<Addendum>

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Date: April 23, 2009

PROJECT #: NE-0067-B01 DESCRIPTION: Elliott Street School

RFP Addendum No. 1

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

General

1.01.

A. RFP Addendum No. 1 (this document) seeks to respond to questions from DB Teams and clarify a number of items identified by various parties including: the Bridging Architect (EYP), NJSDA, and NPS. As a matter of convenience, all Requests for Information ("RFI") questions that were received by the Authority are collected and reprinted herein. Most of the questions are answered in the following pages, although there are several questions that will receive a response in a further Addendum (RFP Addendum No. 2) to be issued by the Authority no later than April 30, 2009.

B. Bidders are instructed that the RFI process has been instituted to provide for a systematic and official method to respond to requests for information and/or clarification, and thus all inquiries from bidders regarding the Project must be directed to the Authority in the form of an RFI in accordance with the procedure specified in the Request for Proposals cover letter. Bidders are instructed not to attempt to directly contact Authority personnel, elected or appointed government officials, or representatives of the Project School District with inquiries regarding the Project during the selection process for the Design-Builder, and bidders may not rely upon any information received outside of the RFI process. <u>RFP</u>

1.02. Cover - Change Due Date to Tuesday, May 12, 2009

1.03. Page 7 of 11, 1.8 Schedule – Change RFP Technical Proposals Due to May 12,
2009

1.04. Page 7 of 11, 1.8 Schedule – **Change** Evaluation of RFP; Conduct Interviews (SDA & District) to May 26, 2009. Price Proposals are therefore also due on May 26, 2009, in the manner specified in Section 2.2. of the Request for Proposals.

DRAWINGS

1.05. **PLEASE NOTE:** THE AUTHORITY HAS PROVIDED BIDDERS WITH CERTAIN DRAWINGS AND ELECTRONIC DOCUMENTS PREPARED BY THE BRIDGING ARCHITECT. THESE ELECTRONIC DOCUMENTS ARE PROVIDED AND INTENDED TO ASSIST THE DESIGN BUILD TEAMS IN PREPARING THEIR BIDS BASED ON THE DIAGRAMMATIC OR CONCEPTUAL NATURE OF THE DESIGN AS DEVELOPED TO DATE. THESE DOCUMENTS ARE PURELY CONCEPTUAL AND IN NO WAY REPRESENT A COMPLETE DESIGN. FURTHER, THE RESPONSIBILITIES OF DESIGN BUILD TEAM SELECTED FOR THE PROJECT AS THE DESIGN BUILDER/ ARCHITECT OF RECORD ARE IN NO WAY DIMINISHED BY HAVING ACCESS TO AND USE OF THESE DOCUMENTS DURING NOT ONLY THE BID PHASE BUT THROUGHOUT THE DURATION OF THE PROJECT.

1.06. DWG. SP101 – Concept Site Plan Upper Level – Dated 03.25.2009 – **being issued** via Addendum No. 1 as it was not included in original DB Contract Documents package.

1.07. DWG. SP102 – Concept Site Plan Lower Level – Dated 03.25.2009 – **being** issued via Addendum No. 1 as it was not included in original DB Contract Documents package.

1.08. DWG. A100 – Several discrepancies in Room Names, Room Program Tags, and Room SF numbers were identified – make the following **changes** to DWG. A100:

- 1. Room Identified as "Boiler" shall be renamed "Generator", Change Room Program Tag from 8.11 to be 8.15, Change Room SF number from 1077 to 419.
- Room Identified as "Main Elec Rm Service" Change Room SF number from 343 to 312.
- 3. Room Identified as "Mech" shall be renamed "Boiler/Mech Rm", Room Program Tag shall be 8.11, Change Room SF number from 1625 to 1455.

Volume 1

1.09. Add Sample Forms - Subcontractor Approval Forms 1105, 1106, and Letter of Assent attached to this addendum

1.10. Drawing List – Add Drawings to the Architectural list as follows (included in original documents)

A-100 Basement Floor Plan

A-200 Building Elevations

 1.11. <u>Section 01010 – Summary of Work</u> Page 2, Replace Subparagraph 1.5.1 with the following:
 <u>1. Alternate No. 1</u>: Achieve Substantial Completion June 1, 2011 in lieu of November 1, 2011. Indicate ADD or DEDUCT in Proposal

1.12. Design-Build Agreement - Article 15.9.3 – Change Limits of Liability to \$200,000,000 per occurrence and \$200,000,000 aggregate

Volume 2

1.13. <u>Section 00005 - Project Information</u> Page 00005-1, RFP, Paragraph D.1. Replace phone number for Mike Anselmo with: 973-648-8389

1.14. <u>Section B22 - Exterior Windows And Other Openings</u> Page B22-4, Products, Subparagraph G.1.a. – **Add** "Caststone."

1.15. <u>Section B23 Exterior Doors</u> Page B23-4,Products, Subparagraph F.1.b. - . – **Add** "Caststone."

1.16. <u>Section C12 Interior Doors</u> Page C12-5, Products, **Delete** Paragraph I.13.

1.17. <u>Section C15 Stairs</u> Page C15-2, Methods of Construction, **Delete** Paragraph B.1

1.18. <u>Section D3 - HVAC - Heating, Ventilating, And Air Conditioning</u> Page D3-3, Performance, B.4.b. –**Delete** "or within weatherproof and insulated pipe chases/enclosures if alternate for commercial grade rooftop units is selected. Do not use fiberglass insulation on exterior hot water piping"

1.19. Page D3-5, Extra Materials, A.1 – **Revise** the word "... filters." to "... filters, not including filters used for commissioning."

1.20. Page D3-5, Extra Materials, A.9 - Revise the word "pre-mixed" to "pure".

1.21. Page D3-5, Extra Materials, Delete Paragraph B.

1.22. <u>Section D32 – Heat Generation</u>

Page D32-2, Products, C.1 – Revise the words "one or more" to "all".

1.23. <u>Section D34 – Air Distribution</u>

Page D34-6, Methods of Construction, A.20 – Revise the word "one" to "two"

1.24. Section D36 – HVAC Controls

Page D36-4. Methods of Construction, Subparagraph A.3. **Replace** "leding" with "leading".

1.25. <u>Section D43 – Fire Detection and Alarm</u> Page D43-1. A-1 -Add – Provide / Install Fire annunciation Panel at Main Office and Main Entrance.

1.26. <u>Section D52 – Service and Distribution</u> Page D52-1. A-4 Add – Do not locate panels in classrooms

1.27. <u>Section D6 Artificial Lighting</u> Page D6-1, Performance, **Delete** Subparagraph A.2.d.

1.28. <u>Section D71 – Voice and Data</u> Page D71-1. A-5 Delete all of part 5a and 5b

1.29. Page D71-2. A-10-5 Add one for wall phone and one by the teachers' desk with data drops.

1.30. Page D71-3. A-10-c-2 Change 1 Voice drop to 2 Voice drop

1.31. Page D71-3. A-10-d-3 Add wiring for wireless access points for each space

1.32. Page D71-3. A-10-e-1-e Delete Pay phone

1.33. Page D71-1 A-1 – Revise title to read Newark Public Schools Information Services Division Office of Network Services Network Standards

1.34. Pg D71-2, 10 a - 7) in room cabling should no longer have BNC. It should be replaced with USB.

- b-1 there should be 24 student computers each with a data drop.
- b-2 there should be 3 data drops for printers.
- b-3 the lab will have a wall mounted Smart Board provide data drop and power.

1.35. Section D73 - Television

Pg D 73 -1 basic function: A, 2 b-2) Correct the word "monitor" to read "Smart Board"

1.36. <u>Section D92 – Surveillance and Security Controls</u> Page D92-1, A-3-h-1 Electrical Mag Locks Required on all exterior doors, as code allows.

Volume 3

1.37. **Replace** Appendix 3.0 – NPS Technology Standards – with revised dated April 2009 attached to this addendum

1.38. **Replace** Appendix 4.0 - NPS Proprietary Items Letter – with revised dated 04.16.2009 attached to this addendum

1.39. **Replace** Appendix -5.0 - NPS Finishes Matrix - with revised 04.20.09 attached to this addendum

1.40. **Replace** Appendix -6.0 – Final Geotechnical Report – with revised dated July 2008 attached to this addendum

DOE Submission

The following items were submitted to the DOE for preliminary schematic approval by SDA and are included with this Addendum;

1.41. Floor Plans (large format) indicating potential FF&E locations – A100, A101, A102, A103 – Dated 04.09.2009

1.42. Furniture Plans - SK-A-001 thru SK-A-026 - Dated 04.09.2009

1.43. Educational Specifications – Revisions to Cover Page, Table of Contents, and Room Types (10, 11, 16, 18, 19, 22, 30, 42, and 45) – Dated 04.09.2009.

RESPONSES TO REQUEST(S) FOR INFORMATION (RFI)

1.44. What level of flexibility will the SDA allow / consider with respect to the bridging document's stated design elevations, details and proposed systems?

Answer: A response will be provided in Addendum No. 2

1.45. Who is responsible for connection fees?

Answer: DB is responsible for any and all connection fees associated with the project.

1.46. Was the demolition contract awarded / undertaken with any consideration given to the SDA's stated project goal of LEED silver certification?

Answer: No

1.47. Might the SDA consider registering the project with USGBC in advance of the D/B award in that the USGBC program requirements are proposed to change in June 09?

Answer: SDA is considering this suggestion.

1.48. Will the project require City of Newark approvals, and if so, what should the D/B reasonably anticipate in this regard?

Answer: Yes, DB is responsible for approvals and all associated fees for the project associated with any Authority Having Jurisdiction.

1.49. The RFP Fee response requires naming primes for Steel, HVAC, Electrical and Plumbing. We acknowledge this is typical for any publicly bid K12 project. However, the unique and beneficial process of a GMP proposal is now compromised by having to commit to these subcontractors this early in the process. The financial benefits to be gained by the NJSDA are negated as the D/B no longer has the ability to competitively bid the major components of the project among qualified competitors at a time when the documents are developed sufficiently to assure reasonable proposals. Can the SDA clarify their position as to how they propose the competitive bid process? An alternative might be requiring the D/B submit a list of qualified contractors that the D/B proposes to bid the detailed and approved scopes of work to at the appropriate time. In this way NJSDA truly realizes the full financial advantage of the GMP process and shared savings opportunity.

Answer: There is no requirement that the Design-Builder competitively bid the contracts for the named subcontractors; however the named subcontractors must be identified in the RFP response

1.50. The evaluation criteria for the interview (if any) is unclear. Can you clarify how the interview / presentation will weigh relative to the 45% Technical / 55% Fee scoring ratio?

Answer: The interview is a component of the Technical Evaluation (worth 45%).

1.51. What is the time of the mandatory pre-proposal meeting?

Answer: 10:00am on Wednesday, April 15, 2009.

Please confirm that the Price proposal, per the RFP schedule page 7, is submitted May 19 at the interview (if notified) two weeks AFTER the May 5th Technical Proposal submission.

Answer: See change of dates in 1.02, 1.03, 1.04

RFP Addendum #: 1 Project #: NE-0067-B01 a. The evaluation criterion, under Selection Procedures in the RFP, indicates that price is part of the Technical proposal which contradicts the above requested confirmation. Please clarify?

Answer: See response to 1.50 above

1.52. The spirit of the questions utilized in the Technical response evaluation contrast with the extensive documentation provided. Please clarify each of the following:

a. How much latitude exists to modify the proposed performance spec options, specified systems and plans, especially when examined in light of all of the five Technical points?

Answer: A response will be provided in RFP Addendum No. 2

b. The requirement of utilizing the 21st Century Schools Manual, due to the descriptive nature of process and schedule therein, is not conducive to supporting the schedule requirements /needs of the project. Outside of using exceptions taken at submission, how does the SDA see this ongoing conflict resolved?

Answer: Requirements of the 21st Century Schools Manual apply to this project. Proposals can not be qualified or exceptions taken.

1.53. SP101 and SP102 are not included in the drawing set, however, the civil drawings reflect an elevated play area over parking which conflicts with a rendered site plan illustrating at-grade parking adjacent to the play area. Please confirm which plan governs?

Answer: SP101 and SP102 are being issued as part of this Addendum (No. 1). The reference to a "rendered site plan" is unclear – there is no discrepancy in the civil drawings as issued.

1.54. On page 7 of 11, Item 2.0 Second paragraph. There are endless issues surrounding access, liability, costs and time for pursuit of activity for "The bidder to represent they have conducted all surveys and testing (including subsurface) necessary to substantiate any studies, reports or test results included within this proposal". How does the SDA propose to support this effort - time, RoE, etc. ?

Answer: The above-cited sentence shall be deleted in its entirety, and bidders are not bound by the cited representation

1.55. Who "owns" the 5% contingency on this project: SDA or the D/B?

Answer: There is no "contingency" on the Project. The Design-Build Contract specifies a "GMP Reserve" to be calculated as 5% of the Cost of Services and Work and administered in accordance with the provisions of the Design-Build Contract.

1.56. Who receives the financial benefit of the e rate rebate; the SDA, the District, or the Design Builder?

Answer: A response will be provided in RFP Addendum No. 2

1.57. Can you provide a copy of EYP's approved Egress Plan?

Answer: To the extent the reference is to the DCA requirement for a building egress plan – none has been developed for the project to date as the documents are conceptual in nature. The DB shall be responsible for any requirements of DCA related to egress.

1.58. There seems to be inconsistent and missing data along with ambiguous descriptions in the geotechnical report included in the RFP documents. Some notable concerns are described below:

- Inconsistent elevation descriptions were used between the project description/existing grade (80+/-), the groundwater (9) and foundation recommendations (12 14).
- Descriptions of the subsurface conditions are inaccurate and inconsistent with the boring logs e.g. text described 2 to 4 ft of fill while logs and lab test results seem to indicate fill up to about 10 ft. Boring log descriptions and soil/rock classifications were also not clear and ambiguous.
- The Report text said that groundwater was encountered 6 to 8 ft below grade; only one boring log recorded depth to water at 15-20; then one geothermal well log recorded static water level depth at 51 but the geologic log indicated water was encountered at 190 ft; yet another well log recorded static water level depth also at 51 ft but the geologic log said water was encountered at 90 ft and 220 ft.
- While we do not agree with several of the items on the seismic analysis and liquefaction analysis, the Site Class attribution of C may be acceptable and the site soil is not liquefiable, provided the boring log data are accurate.

Please review and clarify the above concerns. This is needed in order to confirm allowable foundation bearing capacities and may likely affect other aspects of the foundation design. We are reluctant to make definitive foundation decisions because there seem to be many inconsistencies existing in the geotechnical data along with the location of the water table.

Answer: See the Final Geotechnical Report (July 2008) issued as Appendix 6.0 in this addendum. Further;

1. The Boring Location Plan was apart of the contract documentation submit/distributed. The Boring Location Plan was a full size $(24^{\circ}x36^{\circ})$ plan and only plotted a small portion of the plan, thereby appearing to not be included within the geotechnical report. The Boring Location Plans have been sized down to print out at an 11x17.

2. Site and floor elevations cited within the final geotechnical report, are consistent with the topographic survey datum and site civil drawings.

 The ground water elevations cited within the final geotechnical report is consistent with the topographic survey datum and the site civil drawings.
 Soil Boring Logs and Laboratory Testing Results submitted/distributed with the contract documents were valid.

5. Soil stratum descriptions cited within the final geotechnical report, are consistent with the soil boring logs, and laboratory testing results.

1.59. RFP Article 1.1 requires that "in order for this Request For Proposal to be complete, the Authority must receive formal approval of the Project from the Project School District, in accordance with NJAC 6A:26, and NJDOE preliminary approval of the schematic plans and all related documents prepared by the Bridging Architect for the Project, which preliminary approval shall include the NJDOT preliminary project report and the NJDOE's calculation of preliminary eligible costs for the Project, in accordance with NJAC 6A:26." It indicates that "these approvals are expected shortly" and if they are not received the date of the Technical Proposals will be adjusted accordingly. What is the present status of these documents and any other approval which could impact the NTP date?

Answer: DOE Approval is pending and preliminary project report and calculation of preliminary eligible costs is anticipated to be issued in Addendum No. 2

1.60. Design-Build Agreement dated April 2, 2009, Article 1.47 indicates that not only are the present Federal, State and local laws acts, statues, ordinances, codes, executive orders, rules and regulations applicable, but that "hereinafter" promulgated ones that apply to the contractor's performance shall be required to be followed. We conclude that these "hereinafter" rules will be treated as a change order. Please confirm.

Answer: A response will be provided in RFP Addendum No. 2

1.61. Design-Build Agreement dated April 2, 2009, Article 1.28 identifies the "Design-Builder's Design Consultant as the architect engaged by or affiliated with the Design-Builder to provide design services." Later, in Article 1.53 "Professional Services Consultants" are defined, and then in Article 1.67 "Services" are defined, and finally in Article 1.72 "Sub-consultant" is defined. Unfortunately, later in the Design-Build Agreement and in other documents these titles seem to be misused. For example, Article

15.2 identifies requirements for the Design-Builder and the Subconsultant/Subcontractors for insurance, but makes no mention of the "Design Consultant" identified in Article 1.28. Please clarify the use and intention of the documents with respect to the various levels of designer consultants and professionals.

Answer: The Design-Builder's Design Consultant is considered a subconsultant to the Design Builder with whom we intend to enter in to a prime contract. The Design-Builder's Design Consultant, as a subconsultant to the Design Builder, is NOT eligible for OCIP and likewise, the Design-Builder's Design Consultant's sub-consultants are likewise not eligible for OCIP coverage

1.62. With respect to above, where in Article 9.3 are the Design Builder's Design Consultants (Article 1.28) and their Sub-consultant's costs to be carried?

Answer: The Design-Builder's Design Consultant's costs, and those of its subconsultants, are to be categorized in accordance with Section 9.3.5 of the Design-Build Contract

1.63. Article 9.10.2 indicates that the Authority intends to use funds available between the Design Builder and the Authority on other projects. Will you please explain how this works with respect to the Design-Builder's Design Consultant and all of the subcontractors and bonding companies that might be involved in the "other" projects?

Answer: Section 9.10.2 provides a recovery remedy to the Authority in the event that the Design-Builder owes funds to the Authority, and that section permits the Authority to access funds due to the Design-Builder under other contracts with the Authority, to satisfy any debt owed to the Authority under the Design-Build Contract. Because the Authority has no direct contractual privity with either the Design-Builder's Design Consultant, or the Design-Builder's subcontractors, they are unaffected by this provision

1.64. Design-build Agreement Article 9.9 "retainage" indicates "the Authority shall withhold five percent (5%) of the GMP "Earlier the retainage is described as applying only to the portion of the GMP applicable to completed services and work and to the design-builder's fee. Which is correct? Please advise.

Answer: Retainage is applied only to invoiced amounts for completed Services and Work and for the Design-Builder's fee

1.65. Request for Proposals, page 8 of 11, <u>Technical Proposal</u>, paragraph 6, "SBE Participation" is in contradiction to other sections of the documents which include but ARE not limited to Instructions To Bidders, Section 6 which indicates that the SBE Forms are to be provided "immediately upon receipt of Notice of Award" instead of "to be provided with Technical Proposal." It is impossible to provide them with the Technical Proposal since the pricing will not have been developed by that time. How are we to use these SBE forms?

Answer: Provide with Technical Proposals with percentages and dollar values identified as TBD. Percentages and dollar values will be completed with NOA.

RFP Addendum #: 1 Project #: NE-0067-B01 1.66. Please clarify who is to obtain and pay for the regular DCA building construction permits for the structures.

Answer: The Design-Builder is responsible for obtaining all DCA building construction permits for the Project, but the Authority will pay the fees for such permits

1.67. Are there any environmental reports or documents, surveys, etc. which apply to the work? The Design-Build Agreement on page 14 refers to a Remedial Work Plan for the site. Does one exist? If so, please provide it.

Answer: A response will be provided in RFP Addendum No. 2

1.68. What is the procedure if there is a difference between the rules in 21st Century Schools Design Manual versus Volume 2 and 3 Performance Specifications? What is the applicable year of the 21st Century Manual in effect for this Proposal?

Answer: In case of a conflict between the Design Manual and the Performance Specifications, refer to Sections 22.2 and 22.3 of the Design-Build Contract. Please note that the Design Manual is incorporated by reference into the Design-Build Contract pursuant to Section 22.2. Accordingly, in the case of a genuine conflict, the Design Manual takes precedence over the Performance Specifications contained in the Bridging Architect Documents. The operative version of the Design Manual applicable to this Project is the 2007 version.

1.69. Please provide all contractual documents for the predecessor work particularly as it applies to excavated materials, backfill compaction, testing, OC reports, environmental issues found, quality of materials installed, elevations for the finished demolition surface, for the work as it has been actually been performed and approved. We do not have evidence in any contractual documents as to the quality of the recently performed work? Do we use the information provided in the present Soil Report even though the site has been disturbed?

Answer: A response will be provided in RFP Addendum No. 2

1.70. With respect to Article 9.3 and Article 9.4 we interpret that any employee who is to be involved in the overall design and construction phase work are to be included in the "cost of work" whether they are at the jobsite or at the contractor, designers, design consultants or subcontractors main offices. Please confirm approval at this time before proposals are offered.

Answer: Salary and benefit costs for employees involved in directly providing design services or construction work for the Project, as well as employees who provide supervisory or support services "to assist in the production or transportation of material and equipment necessary for the Services and Work" are to be included in the Cost of Work whether they perform their duties at the jobsite, or the main offices of the parties involved. Salary and benefit costs for general support personnel are considered part of the Design-Builder's overhead, and are not intended to be included in the "Cost of Work and Services" but are intended to be covered by the Design-Builder's Fee

1.71. Please see Article 9.5 <u>Savings</u>. In this paragraph and others the term "actual" cost of the services and work is referenced as opposed to the cost of work included in the bidder's GMP. Please explain how this use of the "actual" costs applies to this contract in determining "savings" and other issues regarding the ultimate "audit" referred to in later articles. (Compare Article 9.1 and 9.2 as well.)

Answer: A response will be provided in RFP Addendum No. 2.

1.72. Article 10.2.2 <u>Punch list and Certificate of Substantial Completion</u>. The language seems to be unclear. Does the issuance of the Punch List come with the Certification of Substantial Completion as indicated in the paragraph or is it issued before or after as implied by the remainder of the paragraph?

Answer: The Punchlist issues with the Certification of Substantial Completion

1.73. What does Article 15.15 of the Agreement mean? Please advise.

Answer: Section 15.15 requires that, to the extent that the Design-Builder has a deductible or self-insured retention relative to any of the insurance policies required in Section 15.13, the Design-Builder must declare such deductible or self-insured retention to the Authority, and request approval thereof. The Design-Builder may not have a deductible or self-insured retention of \$100,000 or more without explicit, written approval from the Authority

1.74. What is the understanding of Article 15.22 of the Agreement and Article 15.13 as it applies to other consultants and design professionals Errors and Omissions Insurance?

Answer: A response will be provided in RFP Addendum No. 2.

1.75. How do we understand Article 21.7 of the Agreement? Please advise

Answer: This Section is standard language in all current Authority contracts with engaged parties, and memorializes the right of the Authority, and other agencies having jurisdiction, to audit the records of the engaged party (here, the Design-Builder); the section further makes clear that such audits can justify a withholding of funds due where an audit reveals that funds are owed to the Authority

1.76. Can the Proposal be qualified as to alternate methods and how can this be done since other contractors may object to this methodology?

Answer: The Proposal is not subject to qualification or exception

1.77. With respect to LEED design who is to pay for the LEED certification assessments?

Answer: The Design Builder shall pay for LEED certification assessments.

1.78. At the pre-proposal conference we were advised that the Bridge Documents have not been reviewed by DCA. Does this not present an un-needed risk since we are being required to follow these documents in our design and bidding process?

Answer: The Bridging Documents by their nature are conceptual in nature. It is the responsibility of the successful Design Build Team to advance the design of the project in such a manner as required to meet the intent established by the Bridging Documents, ultimately developing the documents as required to meet the requirements of DCA.

1.79. It is obvious from the alternate timing bid item which requires a Substantial Completion by June 2011 that there will have to be partial preparation of construction documents and required approvals by the Owner and all agencies including the DCA Please provide that approval now so that scheduling and pricing for the June date can be offered based upon unqualified authorization.

Answer: No such approval or authorization will be given; the alternate timing bid item will not be considered in the evaluation and selection of the Design-Build team

1.80. At the pre-proposal meeting the bidders were advised that the SDA has not yet contracted for the complete demolition of the site. Please advise when the demolition and all of the accompanying earthwork will be complete since this will impact on the June \sim alternate bid date scheduling.

Answer: A response will be provided in RFP Addendum No. 2.

1.81. Geotechnical - With the continued demolition operations being performed on the site, how should we determine the impact to the subsurface soils in relation to the Soils Report supplied in the RFP? What is the final grade of the site going to be upon completion of the demolition operations? Since the demolition work will not be completed prior to our submission of our proposal, performing any additional soils investigation will not be possible. Is there any additional soils information that can be provided at this time? Can the project specifications/requirements for the demolition contract be provided for reference?

Answer: A response will be provided in RFP Addendum No. 2.

1.82. Geotechnical Report – Please provide the boring location plan and tables that are missing in the Geotechnical Report.

Answer: See site plan drawings and Final Geotechnical Report (July 2008) attached to this addendum.

1.83. Submission Dates - As stated at the Pre-Proposal Meeting, the submission date for the cost proposal will be extended to 5/19/09, while the submission date for the written proposal will remain as 5/5/09. Please confirm.

