

RUBIN GROVES OF CLERMONT  
Planned Unit Development  
Ordinance #2013-8

*Mass Grading & Excavating Report*

Prepared For:

Rubin Groves of Clermont, Inc.  
9210 Equus Circle  
Boynton Beach FL 33472

Prepared By:



**Wicks Engineering Services, Inc.**

225 West Main Street ♦ Tavares, Florida 32778

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CERT. OF AUTHORIZATION #30062

December 17, 2013

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**RUBIN GROVES OF CLERMONT**  
Planned Unit Development

Ordinance #2013-8

*Mass Grading & Excavating Report*

The Rubin Groves of Clermont Project has been approved by Lake County for the development of a Mixed-Use Planned Unit Development. The property consists of approximately 131 acres and is located south of Clermont. The Project as approved will provide 40% open space, a maximum of 4 dwelling units per net acre, and a maximum commercial development not to exceed 24.54 acres.

The Preliminary Plat for the PUD has been submitted for Staff review. The project as approved included a Phase 1 Mass Grading/Excavation Plan which includes offsite transport of the excess material. The Preliminary Plat includes the proposed lot layout, street alignment, grading, drainage, stormwater retention, and preliminary road profiles. Typical sections and plan views of the project improvements are included. Pursuant to Chapter 6.6.01(F)(2) "Excavation in conjunction with bona-fide commercial, industrial or subdivision construction approval or Building Permit has been obtained from the County and Excavation is completed and construction initiated within a reasonable period of time from the date that Excavation is initiated" shall not be subject to the Mining Conditional Use Permit and Operating Plan requirements. The Section F regarding Exemptions further provides that overburden in excess of the amount stated in Ch. 6.06.06(F)(2)(a) can be removed based upon the following factors:

1. *Unique physical characteristics an topography of the Land involved;*

As documented in the Geotechnical Report prepared by Universal Engineering Services for the Project, the site is dominated by a site soils that exhibit slopes of 5 to 12%. The soils are somewhat loose and erodible when disturbed. The land elevation also varies from +119 feet to +180 feet (61 feet of elevation change). The stabilized groundwater table was measured at depths ranging from 7.5 feet to 47 feet below existing grade.

2. *Engineering and environmental factors requiring overburden removal;*

The Preliminary Plat provides for a typical lot size of 45' x 100' and road rights of way of ~~40~~ **50** feet in width. The project represents a relatively common mass clustering of the proposed single family lots. The clustering is mostly dictated by the open space requirement of 40% of the developable area. The mass grading/excavation of the site is necessary in order to enhance the "constructability" of the project and to avoid the need for large retaining walls and

short terracing of the lots. The project is also planned to be marketed to retirees and senior citizens. This creates the need to reduce slopes and provide gentle grades to accommodate pedestrian and disability access as required by ADA Codes. The flattening of the topography also allows the construction of streets with longer site distances and reduction of horizontal and vertical curves.

3. *Whether excavation and removal of Overburden is necessary for access to the property;*  
The excavation and removal of the excess overburden is not necessary for access to the property. It does however, contribute to the benefits discussed above in that the lowering of the grades does improve the safety and overall visibility at the entrance to the residential portion of the project.
4. *Permitting requirements of state, local and federal governmental agencies; or*  
There are some permitting requirements that in this case dictate reduction of the existing slopes. There are minimum street design slopes that must be met based upon the County Subdivision Regulations. Slopes for gravity sewers are also regulated. Compliance with these maximum slopes are generally met by lowering the natural ground.

The proposed mass grading/excavation for the Project has been reviewed based upon the Standards contained in Chapter 6, Section 6.06.02 of the Land Development Regulations.

## **GENERAL STANDARDS**

1. The PUD has been determined to be consistent with the Lake County Comprehensive Plan. The mass grading/excavation and export of the excess material does not appear to be in conflict with the adopted Comprehensive Plan or the Land Development Regulations.
2. Best Management Practices – BMP's have been developed for the mass grading/excavation. Erosion and sediment control devices will be installed as required. An NPDES Permit will be obtained and a SWPP Plan will be developed and implemented.
3. Zoning – The Project is consistent with the Lake County Code.
4. The Project will comply with the applicable State and Federal laws that pertain to the Project.

## **ENVIRONMENTAL PROTECTION STANDARDS**

1. There are no point-source discharges of water or wastes.

2. Stormwater Controls and Management will be provided
3. There are no non-point-source discharges of water or wastes.
4. There are no groundwater or Floridan Aquifer withdrawals proposed.
5. All mass grading/excavation will occur above the estimated seasonal high water table beneath the site.
6. There are no surface water withdrawals proposed.
7. There are no wetland impacts associated with the Project. Setbacks are proposed as noted on the Preliminary Plat.
8. The wildlife resources have been investigated. This information was provided as part of the Preliminary Plat support materials.
9. No mass grading/excavation will occur within the floodplain adjacent to the Project.
10. There is no solid or hazardous waste to be generated by the Project.
11. Erosion and Sediment Control will be provided as specified in the SWPP Plan for the Project.

The Operation Standards contained in Chapter 6, Section 6.06.02(c) of the Lake County Land Development Regulations will be adhered to during the Project. The disturbed areas will be stabilized and revegetated to control erosion and sedimentation prior to commencing construction of the infrastructure for the PUD.

## **SUMMARY**

As noted in the General Provisions Section of Chapter 6.06.01 referenced above, excavation that is properly conducted in accordance with a predetermined plan lends itself to Reclamation of the Lands and need not significantly impact the natural environment and adjoining properties. The mass grading/excavation and export of the excess material will be properly conducted as evidenced by the plans presented as part of this Preliminary Plat. The Reclamation Plan for this Project is the construction of the infrastructure and improvements needed to support the Mixed-Use PUD that has been approved.

# APPENDIX





December 13, 2013  
Project No.: PGW-13-0218

**To:** **Wicks Engineering Services, Inc.**  
225 West Main Street  
Tavares, Florida 32778

**Attention:** Ted Wicks, P.E.

**Subject:** Report for Geotechnical Investigation and Water Balance Analysis  
Rubin Groves Development, US Hwy 27, Lake County, Florida

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Dear Mr. Wicks:

Per your request and authorization Andreyev Engineering, Inc. (AEI) has completed additional subsurface investigation and conducted a water balance analysis for the above referenced project. The purpose of this study was to obtain additional soil data and groundwater elevation data to supplement the previous investigation completed by Universal Engineering Sciences and to conduct a water balance analysis to determine the potential adverse impacts of the proposed mass grading and excavation at the central areas of this project.

We understand that the site will ultimately be developed as a typical single family residential subdivision. However, at this time the site is proposed to be cut and mass graded to a relatively level grade for future residential development. This analysis was limited to the potential impacts of net recharge resulting from the initial mass grading and cutting of the site and prior to development of the residential subdivision.

### **SITE LOCATION AND PROJECT DESCRIPTION**

The subject site is located within Sections 26 and 27, Township 24 South, and Range 26 East in Lake County, Florida. The site is located on the west side of US Hwy 27, about 1 mile north of the intersection of US Hwy 27 and US Hwy 192. Currently the property is vacant and consists of a former citrus grove. A vicinity map (U.S.G.S. "Lake Louisa SW" Florida Topographic Map) is depicted on the attached **Figure 1**.



## **SCOPE OF FIELD EXPLORATION**

The scope of our field exploration consisted of performing the following:

- Mobilized crew and drilling equipment to the site
- Performed four (4) auger borings to depths ranging from 20 to 30 feet below existing grade across the mass grading and cutting areas and at locations not investigated by Universal Engineering Sciences (UES).
- Measured stabilized groundwater table at each of the boring locations.

