

ENGINEERING INDEX PROPERTIES  
Golden Valley County, North  
Dakota

Engineering Index Properties table gives the engineering classifications and the range of index properties for the layers of each soil in the survey area. Depth to the upper and lower boundaries of each layer is indicated. Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. Loam, for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, gravelly. Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 1998) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1998). The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection. If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in Engineering Index Properties table.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

ENGINEERING INDEX PROPERTIES--Continued  
Golden Valley County, North  
Dakota

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	>10 inches Pct	3-10 inches Pct	4	10	40	200		
3: Channel----- Havre-----	0-6 6-60	Silt loam Stratified loam to fine sandy loam	CL, CL-ML CL, CL-ML, ML	A-4 A-4	0 0	0-15 0	100 100	100 100	85-95 70-95	60-75 50-75	20-30 15-25	5-10 NP-10
4: Grassna-----	0-17 17-60	Silt loam Silt loam, silty clay loam	CL, CL-ML, ML CL, CL-ML, ML	A-4, A-6, A-7 A-4, A-6, A-7	0 0	0 0	100 100	100 100	90-100 90-100	70-100 70-100	20-45 25-45	3-25 3-23
6: Grassna Variant	0-16 16-48 48-60	Silt loam Silt loam, loam, silty clay loam Silt loam, silty clay loam, silty clay	CL, CL-ML, ML CL, CL-ML, ML	A-4, A-6, A-7 A-4, A-6, A-7	0 0	0 0	100 100	100 100	90-100 90-100	70-90 70-90	20-45 20-45	3-25 3-25
9C: Cabba-----	0-6 6-15 15-60	Silt loam Loam, silt loam, silty clay loam Weathered bedrock	CL, CL-ML, ML CL, CL-ML	A-4 A-4, A-6	0 0	0-5 0-5	90-100 95-100	85-100 90-100	70-90 85-100	60-80 80-95	20-30 25-35	NP-10 5-15
Chama-----	0-4 4-25 25-60	Silt loam Silt loam, silty clay loam Weathered bedrock	CL, CL-ML CL, ML	A-4, A-6 A-4, A-6, A-7	0 0	0 0	100 100	100 100	90-100 90-100	70-90 80-100	25-40 30-50	5-20 5-25
9D: Cabba-----	0-6 6-15 15-60	Silt loam Loam, silt loam, silty clay loam Weathered bedrock	CL, CL-ML, ML CL, CL-ML	A-4 A-6, A-4	0 0	0-5 0-5	90-100 95-100	85-100 90-100	70-90 85-100	60-80 80-95	20-30 25-35	NP-10 5-15
Chama-----	0-4 4-25 25-60	Silt loam Silt loam, silty clay loam Weathered bedrock	CL, CL-ML CL, ML	A-4, A-6 A-4, A-6, A-7	0 0	0 0	100 100	100 100	90-100 90-100	70-90 80-100	25-40 30-50	5-20 5-25
10F: Cabbart-----	0-4 4-14 14-60	Silt loam Loam, clay loam, silty clay loam Weathered bedrock	CL, CL-ML CL, CL-ML	A-4 A-4, A-6	0 0	0 0	90-100 90-100	85-100 85-100	75-95 75-95	55-80 60-85	25-30 25-35	5-10 5-15
Badland-----	0-60	Unweathered bedrock	CH, CL-ML, SC, SC-SM	A-4, A-6, A-7	0	0	90-100	85-100	75-100	35-95	15-75	5-50
11F: Brandenburg---	0-6 6-14 14-60	Channery loam Very channery loam, channery loam, sandy loam Fragmental material	CL, CL-ML, GC-GM, SC-SM CL, GM, ML, SM	A-2, A-4, A-6 A-2, A-4, A-6	---	0-5 0-5	60-100 60-100	40-80 40-80	35-75 35-75	30-65 30-65	20-35 0-35	5-15 NP-15
Cabbart-----	0-4 4-14 14-60	Silt loam Loam, clay loam, silty clay loam Weathered bedrock	CL, CL-ML CL, CL-ML	A-4 A-4, A-6	0 0	0 0	90-100 90-100	85-100 85-100	75-95 75-95	55-80 60-85	25-30 25-35	5-10 5-15
12: Hanly-----	0-3 3-60	Fine sandy loam Stratified fine sandy loam to sand	CL-ML, ML, SC-SM, SM SM, SP-SM	A-4 A-2, A-3	0 0	0 0	100 100	100 100	70-85 50-85	40-55 5-25	15-25 ---	NP-5 NP

