rubino
ENGINEERING INC.

REPORT TRANSMITTAL

April 24, 2023

To: Nick Piekarski, PE, CFM
Hampton Lenzini and Renwick
380 Shepard Drive
Elgin, IL 60123

Re: **Abbreviated Structure Geotechnical Report**
Proposed McLean Blvd. Noise Walls and Traffic Signal
South Elgin, Illinois

Rubino Report No. G23.044

Via email: npiekarski@hlreng.com

Dear Mr. Piekarski,

Rubino Engineering, Inc. (Rubino) is pleased to submit our Structure Geotechnical Report for the proposed McLean Boulevard Noise Walls in South Elgin, Illinois.

Report Description

Enclosed is the Structure Geotechnical Report including results of field and laboratory testing, as well as recommendations for foundation design, noise wall construction, and general site development.

Authorization and Correspondence History

- Rubino Proposal No. Q23.142g dated March 28, 2023; Authorized via signed contract from Hampton Lenzini and Renwick dated March 29, 2023.

Closing

Rubino appreciates the opportunity to provide geotechnical services for this project and we look forward to continued participation during the design and in future construction phases of this project.

If you have questions pertaining to this report, or if Rubino may be of further service, please contact our office at (847) 931-1555.

Respectfully submitted,
RUBINO ENGINEERING, INC.

Michelle A. Lipinski, PE
President

michelle.lipinski@rubinoeng.com
MAL/file/ Enclosures

Abbreviated Structure Geotechnical Report (SGR)

PROPOSED MCLEAN BLVD. NOISE WALLS AND TRAFFIC SIGNAL

SOUTH ELGIN, ILLINOIS

RUBINO PROJECT NO. G23.044

Drilling
Laboratory Testing
Geotechnical Analysis

PREPARED BY:

SABINA SCHMID

rubino ENGINEERING INC.

Michelle A. Lipinski, PE
President
IL No. 062-061241, Exp. 11/30/21

PREPARED FOR:

HAMPTON LENZINI AND RENWICK, INC.

380 SHEPARD DRIVE

ELGIN, ILLINOIS 60123

APRIL 24, 2023

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PROJECT DESCRIPTION AND SCOPE

Rubino Engineering, Inc. (Rubino) understands that Hampton Lenzini and Renwick, Inc. is planning to design noise walls along McLean Boulevard for South Elgin. Rubino previously completed a Roadway Geotechnical Report (RGR) under Rubino project number G21.165 dated June 16, 2022. After review of the reports, IDOT has requested a noise wall SGR and borings for the proposed noise walls and traffic signals along McLean Blvd in South Elgin, Illinois.

Project/Proposed Structure Information:

- Drawing – "McLean_Prelim Noise Wall Boring Locations"

The proposed noise walls are located along the east side of McLean Boulevard from Stearns Rd to Sunbury Rd. The proposed traffic signals are located at the intersection of McLean Blvd and N Lancaster Cir in South Elgin, Illinois. There is an existing residence located north of Pleasant Lane and east of proposed noise wall. On the east side of McLean Blvd along the length of the project are existing residential neighborhoods. On the west side of McLean Blvd along the length of the project are open fields.

The geotechnical recommendations presented in this report are based on the available project information and the subsurface materials described in this report. If any of the information on which this report is based is incorrect, please inform Rubino in writing so that we may amend the recommendations presented in this report (if appropriate, and if desired by the client). Rubino will not be responsible for the implementation of our recommendations if we are not notified of changes in the project.

This report briefly outlines the following:

- *Project Description and Scope*
- *Field Exploration*
- *Geotechnical Evaluations and Recommendations*
    - *Traffic Signal Recommendations*
    - *Noise Wall Design Soil Parameters*
- *Construction Considerations*
- *Appendices (Supporting Documentation): location map, boring plan*

FIELD EXPLORATION

Subsurface Exploration and Testing

Hampton Lenzini and Renwick, Inc. selected the number of borings and the boring depths. Rubino located the borings in the field by measuring distances from known fixed site features. Rubino mobilized to the site on April 14, 2023 through April 19, 2023. The borings were advanced using

a Geoprobe 7822DT with 3 ¼ inch inside-diameter hollow stem augers and automatic hammer. Soil samples were routinely obtained during the drilling process. Rubino's scope included the following drilling program:

Table 1: Drilling Scope

BORING NUMBERS	DEPTH (FEET BEG*)	LOCATION
NWB-01 through NWB-27	15	Noise Wall Borings (Drill Rig)
NWB-24-HA through NWB-27-HA	5 – 7	Noise Wall Borings (DCP and Hand Auger)
TSB-01 and TSB-02	25	Traffic Signal Borings (Drill Rig)

*BEG = Below existing grade

Representative soil samples obtained during the field exploration program were transported to the Rubino laboratory on April 14, 2023 through April 19, 2023 for additional classification and laboratory testing.

Selected soil samples were tested in the laboratory to determine material properties for this report. Drilling, sampling, and laboratory tests were accomplished in general accordance with AASHTO procedures. The following items are further described in the Appendix of this report.

- *Field Penetration Tests and Split-Barrel Sampling of Soils (AASHTO T 206)*
- *Field Water Level Measurements*
- *Laboratory Determination of Water (Moisture) Content of Soil by Mass (AASHTO T 265-15)*
- *Laboratory Determination of Atterberg Limits (AASHTO 89-13 and T 90-15)*
- *Laboratory Organic Content by Loss on Ignition (AASHTO T 267-86)*

The laboratory testing program was conducted in general accordance with applicable AASHTO specifications. The results of these tests are to be found on the accompanying boring logs located in the Appendix.

Subsurface Conditions

The geotechnical-related recommendations in this report are presented based on the subsurface conditions encountered and Rubino's understanding of the project. Should changes in the project criteria occur, a review must be made by Rubino to determine if modifications to our recommendations will be necessary.

The Site Vicinity Map and Boring Location Plans, showing the boring locations are shown in Appendix. Detailed information regarding the nature and thickness of the soils encountered, and the results of the field sampling and laboratory testing are shown on the Boring Logs in Appendix.

Beneath the existing surficial pavement, subbase stone, and undocumented fill, subsurface conditions generally consisted of brown, black, and/or gray clay, silty clay, high plasticity clay, loam, and sand. More detailed descriptions of the soils encountered in the soil borings are presented in the

attached Boring Logs in Appendix D.

- Surface conditions consisted of topsoil
- The native **cohesive** soils ranged from very soft to very stiff in consistency
- The **granular** soils were loose to very dense in apparent density

*BEG = Below existing grade

Groundwater Conditions

Groundwater was encountered in the boring during drilling operations. The following table summarizes groundwater observations from the field:

Table 2: Groundwater Observation Summary

BORING NUMBER	GROUNDWATER LEVEL DURING DRILLING (FEET BEG)	GROUNDWATER LEVEL UPON AUGER REMOVAL (FEET BEG)	24-HR GROUNDWATER READING (FEET BEG)
Noise Wall #3 (STA 42+28 to STA 62+07)			
NWB-01	N/A	N/A	11.4
NWB-02	11	N/A	9.2
NWB-03	6	N/A	8.3
NWB-04	N/A	N/A	9.4
NWB-05	13 ½	N/A	9.7
NWB-06	N/A	N/A	8.2
NWB-07	N/A	N/A	8.7
NWB-08	8 ½	N/A	7.1
NWB-09	11	N/A	7.8
NWB-10	6	N/A	9.3
NWB-11 / TSB-01	16	N/A	N/A
Noise Wall #2 (STA 18+60 to STA 40+93)			
NWB-12	N/A	N/A	11.2
NWB-13	N/A	N/A	Dry
NWB-14	N/A	N/A	Dry
NWB-15	N/A	N/A	Dry
NWB-16	N/A	N/A	Dry
NWB-17	N/A	N/A	10.9
NWB-18	8 ½	N/A	8
NWB-20	N/A	N/A	3.3

Boring Number	Groundwater Level during drilling (Feet BEG)	Groundwater Level upon auger removal (Feet BEG)	24-hr Groundwater Reading (Feet BEG)
NWB-22	N/A	N/A	4.5
NWB-23	N/A	N/A	Dry
Noise Wall #1 (STA 11+50 to STA 17+50)			
NWB-24	N/A	N/A	8.5
NWB-25	N/A	N/A	10
NWB-26	N/A	N/A	7
TSB-02	18 ½	N/A	N/A

It should be noted that fluctuations in the groundwater level should be anticipated throughout the year depending on variations in climatological conditions and other factors not apparent at the time the borings were performed. The possibility of groundwater level fluctuation should be considered when developing the design and construction plans for the project. When bidding this project, the contractor should anticipate that groundwater will be present.

Geotechnical Evaluations and Recommendations

Noise Wall Recommendations

Vertical loads for noise walls are typically anticipated to be minimal. Lateral loads for noise walls are more significant due to wind and traffic safety requirements.

The proposed noise walls are anticipated to range 600 to 2,233 feet in length. Rubino recommends using driven or drilled soldier pile and lagging to support the noise walls. Resistance factor values for drilled shafts can be found in Table 12-1 of the Federal Highway Administration Construction Procedures and LRFD Design Method (2010). Maximum moment and lateral deflection analyses will require lateral soil modulus and soil strain parameters. The values for these parameters on the soil for this project can be found on the following table.

Table 3: Undrained Soil Parameters for Lateral Load Analysis

Estimated shear strengths of soils are based on empirical correlations using N-values, moisture content, and unconfined compressive strength.

DEPTH RANGE (FEET BEG)*	GENERAL SOIL DESCRIPTION	ESTIMATED UNIT WEIGHT	AVERAGE UNDRAINED SHEAR STRENGTH, c_u (PSF)	ESTIMATED FRICTION ANGLE, ϕ (°)	ESTIMATED LATERAL SOIL MODULUS PARAMETER, K (PCI)	ESTIMATED SOIL STRAIN PARAMETER, ε_{50}
6 - 11	Very soft to soft, blueish gray SILTY CLAY (NWB-02)	100 - 110	250	n/a	n/a	n/a
Varies	Medium Stiff brown / gray SILTY CLAY	110 – 115	700	n/a	75	0.010
Varies	Stiff, brown / gray SILTY CLAY	115 - 120	1,500	n/a	400	0.008
Varies	Very Stiff Silty Clay	120 – 130	2,500	n/a	820	0.006
Varies	Loose to Medium dense SAND / GRAVEL	120	0	28°	85	n/a

See boring logs for soil profiles and strength characteristics at each boring locations.

Traffic Signal Foundations

Design – IDOT District 1 Standard Traffic Signal Design Details Foundation Requirements

Rubino understands that traffic signal structures will be installed at the Northeast and Southwest corners of the intersection of McLean Blvd and Lancaster Cir. Rubino anticipates that the foundation designs will adhere to the requirements of *IDOT District 1 Standard Traffic Signal Design Details* and will consist of drilled shaft foundations.

Table 4: Foundation Requirements per IDOT District 1 Standard Traffic Signal Design Details

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

NOTES:

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm diameter foundations.
4. For mast arm assemblies with dual arms refer to state standard 878001.

