Addendum No. 1

TOWN OF LOXAHATCHEE GROVES
COLLECTING CANAL CULVERT BRIDGE REPLACEMENTS
C ROAD AND E ROAD

October 5, 2018

Town of Loxahatchee Groves Project No. 2018-02
Keshavarz & Associates, Inc. Project No. 18-1235

This addendum consists of three items:

Item No. 1 consists of 5 pages

Pre-Bid Meeting Summary
Pre-Bid Sign-In Sheet

Item No. 2 consists of 1 page.

Geotechnical Report of

Item No. 3 consists of 2 pages.

Right-of-Way Maps

Addendum Item No. 1

TOWN OF LOXAHATCHEE GROVES
COLLECTING CANAL CULVERT BRIDGE REPLACEMENTS
C ROAD AND E ROAD
PROJECT NO. 2018-02

Pre-Bid Meeting Summary
October 3rd, 2018, 2:00 pm

The meeting was held at the Town of Loxahatchee Groves, 155 F Road, Loxahatchee Groves.

Persons in attendance:

- William F. Underwood II, ICMA-CM, Town Manager
- Larry A. Peters, P.E., Public Works Director
- Randy Wertepny, P.E., Keshavarz & Associates, Inc.
- Please see the attached Sign-In Sheets for bidder attendees

The following topics were discussed:

1. Project Location
   - C Road and Collecting Canal Road
   - E Road and Collecting Canal Road

2. Scope of Work
   - Design – Build Contract
   - Replacement of two existing culverts with 96" CAP culverts, including asphalt paving, guardrail, rip rap revetment, etc.

3. Bid Date and Time: Wednesday, October 17, 2018 at 2:00pm (at Town of Loxahatchee Groves);

4. RFI / Addendum: RFI's due Wednesday, October 10, 2018 by 2:00pm. Final Addendum(s) to be issued by Friday, October 12, 2018.

5. Permitting: All permitting will be through the contractor, the Town will provide application fees for applicable permits. A Town permit will be required in addition to NPDED and Environmental Resource permits as required (SFWMD, ACOE, FDEP) see contract documents for additional information.

6. Contract Duration: The contract documents depict 6 months for the project duration, exclusive of Town reviews. We are anticipating a contract duration of 8 months inclusive of Town Reviews.

7. MOT: Town will allow full closure of the roadways for a reasonable duration and proper MOT.

8. Budget: The Town budget is $250,000 for the proposes improvements and has contingency funds available.

9. Bid Submittal – Bid forms in Project Manual

10. Contract Time: 150 days to Substantial Completion and 180 days to Final Completion.

11. Liquidated Damages: ($500.00) per day for Substantial Completion and ($300.00) per day for Final Completion.

12. Questions asked at the meeting. Some responses were addressed then and others are addressed herein, answers are in **bold**:

    1) Is there a hydraulic analysis that was conducted for this project?
    The last hydraulic model for the canal system was completed in 2000 by Crossroads Engineering & Surveying, Inc. "District Wide Flood Routing and Drainage Basin Study."

    2) Who owns salvaged materials?
    Contractor.

    3) Were soil bores acquired for this project?
    No geotechnical exploration has been conducted associated with this project. Soil bores are to be acquired by the selected Contractor. Please see soil bores for a recent project off of B Road for your use.

    4) What are the right-of-way limits, is there a map of exhibit that can be provided?
    There is a combination of platted and maintained rights-of-way. Please see the Right-of-Way Map included with this addendum.

    5) What is the elevation of the roadway?
    No topographic survey information was acquired at these locations.

    6) Can the bids received date get pushed back?
    No, the bid receipt date is set based upon the Town Council's schedule.

    7) Are there any water, sewer or gas mains in the project limits?
    No.

8) What are the canal bypass requirements can a coffer dam be constructed?
A coffer dam can be constructed, and the canal temporarily blocked during construction as necessary, however the contractor shall provide an emergency plan and remove the coffer dam or provide other provisions in the event of a major storm event.

9) Will the contractor be allowed to work on both locations simultaneously?
Yes, within reasonable durations. Contractor shall review the project schedule with the Town prior to road / canal closures for Town approval.

CC: All attendees and Bidders

711 N Dixie Highway, Suite 201 • West Palm Beach, FL 33401 • 561-689-8600 • fax 561-689-7476 • www.keshavarz.com

KESHAVARZ ASSOCIATES

Town of Loxahatchee Groves
C Road and E Road Collecting Canal Culvert Bridge Replacements

Pre-Bid Meeting
Sign In Sheet

October 3rd, 2018

Name	Company	Telephone #	E-mail Address
MARK SORCHETO	Rio - Bak	561 791 9721	mark @ rio-bak.com
RON ROSSI	D.S. EAKINS	561 842-0001	RON @ DSEAKINS.COM
Scott Johnson	Johnson Davis Inc	561 588 1170	sjohnson@johnsondavis.com

KESHAVARZ ASSOCIATES

Town of Loxahatchee Groves
C Road and E Road Collecting Canal Culvert Bridge Replacements

Pre-Bid Meeting
Sign In Sheet

October 3rd, 2018

Name	Company	Telephone #	E-mail Address
Garry Gruber	Mock. Roos	561 722 9185	garry.gruber@mockroos.com
S. HEADY	DP DEVELOPMENT	561-722-1167	SHEADY@DPDEVELOPMENT.NET
LARRY A. PETERS	TOWN	954-881-6563	dpw@loxahatcheegroves fl. gov

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

AAI File No. 15-1681
June 29, 2015

Keshavarz & Associates
711 N. Dixie Highway, Suite 201
West Palm Beach, Florida 33401

Attention: Randy Wertepny, P.E.