ENGINEERING INDEX PROPERTIES--Continued  
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Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
14F: Baahish-----	0-5	Loam	CL, CL-ML	A-4, A-6	---	0-5	95-100	95-100	85-95	50-80	25-40	5-15
	5-8	Loam, fine sandy loam, sandy loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	---	0-5	80-100	75-100	65-100	30-75	25-35	5-15
	8-60	Very gravelly sandy loam, very gravelly loam, very gravelly fine sandy loam	GM, GP-GM, SM, SP-SM	A-1, A-2	---	10-40	40-65	25-55	15-45	10-30	0-30	NP-5
Cabbart-----	0-5	Loam	CL, CL-ML	A-4	0	0	90-100	85-100	75-95	55-80	25-30	5-10
	5-14	Loam, clay loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	60-85	25-35	5-15
	14-60	Weathered bedrock			---	---	---	---	---	---	---	---
19F: Cabbart-----	0-4	Silt loam	CL-ML, CL	A-4	0	0	90-100	85-100	75-95	55-80	25-30	5-10
	4-14	Loam, clay loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	60-85	25-35	5-15
	14-60	Weathered bedrock			---	---	---	---	---	---	---	---
Cherry-----	0-4	Silt loam	CL	A-6	0	0	100	100	85-100	60-90	25-35	10-20
	4-26	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	25-45	10-30
	26-60	Silty clay, silty clay loam, silt loam	CH, CL	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
20: Chama-----	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	25-40	5-20
	4-25	Silt loam, silty clay loam	CL, ML	A-4, A-6, A-7	0	0	100	100	90-100	80-100	30-50	5-25
	25-60	Weathered bedrock			---	---	---	---	---	---	---	---
20B: Chama-----	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	25-40	5-20
	4-25	Silt loam, silty clay loam	CL, ML	A-4, A-6, A-7	0	0	100	100	90-100	80-100	30-50	5-25
	25-60	Weathered bedrock			---	---	---	---	---	---	---	---
21C: Chama-----	0-4	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	90-100	70-90	25-40	5-20
	4-25	Silt loam, silty clay loam	CL, ML	A-4, A-6, A-7	0	0	100	100	90-100	80-100	30-50	5-25
	25-60	Weathered bedrock			---	---	---	---	---	---	---	---
Cabba-----	0-6	Silt loam	CL, CL-ML, ML	A-4	0	0-5	90-100	85-100	70-90	60-80	20-30	NP-10
	6-15	Loam, silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	90-100	85-100	80-95	25-35	5-15
	15-60	Weathered bedrock			---	---	---	---	---	---	---	---
24B: Cherry-----	0-4	Silt loam	CL	A-6	0	0	100	100	85-100	60-90	25-35	10-20
	4-26	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	25-45	10-30
	26-60	Silty clay, silty clay loam, silt loam	CH, CL	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
24C: Cherry-----	0-4	Silt loam	CL	A-6	0	0	100	100	85-100	60-90	25-35	10-20
	4-26	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	25-45	10-30
	26-60	Silty clay, silty clay loam, silt loam	CH, CL	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30