The borings were approximately located in the field using property lines and site features and were not surveyed. Therefore, they shall be considered approximate. The approximate locations of the borings are shown on the attached **Figure 3**.

Representative portions of each soil strata identified in the borings were packaged and sealed for transportation to our laboratory for further examination and visual classification.

## **SOIL AND GROUNDWATER CONDITIONS**

### **Soil Condition**

The soil types encountered at the boring locations are presented in the form of soil profiles on the attached **Figure 4**. The stratification presented is based on visual examination of the recovered soil samples and the interpretation of the field logs by a geotechnical engineer.

In general the borings encountered the following soil Strata:

- Gray to orangish brown fine sand.
- Orangish brown fine sand.
- Light yellowish brown to orangish brown fine sand.

Please refer to **Figure 4** for strata extent and depths. The stratification lines represent approximate boundaries between soil types. The actual transition may be gradual. Minor variations not considered important to our engineering evaluations may have been abbreviated or omitted for clarity.

### **Groundwater Table**

At the time of stabilized groundwater measurement (December 6, 2013), the groundwater table was not encountered within the drilled depths of 20 to 30 feet at any of the 4 boring locations. At the location of SPT borings previously drilled by UES, the groundwater

levels were encountered at depths of 7.5 to 47 feet below existing grade. These levels translate to about elevations 117 to 118 feet NGVD in the central area where the mass grading and excavation is to take place. Copies of soil profiles from the UES report are included in **Appendix A**.

Fluctuation of the groundwater table should be anticipated throughout the year due to variations in seasonal rainfall. Based on the recorded levels in September 2012 (UES report), we estimate the seasonal high groundwater table to occur at about 3 feet above the recorded levels or about elevation 121 feet NGVD in the area of proposed mass grading and cutting.

### **SCS Soil Survey**

Based on the review of the United States Department of Agriculture, Soil Conservation Service, Soil Survey for Lake County, the areas of proposed mass grading and cutting contain the following 3 soil types:

- **Candler Sand, 0% to 5% Slopes (#8)** - Seasonal high groundwater table at greater than 6 feet below grade.
- **Candler Sand, 5% to 12% Slope (#9)** - Seasonal high groundwater table at greater than 6 feet below grade.
- **Lake Sand, 0% to 5% Slope (#21)** - Seasonal high groundwater table at greater than 6 feet below grade.

A copy of the SCS soil survey map is shown on the attached **Figure 2** of this report.

### **WATER BALANCE ANALYSIS AND CONCLUSIONS**

To evaluate the potential adverse impact of the proposed mass grading and cutting operations on the net recharge rate at this site, the soil and groundwater data collected at this time and during the UES study in 2012 was utilized. Typically, a detailed water balance analysis is conducted for developments where the surface conditions change significantly from pre-development to post-development. The various surface conditions for pre and post development are entered into a water balance model for a typical average rainfall year and a daily water balance is conducted. The net recharge is then calculated daily for pre and post development using the following equation:

$$\text{Net Recharge} = R + I + OI - ET - EVAP - RO - O$$

Where,

- R* = Rainfall
- I* = Irrigation
- OI* = Other sources of water that inflow to the site
- ET* = Evapotranspiration from soil/plant surfaces
- EVAP* = Evaporation from open water bodies or wetlands
- RO* = Runoff from the site
- O* = Outflow of water from the site

For this project the water balance can be reduced to a simple equation by elimination of the various components of the equation that do not apply:

$$\text{Net Recharge} = R - ET$$

Where,  $R = \text{Rainfall}$   
 $ET = \text{Evapotranspiration from soil/plant surfaces}$

This simplification was possible due to the high and dry conditions of the site that exists under existing conditions (pre) and that will exist under mass graded and cut conditions (post). For a typical average rainfall year the daily rain amount will not produce any runoff from the clean fine sand surficial soils with groundwater levels at more than 6 feet below ground surface (Type A soils), thus eliminating the RO component. The site does not have open water bodies or wetlands, thus eliminating the EVAP component. There will be no irrigation under pre or post conditions and there are no other sources of water that inflow or outflow the site, eliminating the I, OI & O components.

Furthermore, since the equation is reduced to rainfall minus evapotranspiration components only, it is not necessary to conduct the detailed daily water balance analysis if the surficial soil conditions will remain the same in terms of rainfall retention and evapotranspiration rates. The following conditions would create “unchanged” surficial soil conditions in terms of net recharge potential:

1. Surficial soils that extend to a minimum depth of 6 feet and consist of permeable fine sands capable of absorbing daily rain during an average rainfall year.
2. Surface slopes are the same or flatter in the post condition, eliminating a potential for higher amount of surface runoff.
3. Depth to groundwater level is 6 feet or more throughout the year, keeping the evapotranspiration losses constant.

Review of the proposed mass grading and excavation plans provided by Wicks Engineering Services (WES) and as shown on **Figure 3**, indicates that the deepest excavations will extend to an elevation of about 145 feet NGVD. The soil profiles of auger borings on **Figure 4**, and the SPT borings B-1, B-2 and B-4 from the UES report, indicate that permeable fine sand extend more than 6 feet below existing grade and will also extend more than 6 feet below the proposed post development grades.

The proposed post development surface will be relatively level in the mass grading and excavation area, which will prevent the potential for higher amount of surface runoff, promoting continued recharge on site.

The estimated seasonal high groundwater for the area of mass grading and excavation is about 121 feet NGVD, which is about 24 feet below the proposed post development grades (>6 feet).

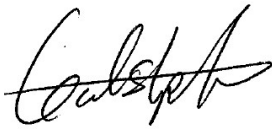
Given the subsurface conditions at this site and the methodology describe above, we conclude that the net recharge will remain unchanged in the post development conditions,

as the rainfall and evapotranspiration components will remain unchanged under the pre and post development conditions.

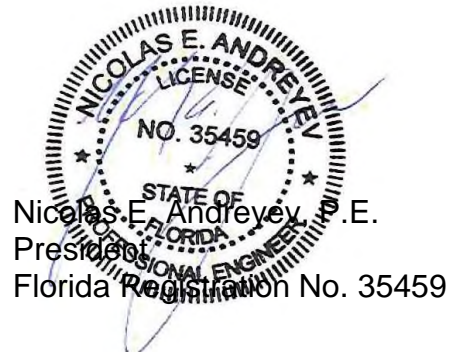
**CLOSURE**

AEI appreciates the opportunity to participate in this project, and we trust that the information herein is sufficient for your needs. If you have any questions or comments concerning the contents of this report, please do not hesitate to contact our office.

