# Addendum No. 1

**BUTLER ROWLAND MAYS**

**ARCHITECTS, LLP**

**PROJECT:** **Addition & Interior Renovations for the Marlboro Free Library**

ARCHITECT PROJECT Nº: 23•46•06

DATE: 3 June 2025

**NOTE: THIS ADDENDUM CONTAINS IMPORTANT INFORMATION REGARDING CHANGES OR CLARIFICATIONS TO THE REQUIRMENTS OF THE CONTRACT DOCUMENTS. SUCH MODIFICATIONS ARE TO BE INCORPORATED INTO THE CONSTRUCTION DOCUMENTS AND SHALL APPLY TO THE WORK WITH THE SAME MEANING AND FORCE AS IF THEY HAD BEEN INCLUDED IN THE ORIGINAL DOCUMENT. WHEREVER THIS ADDENDUM MODIFIES A PORTION OF A PARAGRAPH OF THE PROJECT MANUAL OR A PORTION OF ANY DRAWING, THE REMAINDER OF THE PARAGRAPH OR DRAWING SHALL REMAIN IN FORCE.**

**RECEIPT OF THIS ADDENDUM SHALL BE ACKNOWLEDGED ON THE BID FORM. ATTACH THIS ADDENDUM TO THE INSIDE OF THE FRONT COVER OF THE PROJECT MANUAL.**

CHANGES TO THE SPECIFICATIONS:

1. **Section 00 30 00 Information Available to Bidders**
   Add Attached "Geotechnical Engineering Report" dated May 27, 2025 (37 pages).

2. **Section 01 10 00 Summary of Work**
   Section 1.02 Project Information
   Revise Paragraph A, line 2 to read: "Project Name: Addition and Interior Renovations."

3. **Section 01 10 00 Summary of Work**
   Section 1.10 Work Under Separate Contracts
   Revise Paragraph D, line 3 to read: "Each Prime Contractor is responsible for all cutting and patching associated with the Work of its Prime Contract…"

4. **Section 01 10 00 Summary of Work**
   Section 2.01 Work Completion – Project Schedule
   Revise Paragraph A to read:

"Marlboro Library Proposed Milestone Schedule

| | |
|---|---|
| Phase 1: | |
| July 2025 | – Submittals commence; on site mobilization commences; |
| August 1 | – Addition footings and foundation work commences; |
| September 1 | – Entry Plaza, Parking Lot improvements, site work commences; |
| October 15 | – Addition enclosure primarily achieved; Installation of roof top units 4-6 commence; |
| November 1 | – Masonry removals at existing building north wall; |
| November 15 | – Meeting Room finishes commence; |
| January 1 | – Addition and Meeting Room complete for Owner occupancy; Temporary sanitary facilities for Owner and Library Patron use are mobilized. |
| Phase 2: | |
| January 1-15 | – Owner relocates from existing Library to Meeting Room; |
| January 15 | – Interior demolition and removals work commence throughout existing Library; |
| March 1 | – Installation of roof top units 1-3; Boiler removal commences; |
| April 1 | – Interior finishes commence; |
| May 1 | – Site work substantially complete; |
| June 1 | – Overall substantial completion achieved." |

5. **Section 01 50 00 Temporary Facilities and Controls**

Section 1.6 Temporary Sanitary Facilities Add paragraph:

"D. General Construction Contract #1 to provide and maintain temporary sanitary facilities for Library staff and patrons for the duration of the rest room renovation work (for base bid assume 16 weeks) as follows:

1. One handicap accessible unisex stall,
2. Two unisex stalls,
3. Units shall be heated for cold weather use,
4. Units shall be capable to connect into a single 110V 20 Amp outlet,
5. Hose connection to existing hose bibb with self-contained tank for winter use,
6. Units to be pumped minimum once per week.

6. **Section 01 50 00 Temporary Facilities and Controls**

Section 1.8 Field Offices and Sheds: Replace Paragraph A with:

"A. General Construction Contract #1 to provide and maintain office trailer with sufficient space for project meetings; temporary power to be connected to trailer by Electrical Contract #4."

7. **Section 01 50 00 Temporary Facilities and Controls**

Section 1.8 Field Offices and Sheds: Eliminate Paragraph B.

8. **Section 01 50 00 Temporary Facilities and Controls**

Section 1.10 Parking Revise Paragraph to read:

"Contractor's personnel shall park in designated parking spaces in Library parking lots."

9. **Section 01 50 00 Temporary Facilities and Controls**

Section 1.15 Dust Control: Eliminate Paragraph B.

10. **Section 06 20 00 Finish Carpentry**

Section 2.2 Components Add Paragraph H:

"H. Waterproof Wall Panel System: 12mm thickness, Class A, provide all system components and adhesive; color to be selected from manufacturer's full range, manufactured by Wilsonart or accepted equivalent."

11. **Section 06 20 00 Finish Carpentry**

Section 2.2 Components Add Paragraph J:

"J. Solid Surface: 3cm thickness for countertops, ¼" thickness for applied backsplash, meeting ANSI Z124.3 or ANSI Z124.6; provide finishes, adhesives and sealants per manufacturer, color to be selected from manufacturer's full range, manufactured by Corian or accepted equivalent."

12. **Section 09 65 00 Resilient Flooring**

Section 2.2 Component Materials Add Paragraph C:

"C. Resilient Base: Rubber, 4 inch high, 1/8 inch thick:

1. Color to be selected from manufacturer's standard range."

13. **Section 09 65 00 Resilient Flooring**

Section 2.2 Component Materials Add Paragraph 3.3b:

"3.3b INSTALLATION – BASE MATERIAL

A. Install base in as long lengths as practicable, to walls, pilasters, casework, and other permanent fixtures.
B. Fit joints tight and vertical. Maintain minimum measurement of 24 inches between joints.
C. Miter internal corners. At external corners provide pre-fabricated units.
D. Install base on solid backing. Bond tight to wall and floor surfaces.
E. Scribe and fit to door frames and other interruptions."

<u>CHANGES TO THE DRAWINGS:</u>

14. **S101 Foundation Plan**

Clarification for Columns B and C; see attached SK1-S101-1.

15. **S102 First Floor Framing Plan**

Clarification for lintel and new masonry opening; see attached SK1-S102-1.

16. **S201 Foundation Sections and Details**
    Eliminate all references to footing drains.

17. **S300 Typical Framing Sections & Details Column Schedule**
    Revise Column C1 to read: "C1, HSS 12x6x1/4, 14" x1" 1'-0"."

18. **S400 Typical Masonry Details**
    Add Double Lintel Section; see attached SK1-S400-1.

19. **Overall Floor Plan A100**
    Relocate "FEC" label from West wall of Lobby 113 to East Wall of Lobby 113.

20. **Overall Floor Plan A100**
    Add detail tag to new west wall at existing exterior north wall and label "1/A302 SIM."

21. **Overall Floor Plan A100**
    Add Window Tag 'J' to interior borrowed light unit at south wall of Conference Room 103.

22. **Overall Floor Plan A100**
    Eliminate all dimensions between column lines; refer to S-Drawings.

23. **Overall Floor Plan A100**
    Eliminate column lines 2 and 5, revise Column line "3" to be Column line "2" and revise Column line "4" to be Column line "3"; refer to S-Drawings.

24. **2/A102 Roof Edge Detail**
    Replace detail with Sketch SK1-A102-1 attached.

25. **A103 Finish Floor Plan**
    Modify Finish Schedule as follows:
    Revise "CPT" to read "CPT1" for Rooms 113 and 114;
    Revise "CPT" to read "CPT2" for Rooms 100, 101, 101B, 102, 102B, 103, 107 and 108;
    Revise "CPT" to read "CPT3" for Rooms 104 and 106;
    Revise "LVT" to read "LVT1" for Room 105;
    Revise "LVT" to read "LVT2" for Rooms 109, 112, 115, 116, 118 and 119.

26. **Elevation 10/A301 & 11/A301**
    Revise Label to read: "Interior Glazed Units & Hollow Metal Frames."

27. **Door Schedule A301 Window & Door Details**
    Revise Frame for Door #4 to be Frame Type "D."

28. **Door Schedule A301 Window & Door Details**
    Revise Frame for Door #20 to be Frame Type "4."

29. **Detail 1/A302**
    Replace detail with Sketch SK1-A302-1 attached.

30. **P001 Legend, Symbols, and Details - Plumbing Fixture Schedule**
    Revise WC-1 to read: "Floor Mounted, Two-Piece ADA Height, Bottom Outlet Tank Style Water Closet. Gerber. GHE20317.

RESPONSES & CLARFICATIONS FROM PRE-BID WALK-THROUGH & REQUESTS FOR CLARIFICATIONS:

**31.** Anticipated Contract Budgets –
General Construction: $1,300,000
Plumbing: $120,000
Mechanical: $500,000
Electrical: $400,000

**32.** The Library will remain open during the entirety of the proposed work; while the Phase 1 work (Addition and Meeting Room renovations) is underway, the Library will utilize the existing collection spaces, restrooms, and staff areas. Once the Phase 1 work is complete, the Library will remove all furniture, shelving, collection items, equipment, etc. from the remaining area (Phase 2) and provide temporary Library services from the new Meeting Room and Lobby.

**33.** Lighting Package was developed and provided by Point Source Group, Inc.

**34.** Plumbing piping should be cast iron for all below slab work, and PVC for above slab work.

**35.** Detail 2/S300 applies to all 6 RTUs. At the new units replacing the existing units on the existing roofs, a portion of the existing angle framing may be re-used to support one edge of the new unit.

**36.** **See attached Pre-Bid Meeting Minutes, Attendance Sheet, and Sketches.**

**END OF ADDENDUM #1**

# Proposed Library Addition

## Geotechnical Engineering Report

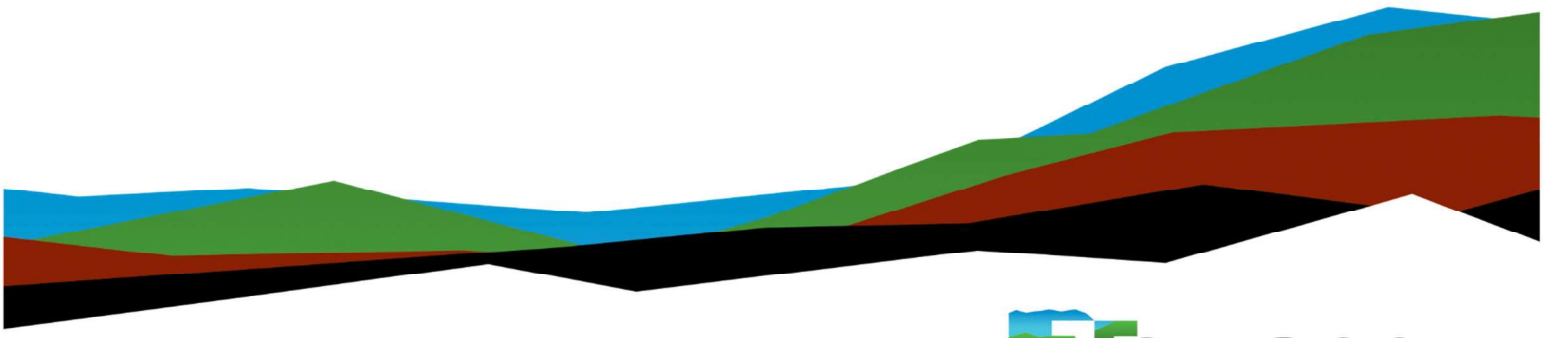
May 27, 2025 | Terracon Project No. JB235288

**Prepared for:**

Marlboro Free Library

1251 US Route 9W

Marlboro, NY 12542



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May 27, 2025

Marlboro Free Library
1251 US Route 9W
Marlboro, NY 12542

**Attn:** Ms. Christina Jennerich, Director
p: (845) 236-7272
e: staff@marlborolibrary.org

**c/o:** Meghan Brennen at Butler Rowland Mays Architects
p: (518) 885-1255 ext.210
e: brennenm@brmarchitects.com

**Re:** Geotechnical Engineering Report
Proposed Library Addition
1251 US Route 9W
Marlboro, New York
Terracon Project No. JB235288


Dear Ms. Jennerich:

We have completed the Geotechnical Engineering services for the referenced project in general accordance with Terracon proposal no. PJB235288 REV1 which was authorized on March 4, 2025. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs and pavements for the proposed project.