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Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
26: Dimmick-----	0-30 30-41 41-60	Silty clay Clay, silty clay Silty clay loam, silt loam, loam	CH, CL, ML CH, CL CL, CL-ML, ML	A-7 A-7 A-4, A-6, A-7	0 0 0	0 0 0	100 100 100	100 100 100	90-100 90-100 90-100	75-95 75-95 70-95	40-70 45-70 20-50	15-40 20-45 5-30
35F: Flasher-----	0-6 6-11 11-60	Loamy sand Loamy sand, loamy fine sand, fine sand Weathered bedrock	SM SM ---	A-2 A-2 ---	0 0 ---	0-5 0-5 ---	85-100 85-100 ---	85-100 85-100 ---	50-100 50-100 ---	15-35 15-35 ---	---	NP NP ---
37: Golva-----	0-6 6-60	Silt loam Silt loam, silty clay loam, loam	CL, CL-ML CL, ML	A-4, A-6 A-4, A-6, A-7	0 0	0 0	100 100	100 100	90-100 90-100	70-85 70-100	25-40 30-50	5-20 5-25
37B: Golva-----	0-6 6-60	Silt loam Silt loam, silty clay loam, loam	CL, CL-ML CL, ML	A-4, A-6 A-4, A-6, A-7	0 0	0 0	100 100	100 100	90-100 90-100	70-85 70-100	25-40 30-50	5-20 5-25
41: Grail-----	0-9 9-46 46-60	Silty clay loam Silty clay, silty clay loam, clay Loam, silty clay loam, clay	CL CH, CL, MH, ML CH, CL	A-6, A-7 A-6, A-7 A-6, A-7	0 0 0	0 0 0	100 100 100	95-100 95-100 95-100	95-100 95-100 85-100	85-95 70-95 60-95	30-50 35-60 30-55	10-30 10-35 10-35
45: Havre-----	0-6 6-60	Silt loam Stratified loam to fine sandy loam	CL, CL-ML CL, CL-ML, ML	A-4 A-4	0 0	0-15 0	100 100	100 100	85-95 70-95	60-75 50-75	20-30 15-25	5-10 NP-10
46: Glendive-----	0-5 5-15 15-60	Fine sandy loam Loam, silt loam, sandy loam Stratified loamy fine sand to silt loam	CL-ML, ML, SC-SM, SM CL, ML, SC, SM SC, SC-SM, SM	A-2, A-4 A-4 A-2, A-4	0 0 0	0 0 0	100 100 95-100	100 100 75-100	65-85 65-95 60-80	30-55 40-70 25-50	20-30 15-30 15-25	NP-10 NP-10 NP-10
47: Korchea-----	0-6 6-60	Silt loam Stratified fine sandy loam to silty clay loam	CL, CL-ML CL, CL-ML, SC, SC-SM	A-4, A-6 A-4, A-6, A-7	0 0	0 0	100 95-100	100 95-100	75-95 70-100	50-70 40-95	15-30 20-50	5-15 5-20
52B: Belfield-----	0-11 11-31 31-43 43-60	Loam Silty clay, silty clay loam, clay loam Silty clay, silty clay loam, clay loam Fine sandy loam, loam	CL CH, CL CH, CL CL, ML, SC, SM	A-6 A-6, A-7 A-6, A-7 A-2-4, A-2-6, A-4, A-6	0 0 0 0	0 0 0 0	100 100 100 100	100 100 100 100	85-100 90-100 90-100 70-100	60-90 70-100 70-100 30-90	20-40 35-65 30-55 20-40	10-25 15-40 10-30 NP-15
55: Wanagan-----	0-7 7-18 18-60	Loam Loam Gravelly loam, very gravelly loam, very gravelly fine sandy loam	CL, CL-ML, ML CL, CL-ML, ML SC, SC-SM, SM, SP-SM	A-4, A-6 A-4, A-6 A-1, A-2	0 0 ---	0 0 0-15	100 85-100 70-85	100 80-95 30-65	85-95 75-90 25-50	60-75 50-85 5-25	25-35 25-40 15-40	3-13 3-18 NP-15
55B: Wanagan-----	0-7 7-18 18-60	Loam Loam Gravelly loam, very gravelly loam, very gravelly fine sandy loam	CL, CL-ML, ML CL, CL-ML, ML SC, SC-SM, SM, SP-SM	A-4, A-6 A-4, A-6 A-1, A-2	0 0 ---	0 0 0-15	100 85-100 70-85	100 80-95 30-65	85-95 75-90 25-50	60-75 50-85 5-25	25-35 25-40 15-40	3-13 3-18 NP-15