SUBSURFACE EXPLORATION REPORT
B ROAD RESURFACING PROJECT
LOXAHATCHEE GROVES, PALM BEACH COUNTY, FLORIDA

INTRODUCTION

In accordance with your request and authorization, Ardaman & Associates, Inc. has completed a subsurface exploration program for the above referenced project. The purpose of our work was to obtain subsurface soil information for others to use in the design and construction of resurfacing improvements of B Road. This report describes the field explorations and reports our findings.

SITE LOCATION AND PROJECT DESCRIPTION

This project focused on a portion of B Road, located south of Okeechobee Boulevard and extending to approximately Collecting Canal Road in Loxahatchee Groves, Palm Beach County, Florida (Sections 30 & 31, Township 43 South and Range 41 East). A site vicinity map is presented as our Figure 1. The roadway currently appears as a two lane, unpaved road in fair to good condition. The surrounding area use is mostly residential and agricultural (nurseries, open pasture, etc.).

This study entails exploring the subsurface conditions beneath B Road for future resurfacing considerations. We were not provided with any detailed plans, specific traffic information or the estimated Annual Average Daily Traffic (AADT). It is expected that this road operates as an Urban Collector for the surrounding residences and businesses. The information and test results gathered from our field exploration and engineering analyses are presented in this report.

FIELD EXPLORATION AND SOIL CLASSIFICATION

To explore the subsurface soils beneath B Road, fifteen (15) Auger borings were performed through the existing unpaved road surface. The borings were relatively evenly spaced along the approximate 1.4 miles of roadway. The approximate boring locations are shown on Figure 2. The borings were performed in general accordance with the procedures described in ASTM D-1452 (auger borings) using a truck mounted drill rig, and were carried to depths of about 5 feet below the road surface. Boring A-5 was advanced to 7.5 feet to determine the thickness of an encountered organic layer and the nature of soils below it. The boring logs and a description of our drilling and testing procedures are attached to this report.

Our field exploration was conducted on June 26, 2015. The boring locations were laid out in the field using an aerial view of the roadway, and estimated distances from distinguishable landmarks. We estimate that the actual boring locations are within approximately 25 feet of the locations shown in Figure 2. If you need to know the boring locations more accurately, we recommend that you retain a surveyor.

Our drillers examined the soils recovered from the augers, placed representative samples in moisture proof containers, and maintained a log for the borings. The field logs and recovered soil samples were transported to our laboratory from the project site. Each soil sample was then examined by a Geotechnical Engineer and visually classified using nomenclature consistent with the Unified Soil Classification System (USCS). The soil classifications and other pertinent data obtained from our explorations and laboratory examinations are reported on the boring logs. The soil samples recovered from our explorations will be kept in our laboratory for 60 days, then discarded unless you request otherwise.

USDA SOIL SURVEY

Our review of the Soil Survey of Palm Beach County, Florida, which was issued by the U.S. Department of Agriculture, Soil Conservation Service in 1978, indicated the predominant surficial soil type in the general site vicinity is Riviera sand with lesser inclusions of: Floridana; Rivera sand, depressional; Pineda sand; and Chobee fine sandy loam. The predominant soil is described as a nearly level, poorly drained soil with a thick sandy subsurface layer that tongues into a loamy subsoil at a natural depth of 20 to 40 inches. The others are similar to this with deeper loamy subsoils and a potentially higher water table. In general, our borings encountered soil conditions similar to those described in the USDA Soil Survey.

GROUNDWATER CONDITIONS

Groundwater, when encountered, was observed between 4.8 and 6.5 feet below existing grades at the time the borings were completed. Under normal conditions, groundwater levels at this site are anticipated to fluctuate with rainfall and established drainage patterns. With relatively shallow layers of clayey sand, the designer should consider the possibility of a perched groundwater table after heavy rains.

GENERAL SUBSURFACE CONDITIONS

The attached boring logs present a detailed description of the soils encountered at each auger boring location. The soil stratification shown on the boring logs is based on examination of recovered soil samples and interpretation of the field logs. It indicates only the approximate boundaries between soil types. The actual transitions may be gradual and indistinct.

The encountered subsurface soils varied between the boring locations. Generally, the borings encountered 0.5 to 2 feet of a sandy brown to gray surface course that contained little to some limestone, cemented sand, trace to little fine shell and occasional traces of clayey sand nodules. This material can be classified as a medium quality subbase, likely to have a Limerock Bearing Ratio (LBR) value of 4 to 5. The borings then encountered discontinuous layers of brown to brownish gray to gray sand containing occasional traces of fine shell to depths of 1 to 2 feet, underlain by yellowish brown to brownish gray slightly clayey to clayey fine sands to depths of 4 feet. Layers of brown to brownish gray to gray sand or brownish gray clayey sands were then typically encountered to the termination depth of the borings at depths of 5 to 7.5 feet. Notable exceptions occurred in borings A-3 and A-5, where unsuitable organic sandy silt and organic silt were encountered between depths of approximately 2.5 - 4.5 feet and 3.5 - 6.5 feet respectively.

