

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. Contract Number	Page of Pages 1 of 44	
2. Amendment/Modification Number DCAM-2008-B-0054-003		3. Effective Date 6/19/2008	4. Requisition/Purchase Request No.	5. Solicitation Caption Construction of Ward Six Senior Wellness Center	
6. Issued By: Diane Wooden Office of Contracting and Procurement (CDBR Group) 441 4th St., N.W., Suite 700 South Washington, DC 20001			7. Administered By (If other than line 6) Office of Property Management Construction Administration Services 2000 14th Street, NW, 5th Floor Washington, DC 20009		
8. Name and Address of Contractor (No. Street, city, country, state and ZIP Code)			(X)	9A. Amendment of Solicitation No. DCAM-2008-B-0054	
				9B. Dated (See Item 11) 5/5/2008	
				10A. Modification of Contract/Order No.	
				10B. Dated (See Item 13)	
Code	Facility				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning <u>3</u> copies of the amendment: (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or fax which includes a reference to the solicitation and amendment number. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or fax, provided each letter or telegram makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. Accounting and Appropriation Data (If Required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14					
A. This change order is issued pursuant to: (Specify Authority) The changes set forth in Item 14 are made in the contract/order no. in item 10A.					
B. The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation date, etc.) set forth in item 14, pursuant to the authority of 27 DCMR, Chapter 36, Section 3601.2.					
C. This supplemental agreement is entered into pursuant to authority of:					
D. Other (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>3</u> copies to the issuing office.					
14. Description of amendment/modification (Organized by UCF Section headings, including solicitation/contract subject matter where feasible.)					
<p>The subject solicitation is hereby amended as follows:</p> <ol style="list-style-type: none"> Page No. 23, Section G.15 Delete in its entirety and substitute with (Attachment A). The modified Sections of this IFB as indicated in Amendment No. 3 include: Geotechnical Report, dated November 06, 2002 (Attachment B), An additional site visit has been scheduled for Monday, June 23, 2008 for all prospective bidders and their subcontractors to familiarize themselves with site conditions. The location is 1005 Hayes Street, NE, Washington, DC 20002 and the time is 11:00 am. <p>3. All other Terms and Conditions remain the same.</p>					
Except as provided herein, all terms and conditions of the document referenced in Item (9A or 10A) remain unchanged and in full force and effect					
15A. Name and Title of Signer (Type or print)			16A. Name of Contracting Officer Diane Wooden		
15B. Name of Contractor		15C. Date Signed	16B. District of Columbia <i>Diane Wooden</i>		16C. Date Signed 6/18/08
(Signature of person authorized to sign)			(Signature of Contracting Officer)		

“ATTACHMENT A”

G.15 PROGRESS SCHEDULE:

G.15.1 PART I GENERAL

G.15.1.1 SECTION INCLUDES

G.15.1.1.2 Administrative and procedural requirements for schedules and reports required for proper performance of Work.

G.15.2 Summary of Work:

G.15.2.1 Ensure timely execution of Work using critical path method schedule, because timely Contractor performance is essential to this contract.

G.15.2.2 Allow District to monitor Contractor's Contract Schedule continuously and cooperate so that District may audit Contractor's management of Contract Schedule via comparison by District to copy of approved Contract Schedule under District's control.

G.15.2.3 Use approved Contract Schedule for management of entire Work and make no change, modification, or updating of logic and/or durations in Contract Schedule without prior written concurrence from District.

G.15.3 Purpose of this Specification:

G.15.3.1 Assure adequate planning, scheduling, and reporting during execution of Work so it may be executed in orderly and expeditious manner within specified time constraints.

G.15.3.2 Assure coordination of Contractor's self-performed work with work of:

G.15.3.2.1 All of elements of Contractor's organization, including subcontractors,

G.15.3.2.2 Between subcontractors and vendors at all tiers,

G.15.3.2.3 District personnel and District consultants and

G.15.3.2.4 Separate contractors.

G.15.3.2.5 Assist in processing of payments to Contractor.

G.15.3.2.6 Assist Contractor and District in monitoring progress of Work.

“ATTACHMENT A”

G.15.3.2.7 Assist Contractor and District in evaluating impact of proposed changes to Work, if any. Coordinate such evaluation with applicable requirements of any change order Section that is part of this Contract.

G.15.3.2.8 Assist in detecting problems for purpose of taking timely and effective corrective actions, to provide mechanism for monitoring effect of such corrective actions and to make adjustments in such corrective actions as necessary to ensure timely execution of Work.

G.15.3.2.9 Assure approved Contract Schedule is used to manage entire Work.

G.15.4 Standard Software:

G.15.4.1 Utilize Primavera Project Planner (P3), or approved equivalent. Equivalent scheduling software must be approved before project schedule is developed and submitted.

G.15.4.2 Set adjustable settings, including those pertaining to float calculation and progress/logic override, in accordance with District’s instructions, which shall require most conservative available settings. Settings will be given in writing by the District seven (7) days after Notice to Proceed.

G.15.5 RELATED SECTIONS

G.15.5.1 Other Section H Specification Sections including, but not limited to, following:

G.15.5.1.2 Payment Procedures: Submittal of Schedule of Values.

G.15.5.1.3 Section 01330 - Submittal Procedures: Submittal of Submittal Schedule.

G.15.6 DEFINITIONS

G.15.6.1 Milestones: Milestones listed in Contract Documents represent only major items of work or interface dates. Milestones: Considered essential to satisfactory performance of this Contract

“ATTACHMENT A”

and to coordination of work on Project. Indicate Milestones in Contract Schedule as zero duration activities with "Finish-No-Later-Than" dates. Milestones represent latest allowable completion durations, measured from Contract's initial District-issued Notice to Proceed (NTP). Unless specifically excepted by Change Order, alternates, or options if any and if exercised by District, shall be performed by Contractor within durations set out below. Coordinate application of following Milestones with contents of this specification and Work.

Code	Milestone Description	Calendar Days from NTP
A	Complete Submission of Submittals	300
B	Complete Core & Shell Superstructure Work	400
C	Complete Building Dry-in	420
D	Complete Building Fit-Out	510
E	Complete Construction Activities	500
F	Complete Testing, Commissioning, and Activation	520
G	Obtain Final Acceptance from District	560

G.15.6.2 Contract Schedule: Document that controls Contractor's timely execution of Work. It is initially defined by number of Work Days listed in Contract Documents for completion of each Milestone and for completion (in calendar days) of Work, until District approves Detailed CPM Schedule (DCS). Upon acceptance by District of DCS, DCS becomes Contract Schedule. Upon approval by District of mutually agreed change orders that amend DCS, most current such approved amended version of DCS becomes Contract Schedule.

G.15.6.3 Work Days: Defined as days in calendar during period of Work performance, excluding Saturdays, Sundays and legally-mandated federal employee holidays (which apply to area in which Work is performed). Federal Holidays: New Years Day, Martin Luther King's Birthday, President's Day, Emancipation Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and Christmas Day. If holiday falls on Saturday, preceding Friday is taken as holiday, and if holiday falls on Sunday, following Monday is taken as holiday. Work Days: Considered fully available for Contractor to perform work

“ATTACHMENT A”

indicated in pertinent activities in Contract Schedule, unless, upon Contractor request, authorized District’s representative:

- G.15.6.3.1** Contemporaneously annotates Contractor’s daily report with acknowledgement that day reported upon was unavailable to Contractor for excusable causes, such as unusual severe weather or immitigable effects thereof,
- G.15.6.3.2** Identifies specific activities by number so affected, and Identifies extent of such impact for each affected activity (i.e. percentage reduction of crew or equipment effectiveness and/or progress).
- G.15.6.4** Data Date: Last Work Day of each month, for months between NTP and Acceptance, in accordance with schedule update requirements of this specification.
- G.15.6.5** Extended Overhead Cost: Cost incurred by Contractor in event Contract Time is extended beyond completion date set for entire Work, and District-caused time extension is sole-and-controlling cause of such extension. Only costs incurred by Contractor on project work site are eligible to be classified as Extended Overhead Costs, and only if Contractor satisfies pertinent requirements set out in this specification. Such Costs: Limited to direct daily costs associated with temporary facilities on project site and supervision assigned full-time to Project site. Actual or alleged off-site costs associated with time extensions shall be deemed fully compensated by percentage mark-ups in Change Order Section that is part of this Contract, if any, or as negotiated between parties.
- G.15.6.6** Work: Entirety of work to be performed by Contractor under this Contract.
- G.15.6.7** Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - G.15.6.7.1** Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 - G.15.6.7.2** Predecessor Activity: An activity that precedes another activity in the network.

“ATTACHMENT A”

- G.15.6.7.3** Successor Activity: An activity that follows another activity in the network.
- G.15.6.8** Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.
- G.15.6.9** CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- G.15.6.10** Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- G.15.6.11** Event: The starting or ending point of an activity.
- G.15.6.12** Float: The measure of leeway in starting and completing an activity.
- G.15.6.12.1** Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
- G.15.6.12.2** Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
- G.15.6.12.3** Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G.15.6.13** Fragment: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- G.15.6.14** Major Area: A story of construction, a separate building, or a similar significant construction element.
- G.15.6.15** Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.
- G.15.6.16** Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

“ATTACHMENT A”

G.15.7 SUBMITTAL PROCEDURES

G.15.7.1 Coordination: Coordinate preparation and processing of schedules and reports with performance of other construction activities. Coordinate (Contractor to coordinate) within seven (7) calendar days of NTP, a scheduling meeting between the District, general contractor, and all scheduling consultant(s)/responsible parties to review all baseline schedule requirements and/or District’s clarifications prior to start of scheduling.

G.15.8 SUBMITTALS

G.15.8.1 Detailed CPM Schedule (DCS): Submit to District within 21 calendar days following NTP five (5) hard copies and CD-ROMs including scheduling file of detailed time-scaled precedence format network graphics and reports of proposed DCS containing following:

G.15.8.1.1 Narrative of Contractor's proposed methodology, including proposed general sequencing plan.

G.15.8.1.2 Activity number, description, duration, cost loading, resource loading, coding structure and total float for each activity.

G.15.8.1.3 Sequence of operations for Work and order and interdependencies of Work activities. Indicate major points of interface or interrelation of such activities with activities of District and/or other contractors.

G.15.8.1.4 Conformance with and identification of Milestone durations and/or dates specified.

G.15.8.1.5 Delivery of District-furnished material and/or equipment, if applicable.

G.15.8.1.6 Critical path (or paths).

