



Addendum #1

NJSDA
1 West State Street
Trenton, NJ 08625
Phone:

Fax:

Date: April 17, 2012

PROJECT #: PA-0024-N01

DESCRIPTION: Demolition for PS# 16

This addendum shall be considered part of the Bid Documents issued in connection with the referenced project. Should information conflict with the Bid Documents, this Addendum shall supersede the relevant information in the Bid Documents.

1. The following is a summary of request for information (RFIs) submitted:

Question #1: What is the site permissible working hours at the site?

Answer to Comment/Question # 1: The normal working hours are indicated in the specification but the potential bidders are advised that the subject is a matter of local jurisdiction and thus potential bidders shall confirm with the local authorities.

Question # 2: Since the project documents do not include unit prices (for example, ACM removal/disposal or other materials) what if hidden/unforeseen ACM or other material is found in the course of the work?

Answer to Question # 2: The results of the site's detailed ACM survey are provided in the contract documents. Therefore, a total lump sum price for the work is appropriate. Notwithstanding, the bidders are directed to consult the contract documents where the rights of each party (Contractor & Owner) are outlined for unforeseen work.

Question # 3: Will electrical power be made available to the contractor in the course of the work?

Answer to question # 3: No. The contractor is responsible for the supply of electrical power.

Question # 4: (a) Will the electrical poles be removed by the NJSDA (Owner) and a follow-up, related question, if not, will the contractor be permitted to work next to adjacent poles using machinery?

Answer to Question # 4: (a) The NJSDA will not remove electrical poles. (b) The contractor must abide by all relevant contract requirements, including OSHA rules.

Question # 5: Is the contractor permitted to leave in-situ "stone", a natural occurring material, that may have been used a part of a building's foundation?

Answer to Question # 5: No. Stone or other natural occurring material used as foundations must be removed in accordance with the project plans. Only material that meets the characteristics outlined in the project documents may be used or imported to the site.

Question # 6: Is contractor responsible for soil engineer for analysis and compaction testing during backfill operations?

Answer to Question # 6: No. See Specification Section 01410, Testing Laboratory Services.

Question # 7: Do all sidewalks and curbs get removed from the front of all buildings being demolished?

Answer to Question # 7: No. See Plan Sheet 3, Removal Plan.

Question # 8: Can the contractor close down 20th street for contract duration?

Answer to Question # 8: No. See Plan Sheet 4, Removal Plan which shows the Phasing and Attachment 3, Construction Schedule in the Specification Manual.

Question # 9: Can we crush all concrete on site and use for fill?

Answer to Question # 9: No, as stated in the Project Specifications, for bidding purposes, concrete and masonry debris resulting from demolition of structures within the limits of the Universal Metal Craft portion of the Site are to be presumed impacted solid waste, requiring off-Site disposal at a licensed disposal facility. Concrete and masonry debris resulting from the demolition of the remaining residential portions of the Site are to be presumed non-impacted materials acceptable for on-Site reuse (as surface topping only) and recycling. Non-impacted concrete can not be used for backfill, only surface topping restoration. However, the bidders are reminded that the Project Specifications require all appropriate characterization sampling be conducted by the contractor pursuant to the requirements of the *NJDEP Guidance for Characterization of Concrete and Clean Material Certification for Recycling (Updated January 12, 2010)* which can be found at:

<http://www.nj.gov/dep/dshw/resource/guidance/concrete%20demo%20201210.pdf>.

Question # 10: Where do we install the temporary fencing - At building side of curb? At building side of sidewalk? In the street at curb? Please specify location where the temporary fencing is to be installed?

Answer to Question # 10: See Plan Sheet 5, Soil Erosion and Sediment Control Plan for temporary fence location.

Question # 11: Will the owner be providing temporary power and water onsite?

Answer to Question # 11: No. If temporary water and power are needed, it would be the responsibility of the Contractor.

Question # 12: # What is the depth that groundwater was encountered?

Project #: PA-0024-N01

Answer to Question # 12: Groundwater was not encountered during previous investigation work at the Site. Based upon available information, shale and sandstone bedrock was encountered at approximately 17-37 feet depth below grade across the Site and groundwater was not encountered to the depth of bedrock.

Question # 13: Please provide the Geotechnical Assessment and Soil Boring Report for the project.

Answer to Question # 13: As stated in the Project Specifications, all past reports can be reviewed at the offices of the NSJDA. However, for convenience, attached is the CMX Geotechnical Engineering Report, dated August 26, 2004.

2. The following drawing notes/changes are made part of the contract plans:
 1. Sheet 1: The property description in the Title, General Notes and Title Block for the project includes Block 7401 Lots 1-6, Block 7402 Lots 1-19 & Block 8918 Lot 21. The same property description applies to Sheets 2- 9.
 2. Contractor is responsible for the removal and proper disposal of all debris, trash, roadside dumping, etc., upon mobilization and shall be included in the scope of work. In addition, contractor is responsible for the clearing and removal of all shrubs and vegetation on the project site.
 3. Contractor responsible to photograph adjacent structures, cracks, foundations and sidewalks to record existing conditions prior to mobilization. Properties that front East 21st Street and Twenty Second Avenue must be photo documented.
 4. Sheet 1 Note 28: NJEPA's Universal Waste Program shall read USEPA's Universal Waste Program.
 5. Sheet 3: Block 7401 Lot 1 shall be added to Phase II in the Phase Limits Table.
 6. Sheet 3 Note 3 should read: Upon completion of the removal plan, SDA's Environmental Consultant will provide a geophysical survey of the project area.
 7. Sheet 5: Contractor to include pricing for 1 Man Gate, with location to be determined in the field.
3. The bidders are reminded that all materials/debris at the site shall be collected, segregated and appropriately disposed, including garbage, cans or container of paints, spray cans, solvents, oils, cleaning supplies, and other materials found in the building in accordance with all regulations and codes.