Boring A-5 was the only boring advanced below 5 feet to determine the thickness of an encountered unsuitable organic layer and the nature of the soil below it.

Below we have listed our tentative American Association of State Highway and Transportation Officials (AASHTO) classification of the different soil types encountered in our boring locations.

Table 1: Engineering Properties of Subsurface Soils

Soil Type	Estimated Unit Weight Pounds per Cubic Foot (PCF)	AASHTO Soil Classification
Brown to gray fine sands, little to some limestone, trace fine shell and occasional traces of clayey sand nodules	115	A-3
Brown to brownish gray to gray fine sands, occasional trace to little fine shell	110	A-3
Yellowish brown to grayish brown slightly clayey to clayey fine sand	112	A-2-5, A-6
Dark brown to dark gray sandy organic silt and organic silt, traces of fine roots ("muck")	89	A-8
Light brown to brownish gray fine sands	110	A-3
Brownish gray slightly clayey to clayey fine sand	112	A-2-5, A-6

* The effective unit weight can be obtained using the following equations:

Above groundwater level: $\gamma_{EFFECTIVE} = \gamma_{MOIST}$

Below groundwater level: $\gamma_{EFFECTIVE} = \gamma_{SATURATED} - \gamma_{WATER}$

8.3 Pavement Considerations

Our borings identified layers of sandy organic silt and organic silt in two boring locations (A-3 and A-5) that would typically be removed prior to constructing any new road. The sandy surficial soils had little limestone, cemented sand and traces of fine shell that appeared to provide a fair to good driving surface that is maintained by grading, shaping and applying water to mitigate dust and control rutting and compaction. It can be considered as a typical subbase material; it does not

offer the same gradation and angular limestone pieces that can lock together and provide the support that is traditionally expected from a limerock base (LBR 100). Speeds on the road were noted to be above those expected for an unpaved, rural collector. Speed and drainage are two factors that the designs will need to be considered. It would also appear that a regular base layer could be added to better support any asphalt wearing surface.

CLOSURE

This report has been prepared specifically for subject project. It is intended for the exclusive use of Keshavarz & Associates and their representatives. Our work has used methods and procedures consistent with local industry practices. No other warranty, expressed or implied, is made. The recommendations submitted in this report are based on the data obtained from our exploration program and our understanding of the proposed construction as described herein. This report may not account for any variations that may exist between conditions observed in the borings and conditions at locations that were not explored. The nature and extent of any such variations may not become evident until construction is underway.

It has been a pleasure to assist you on this phase of your project. Please contact us whenever we may be of service to you, and please call if you have any questions concerning this report.

ARDAMAN & ASSOCIATES, INC.
FL. Certificate of Authorization No. 5950

Kevin Ferguson 7-2-15

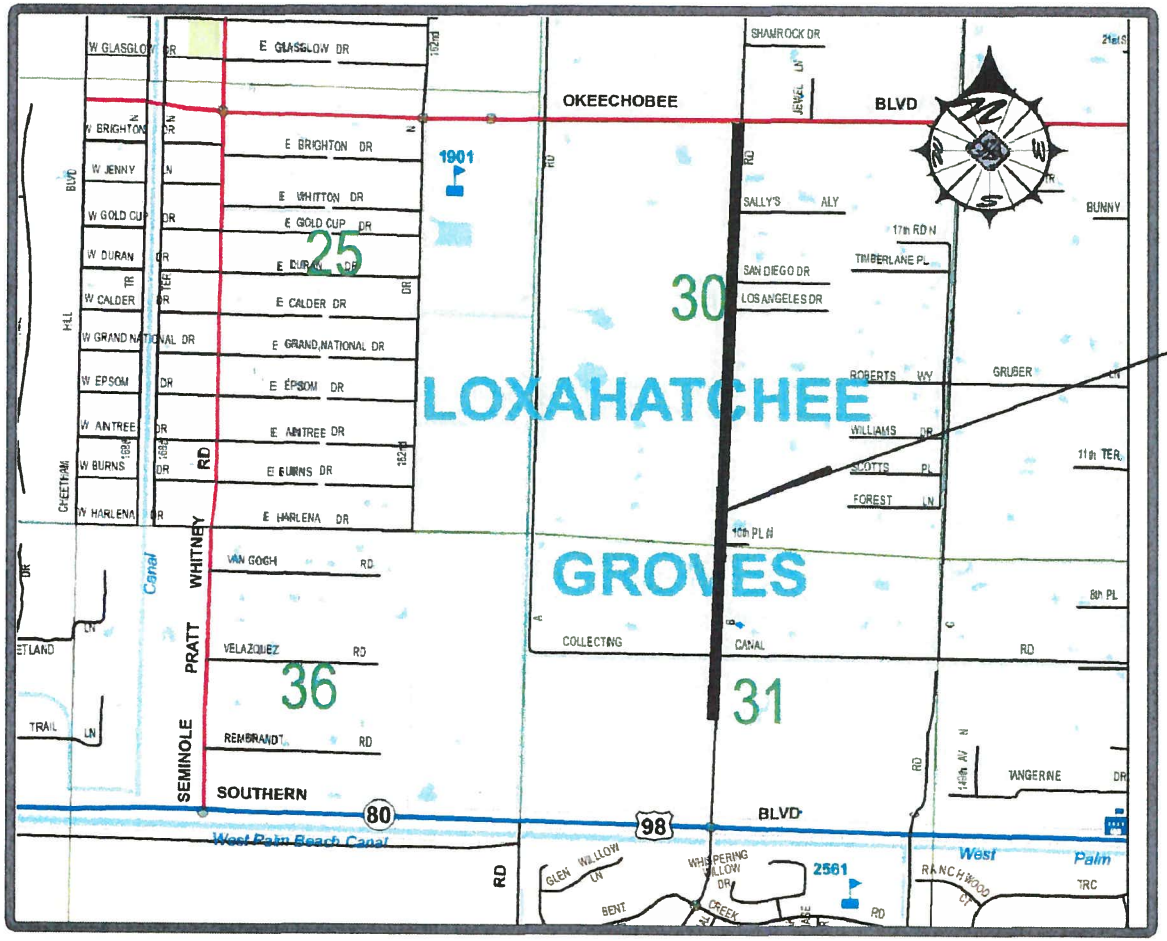
Kevin Ferguson, P.E.
Geotechnical Engineer
Fla. Reg. No. 60712

