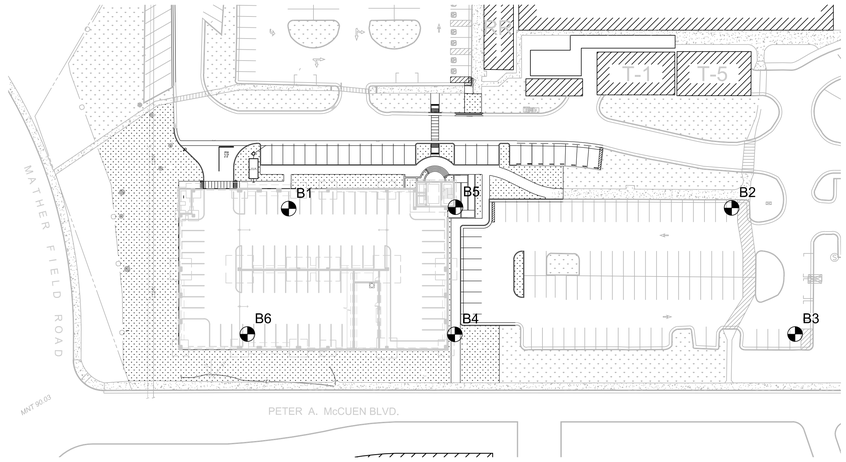


SITE PLAN

SCALE: 1"=50'

LEGEND

BORING LOG LOCATIONS.

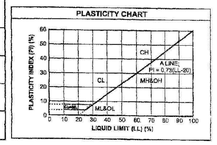
UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART			
COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

CONSISTENCY CLASSIFICATION	
Description	Blows per Foot
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION		
Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	3 to 12 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Log of Drill Hole B1

Project: VA Northern California Health Care System
Client: FCE, Inc.
Location: 10535 Hospital Way, Mather, California
Depth to Water> **Initial:** None
Project No: 032-10024
Figure No.: A-1
Logged By: Wayne Andrade
At Completion: None

Depth (ft)	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0	Ground Surface				
	ASPHALTIC CONCRETE = 1½ inches; AGGREGATE BASE = 7 inches				
	SILTY CLAY (CL) Stiff with trace SAND; reddish-brown, moist, drills easily	122.6	14.4		50+
	SANDY CLAY (CL) Hard, fine-grained; weakly cemented; reddish-brown, damp, drills hard				
	Hard, fine-grained; reddish-brown, damp, drills firmly	124.1	12.6		51
	CLAYEY SANDY GRAVEL (GC) Very dense, fine- to coarse-grained; reddish-brown, moist, drills easily				
			9.6		50+
					50+
20	End of Borehole				

Drill Method: Solid Flight
Drill Rig: CME 45
Driller: Chris Wyneken
Krazan and Associates
Drill Date: 5-5-10
Hole Size: 4½ Inches
Elevation: 17 Feet
Sheet: 1 of 1

Log of Drill Hole B2

Project: VA Northern California Health Care System
Client: FCE, Inc.
Location: 10535 Hospital Way, Mather, California
Depth to Water> **Initial:** None
Project No: 032-10024
Figure No.: A-2
Logged By: Wayne Andrade
At Completion: None

Depth (ft)	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0	Ground Surface				
	ASPHALTIC CONCRETE = 1½ inches; AGGREGATE BASE = 7 inches				
	CLAYEY SANDY (SC) FILL - Fine- to coarse-grained with GRAVEL; reddish-brown, moist, drills easily	101.2	16.0		9
	CLAYEY SAND (SC) Medium dense, fine- to coarse-grained with trace GRAVEL; reddish-brown, moist, drills easily				32
	CLAYEY SANDY GRAVEL (GC) Very dense, fine- to coarse-grained with trace COBBLES; reddish-brown, moist, drills hard				
		123.8	6.6		50+
			8.0		50+
20	End of Borehole				

Drill Method: Solid Flight
Drill Rig: CME 45
Driller: Chris Wyneken
Krazan and Associates
Drill Date: 5-5-10
Hole Size: 4½ Inches
Elevation: 17 Feet
Sheet: 1 of 1

Log of Drill Hole B6

Project: VA Northern California Health Care System
Client: FCE, Inc.
Location: 10535 Hospital Way, Mather, California
Depth to Water> **Initial:** None
Project No: 032-10024
Figure No.: A-6
Logged By: Wayne Andrade
At Completion: None

Depth (ft)	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0	Ground Surface				
	ASPHALTIC CONCRETE = 2 inches; AGGREGATE BASE = 7 inches				
	SANDY CLAY (CL) Stiff; fine- to medium-grained; light reddish-brown, damp, drills easily	115.5	14.1		11
	SANDY CLAYEY GRAVEL (GC) Very dense, fine- to coarse-grained; reddish-brown, moist, drills hard				
			9.5		50+
					50+
20	End of Borehole				

