

Exhibit H
Geotechnical

July 6, 2023

Bradley J. Broback, P.E.
Department Manager – Geotechnical Services Building & Construction
Intertek-PSI
821 Corporate Court, Suite 100
Waukesha, WI 53189



Subject: Geotechnical Slope Stability Analysis Process
Hartland Quarry Apartments
700/701 Capitol Drive, Hartland, Wisconsin

Dear Mr. Broback,

Based on our collaborative discussions and substantial efforts, we recommend the following process for completing the slope stability analysis related to the above-referenced project. Attached is the plan that illustrated the slope sections we have identified for analysis. The locations were selected based on the existing conditions, the proposed final grades, and proximity to existing and proposed structures.

To summarize, the site is a former sand and gravel pit last operated in the 1970s. Sand and gravel was extracted from the entirety of the site with perimeter slopes approaching 1.5:1 along High Street, Palmer Drive, the St. Charles Cemetery, and the Village Cemetery. The existing slopes are generally stable with 30+ years of vegetation present. Portions of the site along the eastern boundary were unexcavated due to excessive silt and clay in the sand and gravel deposits.

The civil engineering design includes raising the lowest portions of the pit base, cutting some elevated embankments (mostly in the southwest portion of the property), constructing buttresses along the toes of the existing slopes, and planting vegetation on the buttresses. The goal is to produce safe slopes that meet or exceed a 2:1 configuration. The buttresses will provide an additional layer of stability and serve as a safe collection area for any erosion that may occur.

GeoTest has evaluated all the existing slopes, collected representative samples of the embankments and pit materials, and performed laboratory testing to characterize the soils. Those results were provided in the geotechnical report dated May 4, 2023. In summary, most of the soils can be grouped into two descriptions: 1) sand and gravel, and 2) clayey to silty sand and gravel.

Our next step is to conduct slope stability analyses of the seven sections, using the information gathered and considering the proposed grade changes, to determine the critical



slope surfaces and slope stability safety factors. The development team will then evaluate the results and develop an appropriate direction related to the civil engineering design.

Let me know if you have any questions.

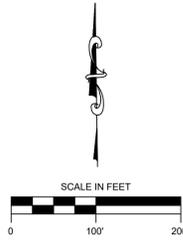
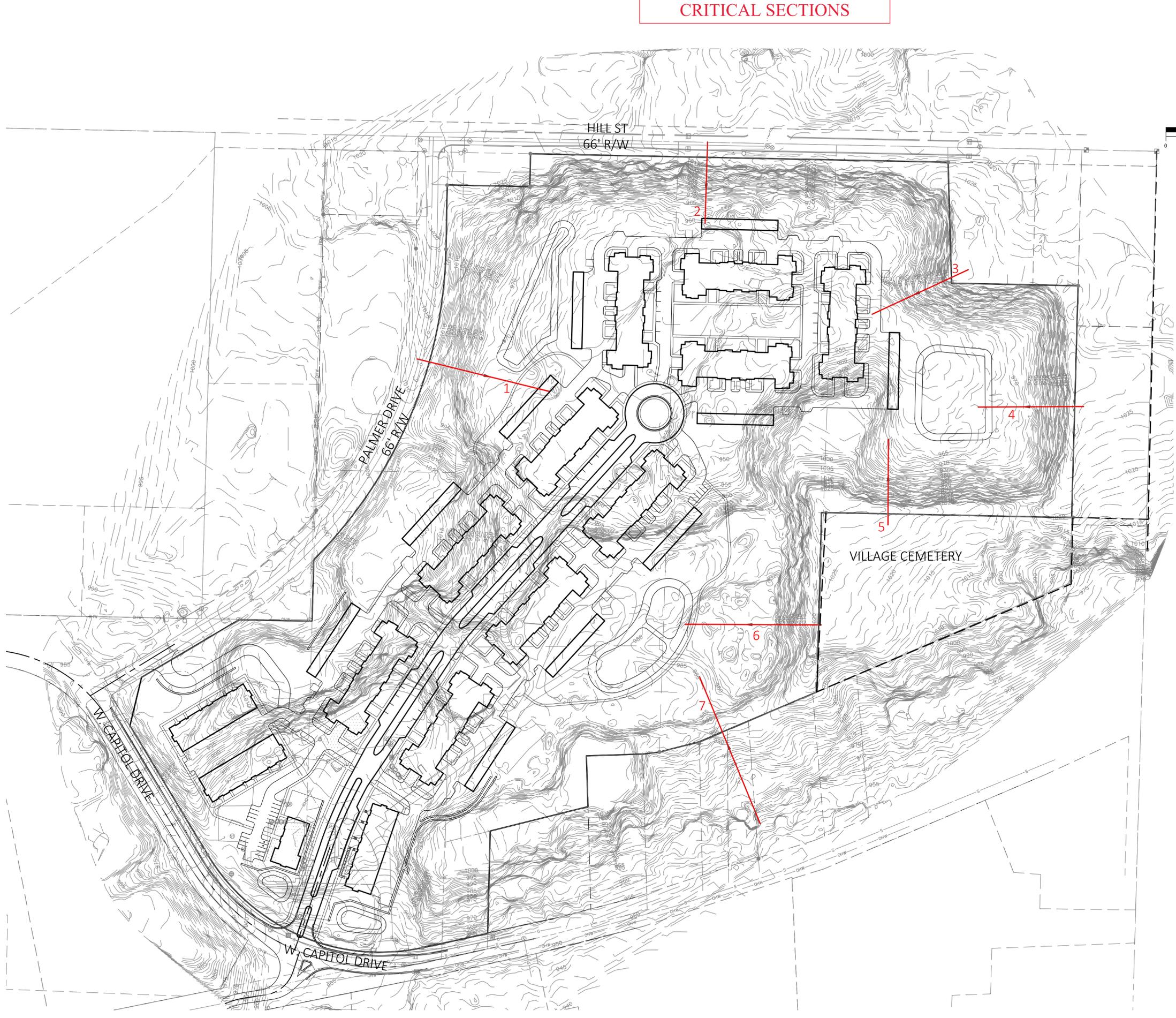
Sincerely,

Michael D. Frede, P.E.

Michael D. Frede, P.E.
Technical Director/Senior Engineer

//Attachment

**SLOPE STABILITY ANALYSIS
CRITICAL SECTIONS**



**PRELIMINARY
NOT FOR
CONSTRUCTION**

Jul 06, 2023 - 1:10pm
S:\Design & Construction Services\080-C3D\Mandel Group\Hartland Apartments 20 - DESIGN\Global Stability_Geotest.dwg

NO.	REVISION DESCRIPTION	DATE

Paynet+Dolan
A WALBECK COMPANY
www.walbeckgroup.com
(800) 787-7596

PROJECT:
HARTLAND APARTMENTS
700 W. CAPITOL DRIVE
VILLAGE OF HARTLAND, WI

CLIENT:
THREE LEAF PARTNERS
504 W. JUNEAU AVE
MILWAUKEE, WI 53203

PROJECT TITLE:
GLOBAL STABILITY SECTIONS - OVERVIEW

COPYRIGHT NOTICE
THESE DRAWINGS AS INSTRUMENTS OF SERVICE REMAIN THE PROPERTY OF PAYNE & DOLAN, INC. ANY CHANGES, PUBLICATION, OR UNAUTHORIZED USE IS PROHIBITED UNLESS EXPRESSLY AUTHORIZED BY PAYNE & DOLAN, INC.

Drawing Scale: 1" = 100'
Drawn: NJD 7/6/2023
Checked: CTD 7/6/2023
P&D Project No: 490686

DIGGERSHOTLINE
Toll Free (800) 242-8511
Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

May 4, 2023

John Ford
President
Three Leaf Partners
504 W. Juneau Avenue
Milwaukee WI, 53203



Subject: Geotechnical Subsurface Investigation
Hartland Quarry Apartments
700/701 W. Capitol Drive, Hartland, Wisconsin

Dear Mr. Ford:

GeoTest, Inc. (GeoTest) has prepared this geotechnical engineering report related to the above-referenced project. This report describes the subsurface exploration and laboratory testing programs and presents recommendations regarding foundation support of the proposed structures, construction of floor slabs, pavements, and stormwater management systems, bluff stabilization, and includes other construction considerations. All environmental-related services are being provided by others.

Project Description

Three Leaf Partners is proposing to develop the property located at 700/701 W. Capitol Drive in the Village of Hartland, Wisconsin. The location of the project is illustrated in Figure 1 in Appendix A. The boundaries of the combined 45-acre property are illustrated in Figure 2 in Appendix A.

The proposed development consists of eighteen separate buildings, including a single-story club house, two- and three-story apartment buildings (some slab-on-grade and some with below-grade parking), and single-story garage buildings. The development will also include parking and drive paved areas and multiple stormwater management devices. The proposed development is illustrated in Figure 3 in Appendix A.

Structural loads have not been provided. However, we anticipate that column and wall loads will not exceed 300 kips and 5 kips per linear foot, respectively.

The finished floor elevations for the new buildings have not been provided but are expected to vary across the property. The preliminary civil engineering plans indicate cuts and fills of up to 15 feet are anticipated to achieve the final site grades.

The stormwater management facilities are designed, on a preliminary basis, to consist of four infiltration ponds. The entire development will be internally drained.

The perimeter bluffs currently have slopes steeper than 1h:1v, with many sections close to 0.75h:1v. The proposed development plan assumes the final slopes will be designed for 2h:1v.

Property History

To develop an appropriate geotechnical scope of work for this project, research and a site walk-through were completed. The research included reviewing local well logs (available from Waukesha County), a past environmental investigation report (produced by Drake Environmental, Inc.), and construction materials testing reports (produced by Gestra Engineering, Inc.). The Well logs and Drake and Gestra documents are included in Appendix B.

We interviewed individuals familiar with past activities at the property, including Jason Palmer with Cass Custom Crushing and Ed Troxell with Riv/Crete Ready Mix. We also toured the property with Jason and Ed, along with employees from Walbec Group, the project's civil engineering consultant.

The geologic setting at the property was described as granular (primarily sand and gravel) glacial deposits. The property was mined for road gravel from the 1930's to the 1960's (known as Palmer Sand & Gravel), after which it became a concrete plant under multiple company names. The concrete plant operations were located in the southwest corner of the property but are no longer active.

The property owners began accepting fill materials in the 1970's, which still occurs. Most of the fills appear to consist of soil and concrete wastes, but also occasional inert materials that include asphalt, building materials, wood, and metal. It is currently being used as an operational base for a trucking company and to store construction equipment.

Most of the property perimeter was lined with bluffs formed by past mining operations. Although the property's ground surface was near the adjacent property elevations in the southwest corner, the remaining elevation differences were as high as 85 feet. Therefore, an integral aspect of the development plan includes addressing the substantial perimeter embankments, not only for safety but also to maximize the buildable area.

Two areas that were unusual, with an unknown history, were the apparent overburden stockpiled soils forming the north boundary of the former concrete plant area at the southwest corner of the property, and the bluff peninsula in the east portion of the former pit that extends northward from the south property boundary. It was believed that the overburden stockpiled soils were placed as a buffer between the adjacent residential area to the west and to serve as a ramp for trucks to unload into a crusher. No one had an explanation for why the bluff peninsula was not excavated during the

mining operations, other than maybe they were unsuitable for production. These two areas were identified for evaluation, in addition to the overall pit base and bluffs.

Scope of Work

Geotechnical Subsurface Exploration

The research identified five areas with different soils and materials to be targeted for evaluation. These areas (described below) are illustrated on Figure 4 in Appendix A. This figure does not illustrate the bluff areas, although they also warranted evaluation.

- Industrial Development Area (including the apparent overburden stockpiled soils)
- Construction Debris Fill
- Soft Clay/Silt Sediment
- Compacted Imported Soil Fill
- Native Soils – Pit Base

The following geotechnical exploration program was developed to evaluate these areas:

- Nine test pits were excavated to depths of about 6 to 11 feet.
- Nineteen surface samples were collected from the perimeter bluffs.

The approximate sampling locations are identified on the Sampling Location Diagram (Figure 5) in Appendix A. Representative samples from the test pits and bluffs were collected in buckets and returned to GeoTest for laboratory testing and classification.

The test pit locations, the ground surface elevations at the test pits, and their depths were measured by a Walbec surveyor at the time they were excavated. Their locations and the elevation/depth data are represented on two figures provided by Walbec, which are included in Appendix B.

Laboratory Testing

The laboratory testing program consisted of the following:

- Modified Proctor testing of four samples.
- Grain Size Analyses of twenty-three samples.
- Atterberg Limits testing of one sample.

All laboratory results are presented in reports included in Appendix C.

In addition, a GeoTest geotechnical engineer examined and visually classified each sample, based on texture and plasticity, in accordance with the Unified Soil Classification System (USCS). General notes and a description of the USCS

classification system are included in Appendix C. The soil descriptions are presented in this report.

The recovered soil samples will be retained for 60 days after the date of this report. Unless other instructions as to their disposition are received, they will be discarded at that point.

Soil and Groundwater Conditions

The following narrative is a generalization of the subsurface conditions encountered on the property. Please recognize that the conditions can vary in areas between the sample locations.

Subsurface Conditions

The dominant geology on the property was described as well-grade granular glacial deposits, consisting of sand and gravel with variable percentages of fines (clay and silt), along with occasional cobbles and boulders. Differences from these native deposits included the placement of imported fill soils and man-made materials, primarily concrete in various forms.

The results of the test pit and bluff sampling programs are presented below. Following that information, the five ground surface areas are discussed.

Test Pits - The GeoTest test pit exploration program was designed to evaluate the subsurface conditions at each of the five areas where different soils or materials were expected. The following table summarizes the soils/materials encountered at the test pits.

Test Pit	Depth, ft	Description
TP-1 & TP-2 ¹	0-6.4	SC-SM: Fine to coarse sand, some gravel, little clay and silt, occasional cobbles and boulders; brown; moist (32.8% gravel, 43.6% sand, 23.6% fines) – appeared to be native soil deposits.
TP-3 ³	0-5.6	SW-SM: Fine to coarse sand and gravel, few clay and silt, occasional cobbles; brown; moist (43.0% gravel, 46.4% sand, 12.6% fines) – appeared to be native soil deposits.
TP-4 ²	0-11.3	FILL (Rubble): Concrete and asphalt fragments, metal, wood, intermixed sand and gravel.
TP-5 ²	0-3	FILL (Rubble): Concrete fragments intermixed sand and gravel.
TP-5 ³	3-9.1	FILL (SP-SM): Fine sand, little medium to coarse sand, little gravel, few silt; brown; moist (20.7% gravel, 66.9% sand, 12.4% fines) – appeared to be fill soils.
TP-6 ⁴	8.1	GW: Fine to coarse gravel, some fine to coarse sand, trace silt, occasional cobbles and boulders; brown; moist (61.8% gravel, 35.3% sand, 2.9% fines) – appeared to be native soil deposits.

TP-7 ⁵	0-9	FILL (SW-SM): Fine to coarse sand, some gravel, few silt; brown; moist – compacted fill (tested by Gestra) that originated from a local utility construction project.
TP-7 ⁴	9-10.4	GW: Fine to coarse gravel, some fine to coarse sand, trace silt, occasional cobbles and boulders; brown; moist – appeared to be native soil deposits.
TP-8 ⁶	0-5.5	SEDIMENT (CL-ML): Clayey silt, trace fine sand; orange-brown; saturated; soft – appeared to be sediment run-off from the adjacent bluff peninsula and concrete fill area.
TP-8 ⁴	5.5-6.2	GW: Fine to coarse gravel, some fine to coarse sand, trace silt, occasional cobbles and boulders; brown; moist – appeared to be native soil deposits.
TP-9	6.6	GW: Fine to coarse gravel, some fine to coarse sand, few silt, occasional cobbles and boulders; brown; moist (56.2% gravel, 37.0% sand, 6.8% fines) – appeared to be native soil deposits.

Notes:

- 1- The samples from TP-1 and TP-2 were composited because these soils are expected to be excavated and reused as an engineered fill.
- 2- No sample was collected because these materials will be segregated, and the soil and concrete will be crushed for reuse as an engineered fill.
- 3- This sample was subjected to the Modified Proctor test because it is projected to be excavated and reused as an engineered fill.
- 4- This sample was not subjected to the Modified Proctor test because it will not be excavated for reuse as an engineered fill.
- 5- This sample was not tested because it will not be excavated for reuse as an engineered fill (the Gestra field density test results passed).
- 6- This sample was not tested because it should be excavated and is not suitable for reuse as an engineered fill.

Bluff Samples - The samples collected from the perimeter bluffs were subjected to Grain Size Analyses (sieve testing) to understand the grain size distribution and determine certain material coefficients that can be used in slope stability analyses. The following table summarizes the distribution of gravel, sand, and fines.

Bluff Sample	Percent Gravel	Percent Sand	Percent Fines	USCS Class
1	54.9	44.0	1.1	GW
2	0.0	3.2	96.8	CL
3	55.1	38.6	6.3	GW-GM
4	56.3	40.6	3.1	GW
5	36.1	57.4	6.5	SW-SM
6	28.5	62.2	9.3	SW-SM
7	8.0	84.3	7.7	SW-SM
8	11.5	57.6	30.9	SM

9	9.4	61.7	28.9	SM
10	42.7	47.9	9.4	SW-SM
11	11.6	61.4	27.0	SM
12	20.1	69.1	10.8	SW-SM
13	54.6	40.9	4.5	GW-GM
14	18.5	45.6	35.9	SM
15	29.5	52.3	18.2	SM
16	13.5	62.1	24.4	SC
17	9.3	67.4	23.3	SC
18	42.4	43.9	13.7	SM
19	42.9	46.2	10.9	SM

In summary, the above results indicate that the bluff soils are almost entirely granular and vary in their fine content. Only one sample was a fine soil (clay), present along the south side of the bluff peninsula in the east portion of the property that extends from the south property boundary. The majority of the bluff soils met the OSHA definition of Type C, which requires a minimum slope of 1.5h:1v. Some areas met Type B, which require a minimum slope of 1h:1v.

Industrial Development Area - The boring logs generated by Drake during their environmental investigation indicated that the soils present in the southwest portion of the property primarily consisted of layered sands, with variable clay, silt, and gravel content. Occasional silt layers were also noted. Most of the soil to depths of 10 to 15 feet was described as fill or possible fill, which could have been placed to facilitate the existing development, including backfill in the former underground storage tank (UST) cavities.

The Drake boring logs indicated the granular soils exhibited very loose to very dense relative densities, with N-values ranging from 1 to 72. The lowest values (less than 5) were located at the former UST cavity. Excluding the UST backfill soils, all N-values (except two) exceeded 10 and averaged 32. The relatively uniform and high N-values suggest most of the soils are likely native deposits and not fills.

Two test pits were excavated (TP-1 and TP-2) and two bluff samples (B18 and B19) were collected to evaluate the nature of the apparent overburden stockpiled soils. The test pit and bluff samples were similar in nature, and all appeared to be native soil. A visual evaluation of the soils making up this area concluded that there is a combination of both native glacial deposits and fills soils that make up this higher ground.

One test pit (TP-3) was excavated to determine if the former concrete plant area is underlain by native or fill soils. This sample appeared to be native and were similar to the samples from TP-1 and TP-2.

Construction Debris Fill Area – Two test pits (TP-4 and TP-5) were excavated in this area. As anticipated, the materials at TP-4 were mostly buried concrete rubble and concrete truck washouts. The profile also included other inert materials, such as asphalt, metal, wood, and intermixed sand and gravel soil. The fill extended deeper than could be excavated. The materials at TP-5 consisted of concrete rubble overlying fine sand fill. The sand fill likely is the remnant of a stockpile created during the past mining and concrete plant operations.

Compacted Soil Fill Area - The soils placed in this area are represented by the Gestra documents and the sample from TP-7. This soil was imported from a local utility construction project by Musson Brothers and described as sandy gravel. We were told that the soil was placed in 1-foot lifts and compacted. Gestra tested them for compaction at three surface locations, which passed the 95% specification. The test pit exposed soils also described as sand and gravel fill to a depth of about 9 feet overlying native sand and gravel. The test pit walls remained vertical, and the soil appeared to be dense and well compacted.

Soft Clay/Silt Sediment – The soils in this area are represented by the sample from TP-8. They appeared to have accumulated as run-off from the adjacent higher finger bluff and concrete rubble fill areas. They were fine grained clay and silt that were saturated. While traversing this area with the backhoe, it sank about 3 feet, prompting the decision to excavate the test pit. The soft, saturated sediments extended to a depth of about 5.5 feet and overlay native sand and gravel soil.

Native Soils – Pit Base Area – Two test pits (TP-6 and TP-9) were excavated in the areas believed to be the final base of the original mining pit. These two samples were similar in nature and both described as mostly well-graded gravel with some sand and trace to few silt fines. These soils were also similar to bluff samples B1, B3, B4, and B13, where the original pit was terminated due to property boundary restrictions.

Groundwater Conditions

Free groundwater was not encountered in any of the test pits. Groundwater was noted in the Drake report at depths of 8 to 10 feet. The nearby potable well reports indicated the depth to groundwater ranged from 55 to 135 feet, from ground surface elevations up to 85 feet above the pit base. Based on this data, the normal groundwater table likely exists at a depth of about 10 to 20 feet below the pit base.

Fluctuations in the groundwater table elevation should be expected with variations in precipitation, evapotranspiration, surface runoff, etc. Also, shallow perched groundwater conditions should be expected where relatively permeable granular soils are underlain by relatively impermeable cohesive soils, especially following precipitation events.

Analysis and Recommendations

There are eight primary issues that should be considered when planning this project.

- Fill materials exist on the property. The fills vary from construction soil placed in the developed area, UST backfill, construction rubble, compacted imported soil, and general grading materials. Other than the compacted imported soil, most other fills are not suitable for support of engineered fill and structural elements.
- Most building foundations will bear upon engineered fill placed to raise low areas of the property. It will be important to plan for sufficient quality-control measures during site grading and construction to ensure competent bearing conditions.
- Saturated clay and silt soils exist in the “Sediment” area, which are highly sensitive to construction activity and are not suitable for the support of engineered fill and structural elements.
- The compacted imported soil area only had three field density tests. Additional testing should be conducted to confirm they are consistent and suitable for the support of engineered fill and structural elements.
- Unexpected materials or items could be buried on the property that would not be suitable for reuse, such as construction equipment, organic material such as timber and vegetation.
- Subsurface elements related to past developments exist, including foundations, slabs, and utilities. These features should be identified and removed within structural areas.
- Although not encountered during this evaluation, it is possible that clay and silt soils could be encountered during the site improvement activities. These soil types are sensitive to moisture variations and could cause construction challenges and schedule delays.
- Although the perimeter bluffs vary in soil type, they should all be uniformly designed for safety and stability.

Foundation Support

Once the property has been properly prepared (described below), the proposed buildings can be supported on conventional, shallow spread footings. The foundations can likely be designed using an allowable bearing capacity value of 3,000 psf to 6,000 psf, depending on the final grades and localized bearing conditions. Properly designed and constructed footings should experience total and differential settlements of less than 1 inch and $\frac{3}{4}$ inch, respectively.

Traditionally, perimeter footings and interior footings in unheated areas should bear at a depth of at least 48 inches below the final exterior grade to provide adequate frost protection. If desired, exterior footings can bear at shallower depths by following ASCE 32-01 (American Society of Civil Engineers, Design and Construction of Frost-Protected Shallow Foundations, 2001). Interior footings not subject to frost can bear directly beneath the floor slab.

Seismic Design

The soil conditions present at a site are utilized in determining the Seismic Design Category (SDC) for structures. Part of selecting the SDC is determining the Site Class for the soils, which categorizes common soil conditions into broad classes, where typical ground motion attenuation and amplification effects are assigned. Site Class is determined based on the average properties of the soil within 100 feet of the ground surface. Geotechnical engineers use a variety of parameters to characterize the engineering properties of these soils, including general soil classifications (e.g., hard rock, soft clay, etc.), N-values, and laboratory testing.

Site Class A includes hard rock that is typically found only in the eastern United States. The types of rock typically found in the western states include various volcanic deposits, sandstones, shales, and granites that commonly have the characteristic appropriate to either Site Class B or C. Sites with very dense sands and gravels or very stiff to hard clay deposits also may qualify as Site Class C. Sites with relatively stiff cohesive or medium dense non-cohesive soils, including mixtures of clays, silts, and sands, are categorized as Site Class D. Site Class D is the most common site class throughout the United States. Sites along rivers or other waterways underlain by deep soft clay deposits are categorized as Site Class E. Sites where soils are subject to liquefaction or other ground instabilities are categorized as Site Class F and site-specific analyses are required.

Based on the types of soils present at the boring locations at this property, and their apparent engineering properties, Site Class D is assigned to the site, as defined in the International Building Code (2015) Section 1613.

Floor Slab Support

The expected final subgrade soils should be suitable for support of concrete floor slabs. However, the floor slab areas should be proof-rolled and soft areas removed or improved prior to the placement of base course materials. An average subgrade modulus value of 150 pounds per cubic inch (pci) is appropriate.

Below-grade Walls

A coefficient of friction of 0.35 may be used with dead load forces for wall footings that bear on suitable (as defined in the geotechnical report) native soils or engineered fill.

The lateral earth pressure value ranges presented below assume that the walls are vertical, that a clean, free-draining granular fill (P200 <6%) is used as backfill within 2 feet behind the wall, the backfill condition at the ground surface is level, and that adequate drainage is provided to prevent the buildup of hydrostatic pressures.