ROBERTO ENRIQUE BALBIS LICENSE No. 15832 STATE OF FLORIDA PROFESSIONAL ENGINEER 7/2/15

Roberto E. Balbis, P.E.
Principal Engineer
Fla. Reg. No. 15832

Attachments: Site Location Plan – Figure 1
Boring Location Plan - Figure 2
Subsurface Exploration Information
Auger Boring Logs (15)

KF/AJN:kf



B ROAD RESURFACING PROJECT

SECTIONS 30 & 31, TOWNSHIP 43 S., RANGE 41 E.

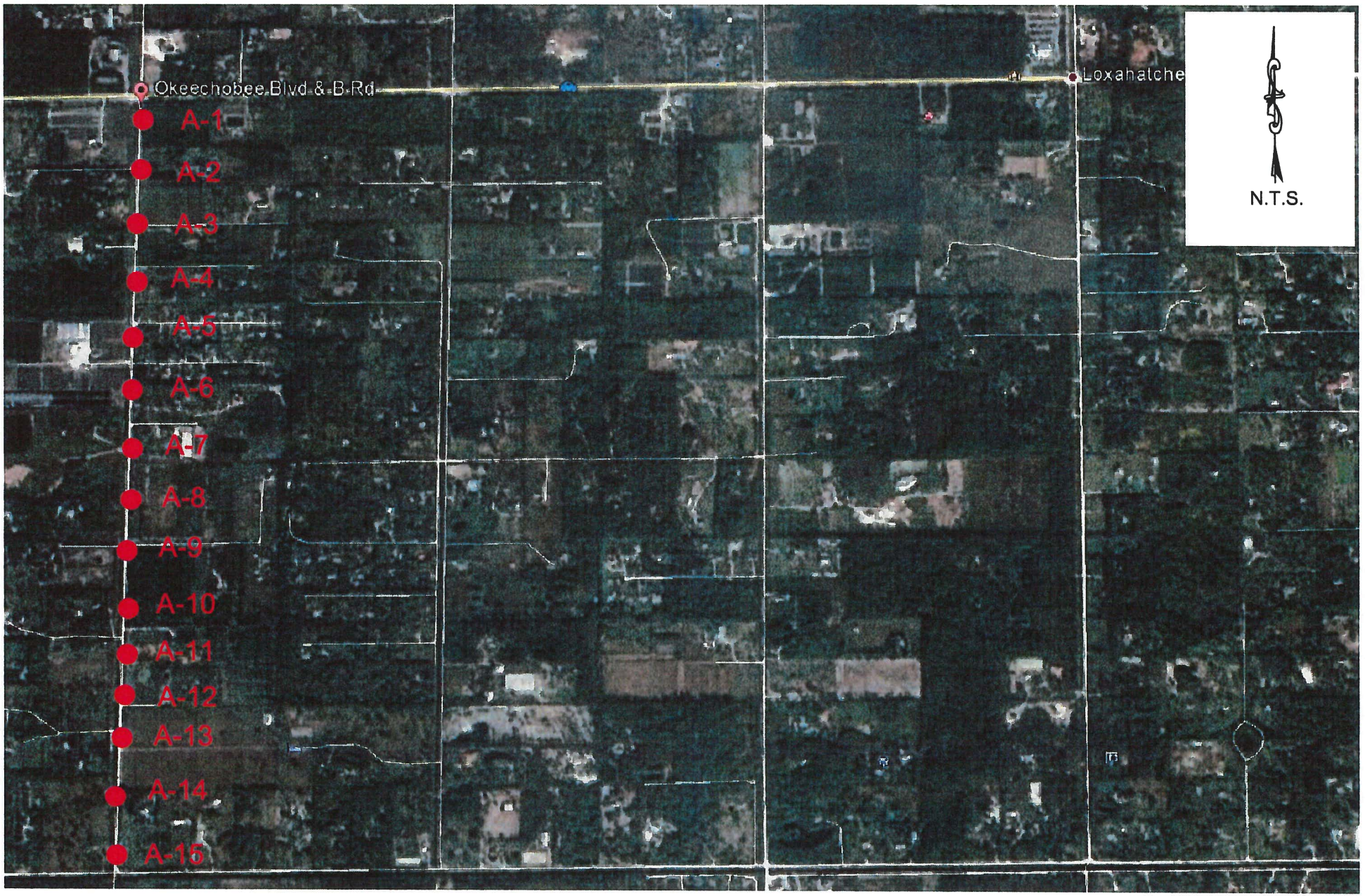
Ardaman & Associates, Inc.
Geotechnical, Environmental & Materials Consultants
2200 N. Florida Mango Road, Suite 101
West Palm Beach, Florida 33409
Phone: (561) 687 8200 / Fax: (561) 640 7375