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

Table 5: Soil Type and Average Qu by Boring

Boring	Proposed Location	Soil Type Within the Upper 11 feet	Average Unconfined Compressive Strength of Cohesive Soils in the Upper 11 feet (Qp and Qr in tsf)
TSB-01	Northeast Corner	Cohesive soils with a layer of silty loam (approximately 3 ½ - 6 feet BEG*)	1.4 tsf
TSB-02	Southwest Corner	Cohesive soils	1.6 tsf

Rubino's subsurface exploration revealed that cohesive soils were encountered along the length of the shafts down to the proposed 11 feet below existing grade bearing depth at borings TSB-01 and TSB-02 except for a silty loam layer encountered in TSB-01 at approximately 3 ½ to 6 feet below existing grade.

If granular soils are encountered along the shaft length at the time of construction, the Bureau of Bridges & Structures should be contacted for a revised design.

CONSTRUCTION CONSIDERATIONS

Construction Considerations

During shaft installation, temporary casing or slurry may be used to mitigate the effects of saturated soils, granular soils caving in, and/or the flow of water into a shaft. Sump pumps should be used to remove excess water encountered during construction.

Site Preparation

Rubino recommends that unsuitable soils or fill be removed from the site, as applicable. Unsuitable soils or fills include but are not limited to the following: organic soil, topsoil, vegetation, frozen soil, existing pavement sections, existing foundations, building debris, and existing curbs.

Operations should be monitored and documented by a representative of the geotechnical engineer at the time of construction.

Recommendations for Additional Testing

Once the structural loads, site plan and grading plans are finalized, please notify Rubino so that we can review our recommendations for the direct use of the structure and development of the site. Changes in building location, foundation depth, and structural loading can affect the geotechnical recommendations for this site.

During construction, Rubino recommends that one of our representatives be onsite for typical **observations and documentation** of exposed subgrade for support of foundations, and pavements, including proofrolling and penetrometer testing.

CLOSING

The recommendations submitted are based on the available subsurface information obtained by Rubino Engineering, Inc. and design details furnished by Hampton Lenzini and Renwick, Inc. for the proposed project. If there are any revisions to the plans for this project or if deviations from the subsurface conditions noted in this report are encountered during construction, Rubino should be notified immediately to determine if changes in the foundation recommendations are required. If Rubino is not retained to perform these functions, we will not be responsible for the impact of those conditions on the project.

The scope of services did not include an environmental assessment to determine the presence or absence of wetlands, or hazardous or toxic materials in the soil, bedrock, surface water, groundwater or air on, below, or around this site. Any statements in this report and/or on the boring logs regarding odors, colors, and/or unusual or suspicious items or conditions are strictly for informational purposes.

After the plans and specifications are more complete, the geotechnical engineer should be retained and provided the opportunity to review the final design plans and specifications to check that our engineering recommendations have been properly incorporated into the design documents. At this time, it may be necessary to submit supplementary recommendations. This report has been prepared for the exclusive use of Hampton Lenzini and Renwick, Inc. and their consultants for the specific application to the proposed McLean Blvd Noise Walls and Traffic Signal installation in Elgin, Illinois.

Appendix A - Drilling, Field, and Laboratory Test Procedures

AASHTO T 206 Penetration Tests and Split-Barrel Sampling of Soils

During the sampling procedure, Standard Penetration Tests (SPT's) were performed at regular intervals to obtain the standard penetration (N-value) of the soil. The results of the standard penetration test are used to estimate the relative strength and compressibility of the soil profile components through empirical correlations to the soils' relative density and consistency. The split-barrel sampler obtains a soil sample for classification purposes and laboratory testing, as appropriate for the type of soil obtained.

Water Level Measurements

Water level observations were attempted during and upon completion of the drilling operation using a 100-foot tape measure. The depths of observed water levels in the boreholes are noted on the boring logs presented in the appendix of this report. In the borings where water is unable to be observed during the field activities, in relatively impervious soils, the accurate determination of the groundwater elevation may not be possible even after several days of observation. Seasonal variations, temperature and recent rainfall conditions may influence the levels of the groundwater table and volumes of water will depend on the permeability of the soils.

Ground Surface Elevations

At this time, no site-specific elevations were available to Rubino. The depths indicated on the attached boring logs are relative to the existing ground surface for each individual boring at the time of the exploration. Copies of the boring logs are located in the Appendix of this report.

AASHTO T 265-15 Water (Moisture) Content of Soil by Mass (Laboratory)

The water content is an important index property used in expressing the phase relationship of solids, water, and air in a given volume of material and can be used to correlate soil behavior with its index properties. In fine grained cohesive soils, the behavior of a given soil type often depends on its natural water content. The water content of a cohesive soil along with its liquid and plastic limits as determined by Atterberg Limit testing are used to express the soil's relative consistency or liquidity index.

AASHTO T 267-86 Standard Test Method for Organic Soils using Loss on Ignition (Laboratory)

These test methods cover the measurement of moisture content, ash content, and organic matter in peats and other organic soils, such as organic clays, silts, and mucks. Ash content of a peat or organic soil sample is determined by igniting the oven-dried sample from the moisture content determination in a muffle furnace at 440°C (Method C) or 750°C (Method D). The substance remaining after ignition is the ash. The ash content is expressed as a percentage of the mass of the oven-dried sample. 2.4 Organic matter is determined by subtracting percent ash content from 100.

Appendix B – Report Limitations

Subsurface Conditions:

The subsurface description is of a generalized nature to highlight the major subsurface stratification features and material characteristics. The boring logs included in the appendix should be reviewed for specific information at individual boring locations. These records include soil descriptions, stratifications, penetration resistances, locations of the samples and laboratory test data as well as water level information. The stratifications shown on the boring logs represent the conditions only at the actual boring locations. Variations may occur and should be expected between boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition between layers may be gradual. The samples, which were not altered by laboratory testing, will be retained for up to 60 days from the date of this report and then will be discarded.

Geotechnical Risk:

The concept of risk is an important aspect of the geotechnical evaluation. The primary reason for this is that the analytical methods used to develop geotechnical recommendations do not comprise an exact science. The analytical tools that geotechnical engineers use are generally empirical and must be used in conjunction with engineering judgment and experience. Therefore, the solutions and recommendations presented in the geotechnical evaluation should not be considered risk-free, and more importantly, are not a guarantee that the interaction between the soils and the proposed structure will perform as planned. The engineering recommendations, presented in the preceding section, constitute Rubino's professional estimate of the necessary measures for the proposed structure to perform according to the proposed design based on the information generated and reference during this evaluation, and Rubino's experience in working with these conditions.

Warranty:

The geotechnical engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

Federal Excavation Regulations:

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P". This document was issued to better ensure the safety of workmen entering trenches or excavations. This federal regulation mandates that all excavations, whether they be utility trenches, basement excavation or footing excavations, be constructed in accordance with the new OSHA guidelines. It is our understanding that these regulations are being strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person," as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. Rubino is providing this information solely as a service to our client. Rubino is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

Appendix C – Soil Classification General Notes

DRILLING & SAMPLING SYMBOLS:

SS:	Split Spoon - 1 3/8" I.D., 2" O.D., unless otherwise noted	PS:	Piston Sample
ST:	Thin-Walled Tube - 3" O.D., Unless otherwise noted	WS:	Wash Sample
PM:	Pressuremeter	HA:	Hand Auger
RB:	Rock Bit	HS:	Hollow Stem Auger
DB:	Diamond Bit - 4", N, B	BS:	Bulk Sample

Standard "N" Penetration: Blows per foot of a 140-pound hammer falling 30 inches on a 2-inch O.D. split spoon sampler (SS), except where noted.

WATER LEVEL MEASUREMENT SYMBOLS:
Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of ground water levels is not possible with only short-term observations.

DESCRIPTIVE SOIL CLASSIFICATION:
Soil Classification is based on the Unified Soil Classification System as defined in ASTM D-2487 and D-2488. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are described as: clays, if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse grained soils are defined on the basis of their relative in-place density and fine-grained soils on the basis of their consistency. Example: Lean clay with sand, trace gravel, stiff (CL); silty sand, trace gravel, medium dense (SM).

CONSISTENCY OF FINE-GRAINED SOILS:

Unconfined Compressive Strength, Qu (tsf)			N-Blows/ft.			Consistency
	<	0.25	< 2			Very Soft
0.25	-	0.5	2	-	4	Soft
0.5	-	1	4	-	8	Medium Stiff
1	-	2	8	-	15	Stiff
2	-	4	15	-	30	Very Stiff
4	-	8	30	-	50	Hard
>	-	8	> 50			Very Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS

N-Blows/ft.			Relative Density
0	-	3	Very Loose
4	-	9	Loose
10	-	29	Medium Dense
30	-	49	Dense
50	-	80	Very Dense
		80+	Extremely Dense

RELATIVE PROPORTIONS OF SAND & GRAVEL

Descriptive Term	% of Dry Weight		
Trace		<	15
With	15	-	29
Modifier		>	30

GRAIN SIZE TERMINOLOGY

Major Component	Size Range
Boulders	Over 12 in. (300mm)
Cobbles	12 in. To 3 in. (300mm to 75mm)
Gravel	3 in. To #4 sieve (75mm to 4.75mm)
Sand	#4 to #200 sieve (4.75mm to 0.75mm)

RELATIVE PROPORTIONS OF FINES

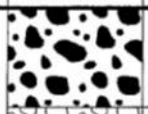
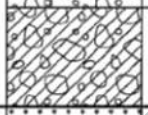
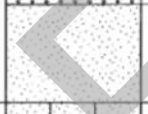
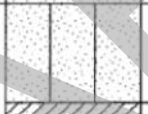
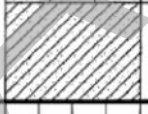
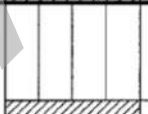
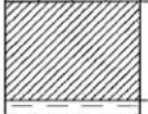
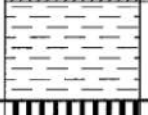
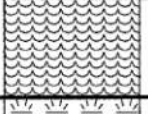
Descriptive Term	% of Dry Weight		
Trace		<	5
With	5	-	12
Modifier		>	12

