,000	23,000	15,000	24,000	19,000	17,000
Silty clay loam	576,000	516,000	328,000	516,000	340,000	329,000
Unweathered bedrock	405,000	4,000	2,000	31,000	2,000	4,000
Very channery loam	1,000	0	0	0	0	0

Table R2.4-1
Acreege of Soil Textures within Developable Areas for each Alternative

Soil Texture	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Very cobbly fine sandy loam	0	0	0	0	0	0
Very cobbly loamy sand	0	0	0	0	0	0
Very cobbly sandy loam	0	0	0	0	0	0
Very fine sandy loam	170,000	90,000	43,000	90,000	50,000	43,000
Very gravelly coarse sand	0	0	0	0	0	0
Very gravelly fine sandy loam	500	0	0	0	0	0
Very gravelly loam	0	0	0	0	0	0
Very gravelly loamy fine sand	0	0	0	0	0	0
Very gravelly loamy sand	103,000	7,000	0	13,000	0	900
Very gravelly sandy loam	718,000	136,000	16,000	174,000	45,000	127,000
Very gravelly silt loam	500	0	0	0	0	0
Weathered bedrock	134,000	25,000	22,000	27,000	25,000	23,000
Not Mapped	48,000	48,000	48,000	48,000	48,000	48,000
Total	6,291,000	2,023,000	1,070,000	2,472,000	1,405,000	1,608,000

Source: Dudek and ICF (2012).

Table R2.4-2
Acreeage of Erosive Soils within DFAs for each Alternative

Erosive Soil Potential	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Low to Moderate for Water Erosion	8,000	2,000	461,000	1,259,000	697,000	811,000
Low to Moderate for Wind Erosion	40,000	17,000	459,000	961,000	512,000	604,000
Moderate to High for Water Erosion	54,000	23,000	561,000	1,166,000	661,000	749,000
Moderate to High for Wind Erosion	576,000	516,000	563,000	1,463,000	846,000	956,000

Source: Dudek and ICF (2012)

Table R2.4-3
Acreage of Expansive Soil Textures within DFAs for each Alternative

Soil Texture	No Action Alternative	Preferred Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Clay	8,000	2,000	0	4,000	0	2,000
Clay loam	40,000	17,000	0	17,000	0	7,000
Silty clay	54,000	23,000	15,000	24,000	19,000	17,000
Silty clay loam	576,000	516,000	328,000	516,000	340,000	329,000
Total	677,000	559,000	343,000	562,000	359,000	355,000

Source: Dudek and ICF (2012)