We appreciate the opportunity to be of service to you. If you have any questions concerning this report or if we may be of further service, please contact us at your convenience.

Sincerely,
**Terracon Consultants – NY, Inc.**

Christopher J. Norton, P.E.
Sr. Geotechnical Engineer

John S. Hutchison, P.E.
Sr. Geotechnical Engineer

John T. Odorisio, P.E
Geotechnical Department Manager

# Table of Contents



# Figures

# Attachments

## Exploration and Testing Procedures
## Site Location and Exploration Plans
## Exploration and Laboratory Results
## Supporting Information

**Note:** This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the Terracon logo will bring you back to this page. For more interactive features, please view your project online at **client.terracon.com**.

# Introduction

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed addition to the Marlboro Free Library located at 1251 US Route 9W in Marlboro, New York. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic site classification per IBC
- Site preparation and earthwork
- Foundation design and construction
- Floor slab design and construction
- Pavement design and construction
- Lateral earth pressures
- Frost considerations

The geotechnical engineering scope of services for this project included the advancement of two exploratory test borings to depths between 20.2 and 20.3 feet below existing site grades, limited laboratory testing of recovered soil samples, an engineering evaluation of the conditions encountered and preparation of this report.

Figures indicating the site and test boring locations are included as the attached **Site Location** and **Exploration Plan**, respectively.

# Site Conditions

Existing conditions at the site are summarized in the following table.

| Item | Description |
|---|---|
| **Parcel Information** | The project site is located at 1251 US Route 9W in the town of Marlborough (hamlet of Marlboro), New York. Approximate geographic coordinates: 41.6026° N, 73.9730° W.<br>See **Site Location**. |
| **Existing Improvements** | Existing library building, with associated paved parking and landscaped grounds. |

| Item | Description |
|---|---|
| **Current Ground Cover** | Generally maintained lawn, landscaping and/or sidewalks at the location of the proposed addition. |
| **Existing Topography** | The topographic information furnished for our use indicates existing grades in the area of the proposed addition are between the elevations of about 194 and 200 feet. West of the existing building, grades continue uphill to elevations between 210 and 220 feet along West Street. |

Publicly available historical aerial imagery indicates that the existing structure was constructed sometime after 1983. Prior to development, the site appears to have been a cleared earthen field with tress from at least 1959 until the construction of the existing building.

# Project Description

Our understanding of the project is summarized as follows.

| Item | Description |
|---|---|
| **Information Provided** | As furnished in an email request for proposal from BRM on November 7, 2023 and subsequent correspondence, including the following:<br>■ RFP documents prepared by BRM dated November 1, 2023 and January 29, 2025.<br>■ Topographic Sketch Plan by Engineering & Surveying Properties dated October 13, 2023.<br>■ Overall Floor Plan with proposed addition dated 08/28/23. |
| **Project Description** | The project entails construction of an addition to the north end of the existing library building. |
| **Proposed Structure** | Plans call for a single-story structure, 4,084 sq.ft. in plan area, which will directly adjoin the existing library building. |
| **Building Construction** | Not specified. Assumed to be slab-on-grade ground floor (i.e., non-basement) with wood and/or steel framing and conventional shallow spread foundations. |
| **Finished Floor Elevation** | Not specified. Assumed to match finish floor of the existing building at elevation 196.7 feet. |

| Item | Description |
|---|---|
| **Maximum Loads** | No building load information was provided. We have assumed foundation loads will not exceed the following:<br>▪ Columns – 100 kips<br>▪ Walls – 5 kips per linear foot (klf)<br>▪ Floors – 150 pounds per square foot (psf) |
| **Grading/Slopes** | The proposed grading information furnished for our use indicates cuts up to about 4 feet and fills up to about 3 feet will be required for construction. |
| **Below-Grade Structures** | None indicated. |
| **Free-Standing Retaining Walls** | None indicated. However, depending on final grading, portions of the proposed addition foundation walls may retain earth. |
| **Pavements** | A preferred pavement surfacing has not been identified to us as part of the preliminary information. We have provided recommendations for both flexible (asphalt) and rigid (concrete) pavement sections herein. The assumed pavement design period is 20 years. |
| **Building Code** | 2020 Building Code of NYS. |

If any of the above information is incorrect, please let us know so we can review the conclusions and recommendations provided in this report for applicability to the actual design and update the report as appropriate.

As the design of the project progresses and site grading plans and building loads are fully developed, we should be retained to assess this site-specific information relative to the recommendations contained herein.

# Subsurface Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting, and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of the site. Conditions observed at each exploration point are indicated on the individual subsurface logs. The subsurface logs can be found in the **Exploration Results** attachment to this report, together with the results of whatever laboratory testing was performed, and the GeoModel can be found in the **Figures** section.

## Subsurface Profile

The following model layers were identified within the subsurface profile. For more detail concerning the model layers with their respective depths at each boring location, refer to the GeoModel.

| Model Layer | Layer Name | General Description |
|---|---|---|
| **1** | **Fill** | Silty Sand with Gravel |
| **2** | **Native Course-Grained Soil** | Silty Sand with Gravel, Silty Gravel with Sand, Silty Sand, loose to dense |
| **3** | **Glacial Till** | Native Silt, Poorly Graded Gravel with Silt and Sand, with various amounts of cobbles and rock fragments noted, medium dense to dense and hard |

## Surface Materials and Fill Soils

Test boring B-1 was completed within the parking lot to the north of the library, and test boring B-2 was completed in the maintained mulch area at the northeast corner of the building. Beneath the surficial 6 inches of asphalt and 4 inches of mulch, fill soils were encountered at each of the locations investigated, extending to a depth of approximately 4 feet below the existing ground surface. In general, the fill soils were found to consist of silty sand with gravel.

## Native Soils

Underlying the existing fills were native course-grained soils, characterized as silty sand with gravel, silty gravel with sand, and silty sand. Cobbles were occasionally noted therein. The native coarse-grained soils were judged to be loose to medium dense in relative density based on measured SPT 'N' values. The native coarse-grained soils extended to depths from approximately 10 to 15 feet below existing grade.

## Glacial Till

Beneath the native course-grained soils were deposits consisting of glacial till, characterized as silt and poorly graded gravel with silt and sand, with embedded cobbles and rock fragments. The till was judged to be medium dense to very dense in relative density where primarily gravel and a consistency of hard where primarily silt on the basis of measured SPT N-values.

### Groundwater Conditions

Groundwater observations and measurements were made as the boreholes were completed. It should be noted that, in some instances, these measurements may not reflect actual groundwater depth as adequate time may not have passed upon completion of sampling for groundwater to achieve a static level in the augers prior to the measurements being taken.

Measurable groundwater was encountered in each boring at depths of approximately 10.0 and 17.4 feet below the existing ground surface, respectively. Based upon our experience in the project area, the ground water elevation encountered in boring B-2 at 17.4 feet is believed to represent or be near the true groundwater table elevation. The shallower groundwater encountered in B-1 is believed to be a perched water condition. Perched water levels develop when surface water (i.e., precipitation or runoff) enters the subsurface through surficial soils and becomes trapped, or perched, on top of less permeable soils such as the underlying dense glacial till.

Groundwater conditions, and the extent of any perched water, should be expected to vary with seasonal fluctuations in precipitation and runoff. Additionally, grade adjustments on and around the site, as well as surrounding drainage improvements, may affect the water table. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

## Seismic Site Class

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Assignment of Site Class is required to determine the Seismic Design Category for a structure. The Site Class is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC).

### Seismic Site Classification

In our estimation, the seismic Site Class is D. This determination is made based upon the soil and bedrock conditions encountered at the site and the results of the SPT testing. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth, if desired.

# Geotechnical Overview

## General

The project site is considered suitable for support of the proposed library addition using conventional shallow spread foundations and slab-on-grade design. Based on the conditions disclosed by our investigation, we offer the following general conclusions.

- New foundations may be supported on undisturbed native soils, or on Structural Fill which is placed over the native soils after the removal of all existing fill, remains of former structures or otherwise unsuitable materials which may be found. Existing fills should not be relied upon for new foundation support.

- Assuming that existing fill soils throughout the site are similar in composition to those revealed by the test borings, consideration may be given to support of new floor slabs over the existing fills provided the subgrade surfaces are proof-rolled and stabilized as may be required. It should be understood the proof-rolling will lessen, but not eliminate, the possibility that settlement of floor slabs constructed over the existing fills may occur over time and require periodic maintenance. We recommend some amount of undercutting of the existing subgrade be anticipated and budgeted for in the event clearly unsuitable materials are encountered.

- The soils excavated onsite should generally be suitable for reuse as new fill and backfill once cleansed of any oversize particles, unsuitable debris or organics, subject to the approval of the Geotechnical Engineer and based upon the conditions encountered at the time of construction.

- Groundwater is in general anticipated to be below foundation excavation depths and should not be a significant factor in planning for design and construction of the building addition. If perched water is encountered during construction, it is expected to be limited in volume and standard sump and pump methods should be sufficient for its removal. Dewatering is a means and methods consideration for the contractor.

The following sections of this report provide more specific recommendations to assist in planning for the geotechnical aspects of the project. We should be provided with the opportunity to review plans and specifications prior to their release for bidding to confirm that our recommendations were properly understood and implemented, and to allow us to refine our recommendations, if warranted, based upon the final design.

The **General Comments** section provides an understanding of the report limitations.

# Earthwork

Earthwork is anticipated to include concrete and pavement stripping, clearing and grubbing, stabilization of subgrade surfaces as necessary, foundation excavation and associated site fill and backfill.

The following sections provide recommendations for use in the preparation of specifications for the work. The recommendations include critical quality criteria as necessary to render the site in the state considered suitable in our geotechnical engineering evaluation for foundations, floor slabs and pavements.

Construction site safety is the sole responsibility of the contractor, who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the contractor's activities; such responsibility is neither implied nor shall it be inferred.

## Site Preparation

Site preparation should begin with stripping of existing concrete and pavements, topsoil and other surface materials as applicable from the proposed building area. Any old foundations, slabs or below grade structures that may be found should be removed in their entirety from beneath the proposed building area, extending at least five feet beyond its perimeter. Outside the proposed building area, any foundation remains or old structures should be removed to a depth of at least two feet below new pavement surfaces.

Should the owner elect to leave the existing fills in place beneath the building addition floor slabs, proof-rolling and stabilization of the subgrades as described herein will lessen but cannot eliminate the risk of settlement. If this uncertainty cannot be accepted, the existing fills should be removed and replaced in their entirety as part of the site preparation. Some quantity of removal/replacement of the existing fills should be anticipated and considered in project budgeting in the event clearly unsuitable materials are encountered.

Prior to placing new fills to raise site grades, and/or after cuts are made to the plan subgrade elevations, the subgrades should be proof-rolled using a steel drum roller with a static weight of at least 7 tons. The roller should operate in its vibratory mode, unless requested otherwise by the Geotechnical Engineer observing the work, and travel at a speed not exceeding three feet per second (two miles per hour). The roller should complete at least two passes over all subgrade surfaces in opposing directions. The method of proof-rolling may be modified by the Geotechnical Engineer based upon the conditions disclosed at the time of construction.

Soft areas identified by the proof-rolling should be investigated to determine the cause and stabilized accordingly. These investigations may include the excavation of test pits. If existing fills are found and determined by to be unsuitable by the Geotechnical Engineer, they should be removed and replaced as deemed necessary.

## Excavation Considerations

Excavations must be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P and its appendices, along with any state and local codes, as applicable. The contractor should be aware that slope height, slope inclination, and excavation depth should in no instance exceed OSHA regulations. Flatter slopes than those stipulated by the regulations or temporary shoring may be required depending upon the excavation depth, soil/groundwater conditions encountered and other external factors. OSHA regulations are strictly enforced and if they are not followed, the owner, contractor, and/or earthwork and utility subcontractor could be liable and subject to substantial penalties.

Excavations should be completed so as not to undermine the foundations of adjacent structures or utilities that are to remain in place. In general, excavations should not encroach within a zone of influence defined by a line extending out and down from any existing structures at an inclination of 1V:1.5H. Excavations that encroach within this zone should be sheeted, shored and/or braced as required to support the soil and adjacent structure loads, or the structure should be underpinned to establish bearing at a deeper level. It should be understood that the native soils on this site contain cobbles and boulders, which may influence temporary shoring types and their adequacy. The contractor should be cognizant of the subsurface conditions when determining suitable means of excavation and excavation support.

