

April 8, 2026
Project No. 25-4652.04.2
Revision A

Lincoln Cannon
Levy County Road Department
620 North Hathaway Avenue
Bronson Florida 32626

Reference: Surface Depression, Existing Roadway, Highway 40 E, Inglis, Florida
Geotechnical Site Evaluation

Dear Mr. Cannon:

Geo-Technologies, Inc. (Geo-Tech) completed a geotechnical evaluation of the site as requested by you. Services were conducted in accordance with Geo-Tech Proposal No. 16316 Revision B dated January 22, 2026.

Our findings, evaluations and remediation recommendations are presented in the following report. Generally accepted soils and foundation engineering practices were employed in the preparation of this report.

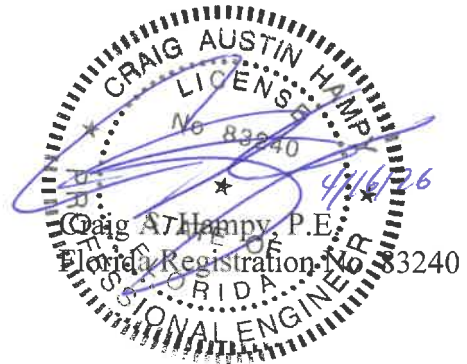
Geo-Tech appreciates the opportunity to provide our services for this project. Should you have any questions regarding the contents of this report or if we may be of further assistance, please do not hesitate to contact the undersigned.

Sincerely,



Grady N. Polk, E.I.
Staff Engineer

GNP/CAH



Purposes of Exploration

Purposes of this evaluation were to characterize subsurface soil conditions in subsurface anomalous areas detected in the previously performed ground penetrating radar (GPR) survey data and to provide applicable remediation recommendations based on our findings.

Site Description

The site consists of a portion of the existing Highway 40 E roadway just south of the residential address 8291 Highway 40 E in Inglis, Florida.

Geo-Tech observed a surface depression approximately eight (8) feet in diameter and three (3) inches deep in the center area of the existing Highway 40 E roadway prior to our field exploration services. We refer you to the Boring Location Map presented in Appendix IV for the approximate surface depression location.

Field Exploration Services

Field exploration services for this geotechnical site evaluation were performed on February 17, 2026 and consisted of the following:

- Three (3) standard penetration test (SPT) borings to depths ranging from approximately twenty-nine (29) to thirty-six and one-half (36 ½) feet below existing site grade along with static cone penetrometer (SCP) testing between depths of two (2) to four (4) feet below existing site grade in subsurface anomalous areas detected in the previously performed GPR survey data (ASTM D1586).

Sampling & Testing Descriptions

Standard Penetration Test (SPT) Boring Description

SPT borings were performed in accordance with ASTM D1586. This SPT boring method consists of a split-barrel sampler driven into the subsurface soils by a one hundred and forty (140) pound hammer falling thirty (30) inches. The number of blows required to drive the sampler one (1) foot, after seating six (6) inches, is the designated resistance or N-Value and is an index to soil strength and consistency.

Soil samples recovered during the performance of our SPT borings were visually classified in the field. Representative soil samples were placed in containers and transported to our laboratory for further analysis.

Static Cone Penetrometer Testing

Static cone penetrometer testing is used to determine soil consistency. The device used for the test is a thin shaft tipped with a conical point having a projected area of one and one-half (1 ½) square centimeters. The shaft is slightly smaller in diameter than the diameter of the cone base. Dual rods enable the cone stress to be measured directly. Soil friction on the outer rod does not influence the reading.

Depending upon the application, either the maximum bearing for an increment of push or the least bearing for an increment of push can be reported. The dial indicator reading is recorded for this purpose. The value of the dial reading is correlated to an applied load over the given cone tip area in kilograms per square centimeter (kg/cm^2). This value has been empirically correlated to typical soil strength properties.

Loss on Ignition Testing

Loss on ignition testing is used to determine the percentage of organic material in a soil sample by strongly heating or igniting a soil sample at a specified temperature, allowing volatile substances (organic material) to escape, until its mass ceases to change. This test typically consists of placing a soil sample in a tared, pre-ignited crucible and determining its mass, placing it in a temperature-controlled furnace a set time, cooling it in a controlled atmosphere, and re-determining the mass.