G.15.8.2 Special Constraints: Minimize special constraints and add none during execution of Work without District’s express

“ATTACHMENT A”

approval. Clearly identify and explain proposed special constraints including:

- G.15.8.2.1** Finish-to-finish, start-to-start, start-to-finish, and finish-to-start leads and lags.
- G.15.8.2.2** Starts-on, starts-no-earlier, finishes-on and finishes-no-earlier date constraints.
- G.15.8.2.3** Special calendars, beyond approved standard five day and seven day calendars.
- G.15.8.2.4** Resource caps.
- G.15.8.3** Duration and Cost Limits: The Contractor is to ensure that level of detail of Contractor's DCS is function of complexity of work involved. Ensure that activities have duration of not more than fifteen (15) Work Days and have value less than \$10,000.00, unless District expressly authorizes exception. In assessing proposed exceptions, District will take into account special attributes of Work, such as long-lead equipment with extended engineering, fabrication and delivery schedules.
- G.15.8.4** Key Items Procurement Report required during construction phase for "key" (major equipment and materials and long-lead (over eight weeks, from order placement to delivery)) items fabricated or supplied for Work. Include in DCS activities for submittal, submittals review, fabrication, in-plant testing, shipment and delivery, field installation, field testing, functional performance testing, acceptance and O&M manuals for key items.
- G.15.8.5** Schedule reports indicating activity numbers, description, estimated duration in Work Days, early start and finish dates, late start and finish dates, total and free float available for each and every activity and responsibility code for each activity.
- G.15.8.6** Cost reports including following activity information, sorted by labor category:
 - G.15.8.6.1** Activity number and appropriate description.
 - G.15.8.6.2** Total cost proposed for each activity.
 - G.15.8.6.3** Computer-produced cash-flow analysis and graphics generated by both early start and late start activity dates.

“ATTACHMENT A”

- G.15.8.7** Details of Each Calendar. Base schedule on standard workweek consisting of five - 8-hour days (Monday through Friday), subject to Government holidays described above. Contractor may propose working outside of normal work hours, including multiple shifts, working holidays and weekends, and other non-standard calendars, provided Contractor obtains District approval minimum of five work days in advance of proposed occurrence of work outside of normal hours. Contractor's Schedule Calendars: Indicate Government holidays as non-working days, unless District expressly approves otherwise.
- G.15.8.8** Activity Details: Incorporate following elements and requirements in proposed DCS:
- G.15.8.8.1** Use clear and concise activity descriptions, designed to ensure that beginning and end of each activity shall be readily observable and verifiable during execution of Work.
- G.15.8.8.2** Restrict each activity to single performing organization including Contractor self-performing work organization(s), subcontractors, manufacturers, fabricators, and time-sensitive suppliers. Involve such performing organizations in development of Contract Schedule and secure their individual and collective express commitment to satisfy requirements of Contract Schedule proposed by Contractor to District. Cause said commitment from said performing organizations to be represented in form of signed acceptance by such parties, included with DCS submittal.
- G.15.8.8.3** Code activities in DCS that are District responsibility to execute as District responsibility activities. Include such activities as review and acceptance of documentation (including DCS schedule), submittals, issuance of NTP's and other District activities. Allow adequate duration for District review activities and as noted in other sections of Contract, but never less than seven working days unless District expressly approves otherwise.
- G.15.8.8.4** In addition to identification of responsible organization, each activity shall have codes identifying areas of work. Ensure that areas of work are planned and scheduled in DCS in manageable increments. Code such increments and assign code to each activity.
- G.15.8.8.5** Distribute Contract Price over activities (cost loading). Mobilization, bond and insurance costs may be indicated

“ATTACHMENT A”

separately on individual activities; however, prorate other general requirement costs, such as overhead and profit, throughout activities. Divide each activity's cost loading into each of labor, material, and equipment where Contractor desires to receive payment for uninstalled material delivered to project site separate from labor and/or equipment expenditure on activities concerned.

G.15.8.8.6 Activities for each of permits, notices, tests and inspections for pertinent activities and phases. Include review and approval activities that are the responsibility of the “Owner”.

G.15.8.8.7 Build schedule to reflect incremental completion of project (by floor/by area/by systems/equipment). Include appropriate time for Contractor and District for inspection and development of incomplete and/or deficient work (IDW) lists, as well as correction and verification of IDW. Include time for re-inspection and re-correction where appropriate.

G.15.8.8.8 Submittals, in coordination with level of detail indicated in key items procurement report.

G.15.8.9 SUBMITTALS SCHEDULE

G.15.8.9.1 Submit schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

G.15.8.9.2 Coordinate Submittals Schedule with list of subcontracts, Schedule of Values, and Contractor's Construction Schedule.

G.15.8.9.3 Submittal: Submit concurrently with CPM schedule. At Contractor's option, show submittals on CPM Schedule, instead of tabulating them separately.

G.15.8.9.4 Submittals Schedule: Submit three (3) copies of schedule. Arrange the following information in a tabular format:

G.15.8.9.4.1 Scheduled date for first submittal.

G.15.8.9.4.2 Specification Section number and title.

G.15.8.9.4.3 Submittal category (action or informational).

G.15.8.9.4.4 Name of subcontractor.

“ATTACHMENT A”

G.15.8.9.4.5 Description of the Work covered.

G.15.8.9.4.6 Scheduled date for Architect's and Construction Manager's final release or approval.

G.15.8.10 Acceptance of DCS:

G.15.8.10.1 District's acceptance of Contractor's DCS is condition precedent to progress payments to Contractor.

G.15.8.10.2 Upon District's acceptance of cost-loaded values, use such values as sole basis for determining progress payments.

G.15.8.10.3 District's acceptance of proposed DCS signifies only that District's summary review of DCS leads District to believe that Contractor has met general requirements of this specification pertaining to DCS format and content. Acceptance by District of DCS does not relieve Contractor of any of its responsibility whatsoever for accuracy or feasibility of Contractor's plan for execution of Work, or to perform Work within specified time constraints. Such acceptance does not expressly or impliedly warrant, acknowledge or admit reasonableness of activities, logic, durations, manpower, cost or equipment loading of Contractor's proposed or accepted Contract Schedule.

G.15.8.10.4 District's acceptance in no way makes District or its representatives insurers of success of Contractor's time performance or liable for time or cost overruns flowing from shortcomings of Contractor-authored Contract Schedule. District disclaims and Contractor waives any District obligation or liability by reason of District's active or passive acceptance of or acquiescence to Contractor's schedule submissions.

G.15.8.10.5 Should Contractor fail to properly define any element of Work, activity or logic and District review does not detect this omission or error, such omission or error, when discovered by Contractor or District, shall be corrected by Contractor before next monthly schedule update and shall not be cause for delay of completion of Work within specified time constraints. Contractor acknowledges that District is not required or otherwise obligated to discover errors or omissions in Contractor's proposed Contract Schedule.

“ATTACHMENT A”

G.15.9 QUALITY ASSURANCE

- G.15.9.1** Scheduling Consultant Qualifications: Experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of District's request.

G.15.10 COORDINATION

- G.15.10.1** Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- G.15.10.2** Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
- G.15.10.3** Secure time commitments for performing critical elements of the Work from parties involved.
- G.15.10.4** Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

G.15.11 FLOAT TIME

- G.15.11.1** Float Time: Not for exclusive benefit of either Contractor or District. Manage work according to early start dates, by commencing activities on early start date (calculated by latest approved Contract Schedule) or earlier if possible, unless constrained by bona fide resource limitation. District may reserve and apportion float time according to needs of Project. Actual or projected District-caused delays that do not exceed available float time shall not have any effect upon Contractor's adherence to specified time constraints and shall not be basis for time extension or additional compensation.
- G.15.11.2** Contractor Acknowledges that:
- G.15.11.2.1** Activity delays shall not automatically result in adjustment of specified time constraints,
- G.15.11.2.2** Change Order (modification or amendment of contract) or other District action or inaction may not affect existing critical activities or cause non-critical activities to become critical,

“ATTACHMENT A”

G.15.11.2.3 Change Order or delay may result in only consuming part of available total float that may exist within activity chain of network, thereby not causing any effect on specified time constraints.

G.15.11.3 Pursuant to above float sharing requirements, use of float released by elimination of float suppression techniques such as preferential sequencing, special lead/lag logic restraints, unreasonably extended activity durations, or imposed dates shall be distributed by District to benefit of District and Contractor.

G.15.11.4 In event Contractor wishes to complete Work earlier than time specified therefore:

G.15.11.4.1 Continue to calculate float based on Work completion date specified as of Contract execution, by maintaining specified Work completion date as "finish-no-later-than" constraint.

G.15.11.4.2 Completion Time for Work: Not amended by District's approval of, acceptance of or acquiescence to Contractor's proposed earlier completion date.

G.15.11.4.3 Contractor: Not receive additional compensation for indirect, general, administrative or other forms of overhead costs, for period between time of earlier completion proposed by Contractor and completion time for Work specified as of NTP.

G.15.12 UPDATES

G.15.12.1 Update Contract Schedule every two weeks and in coordination with Contractor's requests for progress payments.

G.15.12.2 On working day (designated data date) approximately five working days preceding time designated for monthly payment, meet with District for purpose of reviewing Contractor's report of actual progress. Submit Contractor's up-to-date and accurate progress data as of Data Date.

G.15.12.3 Submit monthly computer reports, CD-ROM of DCS software file, and network graphics that reflect progress of Work with respect to

“ATTACHMENT A”

both cost and time, in accordance with requirements of initial Contractor-proposed DCS. Adjust selection and sort sequence, format and content of reports as directed by District.

- G.15.12.4** Contractor acknowledges that updating Contract Schedule to reflect actual progress made as of date of update is not modification to Contract Schedule’s Milestone requirements.
- G.15.12.5** Submit progress report indicating activities (and portions of activities by percentage) completed during reporting period, actual start dates for those activities currently in progress, actual finish dates for those activities which were completed since last update, and progress along and deviations from critical path in terms of days ahead or days behind each individual Milestone date.
- G.15.12.6** Submit narrative report which includes description of status of schedule, problem areas if any, current and anticipated delaying factors and their known and/or forecast impact, and explanation of corrective actions taken and planned.
- G.15.12.7** Submit list of actual number of personnel (or man-hours) by discipline by working day by activity actually engaged on Work during reporting period, with such total stated separately as to on-site office (project work location), administrative management personnel and on-site supervisory personnel.
- G.15.12.8** Submit two updated copies of network. First Copy: Updated version of Contract Schedule, excluding Contractor-proposed changes. Second Copy: Updated version of Contract Schedule, including Contractor-proposed changes. Submit with second copy list of proposed modifications, additions, deletions and changes in activity logic and/or durations to approved Contract Schedule, including time-recovery steps and actions required by "Responsibility for Completion" provisions of this specification. Include written justification for each such proposal.
- G.15.12.9** If, as result of monthly update, it appears Contract Schedule no longer represents actual prosecution and progress of Work, submit revision to Contract Schedule. Include proposed adjustments in activity durations, logic changes, and resource usage or cost loading. Any negative float indicated in Contractor’s proposed updates must be presented to District by Contractor with bona fide Contractor-authored plan for elimination of such negative float.
- G.15.12.10** District will respond in writing to each schedule update. District's response may include questions and/or requests for revisions.