Retaining Wall Design Parameters	
Soil Unit Weight	140 pcf
Angle of Internal Friction	35°
Soil Cohesion	0 psf
Earth Pressure Coefficient	
At Rest Design Parameters	0.46
Active Design Parameters	0.30
Passive Design Parameters	3.35

We recommend using a minimum safety factor of 2.0 in passive earth pressure calculations, ignoring the upper 2 feet of soil in frost protected areas and 4 feet of soil in other areas. For walls that are free to rotate at least 0.001 times the height of the wall, such as a temporary earth retention system and retaining walls, an active earth pressure condition will develop. For walls that will be restrained, such as permanent below-grade walls, an at-rest condition will develop. For walls that rotate towards the soil, a passive condition will develop. Below-grade and retaining wall design should also consider surface and subgrade surcharge loading.

Special attention should be employed during placement of backfill against below-grade and retaining walls. Inadequate placement and compaction of backfill will result in at-grade structural elements and slab/pavement settlement and distress. To achieve a balance between minimizing excessive pressures against the walls during construction and reducing the settlement of the wall backfill, the granular backfill should be compacted to at least 90 percent of the maximum dry density obtained in accordance with ASTM Specification D1557, Modified Proctor Method. Where backfill supports structural elements, sidewalks, or pavements, the upper 4 feet should be compacted to 95% of the maximum dry density (Modified Proctor). Lifts of 4 to 6 inches can be effective in achieving compaction requirements.

Drainage should be provided behind below-grade walls to prevent the buildup of hydrostatic pressures. We recommend that free-draining granular drainage aggregate be placed within 2 feet behind the back face of the walls.

A relatively impermeable barrier at the ground surface is recommended, such as a minimum 2-foot-thick clay cap or Bituminous or Portland cement concrete (i.e., walkways and drives) to minimize surface water infiltration into backfill against walls. The impermeable barrier should slope away from the structure at a minimum 2 percent grade.

Engineered Fill, Wall, and Utility Trench Backfill

The on-site soil and materials (if processed properly) can be reused as engineered fill. All engineered fill, wall, and utility trench backfill should consist of inorganic materials,

free of debris, not exceed 3 inches in size, and should be placed in 8 to 10-inch loose lifts compacted to a minimum of 95 percent of the maximum dry density (Modified Proctor). If the engineered fills are less than 7 feet in thickness, they should be moisture conditioned to be within +/- 3% of the optimum moisture content. Where engineered fills exceed 7 feet, they should be moisture conditioned to be at the optimum moisture to + 3% above.

Pavement Design

The Wisconsin Asphalt Pavement Association (WAPA) Design Guide should be utilized to design the new asphalt surface parking areas. Traffic Class I was assumed for parking areas that are mainly used by light passenger vehicles and Traffic Class II for medium-loaded drive areas.

The minimum pavement section should consist of the following:

Material	Traffic Class I	Traffic Class II	WisDOT Specification
Asphalt Surface Course	2 inches	2 inches	Section 460
Asphalt Binder Course	2 inches	2.5 inches	Section 460
Dense Graded Base Course	8 inches	10 inches	Section 305

The pavement sections above are not intended to support on-going construction traffic. Also, the pavement sections presented above should not be used for areas that experience heavy truck traffic, equipment or truck parking areas, entrances and exit aprons, or trash-dumpster loading zones. In these areas, a Portland Cement Concrete (PCC) pavement should be used. The PCC layer thickness is recommended to be 7 inches with a minimum of 6-inch-thick crushed stone base course. The reinforcement details for PCC layers and final pavement section should be designed by the project design engineer.

These recommendations assume the subgrade is prepared as described in this report. Additional corrective action may be warranted at the time of construction, depending on the site conditions. If any clay or silt soils exist in pavement areas, it may be beneficial to install a geotextile fabric (e.g., GEOTEX 315) as a separating layer between such a subgrade and the base course after the subgrade has been evaluated by proof-roll testing.

Stormwater Management

Three stormwater management devices are proposed for the development. Based on the soil descriptions at two of those areas (TP-6 and TP-9), the prevailing soils were classified as “Coarse Sand and Gravel”. Consequently, the devices would be exempt from the Wisconsin Department of Natural Resources (WDNR) infiltration requirements. The estimated static infiltration rate based on the Standard 1002 – Table 2 would be 3.60 inches per hour (in/hr).

Bluff Stability

The prevailing soil type making up the perimeter bluffs is described as sand and gravel that meet the OSHA definition for Type C. Some soils meet the Type B description, but they are not consistent. Therefore, the bluffs should be designed for minimum slopes of 1.5h:1v for safety and stability.

Construction Considerations

Because of the presence of undocumented fill on the property, extra caution should be exercised during construction. All poor soil/fills should be stripped from structural and engineered fill areas prior to any construction activities. Additional effort should also be taken to identify the former UST cavities, which were likely backfilled with soils that are not suitable for the support of engineered fill and structural elements. The exposed subgrade soils and all engineered fills should be observed, tested, and documented by a representative of the geotechnical engineer. Large structural areas, such as building footprints and beneath engineered fill and pavements, should be proof-rolled to identify low-strength or disturbed areas that need to be removed or improved.

Footing excavations and all engineered fill subgrade soils should be evaluated to confirm the bearing materials are consistent with those identified in this report and anticipated by the geotechnical and structural engineers. If unanticipated conditions are encountered, the geotechnical and structural engineers should be notified immediately. All footing pads must bear upon suitable native soils or engineered fill soils that have been confirmed in the field by a representative of the geotechnical engineer. Where unsuitable bearing soils, such as organic, disturbed, wet, frozen, or low-strength (less than the design bearing capacity) soils are encountered, the excavation should be extended to competent bearing soil. If extended, the footing pads can be constructed at the base of the excavations, or the excavations can be backfilled with clean, crushed stone or lean concrete.

Buried structural elements from past developments exist. Therefore, efforts should be taken during site grading to identify all existing structural elements and undocumented fills. Existing foundations should be removed to a depth of at least 4 feet below proposed foundations. Existing concrete slabs below a depth of 4 feet should be removed or broken into minimum 1-foot pieces to avoid water pooling. Utilities may also exist that could require abandonment.

It is unlikely that excavations will encounter groundwater. However, if any do or if perched water is encountered, filtered sump pumps and drawing water from sump pits should be adequate to remove water that collects in excavations. Excavated sump pits should be lined with a geotextile and filled with open-graded, free-draining aggregate.

Surface water should not be allowed to be collected in excavations or on prepared subgrades during or after construction. Areas should be sloped to facilitate removal of

collected surface runoff. Positive site drainage should be provided to reduce infiltration of surface water around the perimeter of structures and within pavement areas.

Excavation walls may need to be sloped or braced for stability and safety reasons. The Owner and Contractor should be aware of, and become familiar with, applicable local, state, and federal safety regulations, including current OSHA Excavation and Trench Safety Standards. Construction-site safety generally is the responsibility of the Contractor, who should also be responsible for the means, methods, and sequencing of construction operations.

The Contractor should be aware that slope height, slope inclination, or excavation depths should in no case exceed those specified in local, state, or federal safety regulations, (e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926), or successor regulations. The on-site soils are generally considered Type C soils when applying the OSHA regulations. Such regulations are strictly enforced, and if they are not followed, the Owner, Contractor, and/or earthwork Subcontractor(s) could be liable for substantial penalties.

General Qualifications

The services provided by GeoTest on this project were performed with the degree of skill and care typically performed by other members of the geotechnical engineering profession, practicing in this locale, at this time. No other warranty, expressed or implied, is given.

We appreciate the opportunity to provide geotechnical engineering services for this project. If you have any questions, or require any further assistance, please feel free to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael D. Frede".

Michael D. Frede, P.E.
Technical Director/Senior Engineer



Appendix A

Figure 1 – Site Location Diagram

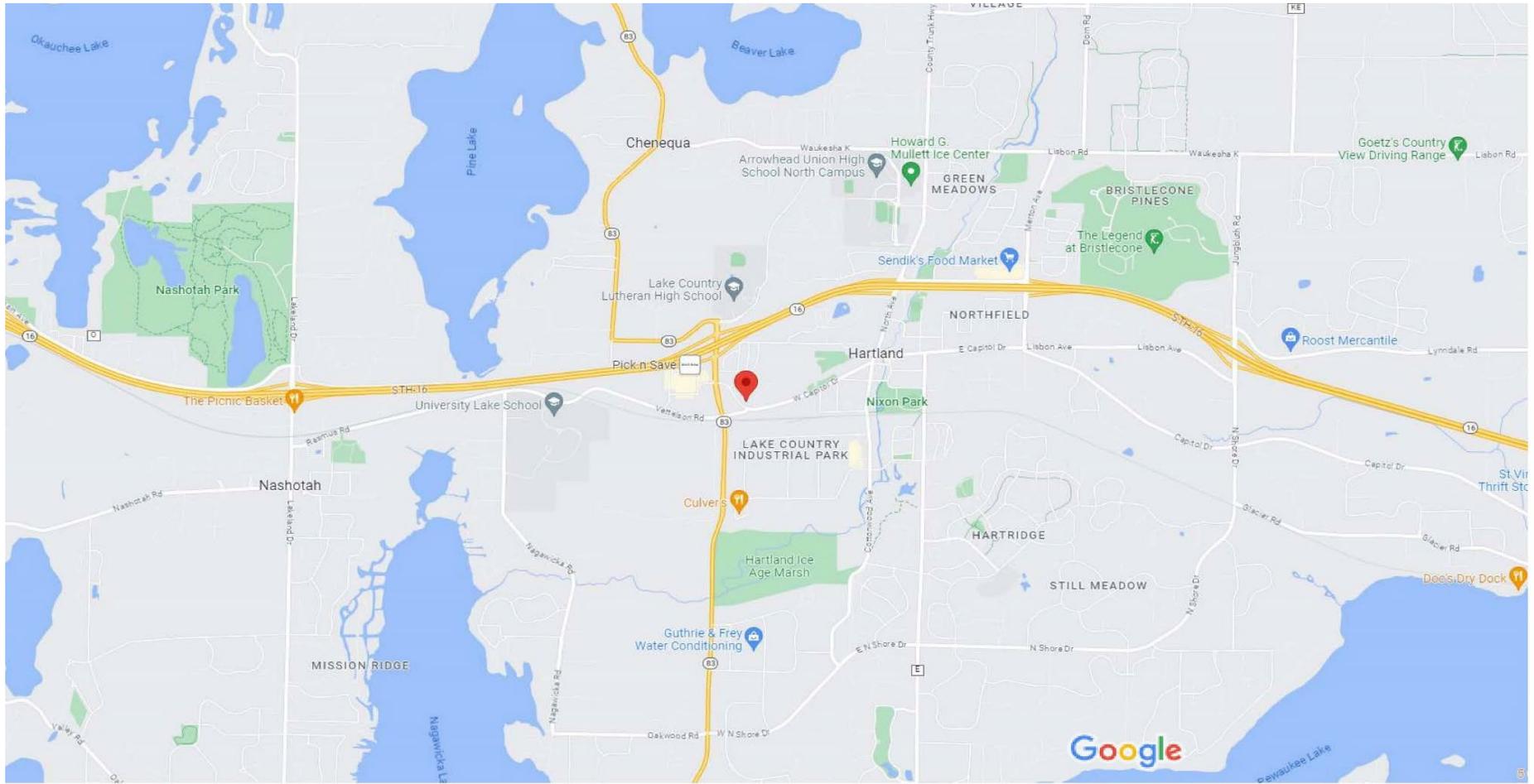
Figure 2 – Property Boundary Diagram

Figure 3 – Proposed Development Diagram

Figure 4 – Geotechnical Areas of Interest Diagram

Figure 5 – Sampling Location Diagram





Map data ©2023 Google 2000 ft



Project Name: Hartland Quarry Apartments
Project Location: 700/701 W. Capitol Drive
Hartland, Wisconsin
Waukesha County

Project No.: 7708
Date: 4/29/23
Drawn By: MDF
Scale: NTS

FIGURE 1
Site Location
Diagram



Legend

- Municipal Boundary_2K
- Parcel_Dimension_2K
- Note_Text_2K
- Lots_2K
 - Lot
 - Unit
 - General Common Element
 - Or lot
- Simultaneous Conveyance
 - Assessor Plat
 - CS#
 - Condominium
 - Subdivision
- Cartline_2K
 - EA-Easement_Line
 - PL-DA
 - PL-Excluded_Tk_Line
 - PL-Meandere_Line
 - PL-Note
 - PL-Tk
 - PL-Tk_Line
 - <all other utilities>
- Railroad_2K

0 532.30 Feet

The information and depictions herein are for informational purposes and Waukesha County specifically disclaims accuracy in this reproduction and specifically admonishes and advises that if specific and precise accuracy is required, these should be determined by procurement of certified maps, surveys, plats, Flood Insurance Studies, or other official maps. Waukesha County will not be responsible for any damages which result from third party use of the information and depictions herein, or for use which ignores this warning.

Notes:
Printed: 2/14/2023



Project Name: Hartland Quarry Apartments
Project Location: 700/701 W. Capitol Drive
 Hartland, Wisconsin
 Waukesha County

Project No.: 7708
Date: 4/29/23
Drawn By: MDF
Scale: NTS

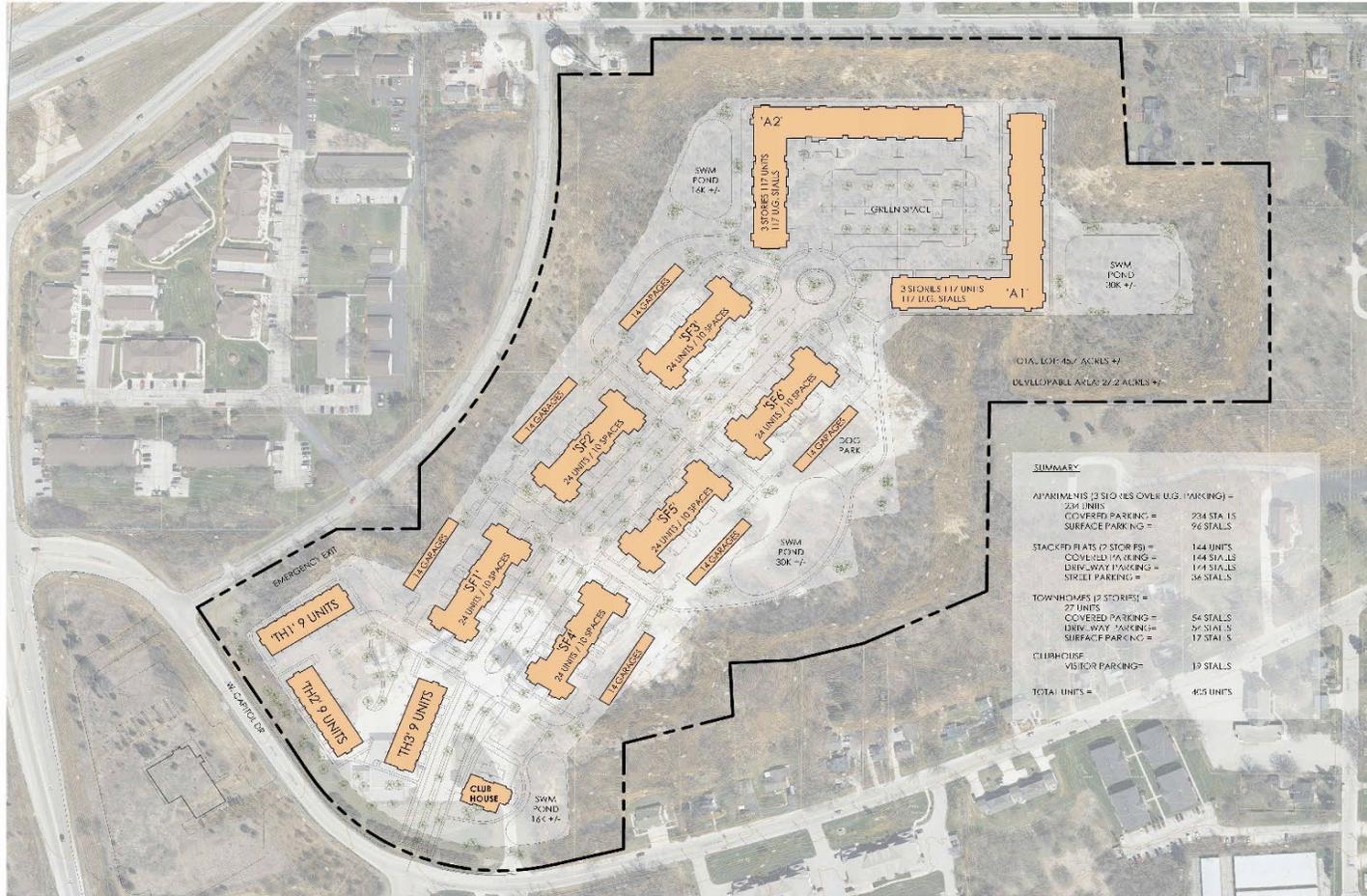
FIGURE 2
Property Boundary
Diagram



JLA
ARCHITECTS
MADISON | MILWAUKEE | DENVER
JLA-AP.COM

JLA PROJECT NUMBER: 22-013

HARTLAND QUARRY APARTMENTS
Plan Commission Submittal



ARCHITECTURAL SITE PLAN
1" = 100'

PROGRESS DOCUMENTS

These documents reflect progress and in final form may be subject to change, including modifications. Use at your own risk. Code values shown are for informational purposes only and should not be used for final bidding or construction without review.

DATE OF ISSUE: 04/11/2024

REVISION SCHEDULE: N/A

ISSUE: 1/1/2024

SHEET TITLE:

ARCHITECTURAL SITE LAYOUT PLAN

SHEET NUMBER:

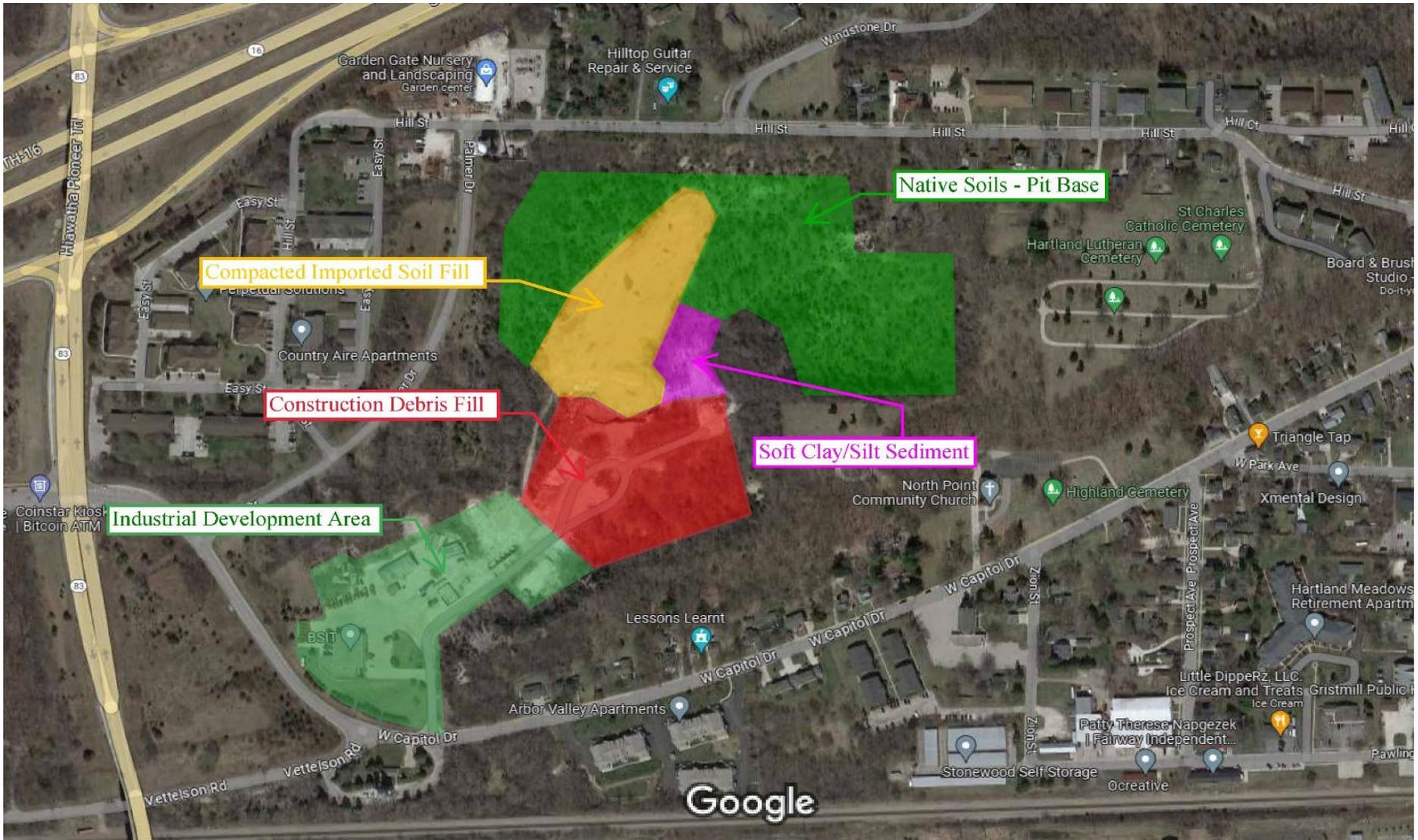
ASP-100



Project Name: Hartland Quarry Apartments
Project Location: 700/701 W. Capitol Drive
Hartland, Wisconsin
Waukesha County

Project No.: 7708
Date: 4/29/23
Drawn By: MDF
Scale: NTS

FIGURE 3
Proposed
Development
Diagram



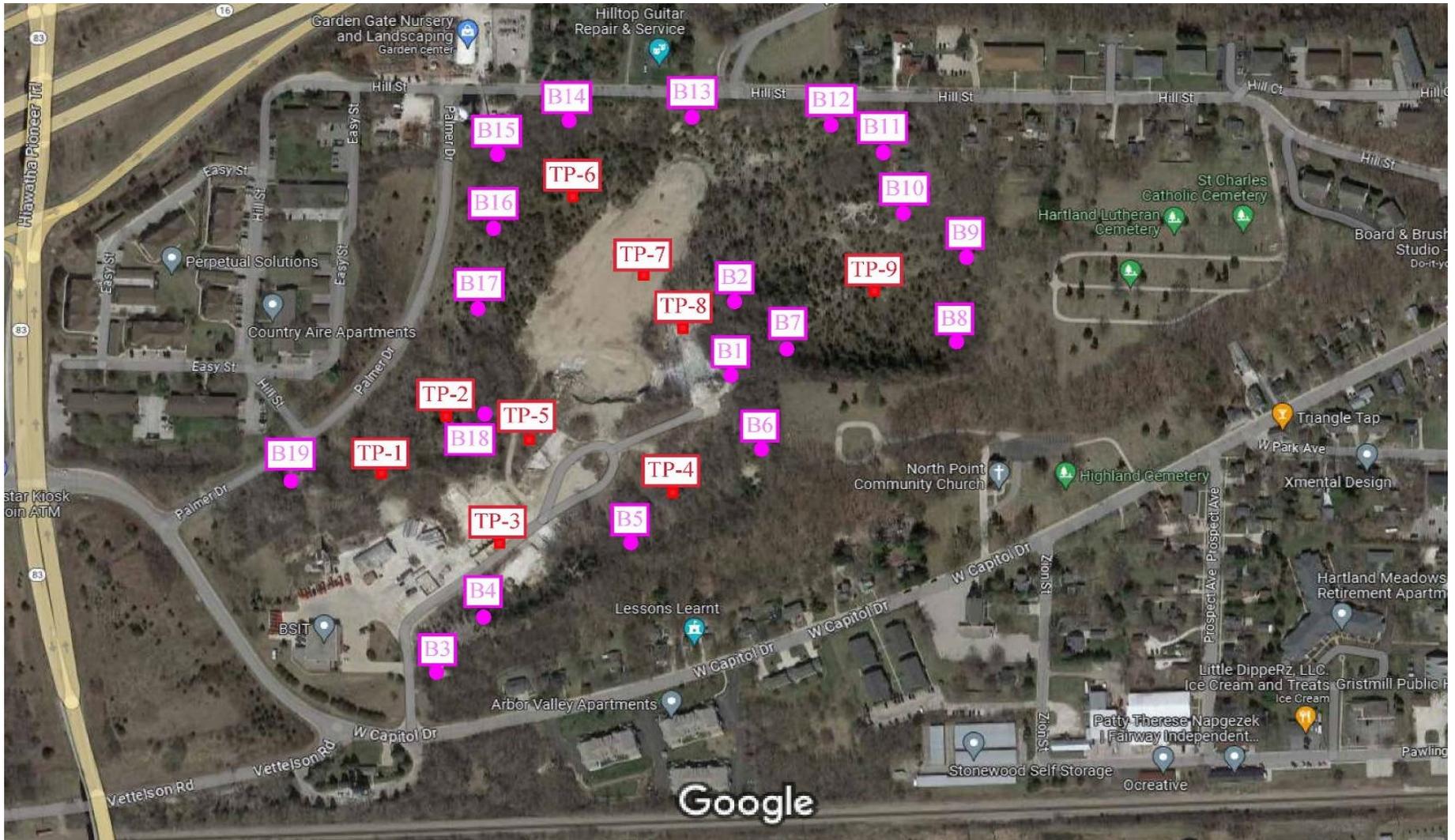
Imagery ©2023 CNES / Airbus, Maxar Technologies, U.S. Geological Survey, USDA/FPAC/GEO, Map data ©2023



Project Name: Hartland Quarry Apartments
Project Location: 700/701 W. Capitol Drive
Hartland, Wisconsin
Waukesha County

Project No.: 7708
Date: 4/29/23
Drawn By: MDF
Scale: NTS

FIGURE 4
Geotechnical Areas
of Interest Diagram



- Test Pit Locations
- Bluff Samples

Imagery ©2023 CNES / Airbus, Maxar Technologies, U.S. Geological Survey, USDA/FPAC/GEO, Map data ©2023



Project Name: Hartland Quarry Apartments
Project Location: 700/701 W. Capitol Drive
Hartland, Wisconsin
Waukesha County

Project No.: 7708
Date: 4/29/23
Drawn By: MDF
Scale: NTS

FIGURE 5
Sampling Location
Diagram



Appendix B

Well Logs

- 8KM754_WCR
- 8KM755_WCR
- 8KM756_WCR
- 8NM185_WCR
- 8NN038_WCR
- IJ288_WCR

Drake Environmental Geologic Information

- Diagrams
- Boring Logs

Gestra Laboratory Reports

- Proctor Analysis (D1557)
- Field Density Testing

Walbec Test Pit Survey Diagrams

- Test Pits 1 through 5
- Test Pits 6 through 9



WELL CONSTRUCTOR'S REPORT

WISCONSIN STATE BOARD OF HEALTH

Wel 6

1. COUNTY Waushara CHECK ONE Town Village City NAME DeLafield

2. LOCATION (Number and Street or 1/4 section, section, township and range. Also give subdivision name, lot and block numbers when available) N 1/4 Sec 3 T 7 N R 18 E. RECEIVED

3. OWNER AT TIME OF DRILLING Robert Steinman JUN 24 1966

4. OWNER'S COMPLETE MAIL ADDRESS Hill St Hartland Wisc

5. Distance in feet from well to nearest: (Record answer in appropriate block)

BUILDING	SANITARY SEWER	FLOOR DRAIN	FOUNDATION DRAIN	LINE WATER DRAIN
	C. I.	TILE	C. I.	TILE
			SEWER CONNECTED	INDEPENDENT
			C. I.	TILE

CLEAR WATER DRAIN	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILO	ABANDONED WELL	SINK HOLE
C. I.	TILE							
		60	75					

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: Home Service Station

7. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
6"	Surface	268			

10. FORMATIONS

Kind	From (ft.)	To (ft.)
Sand & gravel Brown	Surface	120
Gray sand & gravel	120	170
Clay & sand	170	233
Sand & gravel	233	268

8. CASING, LINER, CURBING, AND SCREEN

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
6"	standard steel	Surface	268

9. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Surface		



11. MISCELLANEOUS DATA

Yield test: 12 Hrs. at 12 GPM

Depth from surface to normal water level 120 ft.