Answer: See change of dates in 1.02, 1.03, 1.04

1.84. GMP – How will the cost of work be determined in the GMP? What will be the billing format? If a General Contractor will be self-performing certain items of work, how will the billing for their work be determined? What involvement will the SDA have in the selection of subcontractors?

Answer: A response will be provided in RFP Addendum No. 2.

1.85. Windows – There is a reference to triple and double pane windows in the RFP documents. Please explain and/or provide a cross section of the window construction. There is a requirement for operable windows, however, there is no reference to where these windows will be required. The specifications call for a sliding window for the operable window. If internal blinds are required in the operable windows, sliding windows cannot be used. The operable windows could be changed to a project out or in window. Does the SDA want to have screens to be installed in these windows?

Answer: A response will be provided in RFP Addendum No. 2.

1.86. Stormwater – Should the stormwater management system meet stormwater and NJDEP standards?

Answer: The stormwater management system must comply with the City of Newark Stormwater Management Ordinance.

1.87. Electrical – The lighting requirements in the RFP state that indirect lighting is to be utilized in the classrooms. We are interpreting this to mean that pendant hung fixtures would be required. If this were the case, then the underside of the light fixtures would be approximately 7.5 feet above the floor in order to provide the necessary photometrics. Is this the condition that the SDA wants? Are other types of light fixtures acceptable in classrooms?

Answer: Classroom ceiling heights are specified to be a minimum of 9'-6'' – an indirect lighting system is required and shall be finalized during design.

1.88. What is the bid process for the GMP format? How many bidders must be solicited to insure a competitive bid situation and will the dollar value of the particular trade package change the number of bidders needed. Please confirm that these sub contracts will be lump sum and only the dollar value will be audited.

Answer: See response to 1.49 above. The Authority imposes no competitive bid requirement on the Design-Builder in connection with its engagement of subcontractors, nor does the Authority require that such subcontracts be in the form of lump-sum contracts.

1.89. If we name the four sub-contractors listed to have a responsive bid (structural steel, mechanical, plumbing, electrical) how can we bid these trades competitively? We do not have a design nor the time to bid these trades before the proposals are due. Four of the largest trade packages will be bid non-competitively which will add costs to the project.

Answer: See responses to 1.49 and 1.88 above.

1.90. The 5% contingency should be the D/B's contingency unless you expect each team to raise the numbers to include their own. Contingency dollars will be needed for other items than unforeseen conditions.

Answer: See response to 1.55 above.

1.91. Section 9.2 of the contract includes the 5% reserve in the shared savings. Section 9.5.1 does not exclude it but leaves the reserve unmentioned. Is the reserve part of the shared savings?

Answer: Any unutilized amounts within the GMP Reserve are available for distribution as shared savings

1.92. Who pays for the utility connection fees?

Answer: See response to 1.45 above.

1.93. According to section 3.6.1 in the contract the D/B pays for all fees and permits. Please clarify.

Answer: DB is responsible for all fees and permits except where noted otherwise in 1.66 above.

1.94. Are the evaluations for the technical proposals completed before the D/B team has a chance to be interviewed?

Answer: See response to 1.50 above

1.95. How extensive will the project be audited? Will the sub-contractors need to keep records for lump sum contracts?

Answer: Subcontractors and subconsultants performing Work or Services on the Project should maintain records in order to permit the Design-Builder to fulfill its obligations under Section 6.6.

1.96. The contract states that there will be liquidated damages on the project. Will there be and if so how much will the liquidated damages be?

Answer: Refer to Appendix A.

1.97. What is the exact approval process of the design between the D/B, NPS, SDA and the bridging architect. Will you please provide turnaround times on the approvals since we are being asked to price two different completion times.

Answer: A response will be provided in RFP Addendum No. 2.

1.98. Are the incoming service terminated in the basement TEL/COM room?

Answer: Exact Demarcation point must be coordinated with the Service Provider.

1.99. Is the TEL/COM room to be the MDF?

Answer: To be determined in subsequent advancement of the project design.

1.100. Per NPS standards the telephone IDF and the DATA IDF are to be separate rooms, only TEL rooms are shown on floor plans.

Answer: Divide Room

1.101. The TEL rooms shown to the left of the elevators are under sized for floor space and wall space.

Answer: To be determined in subsequent advancement of the project design

1.102. If The TEL rooms are to be for both data and telephone they are under sized and do not have code clearances. They should be 120 SF minimum BICSI & best practice.

Answer: To be determined in subsequent advancement of the project design

1.103. Is security equipment to be collocated in TEL rooms? Where is the Server LAN equipment located? There should be central Server room that serves as an MDF as well if possible.

Answer: There is a Security Control point and two rooms identified as Control Rooms.

1.104. Is the LAN equipment part of contract or will it be purchased on state contractthen through E-rate filing? Answer: A response will be provided in RFP Addendum No. 2.

1.105. Where is the telephone system equipment to be located? MDF?

Answer: To be determined in subsequent advancement of the project design

1.106. Is the telephone system part of this contract or will it be purchase under state contract by NPSD & E-rate filings?

Answer: A response will be provided in RFP Addendum No. 2.

1.107. Server rooms should never be located below grade.

Answer: Room is not below grade

1.108. Door to TEL or DATA closets should swing out.

Answer: To be determined in subsequent advancement of the project design

1.109. Two security command center rooms required in all new buildings for viewing consoles and head end Security, CCTV and access control equipment. None are shown or described. Is control center to the right of elevator on the first floor for security room.

Answer: To be determined in subsequent advancement of the project design – two rooms are included in the plans

1.110. Where is the second security room? There are no designated Security dual Command Center rooms as required by the SDA/DCA.

Answer: Second Floor

1.111. The two security rooms must house the CCTV, Control Access, video intercom and the Intrusion Detection System (IDS)

Answer: To be determined in subsequent advancement of the project design

1.112. Does the CCTV system need to be networked with existing central monitoring location?

Answer: Yes

1.113. Video intercom is a standalone system and not part of CCTV security system.

Answer: To be determined in subsequent advancement of the project design

1.114. Will the security consoles be manned by security personnel or by SRO?

Answer: A response will be provided in RFP Addendum No. 2.

1.115. Is the CCTV video storage archived for 30 days or longer?

Answer: Yes

1.116. Outdoor cameras require a 120V junction box for additional power on the interior side.

Answer: To be determined in subsequent advancement of the project design

1.117. Exterior windows not shown on floor plans, need for security contacts. Schools are usually designed with recessed contacts, so surface mounted cannot be scraped off.

Answer: To be determined in subsequent advancement of the project design

1.118. Windows need to be modified to accept recessed mounted contacts. Must coordinate with window manufacture.

Answer: To be determined in subsequent advancement of the project design

1.119. All doors needing security and access control devises need to be prepped by manufacture prior to delivery to site.

Answer: To be determined in subsequent advancement of the project design

1.120. Are Break glass detectors on ALL first floor spaces that have glazing within the space.

Answer: Yes

1.121. Motion detectors will be replaced if not with break glass detectors?

Answer: To be determined in subsequent advancement of the project design

1.122. Do all mechanical rooms, MDF, IDF's and sever/technology room have door contacts to IDS (intrusion Detection Systems).

Answer: To be determined in subsequent advancement of the project design

1.123. All doors that have security control to have a 120V junction box for local power supplies. Coordinated with door hardware manufacture.

Answer: To be determined in subsequent advancement of the project design

1.124. Is there a manned exterior security gate at the entrance to the property?

Answer: A response will be provided in RFP Addendum No. 2.

1.125. Is there a NPSD standard for Generator UPS or Local UPS for switches and LAN servers and equipment as well as security systems?

Answer: A response will be provided in RFP Addendum No. 2.

1.126. Will screens be provided by others of classroom AV systems?

Answer: A response will be provided in RFP Addendum No. 2.

1.127. Are wireless microphones necessary for classroom AV system?

Answer: A response will be provided in RFP Addendum No. 2.

1.128. NPSD document refer to classroom monitors for viewing cable TV, but classrooms have LCD projectors. Are both required?

Answer: Yes

1.129. Has the PEC been released yet? Will the PEC approved package (per the proposed Design-Build Agreement) be the basis of the further documentation even with identified non compliant education spec, standards, code and other build-out issues incorrect ?

Answer: See response to item 1.59 above

1.130. While there is no question the FF&E/IT unit of the SDA has design, procurement and installation responsibilities, how will their input be handled for the project:

a. Will there be a systems Integrator on the job (by the SDA)?

Answer: A response will be provided in RFP Addendum No. 2.

b. Is the budget a part of the GMP?

Answer: No

c. Will they bide by the schedule generated by the Design/Builder?

Answer: Yes – upon approval of schedule by SDA

d. Who is applying for and monitoring the E-rate (as the cycle starts every February)?

Answer: A response will be provided in RFP Addendum No. 2.

e. What are the terminal points for the infrastructure by the Design/Builder for each of the systems?

Answer: A response will be provided in RFP Addendum No. 2.

f. Case work placement impacts supplemental as well as basic utility requirements - will all the required layout information be provided in accord with the D/B Schedule, and

Answer: Coordination of technology and casework to be determined as part of advancement of final design documents.

g. How soon will the IT Requirement and attendant facility matrix be available (given there are conflicts between the narratives for FF&E/IT, performance spec and Education Spec). In the absence of this documentation, can the approved Ed Spec (with the PEC) be the basis of pricing?

Answer: Utilize approved Educational Specification and Bridging Documents in conjunction with the advancement of final design documents.

1.131. As a continuation of our previous inquiry (# 5), what documentation on the site condition(s) will be provided at completion of Demolition/remediation?

Answer: A response will be provided in RFP Addendum No. 2.

1.132. The DB Instructions to Bidders calls for the bidder to include the cost of the design work to complete the DB Contract Documents in accordance with the NJSDA 21 Century Schools Design Manual. Does this mean that all criteria required in this document are to be met, including reviews and approvals in each of the design phases? This document was originally written for design, bid, build contracts, not for design-build procurement method.

Answer: The requirements of the 21st Century Design Manual apply to this Project.

1.133. On that same topic what are the anticipated review periods between phases? Is this seen as a limited review period since the DB Contract Documents specify many of the items usually reviewed in these sessions?

Answer: A response will be provided in RFP Addendum No. 2.

1.134. Will a construction cost estimate be necessary at the end of each design phase? Please advise.

RFP Addendum #: 1 Project #: NE-0067-B01

Answer: Yes

1.135. We assume that the PLA has no bearing on the design consultant; is this correct? Is the same true for prevailing wage rates?

Answer: Correct, the Design Consultant is not subject to the PLA. Likewise, the Design Consultant is not subject to prevailing wage rates.

1.136. The contract calls for retainage of 5% of the contract. Will this retainage be applicable to A/E fees? Can the retainage fees be released at the end of each design phase?

Answer: Yes. No.

1.137. Drawing C005 shows a section through the elevated play surface as "Field Turf"; is it the intent of the SDA to provide field turf in this location?

Answer: "Field Turf" as a product is the basis of design and is required as part of the DB contract. Accepted Equals may be utilized on the project.

1.138. Site plan indicates a geo-thermal bore field. Is it the intent of this contract to install a geo-thermal field.

Answer: Yes – See Section D3 in Volume 2

1.139. Who is responsible for existing on-site hazardous material identification and abatement?

Answer: A response will be provided in RFP Addendum No. 2.

1.140. What about UST? Have they all been removed and abated?

Answer: A response will be provided in RFP Addendum No. 2.

1.141. Are there any wetlands soils located or identified on-site?

Answer: A response will be provided in RFP Addendum No. 2.

1.142. What is the concrete play surface specification?

Answer: A response will be provided in RFP Addendum No. 2.

1.143. Is this project in a flood plain?

Answer: A response will be provided in RFP Addendum No. 2.

1.144. Please clarify what is expected from the DB with regards to the technology infrastructure and active electronics design and procurement procedures?

Answer: A response will be provided in RFP Addendum No. 2.

1.145. For the "E" Rate application, will the DB be responsible for preparing and submitting the full E rate application, if it is not funded by the federal government because of budget constraints?

Answer: A response will be provided in RFP Addendum No. 2.

1.146. What is the extent of the DB responsibility for technology (loose) equipment procurement and installation?

Answer: A response will be provided in RFP Addendum No. 2.

1.147. What is the extent of design flexibility the DB team has in revising the proposed project materials and systems? If a better more cost effective solution is proposed, will this be considered by the SDA?

Answer: A response will be provided in RFP Addendum No. 2.

Existing Site Conditions

1.148. Does the proposed site plan yield a balanced site (i.e. zero excess fill)?

Answer: Building and Site design – thus, determination of cut and fill is the DB's responsibility

1.149. Assuming answer to above is "no" what is the waste classification of the material and the approximate volume?

Answer: A response will be provided in RFP Addendum No. 2.

1.150. Will we be provided an "as-built" topographic survey at completion of demolition?

Answer: A response will be provided in RFP Addendum No. 2.

1.151. Will we be provided a survey coordinate plan suitable for construction stake-out?

Answer: A response will be provided in RFP Addendum No. 2.

1.152. The soil borings completed and provided in the Geotechnical Report were completed prior to current demolition activities.

RFP Addendum #: 1 Project #: NE-0067-B01

Answer: Noted

1.153. We assume the DB has not responsibility to completing any remediation and reporting to DEP.

Answer: A response will be provided in RFP Addendum No. 2.

Geotechnical Related

1.154.

We assume that the Geotechnical Report can be relied on for this project. Please confirm or specifically state limitations.

Answer: See Final Geotechnical Report (July 2008) issued as part of this addendum

1.155. Will a survey map of backfill / depths / material type areas be provided?

Answer: A response will be provided in RFP Addendum No. 2.

Geothermal Well Related

1.156. Over 100 geothermal wells are proposed. Please confirm we will we be provided with the installation specifications.

Answer: No. Design and installation is the DB's responsibility

1.157. Is a geothermal well system required?

Answer: See Section D3 – in Volume 2

Stormwater Management Related

1.158. Does the stormwater system comply with all regulatory criteria? Please review the stormwater detention design particularly.

Answer: The DB is responsible for complete design and compliance with applicable regulations and requirements of Authorities Having Jurisdiction.

Site Plan Related

1.159. The performance specifications (Section A-2) require an active radon system be designed and installed. Why is an active system required? Can a passive system be substituted?

Answer: Yes.

1.160. Will all voice/data and CATV cabling be provided by NPS via an E-rate contractor or will it be part of this DB contract? Please advise.

Answer: A response will be provided in RFP Addendum No. 2.

1.161. Volume 3 of 3 room specifications under fire, health and safety equipment. Will carbon monoxide detection be required under alarms? Please advise.

Answer: Yes

1.162. Volume 3 of 3 room specifications under technology. Who is responsible for supplying the following items: TV, LCD, Projectors, DVD/VCR, Screens, Computers, Smart Boards, etc.?

Answer: A response will be provided in RFP Addendum No. 2.

1.163. In all MDF and IDF rooms who is responsible for supplying data switches, routers, etc.?

Answer: A response will be provided in RFP Addendum No. 2.

1.164. Confirm quantity and exact locations that will require card access control?

Answer: A response will be provided in RFP Addendum No. 2.

1.165. Will ball field and outdoor basketball lighting be required?

Answer: Security lighting is specified and required. No sports lighting is required.

1.166. Question #23. We have reason to believe that the stated Site Class should be D instead of C. Please comment.

Answer: See Final Geotechnical Report (July 2008) issued as part of this addendum

1.167. Question #27. We have reason to believe that the Storm Water Detention Design is inadequate. Please review and confirm.

Answer: The DB is responsible for complete design and compliance with applicable regulations and requirements of Authorities Having Jurisdiction

End of Addendum No. 1

4/23/09 NJSDA

PM Name

RFP Addendum #: 1 Project #: NE-0067-B01 Page 24 of 25

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 (- -). Signed acknowledgement must be received prior to the Bid Due Date. <u>Acknowledgement of the Addendum must be made in Section E.6 of the Price Proposal Submission.</u>

Signature

Print Name

Company Name

Date

STATE OF NEW JERSEY SCHOOLS DEVELOPMENT AUTHORITY

Subcontractor Approval Form Instructions

In accordance with Article 7.2.1 of the Construction Contract General Conditions, the Contractor shall not subcontract to firms or individuals that are suspended or debarred by the State of New Jersey or by any instrumentality thereof, or to firms or individuals that are otherwise not eligible to perform work as subcontractors on the School Facilities Project pursuant to regulation, Authority procedures, or the requirements of the Contract Documents

In accordance with Article 7.3.1 of the Construction Contract General Conditions, if the Project is subject to a Project Labor Agreement (PLA), then PLA Letters of Assent (LOA) are an express condition for approval of any Subcontractor on the project.

- The Prime Contractor is required to notify the New Jersey Schools Development Authority (NJSDA) of all subcontractors, obtain NJSDA approval of the subcontractor, and ensure their enrollment in the OCIP Program **prior to the subcontractor performing any work** on site.
- No subcontractor shall perform work on the School Facilities Project until the Authority has approved it. The Risk Management & Vendor Services Unit (RM/VS) will confirm the subcontractor's New Jersey Department of Labor Public Works Contractor Registration Act Certification, New Jersey Department of Treasury Division of Revenue Business Registration and verify any applicable trade licenses, business permits and/or certificates.
- The Contractor shall list in its bid proposal all subcontractors required by the Contract to be included therein.
- Subcontractors on NJSDA managed projects of \$5M or more are under the PLA. All tier subcontractors on PLA designated projects, performing PLA regulated work, shall submit a copy of the executed, Letter of Assent (LOA) and attach to the Subcontractor Approval Form 1105 as a condition of approval. Subcontractors of any tier whose proposed work is regulated by the PLA, and who are found to be non-compliant after the start of any such work may have their approval revoked and/or may be subject to removal.
- The Contractor shall notify the Authority, in no less than twenty (20) days prior to the scheduled initiation of work, potential additional subcontractors to be approved.
- Contractor is to submit original, notarized **Subcontractor Approval Form 1105** to the PMF/CM for review/signature for transmittal to the NJSDA Project Manager for review/signature and RM/VS Unit for verification and approval.
- If required, the RM/VS Unit may submit Subcontractor Approval Form 1105 to the Bureau of Fiscal Oversight.
- After receipt of the **Subcontractor Approval Form 1105**, the RM/VS Unit will notify Contractor, in writing, whether the subcontractor has been approved or the reasons for disapproval.
- If a proposed subcontractor is disapproved, the Contractor may submit another candidate for approval.
- The NJSDA shall not be liable for any costs, damages or delays incurred by the Contractor as a result of the reasonable disapproval of a subcontractor by the NJSDA, nor shall the Contractor be entitled to reimbursement or time extension in connection with such disapproval.
- In addition to the Subcontractors required to be named with the bid submission, subcontractors of any tier in the DPMC Trade Classifications listed below whose contract is in an amount which is equal to or greater than \$500,000 be pre-qualified by the NJSDA.
 - C006-Construction Manager, C007-Design Build, C008-General Construction, C009-General Construction/Alterations & Additions, C019-Concrete/Foundation/Footings/Masonry Work, C021-Demolition, C029-Structural Steel & Ornamental Iron, C030-Plumbing, C039-HVAC, C045-Sprinkler Systems, C047-Electrical, C066-Roofing-Membrane EPDM, C067-Roofing-Membrane PVC/CPE/CSPE, C068-Roofing-Membrane Modified Bitumen, C069-Roofing-Urethane, C070-Roofing Built Up, C071-Roofing-Metal, C072-Roofing-Tile/Slate/Shingles, C092-Asbestos Removal/Treatment, C093-Asbestos Removal/Mechanical, C096-Lead Paint Abatement



1 HE NEWARK FUBLIC SCHOOLS Office of Facilities Management Division of Design and Construction 2 Cedar Street Newark, New Jersey 07102-3091 Phone: 973-733-7220 Fax: 973-733-8399



Lucille E. Davy Commissioner of Education

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Dr. Clifford B. Janey State District Superintendent leven Morlino, CFM, CEFM, LEED®AP Executive Director

Batish Desai, P.E., LEED, BEP Director

April 16, 2009

Mr. James Poole, Sr. Director Procurement & Contract Services New Jersey Schools Development Authority 1 West State Street Trenton, New Jersey 08625

Re: New Elliott Street School - Request for Proprietary Specifications Authorization

Dear Mr. Poole,

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The following is a list with detailed information and justification for proprietary items that Newark Public Schools (NPS) request New Jersey Schools Development Authority (NJSDA) to incorporate into the construction documents for the new Elliott Street School.

Door Panic Hardware: Von Duprin, the district desires to continue with the existing standardization of panic hardware. At the current time, most schools in the district are equipped with Von Duprin panic hardware. These devices are most often used on designated exit doors in the schools. When panic bars fail, the typical result is the inability to open the door, which is a serious life safety issue. Von Duprin system has proven to be the most reliable of the hardware that has been tried over the years, and the district has standardized their use. Additionally, Von Duprin hardware is used due to their compatibility with the district- wide security systems.

Door Closers: LCN, this item is currently in use at the NPS and the district desires to continue with the existing standardization of door closers. Newark Public Schools buildings can only be maintained in an effective and efficient manner by standardization. This will facilitate the implementation of cost effective facility inventory, training and maintenance program to enhance the health, safety and security of the NPS children.

Locksets/Keying and Intruder Door Hardware: Schlage Primus, (all locks to be cylindrical type with removable cores and lock down feature). Newark Public Schools currently uses these cylindrical locks in many of its schools. This includes exterior doors, interior doors, and padlocks on equipment storage units, fence gates, and maintenance buildings. This standardization allows for increased security of the buildings, provides several levels of key authorization, and allows supervisory personnel to gain access to all property with a single key. In addition the removable cores requires less maintenance time. It is the district's request that the established standard for keying systems and locks be continued in the schools.

Automatic Temperature Controls: Direct Digital Controls-BACnet Web based open Communications protocol to interface with any leading HVAC/Controls Manufacturer and web based building/energy management system for remote monitoring. NPS is comprised of over 80 educational buildings many of which are old and need of renovation or replacement. Many building have been upgraded with new HVAC systems that have the capability of web based monitoring and management. The system software should be housed in a server-based computer in a secure IDF/MDF closet. The program should be accessible through the district assigned internet protocol. It is the desire of the district to continue with the standardization plan to upgrade all systems to the above, with which district maintenance staff is familiar and equipped to service. Additionally it will allow the district to have a single contract for factory-authorized service, and would simplify future unification of a district-wide network based building/energy management system.

Public Address/Clock System: Bogen Communications International, most schools in the District are equipped with Bogen PA/Clock systems. Over the last 15 years, we have compiled an extensive inventory of parts for this system. In the event of a failure, we can repair the systems within an hour of malfunction. This is imperative to the safety of the children and staff housed at the respective building. In addition our service vendor is certified to repair Bogen systems. This is extremely important in the event we do not have parts on hand to make repairs quickly.

Fire Alarm System: Edwards Systems Technology (EST), The district currently has standardized on Edwards systems, and has been standardizing fire alarm systems over the past several years in order to allow for district-wide familiarization with the system operation by responding district and emergency personnel, and to allow for cost effective contracting of factory certified inspection and repair. Furthermore, maintaining a standard manufacturer within the district permits stocking replacement parts. This is important since fire alarm components are not interoperable between manufacturers. In addition, some of the facility technicians are factory trained to perform authorized repair and maintenance on these systems. All the Fire alarm system software and programs shall be turned over to the District after the system is tested for proper operation and inspection at the conclusion of the warranty period.

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Security System: DSC (Digital Security Systems) MAXSYS, interior and exterior cameras: Arm Electronics dome Cameras (All cameras to be vandal proof). The camera must have at a minimal 520 lines of resolution, and must be IP addressable. DVR recorder with 4 hard drives 500 GB each: American video Equipment. Monitors must be a minimum of 36" and have a sufficient number so that all cameras can be viewed at all times. In 2005, a Honeywell System was installed at the New Belmont Runyon School. Over the last couple of years, there have been numerous problems with the system with no response or support from Honeywell. As of the beginning of 2009, an entire Honeywell system was replaced at Belmont Runyon School with the District's preferred system, DSC (Digital Security Systems) MAXSYS. The new Elliott Street School will be a high priority location from a security standpoint, and as a result, it is critical that the new systems be compatible with existing district equipment and link into the command center for constant monitoring. Utilizing equipment from above mentioned list of Manufactures allows the district to maintain attic stock. This will result in expeditious repair on a system that is extremely critical for the safety and security of the building occupants.

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Technology and Telecommunications Equipment: Equipment standards, particularly for technology and telecommunications, are a critical component to the district realizing its goal of structuring the organization to be efficient, effective, and aligned with the district mission. The district appreciates the NJSDA's compliance with district standards when contracting to equip new facilities constructed on its behalf. *Please refer to the attached NPS "Network Standards Document dated April 2009" for all detailed requirements for hardware standards, software standards, and cabling standards etc.*

The Newark Public Schools district has a district-wide communications network that connects all of the Newark Public Schools and related educational facilities. The district-wide network enables efficient communications between all school and administrative personnel, integration of data communications, and significantly reduces the cost and increases the efficiency of communications services. The district-wide network is based on network switching equipment all of the same manufacture — Nortel. The compatibility and upgrade capability of the entire system are based on the Nortel line, a line of products that have consistently demonstrated a commitment to cost effective upgrades and continuing compatibility across generations and have offered a consistently high value for the district. As a district-wide network where existing systems are being extended or new systems added for new sites, single-system integrity can only be preserved and compatibility assured by resorting to the designated manufacturer's products. The Newark Public Schools recommend the use of a proprietary Nortel specification for all district's network switch equipment requirements.