“ATTACHMENT A”

Respond in writing within seven calendar days, answering questions, and either agreeing with District's proposed revisions and submitting modified update, or setting forth justification why such revisions should not be implemented. If Contractor's justification for not implementing revision is acceptable, in District's sole judgment, such revision will be waived. If District does not accept Contractor's justification, incorporate District-directed revisions into Contract Schedule, and execute Work accordingly.

G.15.13 PROGRESS PAYMENTS

G.15.13.1 Contractor's submission and acceptance by District of monthly progress updates and reports calculating value of work done for any given pay period for each activity based on percentage complete for that activity less amount previously paid for past percentages complete and percent of retainage (if applicable) shall precede District's processing of payment to Contractor. Contractor: Entitled to progress payments only as set out in cost reports directly derived from Contractor's updated Contract Schedule, approved by District in form and content. If, in judgment of District, Contractor fails to provide full and complete Contract Schedule update as specified herein, Contractor shall be deemed to have not provided required information upon which progress payments may be made.

G.15.13.2 Monthly Progress Payments: Based upon information provided in Contractor's monthly schedule update. Computer-produced cost report, derived from updated DCS, will be utilized by District for calculation of amounts due Contractor. DCS resources pertaining to payment for materials shall govern payment of materials fully incorporated into Work. In event Contractor wishes to be paid for items stored on project work site but not incorporated in Work, or for items stored offsite, comply with procedures for such payment established by District.

G.15.14 REQUESTED TIME ADJUSTMENT SCHEDULE (RTAS)

G.15.14.1 Updated Contract Schedule submitted by Contractor shall not indicate completion date later than specified time constraints, subject to time extensions approved by District. If Contractor believes it is entitled to time extension, submit to District, within deadlines set out herein and with each contemporaneous monthly update, separate schedule analysis entitled Requested Time Adjustment Schedule (RTAS). Indicate, in said analysis, in

“ATTACHMENT A”

addition to requirements of General Conditions, proposed adjustments in Contract Schedule which, in opinion of Contractor, should be made due to changes, delays or conditions occurring during past month or previously, or which are expected or contended by Contractor. Time-scale said analysis utilizing computer generated and computer drawn network. This paragraph shall not relieve Contractor of its obligation to provide proper and timely separate written notice of impacts to schedule. Contractor acknowledges that its preparation of RTASs is not extra work to Contract and preparation by Contractor of RTASs shall not be cause for Contractor to receive any additional time for performance of Work or additional compensation.

- G.15.14.2** Subject to float sharing requirements defined herein, time extensions will be granted only to extent of equitable and mutually acceptable time adjustments to activity or activities affected by Change Order(s), or where delay consumes total (positive or zero) float of critical activity (or path) and extends Milestone dates, using approved update of Contract Schedule that is current as of issue of District's written request for Contractor proposal connected with potential Change Order or other District-accountability potential schedule effect.
- G.15.14.3** Submit RTAS within 20 calendar days after initiation of thing(s) or event(s) which Contractor contends may lead to potential District-accountability delay in performance of Work, or from time of District's issuance of written request for Contractor proposal connected with potential change order (or documents of like effect), even if such issuance precedes notice to proceed for change order(s) concerned, whichever is later. Other District-caused potential impacts of any category shall be considered to have been initiated upon written initial District direction connected therewith, including direction provided through duly minuted meetings.
- G.15.14.4** Within 14 calendar days following submittal by Contractor to District of RTAS, in proper format and including specified content, District will meet with Contractor to review submittal. Revise and resubmit RTAS within three working days of such meeting, adjusting RTAS to consider issues raised by District in above meeting. District will respond with written decision within seven calendar days following Contractor resubmittal of RTAS. Upon approval, copy of RTAS signed by District will be returned to Contractor and thereafter incorporated into Contract via Change Order. Incorporate results of each approved RTAS in update of Contract Schedule that immediately follows such approval.

“ATTACHMENT A”

G.15.14.5 Contractor waives its right to submit requests for time extension and to receive time extension unless it meets above requirements for RTASs. Contractor waives any claim for acceleration due to refusal by District to grant time extensions should Contractor fail to comply with submission and justification requirements described herein for RTASs. Contractor's submission of RTASs shall not constitute basis for adjustment in specified time constraints unless approved by District. Actively pursue timely completion of activities pending such approval.

G.15.15 RESPONSIBILITY FOR COMPLETION

G.15.15.1 Provide sufficient forces, offices, materials, facilities, plant and equipment, to ensure prosecution of Work in accordance with most current approved Contract Schedule update. Upon District's written advice that Contractor is behind schedule, as result of inexcusable causes, immediately remediate such time loss by increasing hours of work, number of shifts, overtime operations and/or amount of plant and equipment, without additional cost to District. Contractor acknowledges that such remedial action by Contractor is not compensable acceleration of performance of Work. Provisions of this paragraph shall not be construed as prohibiting work on Saturdays, Sundays, and holidays, if Contractor so elects and gives written notice to District two (2) working days in advance of it.

G.15.16 REPORTS

G.15.16.1 Daily Construction Reports: Prepare daily construction report and submit on internet-based Contract Project Management software. Submit daily construction report by noon of following workday. Required information concerning events at site includes, but is not limited to, following:

G.15.16.1.2 List of subcontractors at site.

G.15.16.1.3 Approximate count of personnel at site.

G.15.16.1.4 High and low temperatures, general weather conditions.

G.15.16.1.5 Accidents.

G.15.16.1.6 Meetings and significant decisions.

G.15.16.1.7 Unusual events (refer to special reports).

"ATTACHMENT A"

- G.15.16.1.8 Stoppages, delays, shortages, and losses.
- G.15.16.1.9 Meter readings and similar recordings.
- G.15.16.1.10 Emergency procedures.
- G.15.16.1.11 Orders and requests of governing authorities.
- G.15.16.1.12 Change Orders received, implemented.
- G.15.16.1.13 Minor changes received and implemented.
- G.15.16.1.14 Services connected, disconnected.
- G.15.16.1.15 Equipment or system tests and startups.
- G.15.16.1.16 Partial Completions, occupancies.
- G.15.16.1.17 All non-construction (those that are not general contractor or subcontractor employees) visitors at the site
- G.15.16.1.18 Completions authorized.

G.15.16.2 Field Correction Reports: When need to take corrective action that requires departure from Contract Documents arises, prepare detailed report. Include statement describing problem and recommended changes. Indicate reasons Contract Documents cannot be followed. Submit copy to COTR immediately. Proposed changes will be reviewed and accepted or rejected by COTR prior to implementation. If rejected, propose alternate change following same procedure.

G.15.16.3 Special Reports:

- G.15.16.3.1 General: Submit special reports directly to COTR within one (1) day of reported occurrence. Submit copies to other parties affected by occurrence.
- G.15.16.3.2 Reporting Unusual Events: When event of unusual and significant nature occurs at site, prepare and submit special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects and similar pertinent information. Advise COTR in advance when such events are known or predictable.
- G.15.16.3.3 Submittal of reports is condition precedent to issuance and payment of subsequent Applications for Payment.

END OF SECTION

"ATTACHMENT B"

GEOTECHNICAL REPORT

**Office on Aging & Ward Six
Senior Wellness Center
1035 Fifth Street, N.E.
Washington, DC
TLB Project No. 02-068-PC**

Prepared for:

**Bryant Bryant Williams, P.C.
4201 Connecticut Avenue, N.W.
Suite 500
Washington, DC 20008-1158**

**Attention: Mr. Gary Woodall
Project Manager**

Prepared by:

**THOMAS L. BROWN ASSOCIATES, P.C.
Washington, D.C.**

November 6, 2002

Consulting Engineers

THOMAS L. BROWN, CWD, P.E., President

December 6, 2002

Bryant Bryant Williams, P.C.
4201 Connecticut Avenue, N.W., Suite 500
Washington, DC 20008-1158

Attn: Mr. Gary Woodall
Project Manager

Re: Office on Aging & Ward Six Senior Wellness Center
1035 Fifth Street N.E.
Washington, DC

Ladies and Gentlemen:

Pursuant to your authorization, we have performed a geotechnical study in support of your design efforts on the referenced project. The following report summarizes the results of our subsurface explorations and laboratory testing and presents recommendations for the geotechnical aspects of the project.

If you have any questions regarding this report or when we can be of further assistance on this or other projects, please do not hesitate to call us.

Yours very truly,

THOMAS L. BROWN ASSOCIATES, P.C.


Antoinette G. Weeks, PhD
Project Engineer/Environmental Consultant


Somba Ndeti, P.E.
Vice President



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TL.B. Project Number 02-068-PC
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TABLE OF CONTENTS

LETTER OF TRANSMITTAL.....	i
PROJECT DESCRIPTION.....	1
FIELD INVESTIGATIONS.....	2
Borings.....	2
Test Pits.....	2
SUBSURFACE CONDITIONS.....	2
Soil Conditions.....	2
Groundwater.....	3
CONCLUSIONS/RECOMMENDATIONS.....	5
Foundations.....	5
Slab-on-Grade.....	6
Subgrade Walls.....	7
Temporary Support of Excavation.....	7
Pavement Design.....	8
Earthworks.....	9
LIMITATIONS.....	11

ATTACHMENTS

- > Drawing No. 1 -- Site Exploration Plan
- > Drawing No. 2 -- Test Pit TP-1 – Plan and Profile Views
- > Drawing No. 3 -- Test Pit TP-2 – Plan and Profile Views
- > Appendix A -- Records of Soil Exploration
- > Appendix B -- Laboratory Test Results
 - Table No. B-1 - Summary of Geotechnical Laboratory Test Results
 - Gradation Analysis Curves

PROJECT DESCRIPTION

The Office of Property Management (OPM) is planning to construct a new three-story high office building with a cellar/basement and parking lot at the site located at 1035 Fifth Street, N.E., Washington, DC. The existing site features a three-story brick framed structure that was previously used as a school – Hayes School. Bryant Bryant Williams, P.C. (BBW) has informed Thomas L. Brown Associates, P.C. (TLB) that the existing structure will be demolished and the west and south facades of the existing structure would be spared and incorporated as a part of the new structure. The new structure is planned to occupy about the same footprint as the existing structure. The proposed finished floor elevations for the basement (lower level) and first floor (ground floor) of the building obtained from BBW are 34.74 feet and 46.74 feet, respectively.

