**CS-24-266** 

CM3680-CO04

#### SECTION 00 63 63

#### **CHANGE ORDER REQUEST FORM**

PROJECT ITB NC23-064 / CIP008 / PDCII Contract	t No. CM3680 <sub>No.</sub> 4
DATE OF ISSUANCE 2/25/25 EFFECTIVE	E DATE 2/25/25
NASSAU COUNTY BOARD OF COUNTY COMMISSION	
COUNTY Contract No.: CM_CM3680	
CONTRACTOR- Reeves Construction Co.	ENGINEER / ARCHITECT- James Cuneo, CEI PA

#### Description of changes:

Contractor submitted RFI #10 for lack of Base Material under pavement, see attached. The County obtained testing from a third party (ECS) to confirm finding and provide info for repair, see attached Geo-tech Report and Recommendations. The County has chosen Option 1 for the repair and CEI concurs with the pricing and requested 1 day for Option 1.

Attachments: (List documents supporting change) Reeves CO #002 Quote Ltr, EOR Response RFI #10, ECS Report

CHANGE IN CONTRACT PRICE: Original Contract Price <u>\$7,549,148.88</u> Net change from previous Change Orders No. <u>0</u> to No. <u>3</u>	CHANGE IN CONTRACT TIMES: Original Contract Times Substantial Completion: (420) 9/25/2025 (days and dates) Ready for Final Payment: (465) 11/9/2025 (days and dates) Net change from previous Change Orders No.1 to No. 3
\$_58,267.56	38 (days)
Contract Price prior to this Change Order \$	Contract Times Prior to This Change Order Substantial Completion: (458) 11/2/2025 (days and dates) Ready for Final Payment: (503) 12/17/2025 (days and dates)
Net Increase (decrease) of this Change Order \$_61,471.00	Net Increase (decrease) of this Change Order          1 (Increase)         (days)
Contract Price with all approved Change Orders <sup>§</sup> 7,668,887.44	Contract Times with all approved Change Orders Substantial Completion: (459) 11/3/2025 (days and dates) Ready for Final Payment: (504) 12/18/2025 (days and dates)
RECOMMENDED:     APPROVED:       By:     James B Cune     By:       Engineer/Architect (Authorized Signature)     By:       Date:     2/28/2025   Date: 3/6/2025	ACCEPTED: By: Clyde Cross Digitaly signed by Clyde Cross By: Clyde Cross Digitaly signed by Clyde Cross By: Clyde Cross Digitaly signed by Clyde Cross By: Clyde Cross Digitaly signed by Clyde Cross Digitaly signed by

# **CHANGE ORDER APPROVAL FORM**

PROJECT: _PDCII - Chester Rd & Pages Dairy Rd Intersection Improve	ements		
CHANGE ORDER NUMBER: <u>04</u>			
DATE: <u>2/25/2025</u>			
CONTRACT NUMBER: <u>CM3680</u>			
PURCHASE ORDER NUMBER (IF APPLICABLE): 24000508			
TO CONTRACTOR: <u>Reeves Construction Co.</u>			
Description: <u>Contractor submitted RFI #10 for lack of Base Material under pavement,</u> <u>testing from a third party (ECS) to confirm finding and provide info for re- and Recommendations. The County has chosen Option 1 for the repair an requested 1 day for Option 1. <u>Reason</u> for Chan <u>For additional materials based on contract unit quantities and necessary</u></u>	epair, see att ad CEI concu nge	tached Geo-tech R urs with the pricing	eport
Original Contract Sum Net Change by Previous Change Order/Supplemental Agreement. Contract Sum Prior to This Change Order	\$ \$ \$	<u>7,549,148.88</u> <u>58,267.56</u> <u>7,607,416.44</u>	
Amount of this Change Order (Add)	\$	<u>61,471.00</u>	
New Contract Sum Including this Change Order	\$	7,668,887.44	
The Contract Time will be increased or decreased (select one)Previous Substantial Completion: <a href="11/2/2025"><u>11/2/2025</u></a> Previous Final CompletNew Substantial Completion: <a href="11/3/2025"><u>11/3/2025</u></a> New Final Completion: <a href="11/3"><u>1</u></a>	tion: $12/17$	<u>1 days</u> /2025	
APPROVED BY: <u>Kolurt (omparion</u> Department Head/Managing Agent	DATE: _	3/6/2025	
APPROVED BY: Kanau Kelmou Procurement	DATE:	3/11/2025	
APPROVED BY: <u>(luris Lacambra</u> Office of Management and Budget	DATE: _	3/7/2025	

APPROVED BY:	Denise C. May, Esq., BCS	<u>a</u> y	DATE: <u>3/13/2025</u>
	County Attorney		
APPROVED BY:			DATE:
	County Manager		
APPROVED BY:	N/A		DATE:
	Chairman		
ATTEST:	N/A	_	DATE:
	Mitch L. Keiter, Clerk of Courts		

Account No(s). <u>63470541-563100 PDCII</u>



November 4, 2024

Mr. James Cuneo, PWM Project Administrator CSI Geo, Inc. 2394 St. Johns Bluff Road, South, Suite 200 Jacksonville, FL 32246

Re: Chester Road & Pages Dairy Road Intersection Improvements Bid No.: NC23-064 CIP No.: 008 Contract: CM3680

#### Subject: CR #002.0 (Pages Dairy Rebuild 240+25 to 243+75)

Dear Mr. Cuneo:

Per your request we offer the following options to rebuild Pages Dairy Road at the location above.

- Option #1 (7" of Black Base) \$61,471
- Option #2 (6" Limerock with 12" Stabilization) \$66,512

Both of the options would require closing down Pages dairy Road for the work. Option 1 should be able to be done in one day and Option 2 should be able to be done in five days.

If any additional information is required, please feel free to contact us.