The district-wide network is based on Compaq servers, desktops, laptops and Hewlett-Packard printers. The compatibility and upgrade capability of the entire system are based on these products that have consistently demonstrated a commitment to cost effective upgrades and continuing compatibility across generations while offering a consistently high value for the district. Any departure from the established standard would have a significant negative impact on the on-going cost of ownership. The district has invested a significant amount of time in effort in training its staff to be proficient in servicing its standards based equipment. As a district-wide network where existing systems are being extended or new systems added for new sites, single system integrity can only be preserved and compatibility assured by resorting to the designated manufacturer's products.

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The Newark Public School District has a, district-wide telephone system that connects all the Newark Public Schools and related educational facilities. The district-wide system enables efficient communications between all school personnel, and significantly reduces the cost while increasing the efficiency of communications. The district-wide system is built on Verizon Central Offices utilizing Centrex circuits direct to the schools. Additional equipment from Nortel is utilized to enhance the administrative requirements needed to run a school. The compatibility and upgrade capability of the entire system is based on the Nortel line of equipment. The Nortel line of products has consistently demonstrated a commitment to cost effective upgrades, continuing compatibility across generations and a consistently high value solution for the cost. As a district-wide telephone system integrity can only be preserved and compatibility assured by resorting to the designated Manufacturer's products. The Newark Public Schools recommend the use of a proprietary Nortel specification for all of the district's on-premise telephone equipment requirements.

Thank you for your anticipated approval and assistance on this matter. Should you have any questions, please call our office at 973-733-7220.

Very truly yours,

Satish Desai, P.E.

w116108

Design and Construction Management

Concurred By:

4-16-08

Steve Morlino Executive Director, Facilities

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Cc: Dr. Clifford B. Janey, NPS Ron Lee, NPS Paul Mailoux, NPS Willie Freeman, N Gerald Bland, NPS Frank Masella, NPS Corwin Frost, NPS D & C technical staff, NPS

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Kris Kolluri, NJSDA Jerry Murphy, NJSDA Regina Bleck, NJSDA David Hingston, NJSDA James Adams, NJSDA Corrado Minervini, NJSDA Michael Anselmo, NJSDA James McElhenny, NJSDA

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Changing Hearts and Minds to Value Education

NPS - FINISHES MATRIX / Elliott Street Elementary School 3/25/09

Revised - 4/20/09 (Changes Highlighted in Yellow)

 TYPICAL GENERAL SPACES:
 Instructional
 Instructional-Other
 Administrative
 Ancillary
 Building Support

Note: These standards are meant to be performance driven guides for design and should be considered as the minimum acceptable description for materials, assemblies and installed systems for a District School Facility.

SPACE	FINISHES			CONDITIONS			PERIPHERALS
DESCRIPTION (TYP.) Instructional General Classrooms (Grades 1- 8) Computer Labs Career Lab / Storage Technology Lab / Storage OT / PT / Speech Therapy	FLOORS Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	CEILINGS 24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height	WALLS Painted CMU	LIGHTING Indirect Suspended Lighting. Lighting Levels per code (minimum).	HVAC Air Conditioning and operable windows	POWER "clean" power for all data/pc/peripherals	IT / FFE See Educational Specification and District Technology Standards
Small Group Instr. (SGI) and Resouces Rooms	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height	Painted CMU	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning and operable windows	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards
Pre-Kindergarten and Kindergarten Classrooms	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24″ x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height	Painted CMU	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning and operable windows	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards
ES Science Demo MS Science Lab Science Storage Science Prep.	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height	Painted CMU	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning and operable windows. Direct (enhanced level) Ventilation controllable by Teacher.	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards

SPACE	FINISHES			CONDITIONS			PERIPHERALS
DESCRIPTION (TYP.)	FLOORS	CEILINGS	WALLS	LIGHTING	HVAC Fume Hood(s) at MS Science Prep. Room.	POWER	IT / FFE
SE Classroom (Self Contained) - ES and MS	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height	Painted CMU	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning and operable windows	"clean" power for all data/pc/peripherals (Tamper proof)	See Educational Specification and District Technology Standards
Instructional-Othe Art Studio (and Kiln area) Art Storage Dressing / Auditorium Storage	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24″ x 48 ″ Acoustic Ceiling Tile System Min. 10'-0" Height	Painted CMU	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning and operable windows Vent Stack direct to exterior for Kiln	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards
Auditorium	STAGE - ¾" X 2-1/4" T/G Maple flooring AUDIENCE - Carpet in Walking Areas, Sealed Concrete in Seating Areas	Height TBD 5/8" thick Gyp. Bd. on drywall susp. System and/or Suspended Acoustic System as required for appropriate acoustic design	Painted CMU Provide Sound absorbing acoustical wall panels / covering as requred for appropriate acoustic design.	Combination of dimmable suspended fixtures and recessed downlights - fluorescent. Light levels as required by code (minimum). And Theatrical lighting system for stage performances.	Air Conditioning Smoke Vent @ stage "fly space" tied to Fire Suppression systems	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards Provide upholstered auditorium seating
Cafeteria Faculty Dining Chair Storage After School Enrichment Program	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24" x 48 " Acoustic Ceiling Tile System Min. 10'-0" Height	Painted CMU with Acoustical Wall Coverings as required to provide adequate sound absorbtion	2 x 4 Fluorescent Lay- In fixtures - Parabolic style with compact fluorescent accent lighting. All Dimmable.	Air Conditioning and operable windows	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards

SPACE	FINISHES			CONDITIONS			PERIPHERALS
DESCRIPTION (TYP.) Kitchen/Servery (and all areas within kitchen program)	FLOORS Epoxy and Polyurethane flooring System (3 color min / pattern Wall Base same material	CEILINGS 24" x 48 " Vinyl Wrapped GWB Ceiling Tile System for commercial kitchen application Min. 10'-0" Height	WALLS Glazed CMU	LIGHTING 2 x 4 Fluorescent Lay- In fixtures - Parabolic style	HVAC Air Conditioning Hood Vents	POWER	IT / FFE See Educational Specification and District Technology Standards
Instrumental/Choral Music Music Practice Music Storage	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24" x 48 " Acoustic Ceiling Tile System 12'-0" Height (If Possible)	Painted CMU Provide Sound absorbing acoustical wall panels / covering as requred for appropriate acoustic design	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards
Gymnasium	¾" X 2-1/4" T/G Maple flooring	Exposed Structure - Painted - Provide Sound Absorbing Roof Deck Min. 25'-0" to underside of structure	Painted Acoustical CMU Gym Wall Pads at perimeter and Bleachers	Dimmable Fluorescent Gymnasium Lighting system - multiple switching levels	Air Conditioning		See Educational Specification and District Technology Standards
Locker Rooms	Epoxy and Polyurethane flooring System 3 color min / pattern) Wall Base same material	Moisture resistant 5/8" thick Gyp. Bd. on drywall susp. system	Painted CMU	Recessed - 2 x 4 - Fluorescent Fixtures with Acrylic Lenses	Air Conditioning		
Showers	2" x 2 unglazed Ceramic Tile	Moisture resistant 5/8" thick Gyp. Bd. on drywall susp. system	2" x 2 unglazed Ceramic Tile	Recessed - 2 x 4 - Fluorescent Fixtures with Acrylic Lenses	Air Conditioning		
PE Staff Room / Office	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Heiaht	Painted CMU	Recessed - 2 x 4 - Fluorescent Fixtures with Acrylic Lenses	Air Conditioning		

SPACE	FINISHES			CONDITIONS			PERIPHERALS
DESCRIPTION (TYP.)	FLOORS	CEILINGS	WALLS	LIGHTING	HVAC	POWER	IT / FFE
Health / Demo Room	Resilient Sheet Vinyl Flooring designed for play / dance / physical education / etc.	24" x 48 " Acoustic Ceiling Tile System Min. 11'-0" Height	Painted CMU	Recessed - 2 x 4 - Fluorescent Fixtures with Acrylic Lenses	Air Conditioning		
	Welded Integral Sheet Vinyl Base						
Media Center/Library Tutoring Rooms Office / Workroom and Storage	24" x 24" Carpet Tile (2 color min.) 4" Rubber Base	24″ x 48 " Acoustic Ceiling Tile System Min. 10'-6" Height	Painted CMU Provide Sound absorbing acoustical wall panels / covering as requred for appropriate acoustic design	Indirect Suspended Lighting - Dimmable. Lighting Levels per code (minimum). Provide Compact Fluorescent Accent Lighting	Air Conditioning	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards
Administrative							
Administrative Offices		24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height Alt: 24" x 24" Acoustic Ceiling Tile System	5/8" GWB Partition - Painted. Provide sound rating and acoustic batts at all metal stud partitions to underside of structure.	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards
Reception Areas / Hallways	Epoxy and Polyurethane flooring System (3 color min / pattern Wall Base same material						
Indiviual Offices	24" x 24" Carpet Tile (2 color min.) 4" Rubber Base						
Conference Rooms	24" x 24" Carpet Tile (2 color min.)						
	4" Rubber Base						

SPACE	FINISHES			CONDITIONS			PERIPHERALS
DESCRIPTION (TYP.) Nurse (entire suite) Health Clinic (entire suite)	FLOORS Sheet Vinyl Flooring (2 Color Min.) Welded Integral Sheet Vinyl Base	CEILINGS 24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height Alt: 24" x 24" Acoustic Ceiling Tile System	WALLS 5/8" GWB Partition - Painted. Provide sound rating and acoustic batts at all metal stud partitions to underside of structure. OR Painted CMU	LIGHTING Indirect Suspended Lighting. Lighting Levels per code (minimum).	HVAC Air Conditioning	POWER "clean" power for all data/pc/peripherals	IT / FFE See Educational Specification and District Technology Standards
Teacher Workroom (ES and MS)	24" x 24" Carpet Tile (2 color min.) 4" Rubber Base	24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height Alt: 24" x 24" Acoustic Ceiling Tile System	5/8" GWB Partition - Painted. Provide sound rating and acoustic batts at all metal stud partitions to underside of structure.	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards
Security Control Centers	Sheet Vinyl Flooring (2 Color Min.) 4" Rubber Base	24" x 48 " Acoustic Ceiling Tile System Min. 9'-6" Height Alt: 24" x 24" Acoustic Ceiling Tile System	Painted CMU to underside of structure above	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning	"clean" power for all data/pc/peripherals	See Educational Specification and District Technology Standards
Ancillary							
Stairways	Pre-Cast Terrazzo Treads and Painted Steel Risers / Stringers / Railings Floors to be - Epoxy and Polyurethane flooring System (3 color min / pattern) Wall Base same material	Height TBD 5/8" thick Gyp. Bd. on drywall susp. System	Glazed CMU	Recessed - 2 x 4 - Fluorescent Fixtures with Acrylic Lenses			

SPACE	FINISHES			CONDITIONS			PERIPHERALS
DESCRIPTION (TYP.) Corridors	FLOORS Epoxy and Polyurethane flooring System (3 color min / pattern) Wall Base same material	CEILINGS 5/8" thick Gyp. Bd. on drywall susp. system 9'-6" min beight	WALLS Painted CMU (2 color minimum)	LIGHTING Recessed - 2 x 4 - Fluorescent Fixtures with Parabolic Lenses	HVAC Air Conditioning	POWER	IT / FFE
Student Restrooms (Large and Individual)	Epoxy and Polyurethane flooring System (2 color min / pattern) Wall Base same material (2 color min.)	5/8" thick Gyp. Bd. on drywall susp. system 9'-0" min height	Painted CMU	Recessed - 2 x 4 - Fluorescent Fixtures with Acrylic Lenses	Air Conditioning		
Faculty Restrooms Public / Family Restrooms	Epoxy and Polyurethane flooring System (3 color min / pattern) Wall Base same material	24" x 48 " Acoustic Ceiling Tile System Min. 9'-0" Height Alt: 24" x 24" Acoustic Ceiling Tile System	Painted CMU	Recessed - 2 x 4 - Fluorescent Fixtures with Acrylic Lenses	Air Conditioning		
Storage (All)	Sealed Concrete	No Ceiling	Painted CMU	Suspended Fluorescent Fixtures - light levels as required	Air Conditioning		
Building Support							
Communications Closets	Sealed Concrete	No Ceiling	Painted CMU	Suspended Fluorescent Fixtures - light levels as required	Ventilation / Air Conditioning		
Mechanical Rooms	Sealed Concrete	No Ceiling	Painted CMU	Suspended Fluorescent Fixtures - light levels as required	Ventilation / Air Conditioning		
Electrical Rooms	Sealed Concrete	No Ceiling	Painted CMU	Suspended Fluorescent Fixtures - light levels as required	Ventilation / Air Conditioning		
				1			
SPACE	FINISHES			CONDITIONS	PERIPHERALS		
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DESCRIPTION (TYP.)	FLOORS	CEILINGS	WALLS	LIGHTING	HVAC	POWER	IT / FFE
Custodial Closets	Sealed Concrete	No Ceiling	Painted CMU	Suspended Fluorescent Fixtures - light levels as required	Ventilation		
Custodial Office Breakroom	Sealed Concrete	24" x 48 " Acoustic Ceiling Tile System Min. 9'-0" Heiaht	Painted CMU to underside of structure above	Indirect Suspended Lighting. Lighting Levels per code (minimum).	Air Conditioning		
Changing / Toilet / Shower rooms	2" x 2 unglazed Ceramic Tile	Moisture resistant 5/8" thick Gyp. Bd. on drywall susp. system	Painted CMU	Recessed - 2 x 4 - Fluorescent Fixtures with Acrylic Lenses	Ventilation / Air Conditioning		
Work room	Sealed Concrete	No Ceiling	Painted CMU	Suspended Fluorescent Fixtures - light levels as required	Ventilation		
Custodial Storage	Sealed Concrete	No Ceiling	Painted CMU	Suspended Fluorescent Fixtures - light levels as required	Ventilation		
Receiving Recycling	Sealed Concrete	No Ceiling	Painted CMU	Suspended Fluorescent Fixtures - light levels as required			

Note: All Painted CMU walls/partitions shall be prepared with Block Filler and Painted using specified Epoxy Paint System.

GEOTECHNICAL REPORT

FOR

ELLIOTT STREET ELEMENTARY SCHOOL

721 Summer Avenue Newark, New Jersey 07104-3422 CITY OF NEWARK, ESSEX COUNTY, NEW JERSEY

> School Replacement Project Contract No. GP-0080-P01-RB Expedited Contract No. NE-0067-P01

> > Prepared for

NEW JERSEY SCHOOLS DEVELOPMENT AUTHORITY

1 West State Street Trenton. New Jersey 08625





Submitted to **EYP ARCHITECTURE & ENGINEERING, P.C.** The Argus Building, 412 Broadway, P.O. Box 617 Albany, NY 12201-0617

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> > **July 2008**

Robert S. Nash, NJ P.E. # 39395



GEOTECHNICAL ENGINEERING REPORT

ELLIOTT STREET ELEMENTARY SCHOOL

721 Summer Avenue Newark, New Jersey 07104 CITY OF NEWARK, ESSEX COUNTY, NEW JERSEY

School Replacement Project

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Appendix A	Soil Boring Logs
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INTRODUCTION

KS Engineers, P.C. has prepared this report for Einhorn Yafee Prescott Architecture & Engineering, P.C., (EYP) to provide foundation recommendations for the school replacement project of Elliott Street Elementary School for New Jersey Schools Development Authority (SDA) and Newark Public Schools (NPS) located in the City of Newark, Essex County, New Jersey. The project site is located at 721 Summer Avenue, Newark, New Jersey 07104; on the northeasterly corner of Summer Avenue and Elliott Street. The site is currently zoned residential and utilized as a public school. The run of the land slopes down with grading towards the east. The present grades within the footprints of the proposed structures range from approximate elevations 83 to 66. The location of the project is shown in Figure No. 1.







PROJECT DESCRIPTION

It is understood that the proposed school complex will consist of following structures.

- 1. A stand-alone, Three story steel frame structure supported on individual column footings. Approximately 102,919 SF, it will be utilized as a public school. A basement is proposed under the southeast corner of the proposed structure. The school building will occupy the western half of the site. The maximum axial column loads, as provided by the Structural Engineer for this project, range from 50 -75 Kips, designed for 75 Kips. The approximate proposed finish first floor and basement floor elevations are 83.5 and 70.5, respectively.
- 2. Play areas and upper level parking deck that will occupy the eastern half of the site. The proposed approximate finish grade elevations are 83.0
- 3. A lower level parking garage and service area west of the proposed school building at finish grade elevation 70.
- 4. Play area over retained fill adjacent to northeast corner of the school building at finish grade elevations 83.0

PURPOSE AND SCOPE

The purpose of this study was to develop and implement a subsurface investigation program at project site, perform foundation geotechnical design, and discuss foundation alternatives the proposed structures and related construction procedures. The scope of our services consists of the following:

- 1) Develop and implement subsurface investigation program.
- 2) Develop laboratory testing program
- 3) Perform geotechnical analyses to develop foundation alternatives for the proposed structures based on the data.
- 4) Provide design soils parameters including seismic design parameters.
- 5) Perform liquefaction evaluation.
- 6) Prepare and submit geotechnical recommendation report for suitable foundation systems.



SUBSURFACE INVESTIGATION PROGRAM

A subsurface investigation program consisting of twenty four (24) borings, numbered SB-1 through SB-21, SB-24, SB-27 and SB-30 was conducted for this project to obtain the following information:

- 1. Generalized soil profile.
- 2. Location of groundwater table.
- 3. Presence, if any and thickness of soft/compressible materials.
- 4. Depth to suitable bearing stratum.
- 5. Standard Penetration Test (SPT) values for the soils underlying the proposed structure.
- 6. Suitability of the excavated material for backfill/fill work at the site.

The borings were drilled February 25, 2008 through March 28, 2008, by Jersey Boring and Drilling of Newark, NJ. The borings were drilled to depth of approximately 30 feet below the existing grades. The borings were advanced by mud rotary method; and the SPT testing was performed using the split spoon sampler and the automatic hammer. The boring locations are shown in Figure No. 2a. The individual boring logs are included in Appendix A.









LABORATORY TESTING PROGRAM

Laboratory testing for this study comprised of performing moisture content and grain size analysis tests on the soil samples retrieved during SPT Sampling. The laboratory testing work was performed by Jersey Boring and Drilling of Newark, NJ. The grain size analysis tests were specifically performed to determine the index properties to determine the soil parameters for the foundation design for the proposed structures. The laboratory testing results are included in Appendix B.

SITE CONDITIONS

Regional Geology

The site is located in the northern portion of the Newark Basin, glaciated, which comprises most of the Piedmont lowland physiographic province of New Jersey. The Newark Basin contains sedimentary and volcanic rocks of Triassic and Jurassic age with thin to thick cover of Quaternary deposits. The bedrock underlying the site is sandstone of Brunswick formation. The upper part of the rock may show varying degrees of weathering and is often decomposed into silt and clay-like material.

Subsurface Conditions

The Borings at the site were drilled through concrete sidewalk, paved surface, gravel driveway, play areas with rubber mat, or landscaped areas. The thickness of the concrete and pavement sections was found to range between 2 to 6 inches, and the thickness of the top soil layer in the landscaped area was also found to be in the range of 6 to 8 inches. Based on the subsurface information obtained from the borings drilled at the site, the observed soil profile in top 30 feet below the pavement/top soil layer consists of the following major units, in descending order of depth:

<u>Stratum 1 – Fill:</u> This stratum was encountered immediately below the pavement/top soil and its thickness ranged from 4 feet to 9 feet. The soils in this stratum comprised of heterogeneous mixture of silty sand, gravel, bricks and cinders. Due presence of relatively high percentage of fines, the soils from this stratum are not considered suitable structural fill and/or backfill materials. However, soils from this stratum can be used as non-structural fills in areas, such as, landscaped area.

<u>Stratum 2 – Silty SAND (SM):</u> The soils in this stratum comprise of Light Brown to Red Brown medium to fine SAND, trace to some Silt, trace to some Gravel. This stratum was encountered up to depths ranging from 8 feet to 10 feet below existing grades. The SPT values



in this stratum ranged from 4 bpf (blows per foot) to 59 bpf indicating loose to very dense relatively density. However, it should be noted that some of the high blow counts recorded during SPT sampling may be due to the presence of the gravel in this stratum. Based on the grain size analysis tests performed, the soils from this stratum can be classified SM as per the Unified Soil Classification System (USCS).

<u>Stratum 3 –Silty SAND (GM - SM)</u>: The soils in this stratum comprise of Light Brown to Red Brown inter-layered fine to medium SAND, trace Silt and Gravelly SAND/Sandy Gravel, with trace to some Silt. Presence of cobbles and boulders, as evidenced by chattering of drilling rig, was also noted in this stratum. This stratum was encountered up to depths ranging from 10 feet to the bottom of the borings at 32 feet below existing grades. The SPT values in this stratum ranged from 10 bpf to over 100 bpf indicating medium dense to very dense relatively density. However, it should be noted that some of the high blow counts recorded during SPT sampling may be due to the presence of the gravels and cobbles in this stratum. Based on the grain size analysis tests performed, the soils from this stratum can be classified as SP-SM, SM or GM as per the Unified Soil Classification System (USCS).

<u>Stratum 4 - Bedrock:</u> The bedrock encountered in the site borings consisted of Sandstone. It was encountered at a depth of approximately 20 below existing grades in two borings SB-1 and SB-5 located off Summer Avenue along the west building line of the proposed school structure. Ten feet of rock cores were retrieved from borings SB-1 and SB-5. The RQD (Rock Quality Designation) for the rock cores retrieved from the borings ranged from 0% to 63%. Bedrock was not encountered in any of the other geotechnical borings drilled depth of 32 feet at the site. However, bedrock was encountered at depths of 36 feet and 38 feet in geothermal borings TB-and TB-2, respectively. Bedrock was not cored in borings TB-1 and TB-2. As indicated in Figure 2b, the geothermal boring TB-1 was located at the center of the site and the boring TB-2 was located near the northeast corner of the site.

As indicated above, a wide variation in SPT values was recorded in different stratum in different borings. The variation in SPT values with depth and in different borings is illustrated in Figures 3 and 4. A statistical analysis was performed for the SPT values recorded in borings drilled at the site to determine the relative density and the design strength parameters for the subgrade material. The analysis is presented. in the Table No. 1. As part of the analysis the SPT values recorded in different borings at different depths were normalized for hammer type, length of drilling rod and effective overburden pressure at respective sampling depths. The recorded and normalized SPT values are noted as "Recorded N_{60} " and "Corrected N_{60} " SPT values on the table. As per the best design practice the soil design parameters used in our analysis are based



on the thirty percentile values noted in Table 1. As indicated in the Table, loose to medium dense Silty SAND stratum is anticipated to be encountered at or below the proposed foundation sub-grade elevations. This stratum is underlain by progressively denser soils up to depths of 30 feet below existing grades.