Findings

General subsurface conditions found in borings are presented on the soil profiles in Appendix III. Horizontal lines depicted on the soil profiles designate approximate boundaries between soils.

The pavement section at our boring locations consisted of asphalt ranging from approximately thirteen and one-half ($13 \frac{1}{2}$) to fourteen (14) inches thick and limerock ranging from approximately nine (9) to ten (10) inches thick.

Soils found beneath the pavement section in boring B-1 generally consisted of very loose to medium dense fine sand, very loose organic sand with tree roots and limestone to the depth drilled. A weight-of-rod (WOR) zone was encountered in boring B-1 between depths of approximately eighteen and one-half ($18 \frac{1}{2}$) to twenty-five (25) feet below existing site grade. Weight-of-hammer zones were also encountered in boring B-1 between depths of approximately twenty-seven and one-half ($27 \frac{1}{2}$) to thirty-two (32) and thirty-four (34) to thirty-five (35) feet below existing site grade.

Soils found beneath the pavement section in boring B-2 generally consisted of loose fine sand and limestone to the depth drilled. A WOH zone was encountered in boring B-2 between depths of approximately twenty (20) to twenty-one (21) feet below existing site grade.

Soils found beneath the pavement section in boring B-3 generally consisted of very loose fine sand, very loose to loose organic sand, very soft slightly sandy clay and limestone to the depth drilled. A WOR zone was encountered in boring B-3 between depths of approximately fifteen and one-half ($15 \frac{1}{2}$) to thirty (30) feet below existing site grade.

Groundwater was not found within ten (10) feet below existing site grade in our borings at the time of drilling.

Laboratory Testing

Gradation (-200), atterberg limits, organic content and natural moisture content testing was performed on representative soils samples retrieved from the borings. Test results are noted on the soil profiles presented in Appendix III and in Table 1 below.

Table 1 Laboratory Test Results

Boring No.	Sample Depth (feet)	Organic Matter (%)
B-1	6.0	11.0
B-3	6.0	10.0
B-3	7.0	11.0
B-3	9.0	3.0

- = not tested

Evaluations

Geo-Tech observed indications of subsurface sinkhole type activity at the site as determined by the aforementioned WOR and/or WOH zones encountered in our borings.

Most sinkhole activity in Florida is the result of subterranean erosion (raveling) of subsurface soils into solution channels and cavities in the underlying limestone. This erosion is generally caused by downward seepage of groundwater (recharge) into the limestone aquifer along with downward migration of subsurface soils. This erosion propagates upward toward the ground surface as a sinkhole develops which can cause surface depressions along with WOR and/or WOH zones as found in our borings. These zones can cause settlement to structures placed above them.

Recommendations

Compaction Grouting

Geo-Tech recommends remediating the subsurface sinkhole type activity found in our borings with deep soil stabilization by means of low slump, sand-cement compaction grout. Twenty-four (24) injection pipes should be installed to limestone refusal conditions around our boring locations as depicted on the Grout Injection Plan presented in Appendix I. Additional injection pipes may be added depending on grout intakes.

Geo-Tech estimates grout quantities for this project to range between two hundred forty (240) to three hundred sixty (360) cubic yards. Grout mix specifications and pumping procedures are presented in Appendix I. The Grouting Contractor should present submittals to Geo-Tech for approval.

Chemical Grouting

Geo-Tech recommends stabilizing and densifying shallow support soils beneath the pavement by means of chemical grouting in order to mitigate potential future settlement.

Geo-Tech recommends installing twenty-five (25) injection pipes on five (5) foot centers centered on each boring location B-1 and B-3 for a total of fifty (50) injection pipes. Additional chemical grout injection locations may be added depending on grout intakes. We refer you to the Chemical Grout Injection Plan presented in Appendix II for approximate chemical grout injection locations.

The chemical grouting program shall consist of the injection of high-density polymer resins that create a rapidly expanding polyurethane (or equivalent) foam. Hydrophilic or permeation type chemical grouts should not be utilized.

Chemical grout shall be utilized to stabilize and densify shallow support soils beneath the pavement. Chemical grout injection pipes should be installed to depths of ten (10) feet below existing site grade and pumped at depths of ten (10), eight (8), six (6) and four (4) feet below existing site grade. Geo-Tech estimates chemical grout quantities for each pump depth to be approximately twenty-five (25) pounds of material for a total of approximately five thousand (5,000) pounds of material for this project.