Additionally, excavations should be maintained free of groundwater, such that work proceeds in the dry. Surface water should be intercepted and diverted outside the limits of work to minimize runoff into excavations, and excavated subgrades should be shaped and sloped to shed precipitation to these drainage features. Dewatering is a means and methods consideration for the contractor.

## Fill Material Types

Imported Structural Fill should be used as fill/backfill in and around the proposed building addition and associated features. The fill should consist of imported sand and gravel which meets the limits of gradation given below. Any imported materials should be free of recycled concrete, asphalt, bricks, glass, and pyritic shale rock.

| Imported Structural Fill | |
|---|---|
| **Sieve Size** | **Percent Finer** |
| 3” | 100 |
| ¼” | 30 to 75 |
| No. 40 | 5 to 40 |
| No. 200 | 0 to 10 |

As previously indicated, provisional reuse of excavated site soils as may be considered if approved by the Geotechnical Engineer and pending the conditions encountered at the time of construction. Any reuse of the onsite soils would require that excessively silty/clayey material, organics, oversized particles or whatever otherwise unsuitable material that may be found therein be separated and reused in non-sloping landscape areas only or wasted off-site as appropriate.

## Fill Compaction Requirements

New Structural Fill placed to raise site grades or for foundation backfill should be placed in uniform loose layers no more than about one-foot thick where heavy vibratory compaction equipment is used. Thinner lifts should be used where hand-operated equipment is required for compaction. Each lift should be compacted to no less than 95 percent of the material’s maximum dry density as determined by the Modified Proctor Compaction Test, ASTM D1557. In landscape areas, the compaction requirement may be relaxed to 90 percent of maximum dry density

## Grading and Drainage

All proposed grades should be configured to provide effective drainage away from the new addition during and after construction, with such drainage maintained throughout the life of the structure. Water retained next to buildings can result in soil movements greater than those outlined in this report, which may in turn lead to unsatisfactory differential floor slab and/or foundation displacements, cracked slabs and walls, or roof leaks.

## Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. Monitoring should include documentation of adequate removal of surface materials and unsuitable fills, proof-rolling, and mitigation of any areas identified as needing improvement through proof-rolling. Each lift of new Structural Fill should be satisfactorily placed and compacted prior to placement of additional lifts.

The monitoring should also include evaluation of foundation bearing grades and subgrades for floor slabs. If unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

It should be understood that subsurface conditions will be more fully known when the site is excavated. The continuation of the Geotechnical Engineer into the construction phase of the project will allow for validation of the subsurface conditions assumed to exist for this study and in the development of the design recommendations in this report, along with assessing any variations, providing interim recommendations as necessary and reviewing associated design changes.

# Shallow Foundations

If the site has been prepared in accordance with the recommendations outlined previously in the **Earthwork** section and under the **Foundation Construction Considerations** below, the following parameters may be assumed in the design of conventional shallow spread foundations.

## Design Parameters – Compressive Loads

| Item | Description |
|---|---|
| **Maximum Net Allowable Bearing Pressure** [1, 2] | 3,000 pounds per square foot (psf) |
| **Required Bearing Stratum** [3] | Undisturbed native soils, or upon Structural Fill which is placed over the native soils after removal of existing fill or whatever otherwise unsuitable material may be found. |
| **Minimum Foundation Dimensions** | Columns: 24 inches<br>Continuous: 18 inches |
| **Ultimate Coefficient of Sliding Friction** [4] | 0.35 (concrete on native soils)<br>0.45 (concrete on Structural Fill) |
| **Minimum Embedment below Finished Grade** [5] | Exterior footings: 48 inches<br>Interior footings in heated areas: 24 inches<br>Interior footings in unheated areas: 48 inches |
| **Estimated Total Settlement from Structural Loads** [2] | Less than about (1) inch |

| Item | Description |
|---|---|
| **Estimated Differential Settlement** [2, 6] | About 3/4 of total settlement |

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for maximum loads noted in **Project Description**.
3. The bearing grades should be prepared per the recommendations presented below in the **Foundation Construction Considerations**.
4. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be disregarded for foundations subject to net uplift conditions.
5. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. Interior footings in heated area may be seated at the 24-inch depth if allowed by local building codes. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
6. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 feet.

Where existing and new foundations will abut, they should match (or nearly match) in bearing elevation. If new foundations are to be positioned lower than existing foundations, the new foundation should not encroach within a zone extending out and down from the base of the existing foundation at an inclination of 1V:1.5H. Excavations that encroach within this zone should be sheeted, shored and/or braced as required to support the soil and existing structure loads. If new foundations are positioned within this zone, the existing foundations should be underpinned or extended deeper to establish bearing at a lower level. Additionally, new foundations should be positioned so as not to impose new loads upon existing foundation walls unless the walls are designed to accommodate the added load.

## Foundation Construction Considerations

The foundations may be seated directly on undisturbed native soils, or on Structural Fill placed over the native soils after all topsoil and existing fill is removed, along with whatever remains of former structures or otherwise unsuitable materials that may be found. If over-excavation is required beneath the foundations to remove unsuitable material, the excavation should extend horizontally beyond each side of the foundation a distance equal to at least one-half the depth of the undercut below the final bearing grade elevation. Replacement material should meet the specification and compaction guidelines for Structural Fill as outlined herein.

Foundation bearing grades should be proof-compacted using a mechanical or large reversible plate tamper to densify the soils loosened by the excavation process unless otherwise directed by the Geotechnical Engineer observing the grades. If groundwater seepage occurs, proof-compacting should be eliminated, and a minimum six-inch thick

base of clean crushed stone should be provided to establish a more uniform and stable base for construction and to assist in dewatering. The stone should be an ASTM C33 Blend 57 aggregate which is enveloped in a non-woven synthetic filter fabric meeting the requirements of NYSDOT standard specifications table 737-01C for drainage geotextile.

All final bearing grades should be relatively firm, stable, and free of loose soil, mud, water and frost. The Geotechnical Engineer should approve the condition of the foundation bearing grades immediately prior to placement of reinforcing steel and concrete.

# Floor Slabs

## Floor Slab Design Parameters

New interior floor slabs should be constructed upon a minimum six-inch thick subbase course which conforms to the requirements for NYSDOT Type 2 Subbase or ASTM C33 Blend 57 aggregate. Consideration should be given to using a thicker subbase course in areas subject to heavier loads and/or use, or those exposed to freezing temperatures.

The use of a vapor retarder along with a base course of ASTM C33 Blend 57 aggregate should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture.

When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding its use and placement. Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual.

Floor slab subgrades should be prepared as outlined in the Earthwork section herein. Under these conditions, a modulus of subgrade reaction equal to 150 pounds per cubic inch (psi/in) may be assumed at the top of the stone base layer for slab design purposes.

## Floor Slab Construction Considerations

Even with the base course recommended above, we caution that the subgrades may not support repeated heavy construction traffic or telehandlers without suffering rutting and weaving that may be especially severe during wet seasons. If the grades are to be repeatedly traversed by these types of equipment, they should be reinforced as necessary to support them. Areas which become disturbed should be excavated and stabilized accordingly.

The Geotechnical Engineer should approve the condition of floor slab subgrades immediately prior to placement of the subbase course. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

# Earth Retaining Wall Design

## Design Parameters

All permanent earth-retaining foundation walls or structures should be designed to resist the lateral pressures generated by earth backfill along with any temporary or permanent surcharge loads. Active earth pressures may be assumed for walls that are free to deflect as the backfill is placed. At-rest earth pressures should be assumed for all building or structure walls that are braced prior to backfilling or applying surcharge loads. The following design parameters are provided to assist in calculating lateral earth pressures, whichever apply, and to analyze the stability of unbraced walls by sliding and overturning.

- Soil angle of internal friction - 30 degrees
- Coefficient of At-Rest earth pressure ($k_o$) - 0.50
- Coefficient of Active earth pressure ($k_a$) - 0.33
- Coefficient of Passive earth pressure ($k_p$) - 3.0
- Total unit weight of compacted soil - 130 pcf
- Coefficient of sliding friction – 0.35 (concrete on native soils)
  0.45 (concrete on Structural Fill)

The recommended design parameters assume that retaining wall backfill consists of imported Structural Fill as described in the **Earthwork** section herein (excavated onsite materials should not be reused for this purpose), idealized non-sloping conditions on each side of the wall, and that the backfill remains permanently well-drained. Water must not be allowed to collect against the wall unless the wall is designed to accommodate the added hydrostatic pressure. Drainage system recommendations are provided below.

## Subsurface Drainage for Earth Retaining Walls

Earth retaining walls should be provided with a foundation level drain which may consist of a nominal 4-inch diameter perforated PVC or corrugated HDPE pipe embedded at the base of a minimum 12-inch wide column of clean crushed stone (e.g., ASTM C33 Blend 57 stone). The stone should be enveloped in an appropriate non-woven filter fabric (meeting NYSDOT standard specifications table 737-01C for drainage geotextile) to inhibit siltation. Backfill soils behind the crushed stone drainage layer should consist of

imported Structural Fill. The drain line should be sloped to provide positive gravity drainage to daylight, a stormwater system, or to a sump pit and pump.

# Pavements

## Flexible Pavement Design

The pavement sections presented below were developed in general accord with AASHTO procedures using a reduced subgrade strength and local experience to account for frost, and to keep the anticipated pavement heave and cracking within generally tolerable limits. A subgrade resilient modulus ($M_r$) equal to 4,000 psi has been assumed for design purposes. Our design parameters assume the existing fills will be left in place and stabilized as detailed in the **Earthwork** section of this report. As previously indicated, the owner must accept some degree of risk for pavement settlement if the existing fills are left in place, which may require periodic maintenance.

Two conventional pavement sections were developed, a Light Duty section for automobile parking areas, and a Heavy Duty section for entrance drives or areas subject to routine truck traffic. For design purposes, it has been assumed that the pavement design life is 20 years, and that daily equivalent single axle loads (ESALs) are equal to 1 for the Light Duty section and 25 for the Heavy Duty section. If the traffic loads vary from these, we should be provided the opportunity to refine the pavement section accordingly.

All materials should meet the requirements specified in the latest edition of the New York State Department of Transportation (NYSDOT) Standard Specifications for Construction and Materials.

| Flexible Pavement Design | | | | |
|---|---|---|---|---|
| **Layer** | **Material Description** | **NYSDOT Item Number** | **Thickness (inches)** | |
| | | | **Light Duty** | **Heavy Duty** |
| **Top** | Asphaltic Concrete | 402.127303 | 1.5 | 1.5 |
| **Binder** | Asphaltic Concrete | 402.257903 | 2.0 | 3.0 |
| **Subbase** | Crusher-Run Stone | Section 733.04, Type 2 | 8 | 12 |
| **Fabric** | Stabilization Geotextile | Section 737-01, Table E | Single Ply | Single Ply |

Rigid concrete pavements, if any, should be provided with a minimum six-inch thick base of crusher-run stone (NYSDOT section 733-04, Type 2 material) placed over a stabilization geotextile. The pavements may be designed assuming a modulus of subgrade reaction equal to 150 pounds per cubic inch at the top of the base layer.

## Temporary Construction Access Roadways

The recommended pavement sections are not intended to support heavy construction equipment loads which may require thicker sections. The contractor should construct temporary haul routes and construction roadways onsite as appropriate for the weather conditions and the equipment in use, with consideration to the soil conditions encountered in specific areas. Construction traffic should not be routed across the recommended pavement sections unless augmented accordingly.

## Pavement Drainage

Accumulation of water on pavement subgrades should be avoided by grading the subgrade to a slope of at least two percent, and/or by providing edge swales or underdrains. Failure to provide adequate drainage will shorten pavement life.

## Pavement Maintenance

All pavements require periodic care, and preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance

activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Maintenance consists of both localized maintenance (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Settlement of pavements due to consolidation of the existing fills may also occur and require periodic maintenance.