The existing site grades were determined to be gently sloped, ranging from approximately Elevation 40.0 feet at the south end near K Street, N.E., to Elevation 45.0 feet, close to the north end of the site within the proposed parking area. The grades varied from Elevation 41 to 44 around the footprint of the existing building.

The area surrounding the existing school is asphalt-paved. The pavement appeared to be cracked and in very poor condition at the time of our site visit. Except for the west and south faces of the building, a chain link fence links the remainder of the property. A Project Location Map presented as Drawing Number 1 shows the relative location of the site.

BBW of Washington, DC contracted TLB of Washington, DC to provide the requisite geotechnical input necessary to support their design efforts. This study included an investigation of the subsurface conditions for the design of foundation elements of the proposed structure.

TLB's scope of services consisted of:

- Performing field exploratory studies at discrete locations designated by Borings B-1 through B-6 located near the proposed structure and parking lot as shown in Drawing No. 1.
- Excavating two test pits, TP-1 and TP-2 that are located within the existing structure.
- Performing laboratory testing on representative samples retrieved during the field explorations.
- Analysis of soil and groundwater conditions encountered as they pertain to the new building and parking lot.
- Preparation of this report describing the conditions encountered and providing recommendations for the geotechnical-related aspects of the proposed structure and pavements.

The following paragraphs summarize the activities, conclusions, and recommendations resulting from TLB's efforts.

FIELD INVESTIGATIONS

Borings

TLB's field Explorations included:

- Mobilizing a truck mounted Acker AD-2 drill rig to perform the planned field explorations.
- Six (6) test borings (i.e. B-1 through B-6) were performed within the site for the proposed structure and pavements. Borings B-1 through B-4 were drilled for the proposed structure and were advanced to depths between 30.0 and 45.0 feet. Borings B-5 and B-6 were drilled to a depth of 10.0 feet for the proposed parking lot.
- Standard penetration testing (SPT) was performed in accordance with ASTM D 1586 typically at 2.5-foot intervals within the first 10 feet of existing grades and at 5.0-foot intervals thereafter.
- Determining depth to groundwater table during, upon completion of drilling, and 24 hours after completion of drilling.
- The borings were drilled at approximate locations shown on the Site Exploration Plan presented as Drawing No. 1. Prior to commencing any intrusive explorations, TLB obtained the requisite utility clearances. Surface elevations were estimated from a topographical drawing of the site provided by BBW.

Test Pits

Test Pits TP-1 and TP-2 were excavated at the designated locations shown on Drawing Number 1. Drawings No. 2 and 3 show the plan and profile views of TP-1 and TP-2, respectively. Based on the topographic information for the site, the surface elevation for TP-1 and TP-2 was estimated at 40.0± feet. TP-1 and TP-2 were excavated to depths of 52.0 inches and 49.0 inches below the basement floor surface. The bottoms of footings were recorded at 48 inches and 40 inches below floor surface and those depths correspond to Elevations 36.0 and 36.7 respectively. Groundwater was encountered in TP-1 and TP-2 at Elevation 36.0 and 36.8 feet, respectively.

Following the completion of our explorations, each of the borings and test pits was backfilled with the excavated material by hand using a shovel and the site was restored. Borings in the paved areas were restored with an asphalt patch at the surface.

SUBSURFACE CONDITIONS

Logs describing the subsurface conditions encountered in each boring are presented as 'Records of Soil Explorations' in Appendix A.

Soil Conditions

As indicated on the Records of Soil Exploration, existing fills overlaid by a thin asphalt layer blanket the site. Beneath the layers of asphalt and fills, generally clays and sands of varying

consistencies and gradations were logged to the bottoms of the borings. The soil conditions are grouped and described as follows:

Asphalt layer of thickness between 4.0 and 6.0 inches was observed within all test borings performed at this site.

Existing Fill comprising primarily clays, sands, and gravels were logged throughout the site from beneath the asphalt to depths varying from 0.3 to 7.0 feet. The deeper fills were recorded in Boring B-3 located along the southeastern end of the site closer to K Street. Coarse gravel, fine to coarse sand, little brick, clays, and trace asphalt, each in varying proportions, were logged within those fills. SPT N-values within the existing fills characteristically ranged from 3 to 11 blows per foot. In the sands, the N-values ranged from 7 to 8 blows per foot, suggesting a loose condition. In the clays, the N-values varied from 3 to 11 blows per foot suggesting a very soft to stiff consistency.

Clay and Sandy Clay layers were logged beneath the fills to depths varying from 23 to 28.5 feet. N-values obtained within the clay layer were between 4 and 26 and suggest soft to very stiff consistencies.

Sand, grading from 'fine' to 'fine to medium' was observed below the clays in the deeper borings. Fine to medium sand layers with some clay were logged within the aforementioned clays between 13 and 19 feet at Boring B-1 and from 4.5 to 7 feet and from 18 to 23 feet at Boring B-4. Fine to coarse sand with some gravel was logged within Boring B-3.

SPT N-values within the sand ranged from 8 to 26 blows per foot. Generally, the N-values observed were between 8 and 18 blows per foot suggesting that the sand was of loose to medium dense densities. N-values of 45 and 85 blows per 10-inch penetration, suggesting dense to very dense conditions, were obtained below a depth of 37 feet at Boring B-3.

Groundwater

Groundwater was observed either during or upon completion of drilling in Borings B-1 through B-4. Borings B-5 and B-6 did not encounter any groundwater and were drilled only up to 10.0 feet for purposes of the proposed parking lot. A summary of our water observations is tabulated in the following Table No. 1.

Table No. 1 - Groundwater Readings

Boring	Surface Elevation (ft)	Highest Water Mark Observed		Depth of Water During Drilling (ft)	Depth of Water At Completion (ft)	Depth of Cave In (ft)
		Depth (ft)	Elevation (ft)			
B-1	43.3	7.3	36.0	17.5	Dry	12.0
B-2	43.0	13.5	29.5	13.5	25.0	27.5
B-3	41.9	14.7	27.2	20.0	14.7	29.5
B-4	41.0	9.0	32.0	26.0	21.5	21.0
B-5	44.0	No Water Observed				8.3
B-6	44.7	No Water Observed				8.2
TP-1	40.0	4.0	36.0		3.67	N/A
TP-2	40.0	3.2	36.8		3.17	N/A

Because of the underlying clay layers, the site has the potential of having perched water conditions, which may impact the design and construction of the foundations for the new building and parking lot. In addition, seasonal and/or long-term fluctuations of the site's groundwater levels should be anticipated.

LABORATORY TESTS

Soil samples obtained during our subsurface investigations were visually classified by our geologist. Representative samples were subjected to general index testing that included determination of moisture contents – ASTM D 2216, Atterberg limits – ASTM D 4318 and gradation analysis – ASTM D 422.

The liquid limit values of the clay material or clay as a minor portion of sandy soil ranged from 23 to 29. The plasticity indices ranged from 8 to 11. Suggesting that the tested soils, or their minor portions of fines, were lean clays. Moisture contents varied widely from 15.0 to 30.7% and are typical for the clays that were collected below the highest groundwater mark.

Analysis of the field and laboratory data was performed with respect to the respective structures or facilities. Table No. B-1 in Appendix B presents a 'Summary of Geotechnical Laboratory Test Results'. Plots of the gradation analysis are presented after the table.

The remaining soil samples are being temporarily stored at our laboratories in Millersville, Maryland. Those samples are available for review; however, sixty (60) days following submittal of this report those samples may be discarded unless other arrangements are made for their storage.

CONCLUSIONS/RECOMMENDATIONS

Our exploratory services were conducted to determine how soil and groundwater conditions might impact the design and construction of the foundations for the proposed three-story structure and to develop recommendations for the design of pavements. Based on the subsurface conditions encountered to date and the laboratory tests that have been performed, competent subsurface conditions were encountered at the site generally below Elevation 33 at the structural borings. Our study revealed the site is blanketed by pavement underlain by existing fills, the matrix of which is comprised of sand, clays and gravel in varying proportions. Those fills are underlain by clays and then sands. Those subsurface conditions have been detailed in the records of soil exploration presented as Appendix A and summarized in the Subsurface Conditions section of this report.

Because groundwater was encountered at elevations as high as 37± feet at the bottom of the fills and footing bottoms at the two test pits that were excavated in this investigation, there will be need for temporary dewatering during construction and/or permanent dewatering. The layers of impervious clay and sandy clay material logged within the borings have the potential to create perched water conditions at this site. We have provided recommendations, which address our groundwater concerns below in the section entitled 'Groundwater Concerns'.

Foundations

Notably, no foundation loading information or site grading plans was available to us at the time of this study. The proposed finished floor elevations for the basement (lower level) and first floor (ground floor) of the building obtained from BBW are Elevation 34.74 feet and 46.74 feet, respectively. The finished elevation for the proposed elevator pit is taken as approximately 4.0 feet below the basement Elevation 30.74 feet.

The existing footings as observed in the two Test Pits TP-1 and TP-2 are approximately 4.0 feet and 3.3 feet below the existing basement floor slab. Those depths correspond to Elevations 36.0 and 36.7 respectively. Notably, compared to the planned finished floor elevation of 34.74 feet, the footing bottoms are above the planned floor elevations. The west and south facades of the existing building will be incorporated into the new construction. **Consequently, existing footings of those facades will require underpinning.** We recommend removal of the remainder of existing footings.

For the new structure, we recommend the following two foundation alternatives:

Spread Footings

Competent founding soils were logged at depths below Elevation 33.0± feet. We recommend conventional shallow embedded footings (i.e.: 3.0-foot for frost) founded at an Elevation of 33.0 feet or below be used for the support of the structure. Some undercutting (i.e.: maximum 2.0-foot beneath proposed footing embedment depths) of soft soils, if encountered, may be required beneath the new footings to ensure that a nominal pressure of 2000 psf is achieved. To further ensure that total and differential settlements remain within tolerable limits, the width of all undercuts should be increased a minimum of 1-foot for each

foot depth of undercut. We recommend reinforced footings be sized based on an allowable bearing pressure of 2,000 psf.

Stepped down and/or adjacent column footings should be positioned outside of a 45° slope line extending outward from the underside of the nearest adjacent footings. Competent undisturbed natural soil and/or compacted structural fill should exist everywhere within this zone of footing influence. Regardless of computed footing sizes, we recommend that all column footings be constructed with a minimal dimension of 30-inches and all continuous wall footings should have a minimal width of 24-inches. To preclude damage due to frost or other seasonal factors, we also recommend that all exterior footings and foundations within un-heated building areas be embedded at least 24-inches below grade.