Chemical grout quantities and injection point locations are provided as an estimate. The chemical grout contractor shall determine the appropriate means and methods to implement the remediation. The Grouting Contractor should present submittals to Geo-Tech for approval.

Closure/General Qualifications

The scope of this geotechnical site evaluation is limited to this specific project and the location described herein.

Evaluations and remediation recommendations submitted in this report are based on our findings from the soil borings performed. Soil, limestone and groundwater conditions may vary between boring locations. These possible variations were not taken into consideration for this report. However, variations may become evident during remediation. Geo-Tech should be informed if variations are encountered during remediation so our evaluations and recommendations can be reviewed.

APPENDIX I
COMPACTION GROUTING SPECIFICATIONS
&
GROUT INJECTION PLAN



- = PROPOSED GROUT PIPE INJECTION LOCATION
- = APPROXIMATE STANDARD PENETRATION TEST (SPT) BORING LOCATION

LEVY COUNTY ROAD DEPARTMENT
SURFACE DEPRESSION
EXISTING HIGHWAY 40 EAST
INGLIS, FLORIDA

GROUT INJECTION PLAN

GEO-TECH, INC.

■ GEOTECHNICAL ■ ENVIRONMENTAL
■ CONSTRUCTION MATERIALS TESTING ■ GEOPHYSICAL EXPLORATION
1016 SE 3rd AVENUE, OCALA, FLORIDA 34471 ~ (352) 694-7711

PROJECT NO.
25-4652.04.2

SCALE: N.I.S.

DATE: 2-19-25

FIGURE: 1



- = PROPOSED CHEMICAL GROUT PIPE INJECTION LOCATION
- = APPROXIMATE STANDARD PENETRATION TEST (SPT) BORING LOCATION

LEVY COUNTY ROAD DEPARTMENT
 SURFACE DEPRESSION
 EXISTING HIGHWAY 40 EAST
 INGLIS, FLORIDA

CHEMICAL GROUT INJECTION PLAN

GEO-TECH, INC.

■ GEOTECHNICAL ■ ENVIRONMENTAL
 ■ CONSTRUCTION MATERIALS TESTING ■ GEOPHYSICAL EXPLORATION

1016 SE 3rd AVENUE, OCALA, FLORIDA 34471 ~ (352) 694-7711

PROJECT NO.	25-4652.04.2
SCALE:	N.T.S.
DATE:	4-10-26
FIGURE:	2

Compaction Grouting Specifications

General

The following grouting specifications are for stabilization and improvement of deep subsurface soil conditions at the project site as indicated in the Recommendations section of this report.

Scope

The scope of work consists of furnishing all labor, equipment and materials and performing all work connected with the injection of the cementaceous grout to fill, seal and stabilize subsurface soils.

Subsurface Soil Stabilization

The subsurface soils stabilization program shall consist of pumping sand-cement grout with suitable chemical additives to the recommended depths and at pressures necessary to fill, stabilize and cement subsurface soils in order to minimize the potential for future subsidence.

Contractor

The compaction grouting Contractor shall submit their qualifications to Soil Engineer and the Owner. The Contractor shall have at least five (5) years of experience in similar deep and shallow compaction grouting jobs and shall submit references of their activities. The Contractor shall submit a project schedule to Soil Engineer for approval prior to mobilization to the site. The Contractor shall also provide sufficient labor and equipment to ensure the project site is protected from pedestrians and non-essential construction vehicles by means of caution tape and/or protective fencing in order to provide a safe working environment for construction and non-construction personnel.

Equipment

- a. Grout Injection Equipment: A continuous flow, positive displacement model with a pugmill type mixing vat having a minimum shaft speed of sixty (60) rpm and incorporated as an integral part of the mudjack equipment. Alternate equipment may be used at the discretion of Geo-Tech.
- b. Mixer: (If On-Site Mixing is Used) Machine driven rotary mixer with a minimum seven (7) cubic foot capacity; agitate during pumping operations.
- c. Injection Pipes: Minimum diameter two (2) inch I.D., Maximum Diameter four (4) inch I.D.
- d. Pressure Gauge: Sufficient size (4-inch face) in order to be legible while monitoring grouting pressures from a safe distance.