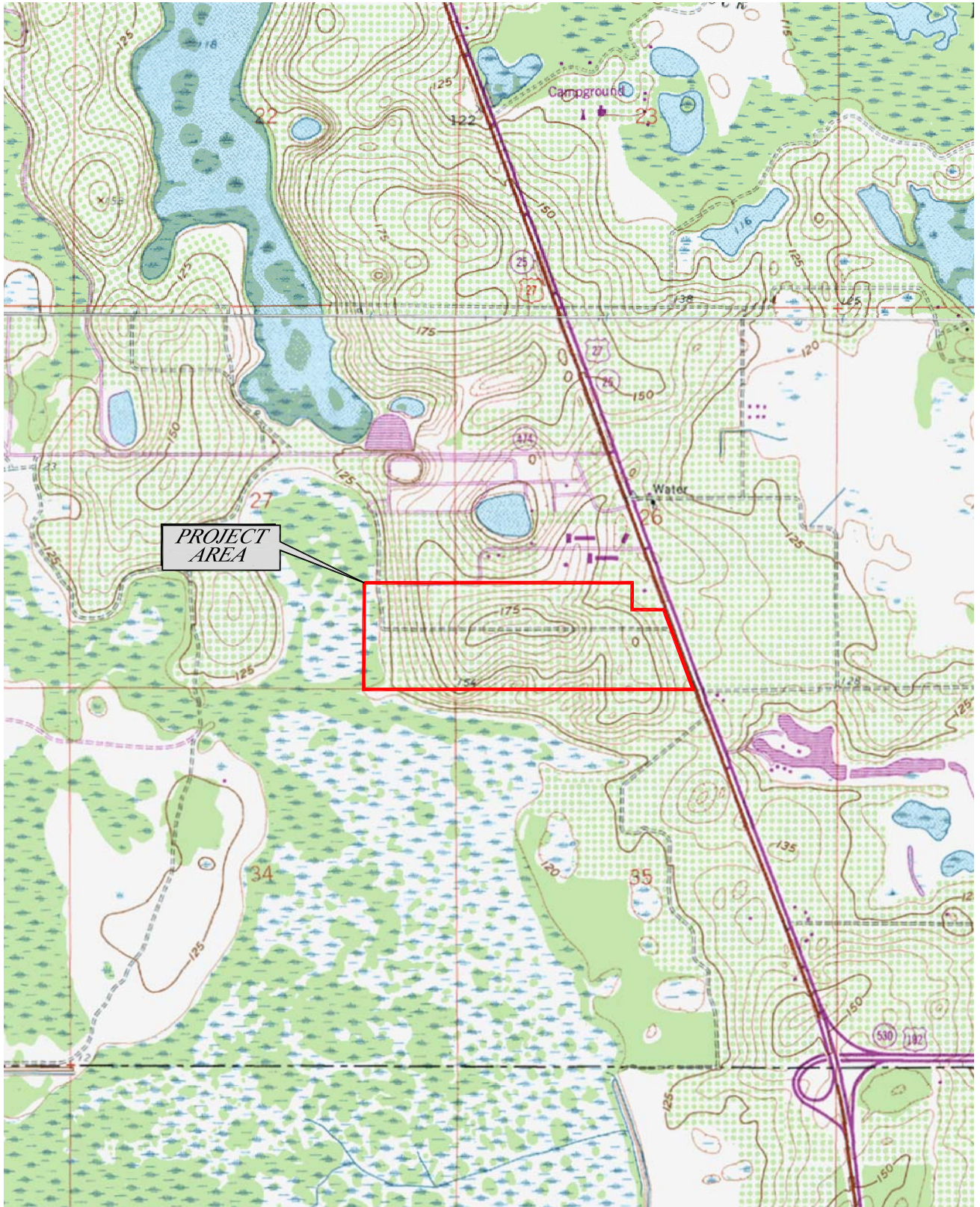
Sincerely,  
**Andreyev Engineering, Inc.**



Gabi Stephan  
Vice-President



## FIGURES



REFERENCE:  
 U.S.G.S. LAKE LOUISA SW, FLA.  
 QUADRANGLE MAP  
 PHOTOINSPECTED 1985  
 DATED 1955  
 PHOTOREVISED 1980  
 SECTIONS 26 & 27  
 TOWNSHIP 24 SOUTH  
 RANGE 26 EAST



**Andreyev  
 Engineering,  
 Inc.**

WATER BALANCE ANALYSIS  
**RUBIN GROVE PROJECT**  
 U.S. HIGHWAY 27  
 CLERMONT, LAKE COUNTY, FL

APPROXIMATE SCALE:  
 1"=2000'

DATE: 12/10/13  
 PN:PGW-13-0218

ENGINEER: NA  
 DRAWN BY: DLS

U.S.G.S. TOPOGRAPHIC MAP

FIGURE 1



REFERENCE:  
N.R.C.S. WEB SOIL SURVEY

**LEGEND:**

- 8 CANDLER SAND, 0 TO 5% SLOPES
- 9 CANDLER SAND, 5 TO 12% SLOPES
- 21 LAKE SAND, 0 TO 5% SLOPES
- 22 LAKE SAND, 5 TO 12% SLOPES
- 28 MYAKKA SAND
- 40 PLACID & MYAKKA SANDS, DEPRESSIONAL
- 42 POMPANO SAND
- 44 SWAMP
- 99 WATER



**Andreyev  
Engineering,  
Inc.**

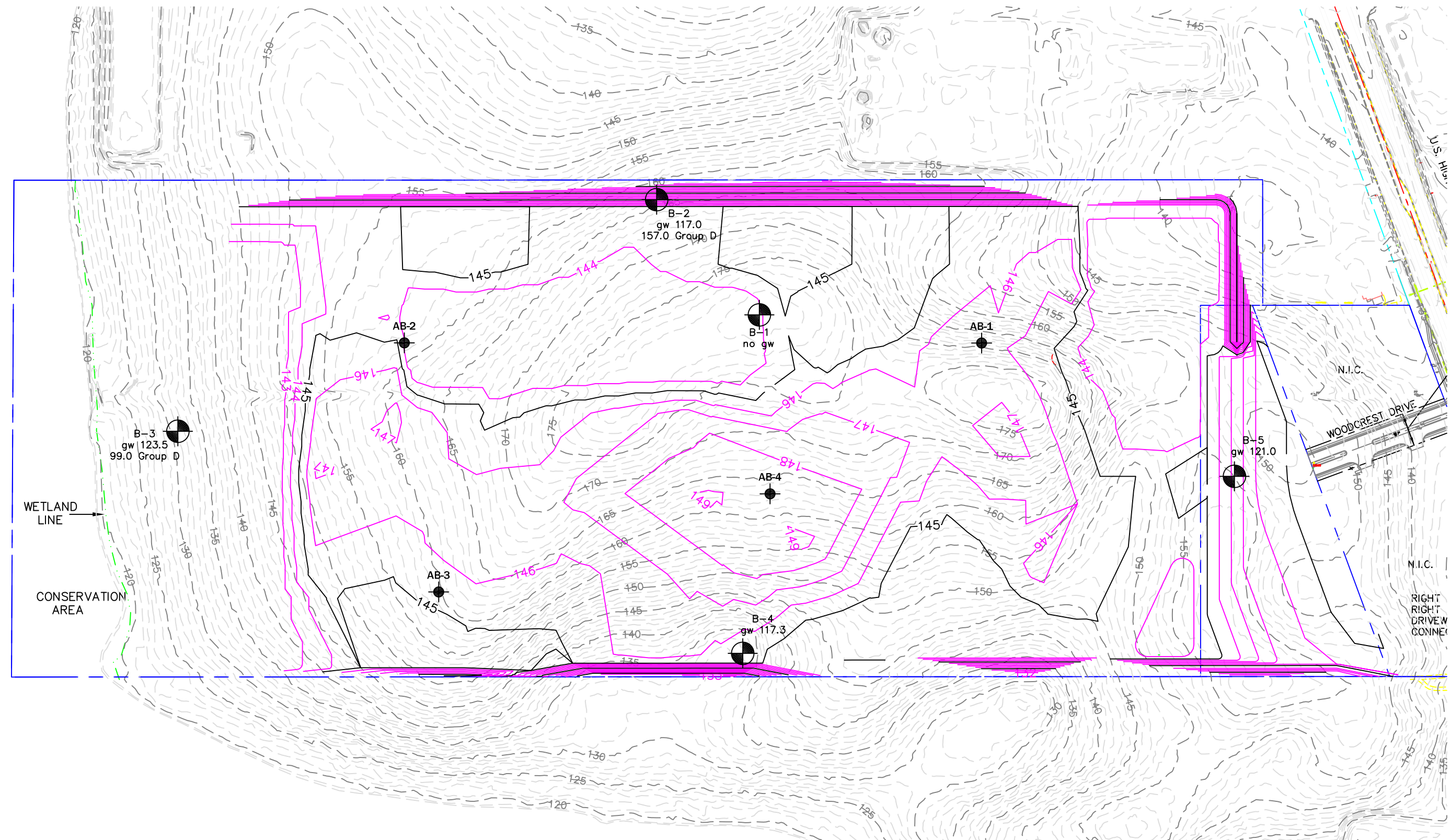
WATER BALANCE ANALYSIS  
**RUBIN GROVE PROJECT**  
U.S. HIGHWAY 27  
CLERMONT, LAKE COUNTY, FL