Depth to water level when pumping 130 ft.

Water sample sent to Madison laboratory on: May 11 1966

Well construction completed on May 11 1966

Well is terminated 8 inches above below final grade

Well disinfected upon completion Yes No

Well sealed watertight upon completion Yes No

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumphouses, access pits, etc., should be given on reverse side.

SIGNATURE [Signature] Registered Well Driller COMPLETE MAIL ADDRESS Hartland Wisc

Please do not write in space below

COLIFORM TEST RESULT	GAS - 24 HRS.	GAS - 48 HRS.	CONFIRMED	REMARKS
				plot 752104

1. COUNTY Waushara CHECK ONE Town Village City NAME Delafield

2. LOCATION (Number and Street or 1/4 section, section, township and range. Also give subdivision name, lot and block numbers when available.)
Hartland HY 16 & Hill St T1N R18 E NW 1/4 Sec 3

3. OWNER AT TIME OF DRILLING
Bob Steinman

4. OWNER'S COMPLETE MAIL ADDRESS
Hartland Wis

RECEIVED

5. Distance in feet from well to nearest: (Record answer in appropriate block)

BUILDING	SANITARY SEWER	FLOOR DRAIN	FOUNDATION DRAIN	WASTE WATER DRAIN
10	C. I. TILE	C. I. TILE	SEWER CONNECTED INDEPENDENT	MAY 11 1966

CLEAR WATER DRAIN	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILO	ABANDONED WELL	SINK
C. I. TILE	60		70					SECRET ENCLOSURE

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for:
Service Station

7. DRILLHOLE						10. FORMATIONS			
Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)	Kind	From (ft.)	To (ft.)	
6	Surface	268					Surface		
						Sand & gravel	-	120	

8. CASING, LINER, CURBING, AND SCREEN				10. FORMATIONS (continued)			
Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)	Kind	From (ft.)	To (ft.)	
6	Standard steel	Surface	268	Down sand & gravel	120	140	
				Gray sand & gravel	140	170	
				Gray clay & sand	170	185	
				Brown sand	185	225	
				Gray sand & clay	225	233	
				Brown sand & gravel	233	268	

9. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
Surface		



11. MISCELLANEOUS DATA

Yield test: 6 Hrs. at 20 GPM

Well construction completed on April 13 1966

Well is terminated 6 inches above below final grade

Depth from surface to normal water level 104 ft. Well disinfected upon completion Yes No

Depth to water level when pumping 120 ft. Well sealed watertight upon completion Yes No

Water sample sent to Madison laboratory on: April 13 1966

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumphrooms, access pits, etc., should be given on reverse side.

SIGNATURE [Signature] Registered Well Driller COMPLETE MAIL ADDRESS Hartland Wis

Please do not write in space below

COLIFORM TEST RESULT	GAS - 24 HRS.	GAS - 48 HRS.	CONFIRMED	REMARKS
				plot 762103

NW, Sec 3 T7N R18E

WELL CONSTRUCTOR'S REPORT TO WISCONSIN STATE BOARD OF HEALTH
See Instructions on Reverse Side

1. County Waubesa Town Hartland
Village
City Check one and give name

2. Location SW 1/4 NW 1/4 Sec 3 T7N R18E
Name of street and number of premise or Section, Town and Range numbers

3. Owner or Agent Hartland Washed Sand & Gravel
Name of individual, partnership or firm

4. Mail Address Hartland
Complete address required

5. From well to nearest: Building 10 ft; sewer — ft; drain — ft; septic tank — ft;
dry well or filter bed — ft; abandoned well — ft.

6. Well is intended to supply water for: Office

7. DRILLHOLE:

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
6	0	77			

8. CASING AND LINER PIPE OR CURBING:

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
6	Std Steel	0	78'5"

9. GROUT:

Kind	From (ft.)	To (ft.)

11. MISCELLANEOUS DATA:

Yield test: 3 Hrs. at 10 GPM.
Depth from surface to water-level: 55 ft.
Water-level when pumping: 58 ft.
Water sample was sent to the state laboratory at:
Madison on 19
City

10. FORMATIONS:

Kind	From (ft.)	To (ft.)
Gravel	0	77

RECEIVED
NOV 2 1950
F.N.V.

Construction of the well was completed on:
Jan 6 1950

The well is terminated — inches
 above, below the permanent ground surface.

Was the well disinfected upon completion?
Yes No

Was the well sealed watertight upon completion?
Yes No

H. A. BUTLER
WELL CONTRACTOR

Signature _____ Registered Well Driller DELAFIELD, WIS. Complete Mail Address _____
Please do not write in space below

Rec'd _____ No. _____
Ans'd _____
Interpretation _____



10 ml 10 ml 10 ml 10 ml 10 ml
Gas—24 hrs. _____
48 hrs. _____
Confirm _____
B. Coli _____

Examiner _____

1. COUNTY Waukesha CHECK ONE Town Village City NAME Delafield

2. LOCATION (Number and Street or 1/4 section, section, township and range. Also give subdivision name, lot and block numbers when available.)
 SW, NW, NW 1/4 Section 3 T 7N R 18 E PER APPROVAL LETTER Sw, NW, NW, Sec 3

3. OWNER AT TIME OF DRILLING Hegas Construction Co. (W.F. Hegas + Linda D. Hegas, Owners)

4. OWNER'S COMPLETE MAIL ADDRESS Route #1, Box #63, Delafield, Wis

5. Distance in feet from well to nearest:
 (Record answer in appropriate block)

BUILDING	SANITARY SEWER	FLOOR DRAIN	FOUNDATION DRAIN	WASTE WATER DRAIN
	C. I.	TILE	C. I.	TILE
18	✓	✓	45	✓
			SEWER CONNECTED	INDEPENDENT
			✓	✓

CLEAR WATER DRAIN	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILLO	ABANDONED WELL	SINK HOLE
C. I.	TILE							
✓	✓	306	✓	330	✓	✓	✓	Per Well #88024

6. OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)
None Well #3

7. Well is intended to supply water for:
2 Apartment Houses Misc #26

9. DRILLHOLE				10. FORMATIONS				
Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)	Kind	From (ft.)	To (ft.)
10	Surface	20				Clay top soil	Surface	8
6	20	120				Gravel	8	104

8. CASING, LINER, CURBING, AND SCREEN			
Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
10	ASTM-A53 Grade B	Surface	20
6	ASTM-A53 Grade B	20	106
	1.280 P/E		
	welded jts		
6	Silica Brass screen	106	120

WAS INSTALLED IN 3 SECTIONS WITH 1 FOOT PIPE NIPPLES BETWEEN THE 3 SECTIONS. THE LOWER SECTION HAS A 28 THOUSANDTH SLOT, THE MIDDLE SECTION 25 AND THE UPPER SECTION 18.

7. GROUT OR OTHER SEALING MATERIAL		
Kind	From (ft.)	To (ft.)
Cement slurry	Surface	20

Well construction completed on 10/10 1968

11. MISCELLANEOUS DATA

Yield test: 24 Hrs. at 60 GPM Well is terminated 20 inches above below final grade

Depth from surface to normal water level 87 ft. Well disinfected upon completion Yes No

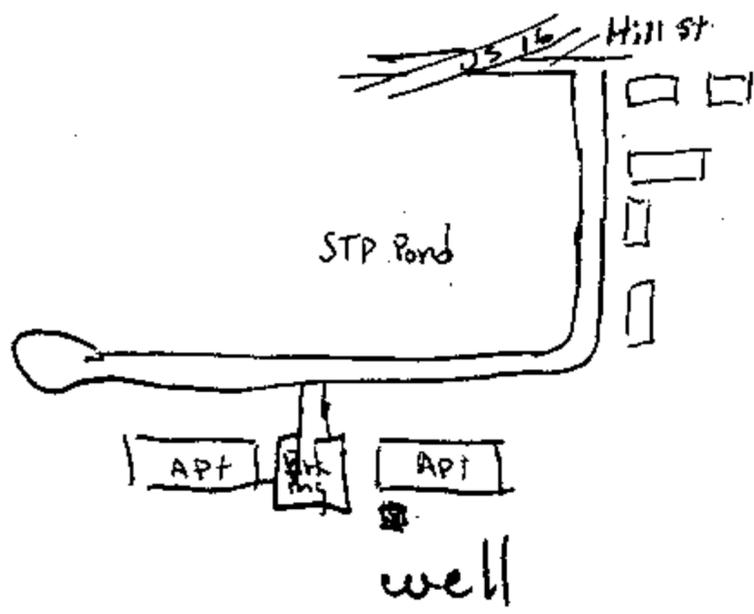
Depth to water level when pumping 88'-6" ft. Well sealed watertight upon completion Yes No

Water sample sent to Madison laboratory on: 10/26 1968

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumprooms, access pits, etc., should be given on reverse side.

SIGNATURE Linda D. Hegas COMPLETE MAIL ADDRESS Rte. 1, Waukesha, Wis.
W.F. Hegas Registered Well Driller

COLIFORM TEST RESULT 10 Capacity Well. Approved 12-6-68 GAS - 24 HRS. 100 GAS - 48 HRS. 100 CONFIRMED SEE OTHER SIDE plot 702105 REMARKS Re: M.E. Ostrom 12-6-68



8

A/E 934
 D > 520
 < 814
 W - 87

 847 + 10/68

 775

 159

WELL CONSTRUCTOR'S REPORT
 Wel-6.

WHITE COPY - DIVISION'S COPY
 GREEN COPY - DRILLER'S COPY
 YELLOW COPY - OWNER'S COPY

STATE OF WISCONSIN
 DEPARTMENT OF NATURAL RESOURCES
 Box 450
 Madison, Wisconsin 53701

1. COUNTY: WAUKESHA CHECK ONE: Town Village City NAME: MERTON

2. LOCATION (Number and Street or 1/4 section, section, township and range. Also give subdivision name, lot and block numbers when available.)
N. 48 W. 30756 HILL ST. TOWN OF MERTON. T8N R18E

3. OWNER AT TIME OF DRILLING: WAGEN REALTY CO. SE, SE, SW, SW, Sec. 34

4. OWNER'S COMPLETE MAIL ADDRESS: 318 LAKE RD, OCONOMOWOC, WIS.

5. Distance in feet from well to nearest: (Record answer in appropriate block)

BUILDING	SANITARY SEWER		FLOOR DRAIN		FOUNDATION DRAIN		WASTE WATER DRAIN	
	C. I.	TILE	C. I.	TILE	SEWER CONNECTED	INDEPENDENT	C. I.	TILE
8	40	-	60	-	-	-	45	-

CLEAR WATER DRAIN	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILO	ABANDONED WELL	SINK HOLE
-	-	70	-	95	-	-	-	-

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

6. Well is intended to supply water for: FURNITURE STORE

7. DRILLHOLE						10. FORMATIONS			
Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)	Kind	From (ft.)	To (ft.)	
6	Surface		UNKNOWN			UNKNOWN	Surface	126	
	Redrill					SAND	126	160	

8. CASING, LINER, CURBING, AND SCREEN			
Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
6	NEW BLK. STEEL	Surface	134
	T&C .0.280		
6	UNKNOWN	134	260

9. GROUT OR OTHER SEALING MATERIAL		
Kind	From (ft.)	To (ft.)
UNKNOWN	Surface	134



11. MISCELLANEOUS DATA

Well construction completed on Aug 29 1974

Yield test: 8 Hrs. at 10 GPM Well is terminated 8 inches above below final grade

Depth from surface to normal water level 135 ft. Well disinfected upon completion Yes No

Depth to water level when pumping 135 ft. Well sealed watertight upon completion Yes No

Water sample sent to Madison, WIS. laboratory on: Sept 16 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumphrooms, access pits, etc., should be given on reverse side.

SIGNATURE: Dennis Hartman Registered Well Driller COMPLETE MAIL ADDRESS: 5100 N. 56 ST. MILWAUKEE, WIS.

Please do not write in space below

COLIFORM TEST RESULT	GAS - 24 HRS.	GAS - 48 HRS.	CONFIRMED	REMARKS
<u>See letter driller's file</u>				
			<u>9/29/74</u>	<u>plot 782049</u>

SEP 17 1974 OCT 2 1974

WELL CONSTRUCTOR'S REPORT
FORM 3300-15

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
Box 450
Madison, Wisconsin 53701

NOTE
WHITE COPY - DIVISION'S COPY
GREEN COPY - DRILLER'S COPY
YELLOW COPY - OWNER'S COPY

1. COUNTY WAUKESHA CHECK ONE Town Village City NAME MERTON

2. LOCATION - 1/4 Section Section Township Range
SE, SE, SW SW 34 8N 18E
OR - Grid or street no. Street name
N. 48 W 30756 HILL ST
AND - If available subdivision name, lot & block no.
SE, SE, SW, SW Sec 34

3. OWNER AT TIME OF DRILLING
WASEN REALTY CO.
ADDRESS
318 LAKE RD.
POST OFFICE
DEONOMOUC, WIS

4. Distance in feet from well to nearest:
(Record answer in appropriate block)

BUILDING	SANITARY SEWER	FLOOR DRAIN	FOUNDATION DRAIN	WASTE WATER DRAIN
C.I.	C.I.	C.I.	SEWER CONNECTED	C.I.
TILE	TILE	TILE	INDEPENDENT	TILE
<u>8</u>	<u>40</u>	<u>60</u>	<u>-</u>	<u>45</u>

CLEAR WATER DRAIN	SEPTIC TANK	PRIVY	SEEPAGE PIT	ABSORPTION FIELD	BARN	SILLO	ABANDONED WELL	SINK HOLE
C.I.	TILE							
<u>-</u>	<u>-</u>	<u>70</u>	<u>-</u>	<u>95</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

OTHER POLLUTION SOURCES (Give description such as dump, quarry, drainage well, stream, pond, lake, etc.)

5. Well is intended to supply water for: STORE FURNITURE

6. DRILLHOLE

Dia. (in.)	From (ft.)	To (ft.)	Dia. (in.)	From (ft.)	To (ft.)
	Surface	<u>REDRILL</u>			

7. CASING, LINER, CURBING, AND SCREEN

Dia. (in.)	Kind and Weight	From (ft.)	To (ft.)
<u>6</u>	<u>UNKNOWN</u>	Surface	<u>126</u>
<u>6" New, Steel, BLK, TFC</u>	<u>0.280</u>	<u>126</u>	<u>260</u>

9. FORMATIONS

Kind	From (ft.)	To (ft.)
<u>UNKNOWN</u>	Surface	<u>126</u>
<u>SAND</u>	<u>126</u>	<u>160</u>
<u>HARD PAW</u>	<u>160</u>	<u>205</u>
<u>GRAVEL</u>	<u>205</u>	<u>260</u>

8. GROUT OR OTHER SEALING MATERIAL

Kind	From (ft.)	To (ft.)
<u>X</u>	Surface	<u>X</u>

10. TYPE OF DRILLING MACHINE USED

<input checked="" type="checkbox"/> Cable Tool	<input type="checkbox"/> Direct Rotary	<input type="checkbox"/> Reverse Rotary
<input type="checkbox"/> Rotary - air w/drilling mud	<input type="checkbox"/> Rotary - hammer with drilling mud & air	<input type="checkbox"/> Jetting with Air <input type="checkbox"/> Water

Well construction completed on aug 29 1974

11. MISCELLANEOUS DATA

Yield test: 8 Hrs. at 10 GPM

Depth from surface to normal water level 135 ft.

Depth to water level when pumping 135 ft.

Well is terminated 8 inches above below final grade

Well disinfected upon completion Yes No

Well sealed watertight upon completion Yes No

Water sample sent to Madison, Wis laboratory on: Sept 16 1974

Your opinion concerning other pollution hazards, information concerning difficulties encountered, and data relating to nearby wells, screens, seals, type of casing joints, method of finishing the well, amount of cement used in grouting, blasting, sub-surface pumphrooms, access pits, etc., should be given on reverse side.

SIGNATURE Henry Hartman Registered Well Driller COMPLETE MAIL ADDRESS 5100 N. 56 St. Milwaukee, Wis

COLIFORM TEST RESULT WK 31760-2 REV. 3-71

GAS - 24 HRS.	GAS - 48 HRS.	CONFIRMED	REMARKS
---------------	---------------	-----------	---------

Well Construction Report WISCONSIN UNIQUE WELL NUMBER				IJ288		Drinking Water and Groundwater - DG/5 Department of Natural Resources, Box 7921 Madison WI 53707				Form 3300-077A							
Property Owner GARDEN GATE NURSERY					Phone #		1. Well Location				Fire # (if avail.)						
Mailing Address N48 W30756 HILL ST					City HARTLAND		State WI		Zip Code 53029		Town of MERTON						
County Waukesha					Co. Permit #		Notification #		Completed 06-22-1995		Street Address or Road Name and Number N48 W30756 HILL ST						
Well Constructor (Business Name) MICHAEL HARTMAN					Lic. # 436		Facility ID # (Public Wells)		Latitude / Longitude in Decimal Degree (DD) 43.1059 °N -88.3586 °W		Method Code GCD013						
Address W82 N28280 MARSHALL HARTLAND WI 53029					Well Plan Approval #		Approval Date (mm-dd-yyyy)		SW SW Section Township Range or Govt Lot # 34 8 N 18 E		2. Well Type Replacement						
Hicap Permanent Well #					Common Well #		Specific Capacity 0.8		Reason for replaced or reconstructed well ? OUT OF WATER								
3. Well serves 1 # of NURSERY					Hicap Well ? No		Hicap Property ? No		Construction Type Drilled								
Non-community					Hicap Potable ?												
Heat Exchange ___ # of drillholes																	
4. Potential Contamination Sources - ON REVERSE SIDE																	
5. Drillhole Dimensions and Construction Method						8. Geology											
Dia. (in.)		From (ft.)		To (ft.)		Upper Enlarged Drillhole		Lower Open Bedrock		Geology Codes		8. Geology Type, Caving/Noncaving, Color, Hardness, etc...		From (ft.)		To (ft.)	
6		Surface		278		Rotary - Mud Circulation				C		CLAY		Surface		10	
						Rotary - Air				Y		SAND @ GRAVEL		10		50	
						Rotary - Air & Foam				P		HARDPAN		50		90	
						Drill-Through Casing Hammer				S		SAND		90		125	
						Reverse Rotary				P		HARDPAN		125		145	
						Cable-tool Bit ___in. dia...				Y		SAND @ GRAVEL		145		170	
						Dual Rotary				P		HARDPAN		170		250	
						Temp. Outer Casing ___in. dia				Y		SAND @ GRAVEL		250		278	
						Removed? ___depth ft. (If NO explain on back side)											
6. Casing, Liner, Screen						9. Static Water Level				11. Well Is							
Dia. (in.)		Material, Weight, Specification Manufacturer & Method of Assembly				From (ft.)		To (ft.)		120 ft. below ground surface		18 in. above grade					
6		0 280 A 53 GRB SAWHILL STEEL WELDED				Surface		278		10. Pump Test		Developed ? Yes					
Dia. (in.)		Screen type, material & slot size				From (ft.)		To (ft.)		Pumping level 180 ft. below surface		Disinfected ? Yes					
										Pumping at 50 GP M for 4 Hrs.		Capped ? Yes					
										Pumping Method ?							
7. Grout or Other Sealing Material						12. Notified Owner of need to fill & seal ?											
Method MOUNDED						Filled & Sealed Well(s) as needed? No											
Kind of Sealing Material		From (ft.)		To (ft.)		# Sacks Cement		PUMP MAN TO DO									
CRUMBLES DRILL		Surface		0													
13. Constructor / Supervisory Driller						Lic #		Date Signed									
MH								06-26-1995									
Drill Rig Operator						Lic or Reg #		Date Signed									
MA																	

4a. Potential Contamination SourcesIs the well located in floodplain ? No

Type	Qualifier	Distance	Type	Qualifier	Distance
Building Overhang		9	Collector Sewer - San or Storm		90
			Sewer - Building Sanitary		40

Comment:

Water Quality Text:

Water Quantity Text:

Difficulty Text:

Created On: 10-10-1995

Created by: HFRC LOAD

Updated On: 07-12-2019

Updated by: PARCEL_MATCH

HILL STREET

U.S. HWY 16

PALMER DRIVE

WEST

LAFARGE - WISCONSIN DIVISION
PROPERTY

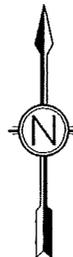
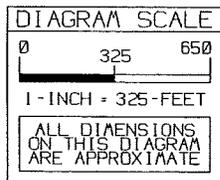
PROPERTY
BOUNDARY

INVESTIGATION
AREA

SEE
FIGURE 3

CAPITOL DRIVE

C. A. S. P. & P. RAILROAD



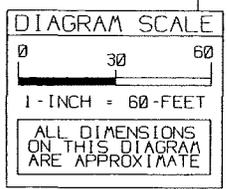
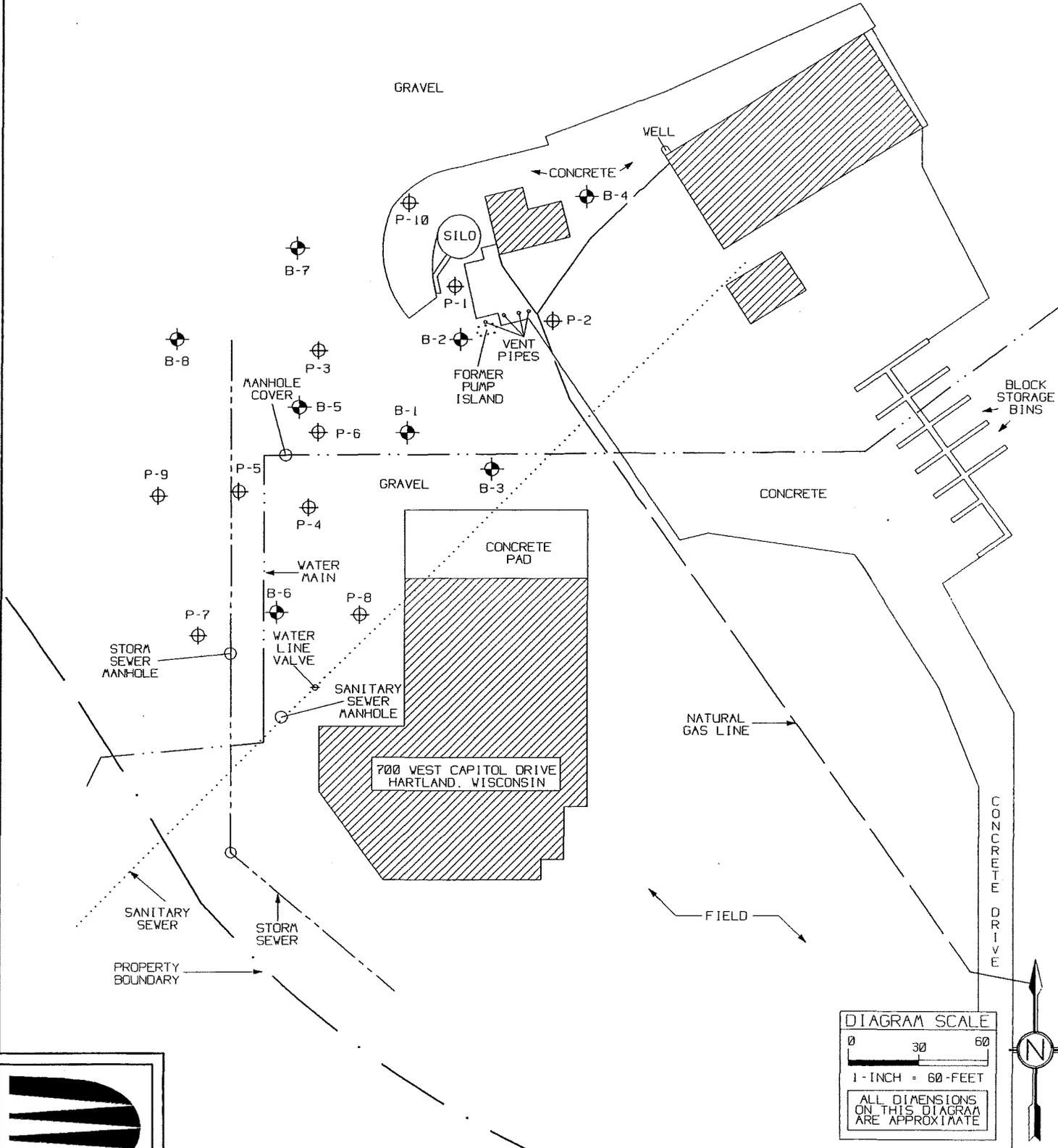
LAFARGE - HARTLAND
REMEDIAL INVESTIGATION