*Descriptive Terms apply to components also present in sample

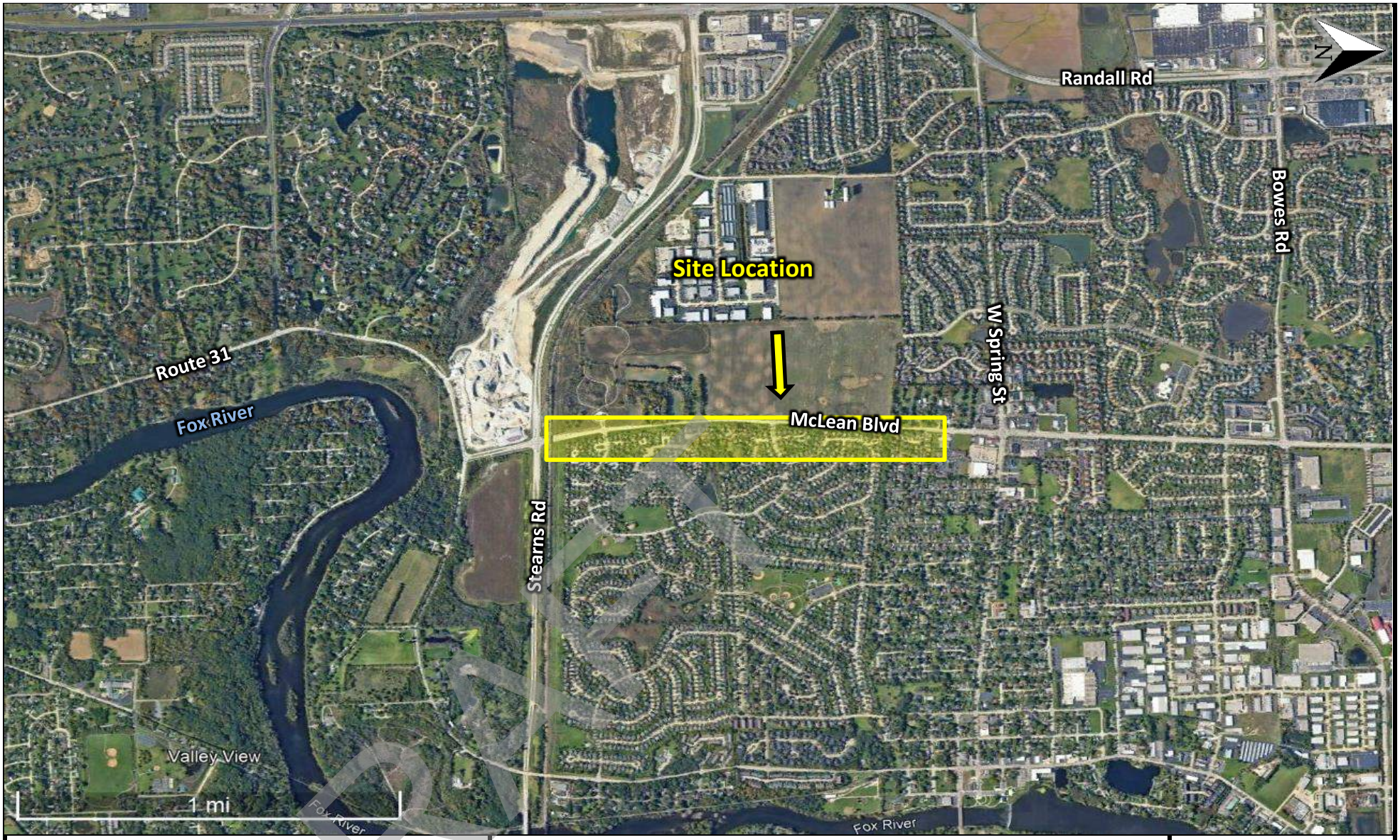
Appendix D – Soil Classification Chart

SOIL CLASSIFICATION CHART

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOLS: GRAPH	SYMBOLS: LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		(LITTLE OR NO FINES)		SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES		SM	SILTY SANDS, SAND - SILT MIXTURES
		(APPRECIABLE AMOUNT OF FINES)		SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

Appendix E – Site Vicinity Map & Boring Location Plan

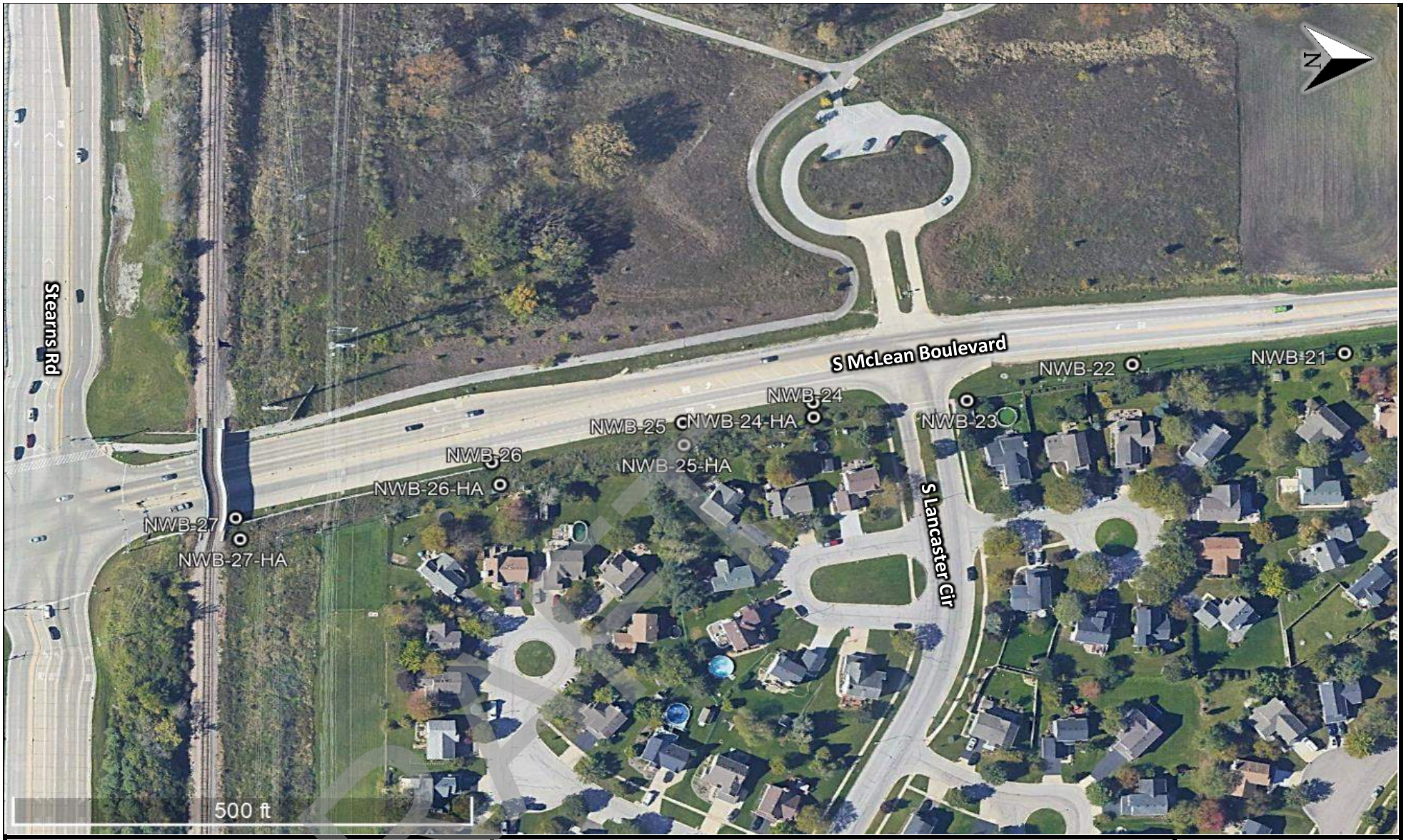


rubino ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:	**McLean Boulevard Noisewalls**
Project Location:	McLean Boulevard South Elgin, Illinois
Client:	**Hampton Lenzini and Renwick, Inc.**
Rubino Project # :	G23.044

Site Vicinity Map

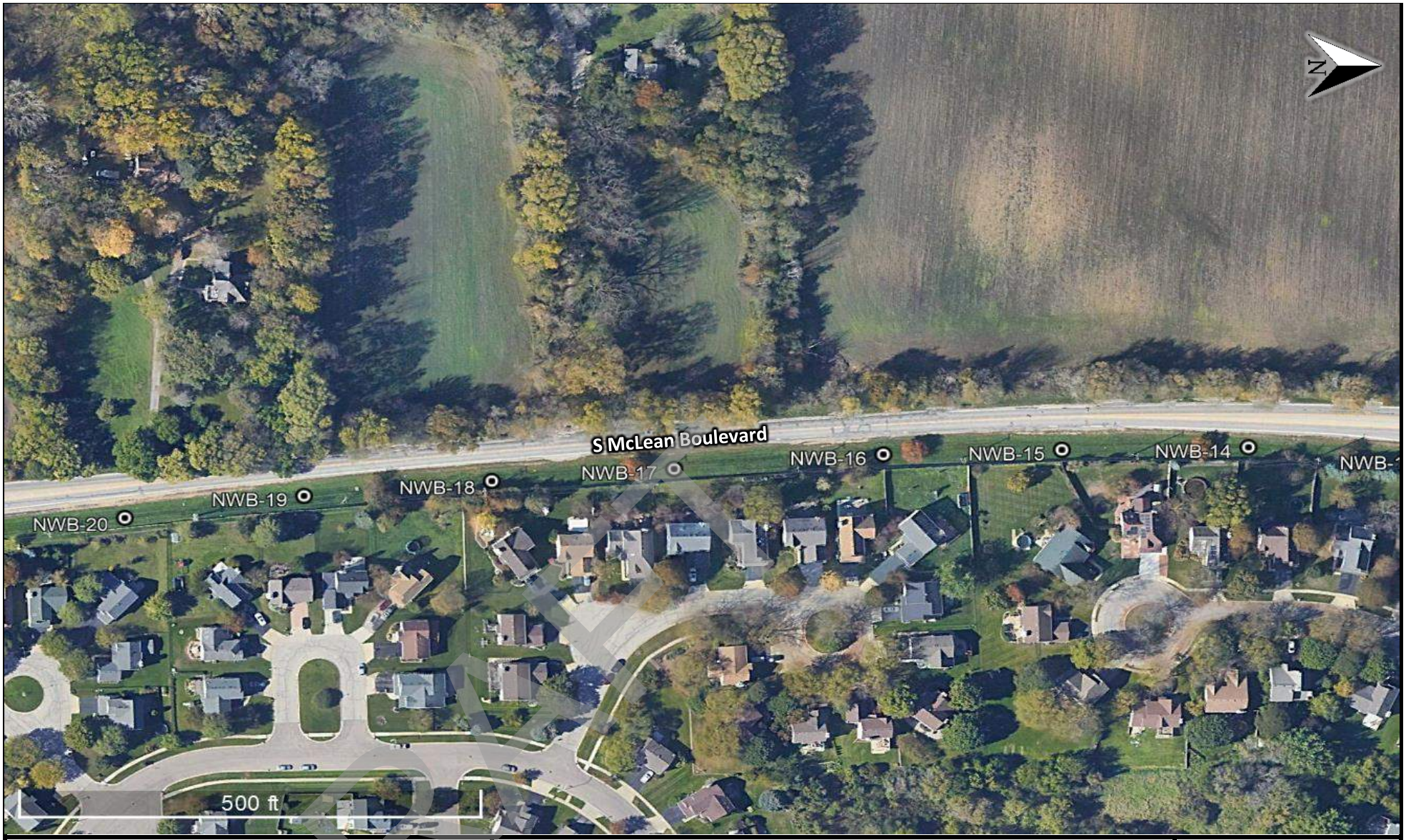


rubino ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:	**McLean Boulevard Noisewalls**
Project Location:	McLean Boulevard South Elgin, Illinois
Client:	**Hampton Lenzini and Renwick, Inc.**
Rubino Project # :	G23.044