APPROXIMATE SCALE:  
1"=1000'



DATE: 12/10/13  
PN: PGW-13-0218


ENGINEER: NA  
DRAWN BY: DLS

N.R.C.S. SOIL SURVEY MAP  
FIGURE 2



**LEGEND:**

-  APPROXIMATE LOCATION OF SPT BORING DRILLED BY UNIVERSAL ENGINEERING
-  APPROXIMATE LOCATION OF AUGER BORING DRILLED BY ANDREYEV ENGINEERING, INC. ON DECEMBER 8, 2013



**Andreyev  
Engineering,  
Inc.**

APPROXIMATE SCALE: 1"=300'

DATE: 12/10/13    ENGINEER: NA  
PN: PGW-13-0218    DRAWN BY: DLS

WATER BALANCE ANALYSIS

**RUBIN GROVE PROJECT**

U.S. HIGHWAY 27

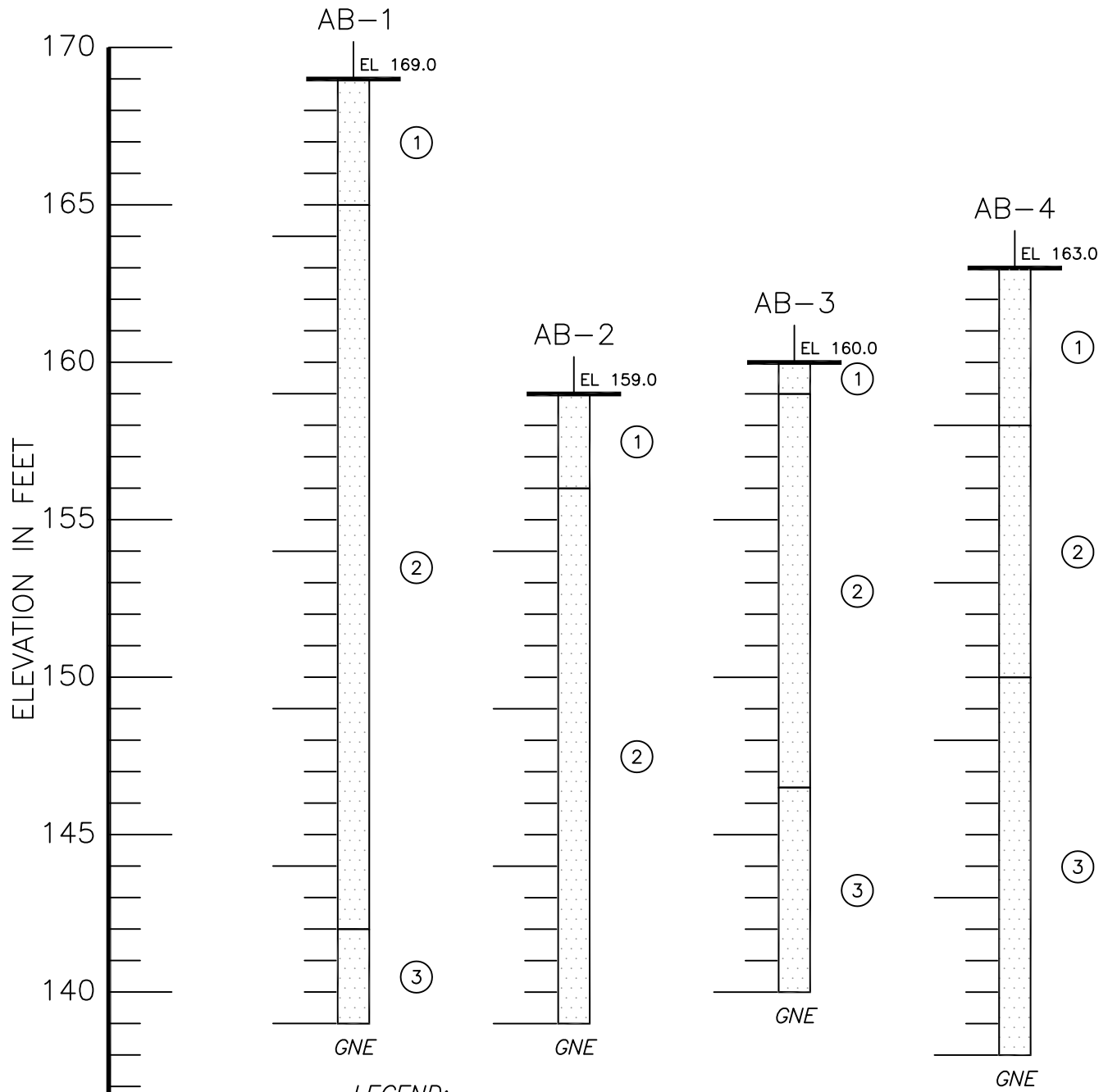
CLERMONT, LAKE COUNTY, FL

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**BORING LOCATION PLAN**

FIGURE 3





LEGEND:

- (1) GRAY TO ORANGISH BROWN FINE SAND (SP)
  - (2) ORANGISH BROWN FINE SAND (SP)
  - (3) LIGHT YELLOWISH BROWN TO ORANGISH BROWN FINE SAND (SP)
- (SP) UNIFIED SOIL CLASSIFICATION SYSTEM GROUP SYMBOL  
 EL SURFACE ELEVATION AT BORING LOCATION (FT)  
 GNE GROUNDWATER NOT ENCOUNTERED

<b>Andreyev Engineering, Inc.</b>	WATER BALANCE ANALYSIS <b>RUBIN GROVE PROJECT</b> U.S. HIGHWAY 27 CLERMONT, LAKE COUNTY, FL	
	<b>SOIL PROFILES</b>	
APPROXIMATE SCALE:	DATE: 12/10/13	ENGINEER: NA
1"=5'	PN: PGW-13-0218	DRAWN BY: DLS
		<b>FIGURE 4</b>

# **APPENDIX A**



# UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.1200217.0000

REPORT NO.: 988915

PAGE: B-2.1

PROJECT: LIMITED GEOTECHNICAL EXPLORATION  
HALEY GROVES/RUBIN GROVES, U.S. HIGHWAY 27  
LAKE COUNTY, FLORIDA

BORING I.D.: **B-1**  
SECTION: 26.27

TOWNSHIP: 24S

SHEET: **1 of 1**  
RANGE: 26E

CLIENT: HALEY GROVES  
LOCATION: SEE BORING LOCATION PLAN

G.S. ELEVATION (ft): 180 \*

DATE STARTED: 9/19/12

WATER TABLE (ft): N.E.