PROJECT NO. J98109	PA DWF
DRAWN BY JMM DATE: 11/18/98	
CHKD BY <i>DWF</i> DATE: <i>12-2-98</i>	
APRVD BY <i>MT</i>	DATE: <i>7-9-99</i>

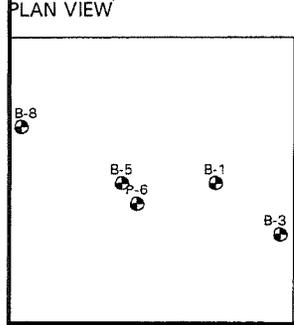
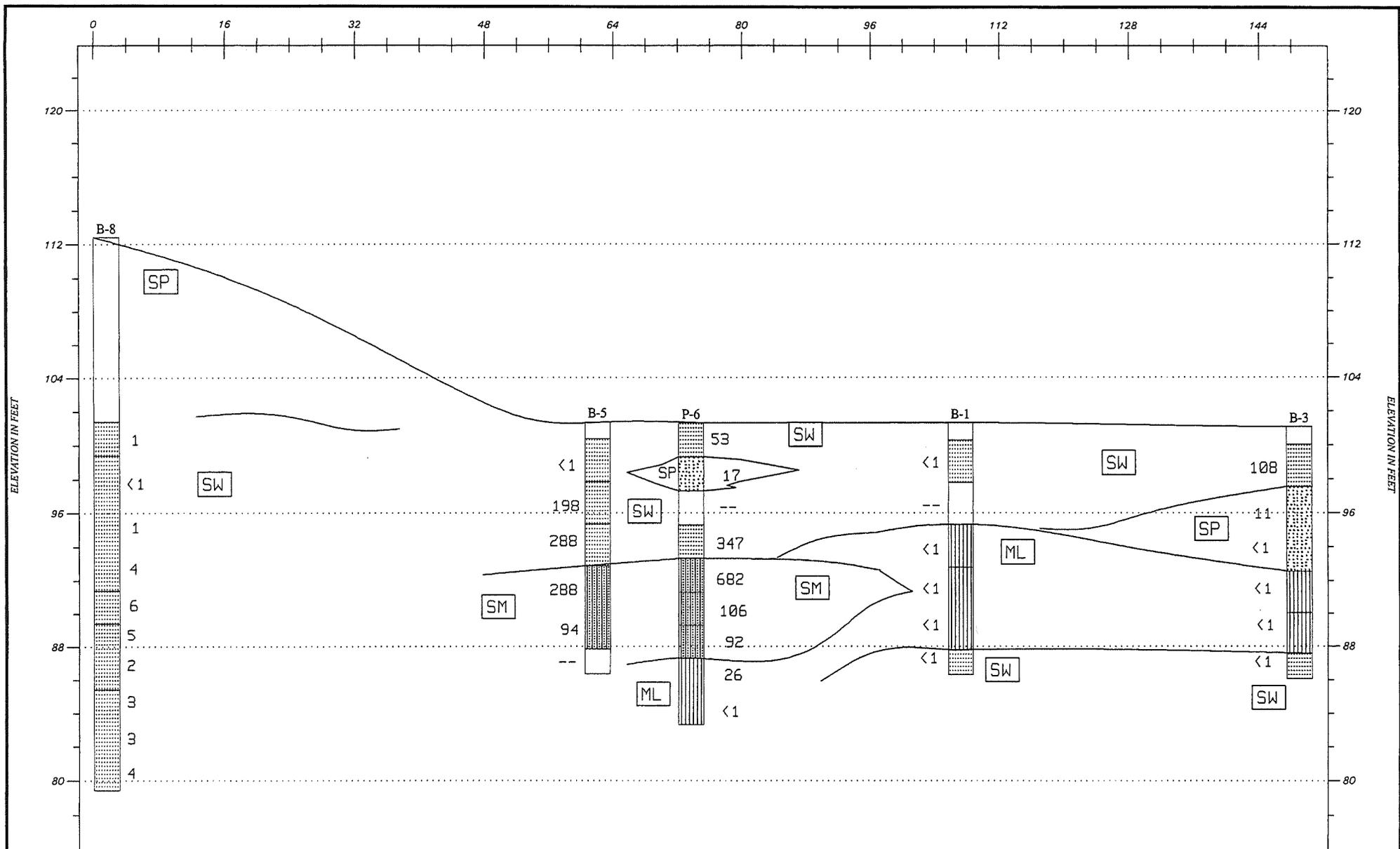
LOCATION
DIAGRAM

FIGURE
2

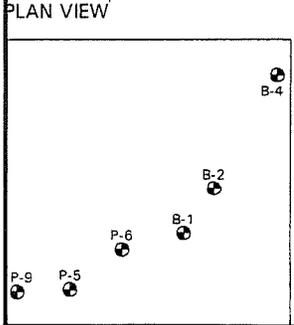
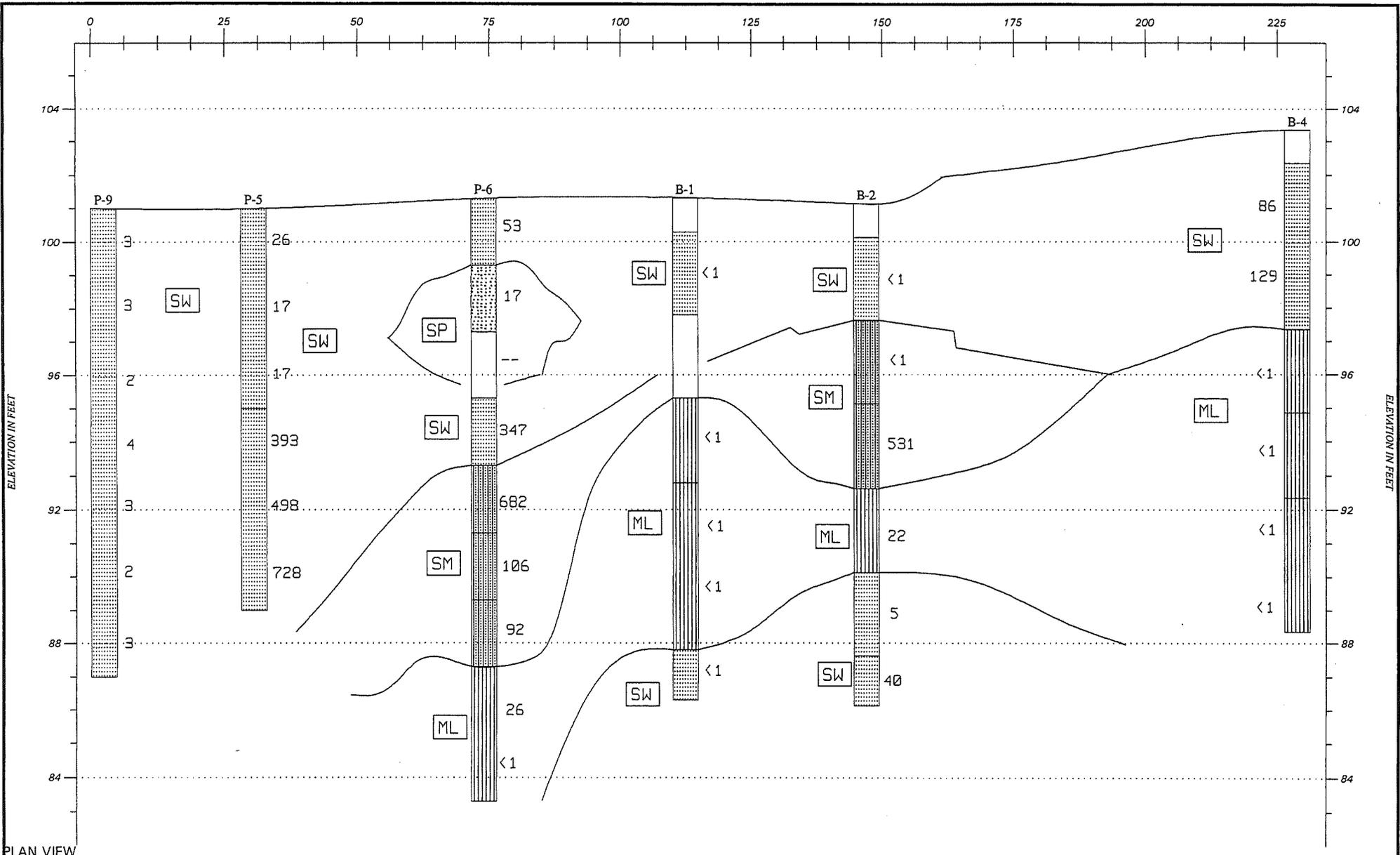
⊕ = PROBEHOLE LOCATION
 ⊙ = BORING LOCATION



LAFARGE - HARTLAND REMEDIAL INVESTIGATION	PROJECT NO. J98109 PA DVF	PROBEOHOLE AND BORING LOCATIONS DIAGRAM	FIGURE 4
	DRAWN BY JAM DATE: 07/30/99		
	CHKD BY <i>DVF</i> DATE 7-21-99		
	APRVD BY <i>TLO</i> DATE 9-21-99		

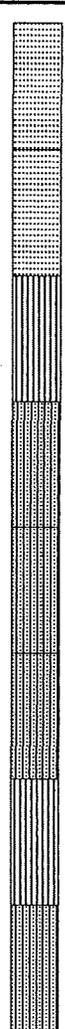


DRAKE ENVIRONMENTAL, INC.		
GEOLOGICAL CROSS SECTION		
HORIZONTAL SCALE: 1"=(proportional)'	FIELD TECHNICIAN	DATE DRAWN
VERTICAL SCALE: 1"=8'	TJO	8/23/1999
LAFARGE - HARTLAND		
PROJECT NUMBER: J98109	FIGURE NUMBER	
	7	



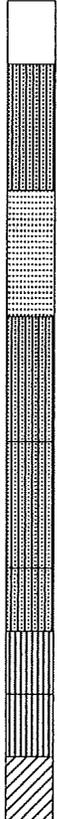
DRAKE ENVIRONMENTAL, INC.		
GEOLOGICAL CROSS SECTION		
HORIZONTAL SCALE: 1" = (proportional)	FIELD TECHNICIAN	DATE DRAWN
VERTICAL SCALE: 1" = 4'	TJO	8/22/1999
LAFARGE - HARTLAND		
PROJECT NUMBER: J98109		FIGURE NUMBER
		8

PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWP	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-1
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 25 FEET NE OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					MEDIUM TO COARSE SAND WITH SILTY FINE SAND AND FINE TO COARSE GRAVEL, TRACE ROOTS - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	SW	<1	
1	1	PR	--	--				
2					MEDIUM TO COARSE SAND, WITH FINE SAND; FEW FINE TO COARSE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL), FINE SANDY SILT TO SILTY CLAY; FEW MEDIUM TO COARSE SAND, DAMP TO MOIST (POSSIBLE FILL)	SW	<1	
3	2	PR	--	--				
4					SILT, TRACE COARSE SAND TO FINE GRAVEL - DARK YELLOWISH BROWN (10YR 4/6) - DAMP (POSSIBLE FILL)	ML	17	
5	3	PR	--	--				
6					SILTY FINE TO MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL - GRAYISH BROWN (10YR 5/2) - DAMP, PETROLEUM ODOR (POSSIBLE FILL)	SM	*2260	
7	4	PR	--	--				
8					SILTY FINE TO MEDIUM SAND, TRACE COARSE SAND, TRACE FINE GRAVEL - GRAYISH BROWN (10YR 5/2) - DAMP TO MOIST, PETROLEUM ODOR (POSSIBLE FILL)	SM	1,073	
9	5	PR	--	--				
10					SILTY FINE SAND TO FINE SANDY SILT, TRACE COARSE SAND - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET, SLIGHT ODOR	SM	70	
11	6	PR	--	--				
12					FINE SANDY SILT, TRACE COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - WET	ML	17	
13	7	PR	--	--				
14					SILTY FINE SAND, TRACE MEDIUM AND COARSE SAND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST, PETROLEUM ODOR	SM	*365	
15	8	PR	--	--				
16					PROBEHOLE TERMINATED AT 16.0 FEET			
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-25-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX 10' DURING DRILLING		

PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-2
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 30 FEET EAST OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					8 INCHES CONCRETE			
1					SILTY FINE SAND, FEW MEDIUM TO COARSE SND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - DAMP (FILL)	SM		
2	1	PR	--	--			<1	
3					FINE SAND, TRACE MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/6) - DAMP (FILL)	SW		
4	2	PR	--	--			<1	
5					SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - PALE BROWN (10YR 6/3) - DAMP (FILL)	SM		
6	3	PR	--	--			<1	
7					SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - PALE BROWN (10YR 6/3) - DAMP (FILL), LITTLE RECOVERY	SM		
8	4	PR	--	--			*<1	
9					SILTY FINE SAND, FINE MEDIUM TO COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - WET, FILL	SM		
10	5	PR	--	--	FINE SANDY SILT, TRACE COARSE SAND - YELLOWISH BROWN (10YR 5/4) - WET	ML	<1	
11					FINE SANDY SILT, TRACE COARSE SAND AND FINE GRAVEL - BROWN (10YR 5/3)	ML		
12	6	PR	--	--	SILTY CLAY, TRACE SILT, TRACE COARSE SAND AND FINE GRAVEL - DARK GRAY (10YR 4/1) - MOIST TO WET	CL	*<1	
13					PROBEHOLE TERMINATED AT 13.0 FEET			
14								
15								
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.

DRILLING DATE: 1-25-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX 9' DURING DRILLING		

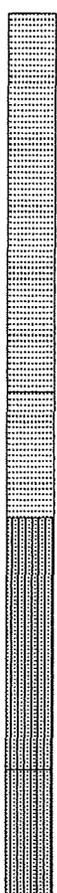


PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-3
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 70 FEET WEST OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					MEDIUM TO COARSE SAND WITH SILTY FINE SAND AND FINE TO COARSE GRAVEL, TRACE ROOTS - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	SW	<1	
1	1	PR	--	--				
2								
3	2	PR	--	--			<1	
4								
5	3	PR	--	--			8	
6					SILTY FINE SAND WITH MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL - GRAY BROWN (10YR 5/2) - WET, PETROLEUM ODOR (FILL)	SM	610	
7	4	PR	--	--				
8								
9	5	PR	--	--			*697	
10					FINE TO MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL - GRAYISH BROWN (10YR 5/2) - WET, PETROLEUM ODOR (FILL)	SW	610	
11	6	PR	--	--				
12					SILTY FINE SAND, FEW MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL, TRACE FINE SANDY SILT - YELLOWISH BROWN (10YR 5/4) - WET, PETROLEUM ODOR (FILL)	SM	346	
13	7	PR	--	--				
14					PEA GRAVEL, TRACE SILTY FINE AND MEDIUM SAND - DARK GRAY TO VERY DARK GRAY (10YR 3.5/1) - WET, PETROLEUM ODOR (FILL)	SP	1,192	
15	8	PR	--	--				
16								
17	9	PR	--	--			*433	
18					PROBEHOLE TERMINATED AT 18.0 FEET			
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-25-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX 7' DURING DRILLING		

PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-4
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 100 FEET SW OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0								
1	1	PR	--	--	MEDIUM TO COARSE SAND WITH SILTY FINE SAND AND FINE TO COARSE GRAVEL, TRACE ROOTS - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	SW	70	
2								
3	2	PR	--	--			26	
4								
5	3	PR	--	--			62	
6								
7	4	PR	--	--	FINE SAND WITH MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - GREYISH BROWN (10YR 5/2) - MOIST, PETROLEUM ODOR, WET	SW	*571	
8								
9	5	PR	--	--	SILTY FINE SAND, TRACE COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST, PETROLEUM ODOR (FILL)	SM	465	
10								
11	6	PR	--	--			149	
12								
13	7	PR	--	--	SILTY FINE SAND TO SANDY SILT, TRACE COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST, PETROLEUM ODOR, FILL	SM	*248	
14					PROBEHOLE TERMINATED AT 14.0 FEET			
15								
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-25-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX. DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-5
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 110 FEET SW OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					MEDIUM TO COARSE SAND WITH SILTY FINE SAND AND FINE TO COARSE GRAVEL, TRACE ROOTS - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	SW	26	
1	1	PR	--	--				
2								
3	2	PR	--	--				
4								
5	3	PR	--	--				
6					MEDIUM TO COARSE SAND, WITH SILTY FINE SAND AND FINE GRAVEL - GRAYISH BROWN (10YR 5/2) - MOIST TO WET, PETROLEUM ODOR (FILL)	SW	*393	
7	4	PR	--	--				
8								
9	5	PR	--	--				
10								
11	6	PR	--	--				
12					PROBEHOLE TERMINATED AT 12.0 FEET			
13								
14								
15								
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-25-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX. DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-6
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 80 FEET SW OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					MEDIUM TO COARSE SAND WITH SILTY FINE SAND AND FINE TO COARSE GRAVEL, TRACE ROOTS - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	SW	53	
1	1	PR	--	--				
2					FINE GRAVEL, TRACE FINE SAND - YELLOWISH BROWN (10YR 5/4) -DAMP (FILL)	SP	17	
3	2	PR	--	--				
4					NO RECOVERY		--	
5	3	PR	--	--				
6					FINE TO COARSE SAND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET, PETROLEUM ODOR (FILL)	SW	347	
7	4	PR	--	--				
8					SILTY FINE SAND, TRACE MEDIUM AND COARSE SAND - YELLOWISH BROWN (10YR 5/4) - MOIST, PETROLEUM ODOR (FILL)	SM	*682	
9	5	PR	--	--				
10					SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - GRAYISH BROWN (10YR 5/2) - WET, PETROLEUM ODOR (FILL)	SM	106	
11	6	PR	--	--				
12					SILTY FINE SAND, TRACE FINE SANDY SILT, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - GRAYISH BROWN (10YR 5/2) - WET, PETROLEUM ODOR (FILL)	SM	92	
13	7	PR	--	--				
14					FINE SANDY SILT, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - WET	ML	26	
15	8	PR	--	--				
16								
17	9	PR	--	--			*<1	
18					PROBEHOLE TERMINATED AT 18.0 FEET			
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-25-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX 10' DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-7
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 170 FEET SW OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					MEDIUM TO COARSE SAND, WITH SILTY FINE SAND AND FINE TO COARSE GRAVEL, TRACE ROOTS - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	SW	1	
1	1	PR	--	--				
2					FINE TO MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL)	SW	2	
3	2	PR	--	--				
4								
5	3	PR	--	--			5	
6								
7	4	PR	--	--			*4	
8					FINE TO MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL, BLACK SILTY SAND LAYER - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL)	SW	3	
9	5	PR	--	--				
10					FINE SILTY SAND, TRACE COARSE SAND AND FINE GRAVEL - LIGHT YELLOWISH BROWN (10YR 6/4) - MOIST (FILL)	SM	5	
11	6	PR	--	--				
12					FINE SAND, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - WET (FILL)	SW	2	
13	7	PR	--	--				
14					PROBEHOLE TERMINATED AT 14.0 FEET			
15								
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-26-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX 12' DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-8
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 130 FEET SW OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0								
1	1	PR	--	--	FINE TO MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL - DARK YELLOWISH BROWN (10YR 4/4) - MOIST (FILL)	SW	*55	
2								
3	2	PR	--	--	FINE SAND, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL)	SW	8	
4								
5	3	PR	--	--			4	
6								
7	4	PR	--	--	FINE SAND, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL), LITTLE RECOVERY	SW	*4	
8								
9	5	PR	--	--			3	
10								
11	6	PR	--	--	FINE SILTY SAND TO SANDY SILT, TRACE MEDIUM AND COARSE SAND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	SM	2	
12								
13	7	PR	--	--	SILTY FINE TO MEDIUM SAND, TRACE COARSE SAND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - WET, FILL	SM	3	
14					PROBEHOLE TERMINATED AT 14.0 FEET			
15								
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-26-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX 11' DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-9
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 150 FEET SW OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					FINE TO MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - DAMP TO MOIST (FILL)	SW		
1	1	PR	--	--			3	
2								
3	2	PR	--	--			3	
4								
5	3	PR	--	--			2	
6								
7	4	PR	--	--	*4			
8								
9	5	PR	--	--	3			
10								
11	6	PR	--	--	2			
12								
13	7	PR	--	--	3			
14					PROBEHOLE TERMINATED AT 14.0 FEET			
15								
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-26-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX. DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	PROBE NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		P-10
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 65 FEET NW OF FORMER UST		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					FINE TO MEDIUM SAND, TRACE COARSE SAND AND FINE GRAVEL - GRAY (10YR 5/1) - WET, CEMENT ODOR (FILL)	SW		
1	1	PR	--	--			351	
2					SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - GRAY (10YR 6/1) - WET, CEMENT ODOR (FILL)	SM		
3	2	PR	--	--			381	
4								
5	3	PR	--	--			483	
6					SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - GRAY (10YR 6/1) - WET, CEMENT AND PETROLEUM ODOR (FILL)	SM		
7	4	PR	--	--			*723	
8					FINE SILTY SAND, FEW MEDIUM TO COARSE SAND AND FINE GRAVEL - VERY DARK GRAYISH BROWN (10YR 3/2) - WET, PETROLEUM ODOR (FILL)	SM		
9	5	PR	--	--			767	
10					FINE TO MEDIUM SILTY SAND, TRACE COARSE SAND - GRAY (10YR 5/1) - WET, PETROLEUM ODOR (FILL)	SM		
11	6	PR	--	--			307	
12								
13	7	PR	--	--			398	
14								
15	8	PR	--	--			*556	
16					PROBEHOLE TERMINATED AT 16.0 FEET			
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 1-26-99	DRILL RIG: Geoprobe Model 5400	NOTES *SUBMITTED FOR LABORATORY ANALYSIS
DRILLED BY: UNDERGROUND POWER CORP.		
BORING DRILLED WITH GEOPROBE 2' INTERVALS		
PROBEHOLE ABANDONED WITH BENTONITE		
GROUND SURFACE AT 0.0 DURING DRILLING		
GROUNDWATER AT APPROX. DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-1
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 75'N, 4'E OF NW CORNER OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0								
1	1	SS	22	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL)	SW	<1	
2								
3								
4	2	SS	--	--	NO RECOVERY		--	
5								
6								
7	3	SS	15	--	FINE SANDY SILT TO SILTY SAND, TRACE MEDIUM SAND, FINE TO MEDIUM GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	ML	*<1	
8								
9	4	SS	33	--	FINE SANDY SILT TO SILTY SAND, TRACE MEDIUM SAND, FINE TO MEDIUM GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL)	ML	<1	
10								
11								
12	5	SS	31	--			<1	
13								
14	6	SS	25	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - MOIST	SW	<1	
15					BOREHOLE TERMINATED AT 15.0 FEET			
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 3-8-99	DRILL RIG: FOREMOST MOBILE	NOTES *SAMPLE SUBMITTED FOR LABORATORY ANALYSIS SS = SPLIT SPOON
DRILLED BY: BRIOHN ENVIRONMENTAL CONTRACTORS		
BORING DRILLED WITH 4.25 INCH I.D. HSA		
BOREHOLE BACKFILLED WITH BENTONITE		
GROUND SURFACE AT 101.30 DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-2
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 105'N, 25'E OF NW CRNR OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0								
1	1	SS	72	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL)	SW	<1	
2								
3								
4	2	SS	19	--	SILTY FINE SAND TO FINE SANDY SILT, TRACE MEDIUM TO COARSE SAND, TRACE COARSE GRAVEL - YELLOWISH BROWN (10YR 5/4) - DAMP (FILL)	SM	<1	
5								
6								
7	3	SS	20	--	SILTY FINE SAND TO FINE SANDY SILT, TRACE MEDIUM TO COARSE SAND, TRACE COARSE GRAVEL - YELLOWISH BROWN (10YR 5/4) - DAMP (FILL), SLIGHT ODOR, VERY LITTLE RECOVERY	SM	531	
8								
9	4	SS	16	--	FINE SANDY SILT, TRACE MEDIUM TO COARSE SAND - YELLOWISH BROWN (10YR 5/4) - MOIST TO WET (FILL)	ML	*22	
10								
11								
12	5	SS	18	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - WET (FILL)	SW	5	
13								
14	6	SS	16	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - WET (FILL), SLIGHT ODOR	SW	*40	
15					BOREHOLE TERMINATED AT 15.0 FEET			
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 3-8-99	DRILL RIG: FOREMOST MOBILE	NOTES *SAMPLE SUBMITTED FOR LABORATORY ANALYSIS SS = SPLIT SPOON WELL SET AT 15' WITH 10' SCREEN DNR UID #JN379
DRILLED BY: BRIOHN ENVIRONMENTAL CONTRACTORS		
BORING DRILLED WITH 4.25 INCH I.D. HSA		
BOREHOLE BACKFILLED WITH BENTONITE		
GROUND SURFACE AT 101.13 DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-3
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 48'N, 38'E OF NW CORNR OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0								
1	1	SS	5	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - WET (FILL)	SW	*108	
2								
3								
4	2	SS	1	--	MEDIUM GRAVEL, WET (FILL)	SP	11	
5								
6								
7	3	SS	1	--			<1	
8								
9	4	SS	21	--	FINE SANDY SILT TO SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - DAMP (FILL)	ML	<1	
10								
11	5	SS	41	--	FINE SANDY SILT TO SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND, TRACE FINE TO COARSE GRAVEL - YELLOWISH BROWN (10YR 5/4) - WET (FILL)	ML	<1	
12								
13								
14	6	SS	41	--	FINE SAND, TRACE MEDIUM TO COARSE GRAVEL, DAMP (FILL)	SW	<1	
15					BOREHOLE TERMINATED AT 15.0 FEET			
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 3-8-99	DRILL RIG: FOREMOST MOBILE	NOTES *SAMPLE SUBMITTED FOR LABORATORY ANALYSIS SS = SPLIT SPOON WELL SET AT 15' WITH 10' SCREEN DNR UID #JN378
DRILLED BY: BRIOHN ENVIRONMENTAL CONTRACTORS		
BORING DRILLED WITH 4.25 INCH I.D. HSA		
GROUND SURFACE AT 101.06 DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-4
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 15' N OF NE CORNER OF SILO BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0								
1	1	SS	47	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL), COARSE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST (FILL), CEMENT ODOR	SW	86	
2								
3								
4	2	SS	27	--			*129	
5								
6								
7	3	SS	34	--	FINE SANDY SILT, TRACE SILTY CLAY, TRACE MEDIUM TO COARSE SAND, TRACE FINE TO MEDIUM GRAVEL - BROWN (10YR 5/3) - DAMP (FILL)	ML	<1	
8								
9	4	SS	9	--	FINE SANDY SILT, TRACE SANDY CLAY, TRACE MEDIUM SAND AND FINE GRAVEL - BROWN (10YR 5/3) - WET	ML	<1	
10								
11								
12	5	SS	14	--	FINE SANDY SILT TO SILTY CLAY, TRACE MEDIUM TO COARSE SAND AND FINE GRAVEL - BROWN (10YR 5/3) - WET	ML	<1	
13								
14	6	SS	21	--			<1	
15					BOREHOLE TERMINATED AT 15.0 FEET			
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 3-8-99	DRILL RIG: FOREMOST MOBILE	NOTES *SAMPLE SUBMITTED FOR LABORATORY ANALYSIS SS = SPLIT SPOON WELL SET AT 15' WITH 10' SCREEN DNR UID #JN377
DRILLED BY: BRIOHN ENVIRONMENTAL CONTRACTORS		
BORING DRILLED WITH 4.25 INCH I.D. HSA		
GROUND SURFACE AT 103.36 DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-5
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 75'N, 45'W OF NW CORNR OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0								
1	1	SS	38	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - DAMP	SW	<1	
2								
3								
4	2	SS	38	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - MOIST	SW	198	
5								
6								
7	3	SS	9	--	FINE TO COARSE SAND, FINE TO MEDIUM GRAVEL (PEA GRAVEL) - YELLOWISH BROWN (10YR 5/4) - MOIST, ODOR	SW	*288	
8								
9	4	SS	3	--	FINE SILTY SAND, TRACE MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - BROWN (10YR 5/3) - WET (FILL), ODOR	SM	288	
10								
11								
12	5	SS	28	--			*94	
13								
14	6	SS	22	--	NO RECOVERY		--	
15					BOREHOLE TERMINATED AT 15.0 FEET			
16								
17								
18								
19								
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.