End of Addendum No. 1

NJSDA	Date
Ron Carper/Gary Skowronski/Jorge L. Alfonso	

Addendum # 1

NJSDA
1 West State Street
Trenton, NJ 08625
Phone:
Fax:

Date:

PROJECT #: PA-0024-N01

DESCRIPTION: Demolition for PS# 16
Addendum No. 1

Acknowledgement of Receipt of Addendum

Contractor must acknowledge the receipt of the Addendum by signing in the space provided below and returning via fax to (609-656-4609). Signed acknowledgement must be received prior to the Bid Due Date. Acknowledgement of the Addendum must be made in Section E.6 of the Price Proposal Submission.

Signature

Print Name

Company Name

Date

C: Kevin B.



SCHOOR DEPALMA
Engineers and Consultants

GEOTECHNICAL ENGINEERING REPORT

SITE FEASIBILITY INVESTIGATION SERVICES

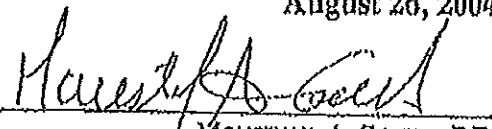
FOR

CITY OF PATERSON PUBLIC SCHOOL #16
PATERSON, NEW JERSEY

PREPARED FOR:

MR. CARLO MANGO L. CASTILLO
NEW JERSEY SCHOOL CONSTRUCTION CORPORATION
ONE GARRETT MOUNTAIN PLAZA
WEST PATERSON, NJ 07424

August 26, 2004



MOUSTAFA A. GOUDA, P.E.
NEW JERSEY PROFESSIONAL ENGINEER
LICENSE NUMBER 20848

SCHOOR DEPALMA'S PROJECT NUMBER 04.00819.01
NA PROJECT 200401008190216 GEOTECH REPORT PATERSON SCHOOL PUBLIC SCHOOL # 16.008

Your Bottom Line Results Partner™

Justin Corporate Center, 200 State Highway Nine, P.O. Box 900, Mendotown, NJ 07726-0900 Tel: 732.677.9000 Fax: 732.677.9288
Monroeville • Amherst • Atlantic City • Brak • Clinton • Exton • Kutztown
Parsippany • Philadelphia • Phillipsburg • Stafford • Voorhees
www.schoordepalma.com



SCHOOR DEPALMA
Engineers and Consultants

August 26, 2004

Mr. Carlo Mango L. Castillo
NJ School construction Corporation
One Garrett Mountain Plaza
West Paterson, NJ 07424

RE: Preliminary Geotechnical Engineering Report
Site Feasibility Investigation Services for
City of Paterson Public School #16
NJDOE Project #4010-N09-04-001IP
NJSCC Contract #NT-0015-L02
Our Project Number: 04.00819.02

Dear Mr. Castillo

Schoor DePalma is pleased to submit our Preliminary Geotechnical Engineering Report for the above referenced site. Our geotechnical services were provided in accordance with our agreement.

Our scope of geotechnical services included performing: (A) Subsurface Exploration, (B) Layout, Coordination and Inspection of the Subsurface Exploration, (C) Geotechnical Engineering Study and (E) Preparation of this preliminary Geotechnical Engineering Report.

We appreciate the opportunity to be of service for this project. Please contact either of the undersigned if clarification is needed for any aspect of this report.

Very truly yours,

SCHOOR DEPALMA, INC.

Hamid Belgaid, P.E.
Senior Project Engineer

Moustafa A. Gouda, P.E., F.ASCE
Senior Vice President

WFM/MAG:tag

n:\project\2004\0400819\02\geotech\report\paterson school public school # 16.doc

Your Bottom Line Results Partner™

Justin Corporate Center, 200 State Highway Nine, P.O. Box 900, Morristown, NJ 07726-0900 Tel: 732.677.9000 Fax: 732.677.9888
Manassas • Newark • Atlantic City • Brick • Clinton • Exton • Kulpsville
Parsippany • Philadelphia • Phillipsburg • Stanfrod • Voorhees
www.schoordepalma.com



SCHOOR DEFALMA
Consulting and Construction

Geotechnical Investigation Report
Site Feasibility Investigative Services
City of Paterson Public School # 16
Paterson, New Jersey
Our Project Number 04.00819.01

TABLE OF CONTENTS

	PAGE NO.
INTRODUCTION	1
SITE AND PROJECT DESCRIPTION	1
GEOLOGY OF THE SITE.....	1
SUBSURFACE INVESTIGATION.....	2
SOILS LABORATORY TESTING	2
SUBSURFACE CONDITIONS.....	3
GROUNDWATER CONDITIONS.....	3
PRELIMINARY GEOTECHNICAL RECOMMENDATIONS	4
General	4
Preliminary Foundation and Site Development Recommendations.....	4
CONCLUSIONS	5
FUTURE SERVICES.....	5
Appendix A	
▪ Site Location Plan, Figure 1	
▪ Boring Location Plan, Figure 2	
▪ Logs of Test Boring B-1 through B-4	
▪ Modified Method for Identification of Soils, Plate 2A	
▪ Unified Soil Classification System, Plate 2B	
▪ General Notes for Test Boring Logs, Plate 2C	
Appendix B	
▪ Limitations	



SCHOOR DEPALMA
ENGINEERS AND CONSTRUCTORS

Geotechnical Investigation Report
Site Feasibility Investigative Services
City of Paterson Public School # 16
Paterson, New Jersey
Our Project Number 04.00819.01

INTRODUCTION

This Geotechnical Report provides preliminary geotechnical data related to the development of the Paterson District Public Elementary School #16. The existing school is located at Block 1507, Lots 25 and 26 while the development site is located on Block 1243, Lots 1-10, 29-36 / Block 1244, Lots 1-3, 33-35 / Block 1507, Lot 24 within the City of Paterson, Middlesex-Passaic County, New Jersey.

The authorized scope of the geotechnical services performed by Schoor DePalma for this project included performing a site reconnaissance, a subsurface exploration program consisting of four (4) test borings, geotechnical engineering analyses and preparation of this report.

