

West Fargo Section 29



ST-2

ST-1








Boring Locations

Shyann
9th Grade
Center

(See Descriptive Terminology sheet for explanation of abbreviations)

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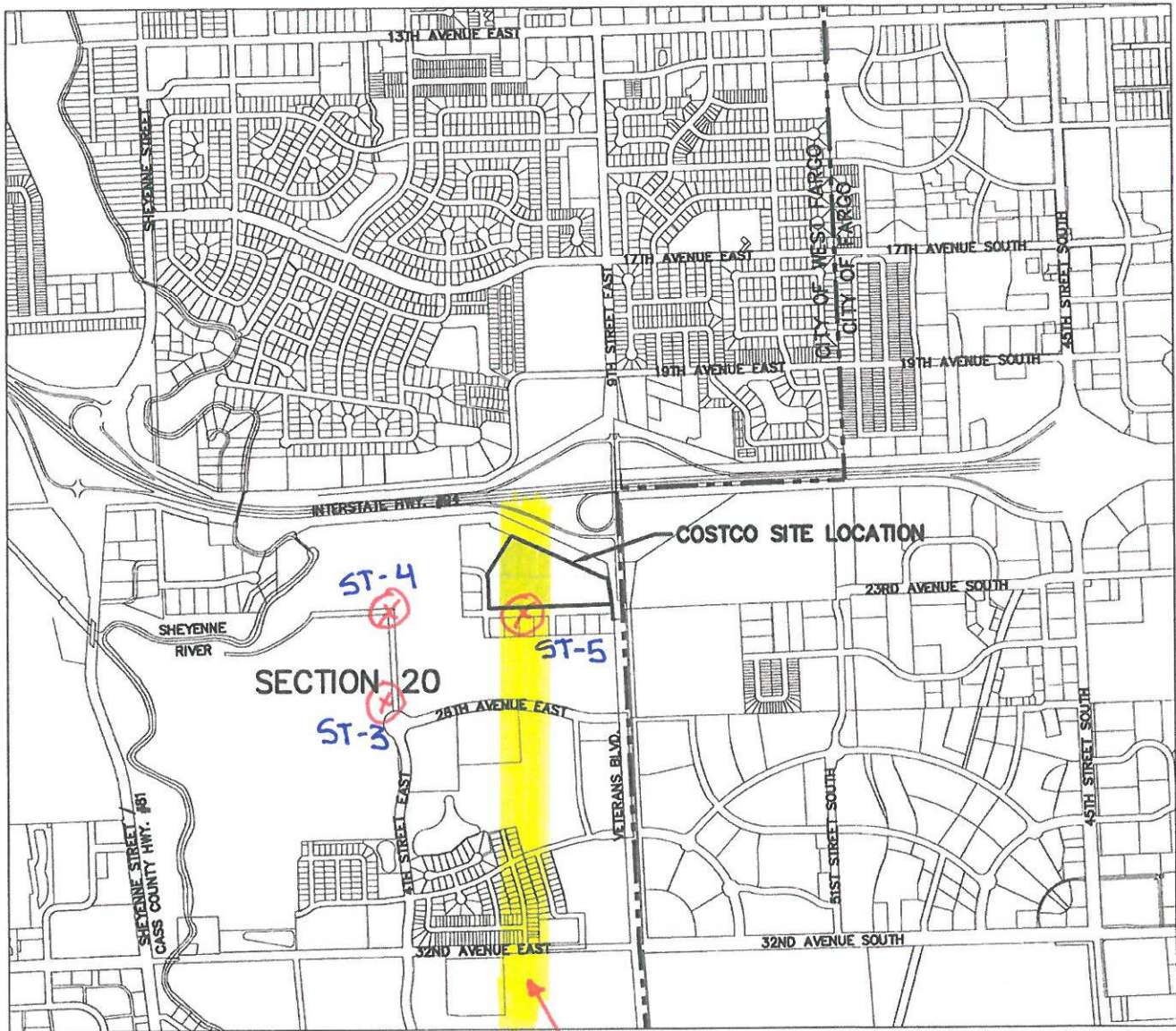
Braun Project FA-11-07319 Geotechnical Evaluation Utility & Street Imps. - District #1234 4th St, 7th St & 23rd Ave West Fargo, North Dakota				BORING: ST-1 LOCATION: Section 29. See Sketch			
DRILLER: K. Miller		METHOD: 3 1/4" HSA, Autohammer		DATE: 11/30/11		SCALE: 1" = 5'	
Depth feet	Symbol	Description of Materials (Soil- ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	qp tsf	Tests or Notes	
0.0							
2.0	FILL 	FILL: Lean Clay with Sand, with Sand and Silt lenses, with roots, dark brown, moist.	8				
7.0	CH 	FAT CLAY, with Sand and Silt lenses, brown, moist, medium. (Glacial Lake Deposit) -with Sand seams and iron-staining at 4 1/2 feet.	7 7		2 1/2 2 1/4		
12.0	SM 	SILTY SAND, brown, waterbearing, very loose to loose. (Alluvium)	4 10				
21.0	CH 	FAT CLAY, gray with iron-staining, wet, soft to rather soft. (Glacial Lake Deposit)	5 5 2		2 3/4 1		
END OF BORING. Water observed at a depth of 7 feet while drilling. Water observed at a depth of 14 feet immediately after withdrawal of auger. Water not observed to a cave in depth of 3 feet when rechecked 1/4 hour after withdrawal of auger. Boring then backfilled.							