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Map symbol and soil name	Depth In	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
57C: Moreau-----	0-5	Silty clay loam	CH, CL	A-6, A-7	0	0	100	100	90-100	70-95	30-60	15-40
	5-17	Clay, silty clay, silty clay loam	CH, CL	A-7	0	0	100	100	90-100	75-100	45-75	20-50
	17-27	Clay, silty clay, silty clay loam	CH, CL	A-7	0	0	100	100	90-100	75-100	45-75	20-50
	27-60	Weathered bedrock			---	---	---	---	---	---	---	---
Wayden-----	0-5	Silty clay	CH, CL	A-7	0	0	100	100	90-100	75-95	40-60	15-30
	5-11	Silty clay, clay, silty clay loam	CH, CL	A-7	0	0	100	100	90-100	75-95	40-60	15-30
	11-60	Weathered bedrock			---	---	---	---	---	---	---	---
Absher-----	0-2	Loam	CL, CL-ML	A-4	0	0	95-100	75-100	65-90	50-80	20-30	5-10
	2-19	Silty clay, clay, clay loam	CH, CL	A-7	0	0	95-100	75-100	70-100	60-95	40-60	20-40
	19-60	Clay loam, clay, silty clay	CH, CL	A-7	0	0	95-100	75-100	70-100	60-95	40-55	20-35
72: Parshall-----	0-10	Fine sandy loam	CL-ML, ML, SC, SM	A-2, A-4	0	0	100	100	60-85	30-55	15-25	NP-10
	10-39	Fine sandy loam	CL-ML, ML, SC, SM	A-2, A-4	0	0	100	100	60-85	30-55	15-25	NP-10
	39-60	Fine sandy loam, sandy loam, loamy sand	CL-ML, ML, SC, SM	A-2, A-4	0	0	100	100	60-100	25-55	15-25	NP-10
76B: Regent-----	0-5	Silty clay loam	CH, CL	A-7	0	0	100	100	90-100	80-100	40-55	20-35
	5-33	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	90-100	80-100	45-70	25-45
	33-60	Weathered bedrock			---	---	---	---	---	---	---	---
80B: Absher-----	0-2	Loam	CL, CL-ML	A-4	0	0	95-100	75-100	65-90	50-80	20-30	5-10
	2-19	Silty clay, clay, clay loam	CH, CL	A-7	0	0	95-100	75-100	70-100	60-95	40-60	20-40
	19-60	Clay loam, clay, silty clay	CH, CL	A-7	0	0	95-100	75-100	70-100	60-95	40-55	20-35
81F: Cabbart-----	0-4	Silt loam	CL, CL-ML	A-4	0	0	90-100	85-100	75-95	55-80	25-30	5-10
	4-14	Loam, clay loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	85-100	75-95	60-85	25-35	5-15
	14-60	Weathered bedrock			---	---	---	---	---	---	---	---
Rock Outcrop---	0-60	Unweathered bedrock			---	---	---	---	---	---	0-14	NP
83F: Badland-----	0-60	Unweathered bedrock	CH, CL-ML, SC, SC-SM	A-4, A-6, A-7	0	0	90-100	85-100	75-100	35-95	15-75	5-50
Cherry-----	0-4	Silt loam	CL	A-6	0	0	100	100	85-100	60-90	25-35	10-20
	4-26	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	80-95	25-45	10-30
	26-60	Silty clay, silty clay loam, silt loam	CH, CL	A-6, A-7	0	0	100	100	90-100	80-95	25-55	10-30
84: Lawther-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	75-100	35-50	15-30
	5-25	Silty clay, clay, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	90-100	75-100	35-70	15-40
	25-60	Silty clay, clay, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	90-100	75-100	35-70	15-40

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			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct	Pct						
84B: Lawther-----	0-5	Silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	75-100	35-50	15-30
	5-25	Silty clay, clay, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	90-100	75-100	35-70	15-40
	25-60	Silty clay, clay, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	90-100	75-100	35-70	15-40
88: Sen-----	0-6	Silt loam	CL	A-6	0	0	100	100	85-100	60-90	25-35	10-20
	6-22	Silt loam, silty clay loam, loam	CL	A-6, A-7	0	0	100	100	85-100	60-95	25-45	10-30
	22-38	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	85-100	60-95	25-45	10-30
	38-60	Weathered bedrock			---	---	---	---	---	---	---	---
88B: Sen-----	0-6	Silt loam	CL	A-6	0	0	100	100	85-100	60-90	25-35	10-20
	6-22	Silt loam, silty clay loam, loam	CL	A-6, A-7	0	0	100	100	85-100	60-95	25-45	10-30
	22-38	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	85-100	60-95	25-45	10-30
	38-60	Weathered bedrock			---	---	---	---	---	---	---	---
89: Shambo-----	0-5	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-95	60-75	25-35	3-13
	5-15	Loam, silt loam, clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-95	60-75	25-40	3-18
	15-36	Loam, silt loam, clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-95	60-75	25-40	3-18
	36-42	Loam, silt loam, clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-95	60-75	25-40	3-18
	42-60	Gravelly sandy loam, gravelly loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	85-100	80-90	60-70	30-40	15-40	NP-15
89B: Shambo-----	0-5	Loam	CL-ML, ML, CL	A-4, A-6	0	0	100	100	85-95	60-75	25-35	3-13
	5-15	Loam, silt loam, clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-95	60-75	25-40	3-18
	15-36	Loam, silt loam, clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-95	60-75	25-40	3-18
	36-42	Loam, silt loam, clay loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	85-95	60-75	25-40	3-18
	42-60	Gravelly sandy loam, gravelly loam	SC, SC-SM, SM	A-2, A-4, A-6	0	0	85-100	80-90	60-70	30-40	15-40	NP-15
97B: Vebar-----	0-11	Fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	11-22	Fine sandy loam, sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	22-38	Fine sandy loam, loamy fine sand, sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	38-60	Weathered bedrock			---	---	---	---	---	---	---	---
97C: Vebar-----	0-11	Fine sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	11-22	Fine sandy loam, sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	22-38	Fine sandy loam, loamy fine sand, sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	38-60	Weathered bedrock			---	---	---	---	---	---	---	---