The purpose of this study was to establish general subsurface conditions from which conclusions and recommendations regarding subsurface condition for the proposed school could be formulated. General comments and other limitations relative to the contents of this report are presented in the Limitations Section (see Appendix B) of this report.

SITE AND PROJECT DESCRIPTION

The project site is located in West Paterson, Passaic County, New Jersey. The existing Public Elementary School #16 is located off East 20th Street and 22nd Avenue.

An existing school, residential two-story buildings and light industrial/commercial facilities, as well as public road and right of ways currently occupy the site. We understand all the existing structures will be demolished. The proposed school building layout is not available at the time of this writing. A copy of the site location plan, Figure 1 is included in Appendix A.

GEOLOGY OF THE SITE

Based on the Rutgers University Report of the Engineering Soil Survey of New Jersey, the geology of the site consists of glacial ground moraine, composed of non-residual, unstratified material deposited during the Wisconsin glaciation. The general characteristics of the soils in the area consist of an unsorted, heterogeneous material including silt and sand sizes, with varying amounts of gravel, cobbles and boulders. Shale and sandstone particles are predominant, imparting a red color to soil. The soils are in general type of silty-sands and sandy-silt with varying amounts of pebbles, gravel, and boulders. The depth of bedrock is usually greater than 10 to 20 feet.



SCHOOR DEPALMA
Engineering and Construction

Geotechnical Investigation Report
Site Feasibility Investigative Services
City of Paterson Public School # 16
Paterson, New Jersey
Our Project Number 04.00819.01

SUBSURFACE INVESTIGATION

Tabasco Drilling of Mt. Laurel, New Jersey, performed the subsurface investigation on July 30 to August 3, 2004, using a truck mounted drill rig. The investigation included advancing four (4) Standard Penetration Test (SPT) borings, designated as B-1 through B-4. Due to access problems and presence of structures in the proposed site, all test borings were performed in accessible areas within public streets. Soft dig using a Vacuum system was utilized to clear utilities to a depth of 4 to 5 feet below the surface. Boring B-1 was located on East 21st Street south of 22nd Avenue. Boring B-2 was located at the dead-end of 20th Street. Borings B-3 and B-4 were located on 22nd Avenue, west of 20th Street. The depth of the borings varied from 17 to 37 feet. Test borings were terminated at auger refusal. Usually auger refusal indicates presence of bedrock. Rock was cored after reaching auger refusal in one test boring (B-4). Rock was cored from depths of 22.2 feet to 26.5 feet.

All borings were advanced utilizing the hollow-stem auger drilling method. Soil samples were recovered via a two-inch O.D. split-spoon sampler; driven by a 140-pound hammer, free falling 30 inches (ASTM D-1586). The SPT N-values indicate the resistances encountered in a particular layer as determined from the number of blows required to drive a two-inch O.D. split spoon sampler one foot of penetration. Soil samples were obtained continuously from 5 to 11 feet. No samples were taken in the upper 5 feet because of the use of soft dig to clear utilities. Below the upper 11 feet samples were obtained at 5-foot intervals thereafter. Rock coring was performed using an NX core barrel with a diamond bit.

All fieldwork was performed under the direct technical observation of a geotechnical engineer from Schoor DePalma. The project owner assisted in locating the test borings in the field. Our representative maintained a continuous log of the explorations as the work proceeded.

The soil samples were visually classified per the Burmister and the Unified Soil Classification System (USCS). Criteria for soil classifications are given in Appendix A.

In addition, Test Boring Logs are also provided in Appendix A. The approximate location of the test borings along with other pertinent site information are shown on the Boring and Location Plan, Figure 2 in Appendix A.

SOILS LABORATORY TESTING

All recovered soil samples were brought to Schoor DePalma's soil mechanics laboratory in Marlboro, New Jersey, where the soil samples were further examined for classification purposes. Based on the examination of soil samples, field classifications were confirmed or modified as necessary.



SCHOOL DEPARTMENT
of Paterson, New Jersey

Geotechnical Investigation Report
Site Feasibility Investigative Services
City of Paterson Public School # 16
Paterson, New Jersey
Our Project Number 04.00819.01

SUBSURFACE CONDITIONS

Based on the test boring and data, the following are general descriptions of the different subsurface strata. Soft dig utilizing a vacuum system was used to clear utilities to a depth of 4 to 5 feet at the locations of the test boring. Several inches of Asphalt overlies the subsurface soils at boring locations.

- " **Stratum A - Fill:** This stratum consists of brown coarse to fine Sand mixed with varying amounts of Silt and Gravel (SP to SM). This stratum was encountered in Boring B-2 and extended to depths around 5 feet. It is our opinion that the fill layer does not exist in the other three borings as our observation of cuttings resulting from Soft dig (4 to 5 foot depth) indicated that the cuttings are natural soils of glacial soil origin.
- " **Stratum B - Medium Dense-to-Dense Sand:** This stratum consists of light red-brown to red-brown Sand mixed with varying amounts of Silt and Gravel, trace of pebbles and boulders (SP to SM). The SPT N-values of this stratum ranged from 10 to 62 indicating medium dense to very dense conditions. Presence of cobbles and boulders may have distorted the N-values to a higher level. The stratum extends to a depth ranging from 6 to 18 feet. This stratum was encountered below Stratum A in Test Boring B-2. This stratum was encountered immediately below the pavement in the remainder of the borings.
- " **Stratum C - Very Dense Sand:** This stratum consists of red-brown Sand (SP to SM) with varying amounts of Silt and Gravel with presence of cobbles and boulders of shale and Diabase. The SPT N-values of this Stratum are higher than 60 indicating a very dense condition. This stratum extends to the bedrock at depths ranging from 22 to 37 feet.
- " **Stratum D - Sandstone to Shale Bedrock:** Augur refusal on top of this stratum was encountered at depths ranging from 17 to 37 feet below existing grades. The stratum was cored at Boring B-4 from depths of 22.2 to 26.5 feet. The coring results indicated that the bedrock is red-brown slightly fractured fresh Sandstone to Shale. Core Recovery is 97% and the RQD (Rock Quality Designation) value is 87% which was calculated based on coring results. This value indicates high quality bedrock.