Sincerely Reeves Construction Company

Clyde Cross

Clyde Cross Area Manager Reeves Construction Company 249 Industry Place St. Augustine, FL 32095 (904) 824-9901 Phone

#### **REQUEST FOR INFORMATION**

To:       Mr. James Cuneo, PWM       Location:       CIP008 / PDCII Contract CM3680         From:       Cived Cross         RFI No.       10         Project       Chester Rd. & Pages Dairy Rd. Intersection Improvements       Date: 09/30/24         P.O. No.:       Bid No.       Bid No.         Area Involved       Pages Dairy Road from 240+50 to 243+00       Bid No.         Drawing No.       Information Requested:       Bid No.         We had ECS take 4 pavement cores in Pages dairy and there is no base under an average of 2.93" of Asphalt. Please advise.         Submitted By:       Ciyde Cross         Date       D/2/24
Project       Chester Rd. & Pages Dairy Rd. Intersection Improvements       Date: 09/30/24         P.O. No.:       Bid No.         Area Involved       Pages Dairy Road from 240+50 to 243+00         Drawing No.       Information Requested:         We had ECS take 4 pavement cores in Pages dairy and there is no base under an average of 2.93" of Asphalt. Please advise.         Submitted By:       Clyde Cross         Date Answer Requested By:       10/02/24
Project       Chester Rd. & Pages Dairy Rd. Intersection Improvements       Date: 09/30/24         P.O. No.:       Bid No.         Area Involved       Pages Dairy Road from 240+50 to 243+00         Drawing No.       Information Requested:         We had ECS take 4 pavement cores in Pages dairy and there is no base under an average of 2.93" of Asphalt. Please advise.         Submitted By:       Clyde Cross         Date Answer Requested By:       10/02/24
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Reply By: Danny Waltermyer
Date: 2/18/2025

# Pages Dairy Road – Pavement Cores

# Geotechnical Engineering Report

December 11, 2024 | Terracon Project No. EQ245111

Prepared for:

Nassau County Board of County Commissioners 96161 Nassau Place Yulee, Florida 32097





Facilities
Environmental
Geotechnical

Materials

Nationwide Terracon.com



8001 Baymeadows Way – Suite 1 Jacksonville, Florida 32256 P (904) 900-6494 F (904) 268-5255 Terracon.com

December 11, 2024

Nassau County Board of County Commissioners 96161 Nassau Place Yulee, Florida 32097

Attn: Mr. George Murray

- P: (904) 530-6373
- E: GMurray@NassauCountyFl.com
- Re: Geotechnical Engineering Report Pages Dairy Road – Pavement Cores Chester Road from David Hallman Parkway to North of Pages Dairy Road Yulee, Nassau County, Florida Terracon Project No. EQ245111 Nassau County Contract No. CM3583-WA03

Dear Mr. Murray:

Terracon Consultants, Inc. (Terracon) is pleased to present this geotechnical engineering report for the above-mentioned project. Our geotechnical services for the project were performed in general accordance with Work Authorization #3 between Nassau County and Terracon, dated October 30, 2024, and our Proposal for Geotechnical Services, dated October 15, 2024.

The purpose of this exploration is to evaluate the subsurface conditions and pavement section encountered in an approximate 250-foot section of Pages Dairy Road as part of proposed roadway improvements. This report documents the pavement section and subsurface conditions encountered.

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

Sincerely,

Terracon Consultants, Inc.

Thomas D. Hallahan Project Manager Geotechnical Services



This document has been digitally signed and sealed by John B. Kimberly IV, PE on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies

# Table of Contents

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Purpose and Scope
Project Description
Site Conditions
Soil Survey 4
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Typical Subsurface Profile5
Groundwater Conditions 5
Laboratory Testing
General Comments

# Attachments

Appendix A	Field Exploration
Appendix B	Laboratory Testing
Appendix C	Supporting Information

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

Refer to each individual Attachment for a listing of contents.



# REPORT SUMMARY

Topic <sup>1</sup>	Overview Statement <sup>2</sup>
Project Description	<ul> <li>A geotechnical exploration was performed for the proposed improvements along Pages Dairy Road, in Yulee in Nassau County, Florida. The exploration consisted of the following: <ul> <li>Four pavement cores through existing asphalt pavement at four locations along the existing roadway.</li> <li>Four 5-feet hand augers beneath the asphalt for sampling of any base material and surficial soils</li> </ul> </li> </ul>
	<ul> <li>In general, the pavement cores initially encountered approximately 2.5-inches of asphaltic concrete.</li> </ul>
Typical Subsurface Profile	<ul> <li>The hand augers, performed beneath the asphalt, initially encountered a layer of approximately 6 to 9-inches of sandy subgrade material stabilized with limerock fragments. (Unified Soil classifications of SP-SM, SM). This was followed by sandy soils of varying fines content (SP, SP-SM) to the termination depth of approximately 5-feet below the existing roadway.</li> </ul>
	<ul> <li>No base material was encountered beneath the existing pavement.</li> </ul>
Groundwater	Groundwater was encountered from approximate depths of 4.5 and 5 feet in two of the pavement cores/hand augers, and was not encountered to the termination depth of approximately 5-feet in the other two.
General Comments	This section contains important information about the limitations of this geotechnical engineering report.
	reviewing this report on a ref. the tenior shows can be used to procee the

- 1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
- 2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.

# Geotechnical Engineering Report

# Pages Dairy Road – Pavement Cores

Chester Road from David Hallman Parkway to North of Pages Dairy Road Yulee, Nassau County, Florida Nassau County Contract No: CM3583-WA03 Terracon Project No. EQ245111 December 11, 2024

# Purpose and Scope

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed roadway improvements. The purpose of these services is to provide a geotechnical engineering report to include:

- Stratified pavement core/hand auger logs based on visual soil classification
- Groundwater levels observed during and after the completion of drilling activities
- Site Location and Exploration Plans
- Subsurface exploration and laboratory testing procedures
- Description of subsurface conditions and pavement section encountered
- Results of all laboratory testing performed
- Photographs of pavement cores retrieved

The geotechnical engineering Scope of Services for this project included the following:

- Review of United States Geological Survey (USGS) Quadrangle Map for the site proximity.
- Review of United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Soil Survey Map.
- Mobilizing a drill rig and crew to the site and performing four pavement cores and hand augers in the existing roadway along a section of Pages Dairy Road
- Description of Field Exploration Procedures
- Description of Laboratory Testing Procedures
- Laboratory index testing on select samples from borings.
- Preparation of this report.