Drill Method: Solid Flight
Drill Rig: CME 45
Driller: Chris Wyneken
Krazan and Associates
Drill Date: 5-5-10
Hole Size: 4½ Inches
Elevation: 13 Feet
Sheet: 1 of 1

Log of Drill Hole B5

Project: VA Northern California Health Care System
Client: FCE, Inc.
Location: 10535 Hospital Way, Mather, California
Depth to Water> **Initial:** None
Project No: 032-10024
Figure No.: A-5
Logged By: Wayne Andrade
At Completion: None

Depth (ft)	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0	Ground Surface				
	ASPHALTIC CONCRETE = 2 inches; AGGREGATE BASE = 7 inches				
	SANDY SILTY CLAY (CL) FILL - Fine-grained; dark grayish-brown, damp, drills easily	125.4	12.4		23
	SANDY CLAY (CL) Firm, fine-grained with GRAVEL; reddish-brown, damp, drills easily				
	CLAYEY SILT/SILTY CLAY (ML/CL) Very dense, fine-grained; light orangish-brown, damp, drills hard	118.8	10.4		50+
	CLAYEY GRAVEL (GC) Very dense, fine- to coarse-grained; reddish-brown, damp, drills hard				
					50+
20	End of Borehole				

Drill Method: Solid Flight
Drill Rig: CME 45
Driller: Chris Wyneken
Krazan and Associates
Drill Date: 5-5-10
Hole Size: 4½ Inches
Elevation: 13½ Feet
Sheet: 1 of 1

Log of Drill Hole B4

Project: VA Northern California Health Care System
Client: FCE, Inc.
Location: 10535 Hospital Way, Mather, California
Depth to Water> **Initial:** None
Project No: 032-10024
Figure No.: A-4
Logged By: Wayne Andrade
At Completion: None

Depth (ft)	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0	Ground Surface				
	ASPHALTIC CONCRETE = 2 inches; AGGREGATE BASE = 6 inches				
	SANDY CLAY (CL) FILL - Fine-grained; brown, damp, drills easily	109.6	18.8		19
	SANDY CLAY (CL) Firm, fine-grained; reddish-brown, damp, drills hard				
	SANDY CLAYEY SILT (ML) Very dense, fine-grained; light orangish-brown, damp, drills hard	114.3	11.2		50+
	SANDY CLAYEY GRAVEL (GC) Very dense, fine- to coarse-grained with trace COBBLES; reddish-brown, moist, drills easily				
			7.2		50+
20	End of Borehole				

Drill Method: Solid Flight
Drill Rig: CME 45
Driller: Chris Wyneken
Krazan and Associates
Drill Date: 5-5-10
Hole Size: 4½ Inches
Elevation: 14 Feet
Sheet: 1 of 1

Log of Drill Hole B3

Project: VA Northern California Health Care System
Client: FCE, Inc.
Location: 10535 Hospital Way, Mather, California
Depth to Water> **Initial:** None
Project No: 032-10024
Figure No.: A-3
Logged By: Wayne Andrade
At Completion: None

Depth (ft)	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0	Ground Surface				
	ASPHALTIC CONCRETE = 2 inches; AGGREGATE BASE = 7 inches				
	SANDY CLAY (CL) Very stiff; fine- to medium-grained; reddish-brown, damp, drills easily	117.6	14.3		31
	SANDY CLAY (CL) Very stiff, fine- to coarse-grained with trace GRAVEL; reddish-brown, damp, drills easily	122.1	12.9		23
	SANDY CLAYEY GRAVEL (GC) Very dense, fine- to coarse-grained with trace COBBLES; reddish-brown, damp, drills hard				
20	End of Borehole				

Drill Method: Solid Flight
Drill Rig: CME 45
Driller: Chris Wyneken
Krazan and Associates
Drill Date: 5-5-10
Hole Size: 4½ Inches
Elevation: 8½ Feet
Sheet: 1 of 1

GEOTECHNICAL BORING LOGS

CONSTRUCTION DOCUMENTS - FINAL SUBMISSION

Revisions:	Date
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CONSULTANTS:

REGISTERED PROFESSIONAL ENGINEER ERIC CHRISTOPHER FRAMPTON No. 64567 EXPIRES 06/30/2011 CIVIL STATE OF CALIFORNIA

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Drawing Title	Geotechnical Boring Logs
Project Title	VA Northern California Health Care System Parking Structure
Project Number	612-CSI-102
Building Number	----
Approved: Project Director	
Location	10535 Hospital Way, Mather CA 95655
Date	06/15/2011
Checked	ECF
Drawn	AF
Drawing Number	C 810
Dwg. 19 of 122	

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231