DRILLING DATE: 3-8-99	DRILL RIG: FOREMOST MOBILE	NOTES *SAMPLE SUBMITTED FOR LABORATORY ANALYSIS SS = SPLIT SPOON WELL SET AT 15' WITH 10' SCREEN DNR UID #JK522
DRILLED BY: BRIOHN ENVIRONMENTAL CONTRACTORS		
BORING DRILLED WITH 4.25 INCH I.D. HSA		
GROUND SURFACE AT 101.37 DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-6
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 15'S, 55'W OF NW CORNR OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0								
1	1	SS	30	--	FINE TO MEDIUM SAND, TRACE COARSE SAND, TRACE FINE GRAVEL - DARK BROWN (10YR 4/3) - DAMP (FILL)	SW	48	
2								
3								
4	2	SS	30	--	FINE TO MEDIUM SAND, TRACE COARSE SAND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - DAMP (FILL)	SW	41	
5								
6								
7	3	SS	51	--			11	
8								
9	4	SS	16	--	FINE SANDY SILT, TRACE COARSE SAND TO FINE GRAVEL - BROWN (10YR 5/3) - MOIST TO WET	ML	*3	
10								
11	5	SS	18	--	FINE SANDY SILT TO SILTY FINE SAND, TRACE COARSE SAND AND FINE GRAVEL - BROWN (10YR 5/3) - 3 INCH SEAM, SILT, TRACE SILTY CLAY - DARK GRAY (10YR 4/1) - MOIST	ML	3	
12								
13								
14	6	SS	28	--	FINE SAND, MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - BROWN (10YR 5/3) - MOIST	SW	25	
15								
16								
17	7	SS	30				*167	
18								
19					BOREHOLE TERMINATED AT 19.0 FEET			
20								
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 3-26-99	DRILL RIG: FOREMOST MOBILE	NOTES *SAMPLE SUBMITTED FOR LABORATORY ANALYSIS SS = SPLIT SPOON WELL SET AT 19' WITH 10' SCREEN DNR UID #JK523
DRILLED BY: BRIOHN ENVIRONMENTAL CONTRACTORS		
BORING DRILLED WITH 4.25 INCH I.D. HSA		
GROUND SURFACE AT 100.02 DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-7
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 145'N, 46'W OF NW CRNR OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					BLIND DRILLED TO 11.0 FEET			
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12	1	SS	9	--	FINE SAND TO SILTY FINE SAND WITH MEDIUM TO COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST	SW	4	
13								
14	2	SS	10	--			6	
15								
16	3	SS	26	--			4	
17								
18	4	SS	43	--	SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST	SM	3	
19								
20	5	SS	26	--	SILTY FINE SAND, TRACE MEDIUM TO COARSE SAND - PALE BROWN (10YR 6/3) - MOIST	SM	5	
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.		
DRILLING DATE: 3-26-99	DRILL RIG: TRACKED ATV	NOTES *SAMPLE SUBMITTED FOR LABORATORY ANALYSIS SS = SPLIT SPOON WELL SET AT 33' WITH 15' SCREEN DNR UID #JK524
DRILLED BY: BRIOHN ENVIRONMENTAL CONTRACTORS		
BORING DRILLED WITH 4.25 INCH I.D. HSA		
GROUND SURFACE AT 108.71 DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-7
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 145'N, 46'W OF NW CRNR OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
21					NO RECOVERY		--	
22	6	SS	35	--			--	
23								
24	7	SS	18	--	FINE SAND TO SILTY FINE SAND WITH MEDIUM TO COARSE SAND AND FINE GRAVEL - YELLOWISH BROWN (10YR 5/4) - MOIST	SW	*8	
25								
26	8	SS	32	--	FINE SAND, TRACE MEDIUM TO COARSE SAND, WET	SW	7	
27								
28	9	SS	14	--			4	
29								
30	10	SS	12	--			*3	
31								
32	11	SS	--	--			--	
33					BOREHOLE TERMINATED AT 33.0 FEET			
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-8
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 105'N, 98'W OF NW CRNR OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
0					BLIND DRILLED TO 11.0 FEET			
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12	1	SS	57	--	FINE SAND WITH MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - LIGHT GRAY (10YR 7/2) - DAMP	SW	1	
13								
14	2	SS	68	--	FINE SAND TO FINE SILTY SAND, TRACE MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - BROWN (10YR 5/3) - DAMP	SW	<1	
15								
16	3	SS	53	--			1	
17								
18	4	SS	51	--			4	
19								
20	5	SS	49	--			*6	
21								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.

DRILLING DATE: 3-26-99	DRILL RIG: TRACKED ATV	NOTES *SAMPLE SUBMITTED FOR LABORATORY ANALYSIS SS = SPLIT SPOON WELL SET AT 33' WITH 15' SCREEN DNR UID #JK525
DRILLED BY: BRIOHN ENVIRONMENTAL CONTRACTORS		
BORING DRILLED WITH 4.25 INCH I.D. HSA		
GROUND SURFACE AT 112.42 DURING DRILLING		



PROJECT NAME LAFARGE - HARTLAND		FIELD TEC TJO	DRAWN BY DWF	BORING NUMBER
CLIENT LAFARGE - WISCONSIN DIVISION		PROJECT NUMBER J98109		B-8
LOCATION 700 W CAPITOL DR, HARTLAND, WI NW 1/4 NW 1/4 SEC 3 T7N R18E		LOCATION DESCRIPTION 105'N, 98'W OF NW CRNR OF BLDG		

DEPTH	SAMPLE	TYPE	N	QP	DESCRIPTION	USCS	PID	GRAPHIC
21	6	SS	50	--	FINE SAND, TRACE MEDIUM TO COARSE SAND, TRACE FINE GRAVEL - BROWN (10YR 5/3) - MOIST, LITTLE RECOVERY	SW	5	
22								
23	7	SS	52	--	FINE TO MEDIUM SAND WITH COARSE SAND, TRACE FINE GRAVEL - BROWN (10YR 5/3) - MOIST	SW	2	
24								
25								
26	8	SS	58	--			3	
27	9	SS	54	--	FINE SAND, TRACE MEDIUM AND COARSE SAND - BROWN (10YR 5/3) - WET	SW	3	
28								
29								
30	10	SS	--	--			*4	
31	11	SS	--	--			--	
32								
33	BOREHOLE TERMINATED AT 33.0 FEET							
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

NOTE: THE STRATIFICATION LINES ARE APPROXIMATE BOUNDARIES. ACTUAL TRANSITION MAY BE GRADUAL.



Report On: Proctor

Lab No: 20-06843

Report No: 20-06843

Project No: 20072-40

Cust No: 0111

Page 1 of 1

Client: Musson Brothers, Inc.
Bob Draths
1522 Pearl St.
Waukesha, WI 53186

Project: Sunnyslope Dr. Storm Sewer, Sanitary
Sewer and Water Main.

Engineer: Ruekert Mielke

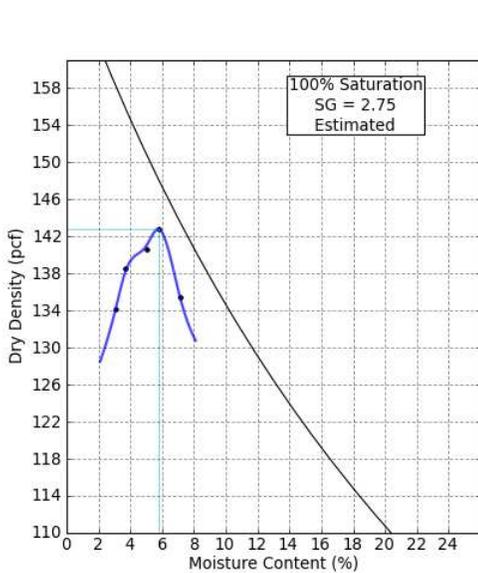
Report Date: 08/11/2020

Location: Fill Site

Sample Date: 08/11/2020

Material: Trench Spoils

Sampled By: Max Piehl



% Moisture	Dry Density Lbs./Cu.Ft.
3.1	134.1
3.7	138.6
5.0	140.6
5.8	142.8
7.1	135.5
5.8	Optimum
142.8	Maximum

Color: Brown
Description: sandy gravel

Desc of Rammer: Mechanical

Preparation Method: Dry

Oversized Material:

Test Method (As Applicable): AASHTO T-180, AASHTO T-99, ASTM D-1557, ASTM D-1559, ASTM D-2041, ASTM D-558, ASTM D-698 Method-C

Orig: Musson Brothers, Inc. Attn: Bob Draths
(1-ec copy)
1-ec Ruekert Mielke Attn: Peter Gesch
1-cc Laboratory

Respectfully Submitted,

Andrew Davis, Project Manager



Appendix C

Laboratory Reports

- Modified Proctor (D1557) & Grain Size Analysis (D6913)
 - TP-1/TP-2 - composite
 - TP-3
 - TP-5
 - B6/B7 - composite (Grain Size Analysis below)

- Grain Size Analysis (D6913)
 - TP-6
 - TP-9
 - B1
 - B2 (including Atterberg Limits (D4318))
 - B3
 - B4
 - B5
 - B6
 - B7
 - B8
 - B9
 - B10
 - B11
 - B12
 - B13
 - B14
 - B15
 - B16
 - B17
 - B18
 - B19

- General Notes

- USCS Description





Material Test Report

Report #: CSPL-000001-00

West Allis
2135 S. 116th Street
West Allis, WI 53227
Phone: 888-436-8378
Fax: 414-321-8359

Client:
Three Leaf Partners
504 W Juneau Avenue
Milwaukee, WI 53203

Project:
7708
Hartland Quarry Apartments
700/701 Capitol Drive
Hartland, WI

Sample Information

Sample Date: 04/17/2023
Sample No: 7157
Source: Jobsite
Supplier: Client
Sampled By: Michael Frede
Sample From: Test Pit
Sampling Method: Not Provided
Field ID: TP-1 + TP-2 Combined
Application: Test Pit
Visual Description: Light Brown Silty Sand with few Gravel
Specification:

Sieve Analysis Data

ASTM C136/C117

Sieve Size	% Passing	Upper/Lower Limits
2 in (50 mm)	100.0	
1-1/2 in (37.5 mm)	100.0	
1-1/4 in (31.75 mm)	93.7	
1 in (25 mm)	91.7	
3/4 in (19 mm)	86.4	
1/2 in (12.5 mm)	79.5	
3/8 in (9.5 mm)	75.3	
No 4 (4.75 mm)	67.2	
No 10 (2 mm)	60.9	
No 20 (850 µm)	55.5	
No 40 (425 µm)	47.5	
No 60 (250 µm)	38.1	
No 100 (150 µm)	30.1	
No 140 (106 µm)	26.3	
No 200 (75 µm)	23.6	

Test Completed Date: 04/21/2023

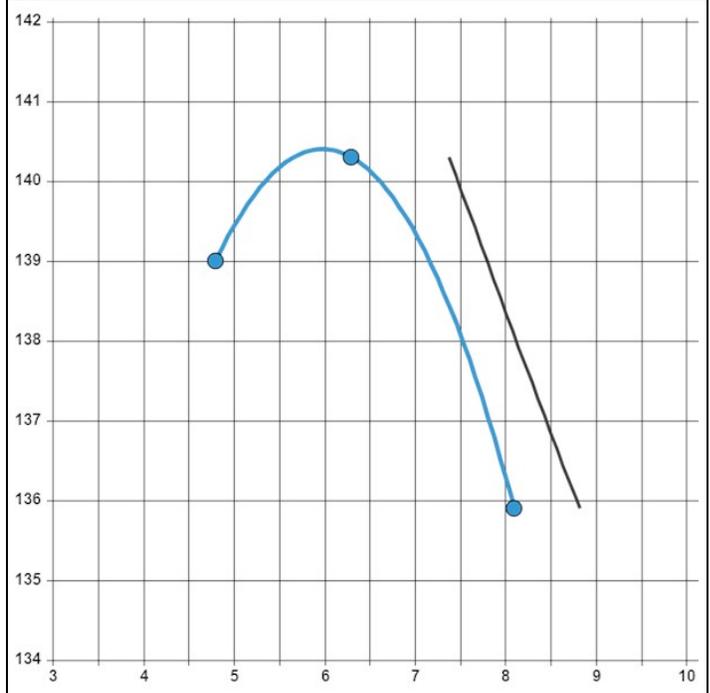
Test Completed By: Abdel Deif

Laboratory Compaction Data (Proctor)

ASTM D1557

Maximum Dry Density (lb/ft³): 140.4

Optimum Moisture (%): 6.0



Compaction Method: B (ASTM D1557)

Type of Rammer: Manual

Est. Specific Gravity: 2.70

Oversize Correction Needed: Yes

Plasticity Details

ASTM D4318

Liquid Limit (LL): **Plastic Limit (PL):**

Plasticity Index (PI):

Intiaz Ahmed, Laboratory Manager

Apr 27, 2023



West Allis
2135 S. 116th Street
West Allis, WI 53227
Phone: 888-436-8378
Fax: 414-321-8359

Client:
Three Leaf Partners
504 W Juneau Avenue
Milwaukee, WI 53203

Project:
7708
Hartland Quarry Apartments
700/701 Capitol Drive
Hartland, WI

Sample Information

Sample Date: 04/17/2023
Sample No: 7158
Source: Jobsite
Supplier: Client
Sampled By: Michael Frede
Sample From: Test Pit
Sampling Method: Not Provided
Field ID: TP-3
Application: Test Pit
Visual Description: Brown Sand and Gravel, trace Silt
Specification:

Sieve Analysis Data

ASTM C136/C117

Sieve Size	% Passing	Upper/Lower Limits
2 in (50 mm)	100.0	
1-1/2 in (37.5 mm)	100.0	
1-1/4 in (31.75 mm)	93.4	
1 in (25 mm)	90.7	
3/4 in (19 mm)	84.0	
1/2 in (12.5 mm)	75.2	
3/8 in (9.5 mm)	69.6	
No 4 (4.75 mm)	57.0	
No 10 (2 mm)	47.6	
No 20 (850 µm)	40.3	
No 40 (425 µm)	32.0	
No 60 (250 µm)	23.0	
No 100 (150 µm)	17.3	
No 140 (106 µm)	14.9	
No 200 (75 µm)	12.6	

Test Completed Date: 04/25/2023

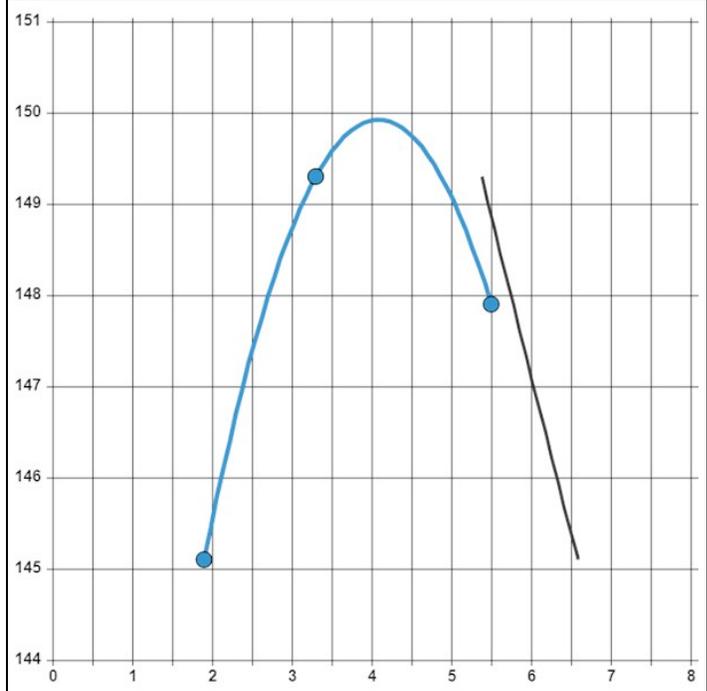
Test Completed By: Abdel Deif

Laboratory Compaction Data (Proctor)

ASTM D1557

Maximum Dry Density (lb/ft³): 150.0

Optimum Moisture (%): 4.1



Compaction Method: C (ASTM D1557)
Type of Rammer: Manual
Est. Specific Gravity: 2.75
Oversize Correction Needed: Yes

Plasticity Details

ASTM D4318

Liquid Limit (LL): **Plastic Limit (PL):**
Plasticity Index (PI):

Intiaz Ahmed, Laboratory Manager
Apr 27, 2023



Material Test Report

Report #: CSPL-000003-00

West Allis
2135 S. 116th Street
West Allis, WI 53227
Phone: 888-436-8378
Fax: 414-321-8359

Client:
Three Leaf Partners
504 W Juneau Avenue
Milwaukee, WI 53203

Project:
7708
Hartland Quarry Apartments
700/701 Capitol Drive
Hartland, WI

Sample Information

Sample Date: 04/17/2023
Sample No: 7159
Source: Jobsite
Supplier: Client
Sampled By: Michael Frede
Sample From: Test Pit
Sampling Method: Not Provided
Field ID: TP-5
Application: Test Pit
Visual Description: Brown Silty Sand with few Gravel
Specification:

Sieve Analysis Data

ASTM C136/C117

Sieve Size	% Passing	Upper/Lower Limits
2 in (50 mm)	100.0	
1-1/2 in (37.5 mm)	100.0	
1-1/4 in (31.75 mm)	97.6	
1 in (25 mm)	95.1	
3/4 in (19 mm)	92.8	
1/2 in (12.5 mm)	88.6	
3/8 in (9.5 mm)	85.6	
No 4 (4.75 mm)	79.3	
No 10 (2 mm)	73.6	
No 20 (850 µm)	68.2	
No 40 (425 µm)	60.0	
No 60 (250 µm)	43.6	
No 100 (150 µm)	24.4	
No 140 (106 µm)	17.0	
No 200 (75 µm)	12.4	

Test Completed Date: 04/24/2023

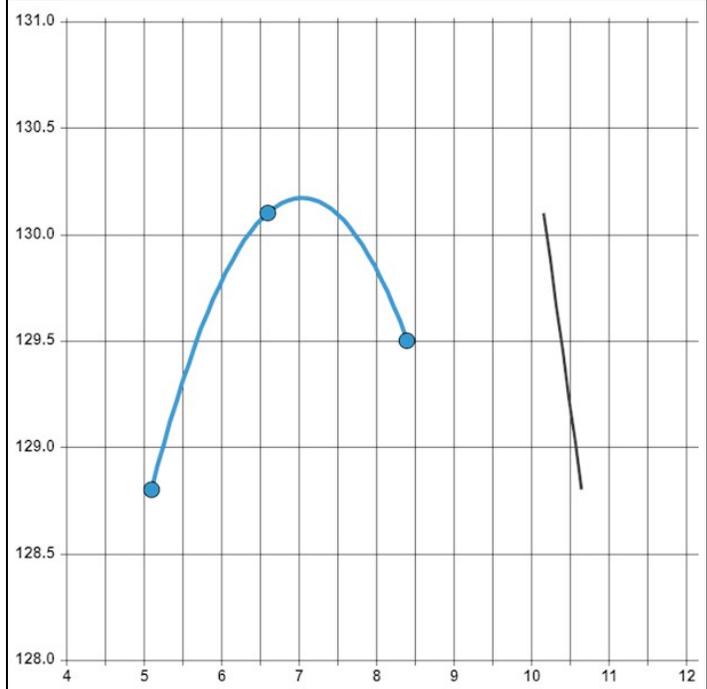
Test Completed By: Abdel Deif

Laboratory Compaction Data (Proctor)

ASTM D1557

Maximum Dry Density (lb/ft³): 130.2

Optimum Moisture (%): 7.1



Compaction Method: A (ASTM D1557)

Type of Rammer: Manual

Est. Specific Gravity: 2.65

Oversize Correction Needed: Yes

Plasticity Details

ASTM D4318

Liquid Limit (LL): **Plastic Limit (PL):**

Plasticity Index (PI):

Intiaz Ahmed, Laboratory Manager
Apr 27, 2023

West Allis
 2135 S. 116th Street
 West Allis, WI 53227
 Phone: 888-436-8378
 Fax: 414-321-8359

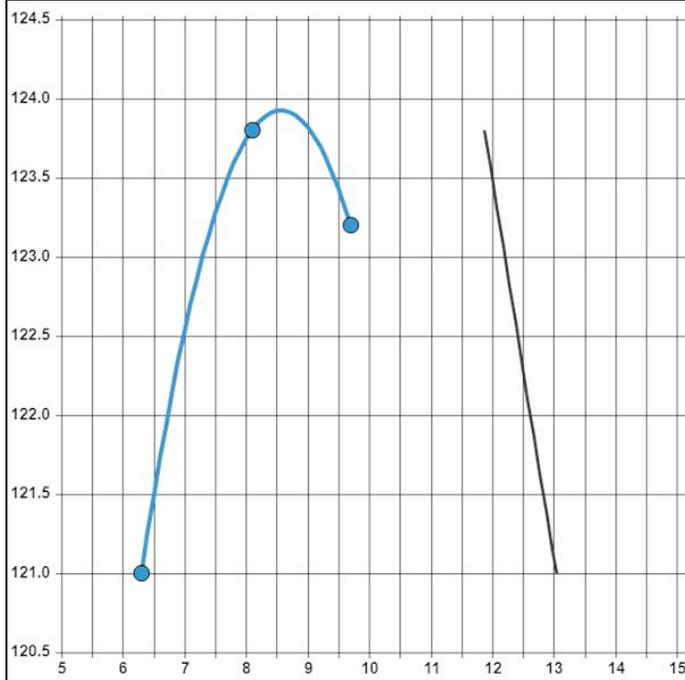
Client:
 Three Leaf Partners
 504 W Juneau Avenue
 Milwaukee, WI 53203

Project:
 7708
 Hartland Quarry Apartments
 700/701 Capitol Drive
 Hartland, WI

Sample Information

Sample Date:	04/18/2023	Sample Number:	7190
Sample From:	Test Pit	Field ID:	Bluff 6 + 7 Combined
Sample Location :	Onsite	Sampled By:	Michael Frede