Maps and location plans showing the project site, along with the core profiles and field exploration procedures are shown in the Appendix A. The results of the laboratory



testing and the testing procedures performed on soil samples obtained from the site during the field exploration, are included on the log sheets and summarized in Appendix B.

# **Project Description**

Our initial understanding of the project was provided in our proposal and was discussed with the design team in various correspondence occurring during the course of the project. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Proposed Improvements	The proposed improvements include roadway widening and the construction of a paved shoulder along Pages Dairy Road as it nears the intersection with Chester Road. It is part of the larger Nassau County Engineering project; Chester Road, from David Hallman Parkway to North of Pages Dairy Road.
Project Location	The project is a 250-foot roadway section, located on Pages Dairy Road just west of the intersection with Chester Road, in Yulee, Florida.
Current Ground Cover	Pages Dairy Road is a two-lane rural highway, with turn lanes at the intersection with Chester Road. The posted speed limit through the project site is 45 MPH.
Existing Topography	The site topography is relatively flat within the right-of-way of the roadway, with drainage swales on both sides and overhead powerlines running on the north side of the roadway. According to topographic quadrangle maps of the area, the natural ground surface elevation of the general site area ranges from about +25 to +30 feet (Assumed NAVD 88 datum).
Prior Land Use	Review of historical aerial photographs (ref. Google Earth) indicate that the project area had been relatively unchanged from at least 1988 until about 2011, when the powerline easement was installed on the north side of the roadway. Turn lanes were added approaching the intersection with Chester Road sometime between 2011 and 2013.



# Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

### Soil Survey

The Soil Survey for Nassau County, Florida, as prepared by the United States Department of Agriculture (USDA), Soil Conservation Service (now renamed the Natural Resource Conservation Service - NRCS), identifies two soil types at the subject site as shown below.

The Web Soil Survey (WSS) map of the project area was reviewed and a map encompassing the project area is included as Soils Map in Appendix A. The WSS presents shallow (typically upper 80 inches) soil stratification information produced and compiled by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Soils Map identifies the soil map units documented by the NRCS in the project area. The typical soil types and estimated seasonal high groundwater levels for the map units, are given in the following table.

Map Unit No. And Name	Depth Range (inches)	Stra Unified Soil Classification	tification AASHTO Soil Classification	Permeability (in/hour)	Estimated Season High Groundwater Level (feet)
24 Kingsferry Fine Sand	0 - 34 34 - 67 67 - 80	SP, SP-SM SP-SM, SM SP-SM, SM	A-3 A-3, A-2-4 A-2-4	2.0 - 6.0 2.0 - 6.0 0.2 - 0.6	0.0 – 0.5 Perched Dec - Oct
27 Ridgewood Fine Sand 0 to 5% slopes	0 – 7 7 – 80	SP, SP-SM SP, SP-SM	A-3 A-3	6.0 – 20 6.0 - 20	2.0 – 3.5 Apparent Jun - Oct

#### SUMMARY OF SOILS IN PROJECT VICINITY – FROM NRCS WEB SOIL SURVEY

## U.S.G.S. Topographic Quadrangle Map

Based on the United States Geological Survey (USGS) "St Marys, Florida," topographic quadrangle maps (issued in 1993) the natural ground surface in the proposed project area appears to be between approximately +25 to +30 feet NGVD. Excerpts of the USGS Quadrangle Map of the project area are shown as Topographic Vicinity Map in the Appendix.



# Geotechnical Characterization

# Typical Subsurface Profile

The subsurface soils encountered in the cores consisted of the following:

- All pavement core locations initially encountered approximately 2.3 to 2.6 inches of asphaltic concrete.
- The pavement was underlain by approximately 6 to 9 inches of sand with silt or silty sand (SP-SM, SM), stabilized with trace to few, coarse to fine limerock fragments.
- Beneath the stabilized subgrade layer, the augers encountered layers of fine sand and fine sand with silt (SP, SP-SM) to the termination depth of approximately 5feet below the existing pavement.
- No aggregate base course, typically Florida limerock in this area, was encountered in the four pavement cores.

For a subsurface profile at each boring, please refer to the Coring Logs in Appendix A. Samples of the encountered soils were placed in glass jars that were transported to our laboratory for review by a Geotechnical Engineer. The soil descriptions presented on the coring logs are based on a visual/manual classification procedure in general accordance with AASHTO and USCS standards, as well as laboratory data when available. Descriptions of both AASHTO and USCS soil classification systems are shown in Appendix C.

The coring profiles provide detailed descriptions of the subsurface conditions encountered at each boring location. When reviewing the coring logs and the subsurface profiles, it should be understood that soil conditions might vary between and away from coring locations. Stratification boundaries on logs represent the approximate depth of changes in soil types; the transition between materials may be gradual.

## Groundwater Conditions

The groundwater level was measured in the borings at the time of our exploration, and will fluctuate due to seasonal climatic variations, previous rainfall, construction operations, surrounding development, and other interrelated factors. The groundwater level was encountered at depths of approximately 4.5 and 5 feet below the existing ground at the two western-most pavement cores; C240+50 & C242+00 respectively. Groundwater was not encountered to the termination depth of approximately 5-feet in the other two pavement cores; C242+50 & C243+00. The measured groundwater at each core location, where encountered, is indicated on the Coring Logs in Appendix A.



It should be recognized that fluctuations of the groundwater table will occur due to seasonal variations in the amount of rainfall, runoff, and other factors not evident at the time the borings were performed. Therefore, groundwater levels during construction or at other times in the future may be higher or lower than the levels indicated on the boring profile sheet. It should be noted that changes in on-site or adjacent off-site surface hydrology and subsurface drainage could have significant effects on the seasonal high groundwater levels in the project area.

## Laboratory Testing

The results of laboratory testing, including moisture content and grain size distribution, are presented on the Summary of Laboratory Testing Results tables included as Exhibit B-2, as well as the Coring logs in Appendix A. A description of laboratory testing procedures is presented as Exhibit B-1 in Appendix B.