### Frost Considerations

Frost may penetrate beneath sidewalks and pavements (or building slabs in unheated areas) and cause them to heave, and resulting displacements may be differential, particularly where sidewalks and pavements meet building doorways and along curbs. To limit heave and the creation of such uneven joints to generally tolerable magnitudes for most winters, a 16 inch thick base of ASTM C33 Blend 57 crushed stone should be placed beneath sensitive sidewalk or pavement areas, along with an underdrain to relieve any collected waters. The crushed stone should be separated from the surrounding soils with a non-woven synthetic filter fabric meeting the requirements of NYSDOT standard specifications table 737-01C for drainage geotextile.

## General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration points or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include, either specifically or by implication, any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not

intended for third parties. Any use of or reliance on the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating, including excavation support and dewatering requirements/design, are the responsibility of others.

Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider performing a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

# Figures

**Contents:**

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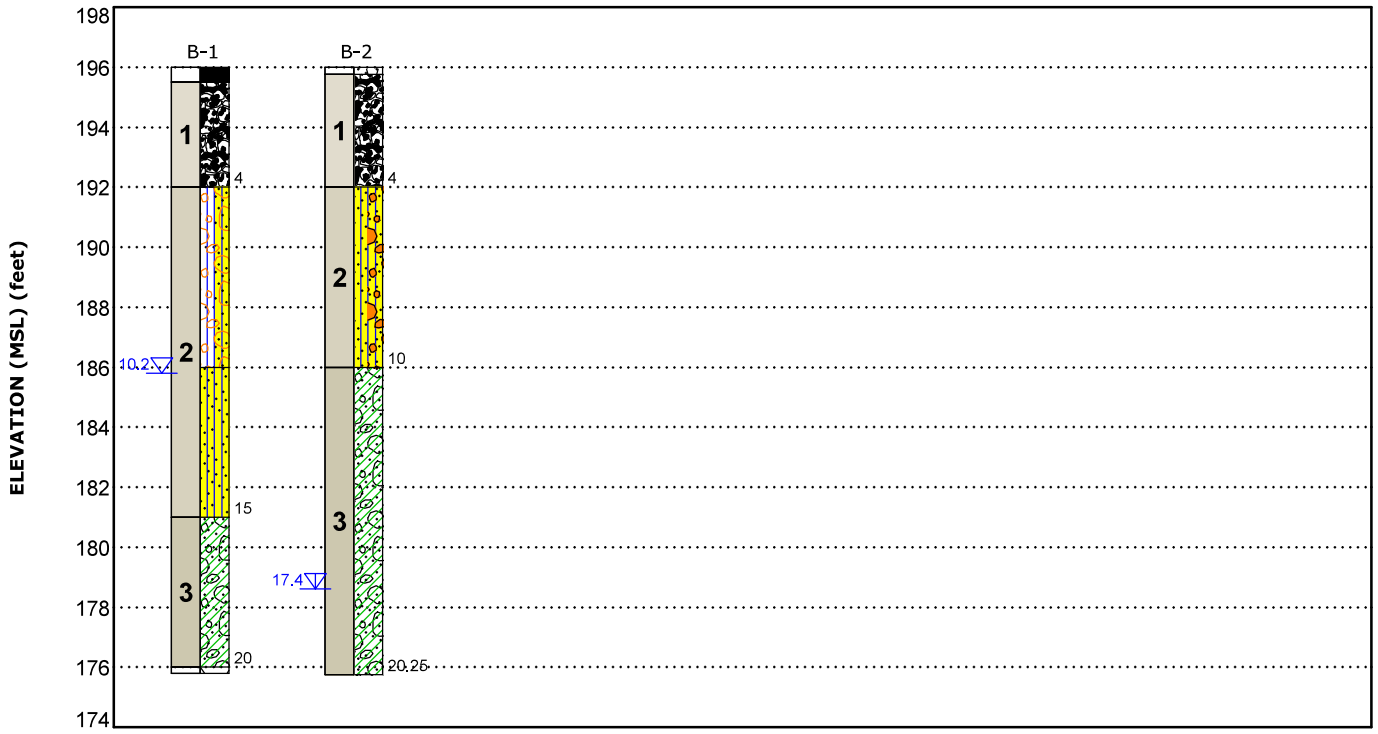
30 Corporate Cir Ste 201
Albany, NY

# GeoModel




This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

| Model Layer | Layer Name | General Description |
|---|---|---|
| 1 | Fill | Silty Sand with Gravel |
| 2 | Native Course-Grained Soil | Silty Sand with Gravel, Silty Gravel with Sand, Silty Sand, loose to dense |
| 3 | Glacial Till | Native Silt, Poorly Graded Gravel with Silt and Sand, with various amounts of cobbles and rock fragments noted, medium dense to dense and hard |

**Legend**

- Asphalt
- Fill
- Silty Gravel with Sand
- Silty Sand
- Glacial Till
- Weathered Rock
- Topsoil
- Silty Sand with Gravel

▽ First Water Observation
▽ Second Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time.
Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

# Attachments

# Exploration and Testing Procedures

## Field Exploration

| Number of Borings | Approximate Boring Depth (feet) | Location |
|---|---|---|
| 2 | 20.2 to 20.3 | Proposed building addition footprint |

**Boring Layout and Elevations:** The test boring locations were selected and were established in the field by Terracon using a hand-held GPS unit (estimated horizontal accuracy of ±10 feet), taped measurements and/or visual reference from existing site features (within the limitations of access, existing structures and underground/overhead utilities).

Ground surface elevations at the test boring locations were estimated using the topographic mapping provided for our use. If more precise locations or elevations are desired, the as-completed test locations should be surveyed.

**Subsurface Exploration Procedures:** The test borings were completed using a standard rotary drill rig equipped with hollow stem augers. As the augers were advanced, the soils were sampled at intervals of five feet or less in accordance with the Standard Method for Penetration Test and Split-Barrel Sampling of Soils, ASTM D1586. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon is driven into the ground by a 140-pound automatic hammer falling 30-inches per blow. The number of blows required to advance the sampling spoon between 6 and 18-inches of penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the corresponding test depths. Upon completion of drilling, the boreholes were backfilled with auger cuttings, sand and/or concrete cylinders, and the ground surface at each location was restored.

Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual descriptions of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. The sampling depths, penetration lengths, water level measurements and other information as applicable were recorded on the field boring logs.

The soil samples were placed in appropriate containers and taken to our laboratory for visual classification by a geologist or geotechnical engineer. The soils were described based on the material's color, texture, plasticity, moisture condition, etc. Soil classifications are in general accordance with the Unified Soil Classification System (USCS) as summarized herein. Final boring logs were prepared, and they represent the

Geotechnical Engineer's interpretation based on the field logs and visual classifications, along with whatever laboratory testing was performed.

## Laboratory Testing

Selected samples recovered from the test borings were submitted for laboratory testing as part of the subsurface investigation, to confirm the visual classifications and to provide quantitative index properties for use in the geotechnical evaluation. This testing was performed in general accordance with the following standard methods:

- ASTM D2216 - Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass (5 samples tested)
- ASTM D422 - Standard Test Method for Particle-Size Analysis of Soils (w/o hydrometer – 5 samples tested)

# Site Location and Exploration Plans

**Contents:**



Note: All attachments are one page unless noted above.

## Site Location

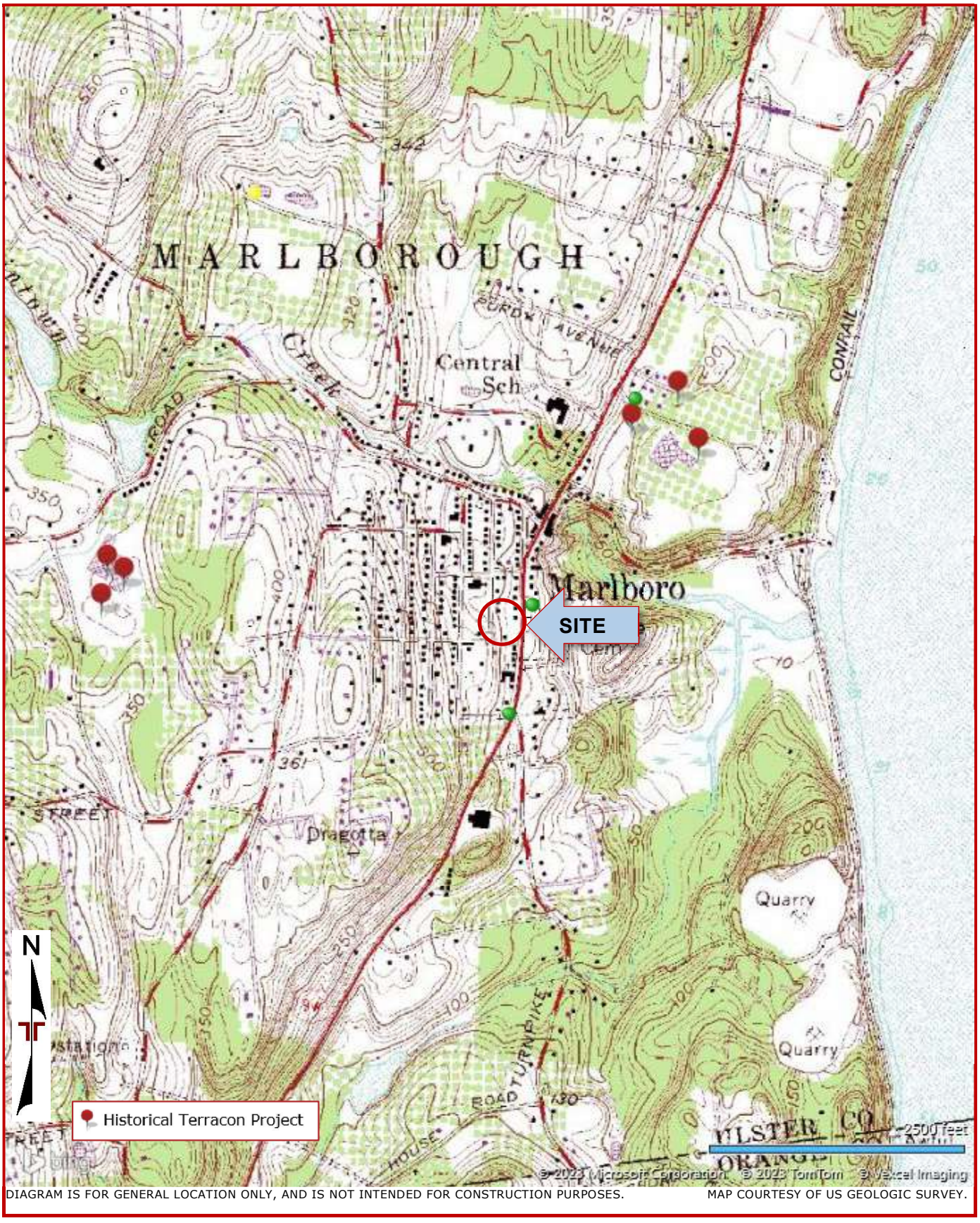



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES. MAP COURTESY OF US GEOLOGIC SURVEY.