Boring Location Plan

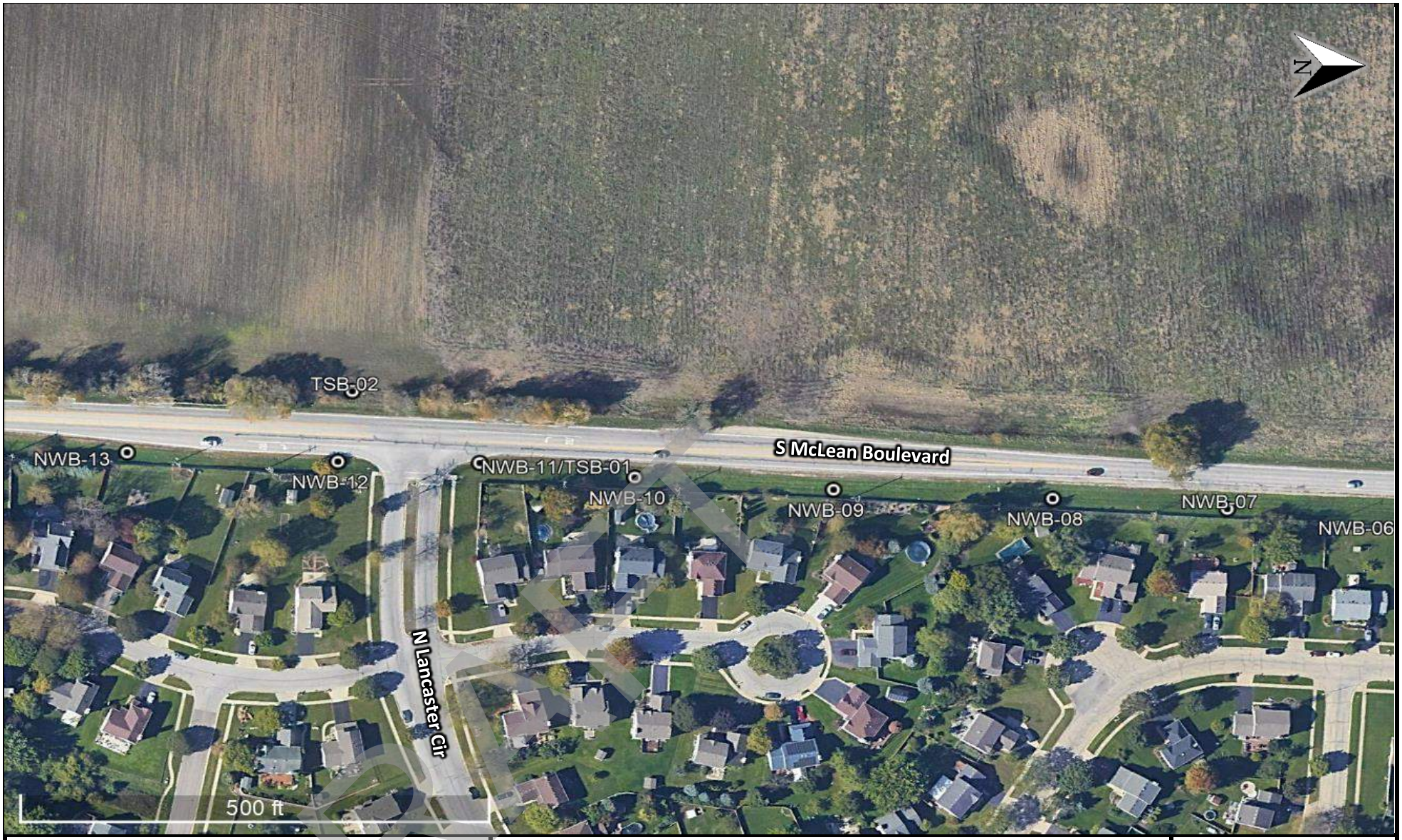


rubino ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:	**McLean Boulevard Noisewalls**
Project Location:	McLean Boulevard South Elgin, Illinois
Client:	**Hampton Lenzini and Renwick, Inc.**
Rubino Project # :	G23.044

Boring Location Plan

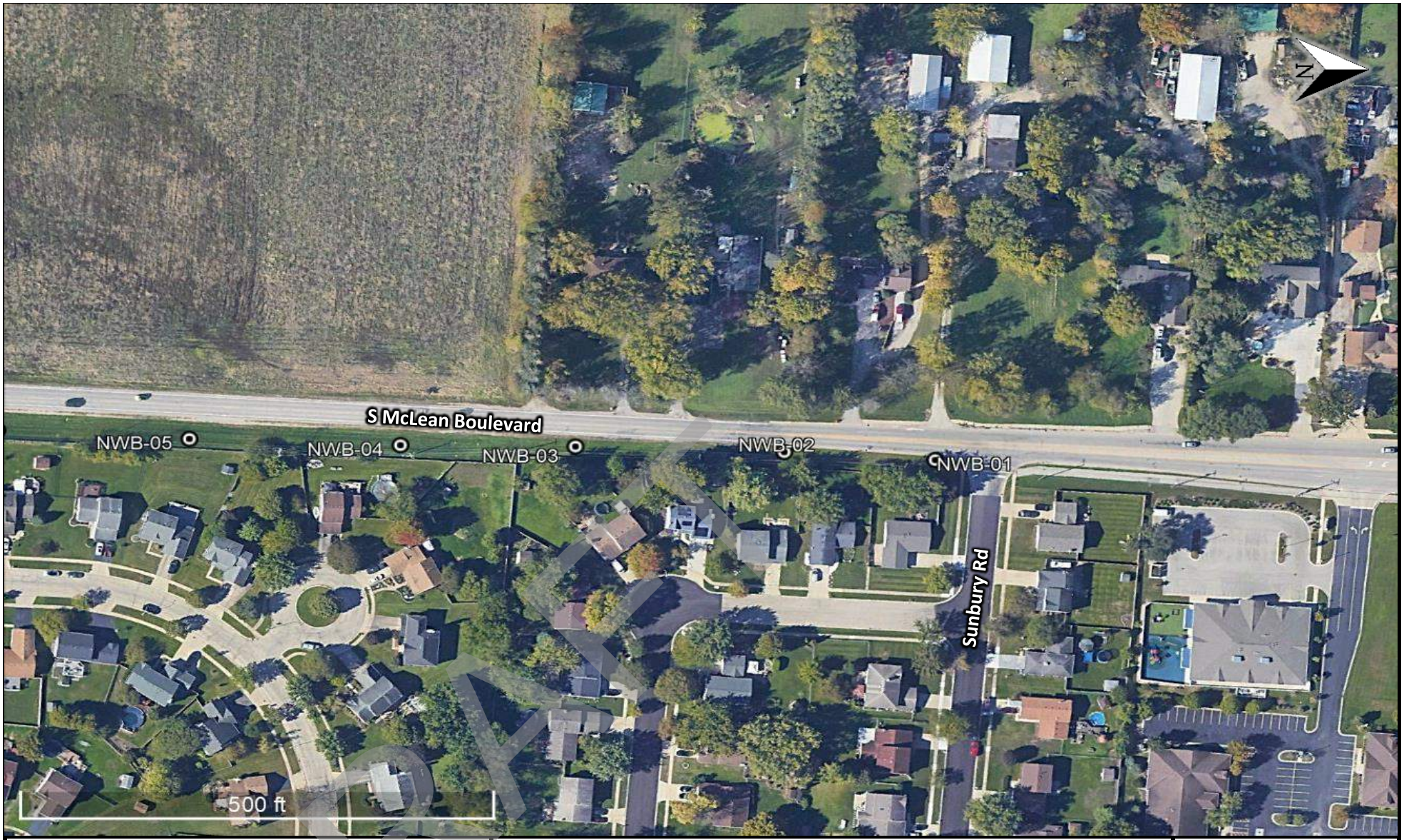


rubino ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:	**McLean Boulevard Noisewalls**
Project Location:	McLean Boulevard South Elgin, Illinois
Client:	**Hampton Lenzini and Renwick, Inc.**
Rubino Project # :	G23.044

Boring Location Plan



rubino ENGINEERING INC.

425 Shepard Drive
Elgin, Illinois 60123

Project Name:	**McLean Boulevard Noisewalls**
Project Location:	McLean Boulevard South Elgin, Illinois
Client:	**Hampton Lenzini and Renwick, Inc.**
Rubino Project # :	G23.044

Boring Location Plan

Appendix F – Boring Logs

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-01

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd	24-hr Delay	11.4 ft
Client:	Hampton Lenzini and Renwick Inc.		~1 foot E from edge of shoulder		

Station: N/A
Offset: N/A

Surface Elev.: 808.49 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0	1	8	Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Medium stiff to stiff, brown and gray SILTY CLAY, trace gravel	4-4-4 N=8	15	>>✳ Qp=4.5 tsf
805		2	13		3-3-4 N=7	14	
	5	3	5		4-5-6 N=11	13	>>✳ Qp=4.5 tsf
800		4	14	Stiff to very stiff, gray SILTY CLAY, trace gravel	3-4-5 N=9	15	✳ Qr=3.0 tsf
	10	5	15 ▼		3-4-5 N=9	16	✳ Qr=2.8 tsf
795		6	14		4-4-7 N=11	17	✳ Qr=2.8 tsf
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 11.4 feet below existing grade after 24 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0 – 25 – 50)
STRENGTH, tsf: Qu (Rimac) ✳Qp/Qr (0 – 2.0 – 4.0)

Completion Depth:	15.0 ft
Date Boring Started:	4/19/23
Date Boring Completed:	4/19/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9932589
Longitude: -88.3164636
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~6 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-02

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.
Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~15 feet E from edge of shoulder

WATER LEVELS***

While Drilling	11 ft
Upon Completion	N/A
24-hr Delay	9.2 ft

Station: N/A
Offset: N/A

Surface Elev.: 808.10 ft

Depth, (feet)	Elevation (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
0		1	2	Approximately 8 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Soft to medium stiff, brown SILTY CLAY, trace sand and gravel	3-3-3 N=6	22	Qp=3.0 tsf
	805	2	7		1-2-1 N=3	17	Qr=0.3 tsf
5		3	9	Very soft to soft, blueish gray SILTY CLAY, trace gravel, roots observed	0-1-1 N=2	23	Qr=0.4 tsf
	800	4	13	*1-inch root layer observed at approximately 9 feet BEG*	1-0-1 N=1	22	Qr=0.3 tsf
10		5	2	Very loose, gray rounded GRAVEL	1-1-1 N=2		
	795	6	10	Very stiff, gray SILT, trace sand and gravel	5-6-9 N=15	23	Qp=1.3 tsf
15				End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 9.8 feet below existing grade after 24 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL; 0; 25; 50
STRENGTH, tsf
Qu (Rimac); Qp/Qr; 0; 2.0; 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/19/23
Date Boring Completed:	4/19/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting; Split-Spoon; Rock Core; Pressuremeter; Shelby Tube; Grab Sample; No Recovery

Latitude: 41.9928256
Longitude: -88.3165152
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~12 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-03

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~15 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	6 ft
Upon Completion	N/A
24-hr Delay	8.3 ft

Station: N/A
Offset: N/A

Surface Elev.: 809.38 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
		1	6	Soft, brown SILTY CLAY, trace sand and gravel *Possible Fill*	1-1-1 N=2	18	Qr=0.8 tsf
		2	11	Soft, gray SILTY CLAY, trace sand and gravel	0-1-1 N=2	30	Qr=0.6 tsf
805	5	3	9	Loose, brown SAND and GRAVEL	0-2-3 N=5	17	
		4	12		2-3-4 N=7	13	
800	10	5	14	Very stiff, gray SILTY CLAY, trace sand and gravel	3-3-7 N=10	15	Qr=2.1 tsf
		6	17		6-8-9 N=17	13	Qr=2.3 tsf
795	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 8.3 feet below existing grade after 24 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/19/23
Date Boring Completed:	4/19/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9922260
Longitude: -88.3165631
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~5 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-04