DATE FINISHED: 9/19/12

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, N.E. = NOT ENCOUNTERED, \* ESTIMATED FROM SITE TOPO CONTOURS PROVIDED BY CLIENT

DATE OF READING: 9/19/12

DRILLED BY: ORL-DP/KB

EST SHGWT (ft):

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLER	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG CONT (%)
									LL	PI		
0						Loose orange brown fine SAND [A-3] {GROUP A}						
		3-2-3	5			-- very loose						
		2-2-2	4									
5		2-1-2	3				3	4				
		2-2-3	5			-- loose, shade lighter						
		3-3-3	6									
10		3-3-4	7									
15		3-4-4	8			-- shade darker						
20		5-5-6	11			-- medium dense						
25		6-8-8	16			Medium dense orange brown fine SAND with clay [A-3] {GROUP B}	6	5				
30		8-9-9	18									
						-- light orange						
35		12-12-14	26			-- orange						
40		5-6-10	16			BORING TERMINATED AT 40.0 FEET	8	9				
45												
50												



# UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.1200217.0000

REPORT NO.: 988915

PAGE: B-2.2

PROJECT: LIMITED GEOTECHNICAL EXPLORATION  
HALEY GROVES/RUBIN GROVES, U.S. HIGHWAY 27  
LAKE COUNTY, FLORIDA

BORING I.D.: **B-2**  
SECTION: 26,27

TOWNSHIP: 24S

SHEET: **1 of 1**  
RANGE: 26E

CLIENT: HALEY GROVES  
LOCATION: SEE BORING LOCATION PLAN

G.S. ELEVATION (ft): 164 \*

DATE STARTED: 9/20/12

WATER TABLE (ft): 47

DATE FINISHED: 9/20/12

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, \* ESTIMATED FROM SITE TOPO CONTOURS PROVIDED BY CLIENT

DATE OF READING: 9/20/12

DRILLED BY: ORL-DP/KB

EST. SHGWT (ft):

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLER	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG CONT (%)
									LL	PI		
0						Loose brown fine SAND [A-3] {GROUP A}						
		3-2-3	5			-- light brown						
		2-2-1	3			-- very loose						
5		1-1-2	3				2	5				
		2-2-3	5			-- loose, light orange brown						
		9-7-5	12			Medium dense orange brown clayey fine SAND [A-2-6] {GROUP D}						
10		4-4-4	8			-- loose						
15		5-7-7	14			-- medium dense	21	12				
20		5-4-4	8			-- loose						
25		4-4-5	9			Loose light orange fine SAND [A-3] {GROUP A}						
30		6-7-7	14			-- medium dense, shade lighter	4	5				
35		7-6-7	13			-- light gray brown, with seams of light orange						
40		9-9-10	19			-- light yellow gray						
45		9-10-10	20				5	5				
50		9-9-10	19									
						BORING TERMINATED AT 50.0 FEET						

W-07780 GPJ



# UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.:	0130.1200217.0000
REPORT NO.:	988915
PAGE:	B-2.3

PROJECT: LIMITED GEOTECHNICAL EXPLORATION  
 HALEY GROVES/RUBIN GROVES, U.S. HIGHWAY 27  
 LAKE COUNTY, FLORIDA

BORING I.D.: **B-3**  
 SECTION: 26,27

TOWNSHIP: 24S SHEET: **1 of 1**  
 RANGE: 26E

CLIENT: HALEY GROVES  
 LOCATION: SEE BORING LOCATION PLAN

G.S. ELEVATION (ft): 131 \* DATE STARTED: 9/19/12  
 WATER TABLE (ft): 7.5 DATE FINISHED: 9/19/12  
 DATE OF READING: 9/19/12 DRILLED BY: ORL-DP/KB  
 EST. SHGWT (ft): TYPE OF SAMPLING: ASTM D 1586

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, \* ESTIMATED FROM SITE TOPO CONTOURS PROVIDED BY CLIENT

DEPTH (FT.)	SAMPLER	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG CONT (%)
									LL	PI		
0						Very loose brown fine SAND [A-3] {GROUP A}						
		2-1-2	3			-- orange brown						
		1-0-1	1									
5		1-1-1	2				3	3				
		2-1-3	4									
		4-6-5	11	▼		-- medium dense, light brown gray and orange						
10		4-5-7	12			-- light brown gray	2	19				
15		3-3-3	6			Loose light brown fine SAND with silt [A-3] {GROUP B}	7	21				
20		3-3-3	6			Loose light brown gray silty fine SAND [A-2-4] {GROUP C}	16	21				
25		6-8-11	19			Medium dense very light gray fine SAND [A-3] {GROUP A}						
30		9-10-13	23			Medium dense very light gray silty fine SAND [A-2-4] {GROUP C}						
35		3-3-4	7			Firm to soft very light brown sandy silty CLAY [A-6] {GROUP D}	52	44				
40		2-2-2	4			BORING TERMINATED AT 40.0 FEET						
45												
50												

W-07760 GPJ



# UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.1200217.0000

REPORT NO.: 988915

PAGE: B-2.4

PROJECT: LIMITED GEOTECHNICAL EXPLORATION  
HALEY GROVES/RUBIN GROVES, U.S. HIGHWAY 27  
LAKE COUNTY, FLORIDA

BORING I.D.: **B-4**

SECTION: 26,27

TOWNSHIP: 24S

SHEET: **1 of 1**

RANGE: 26E

CLIENT: HALEY GROVES

G.S. ELEVATION (ft): 133 \*

DATE STARTED: 9/19/12

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 15.7

DATE FINISHED: 9/19/12

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, \* ESTIMATED FROM SITE TOPO CONTOURS PROVIDED BY CLIENT

DATE OF READING: 9/19/12

DRILLED BY: ORL-DP/KB

EST. SHGWT (ft):

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	S A M P L E	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	S Y M B O L	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG CONT (%)
									LL	PI		
0						Loose brown fine SAND [A-3] {GROUP A}						
		3-3-3	6			-- orange brown						
		2-2-2	4			-- very loose						
5		1-2-1	3			-- shade lighter						
		2-2-2	4				4	5				
		3-2-3	5			-- loose						
10		3-3-3	6									
15		5-4-4	8			-- light orange brown						
						-- light yellow gray						
20		6-5-6	11			-- medium dense	4	20				
						-- yellow gray						
25		6-8-10	18									
30		7-9-9	18				5	21				
35		5-6-8	14									
40		6-5-7	12			BORING TERMINATED AT 40.0 FEET						
45												
50												

W-07780.GPJ



# UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.1200217.0000

REPORT NO.: 988915

PAGE: B-2.5

PROJECT: LIMITED GEOTECHNICAL EXPLORATION  
HALEY GROVES/RUBIN GROVES, U.S. HIGHWAY 27  
LAKE COUNTY, FLORIDA

BORING I.D.: **B-5**  
SECTION: 26.27

TOWNSHIP: 24S

SHEET: **1 of 1**  
RANGE: 26E

CLIENT: HALEY GROVES  
LOCATION: SEE BORING LOCATION PLAN

G.S. ELEVATION (ft): 155 \*

DATE STARTED: 9/20/12

WATER TABLE (ft): 34

DATE FINISHED: 9/20/12

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED, \* ESTIMATED FROM SITE TOPO CONTOURS PROVIDED BY CLIENT

DATE OF READING: 9/20/12

DRILLED BY: ORL-DP/KB

EST. SHGWT (ft):

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLING	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG CONT (%)
									LL	PI		
0						Very loose orange brown fine SAND [A-3] {GROUP A}						
		2-2-2	4									
		2-1-1	2									
5		1-2-1	3									
		1-2-2	4				2	4				
		3-2-3	5			-- loose						
10		3-2-2	4			-- very loose						
15		5-5-5	10			-- loose						
20		6-5-8	13			-- medium dense						
25		6-9-10	19				1	5				
30		16-15-21	36			-- dense, shade lighter						
35		15-20-22	42			-- shade darker	5	18				
40		15-33-35	68			-- very dense						
						BORING TERMINATED AT 40.0 FEET						
45												
50												

WV-07780.GPJ

**RUBIN GROVES OF CLERMONT, INC.**

MASS GRADING & EXCAVATING PROJECT

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**BEST MANAGEMENT  
PRACTICES PLAN**

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9210 EQUUS CIRCLE,  
BOYNTON BEACH, FL 33472



# BEST MANAGEMENT PRACTICES PLAN

RUBIN GROVES OF CLERMONT, INC.