SUBSURFACE EXPLORATION
B ROAD RESURFACING PROJECT
LOXAHATCHEE GROVES, FLORIDA

SITE VICINITY MAP

Figure No. 1

File No.:	15-1681
Prepared By:	KF
Date:	06/29/15



Ardaman & Associates, Inc.
Geotechnical, Environmental & Materials Consultants
2200 N. Florida Mango Road, Suite 101
West Palm Beach, Florida 33409
Phone: (561) 687 8200 / Fax: (561) 640 7375

SUBSURFACE EXPLORATION
B ROAD RESURFACING PROJECT
LOXAHATCHEE GROVES, FLORIDA

BORING LOCATION PLAN

Figure No. 2

File No.:	15-1681
Prepared By:	KF
Date:	06/29/15

Ardaman & Associates, Inc.
Geotechnical, Environmental and
Materials Consultants

SUBSURFACE EXPLORATION INFORMATION

GENERAL

Our borings describe subsurface conditions only at the locations drilled and at the time drilled. They provide no information about subsurface conditions below the bottom of the boreholes. At locations not explored, surface conditions that differ from those observed in the borings may exist and should be anticipated.

The information reported on our boring logs is based on our drillers' logs and on visual examination in our laboratory of disturbed soil samples recovered from the borings. The distinction shown on the logs between soil types is approximate only. The actual transition from one soil to another may be gradual and indistinct.

The groundwater depth shown on our boring logs is the water level the driller observed in the borehole when it was drilled. These water levels may have been influenced by the drilling procedures, especially in borings made by rotary drilling with bentonitic drilling mud. An accurate determination of groundwater level requires long-term observation of suitable monitoring wells. Fluctuations in groundwater levels throughout the year should be anticipated.

The absence of a groundwater level on certain logs indicates that no groundwater data is available. It does not mean that no groundwater will be encountered at that boring location.

SOLID-STEM AUGER BORINGS

Solid-stem auger borings are used when a relatively large, continuous sampling of soil strata close to the ground surface is desired. A 4-inch diameter, continuous flight, helical auger with a cutting head at its end is screwed into the ground in 5 foot sections. It is powered by the rotary drill rig. The samples are recovered by withdrawing the auger out of the ground without rotating it. The soil samples so obtained are visually classified by our drillers and representative samples put in jars or bags and returned to our laboratory for further classification and testing, if necessary.

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-1

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

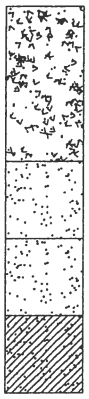
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Brown fine sand, trace to little shell	1
		Mixed brown and gray fine sand	2
		Very light brown fine sand (few darke mottles)	3
		Very light brown clayey sand	4
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-2

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

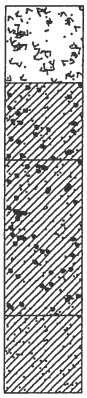
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Gray fine sand and cemented sand, trace to little shell and clayey sand nodules	1
		Brown slightly clayey to silty fine sand, some limestone fragments	2
		Light brown slightly clayey fine sand some fragmented limestone	3
		Yellowish brown slightly clayey sand, little limestone	4
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-3

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

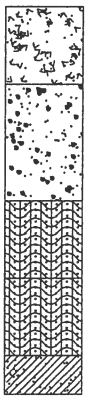
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Gray fine sand, trace to little shell	1
		Dark brownish gray fine sand, trace limestone fragments, trace fine root	2
		Dark brown organic sand, some silt, trace fine root	3
		Dark brown organic silt, some sand	4
		Brownish gray slightly clayey to clayey fine sand	5
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-4

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Light brown sand, little limestone	1
		Yellowish brown fine sand, some limestone fragments	2
		Brownish gray fine sand	3
		Light brown fine sand (few darker mottles)	4
		Brown clayey fine sand	5
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-5

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

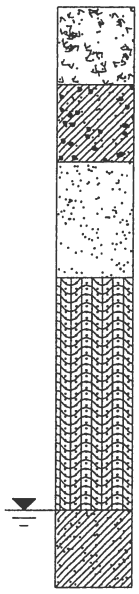
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH 6.5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Light brown sand, little limestone, trace fine shell	
		Yellowish brown fine sand, some limestone fragments	
		Brown fine sand	
		Dark brown to dark gray organic silt, little sand	1
5			
		Brownish gray clayey fine sand, trace fine shell	2
		Auger Boring Terminated at 7.5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-6

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

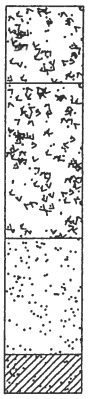
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Light brown sand, little limestone, trace shell	
		Brown fine sand, some shell	
		Light brown fine sand	
		Brownish gray clayey fine sand	
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-7

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

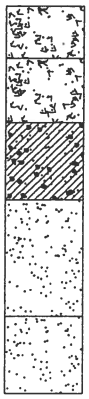
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Light brown sand, little limestone, trace shell	
		Brown fine sand, some shell	
		Brown slightly clayey fine sand, little limestone	1
		Light brown fine sand	
		Brown fine sand	
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-8