Figure No. 3

By: R.S. 4/22/2009



By: R.S. 4/22/2009

Dep	th (ft)	Soil			Overb	ourden	rden SB-1			SB-2		SB-3	
Тор	Bottom	Туре	Average	Average	Stress	Correction		Blow Count		Blow Count			
			Depth	Elevation		Factor	Field	Corrected	Field	Corrected	Field	Corrected	Field
						C _N	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀
(ft)	(ft)		(ft)	(ft)	(tsf)		(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)
0	2	Silty SAND	1	72	0.058	1.60	4	5	22	30	7	10	8
2	4	Silty SAND	3	70	0.173	1.60	19	26	39	53	8	11	21
5	7	Silty SAND	6	67	0.345	1.60	6	8	7	10	16	22	8
7	9	Silty SAND	8	65	0.398	1.59	19	26	21	28	26	35	19
10	12	Gravelly SAND	11	62	0.477	1.45	20	25	28	34	56	69	14
15	17	Gravelly SAND	16	57	0.608	1.28	27	29	22	24	41	45	35
20	22	Gravelly SAND	21	52	0.740	1.16	100	99	11	11	22	22	17
25	27	Gravelly SAND	26	47	0.871	1.07	100	91	70	64	32	29	38
30	32	Silty SAND	31	42	1.003	1.00	100	85	91	77	42	36	100

SB-4		SB-5		SB-6		SB-7		SB-8		SB-9	
Blow Count		Blow Count		Blow Count		Blow Count		Blow Count		Blow Count	
Corrected	Field	Corrected	Field	Corrected	Field	Corrected	Field	Corrected	Field	Corrected	Field
$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀
(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)
11	4	5	16	22	7	10	11	15	12	16	10
29	11	15	12	16	18	24	17	23	40	54	17
11	4	5	5	7	7	10	9	12	8	11	30
26	17	23	10	13	17	23	11	15	7	9	57
17	45	55	10	12	10	12	22	27	34	42	58
38	12	13	39	43	25	27	80	87	41	45	63
17		0	24	24	33	33	44	43	62	61	33
35		0	36	33	100	91	100	91	100	91	100
85		0	96	81	100	85	44	37	49	42	70

SB-10		SB-11		SB-12		SB-13		SB-14		SB-15	
Blow Count		Blow Count		Blow Count		Blow Count		Blow Count		Blow Count	
Corrected	Field	Corrected	Field Corrected		Field	Corrected	Field	Corrected	Field	Corrected	Field
$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀
(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)
14	18	24	14	19	4	5	6	8	6	8	10
23	12	16	8	11	19	26	20	27	10	14	16
41	8	11	4	5	25	34	14	19	9	12	6
77	10	13	12	16	38	51	25	34	37	50	59
71	41	50	21	26	31	38	30	37	100	123	38
69	75	82	26	28	13	14	31	34	37	40	69
33	43	43	100	99	100	99	100	99	100	99	100
91	100	91	55	50	37	34	43	39	100	91	100
59	28	24	40	34	22	19	24	20	100	85	

SB-16		SB-17		SB-18		SB-19		SB-20		SB-21	
Blow Count		Blow Count		Blow Count		Blow Count		Blow Count		Blow Count	
Corrected	Field	Corrected	Field Corrected		Field	Corrected	Field	Corrected	Field	Corrected	Field
$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀
(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)
14	19	26	7	10	7	10	6	8	3	4	9
22	22	30	21	29	11	15	34	46	4	5	44
8	14	19	28	38	81	110	38	52	27	37	26
80	28	38	50	67	11	15	24	32	99	133	37
47	100	123	61	75	62	76	57	70	64	79	31
75	100	109	67	73	33	36	51	56	100	109	21
99	100	99	90	89	77	76	87	86	47	46	57
91	70	64	100	91	36	33	89	81	49	45	39
0	56	48	58	49	68	58		0	100	85	56

SB-24		SB-27		SB-30		Mean		Median	Std Dev.	30 F	Percentile Value
Blow Count		Blow Count		Blow Count		Blow Count		Blow Count			Blow Count
Corrected	Field	Corrected	Field	Corrected	Field	Normalized	Field	Normalized		Field	Normalized
$N1_{60} = C_N C_{er} C_r N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$	N ₆₀	$N1_{60} = C_N C_{er} C_r N_{60}$		N ₆₀	$N1_{60} = C_N^* C_{er}^* C_r^* N_{60}$
(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)	(bpf)		(bpf)	(bpf)
12	2	3	12	16	9	13	8	10	5	7	9
60	9	12	14	19	19	25	17	23	11	13	18
35	25	34	14	19	17	24	12	16	17	9	12
50	39	53	22	30	29	39	23	31	21	18	25
38	25	31	28	34	41	51	33	40	25	29	35
23	31	34	100	109	47	52	38	41	28	34	37
56	25	25	50	49	62	61	57	56	33	45	45
36	45	41	47	43	69	63	70	64	28	55	50
48	35	30	35	30	63	53	56	48	29	48	41



Groundwater Conditions

Groundwater was encountered during drilling borings at depths ranging from six (6) feet to sixteen (16) feet below existing grades. Based on the surface elevations recorded for the borings, the groundwater table is anticipated to be encountered at or below approximate elevation 67.5.

SEISMIC ANALYSIS

The seismic design parameters were determined as shown below in accordance with the International Building Code (IBC-2006):

- 1. <u>Seismic Importance Category and Seismic Use Group</u>: Based on the criteria provided for the nature of occupancy, the proposed structure is considered Category I structure. Accordingly, Seismic Factor, I_E of 1.0 was used for our analysis.
- 2. <u>Site Class:</u> Due to the presence of relatively stiff soils, Site Coefficient, F_a , appropriated to Site Class C was considered for the purposes of the seismic analyses. Accordingly, $F_a = 1.2$ for Short Period of 0.2 seconds, and $F_v = 1.7$ at long Period of 1 second was determined from Tables 16151613.5.3 (1) and 1613.5.3(2), respectively.
- 3. <u>Mapped Spectral Accelerations</u>: The Maximum Mapped Spectral Accelerations at short period, $S_{MS} = 0.35g$ and at long periods, $S_{M1} = 0.065g$, were obtained from figures 1613.5(1) and 1613.5(2), respectively.
- 4. <u>Design Spectral Accelerations</u>: Based on the Site Class the; Design Spectral Accelerations, $S_{DS} = (2/3)*F_a * S_{MS} = 0.28g$ at short periods; and $S_{D1} = (2/3)*F_v * S_{M1} = 0.074g$ were determined.
- 5. <u>Zero Period Spectral Acceleration (S_0) </u> The Zero Period Spectral Acceleration (period, T = 0 second), also known as Peak Ground Acceleration, $S_0 = 0.4 * S_0 = 0.11$ g was calculated.
- 6. <u>Seismic Design Category:</u> In accordance with the Tables 1613.5.6(1) and 1613.5.6(2) the proposed DMV shall be assigned Seismic Design Category B.

LIQUEFACTION ANALYSIS

The potential for liquefaction is determined jointly by earthquake magnitude, M, and cyclic stress induced in the granular materials below the groundwater table during shaking. The cyclic stress induced is dependent on the peak ground acceleration due to earthquake. A Peak Ground Acceleration, $S_0 = a_{MAX} = 0.11$ g was computed as described above. For this study magnitude 5.75 earthquake was considered. Since the empirical correlation between the N₁₍₆₀₎ and cyclic stress was originally developed for magnitude 7.5 earthquakes, the cyclic stress ratios were scaled for magnitude 5.75 using the magnitude scaling factor (MSF) recommended by I. M. Idriss (1997).

• Liquefaction resistance increases with the percentage of fines content (silt/clay) in the granular soils.



- Overburden corrections to field measured SPT N values were made based on the ratio of effective overburden pressure at the sampling depth to the standardized pressure of 1 ton/ft².
- The Cyclic Stress Ratio causing liquefaction (CSR_L) due to design earthquake was based on the 30 Percentile (Mean minus $\frac{1}{2}$ Standard Deviation) corrected SPT [N₁₍₆₀₎] values.

Using the procedure above, liquefaction potential for the medium to very dense saturated granular soils encountered from 6 to 30 feet depths was evaluated. The results are presented in Table No. 2. The calculations indicate that the SPT values for the soil samples from this layer are higher than the threshold values required to resist liquefaction. Therefore the saturated Silty/Gravelly SAND soils underlying the proposed new building are not susceptible to liquefaction under the design peak ground surface acceleration.

KS Engineers

Table No. 2

Evaluation of Liquefaction Potential

Reference:Geote	chnical	Earthc	uake E	inginee on	ering: N	HI Cou	rse No.	13239 -	Modul	e 9: Ch	apter 8														
		Nco =	Cer x (Ch x C	s x Cr	x N(fie	(bl																		
	Where	:			• ~ • •		,								σ _{νο} =	Total o	verbur	den Pre	essure						
		Cor =	correct	tion fac	tor for	enerav	ratio, fo	r safetv	hamme	er = 1.0)				$\tau_{ho} =$	Initial S	Shear S	Stress =	0 for L	evel G	round.				
		0.	Dough	nut har	mmer =	0.75, a	and Aut	omatic F	lamme	ner = 1.33. Sloping ground, or below structures and embankment															
		C _b =	correct	tion fac	tor for l	orehol	e diame	eter, for	boreho	e dia. (ia. (2.5 in to 4.5 in) = 1.0 can be estimated using various solution (e.g., Poulos and Davis, 19									, 1974)					
		C _s =	correct	tion fac	tor for	samplir	ng meth	od, stan	dard =	1.0	L.	,			r _d =	Stress	Reduc	tion Fa	ctor, ec	uation	8-1	0 /			
		С, =	correct	tion fac	tor for	od leno	oth. for l	lenath :						CS	SR _{EO} =	Cvclic	Stress	Ratio Ir	nduced	bv Ear	thouak	e. equa	tion 8-3	За	
		- 1				> 30 ft	= 1.0								LQ	0.65(a	/a)r.	(σ., /σ'.,)			-,			
					20 ft t	o 30 ft	= 0.95	5		$CSR_{M=7.5}$ = Cyclic Stress ratio Causing Liquefaction and SPT (N1) ₆₀															
	13 ft to 20 ft = 0.85										Values for Sands for M = 7.5 Earthquakes														
	(N1)	= Cr			10101	<13 ft	= 0.00	5			$CSR_{L} = Correct CSR$ for design Earthquake Magnitude = $CSR_{M=7.5} \times k_{M}$														
	Where		-00				50							-	where.	$k_M = f($	earthou	Jake m	agnitud	le)			101=7		
	$(N1)_{eo} = N_{eo}$ value corrected to a reference stress of on															•••••••••••••••••••••••••••••••••••••••				-/					
	(1)	Cn -	(na/a'	140 001	(~ 1 6)	corre	ction fa	c ou cou		urdon	Droceu	Iro Liao	and M	lhitmar											
		na-	(pa/o v 2000	nsf	(<u><</u> 1.0)	, corre			overb	uruen	riessu	ire. Liau	anu w	munai	1										
		σ'=	Effectiv	ve Ove	rburder	Press	ure								FS, =	Calcul	ate Fa	ctor of	Safetv	= CSR		R=0			
Project:		NUS	Δ / N	PS F	lliott 9	Street	Scho				M	anned S	nect Re	s Arc i	for Sho	rt Perio	d S -	0 35	,			2006 - 5	ia 161	13 5 (1)	1
Poring Nos -		SR-1	to SE	2_20			Cono				101	apped O Ci	to Coo	fficient	for Sho	rt Porio	d, 06 –	4.0	9			2000 - 1	lg. 10 Tabla 1	612 E 2	/ (1))
	•	о С	10 32	5-50		(100 0			(F 4 4)		Maxi						u, is –	1.2				2000 - 1		013.3.3	(1))
one class:		C				(IBC 2	006 - 1	able 16	15.1.1)	$\frac{1}{2} = 0.42 \qquad (\text{Where } S_{\text{MS}} = 75 \text{ S})$ $\frac{1}{2} = 0.42 \qquad (\text{Where } S_{\text{MS}} = 75 \text{ S})$ $\frac{1}{2} = 0.42 \qquad (\text{Where } S_{\text{MS}} = 75 \text{ S})$															
										Design Spectral Response Acceleration, $S_{\rm S} = 0.28$ (Where, $S_{\rm DS} = 2/3 * S_{\rm MS}$)															
	La	ayer 1	γ _{sat} =	110	pcf	de	pth 1 =	4	ft	F	eak Gr	ound Ac	celerat	ion for s	500-yea	ar even	, A _{ax} =	0.11	g		(Wher	e, a _{max} :	= 0.4 *	S _{DS})	
	Li	ayer 2	γ _{sat} =	115	pcf	de	pth 2 =	9	ft				Desig	n Earth	quake I	Magnitu	de M =	5.75							
	Li	ayer 3	γ _{sat} =	125	pcf								Ma	gnitude	e Scalin	ng Facto	or, k _M =	1.97							
	3	water =	64	pcf	H _w =	6	ft																		
									assum	ne: γ' =	γ sat - γ _v	vater				C	SR _{M=7.}	.5	CS	SR _L (_{M=5}	5.75)	Cal	culate	FSL	i i
Soil Type	Depth	$N*_{field}$	C _{er}	Cb	Cs	Cr	ΣC	N ₆₀	σ_{vo}	σ' _{vo}	Cn	(N1) ₆₀	τ_{ho}	r _d	CSR_{EQ}	<u><</u> 5%	15%	35%	<u><</u> 5%	15%	35%	<u><</u> 5%	15%	35%	
Silty SAND	6	17	1.00	1.00	1.00	0.75	0.75	13.1	670	670	1.60	20.95	0.00	0.986	0.072	0.23	0.31	0.52	0.458	0.601	1.031	6.39	8.37	14.36	1
Silty SAND	8	29	1.00	1.00	1.00	0.75	0.75	21.7	900	772	1.61	34.96	0.00	0.981	0.083	0.52	0.52	0.52	1.031	1.031	1.031	12.37	12.37	12.37	1
	11	41	1.00	1.00	1.00	0.75	0.75	30.8	1265	945	1.45	44.83	0.00	0.974	0.095	0.52	0.52	0.52	1.031	1.031	1.031	10.85	10.85	10.85	1
Silty SAND	16	47	1.00	1.00	1.00	0.85	0.85	40.3	1890	1250	1.26	51.03	0.00	0.963	0.106	0.52	0.52	0.52	1.031	1.031	1.031	9.72	9.72	9.72	1
Silty SAND Silty SAND	10		4 00	1.00	1.00	0.95	0.95	58.7	2515	1555	1.13	66.61	0.00	0.951	0.112	0.52	0.52	0.52	1.031	1.031	1.031	9.20	9.20	9.20	1
Silty SAND Silty SAND Sandy GRAVEL	21	62	1.00	1.00					31/10	1860	1.04	67.93	0.00	0.939	0.115	0.52	0.52	0.52	1.031	1.031	1.031	8.93	8.93	8.93	1
Silty SAND Silty SAND Sandy GRAVEL Sandy GRAVEL	21 26	62 69	1.00	1.00	1.00	0.95	0.95	65.5	5140																
Silty SAND Silty SAND Sandy GRAVEL Sandy GRAVEL Sandy GRAVEL	21 26 31	62 69 63	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	0.95	0.95	65.5 62.6	3765	2165	0.96	60.14	0.00	0.922	0.117	0.52	0.52	0.52	1.031	1.031	1.031	8.83	8.83	8.83	
Silty SAND Silty SAND Sandy GRAVEL Sandy GRAVEL Sandy GRAVEL Sandy GRAVEL	21 26 31 32	62 69 63 63	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	0.95 1.00 1.00	0.95 1.00 1.00	65.5 62.6 63.0	3765 3890	2165 2226	0.96 0.95	60.14 59.72	0.00	0.922 0.914	0.117 0.116	0.52 0.52	0.52 0.52	0.52 0.52	1.031 1.031	1.031 1.031	1.031 1.031	8.83 8.87	8.83 8.87	8.83 8.87	



FOUNDATION RECOMMENDATIONS

The structural system for the proposed buildings comprises of steel frame structure supported on individual column and wall footings. The first floor slab will be supported on grade. The lowest floor will be situated at Elevation 83.0. The present grades within the footprints of the proposed school building structure range from approximate elevations 74 to 83. Accordingly, the final subgrade of the proposed school building structure is anticipated to be at or above the existing grade.

The finish grade elevation for the proposed lower level parking structure will be at elevation 70.0. The present grades within the footprints of the proposed lower level parking structure range from approximate elevations 74 to 66. Accordingly, the final subgrade of the proposed parking structure is anticipated to be at 4 below to 4 feet above the existing grades. As a result some of the footings for the proposed structure may be placed on future fill.

As indicated in the Table No. 1, loose to medium dense Silty SAND stratum is anticipated to be encountered at a depth of 4 to 5 feet below the existing grades. This stratum is underlain by progressively denser soils up to depths of 30 feet below existing grades. The soils of this stratum are considered to be competent to support the individual columns and masonry walls of the proposed structures on conventional spread footings. Based on our analyses, we recommend the following allowable bearing capacities for the different sizes and depths of the footings resting on in-situ undisturbed natural soils:

Size and Type	Location of the Footing	Depth* below Adjacent	Allowable
		Finish Grade	Bearing Capacity
1'-6" wide Strip	Interior Partition Walls	1'-6"	1.0 tsf
	Below Conditioned Space		
3'-0" wide Strip	Exterior Walls	4'-0''	2.0 tsf
5'-0" x 5'-0"	Interior & Exterior	4'-0''	2.0 tsf
Column	Columns		

* Footings for load bearing walls and columns shall be carried down to in-situ natural soils below fill stratum.



Since the proposed finish grade elevations are significantly higher than the existing grades, foundations in those areas, based on 4-foot embedment depth, may have to be placed on future fill layer. Any structural fill supporting foundations should comprise of free draining granular material with less than 10 percent fines. The structural fill under the foundations, slabs and 10 feet beyond should be placed in lifts of 8 to 12 inches loose thickness and compacted to minimum ninety five percent of the maximum density, as determined by ASTM D1557. The structural fill should be placed after the existing topsoil and/or asphalt are removed and the subgrade is proof rolled with 10 ton vibratory roller followed by, if required, removal and replacement of any yielding and/or unsuitable subgrade material.

The allowable bearing capacity for foundations placed within future structural fill will depend on the type, thickness and relative density of the fill material, and the degree of compaction achieved. However, for preliminary design purposes, an allowable bearing capacity of 1.5 tsf is recommended for the foundations on structural fill placed in accordance with the above requirements.

It should be noted that significant variation in material properties and conditions are possible between the borings. These variations may not become evident until foundation excavation is performed, such as, the thickness of the Fill stratum that is not suitable for the foundation support of the load bearing walls and columns may be thicker than 5 to 9 feet depth noted in the borings. Therefore, the contract documents should require inspection of the foundation subgrade by the Engineer to verify that foundations for the load bearing wall and column footings are carried down into the in-situ virgin soils underlying the fill stratum. It should also be noted that the silty SAND soil bearing stratum at the site is susceptible to deterioration and loss of strength due to exposure to wet weather conditions. Accordingly, the contract documents should also specify that after excavation and inspection, the exposed foundation sub-grade for spread footings be immediately covered by a concrete mud mat followed by placement of foundation concrete within 24 hours.

Also an exterior drainage system located below foundation elevations should be installed along the perimeter of the building to reduce the potential for deterioration of the moisture sensitive foundation stratum due to water infiltration over the life of the structure.



<u>Slab on Grade:</u> Based on the information available regarding the site topography, it appears that placement of some fill will be required to bring the site to planned subgrade elevations. In order to permit supporting the first floor slabs of the structures on grade, the fill shall be placed in accordance to the following criteria:

- 1. The top soils from the building pad area shall be stripped. The building pad area shall extend a minimum of 5 feet from the building foot print plus additional distance required for 1H:1V slope from finish grade to the existing grade after stripping.
- 2. The building pad area shall be proof rolled by a 10-ton weight static roller. The subgrade soils found to be unstable during proof rolling shall be excavated and replaced by control compacted fill.
- 4. The building pad shall be constructed by placing select fill material that is compacted to 95 percent of maximum density, as determined by ASTM 1557. The select fill material shall comprise of well-graded granular soils containing less than 10 percent fines.
- 5. The fill shall be placed in the presence of the Engineer, and field moisture content and density tests shall be conducted by an independent soil testing firm to substantiate that the specified 95 percent compaction is being achieved. The field tests shall be conducted in accordance with ASTM D 1556 and/or ASTM D 2922 & ASTM D 3017.
- 6. A 20-ton weight smooth drum vibratory roller shall be used for the compacting of the imported granular fill and 20-ton weight sheep-foot vibratory roller shall be used for the compacting of the onsite material.
- 7. A minimum of 6 inch of clean crushed stone layer shall be placed on top of compacted building pad for the support of the slab on grade.

SETTLEMENT ANAYLSES

The recommend bearing capacity provided above for the given footing sizes were based on limiting anticipated post control total settlement of up to one inch. Based on that, differential post construction settlements between the adjacent footings is anticipated to be less than one half of one inch. It should be noted that the above anticipated post construction estimates are based on maximum footing dimensions noted in the recommended bearing capacity table above. For the given allowable bearing pressure, any increase in footing dimensions will result in decreased total and differential post construction settlements.



APPENDIX A

SOIL BORING LOGS

SM 282e (0	0)		#8	07 ELL	IOTT S	STREE'	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools	
COUN	NTY _	Essex			 M	SU anual	HOLE JBSURFACE EXPLORATION LOG SB: Hammer (Rope Pulley) SB:	<u>+1</u>
ACTU DATU	JAL CO	ORDI	NATES				SURF. ELEV. 83.4 DEPTH TO WATER 15-2	20'
C I CIN		DA	TE STA	RT 2-2	26-08		DATE FINISH Observed after cutting hole off	
SAMPL	G O.D. JER O.D.	<u>4''</u> <u>2''</u>		I.D		w	EIGHT OF HAMMER-CASING <u>140</u> # HAMMER FALL- <i>CL</i> EIGHT OF HAMMER-SAMPLER <u>140</u> # HAMMER FALL-SA	MPLER
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SAI	BLOV MPLE	VS ON CR (IN	Г СН)	DESCRIPTION OF SOIL AND ROCK	MOIST. CONT. (%)
0.0-2		1	0/6	6/12	12/18	18/24	Complete Drill Thru Sidewalk – Drill 4"	
0.0-2		1	4	Δ	2	4	R=12 DGA-brown sand	
2-4 4-5	-	2	8	13 -	6 T =	8 2"	R=4" Brown Sand - Rock Drill Thru (4'-5')	
<u>5</u> 5-7		3	2	3	3	4	R= 12" DGA-Brown Sand (wet)	
7-9 9-10	-	4	8	10	9 T =	11 8''	R=0", No Recovery – Insert casing Drill Thru (9'-10') Clean Hole	
10 10-12		5	13	11	9	8	R= 18'' Brown sand & rock – Shale?	
12-15 15	-	-	-	-	T=		Drill Thru (12'-15') Moderate-fast speed-loose dense material;	clean hole
15-17		6	19	15	12	15	R= 18" Brown silty sand – w/stone; shale	
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Moderate-fast speed-drill chatter; clean hol Hammer & shaft bouncing 80 blows/4"	e
20-22		7	80/40	Х	X	X	R=4" Sandy rock	
22-25 25	-	-	-	-	T =	45"	Drill Thru (20'-22') Rock too hard take core; to verify rock/bou	lder
25-27	22-27	8	CORE	#1			R = 38" Grey hard rock & red sand stone	
		4"	2	2	1	1	24">4" RQD=24"/60"=0.4=40%	
27-30 30	-	-	-	- #2	T=		Drill Thru (27'-30')	
30-32	21-32	9	CORE	#2			R= 53" Stone & Red/white sandstone 38>4" RQD"38/60=63%	
35							1	
The sul estimat same in the nat fraction data sa	psurface e purpos oformatio ure of th n of the t mples m	informa es. It is on availa e explora otal volu	tion show made ave able to the ation pro ume of the pindicati	vn here ailable so e State. cess, the e materia ve of the	was obtai o that use It is pres informa al at the s	ined for ers may ented in tion rep site. Int	design and DKILL RIG OPERATOR JBD-Louis have access to the SOIL & ROCK DESCRIP.	e
CONTI	RACT		C0	ONTRA(CTOR _		SHEET <u>I OF I</u> HOLE	

SM 282e (0	0)		#8	07 ELL	IOTT S	STREE'	KS ENGINEERS, T SCHOOL Replacemen	, P.C. nt – SD	A – Newa	ark Public Schools	
COUN	NTY	Essex	_	-		SU	UBSURFACE EXPLORA	ATION	LOG	HOLE SB#2	
ACTU	JAL CO	ORDIN	ATES							SURF. ELEV. 77.3	
DATU	J M								DEP	TH TO WATER	
G + G P +		DAT	E STA	RT 3-(04-08			E FINK	SH 3-04-0	18	
CASIN	G O.D. .ER O.D.	$\frac{4"}{2"}$		I.D. I.D.			EIGHT OF HAMMER-CASI EIGHT OF HAMMER-SAMI	NG PLER	140# 140#	HAMMER FALL-CASING HAMMER FALL-SAMPLER	
DEPTH BELOW	CASING	<u>2</u> Sampi f		BLOV	VS ON	1		<u> </u>	110//		MOIST.
SURF. (FT)	BLOWS /6 IN	NO.	SA	MPLE	R (IN	CH)	DESC	CRIPTI	ON OF S	SOIL AND ROCK	(%)
			0/6	6/12	12/18	18/24	Bituminous Pave 4" Dril	l Thru			
0.0-2		1	12	14	8	11	R=17" DGA-Brown san	nd w/gra	vel-ash-d	ebris	
2-4		2	15	16	23	29	R=14" DGA-Brown sand	d, w/gra	vel		
4-5 5	-	-	-	-	T=		Drill Thru (4'-5') Wide	drill, cl	ean hole		
5-7		3	5	5	2	2	R= 15" DGA-Brown Sar	nd w/gra	avel – Asl	1 debris	
7.0		4	11	11	10	4	D -10" D ad broken silts	cond	/amorral am	anal ash dahma	
9-10	-	-	-	-	T=	4	Drill Thru (9'-10') Add	and will a casing	, clean ho	le	
10 12		5	F	11	17	11					
10-12		5	3	11	17	11	K= 0				
10.15					т		D.::11 There (10) 15)				
12-15	-	-	-	-	1=		Driii 111ru (12 -15)				
15-17		6	3	8	14	18	R= 17" Red brown silty	sand w/	gravel		
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Ad	d casing	g, clean ho	ble	
20-22		7	3	6	5	5	R= 17" Red brown sand	- loose			
							-				
22-25	-	-	-	-	T=		Drill Thru (20'-22') Bo	ouncing	during ha	ummer	
25 25-27		8	30	26	11	35	P-18" Red brown silty	sand w/	araval &	sandstona shala	
25 21		0	50	20	++	55	K= 18 Ked blown sitty	sanu w/	graveræ	sandstone share	
27-30		_		_	Т-		Drill Thru (27'-30')				
30	-	_	-	-	1-						
30-32		9	24	39	52	42	R= 13" Red brown sand;	; fine sa	nd w/grav	vel & rock	
35											
The sui	bsurface	informat	ion shov	wn here	was obta	ined for	design and D	RILL RIG	OPERATOR		
estimat	e purpos	es. It is n	nade av	ailable so o Stato	o that use	ers may	have access to the Solution So	OIL & RO PEG_GEOY	CK DESCRII Tech engi	P	
the nat	ure of th	e explora	tion pro	cess, the	informa	tion rep	resents only a small	CHIEF INS	PECTOR	Henry E Fox	
fraction	n of the t	otal volu	me of th	e materia	al at the	site. Int	erpolation between				
aata sa	mpies m	<i>цу по</i> г <i>D</i> e	maicall	ve oj ine	<i>น</i> снийн ท	auerial	s.	HEET	1 OF	1	
CONTI	RACT		CC	ONTRA(CTOR _					HOLE SB #2	