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~30 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
24-hr Delay	9.4 ft

Station: N/A
Offset: N/A

Surface Elev.: 810.69 ft

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
810	0			1	0	Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Soft to medium stiff, brown and black SILTY CLAY, trace sand and gravel *Possible Fill*	2-2-2 N=4	22	
				2	6		3-3-4 N=7	15	Qp=3.3 tsf
805	5			3	5	Soft, brown SILTY LOAM, little gravel	1-1-1 N=2	16	
				4	11		0-1-1 N=2	29	
800	10			5	10	Very stiff, gray SILTY CLAY, trace sand and gravel	6-4-5 N=9	14	Qr=2.3 tsf
				6	11		6-8-16 N=24	14	Qr=2.3 tsf
	15					*Blow counts may be elevated due to gravel / cobbles observed at approximately 14 ½ feet below existing grade* End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 9.4 feet below existing grade after 24 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture | PL | LL
0 25 50
STRENGTH, tsf
Qu (Rimac) | Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/19/23
Date Boring Completed:	4/19/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9917244
Longitude: -88.3165893
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~6 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-05

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~25 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	13.5 ft
Upon Completion	N/A
24-hr Delay	9.7 ft

Station: N/A
Offset: N/A

Surface Elev.: 809.80 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA: Moisture, PL, LL (0–25–50); STRENGTH, tsf: Qu (Rimac), Qp/Qr (0–2.0–4.0)	Additional Remarks
	0			Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter				
		1	6	Stiff, brown SILTY CLAY, trace gravel, with roots	3-3-4 N=7	22		Qp=3.0 tsf
		2	6	Stiff to very stiff, brown SILTY CLAY LOAM, little sand and gravel	5-4-6 N=10	24		Qp=1.3 tsf
805	5	3	9		6-4-5 N=9	11	>>	Qp=4.5 tsf
		4	14		5-7-8 N=15	12		Qp=3.8 tsf
800	10	5	13	Stiff, brown SILTY LOAM, trace gravel	5-5-7 N=12	18		Qp=1.0 tsf
		6	18	Medium dense, brown SANDY LOAM, trace gravel	7-7-6 N=13	13		
795	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 9.7 feet below existing grade after 24 hours. Water observed just above hole collapse.				

Completion Depth:	15.0 ft
Date Boring Started:	4/19/23
Date Boring Completed:	4/19/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
- Auger Cutting
- Split-Spoon
- Rock Core
- Pressuremeter
- Shelby Tube
- Grab Sample
- No Recovery

Latitude: 41.9911186
Longitude: -88.3166406
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~11 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-06

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd	24-hr Delay	8.2 ft
Client:	Hampton Lenzini and Renwick Inc.		~30 feet E from edge of shoulder		

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			**Surface Elev.:** 807.8 ft			
		1	10	Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Medium stiff to stiff, black to brown SILTY CLAY, trace sand and gravel *Visible Organics from approximately 1 to 6 feet below existing grade*	3-2-4 N=6	27	Qp=3.3 tsf
805		2	7		3-3-4 N=7	29	Qr=1.2 tsf
	5	3	17		2-2-3 N=5	16	Qr=1.2 tsf
800		4	14	Stiff to very stiff, brown SILTY CLAY, trace sand and gravel	5-5-7 N=12	13	>>✳ Qr=4.2 tsf
	10	5	12	*Color transitions to gray at approximately 11 feet below existing grade.*	3-5-6 N=11	16	
795		6	7	Medium dense, gray SANDY LOAM, trace gravel	5-7-8 N=15	15	
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 10.5 feet below existing grade after 24 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture | PL | LL
0 25 50
STRENGTH, tsf
▲ Qu (Rimac) ✳Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft	Sample Types:		Latitude:	41.9905664
Date Boring Started:	4/19/23		Auger Cutting	Longitude:	-88.3166999
Date Boring Completed:	4/19/23		Split-Spoon	Drill Rig:	Geoprobe 7822DT
Logged By:	P.P.		Rock Core	Remarks:	Offset ~5 ft W due to utilities.
Drilling Contractor:	Rubino Engineering, Inc.		Pressuremeter	Log Entry:	J. Ignarski
			Shelby Tube	Checked By:	A. Tomaras
			Grab Sample		
			No Recovery		

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-07

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~30 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
24-hr Delay	8.7 ft

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			**Surface Elev.:** 806.56 ft			
		1	8	Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
805				Medium stiff to stiff, black and brown SILTY CLAY, trace sand and gravel	5-6-3 N=9	26	Qr=1.2 tsf
				Possible Fill			
		2	4		1-2-3 N=5	33	Qp=2.3 tsf
	5						
		3	14	Medium stiff to stiff, brown and gray SILTY CLAY, trace sand and gravel	2-2-3 N=5	28	Qr=0.8 tsf
800							
		4	13		3-5-3 N=8	18	Qr=0.5 tsf
	10						
		5	15		3-4-5 N=9	16	Qr=0.7 tsf
795							
		6	9		3-4-5 N=9	15	Qr=0.9 tsf
	15						
		7	16		3-5-6 N=11		Qr=1.4 tsf
790							
		8	17	*Color transitions to gray at approximately 18½ feet below existing grade*	3-4-8 N=12		Qr=1.0 tsf
	20						
		9	5	Medium dense, gray SAND and GRAVEL	9-10-12 N=22		
785							
		10	12	Medium dense, gray SAND, little gravel	11-11-14 N=25		
	25			End of boring at approximately 25 feet below existing grade. Hole collapse at approximately 10.6 feet below existing grade after 24 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture | PL | LL
0 25 50
STRENGTH, tsf
Qu (Rimac) | Qp/Qr
0 2.0 4.0

Completion Depth:	25.0 ft
Date Boring Started:	4/19/23
Date Boring Completed:	4/19/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9900388
Longitude: -88.3167633
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~6 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-08

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~30 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	8.5 ft
Upon Completion	N/A
24-hr Delay	7.1 ft

Station: N/A
Offset: N/A

Surface Elev.: 806.4 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
805		1	14	Stiff, brown SILTY CLAY, trace sand and gravel *A-6*	6-3-4 N=7	17	Qr=1.6 tsf
		2	12		2-3-3 N=6	27	Qr=1.5 tsf LL = 33 PL = 19
	5						
800		3	11	Loose to medium dense, brown SANDY LOAM, little gravel	2-4-6 N=10	15	
		4	9		3-2-3 N=5	18	
	10						
795		5	13	Dense to very dense, brown SAND and GRAVEL	15-13-28 N=41	11	
		6	9		15-20-33 N=53	10	>>
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 7.4 feet below existing grade after 24 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL: 0 – 25 – 50
STRENGTH, tsf: Qu (Rimac), Qp/Qr: 0 – 2.0 – 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/18/23
Date Boring Completed:	4/18/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
- Auger Cutting
- Split-Spoon
- Rock Core
- Pressuremeter
- Shelby Tube
- Grab Sample
- No Recovery

Latitude: 41.9895377
Longitude: -88.3168273
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~8 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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LOG OF BORING NWB-09

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	11 ft
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd ~20 feet E from edge of shoulder	24-hr Delay	7.8 ft
Client:	Hampton Lenzini and Renwick Inc.				

Station: N/A
Offset: N/A

Surface Elev.: 807.01 ft

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA: Moisture, PL, LL (0–25–50); STRENGTH, tsf: Qu (Rimac), Qp/Qr (0–2.0–4.0)	Additional Remarks
	0					Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter				
805				1	12	Medium stiff, dark gray SILTY CLAY, trace gravel *Possible Fill* *Visible Organics*	2-2-4 N=6	26	Qp	Qp=1.8 tsf
				2	13	Medium stiff to stiff, brown SILTY CLAY, trace gravel	2-3-4 N=7	15	Qr	Qr=0.6 tsf
	5									
800				3	12		2-6-5 N=11	16	Qr	Qr=1.8 tsf
				4	0		3-3-3 N=6	16		
	10									
				5	9	Loose, brown LOAM, little gravel	1-4-4 N=8	14		
795				6	9	Medium dense, brown SAND and GRAVEL	4-12-7 N=19	13		
	15					End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 9.6 feet below existing grade after 24 hours. Water observed just above hole collapse.				

Completion Depth:	15.0 ft	Sample Types:			Latitude: 41.9889085
Date Boring Started:	4/18/23		Auger Cutting	Pressuremeter	Longitude: -88.3160910
Date Boring Completed:	4/18/23		Split-Spoon	Shelby Tube	Drill Rig: Geoprobe 7822DT
Logged By:	P.P.		Rock Core	Grab Sample	Remarks: Offset ~6 ft W due to utilities.
Drilling Contractor:	Rubino Engineering, Inc.			No Recovery	Log Entry: J. Ignarski
					Checked By: A. Tomaras

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LOG OF BORING NWB-10

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	6 ft
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd ~30 feet E from edge of shoulder	24-hr Delay	9.3 ft
Client:	Hampton Lenzini and Renwick Inc.				

Station: N/A
Offset: N/A

Surface Elev.: 808.96 ft

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA: Moisture, PL, LL (0 / 25 / 50); STRENGTH, tsf: Qu (Rimac), Qp/Qr (0 / 2.0 / 4.0)	Additional Remarks
	0					Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter				
				1	0	Stiff to very stiff, dark brown SILTY CLAY, trace gravel	3-3-4 N=7	21		
805				2	11	*Color transitions to brown at approximately 3½ feet BEG*	2-1-3 N=4	17		Qr=1.2 tsf
	5			3	12		2-5-5 N=10	17		Qp=2.3 tsf
800				4	13		2-4-5 N=9	15		Qr=1.2 tsf
	10			5	13	Medium stiff to stiff, brown SILTY CLAY LOAM, trace gravel	3-2-2 N=4	18		Qr=0.7 tsf
795				6	15		5-4-5 N=9	22		Qp=1.5 tsf
	15					End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 11.8 feet below existing grade after 24 hours. Water observed just above hole collapse.				