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

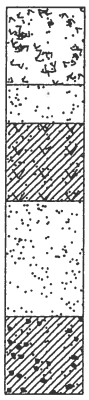
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Gray fine sand, little to some cemented sand, trace shell	1
		Brown fine sand	
		Brownish gray clayey fine sand, trace fine shell	2
		Light brown fine sand	
		Light brownish gray slightly clayey to clayey fine sand, little limestone	
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-9

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

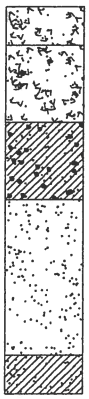
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Brown fine sand, little limestone, trace shell	
		Brown fine sand, little to some fine shell	
		Brownish gray clayey fine sand, trace limestone	1
		Brownish gray fine sand	
		Yellowish brown clayey fine sand	2
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-10

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

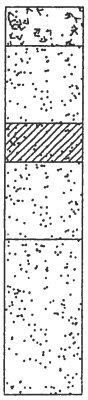
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Brown fine sand, some limestone, trace shell	1
		Brown fine sand	
		Brown to yellowish brown clayey fine sand	
		Gray fine sand	
		Yellowish brown fine sand	
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-11

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

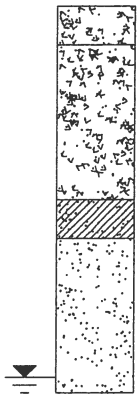
FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH 4.8 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Brown fine sand, little limestone, trace shell	
		Brown fine sand, little to some fine shell	
		Brownish gray clayey fine sand	
		Dark brownish gray fine sand	
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-12

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Brown fine sand, little limestone, trace shell	
		Brown fine sand, little limestone, trace to little clay, trace fine shell	1
		Light gray fine sand	2
		Yellowish brown slightly clayey to clayey fine sand, trace limestone	3
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-13

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Brown fine sand, little limestone, trace shell	
		Brown fine sand, little limestone, trace to little clay, trace fine shell	
		Light gray fine sand	
		Yellowish brown slightly clayey to clayey fine sand, trace limestone	
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-14

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Brown fine sand, little limestone, trace shell	
		Brown fine sand, little to some fine shell	
		Brownish gray clayey fine sand, trace fine roots	1
		Light grayish brown fine sand	
		Grayish brown clayey fine sand	2
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Ardaman & Associates, Inc.

AUGER BORING LOG

BORING A-15

PROJECT: Subsurface Exploration - B Road
Loxahatchee Groves, Florida

FILE No.: 15-1681

BORING LOCATION: As per plan

DRILL CREW: DG/JW

WATER OBSERVED AT DEPTH Not encountered within 5 feet

DATE DRILLED: 6/26/15

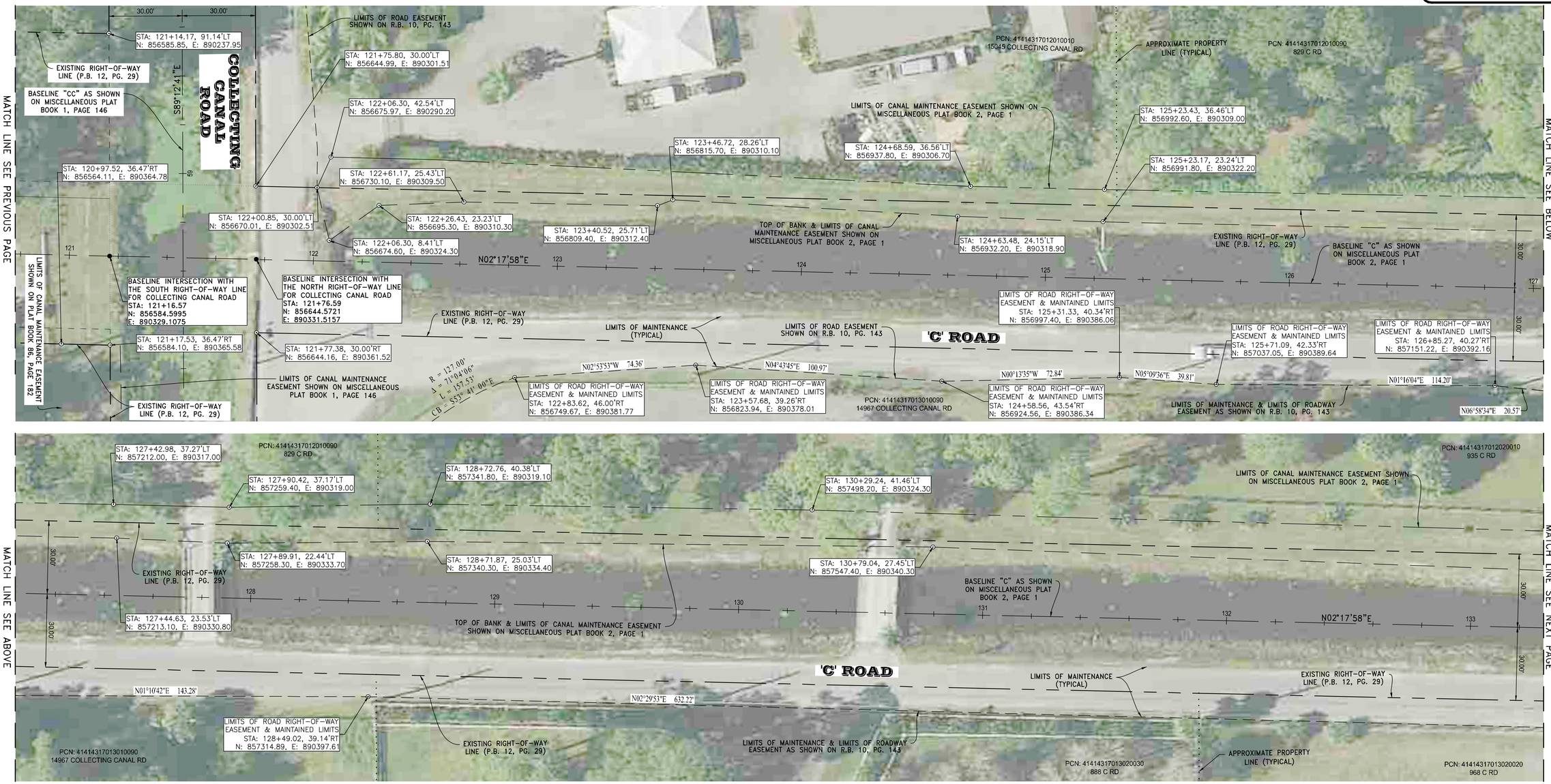
DEPTH	SYMBOLS	SOIL DESCRIPTION	SAMPLE No.
0		Brown fine sand, little limestone, trace shell	
		Brown fine sand, little fine shell	
		Brown clayey fine sand	
		Light grayish brown fine sand	
		Yellowish brown clayey fine sand	
5		Auger Boring Terminated at 5 feet	
10			
15			