SM 282e (0	0)		#8	07 ELL	IOTT S	TREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools						
COUN	NTY	Essex				st	JBSURFACE EXPLORATION LOG SB#3						
ACTUAL COORDINATES DATUM						SURF. ELEV. 78.0 DEPTH TO WATER							
CASIN	GOD		TE STA	ID ID	11-08(se	e notes) DATE FINISH 3-27-08 (see notes)						
SAMPI	.ER O.D.	<u>4</u> <u>2"</u>		I.D.		w	/EIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER						
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SAI	BLOV MPLE	VS ON CR (IN	Г СН)	DESCRIPTION OF SOIL AND ROCK	MOIST. CONT. (%)					
0.0.2		1	0/6	6 / 12	12/18	18/24	Bituminous 4" Drill Thru						
0.0-2		1	10	4	3	4	R=2 [°] DGA-Gravel						
2-4 4-5	-	2	2	4	4 T =	5	R=17" Brown silty sand Drill Thru (4'-5') Used casing to drill down						
<u>5</u> 5-7		3	7	10	6	4	R= 17" Red brown sand w/gravel-debris						
7-9 9-10	-	4	17	13	13 T =	14	R=9" Red brown sand, ash, debris – brick slate Drill Thru (9'-10') Add casing (very fast); clean hole						
10 10-12		5	8	24	32	31	Casing added w/o hammer R= 17" Red brown clayey silty sand w/gravel						
12-15 15	- 3/27/08	- 3 – Cont	- inue He	- Die	T=		Drill Thru (12'-15') Drill chatter 12'-13' & 14'-15' (3/11/08 Upper Hydraulic Valve bank failure)						
15-17		6	11 *	18 *	23	18	R= 24" Red brown clayey silty sand w/gravel Note: One burden pressure released-hole open several wks. w/water in bottom blow counts low due to this fact.						
17-20 20	-	-	-	-	T=		Drill Thru (17'-20')						
20-22		7	15	11	11	9	R= 16" Red brown clayey silty sand w/gravel sandstone cobbles & layers						
22-25 25	-	-	-	-	T=		Drill Thru (20'-22')						
25-27		8	14	16	18	17	R= 11" Red brown gravely sand w/silt layered sandstone, cobble						
27-30 30	-	-	-	-	T=		Drill Thru (27'-30')						
30-32		9	24	18	24	31	R= 16" Red brown silty sand w/gravel sandstone layer & cobble						
35							-						
The suit estimat same in the nat fraction data sa	bsurface te purpos nformatio ure of the n of the th mples mo RACT	informat es. It is 1 on availat e explora otal volut ay not be	ion shov nade ave ble to the tion pro me of the indicati	wn here w ailable so e State. cess, the e materia ve of the DNTRAC	was obtai o that use It is pres informa al at the s actual n	ined for ers may ented in tion rep site. Int naterial	design and DRILL RIG OPERATOR have access to the SOIL & ROCK DESCRIP. a good faith. By REG. GEOTECH. ENGINEER oresents only a small CHIEF INSPECTOR terpolation between . encountered. . SHEET 1 OF 1 HOLE SB #3						

SM 282e (0	0)						KS ENGINEER	S. P.C.				
			#8	07 ELL	ютт я	TREE	T SCHOOL Replacem	ent – S	DA – Newa	rk Public Schools		
			110				r Seriool Replacen					
~ ~ ~ ~ ~	=					~						
COUN	NTY 1	Essex				SU	BSURFACE EXPLO	RATIO	N LOG	SB#4		
ACTI	JAL CO	ORDIN	ATES							SURF. ELEV. 71.2		
DATI	M								- DED			
DAIC		DAT		DT 2 1			DA					
		DAI	ESIA	KT 3-1	8-08		DA	TE FIN	ISH			
CASIN	G O.D.	4"		I.D.		W	EIGHT OF HAMMER-CA	SING	140#	HAMMER FALL-CASING		
SAMPI	FROD					w	FIGHT OF HAMMER-SAI	MPI FR	140#	HAMMER FALL-SAMPLER		
DEPTH	.EK U.D.	<u></u>				VI.	LIGHT OF HAMMER-SAL	I LEK	140#		MOIST	
BELOW	CASING	SAMPLE		BLOW	VS ON							
SURF. (FT)	/6 IN	NO.	SAI	MPLE	R (IN	CH)	DE	DESCRIPTION OF SOIL AND ROCK				
(11)				1	1	1						
			0/6	6/12	12/18	18/24	Pavement 4" Drill Thr	1				
0.0-2		1	5	4	4	3	R=18" Debris decomp	osed rec	1 brick			
				1	1	1	1					
2-1		2	5	7	14	11	R=19" Debris (red bric	k) Brow	n silty can	1 w/Gravel		
1 5		2	5	,	T-	11	Drill Thm: (1) 5) 1100	Casina -	to drill thm			
-+-3 E	-	-	-	-	1=	}	Use	casing	io unn unu			
			4	4	4	-	D 10" D 11 "		/ •			
5-7		3	4	4	4	5	$\mathbf{K} = 18^{\circ}$ Red brown silt	y sand v	v/gravel			
							4					
7-9		4	4	6	13	12	R=10" Red brown silty	v sand w	/gravel			
9-10	-	-	-	-	T=		Drill Thru (9'-10') A	dd casin	g (2) clean	hole		
10												
10-12		5	5	7	7	8	R= 1" Red sandstone p	ieces-fr	ays no silt,	or sand		
									5			
12 15					т_		Drill Thru (1 ?) [rill page	ad quickly			
12-15	-	-	-	-	1-		Dim Tiru $(12 \cdot 15)$ L	nin pass	seu quickiy			
15		6	11	20	1.7	1.4	D 15" D 11	1	1 / 1/			
13-17		6	11	20	15	14	R=15 Red brown sand	iy grave	W/Silt			
							Gravel: red sandstone-	layered.	Sand & sh	ale layered.		
							-					
17-20	-	-	-	-	T=		Drill Thru (17'-20')	Drill ch?	?? @ 17'-1	9'		
20												
20-22		7	9	7	10	11	R=8" Red brown sand	gravel	w/silt; sand	layer shale/sandstone layer		
22-25	-	-	-	-	T=		Drill Thru (20'-22')					
25					-							
25-27		8	12	16	22	24	P-18" Red brown silts	reand				
25 21		0	12	10		24	ix-10 ixed biowit silly	sanu				
							4					
25 20					m	<u> </u>		. .	1 · ·			
27-30	-	-	-	-	T =		Drill Thru (27'-30')	Bouncin	g during ha	mmer		
30-32		9	22	85	38	100/4"	R=20" Red brown silty	v sand w	/gravel laye	ered shale sandstone		
						1	1					
35							-					
The su	bsurface	informat	ion shov	wn here v	was ohta	ined for	design and	DRILL RI	G OPERATOR			
estima	o nurnas	og Itier	nado av	ailahla a	that us	ors may	have access to the	SOIL & R	OCK DESCRIF	2.		
estimul	e purpose		huuv UV(anuvie si	, mui us It in meet	ontod =	nure uccess 10 1110	REG CE	OTECH ENCL	NEFR		
same u	ijormatio	n availal	to the	e State.	it is pres	ented in	gooa jaun. By	CHIEF P	SILCH. LINGH			
the nat	ure of the	e explora	tion pro	cess, the	informa	tion rep	resents only a small	CHIEF II	VSPECIUR	Henry E Fox		
fraction	n of the to	otal volui	ne of th	e materio	al at the	site. Inte	erpolation between					
data sa	mples ma	iy not be	indicati	ve of the	actual n	naterial o	encountered.		•			
								SHEET	1 OF	1		
CONT	RACT		CO	ONTRA(CTOR					HOLE SB #4		

SM 282e (0	0)		#8	07 ELL	JOTT S	TREE	KS ENGINEERS T SCHOOL Replaceme	5, P.C. ent – SI	DA – Newa	ark Public Schools	
COUN	NTY]	Essex				st	JBSURFACE EXPLOF	RATIO	N LOG	HOLE SB#5	
ACTUAL COORDINATES									DEP	SURF. ELEV. 83.0 TH TO WATER	
		DA	FE STA	R T 2-2	26-08		DAT	E FIN	ISH 2-27-	-08	
CASIN	G O.D.	4"		I.D.		W	EIGHT OF HAMMER-CAS	SING	140#	HAMMER FALL-CASING	
SAMPI	ER O.D.	2"		I.D.		W	EIGHT OF HAMMER-SAM	IPLER	140#	HAMMER FALL-SAMPLER	
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SAI	BLOV MPLF	WS ON ER (IN	(C H)	DES	CRIPT	TON OF S	SOIL AND ROCK	MOIST. CONT. (%)
			0/6	6 / 12	12 / 18	18 / 24	Concrete Sidewalk 4" I	Drill Thi	u		
0.0-2		1	2	2	2	1	R=12" DGA, Ash, Bro	wn sand	1		
2-4 4-5		2	3	2	9 T=	7	R=9" Brown sand, DGA Drill Thru (4'-5') Soft	A t materia	al		
5					-						
5-7		3	6	2	2	2	R= 9" Gravely brown s	and			
7-9 9-10	-	4	6	8	9 T =	10	R=17" Gravely brown s Drill Thru (9'-10')	sand			
10					-		(>)				
10-12		5	29	28	17	8	R= 4" Stones Spoon bounced while h	ammer			
12-15 15	-	-	-	-	T =		Drill Thru (12'-15') Bo Drill chatter	oulder			
15-17		6	7	5	7	13	R=21" Brown sand-yell	lowish s	silt		
17-20	-	-	-	-	T=		Drill Thru (17'-20') V	ery loos	e material,	rock @ 19'	
20-22 25		7 c	ORE #	3			R=19" RQD=0; 0 Piece Red sand stone	es xl"			
22-25	-	-	-	-	T=		Drill Thru (20'-22') C	lean ho	le		
25 25_27		0	000	- 4 -	05.001		P-22"				
25-21		2"	1	= # 4 - 2	25-30 [°] 2	2	8">4" Red sand stone				
27-30	-	-	-	-	T=		Drill Thru (27'-30')				
30 30-32		9									
35											
The sub estimat	te nurnos	informat es. It is s	non shov made ave	vn here ailahle s	was obtai o that use	ned for	aesign and have access to the	SOIL & R	G OF EKATOR OCK DESCRI	P. JBD-Louise	
same in the nat	nformatio ure of the	on availa e explora	ble to the	e State. cess, the	It is pres informa	ented in tion rep	good faith. By resents only a small	REG. GEO CHIEF IN	DTECH. ENGI SPECTOR	Henry E Fox	
fraction	n of the to	otal volu	me of th	e materi	al at the s	site. Int	erpolation between				
data sa	mples mo	ay not be	indicati	ve of the	e actual n	aterial	encountered.	SHEET	<u>1</u> OF	1	
CONTI	RACT		CO	ONTRA	CTOR					HOLE SB #5	

SM 282e (0	0)						KS ENGINEER	S. P.C.				
			#8	07 ELL	лотт я	TREE	T SCHOOL Replacem	ient – Sl	DA – Newa	rk Public Schools		
							i Sellool Replacen					
~ ~		_				~~~						
COUN	TY 1	Essex				SU	BSURFACE EXPLO	RATIO	N LOG	SB#6		
ACTI	JAL CO	ORDIN	ATES							SURF. ELEV. 831		
DATI	M	ond										
DAIC		DAT					DA					
		DAI	ESIA	KI 2-2	28-08		DA	TE FIN	ISH			
CASIN	G O.D.	4"		I.D.		W	EIGHT OF HAMMER-CA	SING	140#	HAMMER FALL-CASING		
SAMPI	FROD					w	FIGHT OF HAMMER-SA	MPI FR	140#	HAMMER FALL-SAMPLER		
DEPTH	EK 0.D.	<u></u>				••	EIGHT OF HAMMER-SA	I LEK	140#		MOIST	
BELOW	CASING	SAMPLE		BLOW	VS ON			COLDI			CONT.	
SURF. (FT)	/6 IN	NO.	SAI	MPLE	R (IN	CH)	DE	DESCRIPTION OF SOIL AND ROCK				
()				6/10 10/10		1		(D	.,			
			0/6	6/12	12/18	18 / 24	Rubber play mat $\sim 4^{\circ}$ (on top B	ituminous 2	2-4 Drill Inru		
0.0-2		1	12	9	7	6	R=13" DGA Silty bro	wn sand				
						1	1					
2-4		2	7	6	6	8	R=10" Silty brown san	d w/ora	vel			
<u> </u>		~	,		т–		$\mathbf{Drill Thru} (\mathbf{A}^{2} 5^{2})$. 01			
	-	-	-	-	1-							
			4	4	1	4	D 422 CC14 1	L	1			
5-7		5	4	4	1	4	$\kappa = 4^{-1}$ Silty brown sand	w/grave	el			
							4	_				
7-9		4	4	4	6	8	R=11" Silty brown san	d w/gra	vel			
9-10	-	-	-	-	T=		Drill Thru (9'-10') A	dd casin	g clean hol	e		
10												
10-12		5	8	4	6	5	R= 10" Silty brown sa	nd w/gra	vel			
								0				
12-15	_	_	_	_	т-		Drill Thru (12'-15')	dd casir	ng drilling	clean hole		
12-13	-	-	-	-	1-		D Im Imu (12 - 13) F	iuu casii	ig, urinnig			
15		6	10	17	22	20	D 1C" D 11" 1 1	1				
15-17		6	18	1/	22	28	R=16" Reddish brown	sand				
							_					
17-20	-	-	-	-	T=		Drill Thru (17'-20') \	ery loos	se material,	rock @ 19'		
20												
20-22		7	7	11	13	15	R=12" Red brown sand	t				
25												
22-25	-	-	-	-	T=		Drill Thru (20'-22')	Clean ho	le			
25												
25-27		8	16	18	18	25	R=16" Red brown sand	1				
		0			10	23		-				
							1					
27 20					т		Duill Thank (27, 20)					
27-3U 20	-	-	-	-	1=	<u> </u>	Drm 1 nru $(27'-30')$					
30												
30-32		9	12	19	77	78	R=14" Shale & gravel	w/red si	lty sand			
35]					
The sui	bsurface	informat	ion shov	wn here	was obta	ined for	design and	DRILL RI	G OPERATOR			
estimat	e purnos	es. It is r	nade av	ailable s	o that us	ers mav	have access to the	SOIL & R	OCK DESCRIF	· · · · · · · · · · · · · · · · · · ·		
same i	1 formatio	n availa	hle to th	e State	It is nree	ented in	good faith Ry	REG. GE	OTECH. ENGI	NEER		
the net	ure of the	a ornlora	tion nro	coss the	informa	tion ron	resents only a small	CHIEF IN	ISPECTOR	Honry F For		
ine nal	ure of the	e expiora etal 1	uon pro	cess, ine	- เกฏบrma ๓1 ๓+ +1	aita T	ormolation 1 -t.		~	TEILY E FOX		
Jraction	u of the to	viai voitii	ne of th	e materu	u at the	sue. Int	erpotation between					
aata sa	mpies ma	ay not be	inaicati	ve of the	actual n	naterial	encounterea.	CHEPT		1		
ac					-			SHEET		1		
CONTI	RACT		CC	ONTRA(TOR _					HOLE SB #6		
								1				

SM 282e (0	0)		#8	07 ELL	IOTT S	TREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools						
COUN	NTY 1	Essex				SUBSURFACE EXPLORATION LOG SB#7							
ACTU DATU	JAL CO JM	ORDIN	ATES				SURF. ELEV. 80.3 DEPTH TO WATER						
		DAT	TE STA	R T 2-2	28-08		DATE FINISH 2-28-08						
CASIN	G O.D.	4"		I.D.		W	Teight of hammer-casing 140# Hammer fall-casing						
SAMPL DEPTH	ER O.D.	<u>2"</u>		I.D.		W	/EIGHT OF HAMMER-SAMPLER <u>140</u> # HAMMER FALL-SAMPLER _	MOIST					
BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE BLOWS ON NO. SAMPLER (INC		CH)	DESCRIPTION OF SOIL AND ROCK								
			0/6	6 / 12	12 / 18	18 / 24	Bit pave 2" Drill thru – Freezing conditions						
0.0-2		1	11	5	2	2	R=10" DGA, gravel silty brown sand, w/gravel						
2-4		2	4	11	7	9	R=6" Silty brown sand w/gravel						
4-5	-	-	-	-	T=		Drill Thru (4'-5') Used casing to drill out 4-5'						
- 5		2	4	2	4	6	P_12" Silve become conductor						
5-7		3	4	3	4	0	K=12 Sifty brown sand w/graver						
7-9		4	6	5	12	9	R=13" Silty brown sand w/gravel						
9-10 10	-	-	-	-	T=		Drill Thru (9'-10') Add casing						
10-12		5	8	4	6	5	R= 10" Silty brown sand w/gravel						
12-15 15	-	-	-	-	T=		Drill Thru (12'-15') Add casing, drilling clean hole						
15-17		6	18	17	22	28	R=16" Reddish brown sand						
							-						
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Very loose material, rock @ 19'						
20-22 25		7	7	11	13	15	R=12" Red brown sand						
22-25 25	-	-	-	-	T=		Drill Thru (20'-22') Clean hole						
25-27		8	16	18	18	25	R=16" Red brown sand						
27-30	-	-	-	-	T=		Drill Thru (27'-30')						
30-32		9	12	19	77	78	R=14" Shale & gravel w/red silty sand						
35							-						
The sul	bsurface	informat	ion shov	vn here	was obta	ined for	design and DRILL RIG OPERATOR						
estimat	e purpos iformatic	es. It is n n availai	nade ave ble to th	ailable so e State	o that us It is nres	ers may . ented in	have access to the SUL & KUCK DESCKIP. pood faith. By REG. GEOTECH. ENGINEER						
the nat	ure of the	e explora	tion pro	cess, the	informa	tion rep	resents only a small CHIEF INSPECTOR Henry E Fox						
fraction	n of the t	otal volui	ne of th	e materio	al at the	site. Int	terpolation between						
data sa	mples mo	ay not be	ındicati	ve of the	actual n	naterial	encountered. SHEET 1 OF 1						
CONTI	RACT		CO	ONTRA(CTOR		HOLE						

SM 282e (0	0)		#8	07 ELL	IOTT S	STREE'	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools	
COU	NTY]	Essex				st	JBSURFACE EXPLORATION LOG SB#8	
ACTU DATU	JAL CO JM	ORDIN	IATES				SURF. ELEV. 78.5 DEPTH TO WATER	
CASIN	G O.D.	DA ⁷ 4"	FE STA	I.D.)3-08 1:	00 p.m. W	DATE FINISH 3-04-08 8:00 a.m. EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING	
SAMPI DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	<u>2</u> " SAMPLE NO.	SAI	BLOV MPLE	VS ON CR (IN	W V CH)	DESCRIPTION OF SOIL AND ROCK Concrete 2" under bit. Bitumous 4" Drill Thru	MOIST. CONT. (%)
0.0-2		1	0/6 8	6/12 6	12/18 5	18/24 6	R=12" DGA Dark brown clayev silty sand w/gravel	
2-4 4-5	-	2	4	6	11 T =	8	R=16" Dark brown clayeye silty sand w/gravel Drill Thru (4'-5') Used casing to drill 1'	
<u>5</u> -7		3	2	7	2	4	R=19" Dark brown clayey silty sand w/gravel	
7-9 9-10	-	4	3	6	5 T =	7	R=16" Dark brown clayey sitly sand w/gravel & rock Drill Thru (9'-10') Add casing - clean hole	
10-12		5	6	7	15	14	R=16" Red brown silty sand w/gravel	
12-15 15	-	-	-	-	T =		Drill Thru (12'-15')	
15-17		6	14	31	49	72	R=18" Red brown silty gravely sand	
17-20 20	-	-	-	-	T=		Drill Thru (17'-20')	
20-22 25		7	50	29	15	20	R=2" Red brown silty gravely sand	
22-25 25	-	-	-	-	T =		Drill Thru (20'-22') Bouncing during hammer	
25-27		8	100/6	X	X	X	R=8" Red brown gravely silty sand w/rock	
27-30 30	-	-	-	-	T =		Drill Thru (27'-30') Drill thru rock @ 27'-28' then drill ?? fast 28'-30'	
30-32		9	12	14	30	27	R=19" Red brown clayey sand w/gravel spoons also had (top) 6" layer of glacier sediments (gravel)	
35							No tips in spoons	
The sur estimat same in the nat fraction data sa CONT	bsurface te purpose nformatio ure of the ure of the mples mo RACT	informat es. It is n on availa e explora otal volu ny not be	tion show made ave ble to th ttion pro me of th indicati	wn here ailable so e State. ocess, the e materia ve of the ONTRA(was obta o that us It is pres informa al at the actual n	ined for ers may ented in ation rep site. Int naterial	design and DRILL RIG OPERATOR have access to the SOIL & ROCK DESCRIP. good faith. By REG. GEOTECH. ENGINEER resents only a small CHIEF INSPECTOR erpolation between Henry E Fox encountered. SHEET I OF HOLE SB #8	

SM 282e (0	0)		#8)7 ELL	IOTT S	TREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools	
COUN	NTY	Essex				st	JBSURFACE EXPLORATION LOG SB#9	
ACTU DATU	JAL CO JM	ORDIN DAT	NATES FE STA	RT 3-()4-08		SURF. ELEV. 78.0 DEPTH TO WATER 10.5 DATE FINISH 3-04-08	
CASIN SAMPI	G O.D. JER O.D.	<u>4"</u> 2"		I.D. I.D.		— w w	EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING EIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER	
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SAI	BLOV MPLE	VS ON CR (IN	(CH)	DESCRIPTION OF SOIL AND ROCK Bitumous 4" Drill Thru	MOIST. CONT. (%)
0.0-2		1	0/6 6	6/12 6	12/18 6	18/24 8	R=15" DGA brown clayey sand w/gravel	
2-4 4-5	-	2	8	12	18 T =	13	R=14" Red brown clayey silty w/gravel, ash, debris, red brick * Drill Thru (4'-5') Used casing to drill	
- <u>5</u> 5-7		3	5	3	5	2	* Building material in recovery* R=3" Red brown clayey sand w/gravel, trace black debris *	
7-9 9-10	-	4	2	2	5 T =	5	R=11" Red brown clayey sand w/gravel & dk. brown & black stone debris * Drill Thru (9'-10') Add casing (2) 5' sleeves-clean hole	
10-12		5	8	13	21	34	R=18" Red brown sand w/gravel	
12-15 15 15-17	-	- 6	- 13	- 23	T =	29	Drill Thru (12'-15') Drill pasted quickly R=15" Red brown silty sand w/gravel; strip of green gravel (16")	
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Drill pasted quickly	
20-22 25		7	16	24	38	46	R=18" Red brown silty sand w/gravel	
22-25 25	-	-	-	-	T=		Drill Thru (20'-22') Drill pasted quickly; bouncing during hammer-did not move	
25-27		8	100/1"	Х	X	X	R=<1" Red brown clayey silty sand w/gravel	
27-30 30	-	-	-	-	T=		Drill Thru (27'-30') Drill chatter, drill thru boulder @ 27'-29'. Drill pasted quickly	
30-32		9	19	20	29	36	r=14" Red brown silty sand w/gravel	
35							No tips in spoons	
The sul estimat same in the nat fraction data sa	bsurface te purposo nformatio ure of the ure of the to mples mo	informat es. It is t on availa e explora otal volu ty not be	tion show made ave ble to the tion pro me of the indicati	on here wild ble so wild ble so state. cess, the e materia we of the	was obtai o that use It is pres informa al at the s actual n	ined for ers may ented in tion rep site. Int naterial	design and DRILL RIG OPERATOR have access to the SOIL & ROCK DESCRIP. good faith. By REG. GEOTECH. ENGINEER resents only a small CHIEF INSPECTOR erpolation between . encountered. . SHEET I	
CONTI	RACT		CO	NTRAC	CTOR _		HOLE SB #9	