Completion Depth:	15.0 ft	Sample Types:		Latitude: 41.9883393
Date Boring Started:	4/18/23		Auger Cutting	Longitude: -88.3169665
Date Boring Completed:	4/18/23		Split-Spoon	Drill Rig: Geoprobe 7822DT
Logged By:	P.P.		Rock Core	Remarks: Offset ~4 ft W due to utilities.
Drilling Contractor:	Rubino Engineering, Inc.		Pressuremeter	Log Entry: J. Ignarski
			Shelby Tube	Checked By: A. Tomaras
			Grab Sample	
			No Recovery	

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LOG OF BORING NWB-11/TSB

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~8 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	16 ft
Upon Completion	N/A
24-hr Delay	Dry

Station: N/A
Offset: N/A

Surface Elev.: 812.25 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
810		1	4	Stiff, brown SILTY CLAY, trace gravel	1-3-3 N=6	26	Qp=1.5 tsf
	5	2	12	Stiff, brown SILTY LOAM, little sand	4-4-5 N=9	12	
		3	17	Stiff, brown SILTY CLAY, trace sand and gravel	2-3-4 N=7	16	Qr=1.5 tsf
805		4	18		3-3-5 N=8	14	Qr=1.3 tsf
	10	5	16	Medium dense, brown SAND, trace gravel	14-16-13 N=29	7	
800		6	16	Dense to very dense, brown SAND, some gravel	18-22-24 N=46	6	
	15	7	11		27-25-21 N=46	11	
795		8	14		16-15-12 N=27	11	
	20	9	18		24-32-38 N=70	16	>>
790		10	3		50/3"--	16	>>
	25			End of boring at approximately 25 feet below existing grade. Hole collapse at approximately 11.2 feet below existing grade after 24 hours. No water observed in hole.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	25.0 ft
Date Boring Started:	4/18/23
Date Boring Completed:	4/18/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9878965
Longitude: -88.3170463
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~15 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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LOG OF BORING NWB-12

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~7 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
24-hr Delay	11.2 ft

Station: N/A
Offset: N/A

Surface Elev.: 811.63 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Dark brown SILTY CLAY, with gravel			
810		1	15	Medium stiff to stiff, brown SILTY CLAY, trace gravel	1-3-3 N=6	28	Qr=1.2 tsf
		2	16		2-2-3 N=5	27	Qr=0.6 tsf
	5						
805		3	17		2-4-4 N=8	16	Qr=0.5 tsf
		4	16		3-5-6 N=11	16	Qr=1.5 tsf
	10						
800		5	11	Stiff, brown SILTY CLAY, trace gravel	4-8-12 N=20	26	Qr=1.4 tsf
		6	13	Medium dense, brown SAND and GRAVEL	16-12-9 N=21	9	
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 11.3 feet below existing grade after 24 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/18/23
Date Boring Completed:	4/18/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9874898
Longitude: -88.3170687
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~15 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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LOG OF BORING NWB-13

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~20 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
24-hr Delay	Dry

Station: N/A
Offset: N/A

Surface Elev.: 809.87 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
		1	9	Medium stiff to stiff, brown SILTY CLAY, trace gravel	3-3-3 N=6	26	Qr=1.4 tsf
		2	8		2-1-4 N=5	14	Qp=3.3 tsf
805	5	3	11	Medium dense, brown LOAM, little gravel	2-3-15 N=18	13	
		4	9	Medium dense to dense, brown SAND and GRAVEL	7-10-21 N=31	7	
800	10	5	5		10-12-11 N=23	6	
		6	13	Dense, brown SAND, trace gravel	10-12-26 N=38	9	
795	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 10.7 feet below existing grade after 24 hours. No water observed in hole.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0, 25, 50)
STRENGTH, tsf: Qu (Rimac), Qp/Qr (0, 2.0, 4.0)

Completion Depth:	15.0 ft
Date Boring Started:	4/18/23
Date Boring Completed:	4/18/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9868845
Longitude: -88.3171321
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~8 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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LOG OF BORING NWB-14

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd ~30 feet E from edge of shoulder	24-hr Delay	Dry
Client:	Hampton Lenzini and Renwick Inc.				

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			**Surface Elev.:** 809.86 ft			
		1	13	Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Stiff, brown SILTY CLAY, trace sand and gravel	3-4-5 N=9	21	Qr=2.1 tsf
		2	8		2-2-3 N=5	17	Qp=1.8 tsf
805	5	3	9	Loose to medium dense, brown LOAM, trace gravel	4-3-3 N=6	12	
		4	4		5-7-8 N=15	13	
800	10	5	8	Medium dense, brown SAND and GRAVEL *Grinding/chattering observed due to possible cobble/boulder encountered at approximately 10½ feet BEG.*	88-21-6 N=27	6	
		6	9		7-9-10 N=19	8	
795	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 11.7 feet below existing grade after 24 hours. No water observed in hole.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0 – 25 – 50)
STRENGTH, tsf: Qu (Rimac), Qp/Qr (0 – 2.0 – 4.0)

Completion Depth:	15.0 ft
Date Boring Started:	4/18/23
Date Boring Completed:	4/18/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types: Auger Cutting, Split-Spoon, Rock Core, Pressuremeter, Shelby Tube, Grab Sample, No Recovery

Latitude: 41.9863534
Longitude: -88.3171915
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~8 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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LOG OF BORING NWB-15

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~45 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
24-hr Delay	Dry

Station: N/A
Offset: N/A

Surface Elev.: 807.23 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
805		1	12	Stiff to very stiff, brown SILTY CLAY, trace sand and gravel *Possible Fill/Possible Buried Topsoil. Visible Organics*	4-5-7 N=12	18	Qp=4.5 tsf
	5	2	7	Stiff to very stiff, brown SILTY CLAY, trace sand and gravel	6-4-6 N=10	24	Qp=3.5 tsf
800		3	11		3-5-4 N=9	16	Qr=3.1 tsf
	10	4	8	Stiff, brown SILTY CLAY LOAM, little sand and gravel	2-7-6 N=13	15	Qp=2.0 tsf
795		5	9	Medium dense, brown SANDY LOAM, trace gravel	16-5-5 N=10	12	
		6	4	Medium dense, brown SAND, trace gravel	6-7-8 N=15	7	
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 11.3 feet below existing grade after 24 hours. No water observed in hole.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0 – 25 – 50)
STRENGTH, tsf: Qu (Rimac), Qp/Qr (0 – 2.0 – 4.0)

Completion Depth:	15.0 ft
Date Boring Started:	4/18/23
Date Boring Completed:	4/18/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9858175
Longitude: -88.3172022
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~8 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

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LOG OF BORING NWB-16

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd	48-hr Delay	Dry
Client:	Hampton Lenzini and Renwick Inc.		~35 feet E from edge of shoulder		

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			**Surface Elev.:** 804.05 ft			
		1	14	Approximately 8 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Medium stiff to stiff, brown SILTY CLAY, trace sand and gravel *A-6* *Possible Fill*	2-2-2 N=4	23	Qp=2.5 tsf
800		2	7		2-1-2 N=3	15	Qp=2.0 tsf LL = 31 PL = 19
	5	3	5	Loose, brown and gray GRAVEL, trace fines	3-3-3 N=6		
		4	4	Loose, brown SAND and GRAVEL	3-4-5 N=9	8	
795	10	5	12	Medium dense to dense, brown SAND and GRAVEL	9-10-10 N=20	10	
		6	11		10-12-18 N=30	7	
790	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 7.7 feet below existing grade after 48 hours. No water observed in hole.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/17/23
Date Boring Completed:	4/17/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9853024
Longitude: -88.3172032
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~7 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

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Fax: 847-931-1560

LOG OF BORING NWB-17

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.
Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~30 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
48-hr Delay	10.9 ft

Station: N/A
Offset: N/A

Surface Elev.: 799.68 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0	1	16	Approximately 8 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Medium stiff to stiff, brown SILTY CLAY, trace sand and gravel	2-2-3 N=5	32	Qr=0.6 tsf
		2	17		2-2-3 N=5	21	Qr=2.1 tsf
795	5	3	11	Very stiff, brown SILTY CLAY, trace gravel	3-7-16 N=23	20	Qp=3.3 tsf
		4	13		7-7-8 N=15	16	>> Qr=5.9 tsf
790	10	5	9	Very stiff, gray SILTY LOAM, trace gravel	6-8-8 N=16	15	Qp=1.0 tsf
		6	14	Loose, brown SAND, trace gravel	3-3-4 N=7	18	
785	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 11 feet below existing grade after 48 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/17/23
Date Boring Completed:	4/17/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9846948
Longitude: -88.3171650
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~8 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-18

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~30 feet E from edge of shoulder

WATER LEVELS***	
While Drilling	8.5 ft
Upon Completion	N/A
48-hr Delay	8 ft

Station: N/A
Offset: N/A

Surface Elev.: 793.18 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0	1	13	Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Medium stiff, brown SILTY CLAY, trace sand and gravel	2-3-4 N=7	16	Qr=2.3 tsf
790		2	14	Medium dense, brown SANDY LOAM, little gravel	5-7-8 N=15	10	
	5	3	9		7-7-7 N=14	10	
785		4	10	Medium dense, brown SAND and GRAVEL	8-8-8 N=16	10	
	10	5	13	Stiff to very stiff, gray SILTY CLAY, trace sand and gravel	4-4-5 N=9	16	Qr=2.7 tsf
780		6	17		3-5-6 N=11	13	Qr=2.1 tsf
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 8.5 feet below existing grade after 48 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0 – 25 – 50)
STRENGTH, tsf: Qu (Rimac), Qp/Qr (0 – 2.0 – 4.0)

Completion Depth:	15.0 ft
Date Boring Started:	4/17/23
Date Boring Completed:	4/17/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
- Auger Cutting
- Split-Spoon
- Rock Core
- Pressuremeter
- Shelby Tube
- Grab Sample
- No Recovery

Latitude: 41.9841610
Longitude: -88.3171338
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~8 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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Fax: 847-931-1560

LOG OF BORING NWB-19

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon
Location:	McLean Boulevard	Hammer Type:	Automatic
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd
Client:	Hampton Lenzini and Renwick Inc.		

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
N/A	N/A

Station: N/A
Offset: N/A

Surface Elev.: 787.16 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 30 to 36 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
785		1	8		2-4-6 N=10	28	
		2	16	Medium stiff to stiff, brown and gray SILTY CLAY, trace sand and gravel	1-2-2 N=4	21	Qr=1.2 tsf
	5	3	18	Stiff to very stiff, brown and gray SILTY CLAY, trace sand and gravel	3-3-5 N=8	16	Qr=2.0 tsf
780		4	16		4-5-6 N=11	15	Qr=2.2 tsf
	10	5	14	*Color transitions to gray at approximately 11 feet BEG* *Rock in tip of spoon. N-values may be elevated.*	5-5-10 N=15	13	Qr=3.5 tsf
775		6	18		4-6-7 N=13	17	Qr=3.4 tsf
	15			End of boring at approximately 15 feet below existing grade.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0, 25, 50)
STRENGTH, tsf
Qu (Rimac), Qp/Qr (0, 2.0, 4.0)

Completion Depth:	15.0 ft
Date Boring Started:	4/14/23
Date Boring Completed:	4/14/23
Logged By:	J.W.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.983607
Longitude: -88.317091
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~9 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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Fax: 847-931-1560

LOG OF BORING NWB-20

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
120-hr Delay	3.3 ft

Station: N/A
Offset: N/A

Surface Elev.: 784.56 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 6 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
		1	12	Medium stiff to stiff, brown and gray SILTY CLAY, trace sand and gravel	2-4-5 N=9	15	
		2	18		2-3-4 N=7	13	Qr=1.9 tsf
780	5	3	18	Stiff to very stiff, gray SILTY CLAY, trace gravel	2-4-7 N=11	15	Qr=2.5 tsf
		4	18	*Trace sand and increased gravel content observed at approximately 8½ to 11 feet below existing grade*	6-7-8 N=15	12	>> Qr=4.5 tsf
775	10	5	10		9-6-6 N=12	12	Qr=2.3 tsf
		6	18		9-6-8 N=14	15	Qr=3.0 tsf
770	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 3.3 feet below existing grade after 120 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/14/23
Date Boring Completed:	4/14/23
Logged By:	J.W.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.983077
Longitude: -88.317016
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~6 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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Fax: 847-931-1560