GROUNDWATER CONDITIONS

Groundwater was not encountered in Test Borings B-1 through B-4. Wet samples were encountered in Test Boring B-1 from 10 to 15 feet below the existing elevation indicating possible presence of ground water. However, because borings were backfilled upon completion for safety, long-term confirmation of groundwater levels was not possible. Perched water may be encountered at higher levels and may occur intermittently if relatively impermeable soil units prevent the downward infiltration of surface water. Long-term water level readings were not obtained in the borings, as they were backfilled with cuttings upon completion for safety.



SCHOOL DEPALMA
CONSTRUCTION

Geotechnical Investigation Report
Site Feasibility Investigative Services
City of Paterson Public School # 16
Paterson, New Jersey
Our Project Number 04.00619.01

Soil moisture and groundwater conditions should be expected to fluctuate with season, precipitation amounts, and other on-site and off-site factors including site utilization.

PRELIMINARY GEOTECHNICAL RECOMMENDATIONS

General

Based on the available test boring, we are of the opinion that the subsurface conditions at this site are favorable and suitable for the proposed development.

Preliminary Foundation and Site Development Recommendations

- The proposed building may be supported utilizing a shallow foundation system founded at conventional depths and designed for a maximum allowable bearing capacity of 4000 psf. Footings shall extend to natural firm soils. Any fill encountered within foundation excavations shall be removed and replaced with structural fill.
- Floor slabs may be designed and supported as slab-on-grade after proofrolling the subgrade.
- Exterior footings shall extend to 3 feet below outside finished grades for frost protection.
- Interior footings in heated areas may extend to convenient depths provided that the top of foundation and bottom of the slab are separated by 4 inches of clean sand layer.
- Based on the available information the site is class D – stiff soil profile in the building area.
- The on-site soils material is suitable for use as structural controlled fill provided the moisture content is kept within the optimum water content.
- Groundwater in general was not encountered in the test borings. However, based on presence of wet sand at 10 to 15 feet below grade, ground water shall be assumed to be at or close to these depths.
- Understructures are feasible, however, they shall be designed with proper under-drain system.
- Ground water may not represent a problem for shallow foundations; however, deep utility lines may encounter groundwater if they extend below 10 feet.
- Several underground existing utilities at the site may interfere with the new development. Any existing underground utilities located within the proposed development should be located, and those utilities, which are not re-used, should be removed and capped and the utility trenches that are in the influence zone of new construction are recommended to be backfilled with compacted structural fill or grouted as needed.



SCHOOR DEPALMA
Feasibility Investigations

Geotechnical Investigation Report
Site Feasibility Investigative Services
City of Paterson Public School # 16
Paterson, New Jersey
Our Project Number 04.00819.01

- * Rock was encountered below 17 feet below grades. Rock excavations are not anticipated to be a factor in this area. However, additional borings are required in order to allow better identification of rock surface at this site.
- * Demolition of the existing buildings shall be performed under the engineering supervision. All resulting excavations shall be backfilled with clean structural quality fill.

CONCLUSIONS

The field exploration data revealed that the site subsurface conditions are favorable for the proposed building. Conventional shallow foundations along with slab on-grade construction may be utilized.

FUTURE SERVICES

We recommend that further geotechnical investigation be performed to determine the subsurface conditions at the final building locations and when the proposed finished floor elevations are established. We understand that no information is available regarding the foundations of the existing building and the presence of basements. Therefore, existing conditions shall be determined in order to allow proper preparation of demolition specifications.