SM 282e (0	0)		#8	07 ELL	JOTT S	TREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools	
COUN	NTY]	Essex				st	JBSURFACE EXPLORATION LOG SB#10	
ACTU DATU	JAL CO JM	DAT	NATES FE STA	R T 3-1	10-08		SURF. ELEV. 78.0 DEPTH TO WATER DATE FINISH 3-10-08	
CASIN	G O.D. .ER O.D.	<u>4"</u> <u>7"</u>		I.D.		w	EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING EIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER	
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SAI	BLOV MPLE	VS ON CR (IN	CH)	DESCRIPTION OF SOIL AND ROCK Bitumous Pave 4" Drill Thru	MOIST. CONT. (%)
0.0-2		1	0/6 6	6/12 6	12/18 4	18/24 4	R=13" DGA Brown silty sand w/gravel	
2-4 4-5	-	2	4	6	11 T =	23	R=15" Brown sitly sand w/gravel Drill Thru (4'-5') Used casing to drill down	
<u>5</u> 5-7		3	9	15	15	25	R=18" Red brown silty sand w/sandstone & gravel	
7-9 9-10	-	4	35	23	34 T =	55	R=17" Red brown silty sand w/gravel-pasted sandstone layer Drill Thru (9'-10') Add casing - clean hole	
10-12		5	16	31	27	22	R=16" Red brown silty sand w/shale & gravel	
12-15 15	-	-	-	-	T=		Drill Thru (12'-15')	
15-17		6	21	26	37	29	R=16" Red brown gravely sand; shale	
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') 20' = layer sandstone	
20-22 25		7	14	18	15	16	R=15" Red brown silty sand w/gravel	
22-25 25	-	-	-	-	T=		Drill Thru (20'-22') Bouncing during hammer	
25-27		8	100/2"	Х	Х	X	R=Ø	
27-30 30	-	-	-	-	T=		Drill Thru (27'-30') Grinding during drilling. Passed rock @ 28' Drill chatter @ 29'	
30-32		9	25	36	34	21	R=10" red brown sand gravel - shale	
35							No tips in spoons	
The sum estimat same in the nat fraction data sa	bsurface te purpos nformatio ure of the ure of the to mples mo RACT	informat es. It is f on availa e explora otal volu ay not be	tion show made ave ble to the ation pro me of the indicati	vn here v ailable so e State. cess, the e materia ve of the DNTRA(was obtai o that use It is pres informa al at the s actual n CTOR	ined for ers may ented in tion rep site. Int naterial	design and DRILL RIG OPERATOR have access to the SOIL & ROCK DESCRIP. good faith. By REG. GEOTECH. ENGINEER resents only a small CHIEF INSPECTOR erpolation between . encountered. . SHEET 1 OF 1 HOLE SB #10	
SM 282e (0	0)		#8	07 FLL	ютт я	TREE	KS ENGINEERS, P.C. T SCHOOL Replacement - SDA - Newark Public Schools	
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			πο	07 ELL		TREE	HOLE	
COUN	TY 1	Essex				SU	UBSURFACE EXPLORATION LOG SB#11	
					N	ote: Fro	ont School-Summer Ave. W.T.	
ACTU	JAL CO	ORDIN	ATES			<u>w</u>	SURF. ELEV. 80.0	
DATU	M						DEPTH TO WATER	
		DAT	TE STA	RT 3-0	03-08 10):10 a.n	n. DATE FINISH 3-03-08 12:40 a.m.	
CASIN	G O.D.	4"		I.D.		W	/EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING	
SAMPL	ER O.D.	2"		I.D.		W	ZEIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER	
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SA	BLOV MPLE	VS ON R (IN	(CH)	DESCRIPTION OF SOIL AND ROCK Bitumous 4" Drill Thru +2" Concrete	MOIST. CONT. (%)
			0/6	6 / 12	12 / 18	18 / 24		
0.0-2		1	6	8	10	4	R=10" DGA, Brown sand, rock & gravel - shale	
2.4		2	1	7	5	3	P=10" silty brown sand w/rock & gravel shale	
4-5	-	-	-	-	T=	5	Drill Thru (4'-5') Found UG wall	
5								
5-7		3	7	4	4	6	R=19" Silty brown sand w/gravel & rock	
7-9		4	4	4	6	9	R=18" Silty brown sand w/gravel & rock	
9-10	-	-	-	-	T=		Drill Thru (9'-10') Cobbles in hole-collapsed. Remove cobbles by hand	
10 10-12		5	19	23	18	28	add casing-use hammer-(2) 5' sections-clean hole-grinding R=17" Silty reddish brown sand w/clay & gravel & rock weathered shale	
10-12		5	19	23	10	20	K-17 Sinty reduisit brown sand wrenay & graver & rock weathered share	
]	
12-15 15	-	-	•	-	T=		Drill Thru (12'-15') Bouncing during hammer	
15-17		6	40	39	36	28	R=7" Reddish brown sitly sand w/gravel & rock sandstone & shale	
17-20		_		_	T=		Drill Thru (17'-20')	
20					-			
20-22		7	25	26	17	16	R=14" Red brown silty sand w/gravel & rock shale mid spoon-gravel tip	
23							-	
22-25	-	-	-	-	T=		Drill Thru (20'-22') Bouncing during hammer	
25		0	26	100/6"	v	v	P - <i>C</i> ["] Pod brown sith and w/movel & real shale worther real.	
25-27		0	30	100/0	Λ	Λ	K=0 Ked brown snry sand w/graver & rock-snale weather rock.	
27-30 30	-	-	•	-	T=		Drill Thru (27'-30')	
30-32		9	14	15	13	13	R=Ø=Spoons empty, No tip in spoons	
							-	
							-	
35							No tips in spoons	
The sul	bsurface	informati	ion show	wn here v	was obta	ined for	design and DRILL RIG OPERATOR	
estimat same ir	e purpos iformatio	es. It is n on availal	naae av ble to th	allable so e State.	o tnat uso It is pres	ers may ented in	nave access to the Soft & ROCK DESCRIT.	
the nat	ure of the	e explora	tion pro	cess, the	informa	tion rep	resents only a small CHIEF INSPECTOR Henry E Fox	
fraction	n of the t	otal volur	ne of th	e materio	al at the	site. Int	terpolation between	
aata sa	mptes ma	uy not be	indicati	we of the	actual n	naierial	sheet 1 OF 1	
CONTI	RACT		CC	ONTRAC	TOR_		HOLE SB #11	

SM 282e (0	0)		#8	07 ELL	IOTT S	STREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools						
COUN	TY	Essex				SU	JBSURFACE EXPLORATION LOG SB#12						
ACTU DATU	JAL CO	ORDIN	NATES			SURF. ELEV. 77.7 DEPTH TO WATER							
		DA	ГЕ STA	RT 3-1	12-08 10):40 a.m	n. DATE FINISH 3-12-08 1:05 p.m.						
CASIN	G O.D.	4"		I.D.		W	TEIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING						
SAMPL	ER O.D.	2"		I.D.		W	EIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER						
BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SAI	BLOV MPLE	VS ON R (IN	CH)	DESCRIPTION OF SOIL AND ROCK Gravel Driveway 4"; no Drill Thru						
			0/6	6 / 12	12 / 18	18 / 24							
0.0-2		1	5	8	6	4	R=21" Brown silty sand – Ash & debris						
2-4		2	2	2	6	11	R=7" Brown silty sand - Ash						
4-5 5	-	-	-	-	T=		Drill Thru (4'-5') Used casing to drill thru 4-5'						
5-7		3	2	2	2	3	R=17" Red brown silty sand w/stone						
7-9		4	3	4	8	8	R=15" Red brown sand silt w/stone – shale/sandstone						
9-10	9-10 T= Drill Thru (9'-10') Add (2) casing; clean hole												
10 10-12		5	8	12	9	5	R=14" (10'-11') Red brown silty sand w/stone – shale/sandstone						
							gravel – shale & sandstone						
12-15 15	-	-	-	-	T=		Drill Thru (12'-15') Bouncing during hammer						
15-17		6	18	15	11	19	R=13" Red brown rocky sand silt – large piece; sandstone gravel - shale & sandstone						
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Bouncing during hammer						
20-22 25		7	100/6"	Х	Х	X	R=6" Red brown gravelly sandy silt; weathered shale/sandstone						
22-25 25	-	-	-	-	T=		Drill Thru (20' -22') (20.5-25') -21'-25'; Rock boulder. 24' drill chatter Grinding-basalt/diabase coming up w/drill water. Quartz, sandstone-glacier						
25-27		8	16	21	34	24	R=21" Red brown weather shale w/silty sand						
27-30					Т-								
30													
30-32		9	13	19	21	22	R=24" Red brown (30-31) sand silt w/gravel sandstone shale						
					8		(31'-32') Red brown silty sand						
35							No tips in spoons						
The sul	bsurface	informa	tion show	vn here	was obta	ined for	design and DRILL RIG OPERATOR						
estimat	e purpos	es. It is	made ave	ailable so	o that use	ers may	have access to the SOIL & ROCK DESCRIP.						
sume the the sume the sume the sume the sume the sume the sum of t	the nature of the exploration process, the information represents only a small CHIEF INSPECTOR Henry E Fox												
fraction	n of the to	otal volu	me of th	e materia	al at the	site. Int	terpolation between						
data sa	mples ma	iy not be	indicati	ve of the	actual n	naterial	encountered						
CONTI	RACT		CO	ONTRA(CTOR		HOLE SB #12						

SM 282e (0	0)		#8	07 ELL	JOTT S	TREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools	
COUN	TY 1	Essex				st	UBSURFACE EXPLORATION LOG SB#13	
ACTU DATU	JAL CO	ORDIN	IATES				SURF. ELEV. 76.5 DEPTH TO WATER	
		DAT	TE STA	RT 3-1	13-08 9:	00 a.m.	DATE FINISH 3-13-08 11:30 a.m.	
CASIN	G O.D.	4"		I.D.		W	VEIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING	
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	Z SAMPLE NO.	SAI	BLOV MPLE	VS ON R (IN	— ··· [] [] (CH)	DESCRIPTION OF SOIL AND ROCK Pavement 4" Drill Thru	MOIST. CONT. (%)
			0/6	6 / 12	12 / 18	18 / 24		
0.0-2		1	3	2	2	6	R=12" Red brown silty sand w/gravel	
2-4 4-5	-	2	6	8	11 T =	14	R=18" Red brown silty sand w/gravel-share sandstone layer Drill Thru (4'-5') Used casing to drill thru hammered	
57		3	8	12	13	10	R-19" Red brown silt sand w/gravel	
5-7		5	0	12	15	10		
7-9 9-10 10	-	4	9	14 -	24 T =	25	R=20" Red brown sandy gravel w/silt – Red sandstone Drill Thru (9'-10') Add (2) casing; clean hole	
10-12		5	28	17	14	15	R=12" (10'-11') Red brown silty shale w/sand Layer sandstone - weathered	
12-15 15	-	-	-	-	T=		Drill Thru (12'-15')	
15-17		6	8	7	6	10	R=12" Red brown silty sand w/gravel	
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Drill passed quickly. Bouncing during hammer	
20-22 25		7	90/4"	Х	X	Х	_R=Ø	
22-25	-	-	-	-	T=		Drill Thru (20'-22') Drill chatter @ 20'-21', 22'-layered rock. Drill fast, slow,	
25-27		8	20	18	19	31	R=10" Red brown gravely sand w/silt Hammered thru layers shale	
27-30	-	-	-	-	T=		Drill Thru (27'-30') Drill passed quickly	
30-32		9	13	8	14	13	R=6" Red brown sandy gravel w/silt. Large sandstone pieces	
35 The sui	bsurface	informat	tion shov	vn here	was obtai	ined for	design and DRILL RIG OPERATOR	
estimat same in the nat fraction data sa	e purpose oformation ure of the n of the te mples ma	es. It is 1 on availa e explora otal volu iy not be	made ave ble to the ttion pro me of the indicati	uilable so e State. cess, the e materio ve of the	o that use It is pres informa al at the s actual n	ers may ented in tion rep site. Int naterial	have access to the SOIL & ROCK DESCRIP. a good faith. By REG. GEOTECH. ENGINEER presents only a small CHIEF INSPECTOR terpolation between	
CONTI	RACT		CO	NTRAC	CTOR _		SHEET 1 OF 1 HOLE SB #13	

SM 282e (0	0)		#8	07 ELL	JOTT S	STREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools				
COUN	NTY j	Essex				st	JBSURFACE EXPLORATION LOG SB#14				
ACTU DATU	JAL CO JM	DAT	IATES		13-08 11	·45 a m	SURF. ELEV. 75.5 DEPTH TO WATER DATE FINISH 3-13-08 1:50 p.m.				
CASIN	G O.D. FR O.D.	<u>4"</u> <u>2"</u>		I.D.	15 00 11	W W	EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING EIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER				
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SA	BLOV MPLE	VS ON CR (IN	CH)	DESCRIPTION OF SOIL AND ROCK Pavement 4" Drill Thru	MOIST. CONT. (%)			
0.0-2		1	0/6 8	6/12 4	12/18 2	18/24 1	R=12" DGA, Brick debris, brown silty sand				
2-4 4-5	-	2	3	9 -	11 T =	7	 =12" DGA, Brick debris, brown silty sand =24" Yellow brown sandy clay w/gravel rill Thru (4'-5') Used casing to drill thru 				
<u>5</u> 5-7		3	4	7	7	8	- Pushed - R=19" Red brown silty sand				
7-9 9-10	-	4	6 -	10	15 T =	20	R=20" Red brown silty sand Drill Thru (9'-10') Add (2) casing; clean hole				
10-12		5	14	15	15	21	R=9" Red brown gravely sand w/silt; green stone fragments & red sandstone				
12-15 15	-	-	-	-	T=		Drill Thru (12'-15') Drill passed quickly				
15-17		6	11	12	19	22	R=18" (16') Red brown clayey silt w/gravel-sandstone (17') Red brown sitly sand w/gravel-sandstone				
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Boulder @ (17'-18') Weathered sandstone				
20-22 25		7	30	80/4"	X	X	R=6" Red brown sitly gravel shale w/sand-weathered layered sandstone & shale				
22-25 25	-	-	-	-	T=		Drill Thru (20'-22') Drill chatter in waves, soft & hard material in layers.				
25-27		8	16	21	22	22	R=15" (25'-26') Red brown silty sand w/gravel (26'-27') Red brown clayey sitl w/sand & gravel				
27-30 30	-	-	-	-	T=		Drill Thru (27'-30') Drill passed quickly				
30-32		9	12	11	13	16	R=12" Red brown sandy silt w/gravel				
35	haunfaaa		ion abor	h an a	waa ohta	in ad far	design and DRILL RIG OPERATOR				
estimat same in the nat fraction data sa	e purpose of purpose of formation ure of the of the to mples mo RACT	es. It is r on availa e explora otal volut ay not be	nade av nade av ble to th tion pro me of th indicati	wh here ailable so e State. Decess, the e materia ive of the DNTRA(was oblat o that use It is pres i informa al at the s actual n CTOR	ers may ented in ation rep. site. Int naterial	action and Soll & ROCK DESCRIP. have access to the SOIL & ROCK DESCRIP. g good faith. By REG. GEOTECH. ENGINEER resents only a small CHIEF INSPECTOR erpolation between . encountered. . SHEET 1 OF 1				

SM 282e (0	0)		#80	07 ELL	JOTT S	STREE'	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools			
COUN	NTY I	Essex				SU	JBSURFACE EXPLORATION LOG SB#15			
ACTU DATU	JAL CO JM	ORDIN	NATES				SURF. ELEV. 82.0 DEPTH TO WATER 15.0			
		DA	ГЕ STA	RT 3-2	21-08 8:	30 a.m.	DATE FINISH			
CASIN	G O.D.	1"		LD.		w	EIGHT OF HAMMER-CASING 1/0# HAMMER FALL-CASING			
SAMPI	ER O.D.	2"		I.D.		w	EIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER			
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SAI	BLOV MPLE	VS ON CR (IN	(CH)	DESCRIPTION OF SOIL AND ROCK Grass			
			0/6	6 / 12	12 / 18	18 / 24				
0.0-2		1	2	2	4	2	R=24" Organic, Topsoil, Red brown silty sand w/gravel			
2-4		2	2	4	6	6	R=11" Red brown silty sand w/gravel			
4-5	-	-	-	-	T=		Drill Thru (4'-5') Used casing to drill thru			
5-7		3	5	3	6	18	R=19" Red brown silty sand w/gravel			
7-9		4	9	9	28	15	R=19" Top Spoon – Red brown silty sand w/gravel			
9-10	-		-	-	T=		Drill Thru (9'-10') Bottom spoon-White brown sand w/shale layered			
10			50	10	100/2	37	Add casing (2)-clean hole			
10-12		5	59	40	100/2	X	R=11" Red brown silty sand w/gravel layered shale			
12-15 15	-	-	-	-	T =		Drill Thru (12'-15') Bouncing during hammer Boulder @ 13'-14.5', Drill chatter 14.5'-15'; loosing water			
15-17		6	34	21	16	22	R=13" Red brown gravely sand w/silt-layered shale			
							-			
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Drill chatter in layers; loosing water			
20-22		7	100/6"	Х	X	X	R=4" Red brown gravelly sand w/silt			
25							shale			
22.25					T		20.5			
22-25 25	-	-	-	-	1=		(22-24) difficult boulder: loosing a lot of water			
25-27		8	100/1"	Х	Х	Х	$R=\emptyset$			
							Bouncing during hammer			
27 20					T					
27-30	-	-	-	-	1=		Drill I hru ($\frac{24}{-30}$) Drill chatter 25 ⁻ -layered shale/sandstone Cobbles-drill chatter-smooth drop-chatter repeat			
30-32		9	27	83	100/3"	X	R=5" Red brown sandy gravel w/silt; large pieces - sandstone			
							-			
35										
The su	bsurface i	informa	tion show	vn here	was obtai	ined for	design and DRILL RIG OPERATOR	• •		
estimat	e purpose	es. It is i	made ave	uilable s	o that use	ers may	have access to the SOIL & ROCK DESCRIP.			
same ii the nat	ijormatio ure of the	n availa e explore	vie to the	e State. cess_the	It is pres	ented in tion rep	resents only a small CHIEF INSPECTOR Henry F. Fox			
fraction	n of the to	otal volu	me of th	e materi	al at the	site. Int	erpolation between			
data sa	mples ma	y not be	indicati	ve of the	actual n	naterial	encountered.			
CONT	раст		00		тор		SHEET OF			
CUNT	NAU I		0				HOLE			

SM 282e (0	0)		#8	07 ELL	JOTT S	STREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools					
COUN	NTY I	Essex				st	JBSURFACE EXPLORATION LOG SB#16					
ACTU DATI	JAL CO	ORDIN	NATES				SURF. ELEV. 78.8					
DATC		DA'	ГЕ ЅТА	R T 3-2	21-08 8:	30 a.m.	DATE FINISH					
CASIN		4.2		10		w						
SAMPI	.ER O.D.	$\frac{4}{2"}$		I.D. I.D.		— w	EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING					
DEPTH BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SAI	BLOV MPLE	VS ON CR (IN	CH)	DESCRIPTION OF SOIL AND ROCK Concrete Sidewalk 4" Drill Thru					
			0/6	6 / 12	12 / 18	18 / 24						
0.0-2		1	6	4	6	8	R=1" DGA, Red sand					
2-4 4-5		2	5	7	9 T -	9	$R=7^{\prime\prime}$ Red Brown silty sand Drill Thru (4'-5') u					
- -3 5	-	-	-	-	1-							
5-7		3	8	2	4	9	R=20" Red brown silty sand w/gravel					
7-9		4	18	34	25	19	R=24" Red gravel sand w/stone					
9-10	-	-	-	-	T=		Drill Thru (9'-10') Drill chatter					
10 12		5	21	17	21	20	Add casing (2)-clean hole					
10-12		3	21	1/	21	30	K=15" Red slity sand w/stone & gravel					
12-15	-	-	-	-	T=		Drill Thru (12'-15')					
15 15-17		6	16	14	55	33	R-15" Red silty sand w/gravel & shale					
10 17		0	10	17	55	55	Bouncing during hammer					
17-20	-	-	-	-	T=		Drill Thru (17'-20') Drill chatter					
20-22		7	24	50	57	100/2"	R=24" Red silty sand w/gravel & shale					
25		,	21	50	57	100/2	r = 2 + red sing saile w/graver & shale					
22-25	-	-	-	-	T=		Drill Thru (20'-22') Add casing (2)					
25-27		8	22	32	100/4"	X	Drill chatter, grinding R=16" Red silty sand w/gravel & shale					
		0			100/1							
							26.5					
27-30	-	-	-	-	T=		Drill Thru (27'-30') Red sand gravel w/silt – sediments; clean hole					
30-32		9	No Sai	mnle			Got to 30' placed spoons in hole got to 25! Pushed spoons to 27' Hole keeps					
		,		npic			falling in on itself. No sample #9, took sample #10 from Mud Bucket to					
							illustrate material drill is bringing up & why hole falls in on itself. Cut off hole.					
25		10										
35 The sui	hsurface	10 informa	tion show	vn here	was ohtai	ined for	Mud-bucket Sample design and DRILL RIG OPERATOR					
estimat	e purpos	es. It is	made ave	ailable s	o that use	ers may	have access to the SOIL & ROCK DESCRIP.					
same ir	nformatio	n availa	ble to th	e State.	It is pres	ented in	good faith. By REG. GEOTECH. ENGINEER					
the nat	ure of the	e explore	tion pro	cess, the	informa	tion rep	resents only a small CHIEF INSPECTOR Henry E Fox					
fraction data sa	n of the to mnles me	otal volu w not be	me of the indicati	e materi ve of the	al at the s	site. Int	erpotation between					
uutu su	mpics nu	., <i></i> 00	manull	, e oj ine	асний П	and the	SHEET I OF 1					
CONTI	ONTRACT CONTRACTO						HOLE SB #16					

SM 282e (0	0)		#8	07 ELL	IOTT S	STREE'	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools HOL F				
COUN	NTY 1	Essex			El	SU liott St.	UBSURFACE EXPLORATION LOG SB#17				
ACTU DATU	JAL CO JM	ORDIN	ATES				SURF. ELEV. 76.4				
		DAT	TE STA	R T 3-2	24-08		DATE FINISH				
CASIN	G O.D.	4"		I.D.		W	ZEIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING				
SAMPI DEPTH	ER O.D.	2"		I.D.		<u> </u>	/EIGHT OF HAMMER-SAMPLER <u>140#</u> HAMMER FALL-SAMPLER	MOIST			
BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SA	MPLE	R (IN	CH)	DESCRIPTION OF SOIL AND ROCK Pavement Drill Thru				
0.0.2		1	0/6	6/12	12/18	18/24					
0.0-2		1	12	12	/	/	R=11 DGA, Red brown silty sand w/gravel				
2-4 4-5	-	2 -	4	6 -	16 T =	60/2"	R=11" (Rock in hole) Red brown silty sand w/gravel; layered sandstone Drill Thru (4'-5')				
5_7		3	5	6	8	12	R=Ø"				
5-7		5	5	0	0	12					
7-9 0 10		4	20	12	16 T -	31	R=12" Red brown silty sand w/gravel. Layered sandstone throughout sample Drill Thru (9:-10') Add casing (2) clean hole				
10	-	-	-	-	1-		Bouncing during hammer				
10-12		5	83	49	70	21	R=14" Red brown silty sand w/gravel; layered sandstone				
12-15 15	-	-	-	-	T=		Drill Thru (12'-15') Cobbles in hole-try to clean out				
15-17		6	20	23	83	83	R=15" Red brown silty sand w/gravel. Glacier till & layered sandstone Hollow sound last 6"				
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Drill chatter @ 17' Bouncing during hammer				
20-22 25		7	55	100/3"	Х	X	R=7" Red brown sandy gravel w/silt & sandstone.				
22-25 25	-	-	-	-	T=		Drill Thru (20'-22') Cobbles in hole-drill chatter				
25-27		8	47	38	32	44	R=12" Red brown gravely sand w/silt; sandstone, cobbles, glacier till				
27-30 30	-	-	-	-	T=		Drill Thru (27'-30') Red sand gravel w/silt – sediments; clean hole				
30-32		9	37	26	30	20	R=14" Red brown gravely sand w/silt; sandstone, cobbles, glacier till				
35 The sui	hsurface	informat	ion show	wn horo 1	vas ohta	ined for	design and DRILL RIG OPERATOR				
estimat	e purpos	es. It is n	nade av	ailable so	that us	ers may	have access to the SOIL & ROCK DESCRIP.				
same in	ıformatio	on availal	ble to th	e State.	It is pres	ented in	a good faith. By REG. GEOTECH. ENGINEER				
the nat	ure of the n of the t	e explora otal volu	tion pro ne of th	cess, the	informa 11 at the	tion rep site Int	terpolation between Henry E Fox				
data sa	mples m	ay not be	indicati	ive of the	actual n	naterial	encountered.				
CONTI	RACT		CC	ONTRAC	TOR _		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				

SM 282e (0	0)		#8	07 FLI	JOTT S	TREE'	KS ENGINEERS, P.C. T SCHOOL Replacement - SDA - Newark Public Schools					
			πο			TREE	HOLE					
COUN	TY 1	Essex				SU	JBSURFACE EXPLORATION LOG SB#18					
					Tr	ack Ma	int. – Manual Hammer					
ACTI		ORDIN	ATES				SURF FLEV 76.2					
DATU	JM		AILO				DEPTH TO WATER					
		DAT	TE STA	R T 3-2	20-08		DATE FINISH 3-20-08					
CASIN	G O.D.	4"		I.D.		W	EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING					
SAMPL	ER O.D.	2"		I.D.		W	/EIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER					
DEPTH BELOW	CASING	SAMPLE		BLOV	WS ON	I	DESCRIPTION OF SOIL AND ROCK	MOIST.				
SURF. (FT)	BLOWS /6 IN	NO.	SAI	MPLE	CR (IN	CH)	Pavement 4" Drill Thru					
			0/6	6 / 12	12 / 18	18 / 24						
0.0-2		1	8	4	3	4	R=7" DGA, Red brown silty sand w/gravel					
2-4		2	4	8	13	11	R=12" Red brown silty sand w/gravel					
4-5	-	-	-	•	T=		Drill Thru (4'-5') Use casing to drill thru-4"-5" Ø cobbles red sandstone					
5						•	coming up.					
5-7		3	11	13	15	38	R=24" Red brown silty sand w/gravel & cobbles					
7-9		4	35	23	27	R=18" Red brown silty sand w/gravel & cobbles, sandstone & shale						
9-10	•	-	-	-	T=	Drill Thru (9'-10') Add casing (2) - clean hole						
10 10-12		5	10	10	42	45	P-21" I t brown condy stone w/silt: layered shale/sandstone					
10-12		5	19	17	42	43	K-21 Lt. brown sandy stone w/snt, rayered share/sandstone.					
12-15	-	-	-	-	T=		Drill Thru (12'-15') Cobbles –bouncing during hammer					
15-17		6	32	33	34	48	R=14" Red brown silty sand w/gravel & cobble frays. Layered shale/sandstone					
17-20					т–		Drill Thru $(17, 20)$ Drill chatter @ 17, 18, in waves					
20	-	-	-	-	1-		Dim Tinu (17 -20) Dim chatter @ 17 -18 in waves					
20-22		7	21	45	45	36	R=11" Red brown gravelly sand w/silt, shale and sandstone					
25							-					
22-25	-	-	-	-	T=		Drill Thru (20'-22') Mud-bucket-spoon sample a lot of large gravel & cobbles					
25												
25-27		8	24	70	100/6"	X	R=11" Red brown gravely sand w/silt layered shale/sandstone					
	1						4					
27-30	-	-	-	-	T=		Drill Thru (27'-30')					
30 30-32		0	23	37	26	30	P-13" Red brown gravely sand w/silt layered shale/sand gravel					
50 52		,	23	52	20	39	K=15 Ked brown gravery sand w/sht layered shale/sand graver					
35							-					
The sui	bsurface	informat	ion shov	vn here	was obtai	ined for	design and DRILL RIG OPERATOR					
estimat	te purpos	es. It is n	nade ave	ailable s	o that use	ers may	have access to the SOIL & ROCK DESCRIP.					
same in	nformatio	on availa	ble to th	e State.	It is pres	ented in	good faith. By REG. GEOTECH. ENGINEER					
the nat	ure of the n of the t	e explora otal volu	uon pro me of th	cess, the e materi	: informa al at the s	tion rep site. Int	ternolation between					
data sa	mples mo	iy not be	indicati	ve of the	actual n	naterial	encountered.					
LYF-29	N NJ						SHEET <u>1</u> OF <u>1</u>					
CONTI	RACT		CO	ONTRA(CTOR		HOLE SB #18					