## Exploration Plan

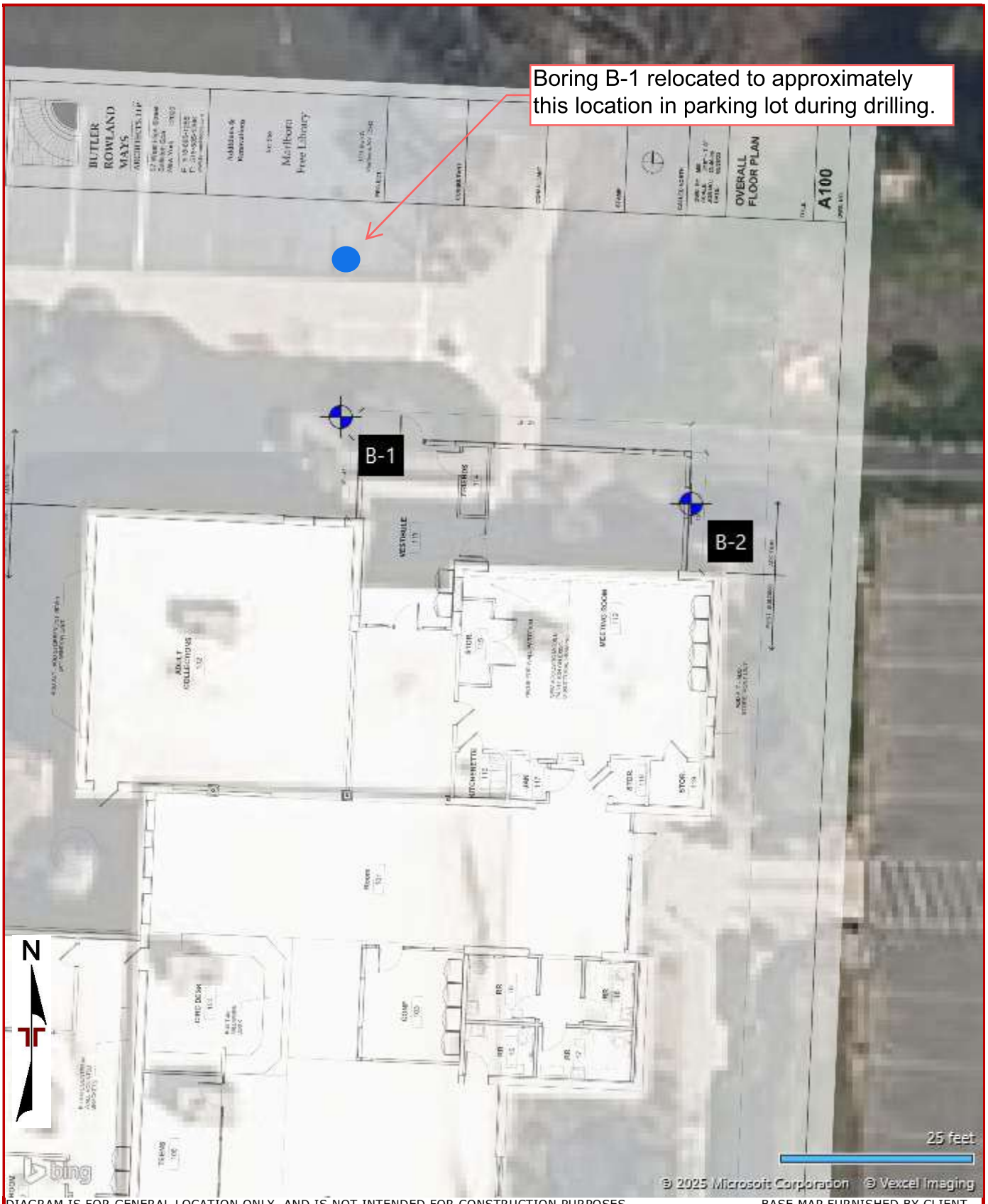



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES. BASE MAP FURNISHED BY CLIENT.

# Exploration and Laboratory Results

**Contents:**



Note: All attachments are one page unless noted above.

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# Boring Log No. B-1

Location: See Exploration Plan

Latitude: 41.6027° Longitude: -73.9731°

Depth (Ft.) | Approximate Elevation: 196 (Ft.)

| Model Layer | Depth (Ft.) | Elevation | Description | Water Level Observations | Sample Type | Recovery (In.) | Field Test Results | Water Content (%) |
|---|---|---|---|---|---|---|---|---|
| | 0.5 | 195.5 | **6" ASPHALT**, pavement at ground surface | | | | | |
| 1 | | | **FILL - SILTY SAND WITH GRAVEL**, black and brown | | | 8 | 23-5-3-1<br>N=8 | |
| | | | | | | 4 | 3-3-8-14<br>N=11 | 12.9 |
| | 4.0 | 192 | | | | | | |
| 2 | | | **SILTY GRAVEL WITH SAND (GM)**, brown, loose to medium dense<br><br>driller notes cobbles between 5 and 10 feet | | | 13 | 7-3-3-4<br>N=6 | |
| | | | | | | 14 | 5-7-7-4<br>N=14 | 10.7 |
| | 10.0 | 186 | | ▽ | | | | |
| | | | **SILTY SAND (SM)**, trace gravel, brown, medium dense | | | 11 | 12-6-5-9<br>N=11 | 16.5 |
| | 15.0 | 181 | | | | | | |
| 3 | | | **SILT (ML)**, trace clay, brown, hard, cobbles noted by driller, (GLACIAL TILL) | | | 12 | 62-29-50/3" | |
| | 20.0 | 176 | | | | | | |
| | 20.2 | 175.8 | **WEATHERED SHALE**, gray, very dense, rock fragments (presumed bedrock) | | | 2 | 50/2" | |
| | | | ***Boring Terminated at 20.2 Feet*** | | | | | |

Depth (Ft.): 5, 10, 15, 20

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevation Reference: Elevations were interpolated from a topographic site plan.

**Water Level Observations**
▽ Perched water

**Drill Rig**
CME 750X

**Hammer Type**
Automatic

**Driller**
Caleb Schindler

**Notes**

**Advancement Method**
2 1/4" ID HSA

**Abandonment Method**
Boring backfilled with soil cuttings upon completion.

**Logged by**
BG

**Boring Started**
03-27-2025

**Boring Completed**
03-27-2025

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# Boring Log No. B-2

Location: See Exploration Plan

Latitude: 41.6027° Longitude: -73.9729°

Depth (Ft.) | Approximate Elevation: 196 (Ft.)

| Model Layer | Graphic Log | Depth (Ft.) | Water Level Observations | Sample Type | Recovery (In.) | Field Test Results | Water Content (%) |
|---|---|---|---|---|---|---|---|
| | | 0.3 **MULCH**, at ground surface (195.75) | | | | | |
| 1 | | **FILL - SILTY SAND WITH GRAVEL**, trace organics, brown, loose | | | 11 | WH-2-3-3 N=5 | 17.6 |
| | | | | | 18 | 5-13-19-21 N=32 | 10.6 |
| | | 4.0 (192) | | | | | |
| 2 | | **SILTY SAND WITH GRAVEL (SM)**, brown, medium dense to dense, driller noted occasional cobbles | | | 12 | 15-14-14-6 N=28 | |
| | | no recovery, evidently pushed a cobble | | | 0 | 4-3-2-3 N=5 | |
| | | 10.0 (186) | | | | | |
| 3 | | **POORLY GRADED GRAVEL WITH SILT AND SAND (GP-GM)**, brown, medium dense to dense, (GLACIAL TILL) | | | 11 | 20-17-17 N=34 | 11.0 |
| | | no recovery, evidently pushed a cobble | ▽ | | 0 | 26-11-9-10 N=20 | |
| | | 20.3 (175.75) | | | 4 | 50/3" | |
| | | ***Boring Terminated at 20.3 Feet*** | | | | | |

5 10 15 20

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevation Reference: Elevations were interpolated from a topographic site plan.

**Water Level Observations**

▽ While drilling

**Drill Rig**
CME 750X

**Hammer Type**
Automatic

**Driller**
Caleb Schindler

**Notes**

**Advancement Method**
2 1/4" ID HSA

**Abandonment Method**
Boring backfilled with soil cuttings upon completion.

**Logged by**
BG

**Boring Started**
03-27-2025

**Boring Completed**
03-27-2025

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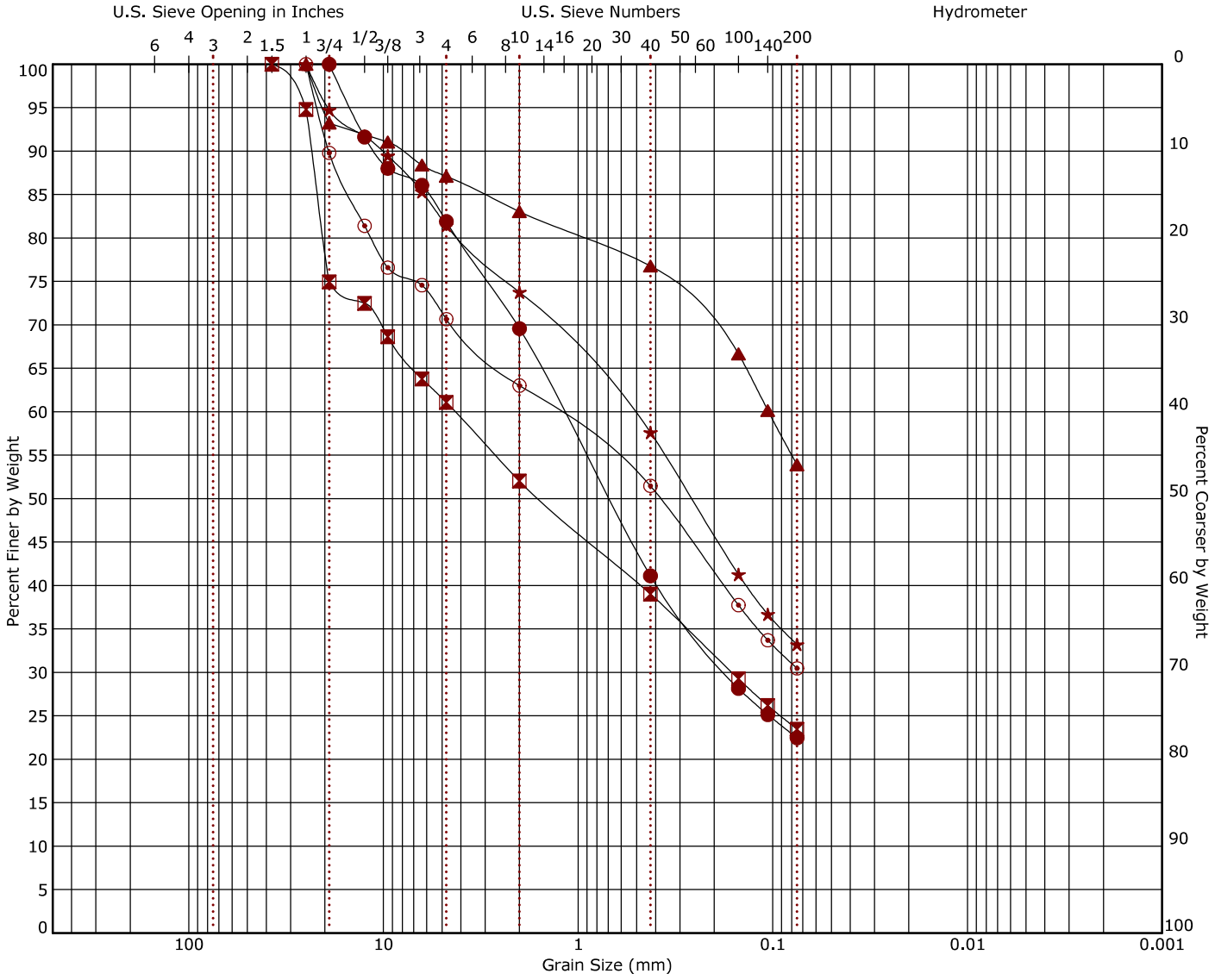
# Grain Size Distribution

## ASTM D422 / ASTM C136 / AASHTO T27




| Cobbles | Gravel | | Sand | | | Silt or Clay |
|---|---|---|---|---|---|---|
| | coarse | fine | coarse | medium | fine | |

| Boring ID | | Depth (Ft) | Description | USCS | LL | PL | PI | Cc | Cu |
|---|---|---|---|---|---|---|---|---|---|
| ● | B-1 | 2 - 4 | SILTY SAND with GRAVEL | SM | | | | | |
| ⊠ | B-1 | 6 - 8 | SILTY GRAVEL with SAND | GM | | | | | |
| ▲ | B-1 | 10 - 12 | SILTY SAND | SM | | | | | |
| ★ | B-2 | 0 - 2 | SILTY SAND with GRAVEL | SM | | | | | |
| ⊙ | B-2 | 2 - 4 | SILTY SAND with GRAVEL | SM | | | | | |

| Boring ID | | Depth (Ft) | $D_{100}$ | $D_{60}$ | $D_{30}$ | $D_{10}$ | %Cobbles | %Gravel | %Sand | %Fines | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ● | B-1 | 2 - 4 | 19 | 1.188 | 0.174 | | 0.0 | 18.1 | 59.4 | 22.5 | | |
| ⊠ | B-1 | 6 - 8 | 37.5 | 4.283 | 0.162 | | 0.0 | 38.9 | 37.6 | 23.5 | | |
| ▲ | B-1 | 10 - 12 | 25 | 0.105 | | | 0.0 | 12.9 | 33.2 | 53.9 | | |
| ★ | B-2 | 0 - 2 | 25 | 0.534 | | | 0.0 | 18.6 | 48.2 | 33.2 | | |
| ⊙ | B-2 | 2 - 4 | 25 | 1.335 | | | 0.0 | 29.3 | 40.2 | 30.5 | | |