Grout Mixture

The mixture used for grouting shall be a creamy consistency which will permit the grout mixture, when set aside in a standard concrete test mold, to show less than one percent of the mixture height of free water on the surface after standing not less than twelve (12) hours. The grout mixture shall have a time of efflux (ASTM C939-81) greater than thirty-five (35) seconds. Geo-Tech recommends utilizing a compaction grout mix option as presented in Table 1 below. Please note

that either mix option may be used subject to minor variation of any constituent if found necessary to meet the above requirements.

Table 1 Compaction Grout Mix Options

Constituent	Mix A	Mix B
Fly Ash (Gs = 2.5)	500 pounds	n/a
Cement (Gs = 3.15)	500 pounds	900 pounds
Water	55 gallons	55 gallons
Sand (Gs = 2.65)	2,300 pounds	2,300 pounds
Darex (or equal)	1 ounce	1 ounce
WRDA-79 (or equal)	45 ounces	45 ounces

Note: Quantities presented in Table 1 are for one (1) cubic yard of material.

Grout Mixture and Placement

Facilities shall be provided to accurately measure ingredients in each batch of grout if on-site mixing is used. Ingredients shall be thoroughly mixed and immediately pumped to the grout pipes through a flexible hose connection not more than two hundred fifty (250) feet long.

Compaction Grouting Procedure

- a. The scope of this compaction grout program includes grouting at pipe locations on approximately ten (10) foot centers. However, the program may be modified by the Soil Engineer as dictated by the actual field conditions encountered. Some injection pipe locations may be deleted and/or alternate locations may be added to the program if directed by the Soil Engineer.
- b. Grout pipes shall be installed to refusal conditions. The Contractor shall rotary drill (using a Bentonite slurry) the injection pipes to a minimum depth of fifteen (15) feet and then either drill or drive, at the discretion of the Soil Engineer, to the refusal depth. Any other method of installation shall not be accepted unless approved by the Soil Engineer.
- c. Grouting operations may begin following satisfactory installation of injection pipes. The rate of pumping shall not exceed six (6) cubic feet per minute. Pumping pressures should range between one-hundred (100) to one-hundred fifty (150) psi at the tip of the casing. The in-line pressure gauge should be of sufficient size in order to be legible while monitoring grouting pressures from a safe distance (4-inch face).
- d. All grouting operations shall be monitored by a Geo-Tech representative.

Soil Engineer Monitoring

The Soil Engineer will monitor the compaction grouting operations and represent the Owner to assure compliance with the specifications outlined above and the duties discussed below. The Soil

Engineer shall recommend intervals of grouting and shall decide if additional or less grout is necessary.

- a. The Soil Engineer can stop the grouting operation at any time if the operation does not comply with the abovementioned specifications or if the work is unsuitable. The Soil Engineering will not be responsible for damage to the lawn, landscape areas or structures due to grouting procedures.
- b. The Soil Engineer will make all measurements of grout heave, settlement and grout quantity pumped. The Soil Engineer will maintain daily records of the grouting operation for the benefit of the Owner and Contractor. The grout quantity recorded by the Soil Engineer shall be considered the final amount of grout pumped for billing purposes. The Contractor will be responsible for laser equipment necessary to monitor at least three (3) locations continuously during the grouting operation.
- c. The Soil Engineer shall observe any vertical movement of the ground during the grouting operation. The grouting operation shall cease and observations shall continue for thirty (30) minutes if a momentary downward movement is observed. Pumping shall be resumed at a lower rate of discharge if the ground does not return to its original grade. The grouting operation shall cease if upward movement is observed.
- d. The Contractor shall exercise care when grouting beneath and adjacent to existing structures. The Contractor is responsible for ensuring that the grouting operation does not cause unnecessary damage to existing structures.
- e. Grouting operations shall cease and the Soil Engineer shall be notified when grout injection pipes in undeveloped areas are ten (10) feet or shallower measured from existing grade. These points may be abandoned or relocated by the Soil Engineer.

Considerations

Unit prices per cubic yard of grout, per foot for pipe installation/removal and per day of shallow grouting shall be applicable to quantities over or under the estimated amounts.