LOG OF BORING NWB-21

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
N/A	N/A

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0					**Surface Elev.:** 782.99 ft			
				1	14	Approximately 14 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Stiff, brown and gray SILT, trace sand and gravel *A-4*	3-3-4 N=7	18	Qr=1.3 tsf
780				2	16		3-3-4 N=7	15	Qr=2.1 tsf LL = 23 PL = 16
	5			3	14	Medium stiff to stiff, brown and gray SILTY CLAY, trace to little gravel	4-4-5 N=9	13	Qr=0.9 tsf
775				4	5	*Rock in tip of spoon. Possible cobble/boulder. N-values may be elevated.*	24-11-12 N=23	12	
	10			5	9	Stiff to very stiff, gray SILTY CLAY, trace to little gravel, trace sand	6-6-6 N=12	17	Qr=1.8 tsf
770				6	18		4-6-8 N=14	>> 17	Qr=4.5 tsf
	15					End of boring at approximately 15 feet below existing grade.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0 – 25 – 50)
STRENGTH, tsf: Qu (Rimac), Qp/Qr (0 – 2.0 – 4.0)

Completion Depth:	15.0 ft
Date Boring Started:	4/14/23
Date Boring Completed:	4/14/23
Logged By:	J.W.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
- Auger Cutting
- Split-Spoon
- Rock Core
- Pressuremeter
- Shelby Tube
- Grab Sample
- No Recovery

Latitude: 41.982541
Longitude: -88.316959
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~6 ft W due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

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Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-22

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd	48-hr Delay	4.5 ft
Client:	Hampton Lenzini and Renwick Inc.		~25 feet E from edge of shoulder		

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA: Moisture, PL, LL (0 / 25 / 50); STRENGTH, tsf: Qu (Rimac), Qp/Qr (0 / 2.0 / 4.0)	Additional Remarks
	0			**Surface Elev.:** 781.19 ft				
780		1	7	Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Medium stiff to stiff, brown SILTY CLAY LOAM, little gravel *Possible Fill*	2-2-3 N=5	25		Qp=1.8 tsf
		2	9	Soft, brown SILTY LOAM, trace gravel	3-4-3 N=7	17		Qp=0.3 tsf
	5							
775		3	18	Stiff to very stiff, brown SILTY CLAY, trace sand and gravel	3-5-6 N=11	18	>>	Qr=4.5 tsf
		4	14	*Color transitions to gray at approximately 8½ feet BEG*	3-5-7 N=12	16	>>	Qr=5.0 tsf
	10							
770		5	18		3-6-8 N=14	14	>>	Qr=6.4 tsf
		6	15		3-7-8 N=15	15	>>	Qr=5.9 tsf
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 4.5 feet below existing grade after 48 hours. Water observed just above hole collapse.				

Completion Depth:	15.0 ft	Sample Types:		Latitude: 41.9819297
Date Boring Started:	4/17/23	Auger Cutting	Pressuremeter	Longitude: -88.3168887
Date Boring Completed:	4/17/23	Split-Spoon	Shelby Tube	Drill Rig: Geoprobe 7822DT
Logged By:	P.P.	Rock Core	Grab Sample	Remarks: Offset ~8 ft W due to utilities.
Drilling Contractor:	Rubino Engineering, Inc.		No Recovery	Log Entry: J. Ignarski
				Checked By: A. Tomaras

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Fax: 847-931-1560

LOG OF BORING NWB-23

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd	48-hr Delay	Dry
Client:	Hampton Lenzini and Renwick Inc.		~9 feet E from back of curb		

Station: N/A
Offset: N/A

Surface Elev.: 778.62 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 6 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
		1	15	Stiff to very stiff, brown SILTY CLAY, trace sand and gravel	6-4-5 N=9	25	Qr=3.1 tsf
775		2	14		2-4-5 N=9	17	Qr=2.5 tsf
	5	3	14		4-5-7 N=12	18	Qr=5.3 tsf
770		4	16	*Color transitions to gray at approximately 8½ feet BEG*	4-7-8 N=15	16	Qr=5.1 tsf
	10	5	17		6-5-5 N=10	14	Qr=3.4 tsf
765		6	15		3-6-7 N=13	15	Qr=3.4 tsf
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 9.7 feet below existing grade after 48 hours. No water observed in hole.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL (0, 25, 50)
STRENGTH, tsf
Qu (Rimac); Qp/Qr (0, 2.0, 4.0)

Completion Depth:	15.0 ft	Sample Types:	Pressuremeter, Auger Cutting, Shelby Tube, Split-Spoon, Grab Sample, Rock Core, No Recovery
Date Boring Started:	4/17/23		
Date Boring Completed:	4/17/23		
Logged By:	P.P.		
Drilling Contractor:	Rubino Engineering, Inc.		

Latitude: 41.9814639
Longitude: -88.3168146
Drill Rig: Geoprobe 7822DT
Remarks:
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

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425 Shepard Drive
Elgin, IL 60123
Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-24

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd	48-hr Delay	8.5 ft
Client:	Hampton Lenzini and Renwick Inc.		~6 feet E from back of curb		

Station: N/A
Offset: N/A

Surface Elev.: 775.52 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
775	0	1	18	Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter Stiff to very stiff, gray SILTY CLAY, trace sand and gravel	3-4-5 N=9	16	Qr=4.2 tsf
		2	18		3-5-6 N=11	19	Qr=3.3 tsf
770	5	3	16		3-3-5 N=8	18	Qr=2.5 tsf
		4	17		3-4-5 N=9	19	Qr=3.4 tsf
765	10	5	18		3-5-5 N=10	22	Qr=2.9 tsf
		6	18		3-4-6 N=10	15	Qr=2.7 tsf
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 8.5 feet below existing grade after 48 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL (0 – 25 – 50)
STRENGTH, tsf: Qu (Rimac), Qp/Qr (0 – 2.0 – 4.0)

Completion Depth:	15.0 ft	Sample Types:	Pressuremeter, Auger Cutting, Shelby Tube, Split-Spoon, Grab Sample, Rock Core, No Recovery
Date Boring Started:	4/17/23		
Date Boring Completed:	4/17/23		
Logged By:	P.P.		
Drilling Contractor:	Rubino Engineering, Inc.		

Latitude: 41.9810060
Longitude: -88.3167657
Drill Rig: Geoprobe 7822DT
Remarks:
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

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Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-25

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd	48-hr Delay	10 ft
Client:	Hampton Lenzini and Renwick Inc.		~8 feet E from back of curb		

Station: N/A
Offset: N/A

Surface Elev.: 769.56 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
		1	17	Stiff to very stiff, gray SILTY CLAY, trace sand and gravel *A-6*	2-3-4 N=7	18	Qr=3.0 tsf
		2	18		2-2-3 N=5	21	Qr=1.6 tsf
765	5	3	18		2-3-4 N=7	23	Qr=1.2 tsf LL = 39 PL = 20
		4	18		2-3-4 N=7	22	Qr=2.1 tsf
760	10	5	18		3-4-5 N=9	19	Qr=2.8 tsf
		6	18		2-4-4 N=8	21	Qr=1.2 tsf
755	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 10.4 feet below existing grade after 48 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture, PL, LL: 0 – 25 – 50
STRENGTH, tsf: Qu (Rimac), Qp/Qr: 0 – 2.0 – 4.0

Completion Depth:	15.0 ft	Sample Types:	Pressuremeter
Date Boring Started:	4/17/23		Auger Cutting
Date Boring Completed:	4/17/23		Shelby Tube
Logged By:	P.P.		Split-Spoon
Drilling Contractor:	Rubino Engineering, Inc.		Grab Sample
			Rock Core
			No Recovery

Latitude: 41.9806262
Longitude: -88.3166959
Drill Rig: Geoprobe 7822DT
Remarks:
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
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Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-26

Rubino Job No.:	G23.044	Drilling Method:	2 ¼ Hollow Stem Auger	WATER LEVELS***	
Project:	McLean Blvd Noise Walls	Sampling Method:	Split Spoon	While Drilling	N/A
Location:	McLean Boulevard	Hammer Type:	Automatic	Upon Completion	N/A
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd	48-hr Delay	7 ft
Client:	Hampton Lenzini and Renwick Inc.		~5 feet E from back of curb		

Station: N/A
Offset: N/A

Surface Elev.: 763.6 ft

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 10 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
		1	17	Medium stiff to stiff, gray SILTY CLAY, trace sand and gravel	3-2-3 N=5	16	Qr=2.5 tsf
760		2	7	Loose, gray SAND and GRAVEL	4-3-1 N=4	6	
	5	3	18	Stiff to very stiff, gray SILTY CLAY, trace sand and gravel	3-4-6 N=10	21	Qr=3.1 tsf
755		4	18		3-5-6 N=11	21	Qr=3.1 tsf
	10	5	16		3-3-6 N=9	20	Qr=3.0 tsf
750		6	18		3-4-7 N=11	19	Qr=3.3 tsf
	15			End of boring at approximately 15 feet below existing grade. Hole collapse at approximately 7 feet below existing grade after 48 hours. Water observed just above hole collapse.			

STANDARD PENETRATION TEST DATA
Moisture PL LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft	Sample Types:	Pressuremeter
Date Boring Started:	4/17/23		Auger Cutting
Date Boring Completed:	4/17/23		Shelby Tube
Logged By:	P.P.		Split-Spoon
Drilling Contractor:	Rubino Engineering, Inc.		Grab Sample
			Rock Core
			No Recovery

Latitude: 41.9800617
Longitude: -88.3165497
Drill Rig: Geoprobe 7822DT
Remarks:
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

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Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING NWB-27

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	NB ROW of McLean Blvd ~5 feet E from back of curb

WATER LEVELS***	
While Drilling	N/A
Upon Completion	N/A
48-hr Delay	N/A

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
	0			Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter			
		1	16	Medium stiff to stiff, gray SILTY CLAY, trace sand and gravel	2-2-3 N=5	20	Qr=2.1 tsf
		2	13		1-3-3 N=6	21	Qr=2.5 tsf
-5	5	3	17	Stiff to very stiff, gray SILTY CLAY, trace sand and gravel	2-3-6 N=9	21	Qr=2.5 tsf
		4	18		3-3-5 N=8	22	Qr=2.8 tsf
-10	10	5	18		3-5-7 N=12	20	Qr=2.5 tsf
		6	18		3-4-6 N=10	23	Qr=2.5 tsf
-15	15			End of boring at approximately 15 feet below existing grade.			

STANDARD PENETRATION TEST DATA
Moisture PL LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	15.0 ft
Date Boring Started:	4/17/23
Date Boring Completed:	4/17/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9792943
Longitude: -88.3163392
Drill Rig: Geoprobe 7822DT
Remarks:
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
***Please reference the geotechnical report text for specific groundwater / dewatering recommendations.

Rubino Engineering, Inc.
425 Shepard Drive
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Telephone: 847-931-1555
Fax: 847-931-1560

LOG OF BORING TSB-02

Rubino Job No.:	G23.044
Project:	McLean Blvd Noise Walls
Location:	McLean Boulevard
City, State:	South Elgin, Illinois
Client:	Hampton Lenzini and Renwick Inc.