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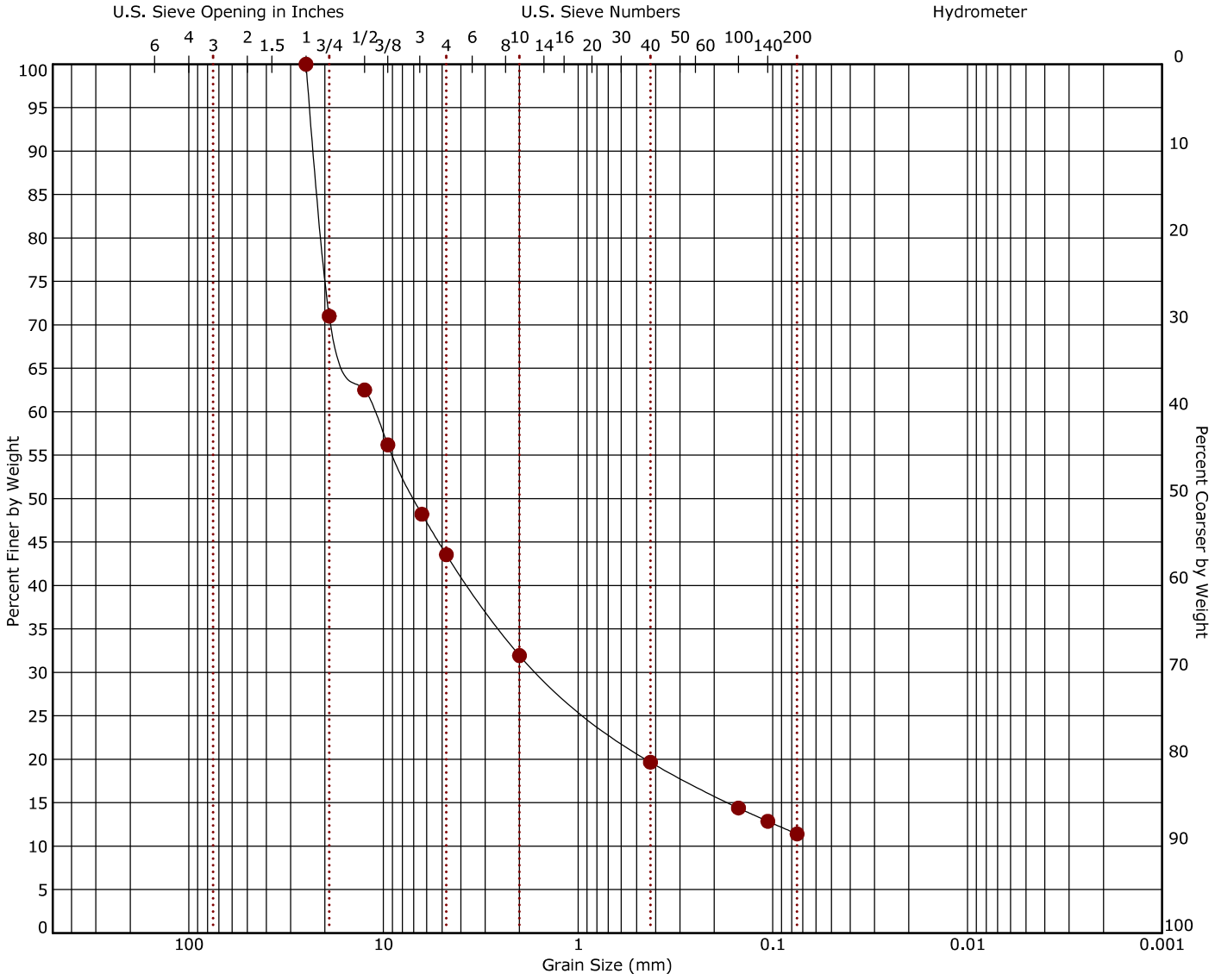
Terracon Project No. JB235288

Terracon
30 Corporate Cir Ste 201
Albany, NY

# Grain Size Distribution

## ASTM D422 / ASTM C136 / AASHTO T27




| Cobbles | Gravel | | Sand | | | Silt or Clay |
|---|---|---|---|---|---|---|
| | coarse | fine | coarse | medium | fine | |

| Boring ID | Depth (Ft) | Description | USCS | LL | PL | PI | Cc | Cu |
|---|---|---|---|---|---|---|---|---|
| B-2 | 10 - 11.5 | POORLY GRADED GRAVEL with SILT and SAND | SP-SM | | | | 4.08 | 208.77 |

| Boring ID | Depth (Ft) | $D_{100}$ | $D_{60}$ | $D_{30}$ | $D_{10}$ | %Cobbles | %Gravel | %Sand | %Fines | %Silt | %Clay |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B-2 | 10 - 11.5 | 25 | 11.209 | 1.567 | | 0.0 | 56.5 | 32.1 | 11.4 | | |

# Supporting Information

**Contents:**



Note: All attachments are one page unless noted above.

Terracon
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Albany, NY

# General Notes

| Sampling | Water Level | Field Tests |
|---|---|---|
| Standard Penetration Test | Water Initially Encountered<br>Water Level After a Specified Period of Time<br>Water Level After a Specified Period of Time<br>Cave In Encountered<br>Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations. | N Standard Penetration Test Resistance (Blows/Ft.)<br>(HP) Hand Penetrometer<br>(T) Torvane<br>(DCP) Dynamic Cone Penetrometer<br>UC Unconfined Compressive Strength<br>(PID) Photo-Ionization Detector<br>(OVA) Organic Vapor Analyzer |

## Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

## Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

## Strength Terms

**Relative Density of Coarse-Grained Soils**
(More than 50% retained on No. 200 sieve.)
Density determined by Standard Penetration Resistance

| Relative Density | Standard Penetration or N-Value (Blows/Ft.) |
|---|---|
| Very Loose | 0 - 3 |
| Loose | 4 - 9 |
| Medium Dense | 10 - 29 |
| Dense | 30 - 50 |
| Very Dense | > 50 |

**Consistency of Fine-Grained Soils**
(50% or more passing the No. 200 sieve.)
Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance

| Consistency | Unconfined Compressive Strength Qu (tsf) | Standard Penetration or N-Value (Blows/Ft.) |
|---|---|---|
| Very Soft | less than 0.25 | 0 - 1 |
| Soft | 0.25 to 0.50 | 2 - 4 |
| Medium Stiff | 0.50 to 1.00 | 5 - 8 |
| Stiff | 1.00 to 2.00 | 9 - 15 |
| Very Stiff | 2.00 to 4.00 | 16 - 30 |
| Hard | > 4.00 | > 30 |

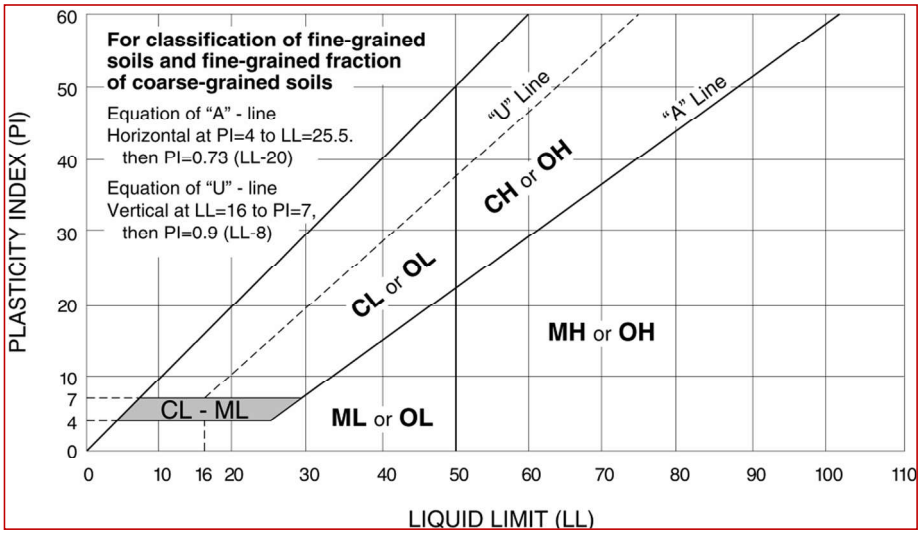
## Relevance of Exploration and Laboratory Test Results

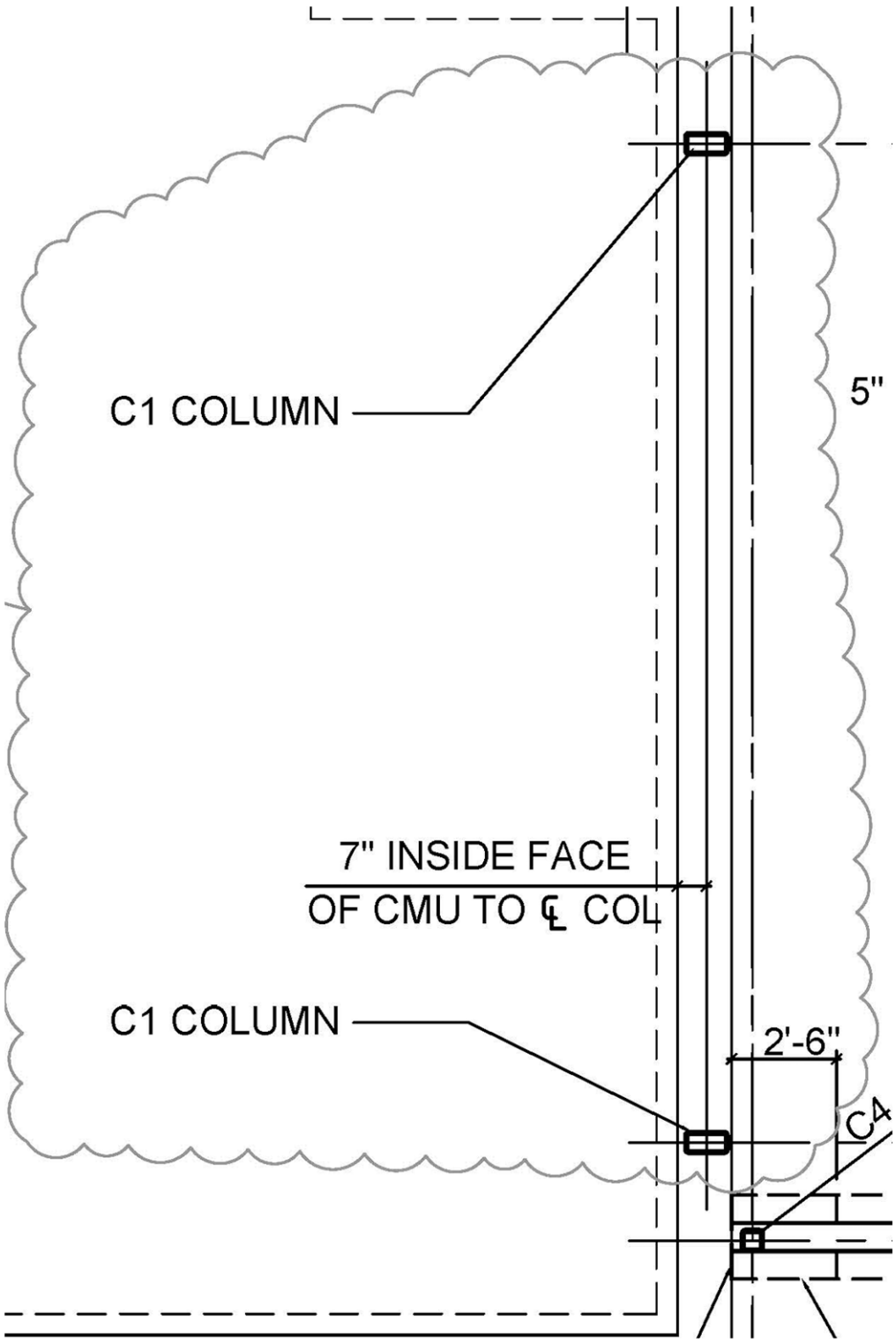
Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