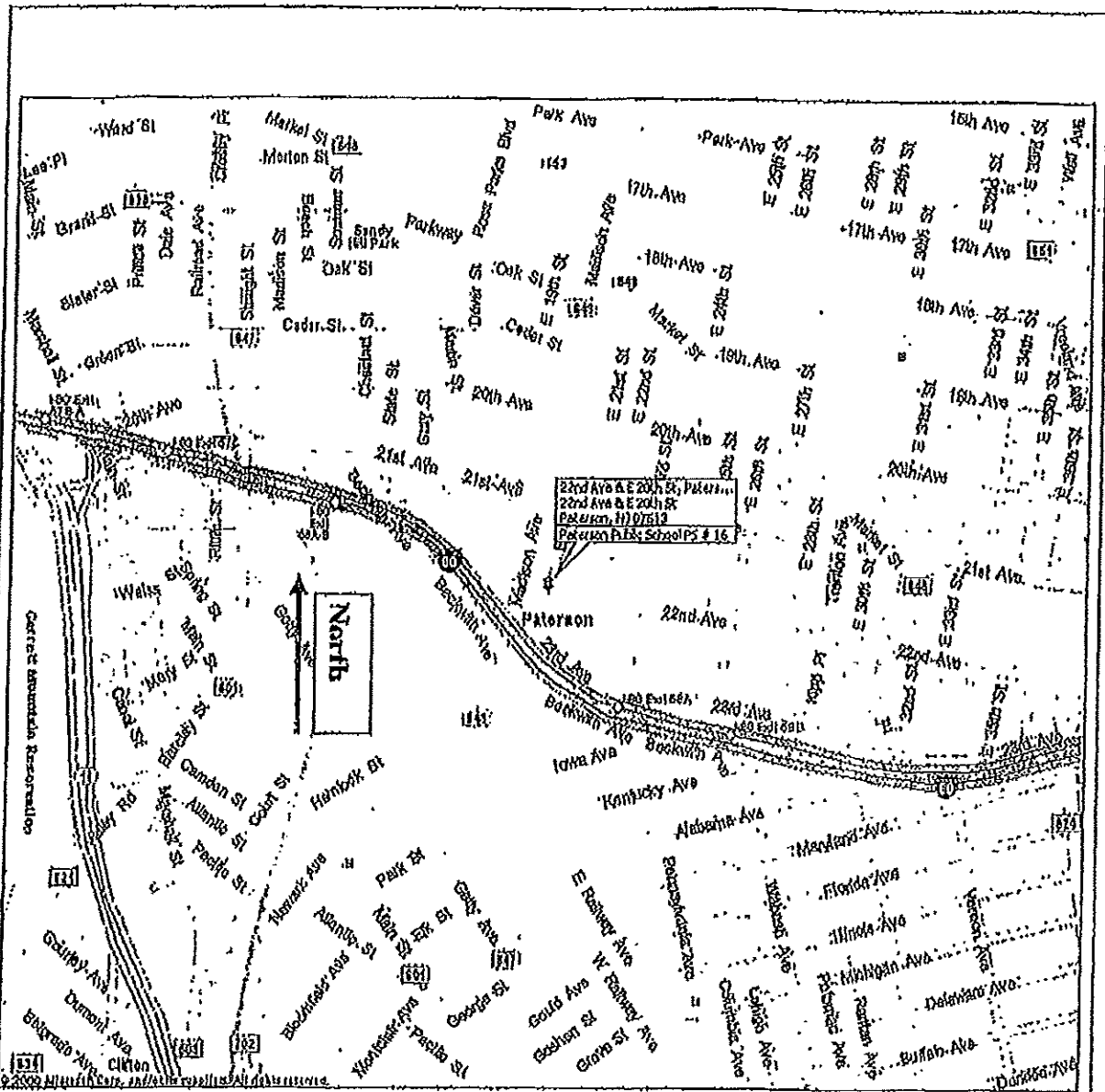


FIGURE 1

Site Location Plan

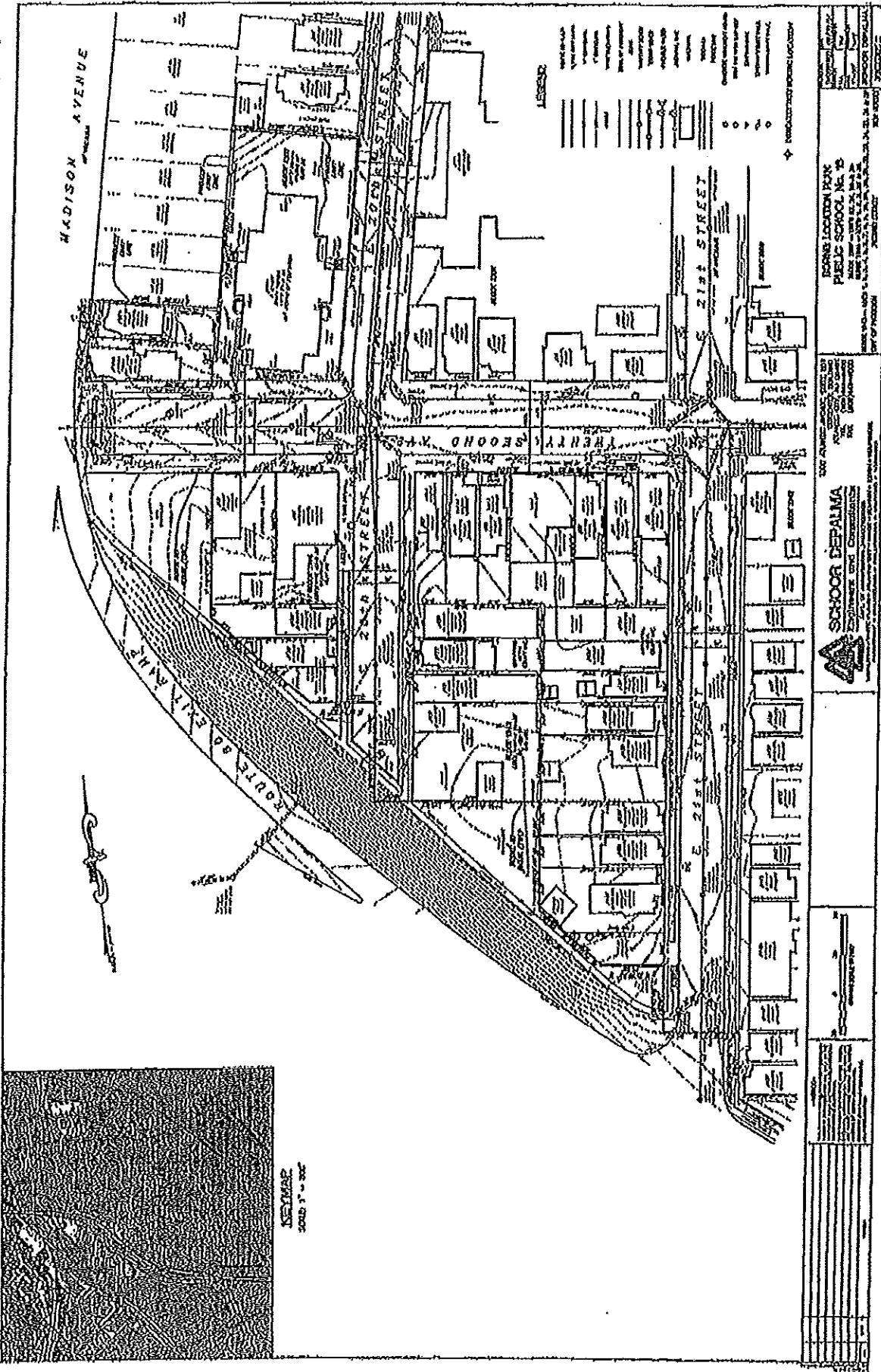
Paterson Public School PS # 16
West Paterson, New Jersey
Passaic County, New Jersey



SCHOOR DEPALMA
Engineers and Consultants

200 State Highway Nine
P.O. Box 900
Manalapan, New Jersey 07726

SCALE	DATE	DRAWN BY	FILE NO.
1"=0.3 miles	8/25/04	A.O.	040081902



MADISON AVENUE

HENRY SECOND AVE

21ST STREET

ROUTE 44 EXCHANGE

LEGEND

- WALLS
- WINDOWS
- DOORS
- FURNITURE
- FLOORS
- ROOFS
- TERRACES
- STAIRS
- ELEVATORS
- PLUMBING
- ELECTRICAL
- MECHANICAL
- LANDSCAPE
- UNLOCATED WORKING LOCATIONS

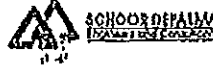
SCHOOL LOCATION PLAN
 PLEAS SCHOOL No. 10
 MADE BY ARCHITECT J. J. ...
 DATE ...
 CITY OF ...