# **General Comments**

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

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

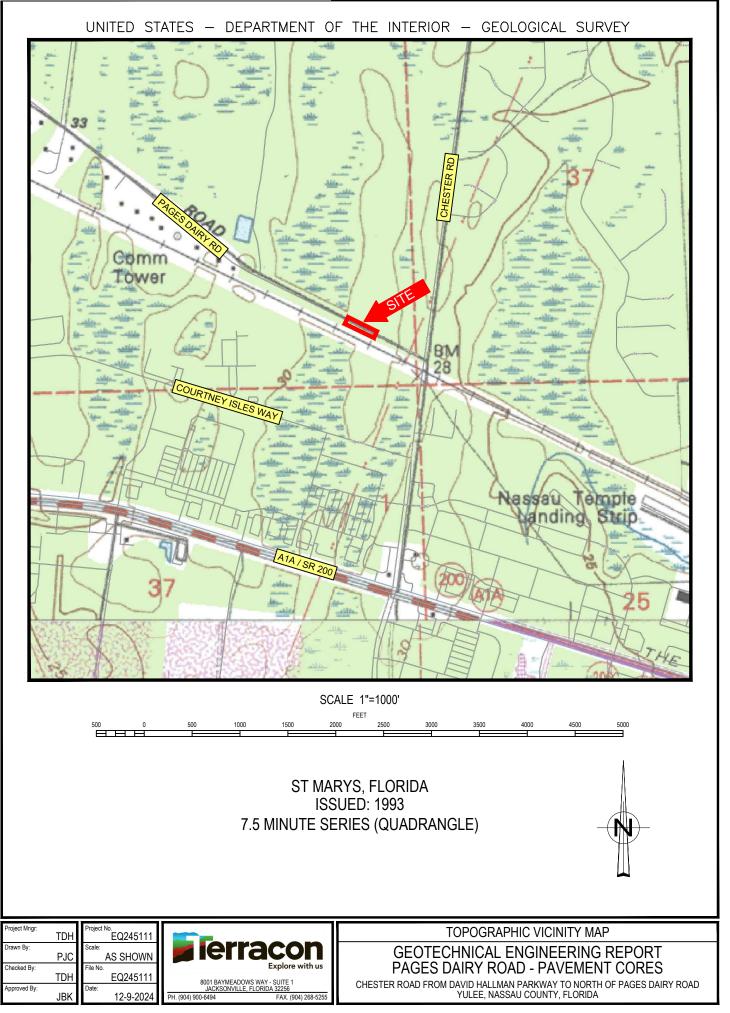
Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no thirdparty beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