Test Results



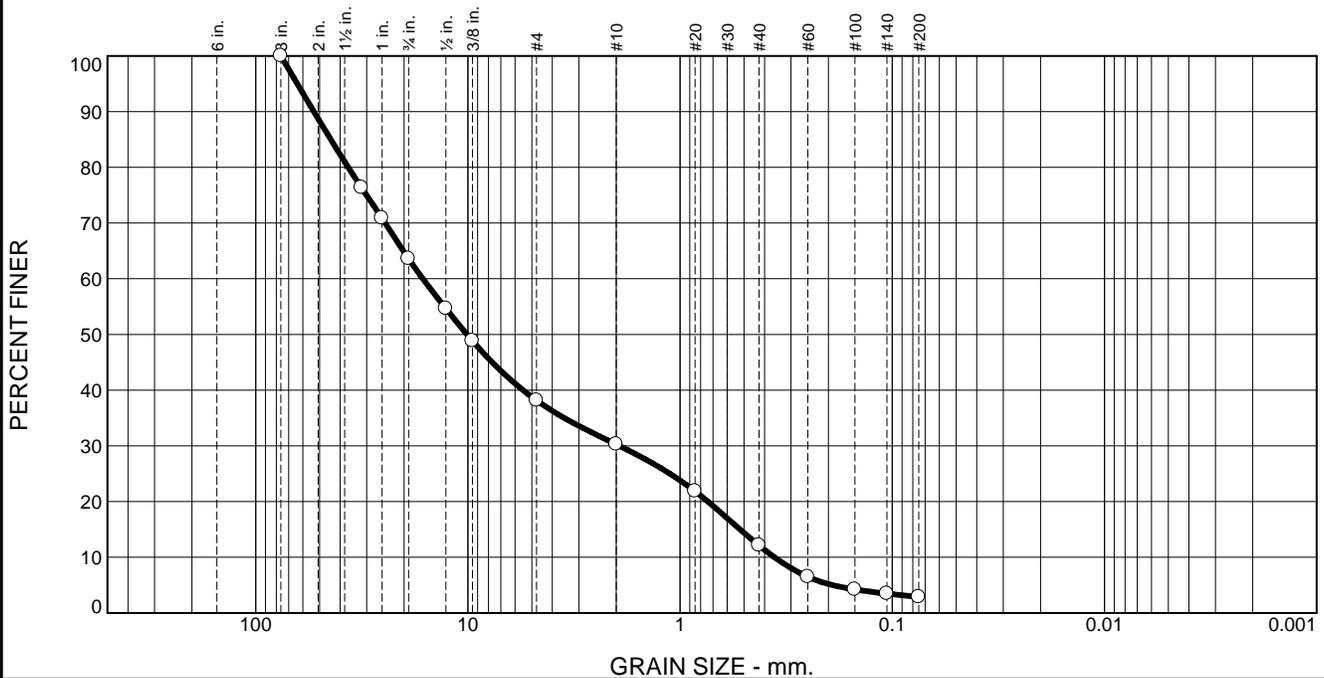
Sample Photo



Oversize Correction Needed:	Yes	Visual Description:	Dark Brown Silty Clay with Organic
Maximum Dry Density (lb/ft³):	123.9	Compaction Method Used:	A (ASTM D1557)
Optimum Moisture (%):	8.5	Type of Rammer Used:	Manual
Test Date:	04/25/2023	Sp. Gravity (Est):	2.60
Lab Technician:	Abdel Deif		

Intiaz Ahmed, Laboratory Manager
 Apr 27, 2023

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	36.4	25.4	7.9	18.2	9.2	2.9	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	76.4		
1"	70.9		
3/4"	63.6		
1/2"	54.7		
3/8"	48.9		
#4	38.2		
#10	30.3		
#20	21.9		
#40	12.1		
#60	6.5		
#100	4.2		
#140	3.5		
#200	2.9		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 53.2485 D₈₅= 44.3097 D₆₀= 16.3112
D₅₀= 10.1019 D₃₀= 1.9347 D₁₅= 0.5218
D₁₀= 0.3589 C_u= 45.45 C_c= 0.64

Remarks

F.M.=5.82

Date Received: 4/17/23 Date Tested: 4/27/23

Tested By: Luke Emery

Checked By: Imtiaz Ahmed

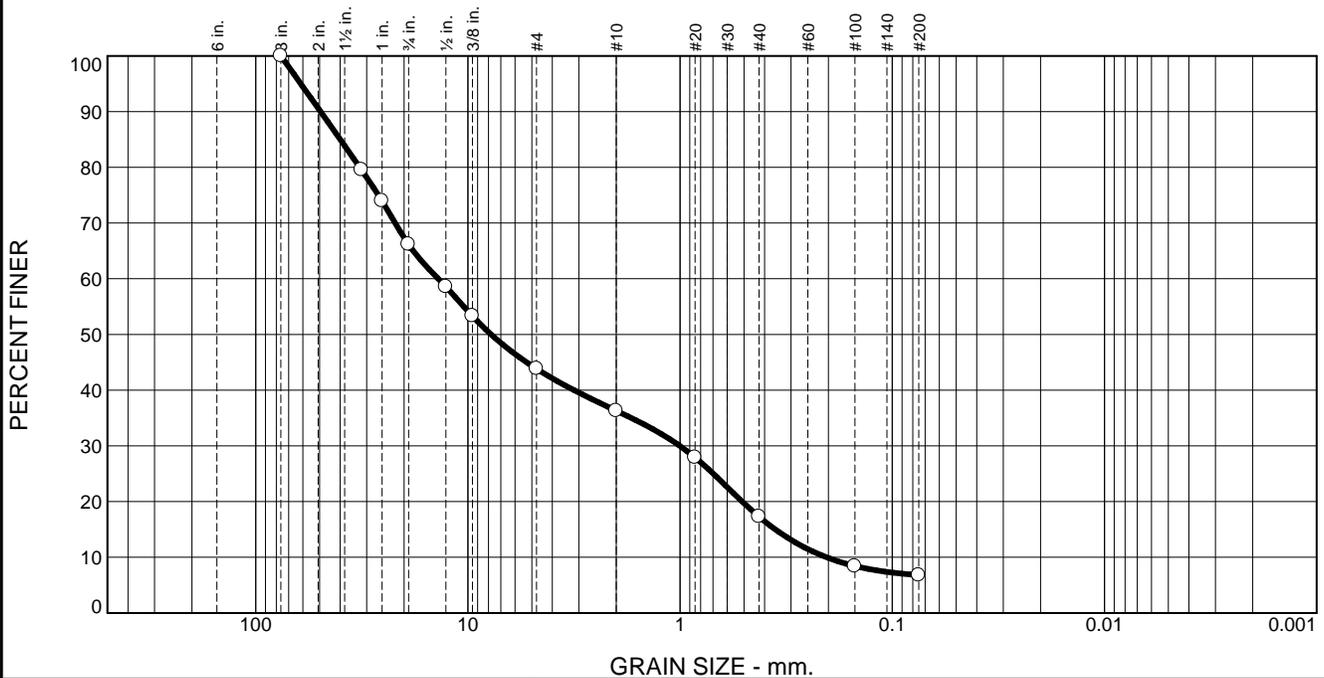
Title: Lab Manager

Source of Sample: TP Depth: Onsite
Sample Number: 6

Date Sampled: 4/17/23

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7160-6836
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	33.8	22.4	7.5	19.0	10.5	6.8	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	79.5		
1"	74.0		
3/4"	66.2		
1/2"	58.6		
3/8"	53.3		
#4	43.8		
#10	36.3		
#20	27.9		
#40	17.3		
#100	8.4		
#200	6.8		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 49.4912 D₈₅= 39.9751 D₆₀= 13.8034
D₅₀= 7.7767 D₃₀= 1.0033 D₁₅= 0.3560
D₁₀= 0.2043 C_u= 67.57 C_c= 0.36

Remarks

F.M.=5.39

Date Received: 4/17/23 Date Tested: 4/27/23

Tested By: Luke Emery

Checked By: Imtiaz Ahmed

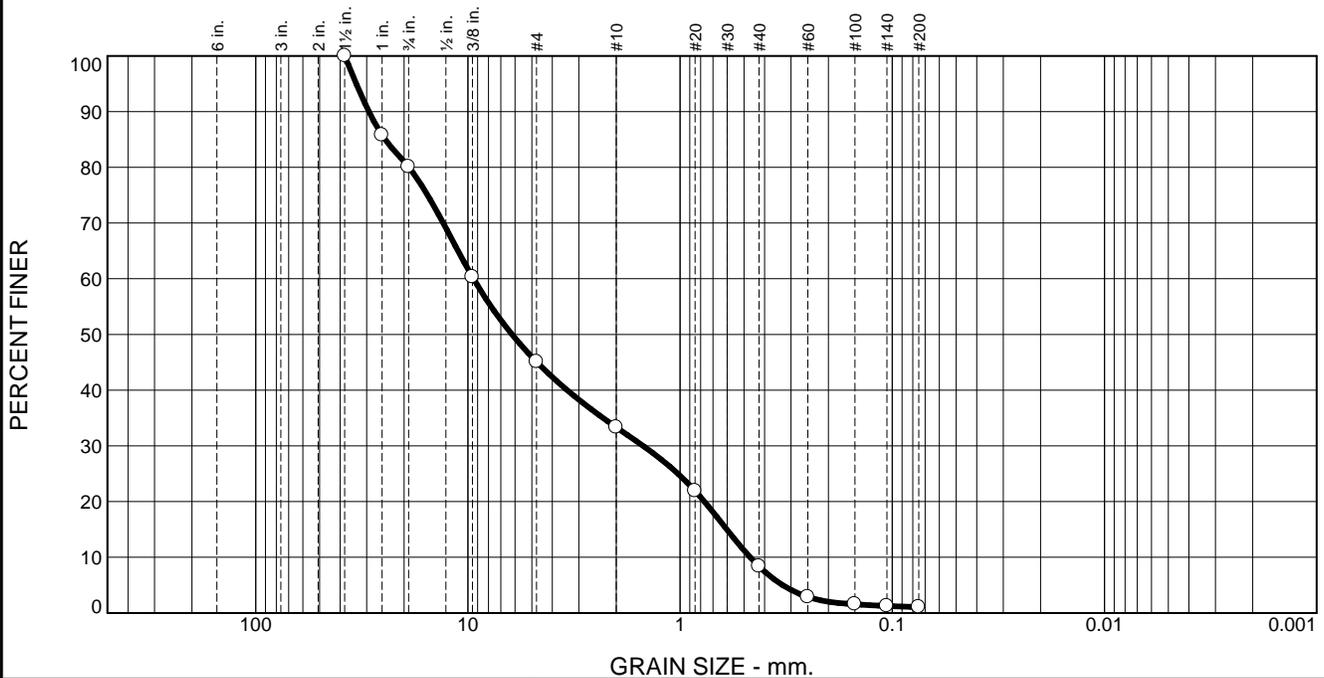
Title: Lab Manager

Source of Sample: TP Depth: Onsite
Sample Number: 9

Date Sampled: 4/17/23

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7162-6838
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	19.9	35.0	11.8	24.9	7.3	1.1	

Test Results (ASTM D6913 & ASTM D1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1-1/2"	100.0		
1"	85.8		
3/4"	80.1		
3/8"	60.3		
#4	45.1		
#10	33.3		
#20	21.9		
#40	8.4		
#60	2.9		
#100	1.6		
#140	1.3		
#200	1.1		

* (no specification provided)

Material Description

Brown f to c sand

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 29.3003 D₈₅= 24.5860 D₆₀= 9.4124
D₅₀= 6.1982 D₃₀= 1.4946 D₁₅= 0.6023
D₁₀= 0.4674 C_u= 20.14 C_c= 0.51

Remarks

F.M.=5.32

Date Received: 4/17/23 Date Tested: 4/19/23

Tested By: Hiten Soni

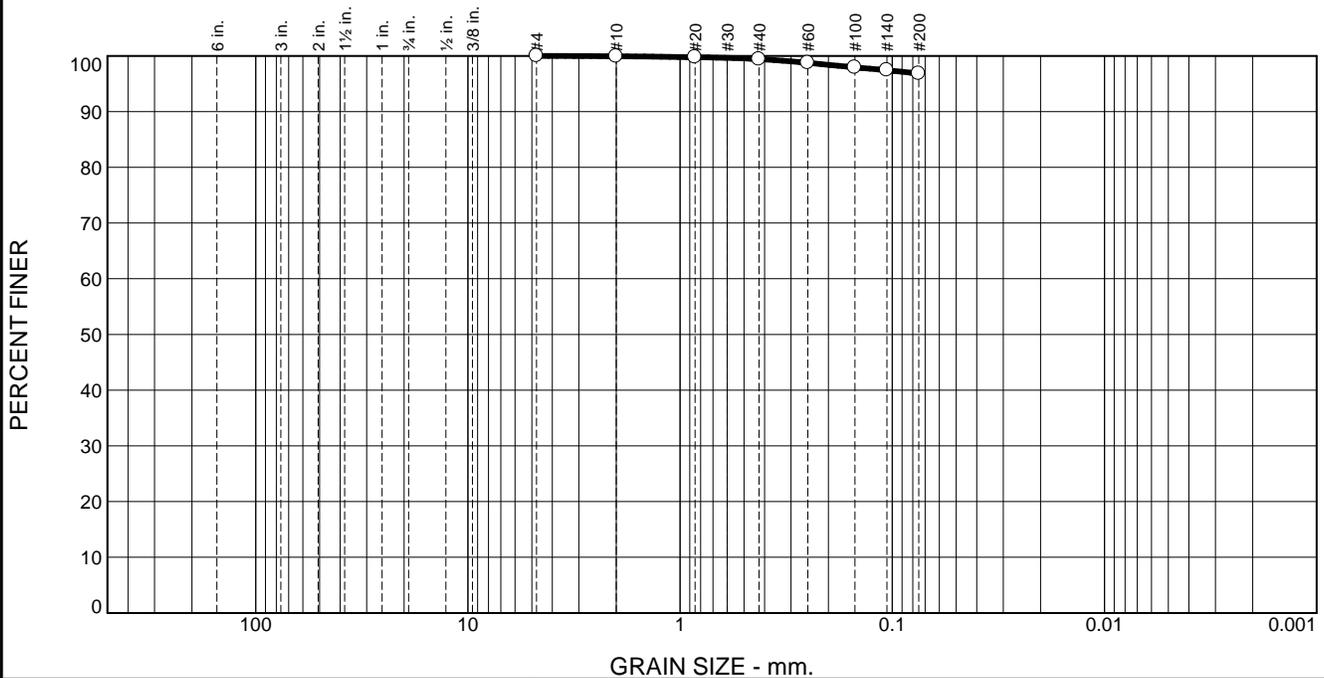
Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/17/23
Sample Number: 1

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.5	2.6	96.8	

Test Results (ASTM D6913 & ASTM D1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#10	99.9		
#20	99.8		
#40	99.4		
#60	98.8		
#100	97.9		
#140	97.4		
#200	96.8		

Material Description

Brown lean clay

Atterberg Limits (ASTM D 4318)

PL= 22.5 LL= 34.7 PI= 12.2

Classification

USCS (D 2487)= CL AASHTO (M 145)= A-6(13)

Coefficients

D₉₀= D₈₅= D₆₀=
D₅₀= D₃₀= D₁₅=
D₁₀= C_u= C_c=

Remarks

F.M.=0.04

Date Received: 4/17/23 Date Tested: 4/19/23

Tested By: Hiten Soni

Checked By: Imtiaz Ahmed

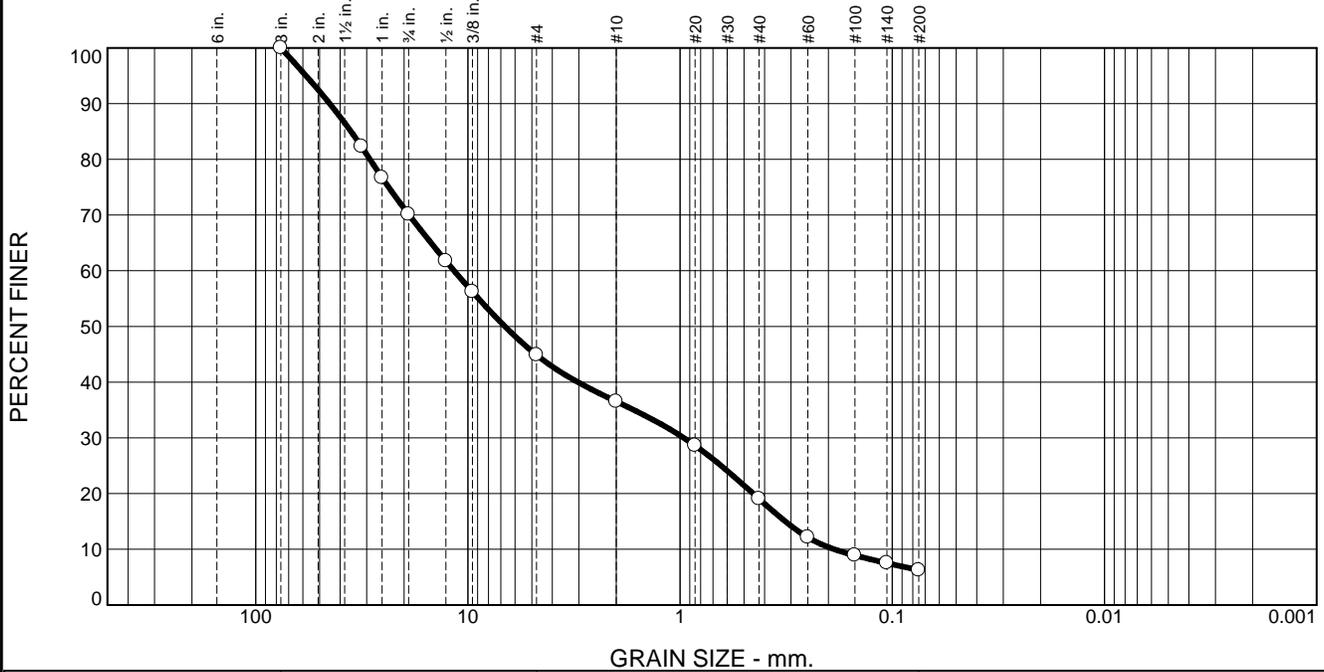
Title: Lab Manager

* (no specification provided)

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/17/23
Sample Number: 2

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7164-6840
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	29.9	25.2	8.4	17.4	12.8	6.3	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	82.3		
1"	76.7		
3/4"	70.1		
1/2"	61.7		
3/8"	56.2		
#4	44.9		
#10	36.5		
#20	28.6		
#40	19.1		
#60	12.1		
#100	8.9		
#140	7.5		
#200	6.3		

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 44.8239 D₈₅= 35.5744 D₆₀= 11.6219
D₅₀= 6.6981 D₃₀= 0.9602 D₁₅= 0.3195
D₁₀= 0.1880 C_u= 61.82 C_c= 0.42

Remarks

F.M.=5.25

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund _____

Checked By: Imtiaz Ahmed _____

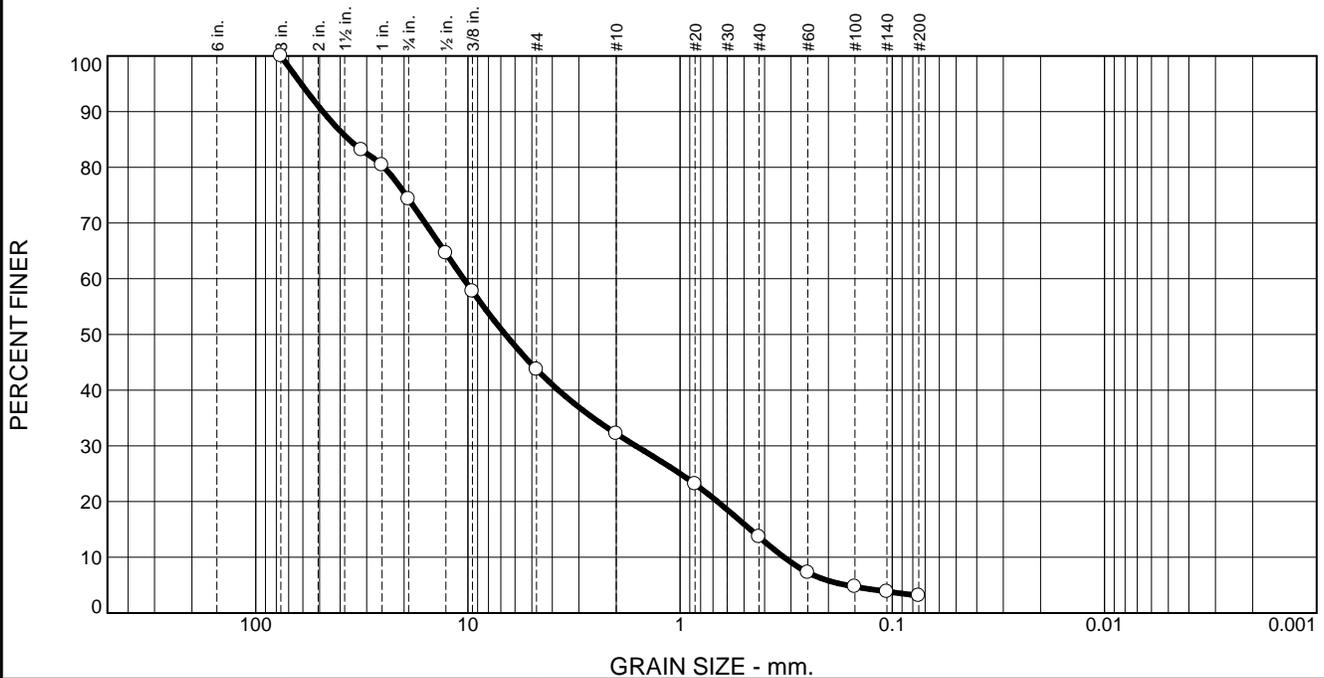
Title: Lab Manager _____

* (no specification provided)

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 3

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7173-6848
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	25.7	30.6	11.5	18.5	10.6	3.1	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	83.1		
1"	80.4		
3/4"	74.3		
1/2"	64.6		
3/8"	57.7		
#4	43.7		
#10	32.2		
#20	23.1		
#40	13.7		
#60	7.3		
#100	4.7		
#140	3.8		
#200	3.1		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 48.2763 D₈₅= 36.4131 D₆₀= 10.4876
D₅₀= 6.6655 D₃₀= 1.6184 D₁₅= 0.4670
D₁₀= 0.3238 C_u= 32.39 C_c= 0.77

Remarks

F.M.=5.45

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund _____

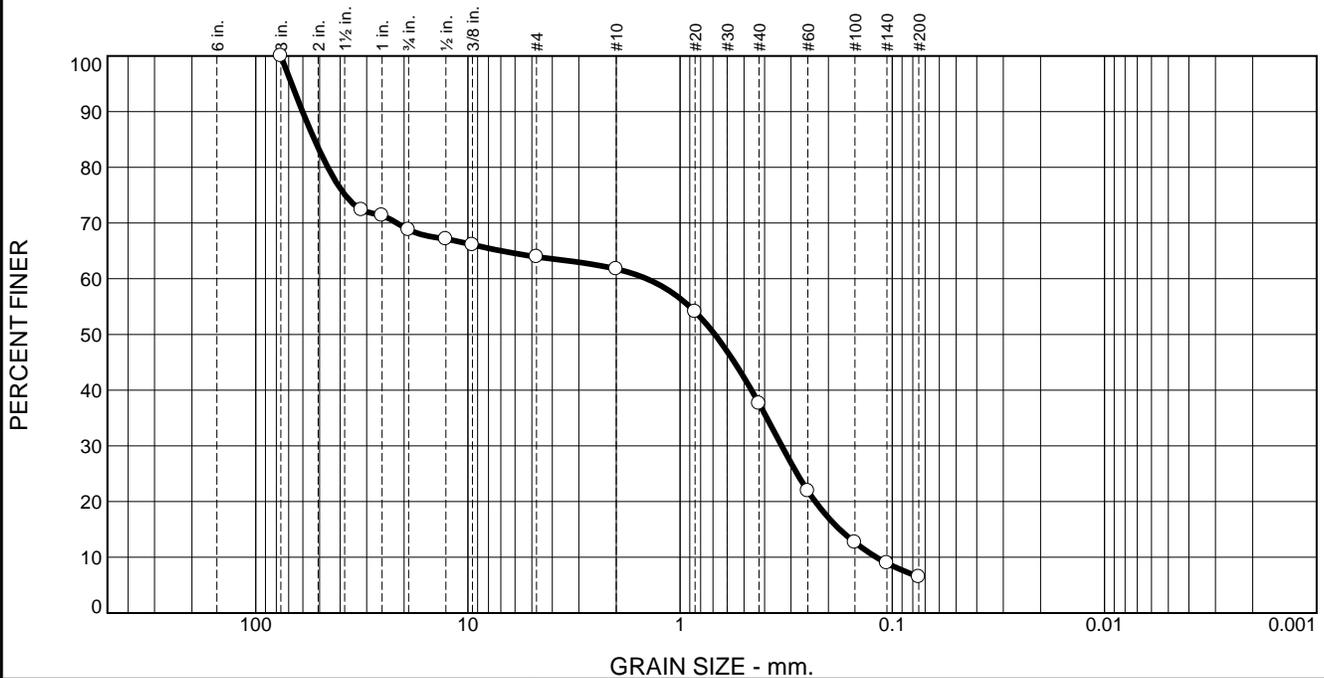
Checked By: Imtiaz Ahmed _____

Title: Lab Manager _____

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 4

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7174-6849
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	31.2	4.9	2.2	24.1	31.1	6.5	

Test Results (ASTM C136 & ASTM D1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	72.3		
1"	71.3		
3/4"	68.8		
1/2"	67.1		
3/8"	66.1		
#4	63.9		
#10	61.7		
#20	54.1		
#40	37.6		
#60	21.9		
#100	12.7		
#140	8.9		
#200	6.5		