Mat Foundation

Since a basement shall be utilized, we recommend that consideration be given to designing the basement floor as a mat foundation with all of its exterior walls being poured integral with the mat to form a submerged floating structure. All subgrade elements of the basement would need to be designed for hydrostatic pressure and to resist seepages. Although ground water was encountered at Elevation 37.0, during the course to our site explorations, we recommend that the basement design be based on water levels being nominally at Elevation 38.0. We recommend that rigid basement walls be sized based on an at-rest earth pressure loads as provided in the Subgrade Walls section of this report.

Temporary sheeting, shoring and dewatering would be required until the basement slab and walls have been poured and have been provided an opportunity to set. To aid in controlling groundwater during basement construction, we recommend that a nominal 12 to 18-inch mat of crushed stone or 2-inch and larger gravel be placed across the exposed bottom of the excavation. That layer of gravel or stone would ultimately distribute the new structure's loading beneath the mat while temporarily serving as a working surface to minimize disturbance of the natural soils at the base of the excavation as well as a media through which groundwater could be controlled.

All exterior wall and column loads would be carried by the basement walls into the mat foundation. All interior columns would bear directly on the mat. Considering the weight of the soils that would be excavated to enable the basement to be constructed would probably equal or exceed the total weight of the completed structure, there would probably be little or no real load increase on the underlying bearing materials. We recommend, however, that the mat be designed based on the subgrade providing a uniform resistance of 2,000 psf and a modulus of subgrade reaction (k) of 125 psi/in.

Slab-on-Grade

With a finished floor at Elevation 34.74, the basement/lower level floor will be established on natural clay soils. If a spread footing foundation is selected, we recommend a slab-on-grade be used. It is our recommendation the soils encountered should be thoroughly proof-rolled. In regard to subgrade preparation, strict adherence to Earthwork section of this report is recommended.

We recommend placing a minimum 6.0-inch layer of porous stone, consisting of gravel or crushed stone, immediately beneath the at-grade slabs. Because of the high groundwater level, perimeter footing drains will also be required. In addition, minimum 4-inch diameter perforated subfloor drains will be required and directed to sump pits for the draining of water that may collect under the slab. Water collected at the sump pits should be disposed of at approved locations. Surface runoff should be directed away from the building. A polyethylene membrane or similar vapor barrier should be used to separate the concrete from its subgrade. Although no unusual loads are expected, we recommend at-grade concrete slabs be at least lightly reinforced with a medium weight wire mesh. We recommend the heavily loaded at-grade concrete slabs/pads be designed based on a modulus of subgrade reaction of 125 psi/in.

Subgrade Walls

Rigid Walls

Exterior retaining walls of heights varying from 8 to 11 feet shall be required to support backfill material. We recommend reinforced concrete walls be used. Where they are restrained at the top, we recommend the walls be designed based on at-rest earth pressure conditions. We recommend the design of the walls be based on the supported backfill having $\phi = 30$ degrees and a unit weight of 120 pcf. Using those parameters, an at-rest earth pressure coefficient, K_a , of 0.45 and corresponding minimum equivalent fluid weight of 54 pcf is recommended for the design of the rigid walls. Where walls are undrained as in the case of the mat foundation, an at-rest earth pressure equivalent to a fluid weight of 88 pcf is recommended.

Cantilever Walls

Cantilever retaining walls will be required at the southwest and southeast corner of the building to retain backfill on the exterior side of planned outside seating areas. We recommend those walls be designed for active earth pressure conditions using a coefficient, K_a , of 0.33 and corresponding equivalent fluid weight of 40 pcf.

To resist sliding, an equivalent fluid weight of 300 pcf is recommended based on passive earth pressure resistance. These drained earth pressure loads assume full drainage of hydrostatic pressure as in the case of lower level slab being constructed with sump pits and pumps. As such, we recommend the installation of prefabricated vertical drains such as Miradrain G100W or equal and footings drains. For those walls, a friction coefficient of 0.36 is recommended between the concrete and bearing soils.

Appropriate surcharge loads occurring within a horizontal distance equal to the height of the walls should also be superimposed on these recommended earth pressures. We recommend that a minimum horizontal coefficient of 0.45 should be used for surcharge loads.

Temporary Support of Excavation

The stability of temporary slopes will ultimately depend on the soils exposed during site grading. Preliminarily, we recommend that no temporary slopes should be graded steeper than 1.5H:1V without the review and approval of an Engineer registered in the District of Columbia specializing in geotechnical/foundation engineering.

Thomas L. Brown Associates, P.C.
Washington, DC



We recommend that the contractor be forewarned that temporary support of excavation (SOE) (i.e.: in the form of sheeting and shoring, or soldier pile and lagging) may be required for this site to support 8 to 11 feet of excavation. We recommend temporary SOE be designed based on active earth pressure conditions using K_a of 0.33 and unit weight of 120 pcf. We recommend, however, the contractor be required to provide, for approval, drawings of those temporary support system he intends to utilize. We recommend those drawings be signed and sealed by a professional engineer licensed in the District of Columbia.

Pavement Design

The existing fills in the proposed parking area are comprised primarily of sands and gravels with varying amounts of clays, brick, and asphalt. The topographic site plans indicate that the surface elevation in the area of the proposed paved lot would vary from 44.0 to 45.3 feet. We have been informed that minimal grading will be required in the parking area. However, the sandy clay soils found in the pavement and structural borings and the potential of the rising groundwater table could affect the proposed pavement. The N-values obtained in the clayey fills were between 8 and 11 blows per foot suggesting medium stiff to stiff consistencies. In Boring B-6, the average N-values obtained in the clayey fine to medium sand were 11 blows per foot suggesting that the sand is medium dense.

If the proposed parking lot is to be supported on existing fills, the subgrade should be undercut by about one (1) foot and backfilled with approved structural fill material compacted to recommendations provided in the Earthworks section of this report. Due to the existence of the clayey fills and the potential of rising groundwater, the clayey soils could be improved in-situ by the addition of lime/cement to minimize the potential for swell. At some locations, however, new structural fills may be required to bring existing grades to design subgrade elevations. Laboratory tests indicate the pavement subgrade will be comprised of low plasticity material as exhibited by the plasticity index (PI) of 10 that was measured within the near surface soils.

Because of variability in the existing fills that may be the bulk of the pavement subgrades, we recommend that flexible pavements be designed using a maximum soaked CBR value of 5 for the pavement subgrades. This CBR value has been recommended based of the existing site conditions and the average SPT N-values observed in Borings B-5 and B-6 and structural borings in the vicinity of the planned parking lot.

For rigid pavements, the Modulus of Subgrade reaction (k-value) is desired. Based on the soil classification and as per the recommendations of Supplement to the AASHTO Guide for Design of Pavement Structures (1998), a k-value of 125 psi/in is recommended for the Modulus of Subgrade reaction.

The underlying soils with more than 40% fines passing #200 sieve make it imperative to provide adequate drainage to remove excess water quickly. Additionally, the potential of the rising groundwater table would also confirm the need for adequate drainage in the parking lot area. In order to minimize the potential for long term subgrade deterioration due to swelling and freeze/thaw, we recommend the use of subbase/base material meeting the appropriate District of

Columbia (DC) Department of Transportation (DDOT) gradation requirements or other approved free-draining materials.

Groundwater Concerns

Groundwater was observed between depths of 13.5 to 26.5 feet during drilling in Borings B-1 through B-4 with trace water encountered at 6.5 feet in Boring B-2. The 24-hr water level readings taken in Borings B-1 and B-4 were 7.3 and 9.0 feet, respectively. These water levels exist within the medium stiff-to-stiff clay layer beneath the existing fills. Given the rapid rate of the groundwater recharge, adequate care shall be exercised to prevent any potential water problem during the construction of the proposed basement. However, given uniformity of the existing surface elevations at the site and that the groundwater was not consistently observed at this high level in all borings, there is a possibility that the source of water could be a damaged underground utility main. It is recommended that prior to construction, a check of the utilities be performed to ensure that there is no current damage to the buried utilities. Seasonal weather fluctuations and other climatic conditions could likely cause an increase in the observed water depths to levels within the existing fills. Depending on selected foundation system, the potential of rising groundwater and the presence of the clayey material beneath the existing fills could pose a problem during and after construction.

The highest groundwater level recorded during our explorations was Elevation 37.0 feet and will affect planned design and construction. A design high groundwater level of Elevation 38.0 is recommended. For those excavations that extend to depths below Elevation 37.0, dewatering should be anticipated. Where groundwater is encountered during excavation, the contractor should use an approved dewatering system and maintain 'dry' conditions until all construction below the groundwater table is completed. Dewatering may be in the form of sump pits, well points or other approved methods. Because of the proximity of the area to be dewatered to salvaged facades and their foundations, the potential for settlement of ground due to loss of water shall be carefully considered before implementing any dewatering methods.

Earthworks

With respect to site grading, some preparatory re-grading is anticipated. Following removal of existing foundation elements and walls, we recommend inspection of all subgrade materials once they are cut to planned subgrade elevations. Any deleterious material should be removed. We recommend the subgrades exposed during construction be proof-rolled and/or densified in-place with an approved roller or other equipment while being inspected by a Geotechnical Engineer or an experienced engineering technician. Any soft or loose zones that are identified which cannot be densified in-place should be undercut to a depth, length and width as directed by inspecting Engineer. Where required, based on poor soils that are identified, we preliminarily recommend a maximum of 24 inches of undercut. Deeper undercuts should be avoided, and we ask that we be extended an opportunity to review those conditions warranting any deeper undercuts before undercutting commences. Undercut volume shall be backfilled to grade with structural fill meeting Unified Soil Classification (USCS) of SC or coarser, compacted with a vibratory compactor, protected and maintained. Prior to placement of fill materials within the subexcavation, it is recommended to place at the bottom of the excavation a geofabric, such as

Mirafi 500X, or equivalent for separation and stabilization. We recommend the following categories of backfill:

- Structural Fills -- All fills placed directly below or within the zone of influence of any bearing foundation, structural slab or paved area - 95% AASHTO T-180 (ASTM D-1557).
- Roadway Base/Subbase - 100% AASHTO T-180 (ASTM D-1557) under Asphalt Concrete Pavements and 95% under Portland cement concrete pavement.
- Fills associated with roadway subgrade should be compacted to at least 95% of AASHTO T-180 (ASTM D-1557).

Regardless of the category, we recommend that all site fills be placed in essentially horizontal layers or lifts having a minimum loose lift thickness commensurate with the equipment being utilized to perform the compaction. In no case should those lifts exceed eight (8) inches. Each lift should be uniformly compacted to equal or exceed the specified minimum percentage of the maximum dry unit weight.