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Braun Project FA-11-07319 Geotechnical Evaluation Utility & Street Imps. - District #1234 4th St, 7th St & 23rd Ave West Fargo, North Dakota				BORING: ST-2			
DRILLER: K. Miller		METHOD: 3 1/4" HSA, Autohammer		DATE: 11/30/11		SCALE: 1" = 5'	
Depth feet	Symbol	Description of Materials (Soil- ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	qp tsf	Tests or Notes	
0.0							
0.8	CL	SANDY LEAN CLAY, with Sand and Silt lenses, with roots, black and dark gray, moist. (Topsoil)	5				
	CH	FAT CLAY, with Sand and Silt lenses, brown, moist, medium. (Glacial Lake Deposit)	7		2 1/2		
		-with Sand seams and iron-staining at 4 1/2 feet.	7		2 1/4		
6.5	SM	SILTY SAND, brown, waterbearing, loose. (Alluvium)	8	▽			
9.0	CH	FAT CLAY, brown and gray with iron-staining, wet, rather soft to medium. (Glacial Lake Deposit)	4		1 1/2		
		-gray below 12 feet.	5		1 3/4		
			6		1 1/2		
21.0		END OF BORING.	4		1/4		
		Water observed at a depth of 7 feet while drilling.					
		Water not observed with 19 1/2 feet of hollow stem auger in the ground.					
		Boring then backfilled.					

SECTION 20 - VICINITY MAP WEST FARGO, NORTH DAKOTA



NOT TO SCALE
DATE: 10-25-11

(X) - Boring location
(Lath set by 11-21-11)

Approx. Sand
Vein Location



moore
engineering, inc.
Consulting Engineering • Land Surveying
Shaping the Region for 50 Years.

www.mooreengineeringinc.com
63 12th Avenue East • 1512 East 7th Avenue
West Fargo ND 58132 • Fargo ND 58103
Phone: 1.801.732.4132 • Phone: 701.732.4132

(See Descriptive Terminology sheet for explanation of abbreviations)