SM 282e (0	0)		#8	07 ELI	JOTT S	TREE'	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools					
			πο			TREE	HOLE					
COUN	TY 1	Essex				SU	JBSURFACE EXPLORATION LOG SB#19					
					M	ove in 3						
ACTU	JAL CO	ORDIN	ATES				SURF. ELEV. 75.0					
DATU	J M						DEPTH TO WATER					
		DA'I	TE STA	RT 3-2	25-08		DATE FINISH 3-25-08					
CASIN	G O.D.	<u>4"</u>		I.D.		W	EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING					
DEPTH	CASING	<u>2"</u>			VS ON	vv J	EIGHT OF HAMMER-SAMPLER <u>140</u> HAMMER FALL-SAMPLER	MOIST.				
SURF. (FT)	BLOWS /6 IN	SAMPLE NO.	SAI	MPLE	CR (IN	CH)	Pavement Drill Thru					
			0/6	6 / 12	12 / 18	18 / 24						
0.0-2		1	3	3	4	2	$R=10^{72}$ DGA, Brown silty sand w/gravel					
2-4		2	3	6	5	9	R=10" DGA Brown silty sand w/gravel					
4-5	-	-	-	-	T=		Drill Thru (4'-5') Use casing to drill thru					
$-\frac{5}{57}$		3	20	21	60/6"	x	R=12" White brown layered sandstone					
5-7		5	20	21	00/0		Bounces, not advancing-possible ??-wet drill to 7' to clear wall					
7-9		4	1	5	6	10 $R=14$ " Red brown silty sand						
9-10 10	-	-	-	-	T=		Drill Thru (9'-10') Add 10' casing - clean hole					
10-12		5	17	20	42	35	R=15" Red brown silty sand w/gravel; sandstone, shale					
12-15	-	-	-	-	T=		Drill Thru (12'-15')					
15-17		6	17	13	20	28	R=16" Red brown silty sand w/gravel layered sandstone & glacier till					
							-					
17-20	-	-	-	-	T=		 Drill Thru (17'-20')					
20		_		21	4.5	10						
20-22 25		7	22	31	46	18	R=14" Red brown gravelly sand w/gravel; layered sandstone & glacier till					
22.25					т							
22-25 25	-	-	-	-	1=		Drill I nru (20'-22') Drill chatter @ 23					
25-27		8	14	20	16	67	R=13" Red brown silty sand w/gravel; layered sandstone & glacier till					
27-30	-	-	-	-	T=		Drill Thru (27'-30')					
30-32		9	22	32	36	26	R=12" Red brown sandy silt w/gravel; layered sandstone					
							-					
35												
The sui	bsurface	informat	ion shov	vn here	was obta	ined for	design and DRILL RIG OPERATOR					
same in	e purpos iformatio	es. 11 is r on availai	naae ave ble to th	e State.	It is pres	ers may ented in	a good faith. By REG. GEOTECH. ENGINEER					
the nat	ure of the	e explora	tion pro	cess, the	informa	tion rep	resents only a small CHIEF INSPECTOR Henry E Fox					
fraction	n of the to	otal volui av not be	me of the	e materia	al at the	site. Int	encountered					
LYF-29	N NJ	<i>xy 1101 D</i> C	munull	, e oj ine	actual II	uner tut (SHEET I OF 1					
CONTI	RACT		CO	ONTRA(CTOR _		HOLE SB #19					

SM 282e (0	0)		#8	07 ELL	IOTT S	STREE'	KS ENGINEERS, P. F SCHOOL Replacement	.C. – SDA – Nev	wark Public Schools				
COUN	NTY I	Essex				SU	BSURFACE EXPLORAT	TION LOG	HOLE SB#20				
ΑСΤΙ	JAL CO	ORDIN	ATES						SURF. ELEV. 74.0				
DATU	JM M	01121				DEPTH TO WATER							
		DAT	TE STA	RT 3-2	26-08		DATE H	FINISH					
CASIN	G O.D.	4"		I.D.		W	EIGHT OF HAMMER-CASING	140#	HAMMER FALL-CASING				
SAMPL	ER O.D.	2"		I.D.		W	WEIGHT OF HAMMER-SAMPLER <u>140#</u> HAMMER FALL-SAMPLER						
BELOW SURF. (FT)	CASING BLOWS /6 IN	SAMPLE NO.	SA	MPLE	R (IN	CH)	DESCRIPTION OF SOIL AND ROCK Concrete w/basalt drive 2", DGA 4"						
			0/6	6 / 12	12 / 18	18 / 24							
0.0-2		1	5	3	3	2	R=16" DGA, Red brown si	lty sand w/gr	ravel (red sandstone)				
2-4		2	15	24	10	11	R=6" (Bouncing 2'-3') DG	A Red brown	n silty sand w/gravel (red sandstone)				
4-5	-5 T=				T=		Drill Thru (4'-5') Layer yellow silty sand						
5		3	5	25	13	28	Use casing to drill thru $P=5^{\circ\circ}$ (Rounging 2^{nd} & 4^{th} 6 ^o) Proves sittly and unformed by large data to the						
5-7		5	5	23	15	20	Start tip spoon) DIOWII SII	ty said w/graver, layered saidstone				
7-9		4	8	12	12	21	R=20" Red brown sandy si	lt w/gravel &	cobbles				
9-10 10	-	-	-	-	T=		Drill Thru (9'-10') Add 10)' casing - cl	ean hole				
10-12		5	32	31	26	21	R=16" Red brown silty san	d w/gravel la	yered sandstone				
12-15	-	-	•	-	T=		Drill Thru (12'-15')						
15 15-17		6	25	20	31	48	R=16" Red brown silty san	d w/gravel la	yered sandstone & glacier till				
17-20	-	-	-	-	T =		Drill Thru (17'-20')						
20-22		7	50	53	34	60	R=14" Red brown layered s	sandstone &	shale w/silty sand				
25							Bouncing drill hammer (20	'-21')	·				
22-25	-	-	-	-	T=		Drill Thru (20'-22') Drill (chatter @ 22	'-hung up 24'-24.5' boulder				
25 25-27		8	52	43	46	100/5"	$\mathbf{R} = 14$ " Red brown silty can	d w/oraval &	cobbles Grevetone cobbles/glacial				
23 21		0	52	10	+0	14/2"	Till (small-med.) gravel		coobles. Orcystolic coobles/glacial				
27-30	-	-		_	T=		Drill Thru (27'-30') Hole (caved in Cu	it-off hole @ 27'				
30			_	_	1-		Drilling illustrated chatter a	and was hung	gup. Cobbles in hole				
30-32		9					Spoon sample illustrated sa	me w/glacie	r till				
35	haunfaaa	informat	ion sho	un hana	vas obta	inad for	lesion and DRII	L RIG OPERAT	0R				
estimat	e purpos	es. It is n	nade av	ailable so	o that us	ers may	have access to the SOIL	& ROCK DESC	RIP.				
same ir	ı formatio	on availai	ble to th	e State.	It is pres	ented in	good faith. By REG.	. GEOTECH. EN	GINEER				
the nat	ure of the	e explora	tion pro	cess, the	informa	tion rep	resents only a small CHII	EF INSPECTOR	Henry E Fox				
fraction data sa	n of the to mples ma	otal volui iv not he	ne of th indicati	e materio ve of the	al at the actual n	site. Inte naterial d	erpolation between						
LYF-29	N NJ						SHE	ET 1 C	DF <u>1</u>				
CONTI	RACT		CC)NTRA(CTOR _				HOLE SB #20				

SM 282e (0	0)		#8	07 ELL	IOTT S	STREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools						
COUN	NTY 1	Essex				SU	JBSURFACE EXPLORATION LOG SB#21						
					w	tMeas	sured $(U SB 20=6.5) \downarrow$						
асті			IATES		п	ole left	SUBE FLEV 73.0						
DATI	IM	UKDIN	AILS				50KF, ELEV. 75.0						
DAIC		DAT	FF STA	RT 3-3	7-08		DATE FINISH $3.27-08 @ 10.21 a m$						
		DI			27 00								
CASIN	G O.D.	$\frac{4"}{2"}$		I.D.		W	EIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING						
DEPTH	CLODIC	<u></u>				••	EIGHT OF HAMMER-SAMILLER <u>140#</u> HAMMER FALL-SAMILLER	MOIST.					
BELOW SURF. (FT)	BLOWS /6 IN	SAMPLE NO.	SA	MPLE	R (IN	CH)	DESCRIPTION OF SOIL AND ROCK Bit & Concrete; Pavement Drill thru (water). Bit=1-1 ½ .Conc. Ren.=6"						
			0 / 6	6 / 12	12 / 18	18 / 24							
0.0-2		1	3	2	1	1	R=14" DGA, Debris yellowish brown silty sand w/gravel						
2-4		2	1	1	3	3	R=7" Yellowish brown silty sand w/gravel						
4-5	I	-	-	-	T=		Drill Thru (4'-5') Use casing to drill thru (debris in casing)						
5													
5-7		3	1	6	21	40	R=20" Red brown silty sand w/gravel glacial till						
7.0		4	35	41	58	30	First 6° not set in place $P = 20^{\circ}$ Pod brown conducting with warmal						
9-10	-	-	-	- T= Drill Thru (9'-10') Top spoon-glacial till/middle sandstone laver. TOE Red									
10					-		rown clayey sand w/gravel. Add casing (10') – clean hole						
10-12		5	63	34	30	21	R=15" Red brown silty sand w/gravel layered sandstone/glacial till						
							-						
12-15	-	-	-	-	T=		Drill Thru (12'-15')						
15-17		6	95	100/3"	Х	X	R=Ø						
							Bouncing during hammer						
17 20					т-		$D_{\rm ref}(1) = (17^2 + 20^3)$						
20	-	-	-	-	1-		Drm 1mru (17 -20)						
20-22		7	20	25	22	35	R=12" Red brown silty sand w/gavel & cobbles	1					
25							Glacial till & cobbles w/sandstone						
22.25					T								
22-25	-	-	-	-	1=		Drill Thru (20'-22')						
25-27		8	21	28	21	21	R=12" Red brown sand silt; layered silt stone/glacial till	+					
							TOP/Silt/Silt Stone/Till/Silt/TOE						
]						
27-30	-	-	-	-	T=		Drill Thru (27'-30')						
30-32		0	61	64	75/2"	v	P_Ø						
50-52		9	01	04	13/2	Λ	R=0 Bouncing during hammer						
25													
35 The sui	hsurface	informat	ion show	wn hore i	was obta	ined for	design and DRILL RIG OPERATOR						
estimat	te nurnos	es. It is r	nade av	ailable so	o that us	ers mav	have access to the SOIL & ROCK DESCRIP.						
same ir	nformatio	on availa	ble to th	e State.	It is pres	ented in	good faith. By REG. GEOTECH. ENGINEER						
the nat	ure of the	e explora	tion pro	cess, the	informa	tion rep	resents only a small CHIEF INSPECTOR Henry E Fox						
fraction	n of the to	otal volu	me of th	e materia	al at the	site. Int	erpolation between						
data sa	mples mo	ay not be	indicati	ve of the	actual n	naterial	encountered.						
L I F-29 CONTI	IN INJ		CC		ΤΟΡ								
CONT	nne i			AUTRAC									

SM 282e (0	0)		#8	07 ELL	JOTT S	STREE'	KS ENGINEERS, P.C. ET SCHOOL Replacement – SDA – Newark Public Schools					
COUN	TY]	Essex				st	UBSURFACE EXPLORATION LOG SB#24					
ACTU DATU	JAL CO JM	ORDIN	ATES				SURF. ELEV. 74.7 DEPTH TO WATER					
		DAT	TE STA	RT 3-1	17-08 8:	30 a.m.	. DATE FINISH 3-17-08					
CASIN	G O.D.	4"		I.D.		W	VEIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING					
SAMPL	ER O.D.	2"		I.D		W	VEIGHT OF HAMMER-SAMPLER 140# HAMMER FALL-SAMPLER					
DEPTH BELOW	CASING			BLOV	VS ON	I	DESCRIPTION OF SOIL AND POCK	MOIST.				
SURF. (FT)	BLOWS /6 IN	NO.	SA	MPLE	CR (IN	CH)	Pavement 4" Drill Thru					
002		1	0/6	6/12	12 / 18	18/24						
0.0-2		1	3	4	3	6	K=20° DGA, Red brown silty sand w/gravel					
2-4		2	7	18	26	24						
4-5	-	-	-	-	T=	24	Drill Thru (4'-5') Use casing to drill thru					
5												
5-7		3	9	13	13	15	R=24" Red brown silty sand w/gravel					
7.0		4	1.4	15	22	22						
9-10	9-10 T = Drill Thru (9'-10') Add casing (2) – clean hole											
10	_	_	_	_	1-							
10-12		5	13	16	15	26	R=17" Red brown silty sand w/gravel & shale sandstone. Layered weathered					
							shale & sandstone					
12 15					т_		Drill Thrue (12, 15) Drill perced quickly					
12-15	•	-	•	-	1=		Drin Tintu (12 -13) Drin passed quickly					
15-17		6	13	11	10	10	R=12" Red brown silty sand w/gravel, shale & sandstone. Layered, weathered					
17 20					T							
20	•	-	•	-	1=		Drin Thru (17-20 [°]) Drin passed quickly					
20-22		7	25	19	38	40	R=17" Red brown sand shale 2/silt & gravel. Shale layered throughout					
25							recovery.					
22.25					T							
22-25	•	-	-	-	T=		Drill Thru $(20^{2}-22^{2})$ 23'-24' Boulder					
25-27		8	11	20	19	14	R=8" Red brown sandy shale w/silt & gravel; weathered layered.					
27-30	•	-	-	-	T=		Drill Thru (27'-30')					
30-32		9	18	20	36	18	R=14" Red brown sitly sand w/gravel					
			10	20		10						
25							_					
35 The sui	hsurface	informat	ion show	vn here i	was ohta	ined for	r design and DRILL RIG OPERATOR					
estimat	e purpos	es. It is n	nade av	ailable s	o that us	ers may	b have access to the SOIL & ROCK DESCRIP.					
same ir	ıformatio	on availa	ble to th	e State.	It is pres	ented in	n good faith. By REG. GEOTECH. ENGINEER					
the nat	ure of the	e explora	tion pro	cess, the	informa	tion rep	presents only a small CHIEF INSPECTOR Henry E Fox					
fraction	n of the to	otal volu	ne of th	e materia	al at the	site. Int	terpolation between					
uuu sa LYF-29	mpies ma N NJ	iy nut de	เกินเติลปี	ve oj ine	ฉะเนสเ ท	uuertal	SHEET I OF 1					
CONTI	RACT		CC	ONTRAC	CTOR		HOLE SB #24					

SM 282e (0	0)		#8	07 ELL	JOTT S	STREE	KS ENGINEERS, P.C. T SCHOOL Replacement – SDA – Newark Public Schools			
COUNTY		Essex				st	UBSURFACE EXPLORATION LOG SB#27	HOLE SB#27		
ACTU	JAL CO	DORDINATES					SURF. ELEV. 73.8			
DATU	J M	DAT	TE CTA	D T 2	17 00 11	. 15	DATE EINICH			
		DAI	LE SIA	KI 3	17-08 11	1:45 a.m				
CASING O.D.		4"	I.D.			W	VEIGHT OF HAMMER-CASING 140# HAMMER FALL-CASING			
SAMPLER O.D.		<u>2"</u>				W	VEIGHT OF HAMMER-SAMPLER <u>140</u> HAMMER FALL-SAMPLER	MOIST		
BELOW SURF. (FT)	CASING BLOWS /6 IN	NG SAMPLE NO. SAMPLER (I		R (IN	CH)	DESCRIPTION OF SOIL AND ROCK Soil, Organic Topsoil	CONT. (%)			
			0/6	6 / 12	12 / 18	18 / 24				
0.0-2		1	1	1	1	1	R=24" Red brown silty sand			
2-4		2	3	3	6	10	R-19" Red brown sitly sand w/gravel			
4-5	-	-	-	-	T=	10	Drill Thru (4'-5') Use casing to drill thru			
5										
5-7		3	8	11	14	15	R=24" Red brown silty sand			
7-9		4	11	14	25	26	R=19" Red brown silty sand			
9-10	-	-	•	-	T=		Drill Thru (9'-10') Add casing (2) – clean hole			
10		-								
10-12		5	12	13	12	17	R=14" Red brown sitly shale w/sand; layered weathered shale sand stone			
							-			
12-15	-	-	-	-	T=		Drill Thru (12'-15')			
15					• •	10				
15-17		6	15	11	20	18	R=12" Red brown sand stone w/silt; layered weather sandstone & shale			
							-			
17-20	•	-	-	-	T=		Drill Thru (17'-20') Drill chatter boulder 17-18'			
20		7	0	10	15	26	D 10" Ded become and a store around w/.: 16 law ad workbard and date	0_		
20-22		/	9	10	15	20	R=12 Red brown sandy stone gravel w/sill; layered weathered sandstone shale	x		
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15-17		6	18	80/5"	Х	X	R=5" Red brown silty sand gravel-shale & sandstone					
17-20 20	-	-	-	-	T=		Drill Thru (17'-20') Drill chatter 17-18', drill thru bolder @ 18'					
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22-25 25	-	-	-	-	T=		Drill Thru (20'-22')					
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NEW JERSEY SCHOOLS DEVELOPMENT AUTHORITY ELLIOTT STREET ELEMENTARY SCHOOL CITY OF NEWARK GEOTECHNICAL REPORT

APPENDIX B

LABORATORY TEST RESULTS












































_AB NO.: 08S-173



_AB NO.: 08S-174



-AB NO.: 08S-175





GENERAL NOTES:









Newark Public Schools / NJSDA Elliott Street School Newark, NJ Essex County

04.09.2009 DATE: 3/32" = 1'-0" SCALE: EYP PROJECT NO. 1007026.01 DESIGNED BY: MW **DRAWN BY:** CI / RH CHECKED BY: JCS

BASEMENT FLOOR PLAN











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EDUCATIONAL SPECIFICATIONS

PROJECT NUMBER NE-0067-R01

For the Proposed New

ELLIOTT STREET SCHOOL

Prepared for the Newark Public Schools 2 Cedar Street, Newark, NJ 07102

March 25, 2009 (revised 4.9.09)

Submitted per the requirements of New Jersey Department of Education Division of Facilities New Jersey Schools Development Authority

Prepared by

Morris Boyd Associates

4 Kennedy Flace, opence, MJ 07871 In association with

Einhorn, Yaffee, Prescott

Architecture an Architecture, Alz Breakey, Milbury, Milbury, Milbury,

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- 2. Pre- Kindergarten Toilet Room
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- 4. Kindergarten Toilet Room
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- 6. General Classrooms, Grades, 4 thru 5
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- 8. Special Education Toilet Room, Elementary
- 9. Science Demonstration Room/storage
- 10. Resource Room, Elementary (rev 4.9.09)
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SDA NE-0067-B01

Elliott Street School Essex County Newark ResourceCente 10

Physical Space

Type: Science Storage Room (Elem) Number: 1 Estimated Square Feet: 200 Individual Room Square Feet: 200 NJ FES: N/A Class size/Teachers/Staff: 0/0/0 Type of Construction: New Included in Gross-Up

Description of Function

The science room serves as the depository and storage area for all science related activities.

Spatial Relationship

The storage room must be located adjacent to the elementary Science Lab

Equipment & Furnishing Criteria

Installed Equipment

- Counter with built in sink and cabinets.
- Perimeter shelving with adjustable shelves
- 1/2 of space should be base cabinets with acid resistant counters and one sink, with overhead cabinets above. Other half should be full height storage cabinets for equipment.
- o A dishwasher with Stainless Steel Lining
- No metal cabinets or shelves.
- Min of 10 feet of tack surfaces.

Furnishings

1 small lockable refrigerator

1 cabinet for storage of flammable materials

1 cabinet for the storage of corrosive materials

- 2 lateral files for Material Safety Data Sheets (MSDS)
- 1 lockable cabinet for teacher's belongings

1 chair

ResourceCente 10

Physical Space

Type: **Resource Center (Elementary)** Number: 4 Estimated Square Feet: 1,600 Individual Room Square Feet: 400 NJ FES: N/A Class size/Teachers/Staff: 6/1/0 Type of Construction: New

Description of Function

The Resource Room program provides instruction for mainstreamed classified students where they are exhibiting difficulty or have a learning disability. The Resource Room program is in place of a particular regular classroom program and is tailored to the student's individual education plan. The Resource Room will also be used for specialized pull-out programs such as Wilson Reading and Reading Recovery. The Wilson Reading Program teaches students the structure of words and the language through a carefully sequenced, 12 step program that helps students master decoding and spelling in English. Reading Recovery is an early intervention program to help low-achieving 6-year-olds learn to read. Instruction in these programs occurs through lecture, small group instruction and one-on-one teaching, but with greater emphasis on smaller groups and one-on-one instruction.

Spatial Relationship

These rooms should be evenly distributed throughout the building.

Special Features

The furnishings should take into account the age and size of children. 1 Resource Room should be outfitted to accommodate speech therapy. This can be accomplished with the addition of a large mirror with a curtain to cover it when not in use. Any counters should be 25"H. The chalkboard should be hung 24" from the floor and be taller than standard height to accommodate both adults and children.

Equipment & Furnishing Criteria

Installed Equipment

- A minimum of 6 linear ft of Black Board/White Board
- A min of 10 feet of tack surface
- Shelf Storage for a minimum of 300 books
- o additional storage for equipment and books, min of 2, six feet high units
- 1 lockable wardrobe

Furnishings

12 stackable student chairs 14-16" H

1 portable magnetic black board

2 tables for computer workstations of approx. 24"D x 30"W x 21"H

1 L-shaped desk with chair

1 lateral file cabinet

1 book kiosk

3 kidney tables of approximately 24"D x 48"W x 21"H

1 VCR/TV Cart

1 Computer Cart

SDA NE-0067-B01

Elliott Street School Essex County Newark

ResourceCente 10

Plumbing

Sinks: No requirements Drink, Fountain: No requirements Gas hook ups: No requirements Floors/Drains: No requirements

Technology

Cable: NPS TECH SPECS

Communications: Telephone, fax, intercom, and PA system Computers: 1 teacher computer workstation and 2 student computer workstations equipped with headphones Network: Hardwired, wireless, broadband internet Peripherals: Printer, access to copy machine and fax,

Data Ports: 6

Room Type Small Group Instruction Room

11

Physical Space

Type: Small Group Instruction Room (Elem) NJ FES: N/A Number: 4 Estimated Square Feet: 1,600 Individual Room Square Feet: 400

Class size/Teachers/Staff: 12/1/0 Type of Construction: New

Description of Function

This area is for basic supplemental instruction in reading, language arts, and mathematics. There will be various methods of instruction such as teacher-directed instruction, small group instruction, "hands-on" whole and small group activities, and through the use of television, VCR and computers. The Small Group Instruction Room will also be used for the instruction of ESL and other instructional groups that can utilize small group teaching strategies.

Spatial Relationship

Evenly distributed throughout the building.

Special Features

Any counters should be 25"H. The Chalkboard should be hung 27" from the floor and should be of taller than standard height to accommodate both adults and children.