* (no specification provided)

Material Description

Dark Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 60.1653 D₈₅= 52.9287 D₆₀= 1.4365
D₅₀= 0.6859 D₃₀= 0.3320 D₁₅= 0.1768
D₁₀= 0.1188 C_u= 12.09 C_c= 0.65

Remarks

F.M.=4.19

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund

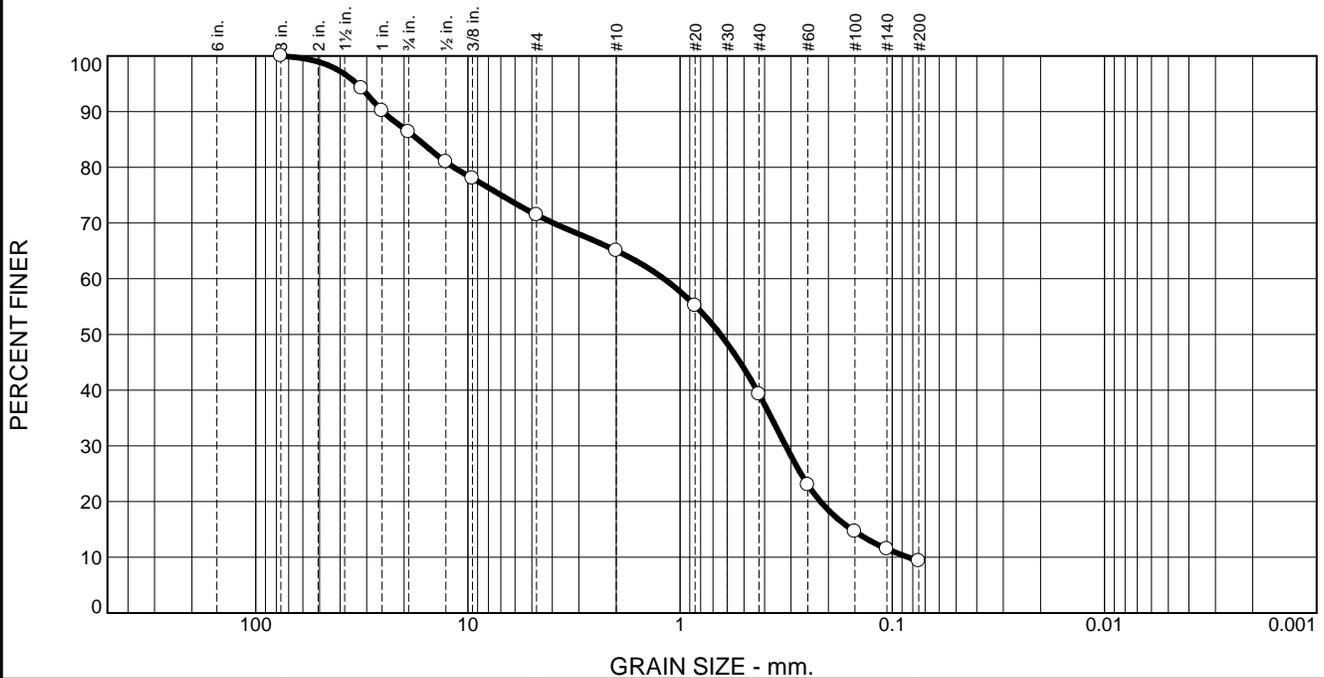
Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 5

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7175-6850
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	13.6	14.9	6.5	25.7	30.0	9.3	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	94.2		
1"	90.2		
3/4"	86.4		
1/2"	81.0		
3/8"	78.0		
#4	71.5		
#10	65.0		
#20	55.2		
#40	39.3		
#60	23.0		
#100	14.6		
#140	11.5		
#200	9.3		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 25.1604 D₈₅= 17.1823 D₆₀= 1.1920
D₅₀= 0.6455 D₃₀= 0.3180 D₁₅= 0.1553
D₁₀= 0.0841 C_u= 14.17 C_c= 1.01

Remarks

F.M.=3.50

Date Received: 11/18/23 Date Tested: 4/27/23

Tested By: Luke Emery

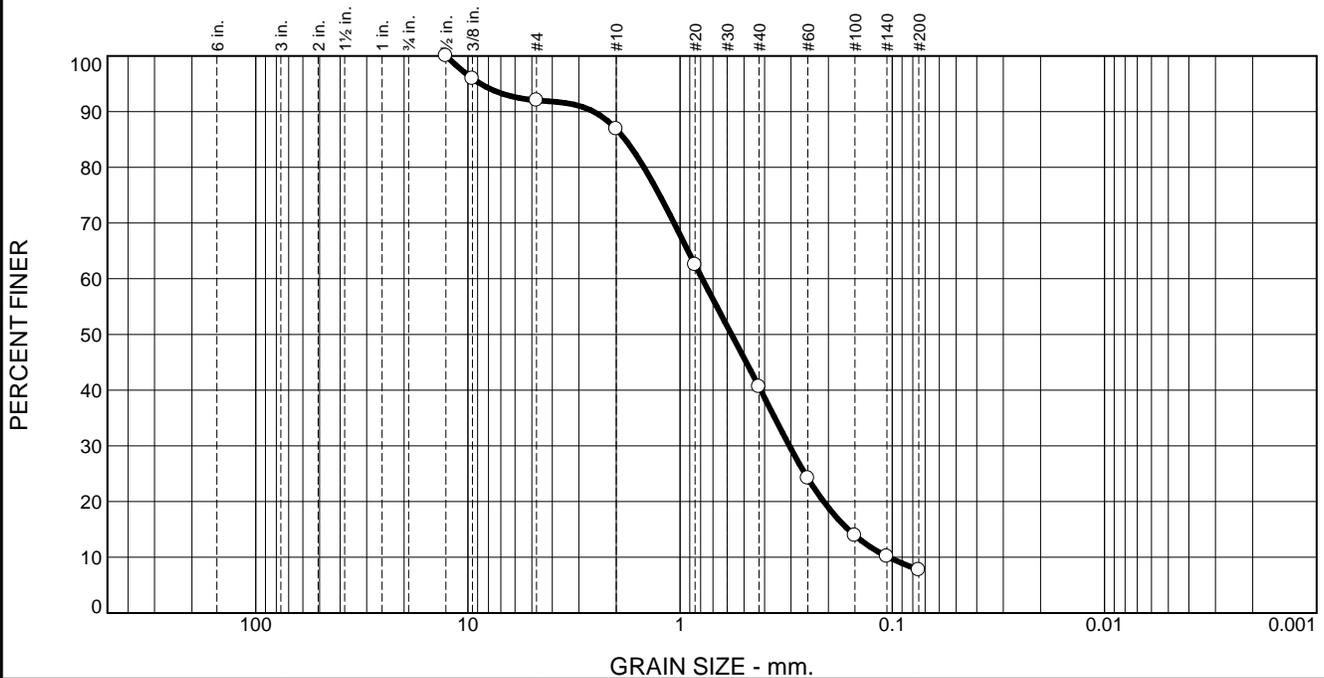
Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 11/18/23
Sample Number: 6

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7176-6851
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	8.0	5.1	46.3	32.9	7.7	

Test Results (ASTM D6913 & ASTM D1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1/2"	100.0		
3/8"	95.9		
#4	92.0		
#10	86.9		
#20	62.5		
#40	40.6		
#60	24.2		
#100	13.9		
#140	10.2		
#200	7.7		

* (no specification provided)

Material Description

Brown f to c sand

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 2.5558 D₈₅= 1.8143 D₆₀= 0.7865
D₅₀= 0.5722 D₃₀= 0.3055 D₁₅= 0.1615
D₁₀= 0.1040 C_u= 7.56 C_c= 1.14

Remarks

F.M.=2.55

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Luke Emery

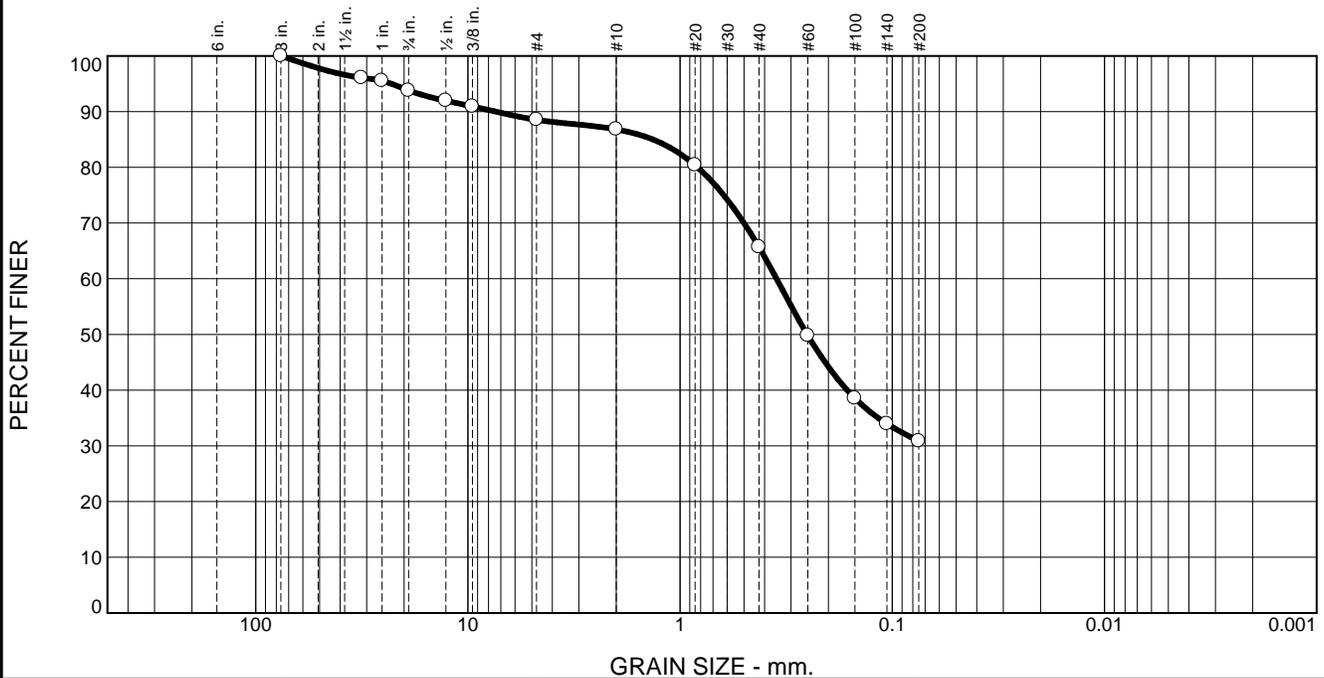
Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 7

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7177-6852
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	6.2	5.3	1.7	21.1	34.8	30.9	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	96.1		
1"	95.5		
3/4"	93.8		
1/2"	92.0		
3/8"	90.9		
#4	88.5		
#10	86.8		
#20	80.4		
#40	65.7		
#60	49.8		
#100	38.5		
#140	34.0		
#200	30.9		

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 7.4064 D₈₅= 1.3432 D₆₀= 0.3512
D₅₀= 0.2518 D₃₀= _____ D₁₅= _____
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=1.91

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund _____

Checked By: Imtiaz Ahmed _____

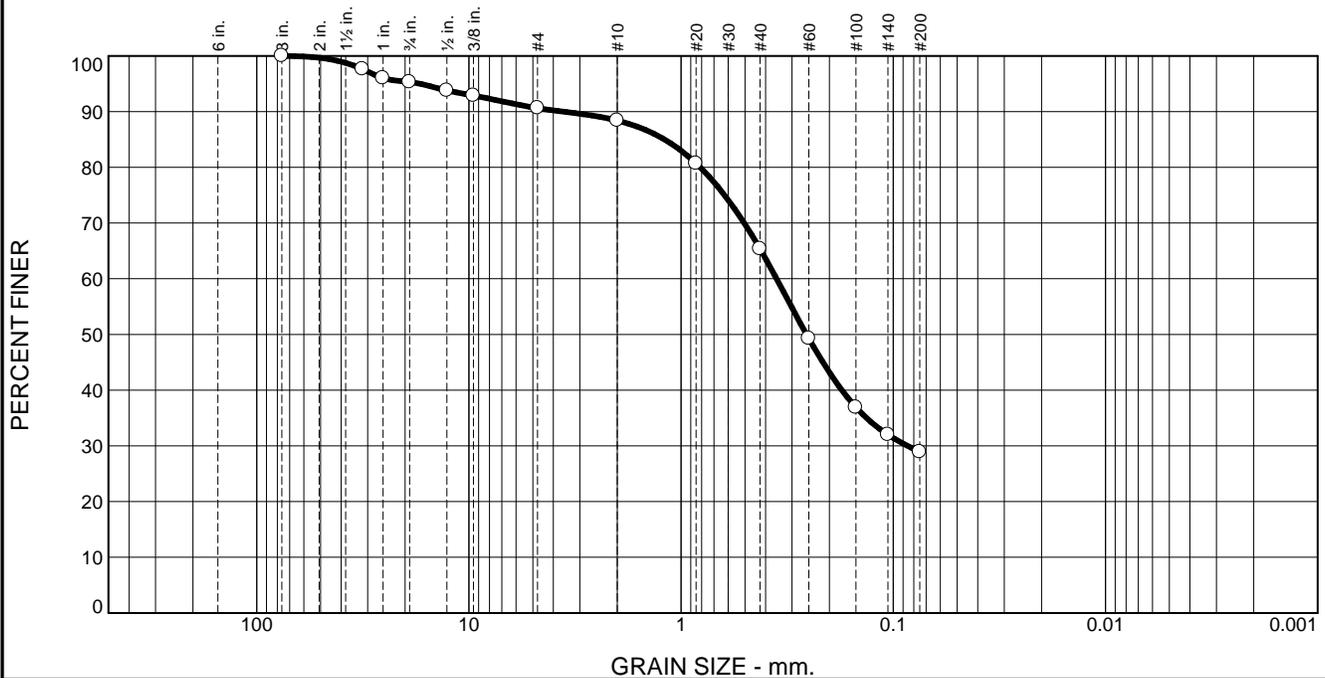
Title: Lab Manager _____

* (no specification provided)

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 8

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7178-6853
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.7	4.7	2.2	23.0	36.5	28.9	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	97.6		
1"	96.0		
3/4"	95.3		
1/2"	93.8		
3/8"	92.9		
#4	90.6		
#10	88.4		
#20	80.7		
#40	65.4		
#60	49.3		
#100	36.9		
#140	32.0		
#200	28.9		

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 3.6204 D₈₅= 1.1979 D₆₀= 0.3550
D₅₀= 0.2564 D₃₀= 0.0857 D₁₅= _____
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=1.83

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund _____

Checked By: Imtiaz Ahmed _____

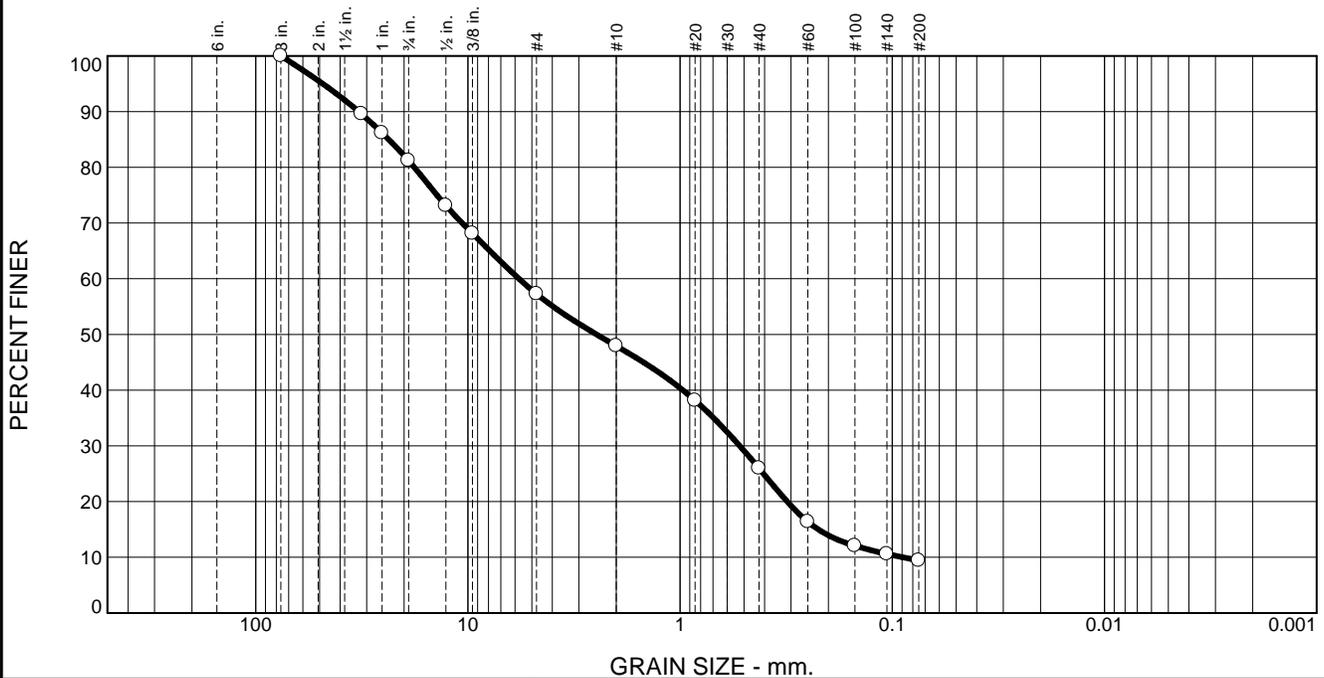
Title: Lab Manager _____

* (no specification provided)

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 9

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7179-6854
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	18.8	23.9	9.4	21.9	16.6	9.4	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	89.6		
1"	86.2		
3/4"	81.2		
1/2"	73.1		
3/8"	68.1		
#4	57.3		
#10	47.9		
#20	38.2		
#40	26.0		
#60	16.4		
#100	12.1		
#140	10.6		
#200	9.4		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 32.6990 D₈₅= 23.6371 D₆₀= 5.7505
D₅₀= 2.4748 D₃₀= 0.5236 D₁₅= 0.2235
D₁₀= 0.0894 C_u= 64.32 C_c= 0.53

Remarks

F.M.=4.46

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund

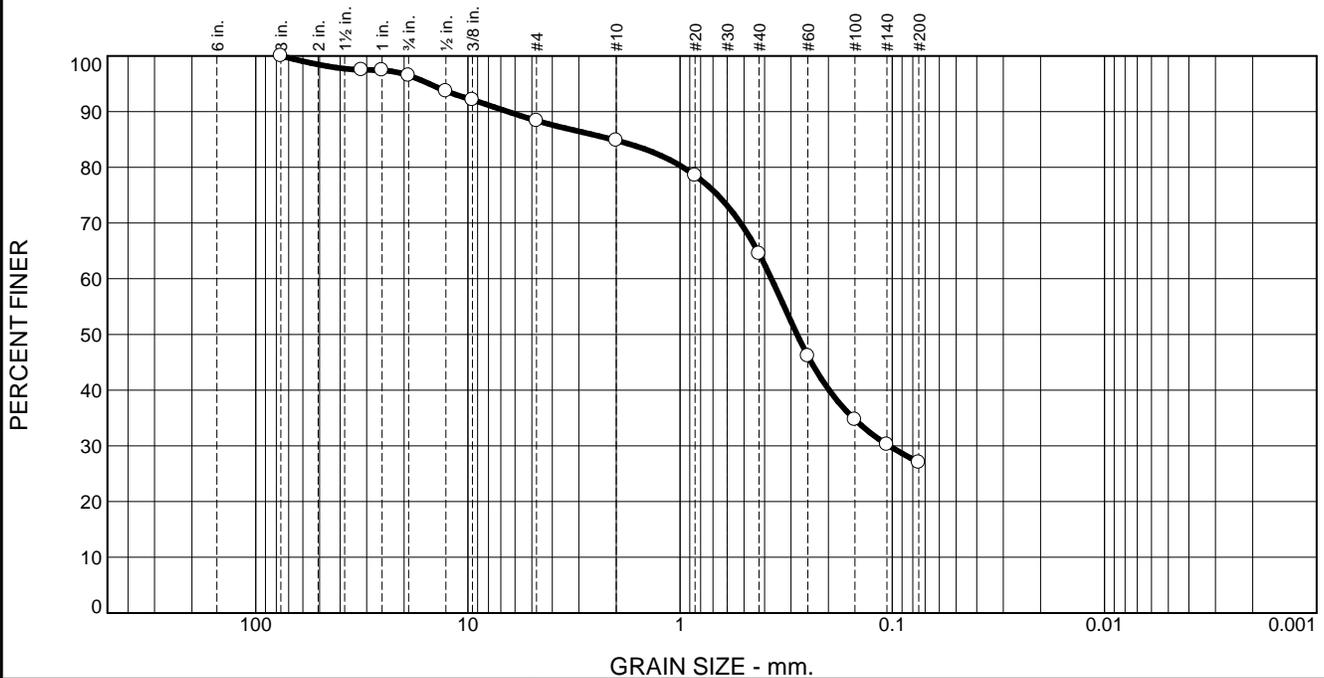
Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 10

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7180-6855
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.5	8.1	3.6	20.3	37.5	27.0	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	97.5		
1"	97.4		
3/4"	96.5		
1/2"	93.7		
3/8"	92.1		
#4	88.4		
#10	84.8		
#20	78.5		
#40	64.5		
#60	46.1		
#100	34.7		
#140	30.3		
#200	27.0		

* (no specification provided)

Material Description

Brown sandy silt, little topsoil

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 6.4931 D₈₅= 2.0810 D₆₀= 0.3712
D₅₀= 0.2810 D₃₀= 0.1034 D₁₅= _____
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=1.98

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund

Checked By: Imtiaz Ahmed

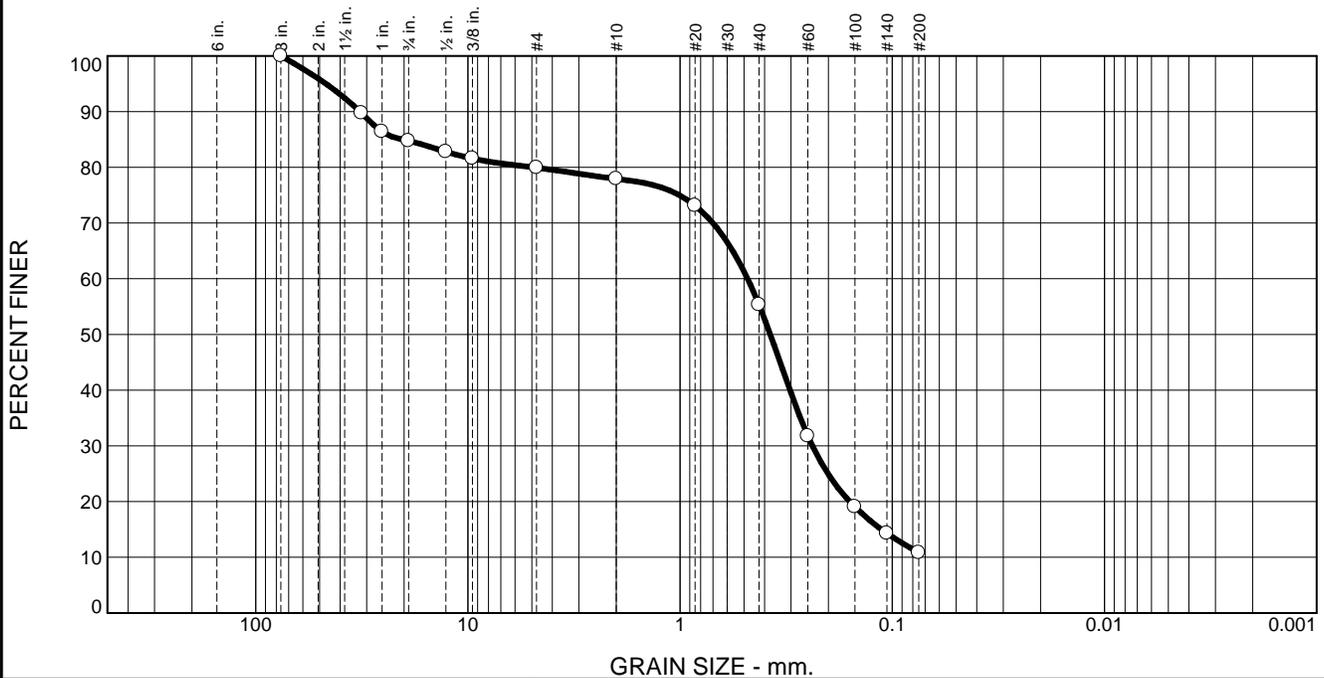
Title: Lab Manager

Source of Sample: Bluff Depth: Onsite
Sample Number: 11

Date Sampled: 4/18/23

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7181-6856
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	15.3	4.8	2.0	22.6	44.5	10.8	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	89.7		
1"	86.4		
3/4"	84.7		
1/2"	82.8		
3/8"	81.6		
#4	79.9		
#10	77.9		
#20	73.1		
#40	55.3		
#60	31.8		
#100	19.1		
#140	14.3		
#200	10.8		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 32.2820 D₈₅= 20.4121 D₆₀= 0.4808
D₅₀= 0.3760 D₃₀= 0.2379 D₁₅= 0.1125
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=2.82