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Braun Project FA-11-07319 Geotechnical Evaluation Utility & Street Imps. - District #1234 4th St, 7th St & 23rd Ave West Fargo, North Dakota				BORING: ST-3 LOCATION: Section 20. See Sketch			
DRILLER: K. Miller		METHOD: 3 1/4" HSA, Autohammer		DATE: 12/1/11		SCALE: 1" = 5'	
Depth feet	Symbol	Description of Materials (Soil- ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	qp tsf	Tests or Notes	
0.0							
1.3	CL	SANDY LEAN CLAY, with Sand and Silt lenses, with roots, black, moist.	6				
	CH	(Topsoil) FAT CLAY, with Sand and Silt lenses, brown with iron-staining, moist, rather soft to medium. (Glacial Lake Deposit)	4		1 1/2		
			4		1 1/2		
		-Sand seams below 7 feet.	6		2		
			6		1 1/2		
12.0	CH	FAT CLAY, brown and gray, moist, rather soft to rather stiff. (Glacial Lake Deposit)	10		1 3/4		
			6		1 1/4		
		-gray below 19 1/2 feet.	6		3/4		
			4		3/4		
31.0		END OF BORING.	4		1/2		
		Water not observed with 29 1/2 feet of hollow stem auger in the ground.					
		Water not observed to a cave in depth of 6 feet immediately after withdrawal of the auger.					
		Boring then backfilled.					

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Braun Project FA-11-07319 Geotechnical Evaluation Utility & Street Imps. - District #1234 4th St, 7th St & 23rd Ave West Fargo, North Dakota				BORING: ST-4			
DRILLER: K. Miller		METHOD: 3 1/4" HSA, Autohammer		DATE: 12/1/11		SCALE: 1" = 5'	
Depth feet	Symbol	Description of Materials (Soil- ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	qp tsf	Tests or Notes	
0.0							
1.3	CL	SANDY LEAN CLAY, with Sand and Silt lenses, with roots, black, moist.	8				
	CH	(Topsoil) FAT CLAY, with Sand and Silt lenses, brown, moist, medium to rather stiff. (Glacial Lake Deposit) -with Sand seams below 4 1/2 feet.	7				
			8		2		
			9		2		
10.0	CH	FAT CLAY, brown and light gray, moist, rather soft to medium. (Glacial Lake Deposit) -gray below 14 1/2 feet.	7		1		
			7		1 1/4		
			6		1 1/4		
			5		1 1/4		
			5		1 1/4		
31.0		END OF BORING. Water not observed with 29 1/2 feet of hollow stem auger in the ground. Water not observed to a cave in depth of 8 feet immediately after withdrawal of the auger. Boring then backfilled.	5		3/4		

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Braun Project FA-11-07319 Geotechnical Evaluation Utility & Street Imps. - District #1234 4th St, 7th St & 23rd Ave West Fargo, North Dakota				BORING: ST-5			
DRILLER: K. Miller		METHOD: 3 1/4" HSA, Autohammer		DATE: 12/1/11		SCALE: 1" = 5'	
Depth feet	Symbol	Description of Materials (Soil- ASTM D2488 or D2487, Rock-USACE EM1110-1-2908)	BPF	WL	qp tsf	Tests or Notes	
0.0	CL	SANDY LEAN CLAY, with Sand and Silt lenses, with roots, black, moist.	10				
1.5	CH	(Topsoil) FAT CLAY, with Sand and Silt lenses, brown and gray, moist, rather soft to rather stiff. (Glacial Lake Deposit) -with Sand seams and iron-staining at 4 1/2 feet.	9		4 1/2		
			8		2 1/2		
			5		3/4		
9.0	SM	SILTY SAND, with Fat Clay lenses, brown, waterbearing, medium dense. (Alluvium)	12	▽			
			17				
			27				
19.5	CH	FAT CLAY, gray, wet, soft to rather soft. (Glacial Lake Deposit)	4		1 1/4		
			2				
31.0		END OF BORING.	2				
		Water observed at a depth of 10 feet while drilling.					
		Water observed at a depth of 25 feet immediately after withdrawal of auger.					
		Water not observed to a cave in depth of 4 feet when rechecked 1 1/2 hour after withdrawal of auger.					
		Boring then backfilled.					