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**BEST MANAGEMENT PRACTICES PLAN-**  
**RUBIN GROVES OF CLERMONT, INC.**

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I ( <sup>supervisor</sup> ) have reviewed the BMP Plan developed for the Rubin Groves of Clermont, Inc. project and understand that the purpose of the Plan is to prevent or minimize the potential for the release of pollutants to waters of the state from ancillary activities, including material storage areas, site runoff, in-site transfer, process and material handling areas, and loading and unloading operations through site runoff, spillage or leaks, or drainage from raw material storage.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Supervisor

Signed \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Supervisor

Signed \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Supervisor

This document will be periodically reviewed and updated as necessary to reflect any changes in personnel, operations, location of material storage, or types of pollutants that could affect the potential for impact to onsite water resources. The document will be reviewed by the project supervisor and any employees who oversee material storage and use on a routine basis. A signed copy of the BMP plan (certified by a professional engineer) will remain on file at the site and will be made available to the FDEP upon request.

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## 1. INTRODUCTION

---

### 1.1 Purpose

The Best Management Practices (BMP) Plan has been prepared for the proposed Rubin Groves of Clermont, Inc. project site. The BMP Plan is designed to meet the requirements for dry borrow pits.

The principal objectives of this BMP Plan are to:

1. Identify areas, systems, or components of the facility that have the potential for causing a release of pollutants to waters of the state.
2. Identify areas, systems, or components of the facility that have the potential for causing fugitive dust emissions.
3. Where experience indicates a reasonable potential exists for equipment failure, natural condition or other circumstances to result in significant amounts of pollutants reaching waters of the state, estimate the direction of flow and quantity of pollutants which could be discharged from the facility as a result of each potential situation.
4. Establish specific preventative and remedial procedures to prevent significant amounts of pollutants from reaching the waters of the state, as well as assign emission control methods for potential fugitive dust releases.

### 1.2 Facility Location

The subject site consists of a an approximate 131 acre parcel of land listed under Alternate Key #'s 1071011, 1595169, 1595240, and 2510480, owned by Rubin Groves of Clermont, Inc.

The site is generally located south of Clermont, west of US Hwy 27 in Lake County, Florida and lies within Sections 26 and 27, Township 24 South, and Range 26 East. The site is accessed via SR 27 which is maintained by Florida State Department of Transportation.

### 1.3 Description of Operation

The Project will involve the extraction of clean sand and clayey sand from the site. The material will be excavated utilizing conventional earth moving equipment (front-end loader, back hoe, dump trucks and semi tractor trailers). Material will be transported offsite as it is extracted. No material stockpiling is necessary. Small piles of materials may be present but are generally only necessary to separate material temporarily. The topsoil overburden will be stockpiled and used for reclamation.

The Project setbacks are proposed to be 100 feet from the south and east property lines. A 100 foot setback will be observed from the wetlands on the west side of the project. A setback of 150 feet is proposed for the north property line. The setbacks will function as a buffer and the final project grading for site reclamation will be accomplished within the project limits.

The Operating hours are proposed to be 7 AM to 5 PM, Monday thru Friday, with no excavation or offsite hauling on Saturday or Sunday. Onsite activities for maintenance site reclamation and preparatory work may be conducted on Saturday.

This BMP Plan is prepared and submitted to follow the guidelines in Chapter 6 of the Lake County Land Development Regulations (LDR's).

#### **1.4 Sanitary and Drinking Water Systems**

The site will not have full time employees using a permanent office. Individuals using haul trucks and excavating equipment will have access to portable restrooms suitable for the construction-type nature of the facility. Such portable restrooms shall be serviced at least once every week by an authorized portable restroom service company regulated by the Florida Department of Health under Chapter 64E-6 F.A.C.

Potable water shall be used by any employees in the form of bottled water only. The existing well onsite shall not be used for potable water purposes.

Should an office be proposed to be installed in the future, an onsite sewage treatment and disposal system (septic) permit shall first be obtained by the Lake County Health Department. Such septic system shall be installed using setbacks set forth by Chapter 64E-6 FAC and by the Lake County LDR's.

#### **1.5 Drainage**

Site reclamation shall be conducted in such a manner as to eliminate the risk that there will be flooding on adjacent properties. The original, pre-excavation drainage pattern of the area shall be restored to the greatest extent possible. Watershed boundaries shall not be crossed in restoring drainage patterns, but will be restored within their original boundaries unless such a restoration is approved by the County. For complete details on restoration, a Stormwater Pollution Prevention Plan for the project will be prepared and an NPDES General Permit will be obtained.

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## 2. IDENTIFICATION OF POTENTIAL POLLUTION SOURCES

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- Access Road (unpaved)
- Active Excavating
- Temporary Stockpiling (topsoil only)
- Storm Water Erosion and Wetland Protection
- Mechanical Equipment

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### 3. PREVENTATIVE AND REMEDIAL PROCEDURES

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#### 3.1 Access Road

##### 3.1.1 *Vehicle Speeds:*

- Vehicle speeds shall be limited on the unpaved roads leading to and within the site; recommend 10 mph sign entering and leaving the site. This will help eliminate or reduce the release of dust picked up from the roads as well as reduce the possibility of sand falling off the trucks during transit.

##### 3.1.2 *Dust and Sediment Control:*

- Water shall be applied on the surface of the unpaved access/haul road to prevent dust and other fugitive particles from being picked up and released. The frequency and quantity of the watering shall be monitored according to the weather conditions.
- All trucks hauling material off site shall have their beds “tarpred” and the tarps secured to prevent losses of material during transit.
- Excess sand that may fall on the side of the access road will be manually picked up. During the “tarping” of the trucks, excess sand or other sediments that have accumulated will be removed from the truck frame, wheels, and dump bed by the truck operator. These areas will receive routine removal as described above to control “tracking” of sand.

#### 3.2 Active Excavating

3.2.1 *Excavation area limits:* The active excavating area shall be limited to small sections at a time. The latter will help avoid leaving excavated areas exposed for a period of time and therefore reducing potential dust and fugitive emission releases from wind and water erosion.

3.2.2 *Excavated area reclamation:* Any excavated areas shall be reclaimed immediately following completion of excavation in those particular areas. Topsoil that was removed prior to the excavation shall be placed over the completed excavated area to encourage vegetative ground cover recruitment.

#### 3.3 Temporary Stockpiling (topsoil only)

- There shall be no stockpiling of excavated material. Material shall be excavated and removed only as needed by the market to avoid stockpiling and losses through wind and water erosion.
- Only topsoil shall that was removed prior to the beginning of each excavation area shall be temporarily stockpiled. When excavation is complete for a particular section then the topsoil shall be placed back to encourage ground cover recruitment.

### **3.4 Storm Water Erosion and Wetland Protection**

- Silt fences shall be used along the down slope areas of ALL active excavation sites.