APPENDIX II
CHEMICAL GROUT INJECTION PLAN

APPENDIX III
SOIL PROFILES

Log of Borehole: B-1

GEO-TECH, INC.

ENGINEERING CONSULTANTS

1016 SE 3rd Avenue
Ocala, Florida
352.694.7711

WWW.GEOTECHFL.COM

Project: SURFACE DEPRESSION, EXISTING HWY 40 E, INGLIS, FL

Project No: 25-4652.04.2

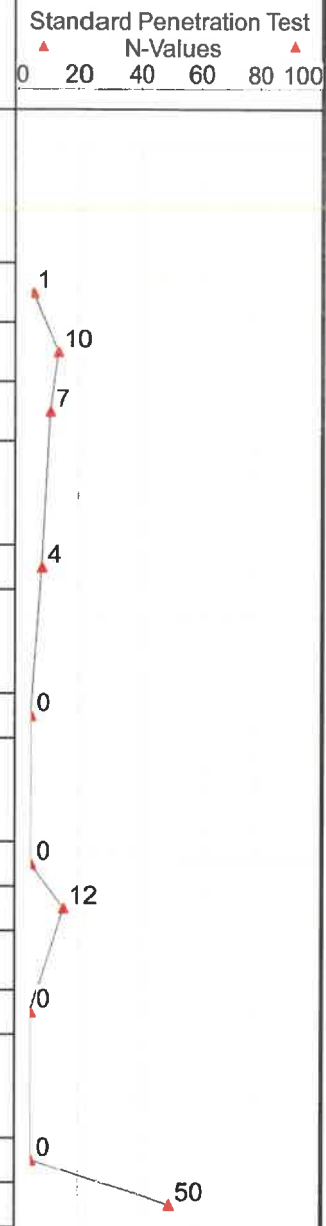
Boring Location: (SEE BORING LOCATION MAP)

Engineer: CAH

Client: LEVY COUNTY ROAD DEPARTMENT

Enclosure: BORING MAP

Depth (ft)	Symbol	Description	Consistency	Depth/Elev.	Number	Type	Blows/ft	Standard Penetration Test									
								N-Values									
0		Ground Surface		0.0													
1		PAVEMENT SECTION															
2		ASPHALT = 14"		2.0													
3		LIMEROCK = 10"	SCP = 13														
4		FINE SAND	SCP = 10														
5		BROWN FINE SAND (SP) WITH LIMEROCK	VERY LOOSE	5.0	1		1										
6				6.0													
7		ORGANIC SAND	MEDIUM DENSE		2		10										
8		BLACK ORGANIC SAND (OL) WITH TREE ROOTS															
9		% ORGANICS AT APPROX. 6.0 FEET = 11	LOOSE		3		7										
10																	
11		FINE SAND															
12		BROWN FINE SAND (SP)															
13																	
14		LOSS OF DRILLING FLUID CIRCULATION AT APPROX. 11.0 FEET	LOOSE		4		4										
15																	
16																	
17																	
18																	
19			WOR (18.5' - 25.0')		5		0										
20																	
21																	
22																	
23																	
24			WOH (27.5' - 32.0')		6		0										
25																	
26			MEDIUM DENSE		7		12										
27																	
28				28.5													
29		LIMESTONE	WOH		8		0										
30		LIGHT BROWN LIMESTONE															
31																	
32																	
33																	
34			WOH (34.0' - 35.0')		9		0										
35																	
36			50 BLOWS - 6"		10		50										
37		End of Borehole															
38																	
39																	
40																	



Groundwater Depth: **GREATER THAN 10.0 FEET**

Drill Date: **FEBRUARY 17, 2026**

Drilled By: **CM/DS**

Drill Method: **ASTM D1586**

Remarks: **UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW**

Log of Borehole: B-2

GEO-TECH, INC.