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund

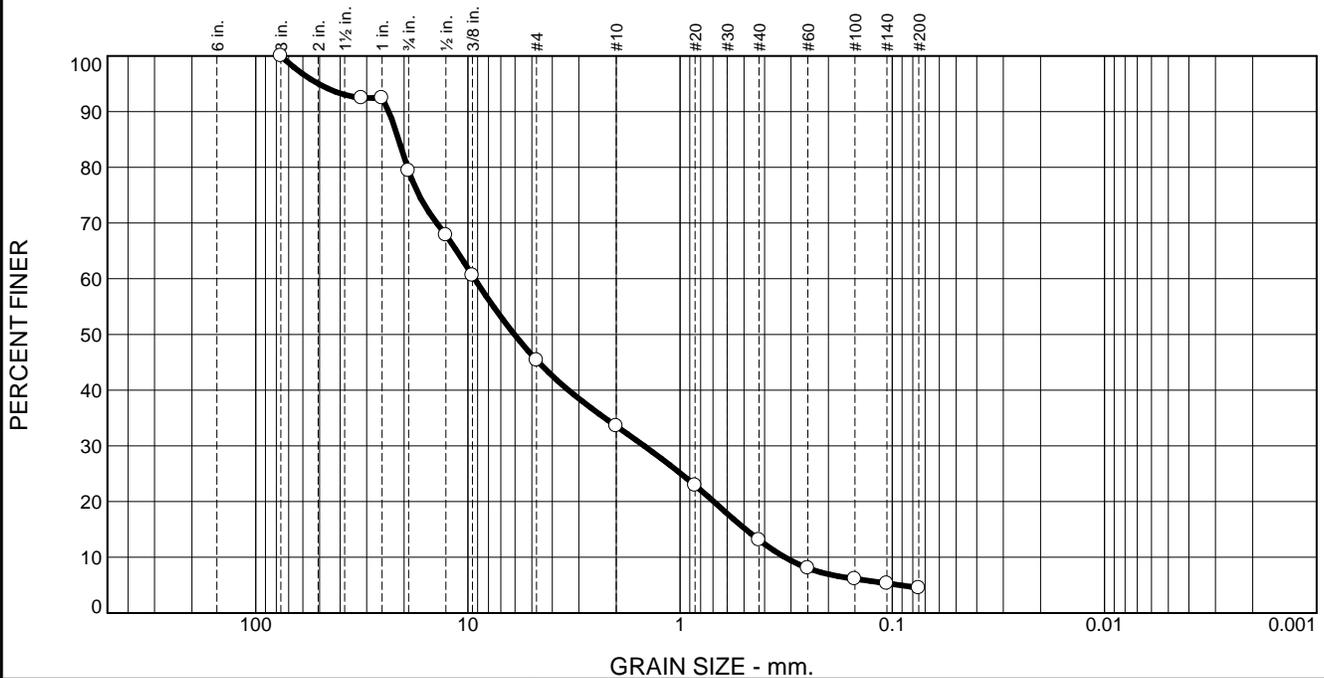
Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 12

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7182-6857
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	20.6	34.0	11.8	20.5	8.6	4.5	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	92.5		
1"	92.5		
3/4"	79.4		
1/2"	67.8		
3/8"	60.6		
#4	45.4		
#10	33.6		
#20	22.9		
#40	13.1		
#60	8.0		
#100	6.1		
#140	5.3		
#200	4.5		

* (no specification provided)

Material Description

Brown sand and gravel, little topsoil

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 23.5441 D₈₅= 21.2405 D₆₀= 9.3029
D₅₀= 6.0393 D₃₀= 1.4790 D₁₅= 0.4908
D₁₀= 0.3207 C_u= 29.01 C_c= 0.73

Remarks

F.M.=5.25

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund

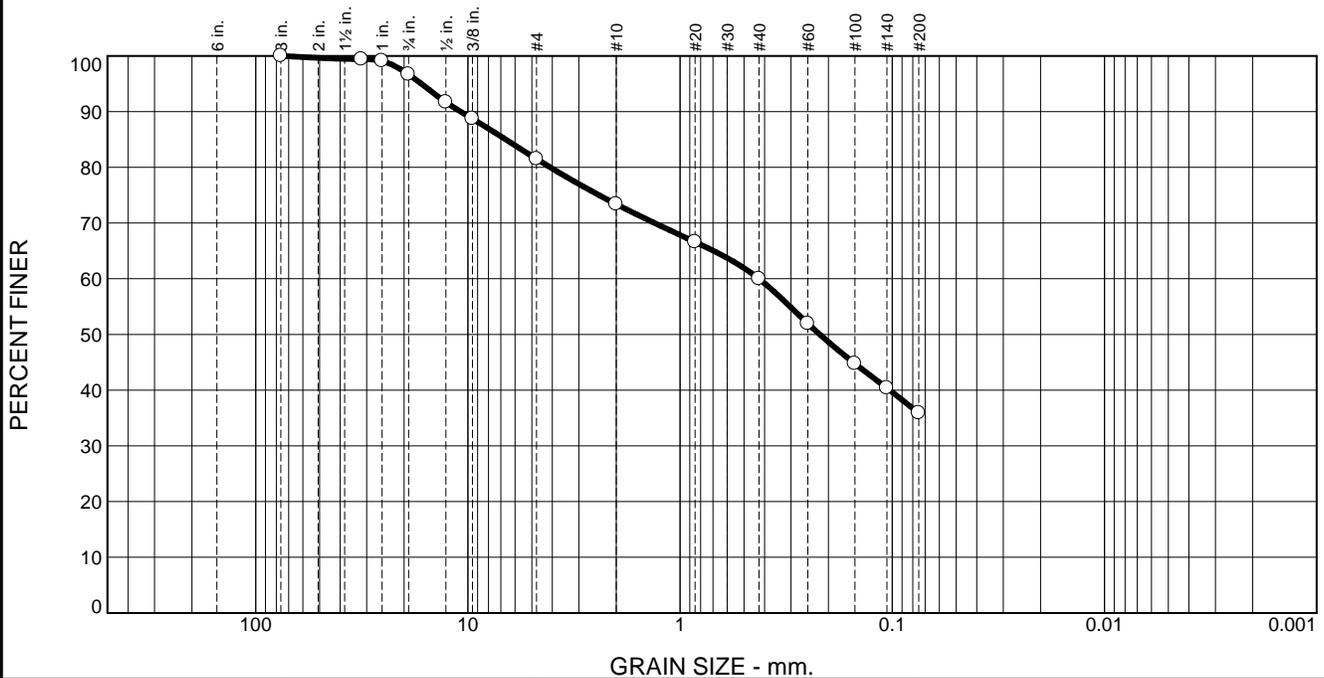
Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 13

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7183-6858
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.3	15.2	8.1	13.4	24.1	35.9	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	99.4		
1"	99.1		
3/4"	96.7		
1/2"	91.7		
3/8"	88.7		
#4	81.5		
#10	73.4		
#20	66.6		
#40	60.0		
#60	52.0		
#100	44.8		
#140	40.4		
#200	35.9		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 10.8312 D₈₅= 6.6383 D₆₀= 0.4254
D₅₀= 0.2195 D₃₀= _____ D₁₅= _____
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=2.26

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund

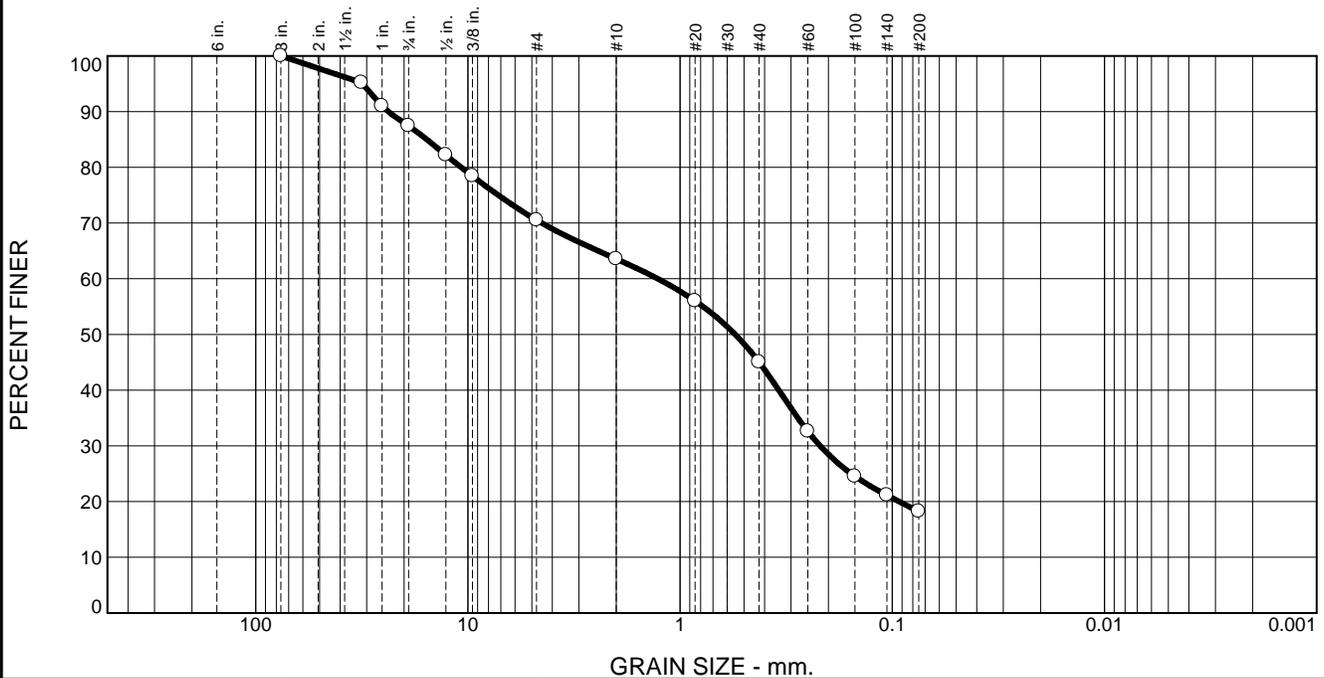
Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 14

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7184-6859
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.6	16.9	6.9	18.5	26.9	18.2	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	95.2		
1"	91.0		
3/4"	87.4		
1/2"	82.2		
3/8"	78.4		
#4	70.5		
#10	63.6		
#20	56.0		
#40	45.1		
#60	32.6		
#100	24.5		
#140	21.1		
#200	18.2		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 23.7282 D₈₅= 15.6351 D₆₀= 1.2733
D₅₀= 0.5496 D₃₀= 0.2188 D₁₅= _____
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=3.31

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund _____

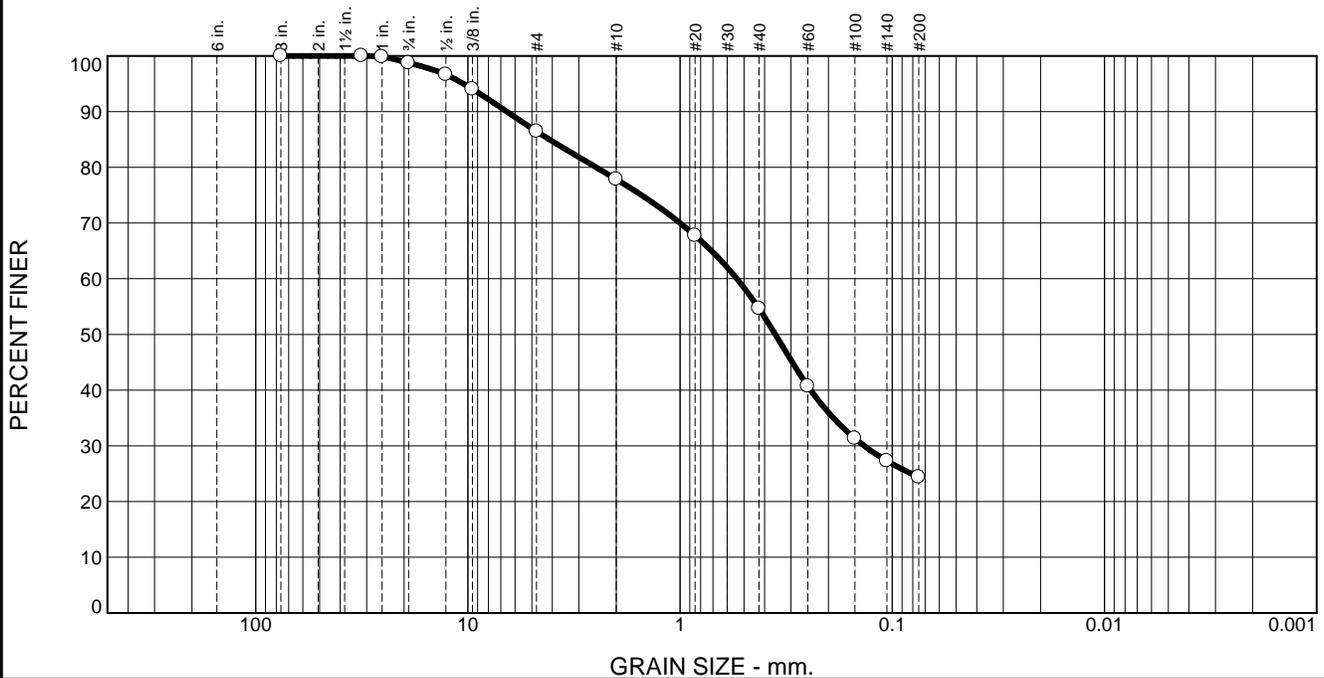
Checked By: Imtiaz Ahmed _____

Title: Lab Manager _____

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 15

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7185-6860
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	1.3	12.2	8.6	23.3	30.2	24.4	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	100.0		
1"	99.8		
3/4"	98.7		
1/2"	96.6		
3/8"	94.0		
#4	86.5		
#10	77.9		
#20	67.7		
#40	54.6		
#60	40.7		
#100	31.3		
#140	27.3		
#200	24.4		

* (no specification provided)

Material Description

Brown clay with gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 6.5592 D₈₅= 4.1299 D₆₀= 0.5399
D₅₀= 0.3558 D₃₀= 0.1356 D₁₅= _____
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=2.30

Date Received: 4/18/23 Date Tested: 4/27/23

Tested By: Craig Englund _____

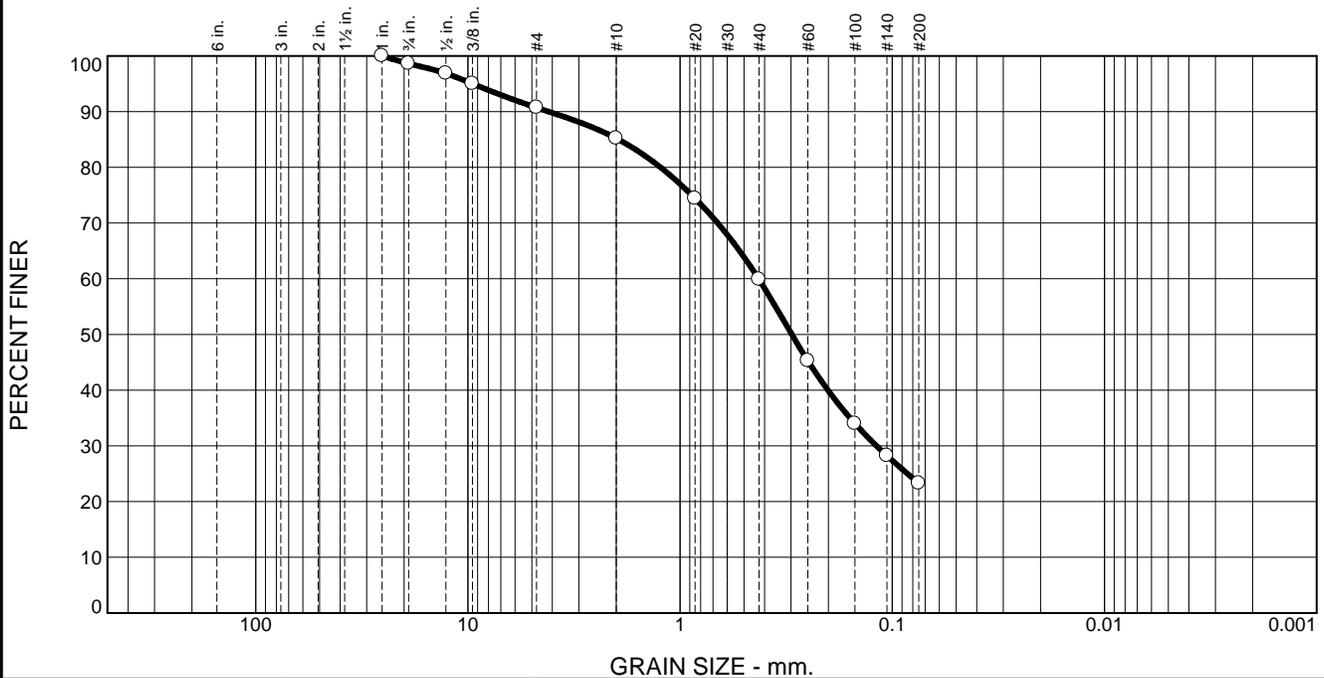
Checked By: Imtiaz Ahmed _____

Title: Lab Manager _____

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 16

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7186-6861
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	1.4	7.9	5.5	25.3	36.6	23.3	

Test Results (ASTM D6913 & ASTM D1140)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1"	100.0		
3/4"	98.6		
1/2"	96.9		
3/8"	95.0		
#4	90.7		
#10	85.2		
#20	74.4		
#40	59.9		
#60	45.3		
#100	34.0		
#140	28.2		
#200	23.3		

Material Description

Brown clay

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 4.1716 D₈₅= 1.9521 D₆₀= 0.4269
D₅₀= 0.2976 D₃₀= 0.1187 D₁₅= _____
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=1.98

Date Received: 4/18/23 Date Tested: 4/28/23

Tested By: Craig Englund _____

Checked By: Imtiaz Ahmed _____

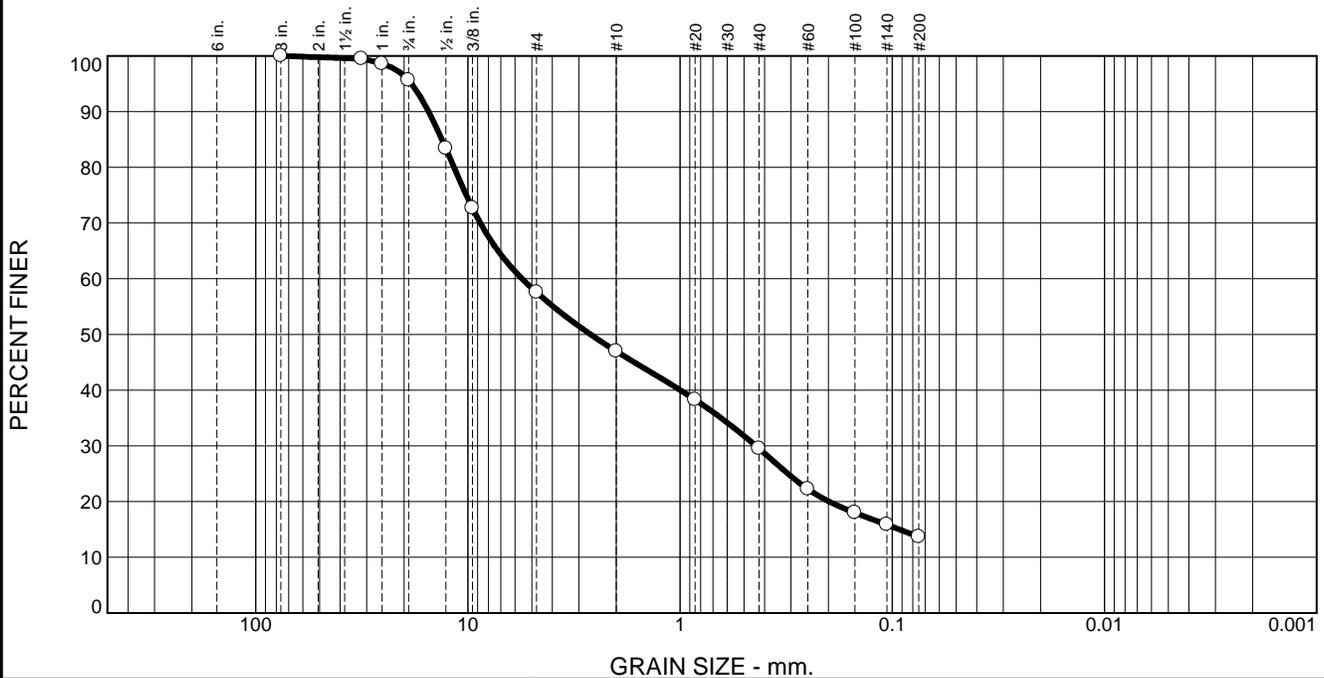
Title: Lab Manager _____

* (no specification provided)

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 17

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7187-6862
---	---

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.4	38.0	10.6	17.5	15.8	13.7	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	99.5		
1"	98.6		
3/4"	95.6		
1/2"	83.4		
3/8"	72.7		
#4	57.6		
#10	47.0		
#20	38.3		
#40	29.5		
#60	22.2		
#100	18.0		
#140	15.8		
#200	13.7		

* (no specification provided)

Material Description

Brown sand and gravel

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 15.3163 D₈₅= 13.2611 D₆₀= 5.5607
D₅₀= 2.6404 D₃₀= 0.4391 D₁₅= 0.0926
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=4.07

Date Received: 4/18/23 Date Tested: 4/28/23

Tested By: Craig Englund

Checked By: Imtiaz Ahmed

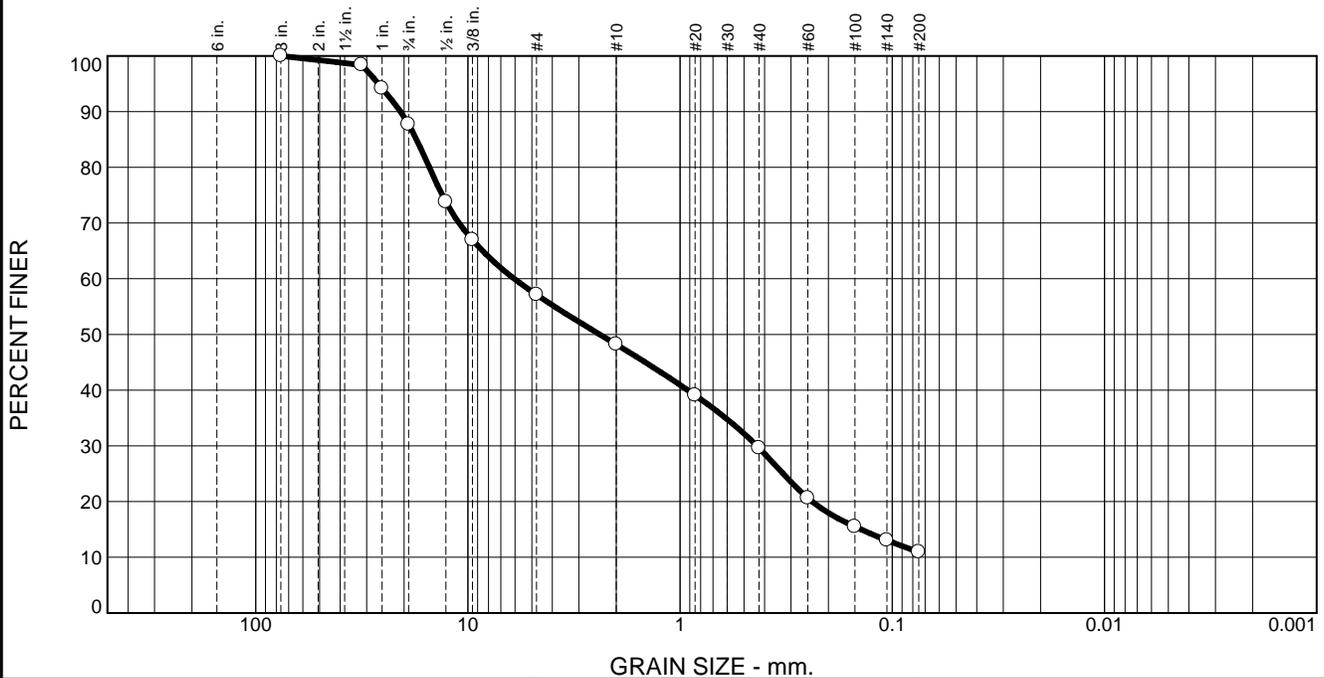
Title: Lab Manager

Source of Sample: Bluff Depth: Onsite
Sample Number: 18

Date Sampled: 4/18/23

<p>GeoTest, Inc.</p> <p>West Allis, WI</p>	<p>Client: Three Leaf Partners</p> <p>Project: Hatland Quarry Apartments</p> <p>Project No: 7708</p>
<p>Test No 7188-6863</p>	

Sieve Analysis Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.3	30.6	8.9	18.6	18.7	10.9	

Test Results (ASTM C136 & ASTM C117)			
Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0		
1 1/4"	98.4		
1"	94.2		
3/4"	87.7		
1/2"	73.8		
3/8"	67.0		
#4	57.1		
#10	48.2		
#20	39.1		
#40	29.6		
#60	20.6		
#100	15.5		
#140	13.1		
#200	10.9		

* (no specification provided)

Material Description

Brown sand and gravel with topsoil

Atterberg Limits (ASTM D 4318)

PL= _____ LL= _____ PI= _____

Classification

USCS (D 2487)= _____ AASHTO (M 145)= _____

Coefficients

D₉₀= 20.7905 D₈₅= 17.4838 D₆₀= 6.0538
D₅₀= 2.3916 D₃₀= 0.4347 D₁₅= 0.1404
D₁₀= _____ C_u= _____ C_c= _____

Remarks

F.M.=4.23

Date Received: 4/18/23 Date Tested: 4/28/23

Tested By: Craig Englund

Checked By: Imtiaz Ahmed

Title: Lab Manager

Source of Sample: Bluff Depth: Onsite Date Sampled: 4/18/23
Sample Number: 19

GeoTest, Inc. West Allis, WI	Client: Three Leaf Partners Project: Hatland Quarry Apartments Project No: 7708 Test No 7189-6864
---	---