### **3.5 Mechanical Equipment**

- Occasionally, trucks entering or existing the property experience accidental turnovers on the roadway carrying limited release of fuel, oil, or hydraulic fluid. Such releases are commonly on the pavement or roadway shoulder. In the event of such a turnover, a contracted emergency response company shall be notified to begin cleanup and appropriate notification.
- Any mechanical equipment that has releases through their hydraulic controls shall be noted and cleaned up immediately using absorbent pads, pillows, or absorbent media. Equipment maintenance shall be performed offsite, with the exception of minor equipment malfunctions that can be repaired on the spot.
- Fuel will not be stored onsite. Any accidental releases of diesel fuel from the equipment will be noted and cleaned up by excavating contaminated sand in that area.

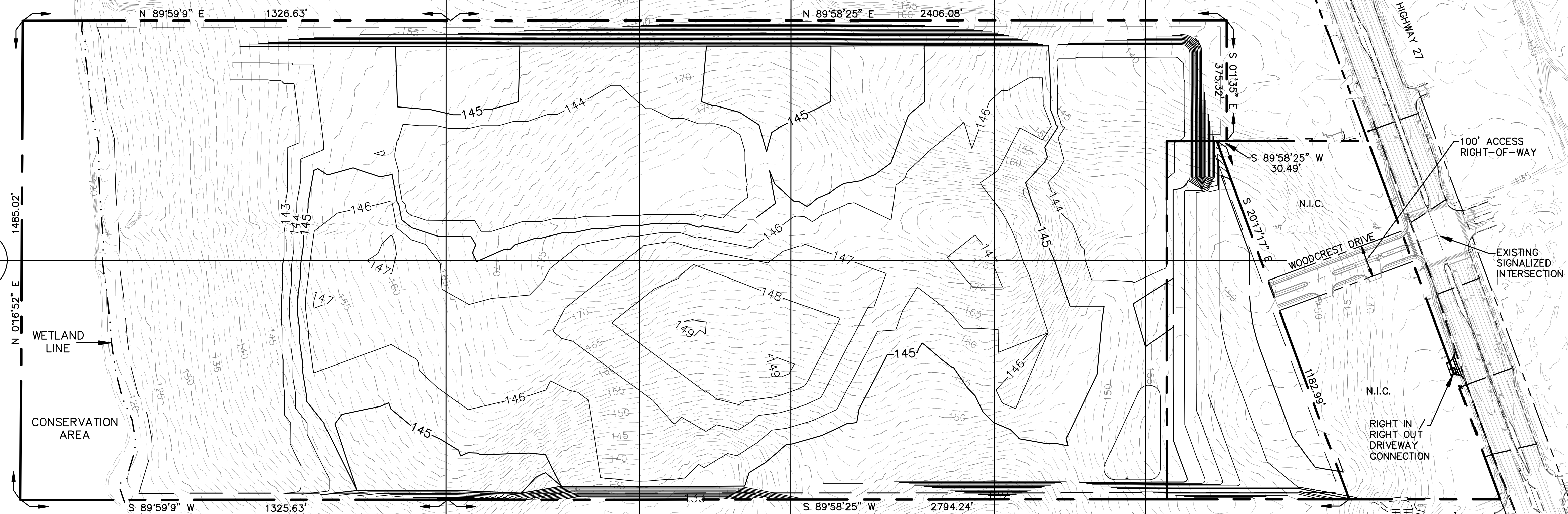
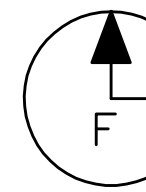
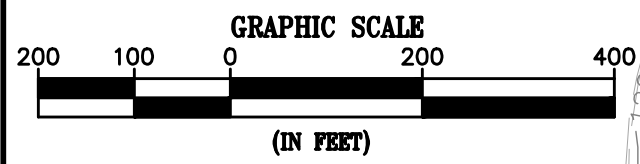
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#### 4. MONITORING

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- All potential fugitive dust emission sources shall be monitored daily and applicable control measures shall be applied as needed.
- Silt fences and berms shall be inspected weekly and before every expected rain storm event. Any disturbed or damaged areas shall be repaired and restored immediately.
- All mechanical equipment, including haul trucks shall be maintained as needed by their operators to ensure efficient operation and limit potential break downs or accidents.
- The Excavation Project Supervisor shall maintain logs and checklists of daily monitoring and BMP Plan application measures.





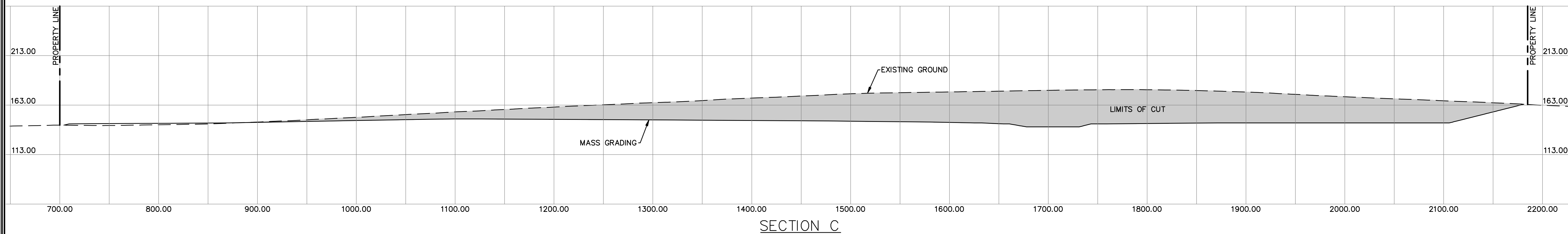
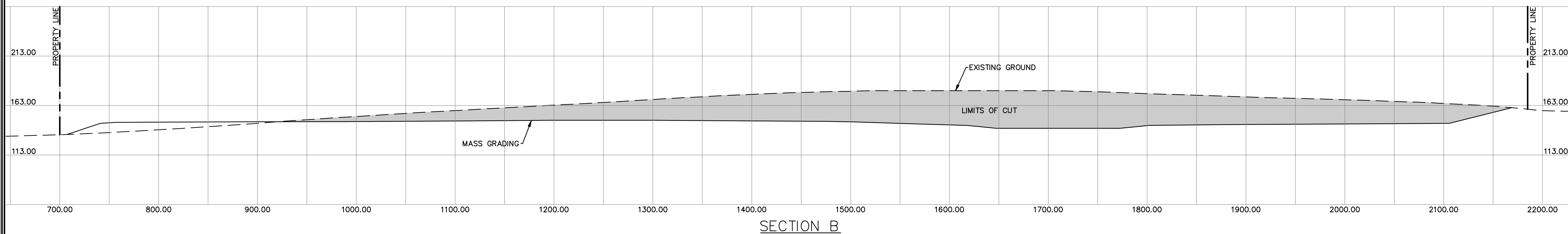
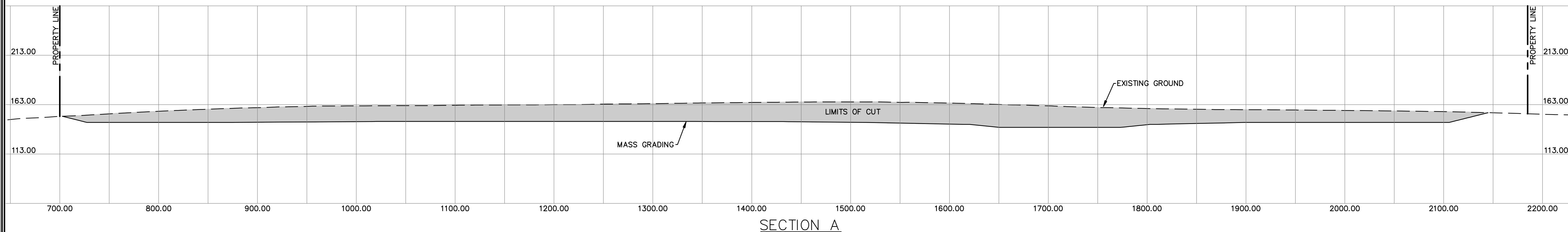
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Rubin Groves of Clermont  
SITE PLAN  
Lake County, Florida

Mr. Sheldon Rubin, Trustee  
9210 Equus Circle  
Boyton Beach, Florida, 33472  
(561) 704-1959

KENNETH R. WICKS, P.E. FL. REG. NO. 33274  
DATE:

**Wicks Engineering Services, Inc.**  
225 West Main Street, Tavares, Florida 32778  
www.wicksengineering.com (352) 343-8667  
C.A. #30062



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1"=50' VERT.