Equipment & Furnishing Criteria

Installed Equipment

- A minimum of 8 linear ft of Black Board, White Board
- A min of 10 feet of tack surface.
- Shelf Storage for a minimum of 200 books
- \cap 1 lockable wardrobe

Furnishings

6 stackable student desks of 21"H

12 stackable chairs 14"-16"H

4 tables for computer workstations approx 24"D x 30"W x 21"H

1 L-shaped desk with chair

1 lateral file cabinet

1 kidney table of approximately 30"D x 60"W x 21"H

Plumbing

Sinks: No requirements Drink, Fountain: No requirements Gas hook ups: No requirements Floors/Drains: No requirements

Technology

Cable: NPS TECH SPECS Communications: Telephone, fax, intercom, and PA system

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SDA NE-0067-B01	Elliott Street School Essex County Newark	Room Type Small Group Instruction Room	11
Computers:	1 teacher computer workstation and 4 student computer workstations equipped with headphones		
Data Ports:	10		
Network:	Hardwired, wireless, broadband internet		
Peripherals:	Printer, access to copy machine and fax,		

, 9.

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Room Type Science Lab

16

Physical Space

Type: Science Lab (Grades 6-8) Number: 2 Estimated Square Feet: 2,400 Individual Room Square Feet: 1,200 NJ FES: 1,200 Class size/Teachers/Staff: 23/1/0 Type of Construction: New **Capacity Generating Space**

Description of Function

Both lecture and laboratory instruction will take place in this space. Learning through lecture will include teacher lectures, cooperative learning, and utilization of technology. Students will develop problem solving and decision making skills and learn to integrate mathematics as a tool for problem solving. Students will develop an understanding of the relationship between science and society. Students will also receive instruction in a range of scientific areas including nature and process of technology, characteristics of life, chemistry, physics, earth science, astronomy and space science, and environmental science.

Spatial Relationship

The lab should be an integral part of the 6,7,and 8th grade cluster. The two middle school Science Labs will share one Prep Room. Both rooms should be adjacent to the Prep Room.

Special Features

The design for the lab should utilize flexibility in the arrangement of tables to support both a laboratory setting as well as for lecturing and teacher demonstrations. There should be one sink at each lab stations, a sink at the teacher demo table, and 1 ADA sink Lab tables and chairs can be arranged so that they can be used for either lab or lecture. There should be 12 lab tables that adjoin 4 trapezoid lab stations. Each station should be provided with electrical outlets, a sink, a data port, and a dark resin chemically resistant top. Each unit should have storage areas below for lab work an dinstruments. Provide the maximum amount of storage cabinets with adjustable shelves as design allows. Provide a master electric switch and shut-off valve. Provide one teacher demonstration table equipped with hot and cold water, sink, gas supply, electrical hook-up, overhead slanted mirror, and chemical resistant top. Safety regulations should be prominently displayed. One workstation, sink and eyewash/ emergency shower must be ADA compliant. The room should be wired for overhead projection and interactive whiteboard. If possible, provide windowsills of 6"-8" for plantings, habitats, etc. The counters should 32"-36"H. The whiteboard/chalkboard should be hung 32"-36" from the floor.

Equipment & Furnishing Criteria

Installed Equipment

- 4 quad sink stations (triple table service hub) that are equipped with electrical outlets, a data port, and dark resin chemically resistant tops, storage
- Acid resistant counter tops. min of 15 ft.
- Lockable teacher wardrobe
- o Fixed base cabinets with a mixture of storage cabinets and drawers for equipment
- A min of 10 feet of whiteboard/chalkboard as design allows
- 1 teacher demonstration table as described above.
- o Installed Smart Board
- Safety devices for shower and eye wash, safety blanket

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SDA NE-0067-B01

Elliott Street School Essex County Newark

- Lockable teacher storage cabinet for equipment
- Lockable glass display cases. min of three
- Open shelving for equipment, min of 20 feet
- A min of 10 feet of tack space
- Shelving for 100 books
- Fire extinguisher

Furnishings

12 utility tables with book compartments, acid resitant tops

Chairs of 18"H to accommodate 24 students. Ergonomic 1 lateral file cabinet 1 portable work station table with lockable wheels Spill kit Broken glass container Safety goggle storage cabinet

Fire, Health and Safety Equipment

Alarms: Fire and Carbon Monoxide

First Aid Kits: One lockable kit that includes synthetic gloves Smoke Detectors: Dual heat and smoke Sprinklers: Yes and 1 fire extinguisher Unique: Fume Hood

Construction Criteria

Architectural

Unique Criteria Ledge at windows for plants. Should be away from heat.

Plumbing

Sinks:	1 stainless steel sink with swivel gooseneck faucet and blade handles at
	each lab station, teacher demonstration table and two at side counter.
	All sinks should have acid dilution traps.
Drink, Fountain:	ADA emergency shower by door and eye/face wash
Gas hook ups:	At teacher demo table
Floors/Drains:	Common to emergency shower and eyewash

Technology

Cable:	NPS TECH SPECS
Communications:	Telephone, fax, intercom, and PA system
Computers:	1 teacher computer workstation and 6 student computer workstations
	equipped with web cams
Data Ports:	7 and 1 data port at each lab station
Network:	Hardwired, wireless, broadband internet
Peripherals:	Printer, access to copy machine and fax, roll down display

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Room Type Science Lab

Room Type Resource Center Grades 6-8

Physical Space

Type: Resource Center (Grades 6-8) Number: 2 Estimated Square Feet: 800 Individual Room Square Feet: 400

NJ FES: N/A Class size/Teachers/Staff: 6/1/0 Type of Construction: New

Description of Function

The Resource Room program provides instruction for mainstreamed classified students where they are exhibiting difficulty or have a learning disability. The Resource Room program is in place of a particular regular classroom program and is tailored to the student's individual education plan. The Resource Room will also be used for specialized pull-out programs such as Basic Skills, Wilson Reading and Reading Recovery. Instruction in these programs occurs through lecture, small group instruction and one-onone teaching, but with greater emphasis on smaller groups and one-on-one instruction.

Spatial Relationship

These rooms should be evenly distributed throughout the building.

Special Features

Any counters should 32"-36"H. The chalkboard should be hung 32"-36" from the floor.

Equipment & Furnishing Criteria

Installed Equipment

- 1 lockable wardrobe
- Minimum of 6 linear ft of Black Board
- A min of 10 feet of tack surface
- Shelf storage for minimum of 200 books
- storage for books and equipment, 2 lockable 6 feet high units 0

Furnishings

6 stackable students desks of 25"- 30"H

10 stackable student chairs of 18"H

- 1 kidney table of approximately 24"D x 48"W x 30"H
- 1 small portable magnetic black board
- 2 tables for computer tables approx. 24"D x 30"W x 30"H

1 book kiosk

- 1 L-shaped desk and chair
- 1 lateral file cabinet
- 1 computer cart

Fire, Health and Safety Equipment

Sprinklers: Yes

Alarms: Fire and Carbon Monoxide First Aid Kits: One lockable kit that includes synthetic gloves Smoke Detectors: Dual heat and smoke

Construction Criteria

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Elliott Street School Essex County Newark Technology

Room Type Resource Center Grades 6-8

18

Cable: NPS TECH SPECS

Communications:Telephone, fax, intercom, and PA systemComputers:1 teacher computer workstation and 2 student computer workstationsData Ports:6Network:Hardwired, wireless, broadband internetPeripherals:Printer, access to copy machine and fax, roll down

Room Type Small Group Instruction Room

Physical Space

Type: Small Group Instruction Room (Grades 6-8) NJ FES: N/A

Number: 3 Estimated Square Feet: 1,200 Individual Room Square Feet: 400 Class size/Teachers/Staff: 12/1/0 Type of Construction: New

Description of Function

This area is for basic supplemental instruction in reading, language arts, and mathematics. There will be various methods of instruction such as teacher-directed instruction, small group instruction, "hands-on" whole and small group activities, and through the use of television, VCR and computers. The Small Group Instruction Room will also be used for the instruction of ESL and other instructional groups that can utilize small group teaching strategies.

Spatial Relationship

These rooms should be evenly distributed throughout the building.

Special Features

There will three different layouts for the Small Group Instruction Room. The first layout is as a standard SGI room. In the second layout the SGI room will be used as a Math Lab. In the third layout, the SGI room will be used as a Language Lab. The Math and Writing Lab should be adjoined but partitioned by an acoustic wall. Any counters should 32"-36" H. The chalkboard should hang 32"-36" from the floor.

Equipment & Furnishing Criteria

Installed Equipment

ALL:

- A minimum of 8 linear ft of Black Board
- A min of 10 feet of tack surface.
- Shelf Storage for a minimum of 200 books
- 0 1 lockable wardrobe for the storage of teacher's belongings

Furnishings

ALL:

1 L-shaped desk and chair

1 lateral file cabinet of 2 drawers

STANDARD SGI:

6 stackable student desks of 25"-30"H

6 stackable student chairs of 18"H

4 tables for computer workstations approx. 24"D x 30"W x 30"H

1 Computer Cart

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Elliott Street School Essex County Newark

Room Type Small Group Instruction Room

Fire, Health and Safety Equipment

Smoke Detectors: Dual heat and smoke Sprinklers: Yes

Alarms: Fire and Carbon Monoxide First Aid Kits: One lockable kit that includes synthetic gloves

Construction Criteria

Technology

Cable: NPS TECH SPECS Communications: Telephone, fax, intercom, and PA system Computers: 1 teacher computer workstation and 4 student computer workstations Data Ports: 6 Network: Hardwired, wireless, broadband internet Peripherals: Printer, access to copy machine and fax,

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51

Room Type Middle School Conference Rm



Physical Space

Type: Middle School Conference Room Number: 1 Estimated Square Feet: 250 Individual Room Square Feet: 250 NJ FES: N/A Class size/Teachers/Staff: 0/0/0 Type of Construction: New

Description of Function

The conference room is mainly for general staff meeting and meetings with parents.

Spatial Relationship

Should be located adjacent to the lobby or main entrance of middle school wing. Needs simple access by parents, staff, and students.

Special Features

None

Equipment & Furnishing Criteria

Installed Equipment

- o Built in counter with base cabinets for general storage of supplies and equipment
- White board at one end for presentations

Furnishings

1 oval conference table of a minimum of 60"D x 90"W x 36"H 6 chairs

1 lockable closet for equipment and supplies

Fire, Health and Safety Equipment

Alarms:Fire and Carbon MonoxideFirst Aid Kits:One lockable kit that includes synthetic glovesSmoke Detectors:Dual heat and smokeSprinklers:Yes

Construction Criteria

Architectural

Electrical

Technology

Cable:	NPS TECH SPECS
Communications:	Intercom, and PA system
Computers:	None
Data Ports:	10
Network:	Hardwired broadband internet
Peripherals:	Roll down display screen of 72" diagonal, Access to LCD projector and other video equipment

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Room Type Music Room

3()

Physical Space

Type: **Music Room** Number: 1 Estimated Square Feet: 1,800 Individual Room Square Feet: 1,800 NJ FES: N/A Class size/Teachers/Staff: 50/2/0 Type of Construction: New

Description of Function

This space will be used for both the learning and practicing of musical instruments and choral music as well as for the general instruction and basic presentation of music theory and appreciation. Students will learn to use aesthetic knowledge in the creation of and in response to instrumental music. Students will utilize the skills, methods, and technologies appropriate to music to create and perform musical pieces. Students will learn the basic elements of music and understand and analyze the role, development, and continuing influence of instrumental music in relation to world cultures, history and society. Students will also develop, apply, and reflect upon knowledge and the process of critique.

Spatial Relationship

This room should be in close proximity to the Stage and adjacent to the Music Storage Room. If possible, the room should be close proximity to a building exit with doublewide doors to allow for movement of instruments in and out of the building.

Special Features

This space will have an acoutiscal divider, the room will be divided into two separate instructional spaces. The Instrumental space should be 1,000 sq ft and the Choral space should be 800 sq ft. The ceiling height should be 14 feet.

Learning in this room is accomplished by critical listening. Every aspect of the area must be designed to promote clear hearing. The room must be sound isolated from all adjoining spaces. The interior walls of the Music Room should extend to the ultimate roof for proper sound isolation. Additionally, untreated parallel walls will cause flutter echo. Absorption panels on the lower wall behind the percussion and lower brass sections will significantly reduce loudness. Elliott Street School has a significant percussion program, which should be taken into account when considering the room's acoustics. The possibility of a removable tiered platform for proper viewing and performance should be considered. Permanent risers should not be considered, as they will reduce the cubic volume of the room. The Music Room should have double entry doors to accommodate large instruments. Additionally, large numbers or students enter and exit together within minutes; good traffic flow should provide natural routes and adequate space for these groups. Some instrument storage will need to occur in the Music Room. Place cabinets near appropriate instrument sections to prevent confusion and congestion. Allow a 3' minimum between cabinets and opposing walls, and 6' between rows of facing cabinets. Cabinets with many compartments should be placed next to cabinets with only a few to spread out students as they access or return their instruments. Cabinets should have grille front for ventilation and easy location. Instrument storage will require about 300 sq ft of floor space to be divided between the Music Storage Room and the Music Room. The current distribution should be used as approximate guidelines.

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Room Type 30 Music Room

Equipment & Furnishing Criteria

Installed Equipment

- Installed Smart Board
- o Acoustical divider doors, must meet ANSI standards for Music Classroom.
- 0 Minimum of 16 linear ft of Black Boards. One board should be blank. One board should have permanent music staff lines. Istalled Smart board
- A min of 10 feet of tack surface
- Shelf storage for a minimum of 200 books 0
- 0 Secured storage space with shelving for sheet music, tapes, records, CD's, audio and video equipment, and videos.
- 8 instrument storage cabinets of 27 1/2"W x 39 1/4"D x 85 5/8"H 0
- 0 14 instrument storage cabinets of 27 1/2"W x 29 1/4"D x 85 5/8"H
- instrument storage cabinets of 27 1/2"W x 19 1/4"D x 85 5/8"H 0
- o 3 instrument storage cabinets of 48 1/2"W x 29 1/4"D x 85 5/8"H
- Lockable teacher wardrobe
- Lockable closet for choral robes in choral section of room, store 40 robes.

Furnishings

1 L-shaped desk and chair

2 lateral file cabinets

1 lockable wardrobe for instructor's belongings

1 table for computer workstation

- 50 student chairs: (Wenger Student Chair with Universal Folding Arm and bookrack): 25 chairs should be 17.5 inches in height, 25 chairs should be 20.5 inches in height.
- 50 music stands, with mobile storage cart

18 stackable Wenger Student chairs with moveable cart, 15.5" inches in height

18 stackable Wenger Student chairs with moveable cart, 19.5" inches in height

- 2 moveable computers and cart
- 1 piano and piano bench
- 2 electric keyboard stations

All necessary percussion instruments

Removable 3 tiered floor (band riser set for 42 seats with guardrail), ex Wenger set #1015

Conductor podium with music stand

High-density sheet music storage

1 audiovisual cart

Fire, Health and Safety Equipment

Alarms: Fire and Carbon Monoxide Smoke Detectors: Dual heat and smoke Sprinklers: Yes

First Aid Kits: One lockable kit that includes synthetic gloves

Construction Criteria

Architectural

Ceiling Height: 14'-15' min. Acoustic Walls should be treated with a combination of absorber and diffuser Considerations: panels to enhance acoustics of the room. A specialist in this area should

Room Type Music Room

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Newark be consulted. See Acoustic Considerations in General Building

Requirements, and above in Special Features.

Unique Criteria: Ceiling height should be measured from floor to suspended ceiling.

Mechanical

Electrical

Lighting: 70-100 ft-candle range throughout. Certain fluorescent lighting creates a slightly flat Bb pitch making it impossible to tune to a concert A or Bflat. Fluorescent lighting must use electronic quiet ballasts, or ballasts outside the room.

No. Elec. Outlets: 2 outlets per wall. Security System:

See Security Systems in General Building Requirements Special Criteria: Receptacle boxes should not be placed in direct line from room to room. Receptacle boxes should be placed at least 2 feet apart and outlet box opening and perimeter joints should be caulked to prevent sound leakage. Room-to-room electrical boxes will also cause sound leakage and should be avoided.

Plumbing

Sinks:	1 stainless steel sink
Drink, Fountain:	1 bubbler at sink
Gas hook ups:	No requirements
Floors/Drains:	No requirements

Technology

Cable:	NPS TECH SPECS
Communications:	Telephone, fax, intercom, and PA system
Computers:	1 teacher workstation and 1 student workstation equipped with
	headphones, microphone, and enough space for an electronic keyboard
	in front of the computer.
Data Ports:	4
Network:	Hardwired, wireless, broadband internet
Peripherals:	Printer, access to copy machine and fax.

Physical Space

Type: Music Storage Room Number: 1 Estimated Square Feet: 200 Individual Room Square Feet: 200 NJ FES: N/A Class size/Teachers/Staff: 0/0/0 Type of Construction: New Included in Gross-up Calculation

Description of Function

This area is for the storage of musical instruments and musical equipment.

Spatial Relationship

The storage room should be located adjacent to the Music Room. Additionally, storage rooms can be used as an effective sound buffer, and are better sound isolators than single walls.

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Room Type Library

Physical Space

Type: Library Number: 1 Estimated Square Feet: 4,000 Individual Room Square Feet: 4,000 NJ FES: N/A Class size/Teachers/Staff: 75/0/2 Type of Construction: New

Description of Function

The library is the service center of the school and will serve all teachers and pupils, and support all academic activities of the school. The center will acquire, organize, house, repair, and distribute learning resources to enrich the learning environment. It will also serve as the depository for all printed media and all other informational resources. The library will be used for checking out materials to individuals or groups for use in materials center, room spaces, or at home. Students will learn library and independent research skills, including the application of technology.

Spatial Relationship

Centrally located to all classrooms. The Library should be shielded from the noisy disruptive areas of the building and be accessible in evenings/ weekends for community and parent use.

Special Features

The library should be broken up into 2 seating areas to accommodate the variety of age groups. The first area will be for the lower elementary school and will have seating for 25 $Pre-K - 1^{st}$ grade students and a reading area with moveable amphitheater seating. The second area is for the middle school and will have seating for 25 6 thru 8 grade students and should use the casual reading area. The casual reading area should be furnished with soft, comfortable furniture. Reading areas should provide a means to display materials. Shelf space is figured at one inch per volume. Oversize volumes, e.g. Atlases, Picture Books etc. require that some shelving be adjustable. Elliott Street has a total book collection of 14,000 volumes. Traffic patterns in this space should be structured to allow movement with the least disturbance to people in study areas. The Circulation desk should be near the main entry. Space should be provided at the circulation desk for three workstations for computer use with printer, circulation records, and book checkout security. Security equipment at the entry must be a minimum of ten feet from computer terminals and entry magnetic fields. There will be 6 tutoring rooms of 80 sq ft apiece, each equipped with 2 chairs, a desk, and white board. An Early Childhood bathroom should adjoin the library. Any counters should be 27"H. The white/ chalkboards should be hung 24" from the floor with taller than standard height to accommodate both adults and children.

Equipment & Furnishing Criteria

Installed Equipment

- Three lin ft of marker board close to entrance
- Tackable wall surface
- Charging desk of normal desk height (30" high) near entrance, with ADA counter space and low counter for Early Childhood accomodations.

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SDA NE-0067-B01

Elliott Street School Essex County Newark

Room Type Library

• Tutoring ROOM: As much white board as one wall can accommodate, each room is 75 square feet. This is square footage allotment is not included in 4,000 sq ft alloted to Library.

Furnishings

Book return. Book carts Rolling step stools for stack area 5 round tables of approx. 42" diameter and 20"H 6 round tables of approx 48" diameter and 30"H 25 chairs 15"H 35 chairs 18"H (25 for general seating, 10 for research computers) 2 tables approx. 24"D x 30"W x 30"H for catalog computers and 18"H chairs 1 tables approx. 24"D x 30"W x 20"H for catalog computers and 15"H chair 10 tables approx. 24"D x 30W x 30"H for research computers 6 self-study approx. 24" D x 30-36"W x 30"H carrels 1 42" round picture book table 2 picture book display areas 3 listening stations with headphones Easy chairs, beanbags, and other soft seating for casual reading area Carpeted, wooden, moveable auditorium seating for elementary reading area, accommodates 18 42" high shelving for 3,456 books (32) 60" high shelving for 8,352 books (58) 69" high shelving for 2,180 books (12) 1 circular shelving for 32 volumes, 24 " diameter Periodical shelving units to display 50 periodicals

2 lockable display cases

4 Tutoring Room: (Acoustical Divider, if possible when rooms are adjoining.), if room is not visible from circulation desk a security monitor or web cam device needs to be installed. 2 chairs

1 table 54" long

Fire, Health and Safety Equipment

Alarms:Fire and Carbon MonoxideFirst Aid Kits:One lockable kit that includes synthetic glovesSmoke Detectors:Dual heat and smokeSprinklers:Yes and 2 fire extinguishers

Construction Criteria

Architectural

Floors:	Carpet,tiled
Walls:	Water based epoxies on exposed masonry and GWB surfaces
Doors:	Magnetically controlled double hung locks and vision panels
Ceilings:	2' X 2' Lay in type ceiling system
Ceiling Height:	Per Code
Acoustic	See Acoustic Considerations in General Building Requirements

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Considerations:

Unique Criteria Library should have blackout capabilities for film presentations. Study rooms should have glass walls for supervision.

Mechanical

Heat/AC: Ventilation:

Electrical

Lighting: Special Criteria: None

No. Elec. Outlets: Outlets at 12' center and outlet at each study carrel Security System: See Security Systems in General Building Requirements

Plumbing

Sinks: No requirements Drink, Fountain: No requirements Gas hook ups: No requirements Floors/Drains: No requirements

Technology

Cable: NPS TECH SPECS Communications: Telephone, fax, intercom, and PA system Computers: 10 research computers and 3 computer catalog stations Data Ports: 50 Network: Hardwired, wireless, broadband internet Peripherals: 2 large copy machines. 1 high-speed printer with a large duty cycle. Access to 42" TV with VCR/DVD. Roll down projection screen of at least 72".

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Room Type Computer Lab

45

Physical Space

Type: **Computer Lab** Number: 1 Estimated Square Feet: 900 Individual Room Square Feet: 900 NJ FES: N/A Class size/Teachers/Staff: 23/1/0 Type of Construction: New

Description of Function

To teach students computer skills and computer assisted instruction procedures. Students will work at computer stations and be instructed through lecture supplemented by audiovisual presentations and teacher demonstrations. The Computer Lab may also be used as a language lab to supplement the instruction of world language.

Spatial Relationship

The Computer Lab should be located within the Library complex.

Special Features

Lighting capability of reducing the light level to as little as 20 foot-candles is needed in order to provide the proper resolution between the room and monitor screen. It is also desirable that students should be able to face/see the teaching station from their computers. Lighting should be either indirect or parabolic to minimize glare in the monitors. Library area should be visible from within the Computer Lab through the use of 1/2 glass walls. This room will have 24 individual carrels for students, each equipped with a set of headphones and a computer. The instructor must be able to supervise all areas of the room at all times. A raised area at the head of the room may be necessary to accomplish this. This room should be wired for an interactive white board. The counters should be 27"H. The chalkboard should be hung 24" from the floor and be taller than standard to accommodate both adults and children.

Equipment & Furnishing Criteria

Installed Equipment

- 24 study carrels of 24"D x 36"W x 30"H with headphones and returns able to accommodate a computer
- Lockable wardrobe for teacher's belongings
- Interactive Smart Board
- 10 linear feet of standard white board
- Min of 6 linear feet of built in lockable cabinets for software and paper supplies.
- Min of 10 feet tack surfaces
- Storage to accommodate a minimum of 200 books

Furnishings

24 ergonomic chairs 16"-17"H

1 L-shaped desk with chair

1 Digital scanner

1 Color laser printer

Digital projector with teacher workstation

2 printer stations

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SDA NE-0067-B01

Elliott Street School Essex County Newark

Room Type Computer Lab

Fire, Health and Safety Equipment

Smoke Detectors: Dual heat and smoke Sprinklers: Yes

Alarms: Fire and Carbon Monoxide First Aid Kits: One lockable kit that includes synthetic gloves

Construction Criteria

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Architectural

Technology

Cable: NPS TECH SPECS Communications: Telephone, fax, intercom, and PA system Computers: 1 teacher computer workstation and 24 student computer workstations Data Ports: 30 Network: Hardwired, wireless, broadband internet Peripherals: Roll down display screen of 72" diagonal, 1 25" TV with DVD/VCR, Access to LCD projector and other video equipment. Each computer should have 21" monitors and DVD burners and each carrel should be equipped with headphones. See above for additional peripherals.

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1 3.01 ART STUDIO (ROOM TYPE 24)

Einhorn Yaffee Prescott Architecture & Engineering, P.C. 412 Broadway P.O. Box 617 Albany, NY 12201-0617 Telephone: 518.431.3300 Fax: 518.431.3333



PROJECT

TITLE:

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			1/8":	= 1'-0" A101
T:	Elliott Street School	DATE:	04-09-2009	DRAWING #:
	3.01 ART STUDIO	PROJECT #:	1/8"=1"-0"	
	(ROOM TYPE 24)	DESIGNED BY:	MW	
		DRAWN BY:	SM	
		CHECKED BY:	JCS	SK-A-018









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1/8" = 1'-0" 1 2.13 CONFERENCE (ROOM TYPE 54) A103 Einhorn Yaffee Prescott PROJECT: **Elliott Street School** DATE: 04-09-2009 DRAWING #: Architecture & Engineering, P.C. SCALE: 1/8"=1'-0" 412 Broadway 2.13 CONFERENCE EYP/ TITLE: PROJECT #: 1007026.00 P.O. Box 617 (ROOM TYPE 54) **DESIGNED BY: MW** Albany, NY 12201-0617 Telephone: 518.431.3300 DRAWN BY: SM Fax: 518.431.3333 SK-A-025 CHECKED BY: JCS





DATE



SP102

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