For the most part, the on-site, in-organic soils may be suitable for reuse as controlled fill provided the moisture levels are reduced to within optimum moisture content. However, we do recommend that the suitability of reusing any of those soils be based on conditions actually exposed during site grading activities. Materials that are not deemed suitable for reuse as controlled fill, or which cannot be used outside of the proposed building footprints should be excavated and replaced with soils meeting the following recommendations.

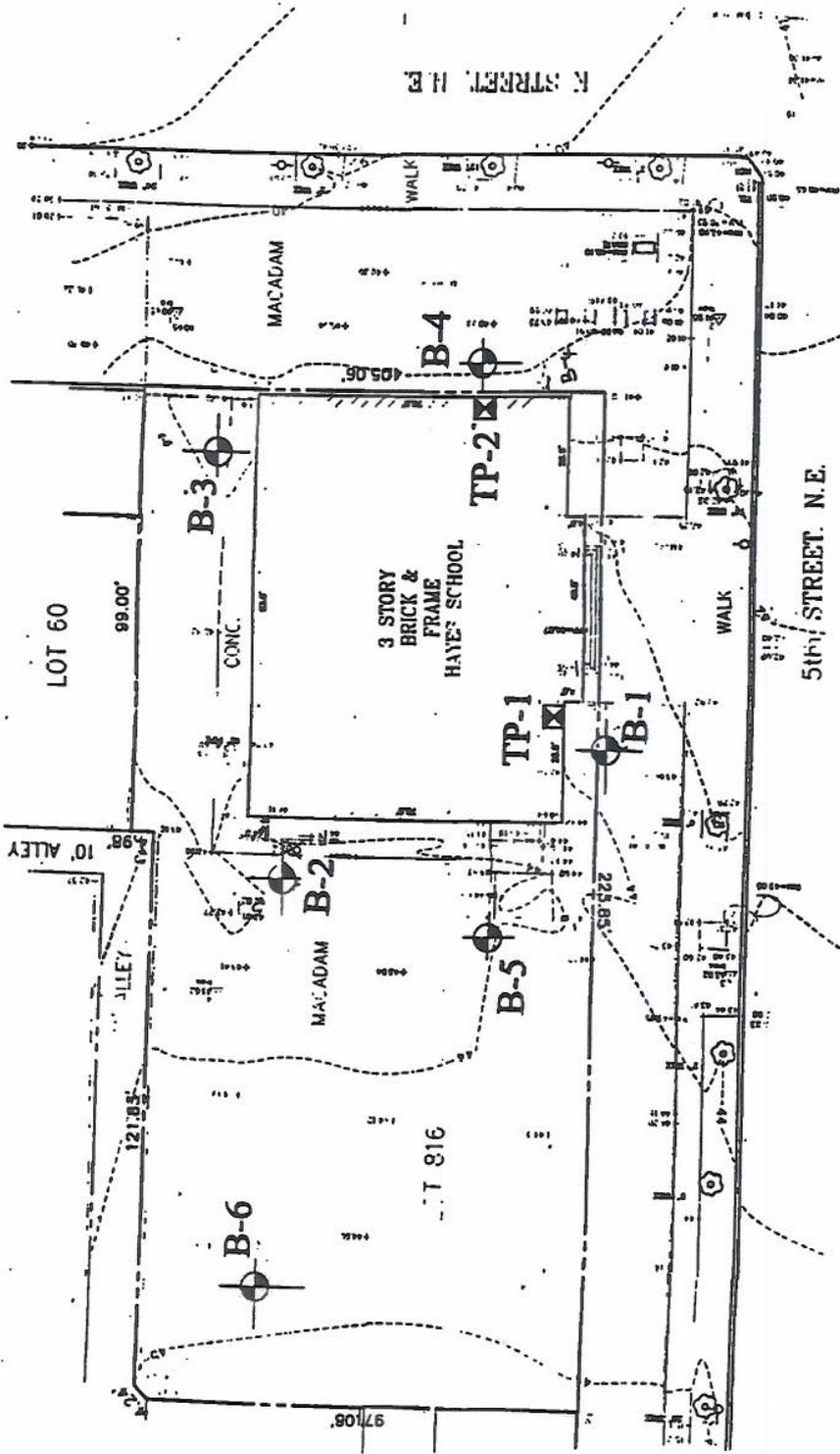
All offsite borrow materials or imported material that may be borrow material, select fill or other approved material shall consist of soils meeting Unified Soil Classification System (USCS) of SC or coarser. All soil materials that fall within the USCS type ML, CL, OL, MH, CH, OH, PT, as well as material containing organic matter, ashes, cinders, refuse, frozen or other unsuitable materials are prohibited for use as backfill. Material used in backfill shall be a well-graded soil-aggregate mixture with a Liquid Limit (LL) not greater than 30 and a maximum Plasticity Index (PI) of 10. Subgrade, base and/or subbase material shall meet the relevant standards of the DDOT and be compacted to within +/-2% of the material's optimum moisture content.

Specifications should require slopes of exposed surfaces be maintained to facilitate surface runoff away from load bearing areas and to prevent ponding of surface water. If ponding of surface water does occur, it should be removed by pumping, ditching or as otherwise directed by the inspecting geotechnical engineer. During periods of anticipated inclement weather, exposed surfaces shall be graded and sealed to preclude infiltration of surface water. Subgrades, which become disturbed due to inclement weather or construction traffic and require over-excavation, should be reworked at no additional cost to the owner.

LIMITATIONS

All subsurface and field investigations require the extrapolation of limited amounts of data based on general geologic knowledge. This report has been prepared to aid in the evaluation of the site. This report is intended to assist Bryant Bryant Williams, P.C. and/or owner with the design aspects of the proposed three-story office building and pavements; as well as, the earthwork related portions of the project based upon our understanding of the design details, criteria, and utilization of the planned facilities as outlined herein. The water level observations and geologic descriptions presented on the accompanying logs have been made with reasonable care and accuracy, but must be considered only an approximate representation of subsurface conditions to be encountered beyond a particular exploratory location.

We recommend that a Geotechnical Engineer or a technician under his direction be retained during construction to monitor subgrade preparation and construction and to evaluate general construction techniques as they may affect foundations, pavements and utilities at the site. The Engineer or technician should be instructed to monitor subsurface conditions encountered during construction to see that those conditions are compatible with the findings of this study. If significant variations are encountered or if the proposed locations or designs are altered, we should be contacted and provided the opportunity to appropriately review and/or modify these recommendations.



LEGEND:



APPROXIMATE LOCATION OF TEST BORING DRILLED BY TLB ASSOCIATES, INC., OF MILLERSVILLE, MARYLAND DURING OCTOBER 2002



APPROXIMATE LOCATION OF TEST PIT EXCAVATED BY TLB ASSOCIATES, INC., OF MILLERSVILLE, MARYLAND DURING OCTOBER 2002.

NOTES:

THIS DRAWING WAS PREPARED FROM A DRAWING PROVIDED BY BRYANT BRYANT WILLIAMS, P.C. OF WASHINGTON, D.C.

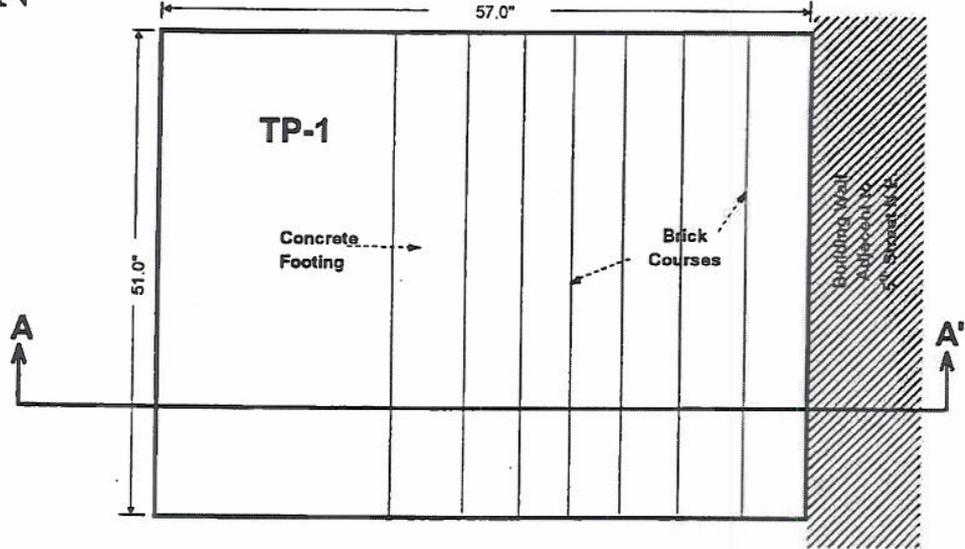
SITE EXPLORATION PLAN

OFFICE ON AGING AND
WARD SIX SENIOR WELLNESS CENTER
1039 5th STREET, N.E.
WASHINGTON, DC

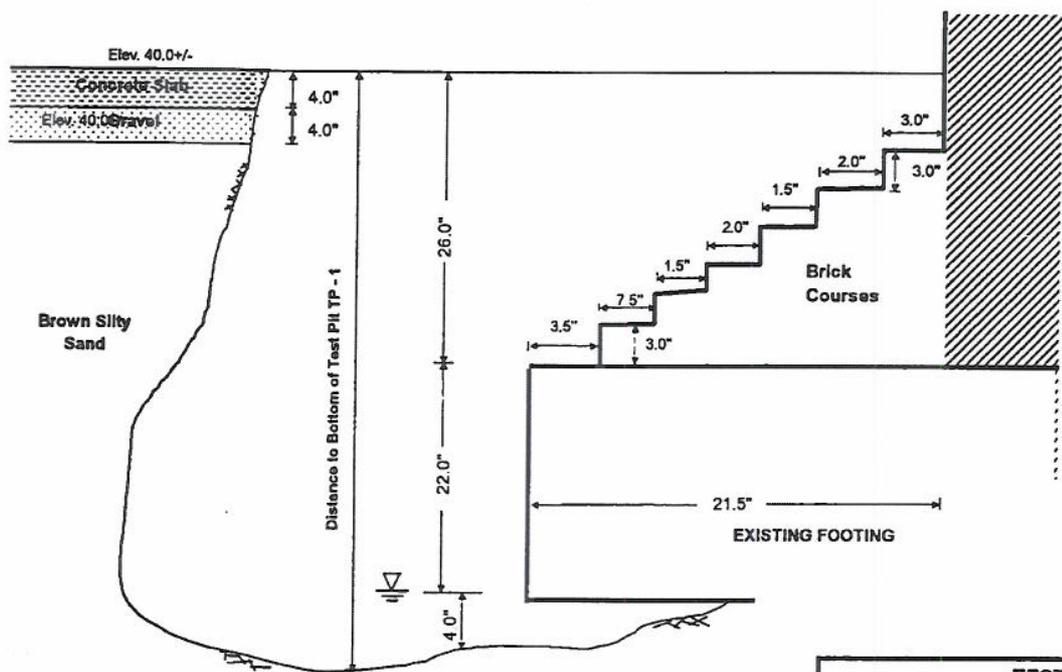
SCALE: 1" = 40' DATE: 12/02/02 DRAWN BY: SN

THOMAS L. BROWN ASSOCIATES, P.C.
Washington, D.C.