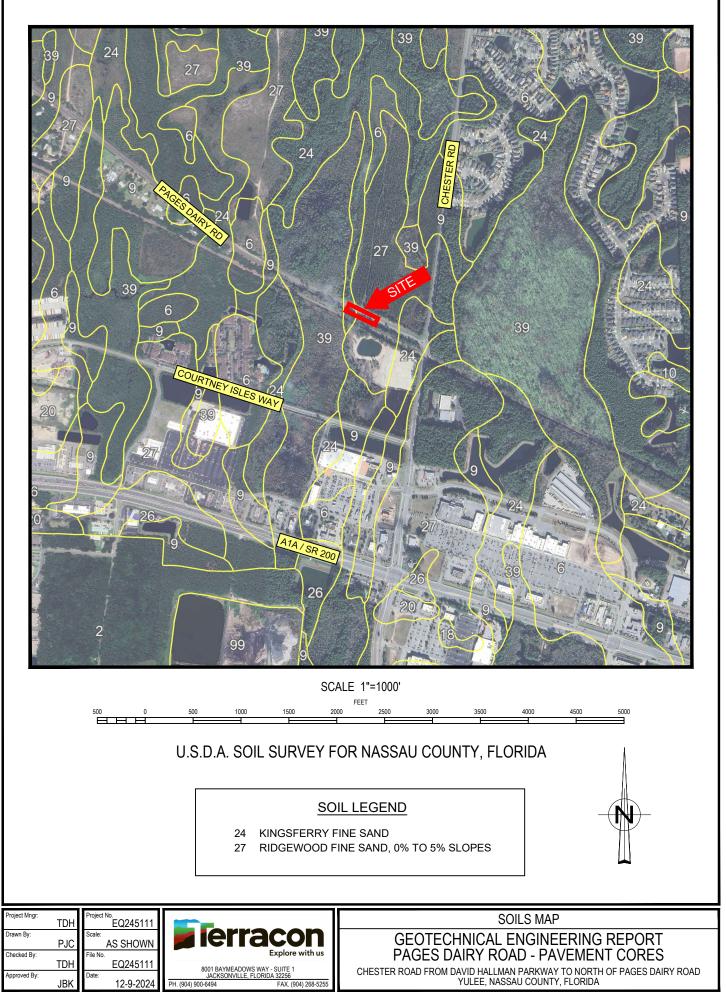


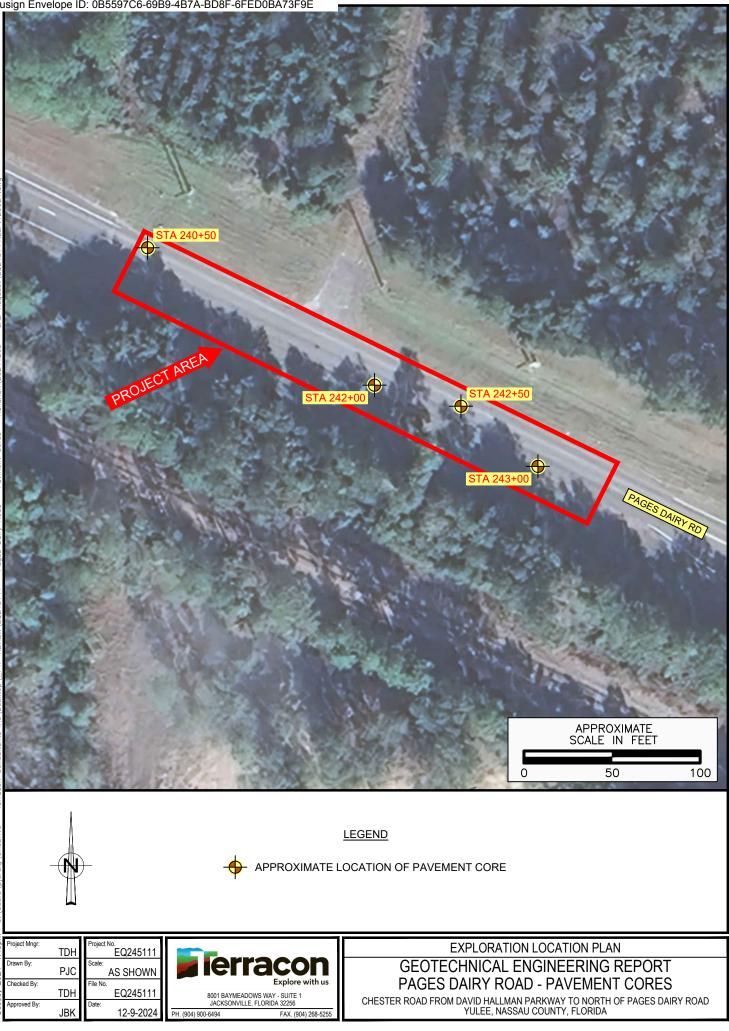
Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly affect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damage due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

# Appendix A

U.S.G.S Topographic Map U.S.D.A. Soils Map Exploration Location Plan Field Exploration Procedures Coring Logs (4 pages)









# Field Exploration Procedures

Coring Layout: The pavement core locations were provided by Nassau County and were laid out in the field by Terracon personnel, using a GPS hand-held unit, and/or measuring from existing features.

Pavement Cores: The four roadway locations were selected for coring through the existing pavement to determine the asphalt and any base layer thicknesses. The core was performed by hydraulically turning a 4-inch diamond tipped core barrel through the existing pavement until reaching the subgrade soils beneath. The asphalt core was retrieved from the barrel and transported to the laboratory for visual classification. For specific information relative to the encountered pavement conditions, please refer to the Coring Logs in Appendix A.

Hand Augers: The field exploration also consisted of performing hand auger borings beneath the pavement core to an approximate depth below existing grade of 5 feet. The standard hand auger boring procedure consists of manually turning a 3-inch diameter, 6-inchlong bucket type auger sampler into the soil until full. The sampler is then retrieved and the soils in the sampler visually examined and classified. This procedure is repeated until the desired termination depth is achieved. Samples of representative strata are obtained for further visual examination and classification in the laboratory.

Portions of the samples from the borings were sealed in jars to reduce moisture loss, and then the jars were taken to our laboratory for further observation and classification. Upon completion, the boreholes were backfilled with soil cuttings and capped with cold-patch asphalt.

Field logs of each boring were prepared by the drill crew. These logs included visual classifications of the materials encountered during drilling as well as the driller's interpretation of the subsurface conditions between samples.

Maintenance-of-Traffic: The pavement cores were performed in the travel lanes of Pages Dairy Road necessitating MOT lane closures around the coring locations. The lane closure was set up in general accordance with the appropriate Standard Plans Index during drilling operations and subsequently removed once those operations were completed.

Chester Road from David Hallman Parkway to North of Pages Dairy Road | Yulee, FL Terracon Project No. EQ245111

# Coring Log No. C240+50



60.	Location: See Exploration Plan		el	su	/pe	%)	ч
Graphic Log	atitude: 30.6338° Longitude: -81.5488°	Danth (Ft )	ir Lev	Observations	Sample Type	Water Content (%)	Percent Fines
Grap	Station: 240+50 Offset: -5		Wate	Obse	Sam	Cont	а. Г
[	Depth (Ft.) 		$\perp$	-			<b></b>
$\bigotimes$	POORLY GRADED SAND WITH SILT (SP-SM), fine grained, brown, trace fine li	imerock fragments					
		5					
<u>    0</u>	0.8 POORLY GRADED SAND (SP), fine grained, brown				╏┝		
	<u> </u>	1	· –				
						6.3	5
	below 2 feet - brown to gray	2	2 -	_	╏├		
			2				
			,				
	below 4 feet - gray	2	¥ —		i i		
			7	$\overline{}$			
5	6.0 Coring Terminated at 5 Feet	5	;–	_	Ц		<b>—</b>
addition	al data (If any).	Level Observations Groundwater encountered at 4.5 feet at time Irilling	of	Drill Cori	ng R	<b>j</b> ig with	hand a
Net		amout Mathad		в. н	larps		
Notes		cement Method ic core barrel with hand auger		<b>Log</b> T. C	<b>ged</b> lozar	by t	
				<b>Bori</b> 11-1	ing 9 14-20	<b>Starte</b> 025	d
	Abando Boring b Surface	onment Method backfilled with Auger Cuttings capped with asphalt			ing (	Compl	

Chester Road from David Hallman Parkway to North of Pages Dairy Road | Yulee, FL Terracon Project No. EQ245111

# Coring Log No. C242+00



	5 5					
бо-	Location: See Exploration Plan		el ins	ype	(%)	Ļ
Graphic Log	Latitude: 30.6336° Longitude: -81.5484°	Depth (Ft.)	Water Level Observations	Sample Type	Water Content (%)	Percent Fines
Grap	Station: 242+00 Offset: 5	Dept	Wate Obse	Sam	Cont	Pe
	Depth (Ft.) 0.2 <b>ASPHALT - 2.3" THICK</b>		+			
$\otimes$	POORLY GRADED SAND WITH SILT (SP-SM), fine grained, brown, few coarse to fi	ne limerock fragments				
$\otimes$						
×	0.8 POORLY GRADED SAND WITH SILT (SP-SM), fine grained, brown	1				
	2.0					
	POORLY GRADED SAND (SP), fine grained, light brown to gray	2	1			
	below 3 feet - gray	3	-			
		4	-		16.1	2
	5.0 Coring Terminated at 5 Feet	5				
additio		I <b>Observations</b> dwater encountered at 5.0 feet at time of	- Co	r <b>ill Ri</b> pring F	<b>g</b> Rig with	hand au
Neta		nt Mathod	В.	Harp		
Notes		e barrel with hand auger		<b>gged</b> Coza		
			<b>Bc</b> 11	oring 14-2	<b>Starte</b> 024	d
	Abandonme Boring backfil Surface capp	n <b>t Method</b> Iled with Auger Cuttings ed with asphalt	<b>Bc</b> 11	oring 14-2	<b>Compl</b> 024	eted