ENGINEERING INDEX PROPERTIES--Continued  
Golden Valley County, North  
Dakota

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
99C: Beisigl-----	0-9	Loamy sand	SC-SM, SM	A-2, A-4	0	0	95-100	85-100	75-95	20-40	0-20	NP-5
	9-34	Loamy fine sand, loamy sand, fine sand	SM	A-2	0	0	95-100	85-100	50-100	15-35	0-14	NP
	34-60	Weathered bedrock			---	---	---	---	---	---	---	---
Flasher-----	0-6	Loamy sand	SM	A-2	0	0-5	85-100	85-100	50-100	15-35	---	NP
	6-11	Loamy sand, loamy fine sand, fine sand	SM	A-2	0	0-5	85-100	85-100	50-100	15-35	---	NP
	11-60	Weathered bedrock			---	---	---	---	---	---	---	---
Vebar-----	0-11	Sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	11-22	Fine sandy loam, sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	22-38	Fine sandy loam, loamy fine sand, sandy loam	ML, SM	A-2, A-4	0	0	95-100	90-100	60-100	30-55	0-14	NP
	38-60	Weathered bedrock			---	---	---	---	---	---	---	---
99D: Beisigl-----	0-9	Loamy sand	SC-SM, SM	A-2, A-4	0	0	95-100	85-100	75-95	20-40	0-20	NP-5
	9-34	Loamy fine sand, loamy sand, fine sand	SM	A-2	0	0	95-100	85-100	50-100	15-35	0-14	NP
	34-60	Weathered bedrock			---	---	---	---	---	---	---	---
Flasher-----	0-6	Loamy sand	SM	A-2	0	0-5	85-100	85-100	50-100	15-35	---	NP
	6-11	Loamy sand, loamy fine sand, fine sand	SM	A-2	0	0-5	85-100	85-100	50-100	15-35	---	NP
	11-60	Weathered bedrock			---	---	---	---	---	---	---	---
109B: Amor-----	0-6	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-90	60-70	25-40	3-18
	6-24	Loam, clay loam	CL, CL-ML	A-6, A-4	0	0	100	95-100	90-100	65-85	20-45	5-25
	24-34	Clay loam, loam, fine sandy loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	95-100	75-100	50-80	20-45	2-25
	34-60	Weathered bedrock			---	---	---	---	---	---	---	---
109C: Amor-----	0-6	Loam	CL, CL-ML, ML	A-4, A-6	0	0	100	95-100	85-90	60-70	25-40	3-18
	6-24	Loam, clay loam	CL, CL-ML	A-4, A-6	0	0	100	95-100	90-100	65-85	20-45	5-25
	24-34	Clay loam, loam, fine sandy loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	95-100	75-100	50-80	20-45	2-25
	34-60	Weathered bedrock			---	---	---	---	---	---	---	---
114: Grail-----	0-8	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	85-95	30-50	10-30
	8-41	Silty clay, silty clay loam, clay	CH, CL, MH, ML	A-6, A-7	0	0	100	100	95-100	70-95	35-60	10-35
	41-60	Loam, silty clay loam, clay	CH, CL	A-6, A-7	0	0	100	100	85-100	60-95	30-55	10-35
Grassna-----	0-9	Silt loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	90-100	70-90	20-45	3-25
	9-60	Silt loam, silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7	0	0	100	100	90-100	70-95	25-45	3-25
W: Water-----	---	---	---	---	---	---	---	---	---	---	---	---