SCHOOL DEPALMA
 ...
 ...

NORTH
 SCALE 1" = 20'

TEST BORING LOG

Boring Contractor: Tabasco Drilling Corp
 Mount Laurel, NJ
 Boring Foreman: Brij Shih & Rick Davis
 Boring Method: Hollow Stem Auger
 Boring Equipment: Dietrich D-120
 SD Representative: A. DeGard
 Dates: Started: 7/30/94 Finished: 8/22/94
 Ground Surface Elevation:



Project: Paterson Public School # 18
 Project Location: Paterson, NJ
 Project Number: 040091002
 Boring Log: B-1

GROUNDWATER OBSERVATIONS		Depth
Encountered	Water samples encountered in the borehole	
Completed	17	
Location: SEE TEST BORING LOCATION PLAN		Page 1 of 1

SAMPLING DATA	STRATUM	DEPTH	CLASS	STRATA DESCRIPTION	% W		REMARKS
		-0		6" Asphalt, 6" Crushed Stone			
		1					
		2					
		3					
		4					
		5					
B-1	B	6	SM	Red-brown coarse to fine SAND, trace SH, little coarse to fine Gravel			
		7					
B-2	B	8		Do,			
		9					
B-3	B	-10		Do, wet			
		11					
		12					
B-4	B	13		Red-brown medium to fine SAND, little SH, little coarse to fine Gravel, wet			
		-15					
		16					
		17					
		18					
B-5	B	19		No recovery			
		-20					
		21					
		22					
B-6	B	23	SM	Red-brown coarse to fine SAND, little SH, some coarse to fine Gravel, moist			
		24					
		25					
		26					
B-7	B	27		Red-brown fine SAND, little SH, trace fine Gravel, moist			
		28					
		-30					
		31					
		32					
		33					
B-8	B	34		Red-brown decomposed flint, (SILT, some fine Sand, little coarse to fine Gravel)			
		-35					
		36					
		37					
		38					
		-40					
		39					
		40					
		41					

Auger Refusal @ 37 ft

DATE							
Drilling (P.M.)							

TEST BORING LOG

Boring Contractor: Tebasco Drilling Corp
 Mount Laurel, NJ
 Boring Foreman: Bill Shin & Rick Davis
 Drilling Method: Hollow Stem Auger
 Drilling Equipment: Modrich D-120
 SD Representative: A. DeGould
 Dates: Started: 7/31/04 Finished: 8/2/04
 Ground Surface Elevation:



SCHOOL DEPT. MA
MAINTENANCE DIVISION

Project: Palmyra Public School # 18
 Project Location: Palmyra, NJ
 Project Number: 050081002
 Boring Log: B-2

GROUNDWATER OBSERVATIONS

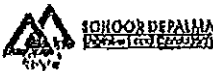
Environment: _____ Depth: _____
 Completion: _____
 Location: SEE TEST BORING LOCATION PLAN Page 1 of 1

SAMPLING DATA	STRATUM	DEPTH	CLASS	STRATA DESCRIPTION	REMARKS	
					X	W
S-1 8-11-15-22	A	-0	FH	4" Asphalt, 2" Crushed Stone		
		1		Soil Dig to a depth of 5 feet Soil cuttings are: Brown coarse to fine SAND, little Silt, some coarse to fine Gravel		
		2				
		3				
		4				
5						
S-2 2223-1721	B	-5	SM	Brown coarse to fine SAND, little Silt, some coarse to fine Gravel		
		7		Red-brown fine SAND, little Silt, trace fine Gravel		
		8		Do, little coarse to fine Gravel		
		9		Do		
		10		Do		
S-3 23-17-19	B	-10	SM	Do		
		11				
		12				
		13				
		14				
S-4 1078'	C	-16	SM	Red-brown medium to fine SAND, little Silt mixed with Gravel sized boules fragments		
		17				
		18				
		19				
		20				
S-5 87-503'	C	-20	SP	Light red-brown coarse to fine SAND, trace Silt, some coarse to fine Gravel		
		21				
		22				
		23				
		24				
S-6 1002'	C	-25	SM	Red-brown SAND, little Silt with Rock fragments		Auger Refusal at 25'
		26				
		27				
		28				
		29				
		-30		End of Boring @ 25'		
		31				
		32				
		33				
		34				
		35				
		36				
		37				
		38				
		39				
40						

Date: _____
 By Reading (P.P.M.) _____

TEST BORING LOG

Boring Contractor: Tabasco Drilling Corp
 Howell Laurel, NJ
 Boring Foreman: Bill Chin & Rick Dayla
 Drilling Method: Hollow Stem Auger
 Drilling Equipment: Gleditch D-120
 SD Representative: A. Bolger
 Date Started: 7/20/04 Finished: 8/2/04
 Ground Surface Elevation:



Project: Paterson Public School # 18
 Project Location: Paterson, NJ
 Project Number: 040031902
 Boring Log: B-3

GROUNDWATER OBSERVATIONS

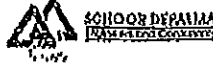
Encountered:	Depth:
Completion:	N/A
Location: SEE TEST BORING LOG KEY PLAN	