Chester Road from David Hallman Parkway to North of Pages Dairy Road | Yulee, FL Terracon Project No. EQ245111



# Coring Log No. C242+50

Graph	Location: See Exploration Plan Latitude: 30.6335° Longitude: -81.5482° Station: 242+50 Offset: -5 Depth (Ft.) 0.2 <u>ASPHALT - 2.6" THICK</u> <u>POORLY GRADED SAND WITH SILT (SP-SM)</u> , fine grained, brown, few coarse to fine limerock fragments	Depth (Ft.)	Water Level Observations Sample Type	Water Content (%)	Percent Fines
	1.0         POORLY GRADED SAND WITH SILT (SP-SM), fine grained, brown to light brown         2.5	1 - 2 -		5.6	6
	POORLY GRADED SAND (SP), fine grained, gray	3 -			
	5.0 Coring Terminated at 5 Feet	5			_
additio	ploration and Testing Procedures for a description of field and laboratory procedures used and nal data (If any). pporting Information for explanation of symbols and abbreviations. Water Level Observations Groundwater not encountered to termina	tion depth	Drill F Coring Drille B. Har	Rig with	hand auge
Notes	Advancement Method Hydraulic core barrel with hand auger Abandonment Method Boring backfilled with Auger Cuttings Surface capped with asphalt		11-14	art g Starte	

Chester Road from David Hallman Parkway to North of Pages Dairy Road | Yulee, FL Terracon Project No. EQ245111



# Coring Log No. C243+00

Graphic Log	Location: See Exploration Plan Latitude: 30.6334° Longitude: -81.5481° Station: 243+00 Offset: 5 Depth (Ft.)	Depth (Ft.) Wafer I evel	Observations Sample Type Water Content (%) Percent Fines
	0.2 ASPHALT - 2.6" THICK SILTY SAND (SM), fine grained, brown, few coarse to fine limerock fragments 0.8		10.7 13
	POORLY GRADED SAND WITH SILT (SP-SM), fine grained, brown	1 -	
	2.5 POORLY GRADED SAND (SP), fine grained, brown to gray	2 -	
	POORLT GRADED SAND (SP), The graned, brown to gray	3 -	
		4 -	
	5.0 Coring Terminated at 5 Feet	5	
See Ex	<image/>		Drill Rig
additic	upporting Information for explanation of symbols and abbreviations.	ition depth	
Notes	Advancement Method Hydraulic core barrel with hand auger		<b>Logged by</b> T. Cozart
	<b>Abandonment Method</b> Boring backfilled with Auger Cuttings Surface capped with asphalt		Boring Started 11-14-2024 Boring Completed 11-14-2024

# Appendix B

Laboratory Testing Procedures Summary of Laboratory Testing



# Laboratory Testing Procedures

General: During the field exploration, a portion of each recovered soil sample was placed in glass jars and transported to our laboratory for further visual observation and laboratory testing. Representative samples were tested for moisture content, organic content, grain size distribution and fines content. The visual-manual classifications for soil samples were modified as appropriate based upon the laboratory testing results.

The soil samples were classified in general accordance with the Unified Soil Classification System and AASHTO soil classification system based on the material's texture and plasticity. A brief description of the AASHTO and Unified Soil Classification System is included in Appendix C. The following are brief descriptions of the laboratory testing procedures.

Moisture Content: To determine the moisture content of the selected soil sample, the test specimen was dried in an oven to constant mass in general accordance with AASHTO T 265. The water content was then calculated using the mass of the water and the mass of the dry specimen. The water content is used to express the phase relationship of air, water, and solid in a given volume of material.

Grain Size Distribution: To conduct this test, a sample is dried and then shaken over various standard sieve sizes. The weight of soil retained on each sieve is measured and the cumulative percentage by weight passing each sieve is calculated. This test was conducted in general accordance with AASHTO T 088.

Grain Size Distribution – Fines Content: To conduct this test, a sample is dried and then washed over a No. 200 Standard U.S. sieve to remove the soil particles finer than 0.075 millimeters in diameter (I.e. silt and clay size particles). The soil retained on the sieve is then decanted and dried to determine the dry weight retained on the sieve which is then subtracted from the original dry weight to determine the fines content of the sample expressed as a percentage. This test was conducted in general accordance with AASHTO T 088.



# EXHIBIT B-2 SUMMARY OF LABORATORY TESTING PAGES DAIRY ROAD – PAVEMENT CORES YULEE, NASSAU COUNTY, FLORIDA TERRACON PROJECT NO. EQ245111

Coring	Depth	Moisture Content		Perce	nt Passir	ng Sieve	e No.		Unified Soil	AASHTO Soil
No.	(Feet)	(%)	4	10	40	60	100	200	Туре	Туре
C240+50	0.8 – 2.0	6.3	100	100	99	96	54	4.6	SP	A-3
C242+00	3.0 - 5.0	16.1	100	100	100	98	56	1.9	SP	A-3
C242+50	1.0 – 1.5	5.6	100	100	100	97	51	5.5	SP-SM	A-3
C243+00	0.2 - 0.8	10.7	91	87	80	76	46	13.1	SM	A-2-4

# Appendix C

AASHTO Soil Classification System Unified Soil Classification System General Notes

Geotechnical Engineering Report Pages Dairy Road – Pavement Cores | Yulee, Nassau County, Florida December 11, 2024 | Terracon Project No. EQ245111