NOTES:

Addendum No.1, Item No. 3 - Right-of-Way Maps

GRAPHIC SCALE
0 10' 20' 40'

NOTICE: 50% SUBMITTAL. CONSIDERATION STILL TO BE MADE REGARDING INTERSECTION WITH MAINTAINED LIMITS OF COLLECTING CANAL ROAD & "C" ROAD



50% SUBMITTAL

LEGEND OF SYMBOLS:

△ = FOUND BRASS DISK AS NOTED, COORDINATES ARE AS PUBLISHED BY P.B. COUNTY ENGINEERING DEPT. (U.O.N.)
⊙ = MAINTENANCE LIMITS LINE CHANGE OF DIRECTION (U.O.N.)
● = SET ⅝" IRON ROD & CAP STAMPED "LB 4897" (U.O.N.)
WCB = FOUND PALM BEACH COUNTY BRASS DISK AT GOV'T CORNER AS NOTED.

LEGEND OF ABBREVIATIONS:

° = DEGREES
' = MINUTES
" = SECONDS
R = RADIUS
Δ = DELTA
L = ARC LENGTH
CB = CHORD BEARING
P.C. = POINT OF CURVATURE
P.T. = POINT OF TANGENCY
P.R.C. = POINT OF REVERSE CURVE
RAD. = RADIAL
N.R. = NON-RADIAL
T = TANGENT
N.T. = NON-TANGENT
C/L = CENTERLINE
P.B. = PLAT BOOK
D.B. = DEED BOOK
O.R.B. = OFFICIAL RECORD BOOK
P.B. = PALM BEACH
PG. = PAGE
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
P.O.T. = POINT OF TERMINUS
L.B. = LICENSED BUSINESS
P.S.M. = PROFESSIONAL SURVEYOR & MAPPER
U.O.N. = UNLESS OTHERWISE NOTED

MAINTENANCE LIMITS OF 'C' ROAD

KESHAVARZ & ASSOCIATES
Civil Engineers • Land Surveyors
711 North Dixie Highway, Suite 201
West Palm Beach, Florida 33401
Tel: (561) 689-8600 Fax: (561) 689-7476

MAINTENANCE MAP - SPECIFIC PURPOSE SURVEY
PREPARED FOR: THE TOWN OF LOXAHATCHEE GROVES

DATE: 10/05/17	CHECKED: SB	PROJECT No.	SHEET No.
SCALE: 1" = 20'	APPROVED: SB	17-1174	30 OF 128
DRAWN: LR	DWG No: D17-1174P		

P:\17-1174 LG Maint Maps - Lettered Rds\KA DWG\V-171174-28-43 C ROAD.dwg Monday, January 15, 2018 4:04:56 PM