SAMPLING DATA	STATUS	DEPTH	CLASS	STRATA DESCRIPTION	%	REMARKS
		-0		4" Asphalt, 2" Crushed Stone		
		1				
		2				
		3				
		4		Soft Dig to a depth of 4 feet Soil cuttings are: Red-brown coarse to fine SAND, fine SILT, fine coarse to fine Gravel, contains cobbles		
S-1		5		Red-brown medium to fine SAND, fine SILT, trace coarse to fine Gravel		
	D	6				
		7				
S-2		8				
		9				
S-3		10				
		11				
S-4		12				
		13		Cores from 12' to 16' (recovery 12', Diabase boulder and decomposed Shale)		Auger Refusal @ 12'
	C	14				
		15		Could not extend boring below boulder		
		16				
		17				
		18		End of Boring @ 17'		
		19				
		20				
		21				
		22				
		23				
		24				
		25				
		26				
		27				
		28				
		29				
		30				
		31				
		32				
		33				
		34				
		35				
		36				
		37				
		38				
		39				
		40				
		41				
		42				
		43				
		44				
		45				
		46				
		47				
		48				
		49				
		50				

Time							
At Reading							
P.M.							

TEST BORING LOG

Hoop Contractor: Tabasco Drilling Corp
 Mount Laurel, NJ
 Working Foreman: Bill Smith & Rick Davis
 Drilling Method: Hollow Stem Auger
 Drilling Equipment: Dietrich D-120
 SD Representative: A. Helgald
 Dates: Started: 7/30/04 Finished: 8/02/04
 Ground Surface Elevation:



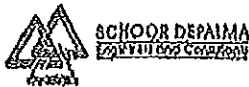
Project: Paterson Public School # 18
 Project Location: Paterson, NJ
 Project Number: 040031802
 Boring Log: B-4

GROUNDWATER OBSERVATIONS

Height (in feet):	Depth:
None	N/A
Borehole ID:	Page 1 of 1
Location: SEE TEST BORING LOCATION PLAN	

SAMPLING DATA	STRATUM	DEPTH	CLASS	STRATA DESCRIPTION	% W	REMARKS	
		-0		4" Asphalt, 2" Crushed Stone			
	B	1		Soft Dip to a depth of 4 feet Soil changes are: fine brown coarse to fine SAND, little Sil, little coarse to fine Gravel, contains pebbles. Red-brown medium to fine SAND, little SW, little coarse to fine Gravel			
		2					
		3					
		4					
		5			SM		
S-1	22-10-003'	6					
	C	7	SM	Red-brown medium to fine SAND, little Sil, some coarse to fine Gravel			
S-2		11-504'	8				
		10-503'	9		Do, some coarse to fine Gravel		
S-3			10				
		20-505'	11				
		12					
S-4			13	SM	Red-brown coarse to fine SAND, trace SW, little coarse to Gravel		
		14					
		15					
		16					
G-1		17		Auger refusal at 17'			
	D	18		Cored from 17 to 19 feet, presence of Shale boulders			
S-5		19		moderately weathered, fractured Shale, (Recovery = 83%, R.O.D = 0%)			
		20		Red-brown decomposed Shale			
		21					
		22					
G-2		23		Cored from 22.2 to 28.6 feet (clogged at 28.6 feet)			
	24			Red-brown slightly fractured fresh Sandstone to Shale			
	25			REC = 64 %			
	26			R.O.D = 87%			
		27					
		28		End of Boring U 28.5'			
		29					
		30					
		-30					
		31					
		32					
		33					
		34					
		-35					
		35					
		36					
		37					
		38					
		39					
		-40					
		41					

Time					
Air Reading					
P.P.M.					



**MODIFIED METHOD
FOR
IDENTIFICATION OF SOILS
AFTER
DR. D.M. BURMISTER**

Soil Component	Descriptive Terms As Written on Log	Range of Proportions
PRINCIPAL COMPONENT (All Letters Capitalized)	--	35% of more
MINOR COMPONENTS (First Letter Capitalized)	and (a.)	35% to 50%
	some (s.)	20% to 35%
	little (l.)	10% to 20%
	trace (tr.)	1% to 10%

Course Graded Soils -- Gradation of Components

Coarse to fine	Coarse to fine	of	All sizes
Coarse to medium	Coarse to medium	om	Less than 10% fine
Medium to fine	Medium to fine	mf	Less than 10% coarse
Coarse	Coarse	c	Less than 10% medium & fine
Medium	Medium	m	Less than 10% coarse & fine
Fine	Fine	f	Less than 10% coarse & medium

Component	Symbol	Sieve Range
Boulders		9" and larger
Cobbles		3" to 9"
Gravel	G	
Coarse		3/4" to 3"
Fine		#4 to 3/4"
Sand	S	
Coarse		#4 to #10
Medium		#10 to #40
Fine		#40 to #200

Fine Grained Soils-Plasticity of Components

Component	Symbol	Overall Plasticity	Plasticity Index
SILT	S	Non-Plastic	0
Clayey Silt	CyS	Slight	1 to 5
SILT & CLAY	S & C	Low	5 to 10
CLAY & SILT	C & S	Medium	10 to 20
Silty Clay	SyC	High	20 to 40
CLAY	C	Very High	Over 40

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO 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 (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL-SAND SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	CLEAN SAND (LITTLE OR NO FINES)	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% 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 OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY	
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LIAN CLAYS	
		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY	
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50	MH	INORGANIC SILTS, MICACIOUS OR DIATOMACROUS FINE SAND OR SILTY SOILS	
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS	
		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS	
HIGH ORGANIC SOILS			PT	FAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

GRADATION ^a	COMPACTNESS ^a SAND AND/OR GRAVEL	CONSISTENCY ^a CLAY AND/OR SILT
% FINER BY WEIGHT	RELATIVE DENSITY	RANGE OF UNIAXIAL STRENGTH IN POUNDS PER SQUARE FOOT
TRACE..... 0% TO 10%	LOOSE..... 0% TO 40%	VERY SOFT..... LESS THAN 250
LITTLE..... 10% TO 20%	MEDIUM DENSE..... 40% TO 70%	SOFT..... 250 TO 500
SOME..... 20% TO 35%	DENSE..... 70% TO 90%	MEDIUM..... 500 TO 1000
MUCH..... 35% TO 50%	VERY DENSE..... 90% TO 100%	STIFF..... 1000 TO 2000
		VERY STIFF..... 2000 TO 4000
		HARD..... GREATER THAN 4000

^a VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE. WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.