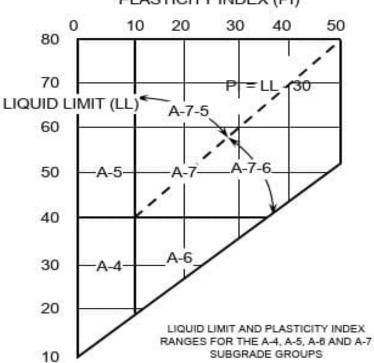
# AASHTO Soil Classification System

Crown	Subgroup -	Percent Passing U.S. Sieve No.			Character Passing N	Group Index	
Group		10	40	200	Liquid Limit (LL)	Plasticity Index (PI)	No. <sup>3</sup>
A-1	1		50 Max.	25 Max.	1 SH	6 Max.	0
	A-1-a	50 Max.	30 Max.	15 Max.	54	6 Max.	0
	A-1-b		50 Max.	25 Max.	35	6 Max	o
A-21	S			35 Max.	S		0 to 4
	A-2-4			35 Max.	40 Max.	10 Max.	0
	A-2-5			35 Max.	41 Min.	10 Max.	o
	A-2-6			35 Max.	40 Max.	11 Min.	4 Max.
	A-2-7			35 Max.	41 Min.	11 Min.	4 Max.
A-3	1 °2 1		51 Min.	10 Max.		Non-Plastic	0
A-4	57		1.70	36 Min.	40 Max.	10 Max.	8 Max.
A-5	) e j	<i></i>	5 <del>3</del> 62	36 Min.	41 Min.	10 Max.	12 Max.
A-6	<u> </u>	8 J	문복화	36 Min.	40 Max.	11 Min.	16 Max.
A-72				36 Min.	41 Min.	11 Min.	20 Max.
	A-7-5			36 Min.	41 Min.	11 Min.	20 Max.
	A-7-6			36 Min.	41 Min.	11 Min.	20 Max.
A-8	HIGHLY OR	GANIC SOIL (	Qualifying Minin	num Organic Co	ontent Varies by	Region – Typicall	y > 5% by Weigh

A-8 HIGHLY ORGANIC SOIL (Qualifying Minimum Organic Content Varies by Region – Typically > 5% b 1. Group A-2 includes all soils having 35% or less passing the #200 sieve that cannot be classified as A-1 or A-3

2. Pl of A-7-5 subgroup is equal to or less than LL - 30. Pl of A-7-6 subgroup is greater than LL - 30

3. Group Index GI = (F - 35)[0.2 + 0.005(LL - 40)] + 0.01 (F - 15)(PI - 10) where F = % passing #200 sieve.



## PLASTICITY INDEX (PI)



Geotechnical Engineering Report Pages Dairy Road - Pavement Cores | Yulee, Nassau County, Florida December 11, 2024 | Terracon Project No. EQ245111

### Unified Soil Classification System

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

<sup>A</sup> Based on the material passing the 3-inch (75-mm) sieve.

<sup>B</sup> If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

- <sup>c</sup> Gravels with 5 to 12% fines require dual symbols: GW-GM wellgraded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
- <sup>D</sup> Sands with 5 to 12% fines require dual symbols: SW-SM wellgraded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

<sup>E</sup> Cu = 
$$D_{60}/D_{10}$$
 Cc =  $(D_{30})^{2}$ 

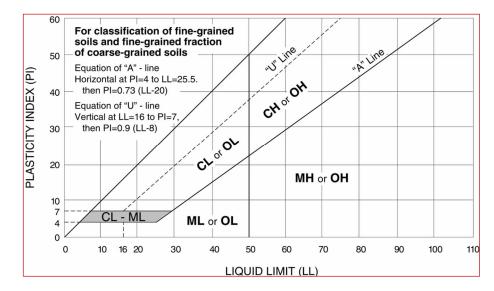
D<sub>10</sub> x D<sub>60</sub>

- <sup>F</sup> If soil contains  $\geq$  15% sand, add "with sand" to group name.
- <sup>G</sup> If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

- <sup>H</sup> If fines are organic, add "with organic fines" to group name.
- If soil contains  $\geq$  15% gravel, add "with gravel" to group name.
- If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
- <sup>K</sup> If soil contains 15 to 29% plus No. 200, add "with sand" or

"with gravel," whichever is predominant

- <sup>L</sup> If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.
- <sup>M</sup> If soil contains  $\ge$  30% plus No. 200, predominantly gravel, add "gravelly" to group name.
- <sup>N</sup> PI ≥ 4 and plots on or above "A" line.
- <sup>o</sup> PI < 4 or plots below "A" line.
- P PI plots on or above "A" line.
- <sup>Q</sup> PI plots below "A" line.



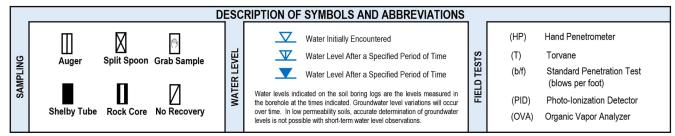


Geotechnical Engineering Report

Pages Dairy Road – Pavement Cores | Yulee, Nassau County, Florida December 11, 2024 | Terracon Project No. EQ245111



### **General Notes**



**DESCRIPTIVE SOIL CLASSIFICATION:** Soil classification is based on the United Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally 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 basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES: Unless otherwise noted, Latitude and Longitude are approximately determined using a handheld GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topography survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More that 50% retained on No. 200 sieve) Density determined by Standard Penetration Resistance			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve) Consistency determined by laboratory shear strength testing, field visual-manual procedures or Standard Penetration Resistance				
Descriptive Term (Density)	Safety Hamer SPT N <sub>60</sub> -Value (Blows/Ft.)	Automatic Hammer SPT N-Value (Blows/Ft.)	Descriptive Term (Consistency)	Unconfined Compressive Strength Qu, (psf)	Safety Hamer SPT N <sub>60</sub> -Value (Blows/Ft.)	Automatic Hamer SPT N- Value (Blows/Ft.)	
Very Loose	0 – 3	< 3	Very Soft	Less than 500	0 – 1	< 1	
Loose	4 – 9	3 – 8	Soft	500 – 1,000	2 – 4	1 – 3	
Medium Dense	10 – 29	9 – 24	Medium Stiff	1,000 - 2,000	5 – 8	4 – 6	
Dense	30 – 50	24 – 40	Stiff	2,000 - 4,000	9 – 15	7 – 12	
Very Dense	> 50	> 40	Very Stiff	4,000 - 8,000	16 – 30	13 – 24	
			Hard	> 8,000	> 30	> 24	