ENGINEERING CONSULTANTS

1016 SE 3rd Avenue
Ocala, Florida
352.694.7711

WWW.GEOTECHFL.COM

Project: SURFACE DEPRESSION, EXISTING HWY 40 E, INGLIS, FL

Project No: 25-4652.04.2

Boring Location: (SEE BORING LOCATION MAP)

Engineer: CAH

Client: LEVY COUNTY ROAD DEPARTMENT

Enclosure: BORING MAP

Depth (ft)	Symbol	Description	Consistency	Depth/Elev.	Number	Type	Blows/ft	Standard Penetration Test	
								N-Values	
0		Ground Surface		0.0					
0 - 1.9		PAVEMENT SECTION ASPHALT = 14" LIMEROCK = 9"		1.9					
1.9 - 18.5		FINE SAND BROWN FINE SAND (SP)	SCP = 31 SCP = 30 LOOSE LOOSE LOOSE LOOSE		1 2 3 4	 	5 8 8 6	5 8 8 6	
18.5 - 29.0		LIMESTONE LIGHT BROWN LIMESTONE	1 BLOW - 12" WOH (20.0' - 21.0') 11 BLOW - 12" 50 BLOWS - 0"	18.5 29.0	5 6 7 8	 	1 0 11 50	1 0 11 50	
29.0 - 40		End of Borehole							

Groundwater Depth: GREATER THAN 10.0 FEET

Drill Date: FEBRUARY 17, 2026

Drilled By: CMDS

Drill Method: ASTM D1586

Remarks: UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW

Soil Profile : 2 OF 3

Log of Borehole: B-3

GEO-TECH, INC.

ENGINEERING CONSULTANTS

1016 SE 3rd Avenue
Ocala, Florida
352.694.7711

WWW.GEOTECHFL.COM

Project: SURFACE DEPRESSION, EXISTING HWY 40 E, INGLIS, FL

Project No: 25-4652.04.2

Boring Location: (SEE BORING LOCATION MAP)

Engineer: CAH

Client: LEVY COUNTY ROAD DEPARTMENT

Enclosure: BORING MAP

Depth (ft)	Symbol	Description	Consistency	Depth/Elev.	Number	Type	Blows/ft	Standard Penetration Test						
								▲	▲					
								N-Values						
								0	20	40	60	80	100	
0		Ground Surface		0.0										
1		PAVEMENT SECTION												
2		ASPHALT = 13 1/2"		1.9										
3		LIMEROCK = 9"												
4		FINE SAND	SCP = 11											
5		BROWN FINE SAND (SP) WITH LIMEROCK	SCP = 10											
6			VERY LOOSE	5.5	1		2					2		
7		ORGANIC SAND	VERY LOOSE		2		3					3		
8		BLACK ORGANIC SAND (OL)												
9		% ORGANICS AT APPROX. 6.0 FEET = 10												
10		% ORGANICS AT APPROX. 7.0 FEET = 11	LOOSE	9.5	3		5					5		
11		% ORGANICS AT APPROX. 9.0 FEET = 3												
12		FINE SAND												
13		BROWN FINE SAND (SP)												
14			VERY LOOSE		4		1					1		
15														
16														
17														
18				18.5										
19		SLIGHTLY SANDY CLAY	WOR		5		0					0		
20		GRAY AND YELLOWISH BROWN	(15.5' - 30.0')											
21		SLIGHTLY SANDY CLAY (CH) WITH LIMESTONE												
22														
23				23.5										
24		LIMESTONE	WOR		6		0					0		
25		LIGHT BROWN LIMESTONE												
26														
27														
28														
29			WOR		7		0					0		
30														
31			13 BLOWS - 12"		8		13					13		
32														
33														
34			50 BLOWS - 2"		9		50					50		
35		End of Borehole		35.0										
36														
37														
38														
39														
40														