UNIFIED SOIL CLASSIFICATION SYSTEM
SOIL CLASSIFICATION CHART



SCHOOR DEPALMA
(Civil and Environmental)

GENERAL NOTES FOR TEST BORING LOGS

1. NUMBERS IN SAMPLING DATA COLUMN (3+6+27) INDICATE BLOWS REQUIRED TO DRIVE A 2 INCH O.D., 1 3/8 INCH I.D. SAMPLING SPOON 6 INCHES USING A 140 POUND HAMMER FALLING 30 INCHES ACCORDING TO ASTM D1586.
2. VISUAL CLASSIFICATION OF SOILS IS IN ACCORDANCE WITH TERMINOLOGY SET FORTH IN "IDENTIFICATION OF SOIL." THE GROUP CLASSIFICATION SYMBOLS SHOWN IN THE CLASSIFICATION COLUMN ARE BASED ON VISUAL INSPECTION AND AVAILABLE LABORATORY DATA.
3. GROUNDWATER OBSERVATIONS; THE DEPTH OF WATER BELOW GRADE WAS MEASURED AT THE TIMES INDICATED. THE DEPTHS MAY VARY WITH PRECIPITATION, POROSITY OF THE SOIL, SITE TOPOGRAPHY, ETC.
4. REFUSAL AT THE SURFACE OF ROCK, BOULDER, OR OBSTRUCTION IS DEFINED AS A RESISTANCE OF 100 BLOWS FOR 2 INCHES PENETRATION OR LESS.
5. THE BORING LOGS AND RELATED INFORMATION DEPICT SUBSURFACE CONDITIONS ONLY AT THE SPECIFIC LOCATIONS AND AT THE PARTICULAR TIME WHEN DRILLED. SOIL CONDITIONS AT OTHER LOCATIONS MAY DIFFER FROM CONDITIONS OCCURRING AT THESE BORING LOCATIONS. ALSO, THE PASSAGE OF TIME MAY RESULT IN A CHANGE IN THE SUBSURFACE SOIL AND GROUNDWATER CONDITIONS AT THESE BORING LOCATIONS.
6. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL AND ROCK TYPES AS DETERMINED FROM THE DRILLING AND SAMPLING OPERATION. SOME VARIATION MAY ALSO BE EXPECTED VERTICALLY BETWEEN SAMPLES TAKEN. THE SOIL PROFILE, WATER LEVEL OBSERVATIONS, AND PENETRATION RESISTANCES PRESENTED ON THESE BORING LOGS HAVE BEEN MADE WITH REASONABLE CARE AND ACCURACY AND MUST BE CONSIDERED ONLY AS AN APPROXIMATE REPRESENTATION OF SUBSURFACE CONDITIONS TO BE ENCOUNTERED AT THE PARTICULAR LOCATION.
7. TEST BORINGS DRILLED BY TABASCO DRILLING INC. OF MT. LAUREL, NEW JERSEY, UNDER THE INSPECTION OF SCHOOR DEPALMA INC.
8. KEY TO SYMBOLS AND ABBREVIATIONS:



3 + 6 + 27

STANDARD PENETRATION TEST, ASTM D1586 DESIGNATION

DO = DITTO



3T
24/18

2" OR 3" UNDISTURBED TUBE SAMPLE, ASTM D1587 (LENGTH SAMPLED INCHES/SAMPLE RECOVERED INCHES)

RQD = ROCK QUALITY DESIGNATION

REC = RECOVERY (%) (LENGTH RECOVERED/LENGTH SAMPLED)



REQ
REQ

NQ2, NX OR 2 INCH O.D. ROCK CORE RUN, ASTM D2113 (RECOVERY AND RQD AS SHOWN)

w = NATURAL MOISTURE CONTENT (%)

* = NO SAMPLE RECOVERY



SCHROOR DEPALMA
Engineers and Geologists

Geotechnical Investigation Report
Site Possibility Investigative Services
City of Paterson Public School # 16
Paterson, New Jersey
Our Project Number 04.00819.01

LIMITATIONS

This report has been prepared in accordance with generally accepted geotechnical design practices for specific application to this project. This report has not been prepared to serve as the plans and specifications for actual construction without the appropriate interpretation by the project Architect, Structural Engineer, and/or Civil Engineer. This report has been based on assumed conditions and characteristics of the proposed development where specific information was not available. Available project information at the time of this report preparation included a schematic site plan only.

The conclusions and recommendations contained in this report are based upon limited subsurface data obtained during this investigation and on details stated in this report. The validity of the projections, conclusions, and recommendations contained in this report is necessarily limited by the scope of field investigation and by the number of borings that were made. Additional investigation shall be performed after completion of the site plans for the project to better define the subsurface conditions and to provide final recommendations for site development and foundation design and construction.

The scope of this investigation was limited to the evaluation of the load-carrying capabilities and load stability of the subsurface soils. Oil, hazardous waste, radioactivity, irritants, pollutants, radon or other dangerous substances and conditions were not the subject of this study. Their presence and/or absence are not implied, inferred or suggested by this report or results of this study.

We have endeavored to prepare this report in accordance with generally accepted geotechnical engineering practices and make no warranties, either expressed or implied, as to the professional advice provided under the terms of our agreement and included in this report. Soil samples will be held until December 30, 2004 and will then be discarded unless further storage is requested.