# Unified Soil Classification System

| Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A] | | | | Soil Classification | |
|---|---|---|---|---|---|
| | | | | Group Symbol | Group Name [B] |
| **Coarse-Grained Soils:** More than 50% retained on No. 4 sieve | **Gravels:** More than 50% of coarse fraction retained on No. 4 sieve | **Clean Gravels:** Less than 5% fines [C] | Cu≥4 and 1≤Cc≤3 [E] | GW | Well-graded gravel [F] |
| | | | Cu<4 and/or [Cc<1 or Cc>3.0] [E] | GP | Poorly graded gravel [F] |
| | | **Gravels with Fines:** More than 12% fines [C] | Fines classify as ML or MH | GM | Silty gravel [F, G, H] |
| | | | Fines classify as CL or CH | GC | Clayey gravel [F, G, H] |
| | **Sands:** 50% or more of coarse fraction passes No. 4 sieve | **Clean Sands:** Less than 5% fines [D] | Cu≥6 and 1≤Cc≤3 [E] | SW | Well-graded sand [I] |
| | | | Cu<6 and/or [Cc<1 or Cc>3.0] [E] | SP | Poorly graded sand [I] |
| | | **Sands with Fines:** More than 12% fines [D] | Fines classify as ML or MH | SM | Silty sand [G, H, I] |
| | | | Fines classify as CL or CH | SC | Clayey sand [G, H, I] |
| **Fine-Grained Soils:** 50% or more passes the No. 200 sieve | **Silts and Clays:** Liquid limit less than 50 | **Inorganic:** | PI > 7 and plots above "A" line [J] | CL | Lean clay [K, L, M] |
| | | | PI < 4 or plots below "A" line [J] | ML | Silt [K, L, M] |
| | | **Organic:** | $\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$ | OL | Organic clay [K, L, M, N] |
| | | | | | Organic silt [K, L, M, O] |
| | **Silts and Clays:** Liquid limit 50 or more | **Inorganic:** | PI plots on or above "A" line | CH | Fat clay [K, L, M] |
| | | | PI plots below "A" line | MH | Elastic silt [K, L, M] |
| | | **Organic:** | $\frac{LL\ oven\ dried}{LL\ not\ dried} < 0.75$ | OH | Organic clay [K, L, M, P] |
| | | | | | Organic silt [K, L, M, Q] |
| **Highly organic soils:** | Primarily organic matter, dark in color, and organic odor | | | PT | Peat |

[A] Based on the material passing the 3-inch (75-mm) sieve.
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.
[E] $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
[F] If soil contains ≥ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] PI ≥ 4 and plots on or above "A" line.
[O] PI < 4 or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.



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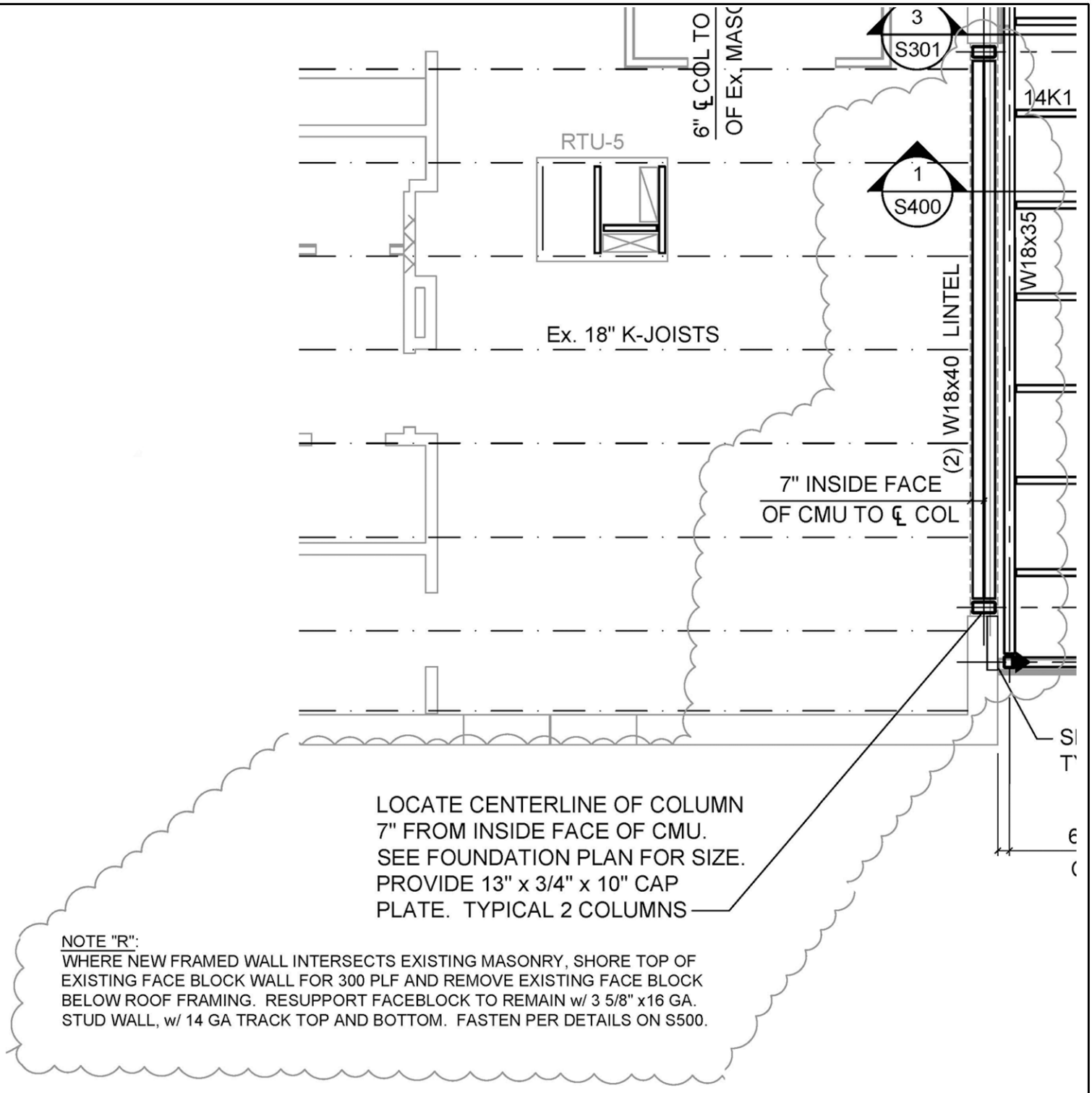
Addition & Interior Renovations for the
MARLBORO FREE LIBRARY

1251 Rte 9W
Marlboro, NY 12542

| | | |
|---|---|---|
| Project number | 23-46-06 | SK1-S101-1 |
| Date | 6/3/2025 | |
| Drawn by | | |
| Addendum #: | 1 | Scale |




NOTE "R":
WHERE NEW FRAMED WALL INTERSECTS EXISTING MASONRY, SHORE TOP OF EXISTING FACE BLOCK WALL FOR 300 PLF AND REMOVE EXISTING FACE BLOCK BELOW ROOF FRAMING. RESUPPORT FACEBLOCK TO REMAIN w/ 3 5/8" x16 GA. STUD WALL, w/ 14 GA TRACK TOP AND BOTTOM. FASTEN PER DETAILS ON S500.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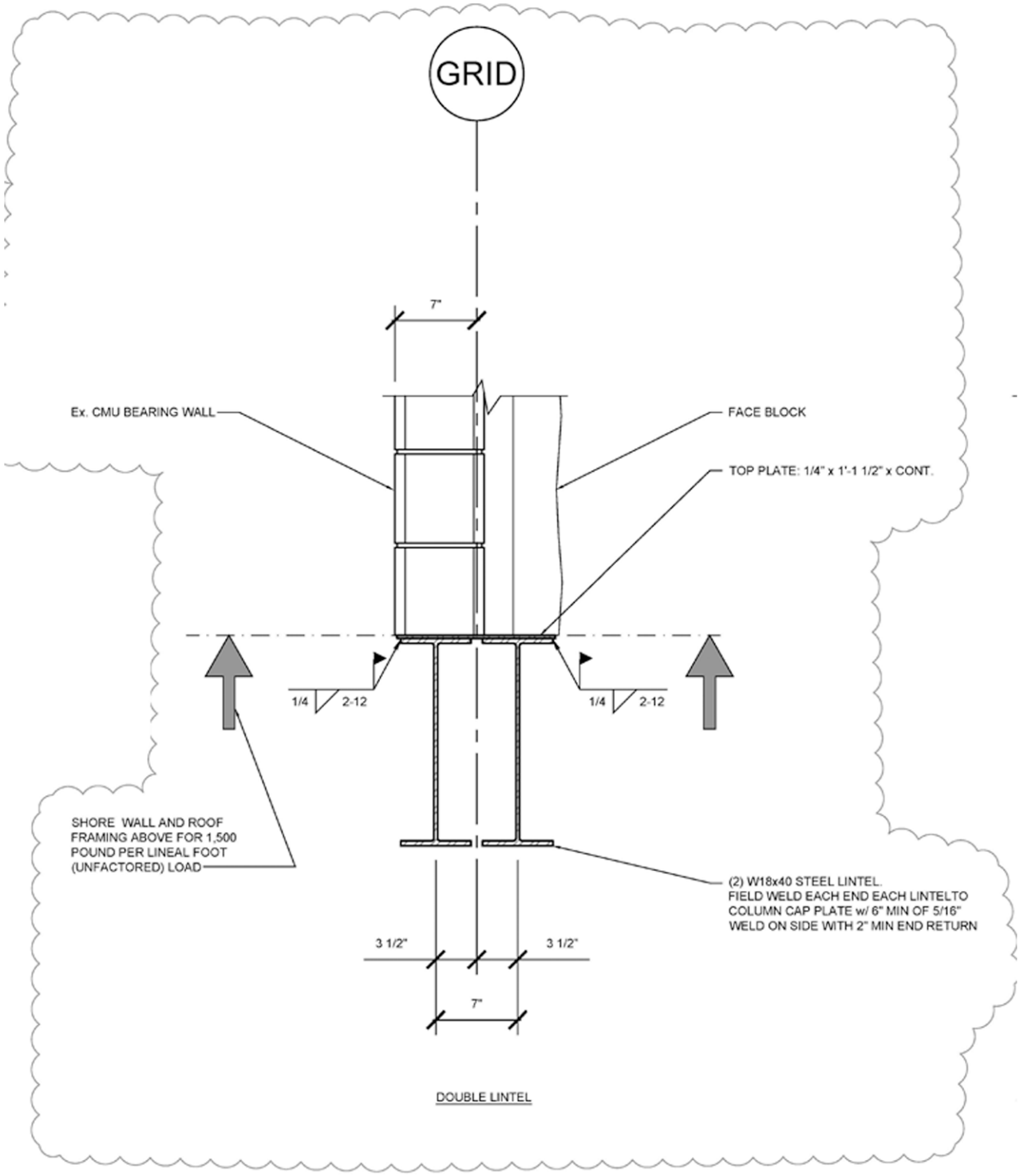
| Date | 6/3/2025 | |
| Drawn by | | |
| Addendum #: | 1 | Scale |