Groundwater Depth: GREATER THAN 10.0 FEET

Drill Date: FEBRUARY 17, 2026

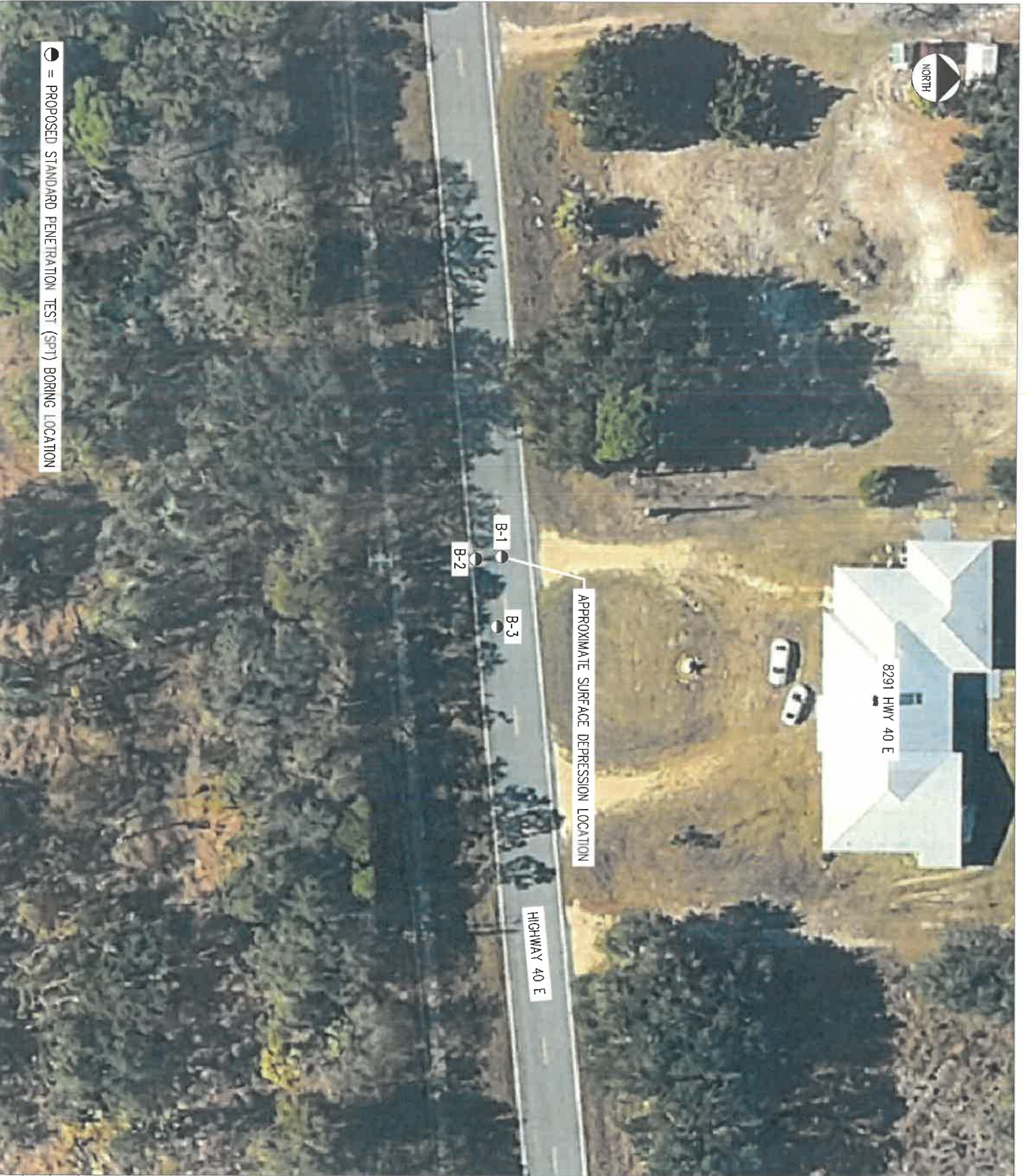
Drilled By: CM/DS

Drill Method: ASTM D1586

Remarks: UNIFIED SOIL CLASSIFICATION SYMBOL AS DETERMINED BY VISUAL REVIEW

Soil Profile : 3 OF 3

APPENDIX IV
BORING LOCATION MAP



● = PROPOSED STANDARD PENETRATION TEST (SPT) BORING LOCATION

APPROXIMATE SURFACE DEPRESSION LOCATION

8291 HWY 40 E

HIGHWAY 40 E

B-1
B-2
B-3

LEVY COUNTY ROAD DEPARTMENT
SURFACE DEPRESSION
EXISTING HIGHWAY 40 EAST
INGLIS, FLORIDA

BORING LOCATION MAP

GEO-TECH, INC.

■ GEOTECHNICAL ■ ENVIRONMENTAL
■ CONSTRUCTION MATERIALS TESTING ■ GEOPHYSICAL EXPLORATION
1016 SE 3rd AVENUE, OCALA, FLORIDA 34471 ~ (352) 694-7711

PROJECT NO.
25-4652.04.2

SCALE: N.T.S.

DATE: 2-19-25

FIGURE: 4