Drilling Method:	2 ¼ Hollow Stem Auger
Sampling Method:	Split Spoon
Hammer Type:	Automatic
Boring Location:	SB ROW of McLean Blvd ~25 feet W from back of curb

WATER LEVELS***	
While Drilling	18.5 ft
Upon Completion	N/A
N/A	N/A

Station: N/A
Offset: N/A

Surface Elev.: 812.44 ft

Depth (ft)	Elevation (ft)	Sample No.	Recovery (in)	MATERIAL DESCRIPTION	SPT Blows per 6-inch	Moisture, %	Additional Remarks
0	812.4	1	5	Approximately 12 inches of TOPSOIL: dark brown and black silty clay, with roots and organic matter	3-2-4 N=6	34	Qp=1.8 tsf
				Stiff to very stiff, dark brown and black SILTY CLAY, trace sand and gravel *Possible Fill*			
5	810	2	9		6-5-10 N=15	37	Qp=2.0 tsf
		3	14	Medium stiff to stiff, brown and gray SILTY CLAY, trace sand and gravel	3-3-6 N=9	24	Qr=2.0 tsf
10	805	4	16		2-3-3 N=6	24	Qr=0.6 tsf
		5	18	Loose, brown SANDY LOAM	3-3-3 N=6	18	Qp=0.3 tsf
15	800	6	18	Very soft to soft, brown CLAY LOAM	2-2-2 N=4	33	Qr=0.4 tsf
		7	18		0-1-0 N=1	44	Qr=0.1 tsf
	795	8	5		1-1-2 N=3	28	
20		9	10	Medium dense to very dense, brown SAND and GRAVEL	4-10-7 N=17	14	
	790	10	18		10-21-36 N=57	9	>>
25				End of boring at approximately 25 feet below existing grade.			

STANDARD PENETRATION TEST DATA
Moisture; PL; LL
0 25 50
STRENGTH, tsf
Qu (Rimac) Qp/Qr
0 2.0 4.0

Completion Depth:	25.0 ft
Date Boring Started:	4/19/23
Date Boring Completed:	4/19/23
Logged By:	P.P.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
Auger Cutting
Split-Spoon
Rock Core
Pressuremeter
Shelby Tube
Grab Sample
No Recovery

Latitude: 41.9876547
Longitude: -88.3173484
Drill Rig: Geoprobe 7822DT
Remarks: Offset ~20 ft N due to utilities.
Log Entry: J. Ignarski
Checked By: A. Tomaras

The stratification lines represent approximate boundaries. The transition may be gradual.
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LOG OF BORING NWB-25-HA

Rubino Job No.:	G23.044	Drilling Method:	DCP & Driven Soil Sampler
Project:	McLean Blvd Noise Walls	Sampling Method:	Geoprobe LB Sampler
Location:	McLean Boulevard	Hammer Type:	Automatic
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd Top of Slope
Client:	Hampton Lenzini and Renwick Inc.		

WATER LEVELS

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	DCP Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA / STRENGTH, tsf	Additional Remarks
	0			1	12	TOPSOIL: black silty clay with gravel and roots		2-4			>>
				2	12	Brown, silty CLAY, trace gravel		10-6			>> Qp=4.5 tsf
				3	12			8-7			>>
				4	12			7-9			>> Qp=4.5 tsf
						Maximum depth of DCP, advanced only with only soil sampling					
	5			6	24			PUSH			>>
						End of boring at approximately 6 feet below existing grade.					

STANDARD PENETRATION TEST DATA: Moisture, PL, LL (0, 25, 50); STRENGTH, tsf: Qu, Qp (0, 2.0, 4.0)

Completion Depth:	6.0 ft
Date Boring Started:	4/22/23
Date Boring Completed:	4/22/23
Logged By:	H.G.
Drilling Contractor:	Rubino Engineering, Inc.

Sample Types:
- Hand Auger & DCP
- Hand Auger
- DCP
- Auger Cutting
- Split Spoon
- No Recovery

Latitude: 41.9805302
Longitude: -88.3166040
Drill Rig: Jackhammer Driven Soil Sampler
Remarks:

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LOG OF BORING NWB-26-HA

Rubino Job No.:	G23.044	Drilling Method:	DCP & Driven Soil Sampler
Project:	McLean Blvd Noise Walls	Sampling Method:	Geoprobe LB Sampler
Location:	McLean Boulevard	Hammer Type:	Automatic
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd
Client:	Hampton Lenzini and Renwick Inc.		Top of Slope

WATER LEVELS

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	DCP Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA (Moisture; PL; LL; STRENGTH, tsf: Qu; Qp)	Additional Remarks
	0			1	12	TOPSOIL: black silty clay with gravel and roots		7-7			
				2	12	Brown, silty CLAY, trace gravel		8-8			Qp=4.5 tsf
				3	12			11-6			
				4	12			12-15			Qp=3.5 tsf
				6	12	*Maximum depth of DCP, advanced only with only soil sampling*		PUSH			
	5					End of boring at approximately 5 feet below existing grade.					

Completion Depth:	5.0 ft	Sample Types:	Latitude: 41.9800861
Date Boring Started:	4/22/23	Hand Auger & DCP; Auger Cutting	Longitude: -88.3164538
Date Boring Completed:	4/22/23	Hand Auger; Split Spoon	Drill Rig: Jackhammer Driven Soil Sampler
Logged By:	H.G.	DCP; No Recovery	Remarks:
Drilling Contractor:	Rubino Engineering, Inc.		

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LOG OF BORING NWB-27-HA

Rubino Job No.:	G23.044	Drilling Method:	DCP & Driven Soil Sampler
Project:	McLean Blvd Noise Walls	Sampling Method:	Geoprobe LB Sampler
Location:	McLean Boulevard	Hammer Type:	Automatic
City, State:	South Elgin, Illinois	Boring Location:	NB ROW of McLean Blvd Top of Slope
Client:	Hampton Lenzini and Renwick Inc.		

WATER LEVELS

Station: N/A
Offset: N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	DCP Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA (Moisture, PL, LL; STRENGTH, tsf: Qu, Qp)	Additional Remarks
	0			1	12	TOPSOIL: black silty clay with gravel and roots		5-5			>>
				2	12	Brown and gray, silty CLAY, trace gravel		3-3			>> Qp=1.8 tsf
				3	12			2-3			>> Qp=2.5 tsf
				4	12			10-11			>>
	5			6	24	*Maximum depth of DCP, advanced only with only soil sampling*		PUSH			>> Qp=3.8 tsf
						End of boring at approximately 6 feet below existing grade.					

Completion Depth:	6.0 ft	Sample Types:	Latitude: 41.9795949
Date Boring Started:	4/22/23	Hand Auger & DCP; Auger Cutting	Longitude: -88.3163120
Date Boring Completed:	4/22/23	Hand Auger; Split Spoon	Drill Rig: Jackhammer Driven Soil Sampler
Logged By:	H.G.	DCP; No Recovery	Remarks:
Drilling Contractor:	Rubino Engineering, Inc.		

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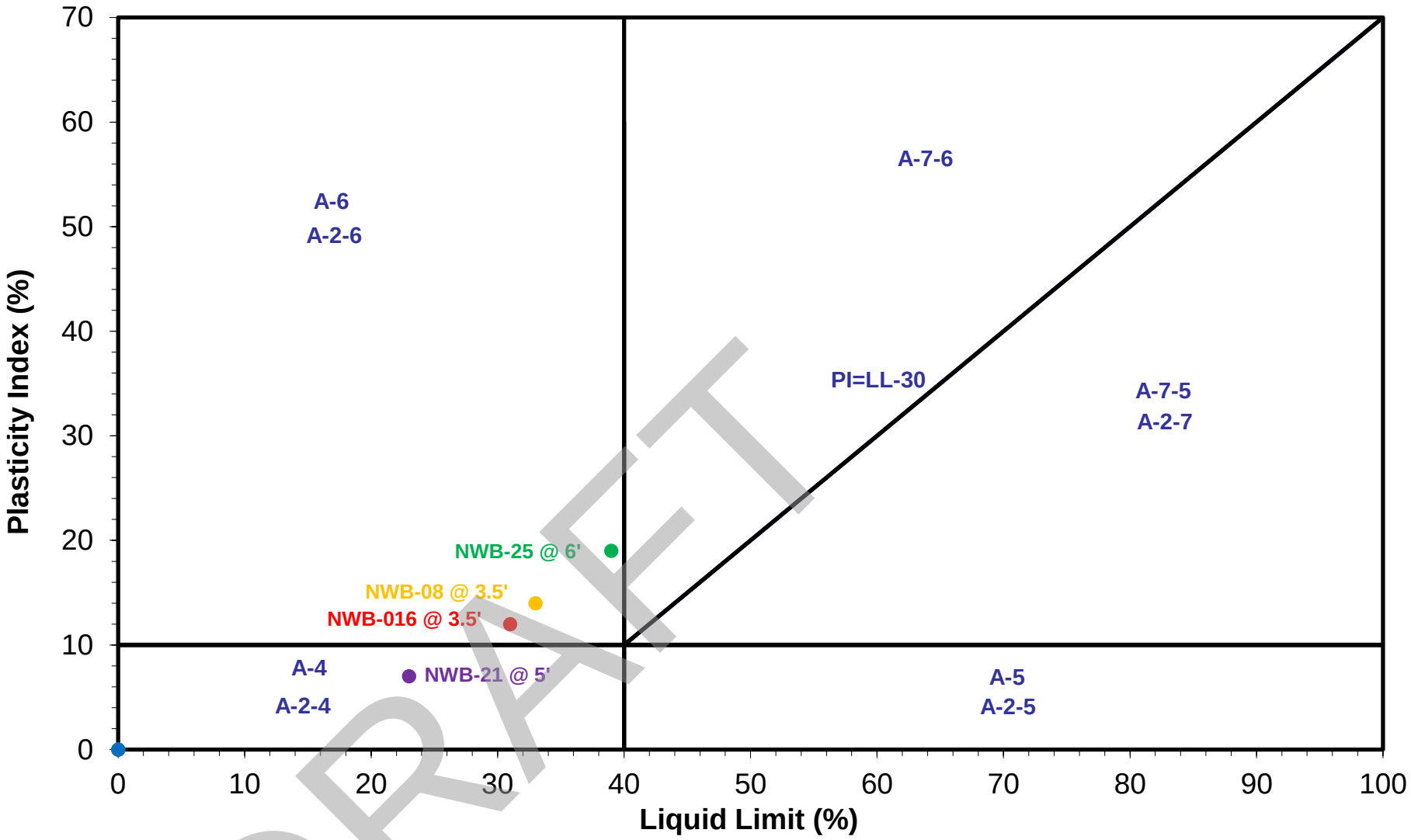
rubino ENGINEERING INC.

Report of Atterberg Limits Test (AASHTO T89 / AASHTO T90)



Boring #	NWB-08 @ 3.5'	NWB-016 @ 3.5'	NWB-21 @ 5'	NWB-25 @ 6'		
LL	33	31	23	39		
PL	19	19	16	20		
PI	14	12	7	19		

Project: Proposed McLean Blvd Noise Walls
Location: South Elgin, Illinois
Client: Hampton, Lenzini and Renwick, Inc
Project #: G23.044