## LINTEL SECTIONS

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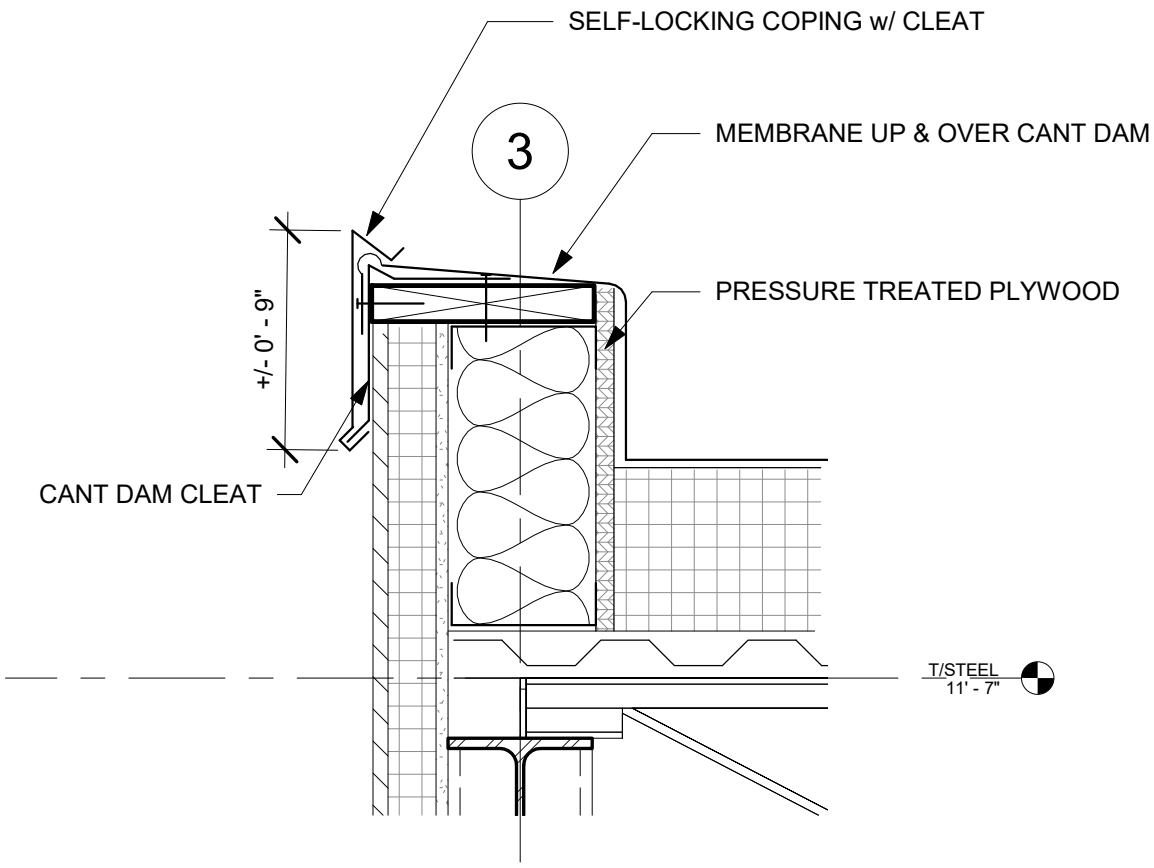
| | | |
|---|---|---|
| Project number | 23-46-06 | SK1-S400-1 |
| Date | 6/3/2025 | |
| Drawn by | | |
| Addendum #: | 1 | Scale |




2 ROOF EDGE DETAIL
1 1/2" = 1'-0"

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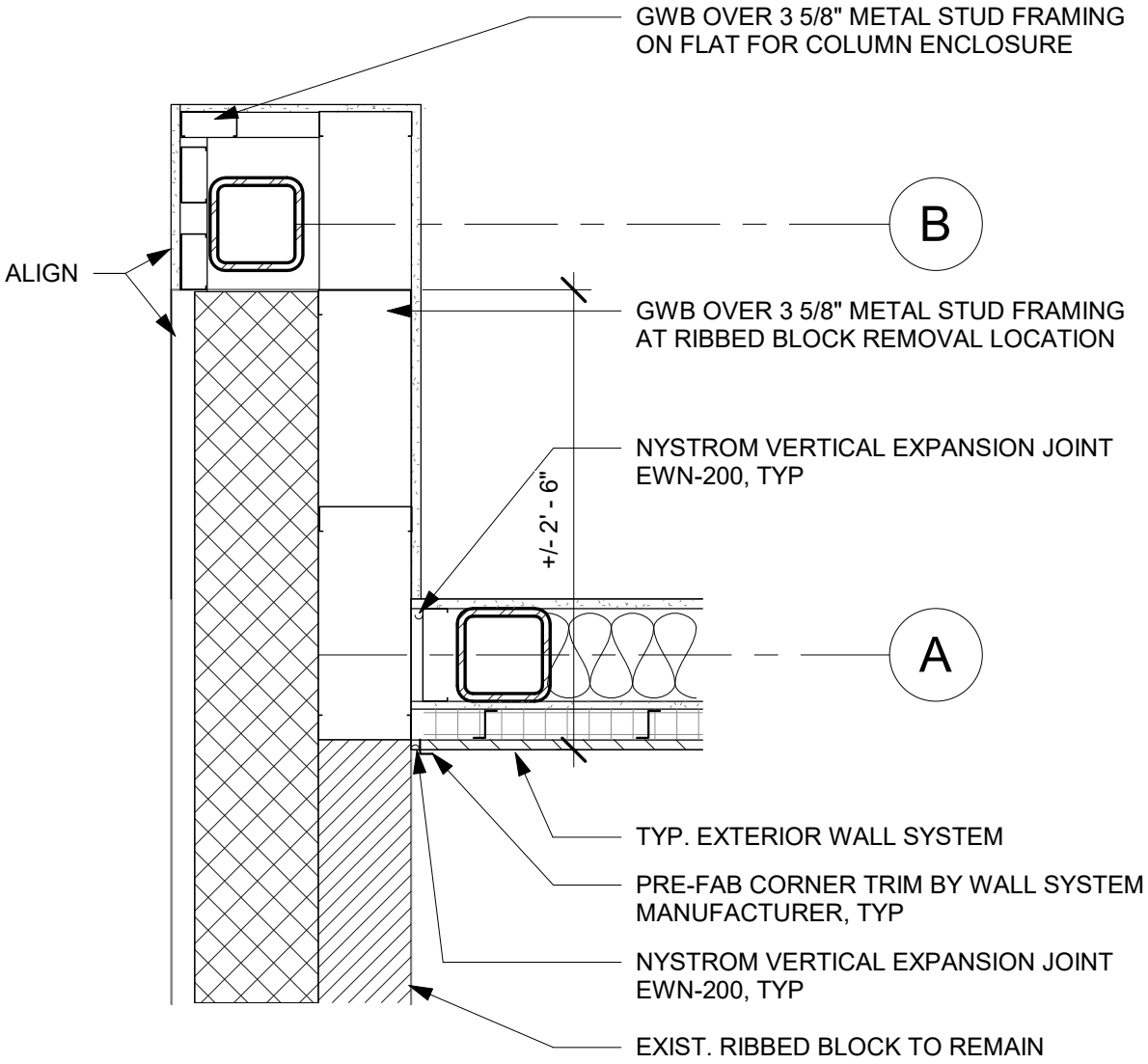
| | | |
|---|---|---|
| Project number | 23-46-06 | SK1-A102-1 |
| Date | 6/3/2025 | |
| Drawn by | MB | |
| Addendum #: | 1 | Scale 1 1/2" = 1'-0" |




1 PLAN DETAIL @ ADDITION
1" = 1'-0"

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| | | | |
|---|---|---|---|
| Project number | 23-46-06 | | SK1-A302-1 |
| Date | 6/3/2025 | | |
| Drawn by | MB | | |
| Addendum #: | Checker | Scale | 1" = 1'-0" |

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# Pre-Bid Meeting Notes

**PROJECT:** **Addition and Interior Renovations for the Marlboro Free Library**

PROJECT Nº: **23•46•06**

DATE: 28 May 2025

ATTENDING: Steven Rowland, Butler Rowland Mays Architects
Lindsay Jankovitz, Director, Marlboro Free Library

See Attached "Sign-In Sheet" for Contractors

| TOPIC | RESPONSE / ACTION REQUIRED |
|---|---|
| Contract | The project has Four Prime Contracts:<br>Contract No. 1 – General Construction,<br>Contract No. 2 – Plumbing,<br>Contract No. 3 – HVAC,<br>Contract No. 4 – Electrical<br>`<br><br>The project has four Add Alternates:<br>Add Alt #1 – New Expanded Windows & Associated Work at Children's Room<br>Add Alt #2 – Two New Masonry Openings and Window Units in Exist. Exterior Walls<br>Add Alt #3 – Replacement of Existing Exterior Doors<br>Add Alt #4 – Removal of Exterior Sliding Door System and New Infill Work |
| Wage Rates | NYS Dept of Labor Prevailing wage rates apply.<br>Contractors must submit certified payroll documentation with each payment application for processing.<br>Payment applications will not be approved without certified payroll. |
| Applications For Payment | Applications for Payment will be reviewed by the Library each month; based on the Library's funding sources; payment applications will be processed within 75 days of submission. |
| Tax Exempt | The Library is a tax-exempt entity. A tax-exempt certificate will be provided to the successful bidders. |
| Site Conditions | The Library will remain open throughout the project; the public and staff will occupy the building daily. Work shall be sequenced so that the addition and Meeting Room renovations are completed first, allowing the Library to then relocate into that space, while the remaining renovation work is completed.<br><br>Contractor to provide interior and exterior temporary protection measures throughout the project.<br><br>Turning off power, heat / air conditioning, or water for any duration of time must be coordinated with the Library Director and staff at least 24 hours in advance, and temporary heat and lighting should be provided if applicable.<br><br>A construction layout area is available, as well as contractor parking spaces – although parking spaces will change following the sequence of work / which entrance is available to the public.<br><br>The Owner will be responsible for removing all furniture, books, equipment, etc. from Contractor work areas, prior to the commencement of work. |

| | |
|---|---|
| Building Access | Anyone needed to return to the building can contact the Director, Lindsay Jankovitz, at 845-236-7272, Ext. 215, or via email at: ljankovitz@marlborolibrary.org |
| Schedule | Bids due at the circulation desk of the Marlboro Free Library before 1pm Wednesday, June 11, 2025. Bids will be opened and publicly read aloud at 1:00pm on Wednesday, June 11, 2025 in the Library's Meeting Room. |
| | The Library Board of Trustees will issue a Letter of Intent to the successful low bidder following a Special Board Meeting the week of June 16th, 2025. |
| | The successful contractor should submit required paperwork (insurance certificate, bonds, etc.) prior to contract execution. Contractor should after issuance of Letter of Intent commence work immediately with submittals and shop drawings. On site work should begin as promptly as possible, and substantial completion must be achieved on or before June 1, 2026, with final completion 14 days later. |

THESE MINUTES REFLECT OUR UNDERSTANDING OF THE BUSINESS TRANSACTED AND DECISIONS OR STATEMENTS MADE AT THIS MEETING. PLEASE PROVIDE CORRECTIONS OR ADDITIONS TO OUR OFFICE WITHIN 10 DAYS OF DATE STATED BELOW. *Note: Items in italics happened after the Meeting and are included for clarification purposes.*

Respectfully Submitted,

Steven G. Rowland, RA

Dist. to: All attendees and known Plan Holders (via Addendum #1), Marlboro Free Library, Sage Engineering Associates, Preston Engineering, and Engineering & Surveying Properties.

# PRE-BID MEETING SIGN-IN

BUTLER ROWLAND MAYS

ARCHITECTS, LLP

PROJECT: **Addition and Interior Renovations for the Marlboro Free Library**

DATE: May 28, 2025

TIME: ~~10~~ 11:00 AM

PROJECT #: 23•46•06

| NAME | FIRM / COMPANY/PHONE | EMAIL ADDRESS |
|---|---|---|
| Kyle Cuomo | Mid Hudson Construction Mgmt (845) 298-9230 | Estimating@Midhudsoncm.com |
| Ben Carino | Integrity Mechanical | bencarino3@gmail.com |
| MARK FIGLIOZZI | TRANSITIONAL Builders | TBI1987@YAHOO.COM |
| Keith CLASEN | Ashley Mechanical | kclasen@ashleymechanical.com |
| Pete Best-Hall | Iron Sword | bid@ironswordllc.com |
| VINNY POMARICO | DJ Heating | CAD@DJHVAC.COM |
| VALENTIN LISI | LISI CONTRACTING INC | LISICONTRACTING@LIVE.COM |
| | | |
| | | |
| | | |

# PRE-BID MEETING SIGN-IN

BUTLER ROWLAND MAYS

ARCHITECTS, LLP

PROJECT: **Addition and Interior Renovations for the Marlboro Free Library**

DATE: May 28, 2025

TIME: ~~10~~11:00 AM

PROJECT #: 23•46•06

| NAME | FIRM / COMPANY/PHONE | EMAIL ADDRESS |
|---|---|---|
| Rick Ruffo | Integrity Mechanical | RickRuffo@Integrity-mechanical.com |
| Erik Pfohl | Reg Construction | epfohl@contactRCS.com |
| RAy Countryman | CANDeLA's plumbing | RAy@CANDela's plumbing.Com |
| Jack Candela | Candelas Plumbing | Jack@Candelasplumbing.com |
| Michael Vittorino | Vamco | Michael@VamcoSM.com |
| Joe Barone | BCG | Joseph.barone@bcgcmgc.com |
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