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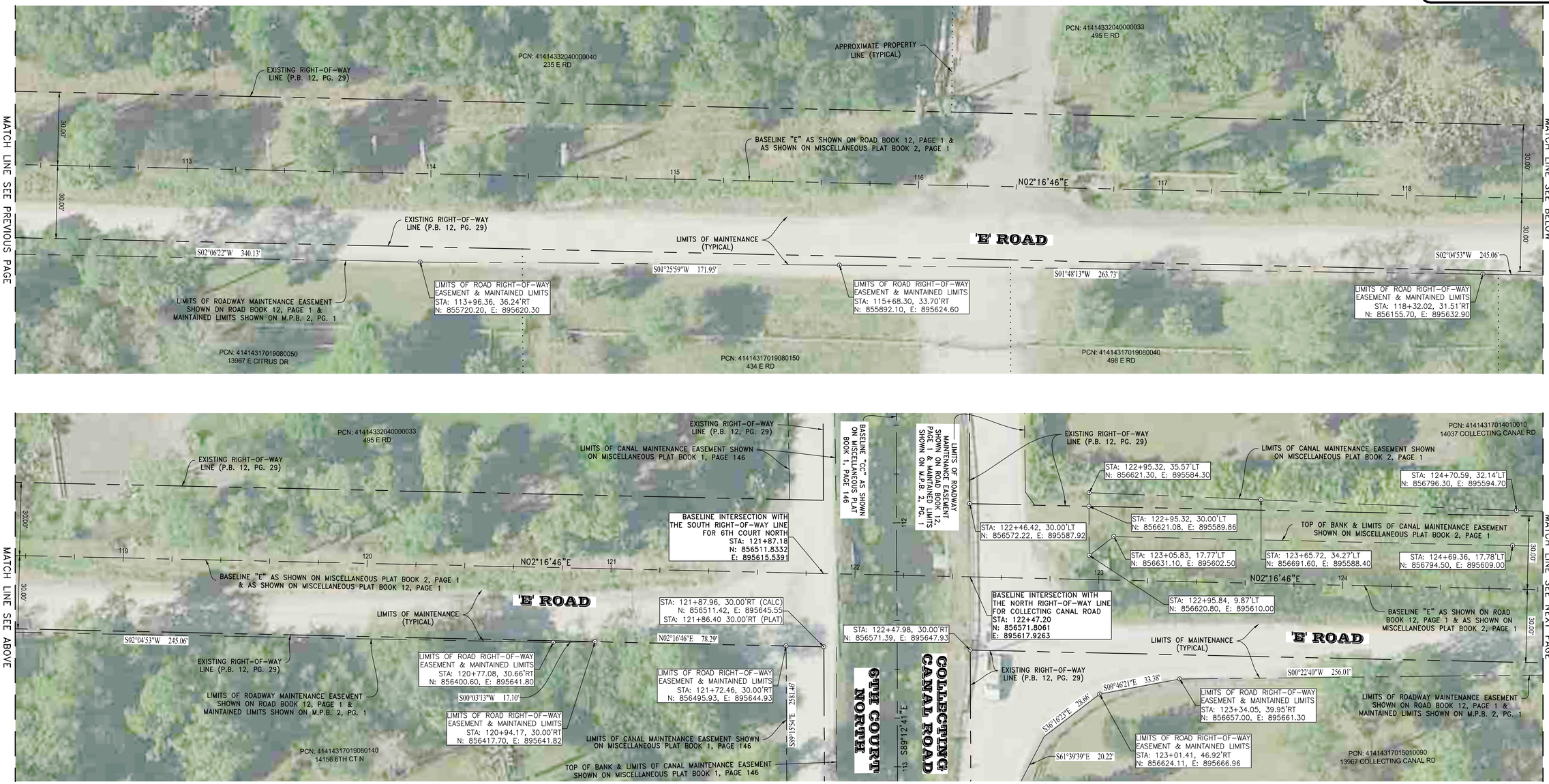
GRAPHIC SCALE
0 10' 20' 40'

NOTICE: 50% SUBMITTAL. CONSIDERATION WILL NEED TO BE MADE TO DETERMINE INTERSECTION POINTS BETWEEN MAINTAINED LIMITS & EXISTING FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY



50% SUBMITTAL

LEGEND OF SYMBOLS:

△ = FOUND BRASS DISK AS NOTED, COORDINATES ARE AS PUBLISHED BY P.B. COUNTY ENGINEERING DEPT. (U.O.N.)
⊙ = MAINTENANCE LIMITS LINE CHANGE OF DIRECTION (U.O.N.)
● = SET 5/8" IRON ROD & CAP STAMPED "LB 4897" (U.O.N.)
PBC = FOUND PALM BEACH COUNTY BRASS DISK AT GOV'T CORNER AS NOTED.

LEGEND OF ABBREVIATIONS:

° = DEGREES
' = MINUTES
" = SECONDS
R = RADIUS
Δ = DELTA
L = ARC LENGTH
CB = CHORD BEARING
P.C. = POINT OF CURVATURE
P.T. = POINT OF TANGENCY
P.R.C. = POINT OF REVERSE CURVE
RAD. = RADIAL
N.R. = NON-RADIAL
T = TANGENT
N.T. = NON-TANGENT
C/L = CENTERLINE
P.B. = PLAT BOOK
D.B. = DEED BOOK
O.R.B. = OFFICIAL RECORD BOOK
P.B. = PALM BEACH
PG. = PAGE
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
P.O.T. = POINT OF TERMINUS
L.B. = LICENSED BUSINESS
P.S.M. = PROFESSIONAL SURVEYOR & MAPPER
U.O.N. = UNLESS OTHERWISE NOTED

MAINTENANCE LIMITS OF 'E' ROAD

KESHAVARZ & ASSOCIATES
Civil Engineers • Land Surveyors
711 North Dixie Highway, Suite 201
West Palm Beach, Florida 33401
Tel: (561) 689-8600 Fax: (561) 689-7476

MAINTENANCE MAP - SPECIFIC PURPOSE SURVEY
PREPARED FOR: THE TOWN OF LOXAHATCHEE GROVES

DATE: 10/05/17	CHECKED: SB	PROJECT No.	SHEET No.
SCALE: 1" = 20'	APPROVED: SB	17-1174	62 OF 128
DRAWN: LR	DWG No: D17-1174P		

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