	ONS OF GRAVEL, SAND, GANIC MATTER	GRAIN SIZE TERMINOLOGY		PLASTICITY DESCRIPTION	
Descriptive Terms of Constituents	Percent of Dry Weight	Major Component of Sample	Particle Size	Term	Plasticity Index
Trace	< 5%	Boulders	Over 12 in. (300mm)	Non-Plastic	0
Few	5 to < 12%	Cobbles	12 in. to 3 in. (300mm to 75mm)	Low Plasticity	1-10
Little	12 to < 30%	Gravel	3 in. to #4 sieve (75mm to 4.75mm)	Medium Plasticity	11-30
Some	30 to < 50%	Sand	#4 to #200 sieve (4.75mm to 0.075mm)	,	11-50
Mostly	>50%	Silt or Clay	Passing #200 sieve (0.075mm)	High Plasticity	>30

ORGANIC SOIL CLASSIFICATION				
Classification/Modifier	Conditions			
Trace Organic Matter (SP, SP-SM, SP-SC, SM, SC, ML, CL, MH, CH)	< 5% Organic Content By Weight			
Organic Sand (SP), Organic Silty Sand (SM), Organic Clayey Sand (SC)	5% to < 30% Organic Content by Weight			
Organic Silt (OL) or Organic Clay (OH)	> 50% Passing #200 sieve and 5 to < 30% Organic Content by Weight			
PEAT (Pt)	30% to 100% Organic Content by Weight			

ROCK CEMENTATION (NORTH FLORIDA LIMESTONE)						
CORRELATION OF LABORATORY UNCONFINED COMPRESSION TEST RESULTS AND PENETRATION RESISTANCE WITH RELATIVE DEGREE OF CEMENTATION						
Relative Degree of Cementation	Unconfined Compressive Strength (ksf)	Standard Penetration Resistance (# of Blows, $N_{60}$ )	Manual Test on Recovered Core			
Weakly Cemented	Uc < 50	N < 100	Friable, easily crumbled or broken with hands			
Cemented	50 < Uc < 250	N – 100 or more w/recovery	Some difficulty in breaking with hands			
Well Cemented	Uc > 250	No recovery – N>100	Cannot be broken with hands			

CORRELATION OF RATE OF EFFERVESCENCE OF DILUTE HYDROCHLORIC ACID WITH RELATIVE DEGREE OF CALCAREOUSNESS				
Relative Degree of Calcareousness	Rate of Effervescence			
Slightly Calcareous	Weak or Slow			
Calcareous	Moderate or Mild			
Very Calcareous	Strong or Violent			

# Certificate Of Completion

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 Status: Completed

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Signatures: 5

Signature

1P

Robert Companion

Initials: 2

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Tracy Poore tpoore@nassaucountyfl.com OMB Admin Nassau County BOCC

Security Level: Email, Account Authentication (None)

#### Electronic Record and Signature Disclosure: Not Offered via Docusign

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chris lacambra clacambra@nassaucountyfl.com

OMB Director Nassau County BOCC

Security Level: Email, Account Authentication (None)

Electronic Record and Signature Disclosure: Not Offered via Docusign

Lanaee Gilmore lgilmore@nassaucountyfl.com

Procurement Director

Nassau County BOCC

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ajorandby@nassaucountyfl.com	AJ	Viewed: 3/13/2025 12:14:05 PM
Deputy County Attorney		Signed: 3/13/2025 12:15:28 PM
Nassau BOCC	Circulations Adoptions Dragoslasted Otals	
Security Level: Email, Account Authentication (None)	Signature Adoption: Pre-selected Style Using IP Address: 50.238.237.26	
Electronic Record and Signature Disclosure: Not Offered via Docusign		
Denise C. May, Esq., BCS		Sent: 3/13/2025 12:15:31 PM
dmay@nassaucountyfl.com	Denise C. May, Esq., BCS	Viewed: 3/13/2025 12:28:29 PM
County Attorney		Signed: 3/13/2025 12:29:19 PM
Nassau County BOCC	Signature Adoption: Pre-selected Style	
Security Level: Email, Account Authentication (None)	Using IP Address: 50.238.237.26	
Electronic Record and Signature Disclosure: Not Offered via Docusign		
Taco Pope, AICP	/	Sent: 3/13/2025 12:29:23 PM
tpope@nassaucountyfl.com	$\sum$	Viewed: 3/13/2025 2:25:31 PM
County Manager	v	Signed: 3/13/2025 2:26:52 PM
Nassau County BOCC	Signature Adaption: Drown on Dovice	
Security Level: Email, Account Authentication (None)	Signature Adoption: Drawn on Device Using IP Address: 50.238.237.26	
Electronic Record and Signature Disclosure: Not Offered via Docusign		
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Envelope Summary Events	Status	Timestamps			
Envelope Sent	Hashed/Encrypted	3/6/2025 11:42:04 AM			
Certified Delivered	Security Checked	3/13/2025 2:25:31 PM			
Signing Complete	Security Checked	3/13/2025 2:26:52 PM			
Completed	Security Checked	3/13/2025 2:26:56 PM			
Payment Events	Status	Timestamps			
Electronic Record and Signature Disclosure					

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Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through the DocuSign system all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures electronically from us.

### How to contact County of Nassau:

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows: To contact us by email send messages to: bsimmons@nassaucountyfl.com

### To advise County of Nassau of your new email address

To let us know of a change in your email address where we should send notices and disclosures electronically to you, you must send an email message to us at bsimmons@nassaucountyfl.com and in the body of such request you must state: your previous email address, your new email address. We do not require any other information from you to change your email address.

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- Until or unless you notify County of Nassau as described above, you consent to receive exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you by County of Nassau during the course of your relationship with County of Nassau.