DRAWING NO.:
02-06B-1

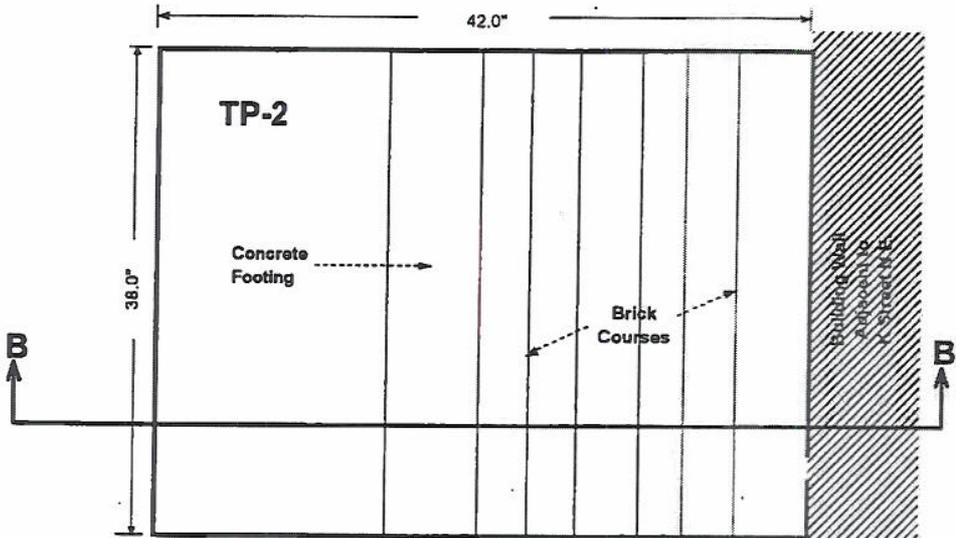


PLAN VIEW

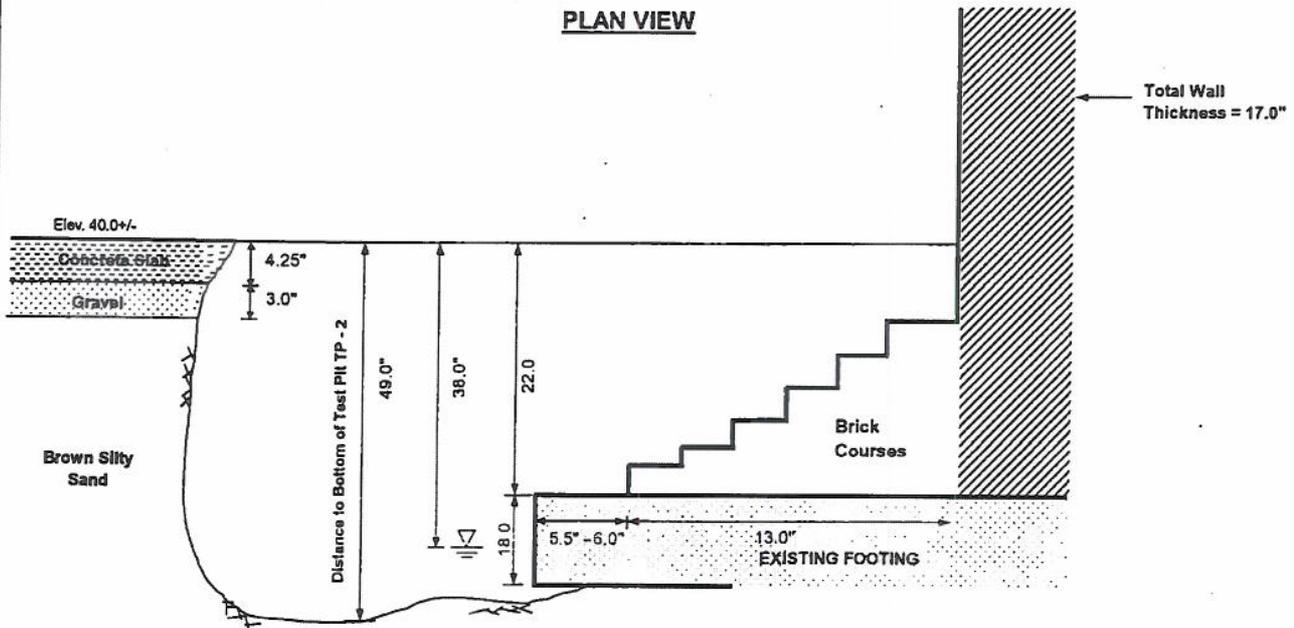


PROFILE VIEW - Section A-A'

TEST PIT NO. TP-1		
Scale: NTS	Date: 11/1/02	Drawn by: AW
OFFICE ON AGING		
NORTHEAST, WASHINGTON, DC		
<i>Thomas L. Brown Associates, P.C.</i> Washington, DC		Project No.: 02-068-PC Dwg No.: 2



PLAN VIEW



PROFILE VIEW - Section B-B'

TEST PIT NO. TP-2		
Scale: NTS	Date: 11/1/02	Drawn by: AW
OFFICE ON AGING WASHINGTON DC		
Thomas L. Brown Associates, P.C. Washington, DC		Project No.: 02-068-PC Dwg No.: 3

APPENDIX A
RECORDS OF SOIL EXPLORATION



RECORD OF SOIL EXPLORATION

Contracted With Bryant Bryant Williams, PC Boring # B-1
 Project Name Office of Aging Job # 02-068-PC
 Location 1035 5th Street, N.E, Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 8 in Foreman F. Holman
 Surf. Elev. 43.3 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector _____
 Date Started 10/2/02 Spoon Size 2 in Boring Method HSA Date Completed 10/2/02

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE					BORING & SAMPLE NOTES
					Cond	Blows/6"	No.	Type	Rec (in)	
42.8	6" of ASPHALT Brown, moist, medium stiff, CLAY, trace fine sand, gravel, asphalt	0.5	X X X X		I	3-4-5	1	DS	10	1. Water encountered at 17.5 ft. 2. Difficulty drilling from 32.0 to 34.0 ft.
			X X X X		I/D	4-3-4	2	DS	10	
38.3	Brown, moist, medium stiff to stiff, CLAY, little to trace fine sand	5.0	X X X X	5	I	2-3-3	3	DS	12	
					I	3-3-3	4	DS	18	
	Color change to gray and brown at 10.0'			10	I	3-5-9	5	DS	18	
30.3	Gray, brown, moist to wet, medium dense, micaceous clayey fine SAND	13.0		15	I	7-8-13	6	DS	18	
24.3	Gray, brown, moist to wet, medium stiff to stiff, fine sandy CLAY	19.0		20	I	3-4-6	7	DS	18	
				25	I	3-4-7	8	DS	18	
15.3	Gray, wet, medium dense, organic fine to medium SAND, some silty clay	28.0		30	I/D	3-3-12	9	DS	18	
10.3	Brown, wet, loose to medium dense, fine SAND, some silty clay	33.0		35	D	2-3-5	10	DS	18	
0.8	Gray, moist, very stiff, organic silty CLAY, trace mica, fine sand	42.5		40	I	6-6-8	11	DS	18	
-1.7	Bottom of Boring at 45.0 ft	45.0		45	I	3-7-11	12	DS	18	

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON	D - DISINTEGRATED	AT COMPLETION <u>dry</u> ft	HSA - HOLLOW STEM AUGERS
PT - PRESSED SHELBY TUBE	I - INTACT	AFTER _____ HRS. _____ ft	CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER 24 HRS. <u>7.3</u> ft	DC - DRIVING CASING
RC - ROCK CORE	L - LOST	CAVED AT <u>12.0</u> ft	MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION OFFICE OF AGING.GPJ TLB.GDT 11/8/02



RECORD OF SOIL EXPLORATION

Contracted With Bryant Bryant Williams, PC Boring # B-2
 Project Name Office of Aging Job # 02-068-PC
 Location 1035 5th Street, N.E, Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 8 in Foreman F. Holman
 Surf. Elev. 43.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector _____
 Date Started 10/4/02 Spoon Size 2 in Boring Method HSA Date Completed 10/4/02

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE					BORING & SAMPLE NOTES	
					Cond	Blows/6"	No.	Type	Rec (in)		
42.6	5" of ASPHALT	0.4									
42.4	Brown, black, red, moist, coarse GRAVEL, some clayey fine to coarse sand, little brick, (FILL)	0.6	X X X X		I	2-2-1	1	DS	12	1. Water encountered at 13.5 ft. 2. Trace water at 6.5 ft. 3. At completion water was observed running into the hole after augers were pulled out	
38.5	Brown, moist, very soft, fine to coarse sandy CLAY, trace gravel, asphalt, (FILL)	4.5	X X X X	5	I	2-1-3	2	DS	14		
	Tan, gray, moist to wet, soft to medium stiff, CLAY, trace fine sand			10	I	2-2-3	3	DS	14		
33.5	Tan, gray, moist, very stiff, CLAY, trace gravel, fine sand	9.5		15	I	2-3-4	4	DS	18		
	Brown, gray, moist, very stiff, CLAY, trace fine sand			20	I	5-8-12	5	DS	18		
30.0		13.0		25	I	4-9-11	6	DS	18		
				30	I	13-11-11	7	DS	18		
				35	I	6-8-12	8	DS	18		
14.5	Dark gray, wet, loose, organic, micaceous fine SAND, some to little silty clay	28.5		40	I	5-4-4	9	DS	18		
13.0	Bottom of Boring at 30.0 ft	30.0		45							

RECORD OF SOIL EXPLORATION OFFICE OF AGING.GPJ TLB.GDT 11/8/02

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON	D - DISINTEGRATED	AT COMPLETION <u>25.0</u> ft	HSA - HOLLOW STEM AUGERS
PT - PRESSED SHELBY TUBE	I - INTACT	AFTER _____ HRS. _____ ft	CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER 24 HRS. _____ ft	DC - DRIVING CASING
RC - ROCK CORE	L - LOST	CAVED AT <u>27.5</u> ft	MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS



RECORD OF SOIL EXPLORATION

Contracted With Bryant Bryant Williams, PC Boring # B-3
 Project Name Office of Aging Job # 02-068-PC
 Location 1035 5th Street, N.E, Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 8 in Foreman F. Holman
 Surf. Elev. 41.9 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector _____
 Date Started 10/4/02 Spoon Size 2 in Boring Method HSA Date Completed 10/4/02

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE					BORING & SAMPLE NOTES
					Cond	Blows/6"	No.	Type	Rec (in)	
41.5	5" of ASPHALT	0.4								
41.2	Brown, black, red, moist, coarse GRAVEL, some clayey fine to coarse sand, little brick, (FILL)	0.8	X X X X		I	2-2-2	1	DS	12	1. Water encountered at 20.0 ft.
					I	3-3-4	2	AC	18	
34.9	Brown, moist to wet, soft to medium stiff, fine to coarse sandy CLAY, little gravel, trace brick, (FILL)	7.0	X X X X		I/D	2-2-2	3	DS	10	
					I	2-1-3	4	DS	18	
					I	4-6-9	5	DS	18	
					D	6-8-10	6	DS	10	
23.9	Gray, moist to wet, medium stiff, CLAY, some fine sand to fine sandy clay	18.0			I/D	4-5-5	7	DS	18	
18.9	Gray, moist to wet, medium dense, alternating seams of fine to medium SAND, some gravel and fine sandy clay, trace organics	23.0			D	4-8-6	8	DS	9	
					D	6-8-6	9	DS	14	
4.9	Brown, tan, moist to wet, dense to very dense, fine to coarse SAND, some gravel, little silty clay	37.0			I/D	7-7-7	10	DS	18	
					I/D	32-34-51/4"	11	DS	16	
-3.1	Bottom of Boring at 45.0 ft	45.0			I/D	12-16-29	12	DS	18	

RECORD OF SOIL EXPLORATION OFFICE OF AGING.GPJ TLB.GDT 11/8/02

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON PT - PRESSED SHELBY TUBE CA - CONTINUOUS FLIGHT AUGER RC - ROCK CORE	D - DISINTEGRATED I - INTACT U - UNDISTURBED L - LOST	AT COMPLETION <u>14.7</u> ft AFTER _____ HRS. _____ ft AFTER 24 HRS. _____ ft CAVED AT <u>29.5</u> ft	HSA - HOLLOW STEM AUGERS CFA - CONTINUOUS FLIGHT AUGERS DC - DRIVING CASING MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30". COUNT MADE AT 6" INTERVALS



RECORD OF SOIL EXPLORATION

Contracted With Bryant Bryant Williams, PC Boring # B-4
 Project Name Office of Aging Job # 02-068-PC
 Location 1035 5th Street, N.E., Washington, DC

SAMPLER

Datum _____ Hammer Wt. 140 lb Hole Diameter 8 in Foreman F. Holman
 Surf. Elev. 41.0 ft Hammer Drop 30 in Rock Core Dia. N/A Inspector _____
 Date Started 10/2/02 Spoon Size 2 in Boring Method HSA Date Completed 10/2/02

ELEV. (ft)	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size Proportions	STRA DEPTH (ft)	SOIL SYMBOL	DEPTH SCALE	SAMPLE					BORING & SAMPLE NOTES
					Cond	Blows/6"	No.	Type	Rec (in)	
40.7	4" of ASPHALT	0.3	XXXX		I/D	2-3-5	1	DS	10	1. Water encountered at 26.0 ft.
36.5	Brown, trace red, moist, loose, clayey fine to coarse SAND, little gravel, trace brick, asphalt, (FILL)	4.5	XXXX	5	I/D	3-3-4	2	DS	18	
34.0	Brown, trace gray, moist, very loose, clayey fine SAND	7.0	XXXX		I/D	2-2-2	3	DS	12	
31.0	Gray, brown, moist, stiff, CLAY	10.0	XXXX	10	I	3-5-8	4	DS	18	
	Gray, brown, moist, very stiff to medium stiff, silty CLAY, trace fine sand, mica		XXXX	15	I	6-10-16	5	DS	18	
23.0		18.0	XXXX	20	I	2-4-6	6	DS	18	
18.0	Brown, gray, moist to wet, medium dense, fine to medium SAND, some to little silty clay, trace to little organics	23.0	XXXX	25	I	4-7-5	7	DS	18	
13.5	Grayish brown, moist, medium stiff, organic fine sandy silty CLAY	27.5	XXXX	30	I	3-3-7	8	DS	18	
11.0	Gray, wet, medium dense, fine to medium SAND, trace silt, organics	30.0	XXXX		D	4-5-9	9	DS	18	
	Bottom of Boring at 30.0 ft			35						
				40						
				45						

RECORD OF SOIL EXPLORATION OFFICE OF AGING.GPJ TLB.GDT 11/6/02

SAMPLER TYPE	SAMPLE CONDITIONS	GROUNDWATER DEPTH	BORING METHOD
DS - DRIVEN SPLIT SPOON	D - DISINTEGRATED	AT COMPLETION <u>21.5</u> ft	HSA - HOLLOW STEM AUGERS
PT - PRESSED SHELBY TUBE	I - INTACT	AFTER _____ HRS. _____ ft	CFA - CONTINUOUS FLIGHT AUGERS
CA - CONTINUOUS FLIGHT AUGER	U - UNDISTURBED	AFTER 24 HRS. <u>9.0</u> ft	DC - DRIVING CASING
RC - ROCK CORE	L - LOST	CAVED AT <u>21.0</u> ft	MD - MUD DRILLING

STANDARD PENETRATION TEST DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS

APPENDIX B
LABORATORY TEST RESULTS

Table No. B - 1

SUMMARY OF GEOTECHNICAL LABORATORY TEST RESULTS

OFFICE ON AGING
1035 5th STREET, NORTHEAST, WASHINGTON, DC

T.L.B. JOB No. 02-068

Boring Number	Sample Number	Depth (ft)	Moisture Content (%)	ATTERBERG LIMITS			GRADATION ANALYSIS**	
				Liquid Limit	Plastic Limit	Plasticity Index	Passing #4 (%)	Passing #200 (%)
B-1	S-4	7.5 - 9.0	30.7					
B-1	S-7	20.0 - 21.5	20.5	23	15	8	100	63
B-3	S-4	7.5 - 9.0	26.6	29	21	8		
B-4	S-4	7.5 - 9.0	27.0					
B-4	S-6	15.0 - 16.5	21.4	28	17	11		
B-5	S-2	3.5 - 5.0	15.0	27	17	10	91	51

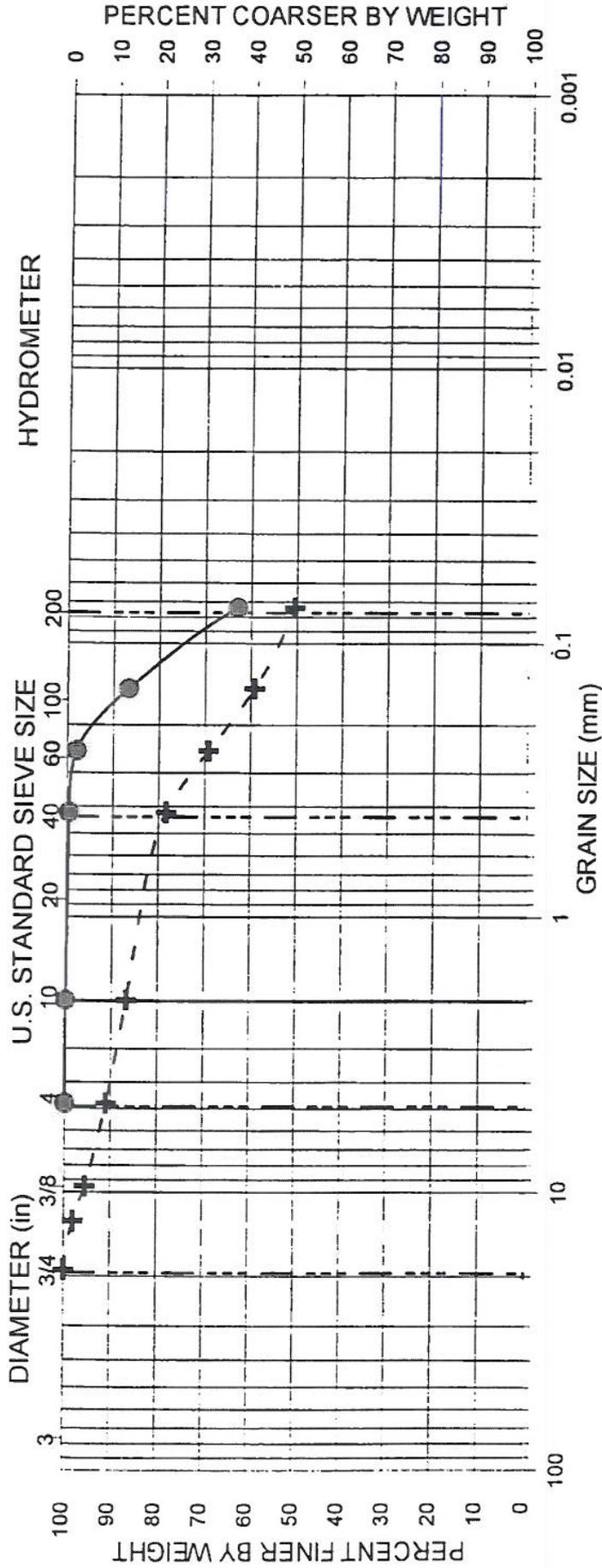
** - See Attached Gradation Analysis Curves

THOMAS L. BROWN ASSOCIATES, P.C.
Washington, D.C.

Gradation Analysis Curves

GRADATION ANALYSIS

GRAVEL		SAND			SILT OR CLAY	
COARSE	FINE	COARSE	MEDIUM	FINE		



KEY	BORING No.	SAMPLE No.	DEPTH(ft)	MC (%)	LL	PL	PI	SOIL DESCRIPTION
●	B-1	S-7	20.0 - 21.5	20.5	23	15	8	Brownish gray, fine sandy CLAY
+	B-5	S-2	3.5 - 5.0	15.0	27	17	10	Brown, fine to coarse sandy CLAY, trace gravel
PROJECT NO. 02-068								
PROJECT: OFFICE OF AGING								
LOCATION: 1035 5th STREET, NORTHEAST, WASHINGTON, D.C.								
THOMAS L. BROWN ASSOCIATES, P.C. Washington, D.C.								
TEST PROCEDURE USED: ASTM D-422								
			TESTED BY:	NRW	Date:	10/23/2002		
			CHECKED BY:	SN	Sheet:	1 of 1		
REMARKS:								