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Rubin Groves of Clermont  
CROSS SECTIONS A,B & C  
Lake County, Florida

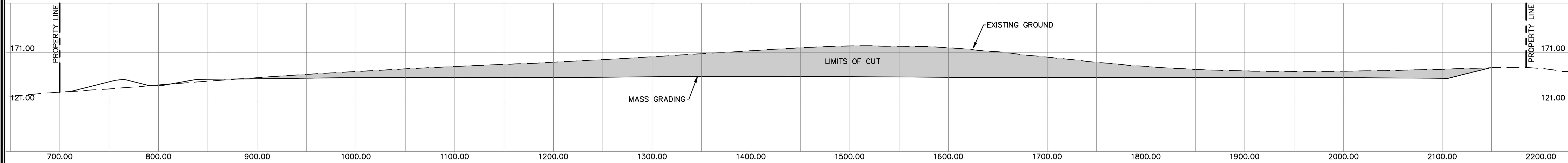
Mr. Sheldon Rubin, Trustee  
9210 Equus Circle  
Boyton Beach, Florida, 33472  
(561) 704-1959

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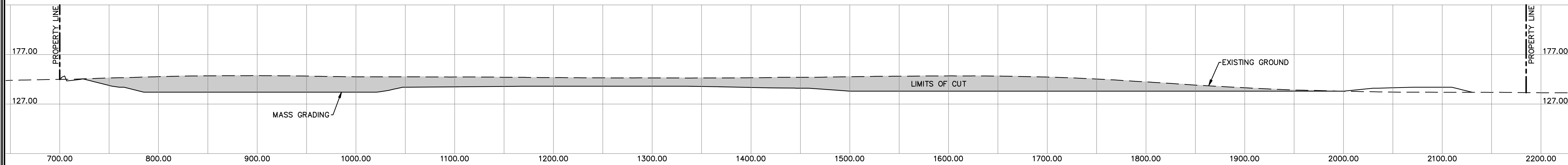
**Wicks Engineering Services, Inc.**  
225 West Main Street, Tavares, Florida 32778  
www.wicksengineering.com (352) 343-8667  
C.A. #30062

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SECTION D



SECTION E

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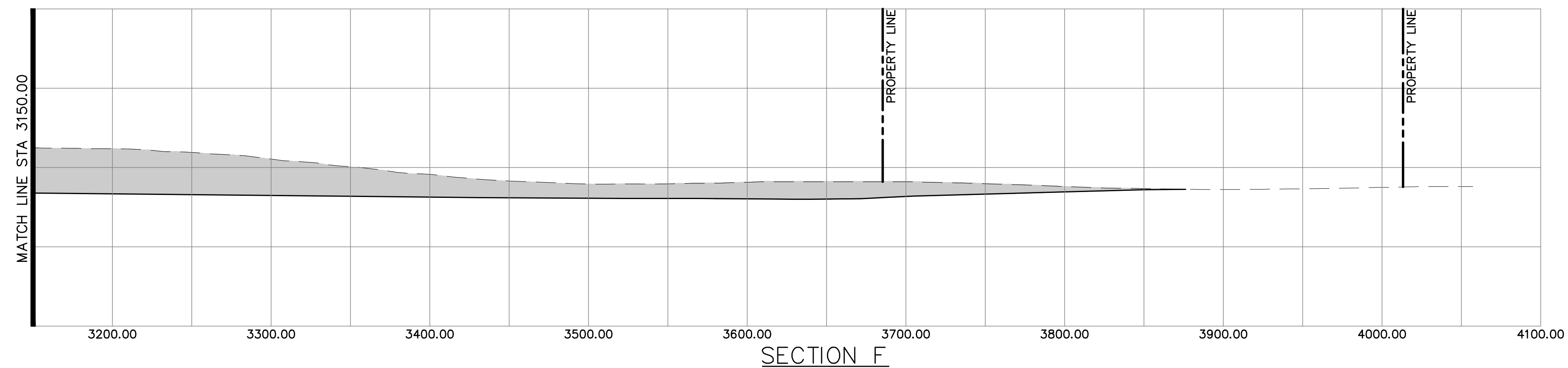
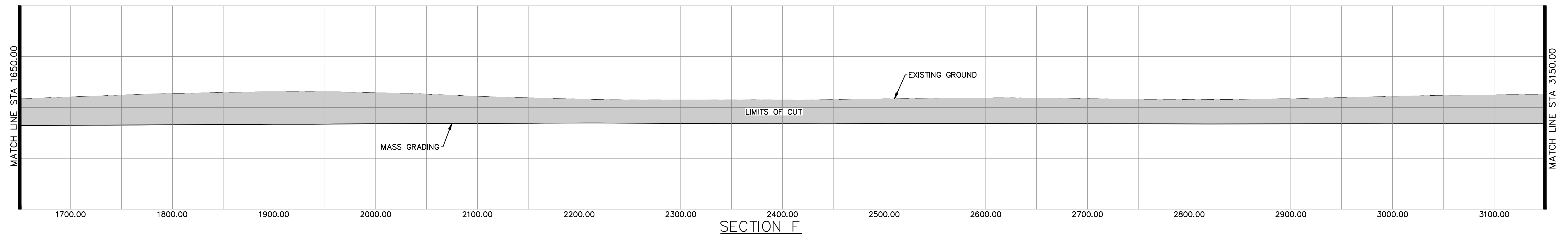
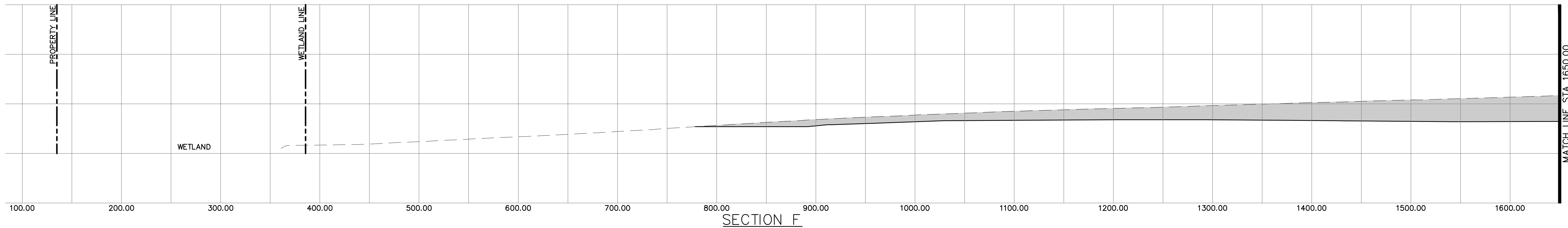
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Rubin Groves of Clermont  
CROSS SECTIONS D & E  
Lake County, Florida

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Rubin Groves of Clermont  
CROSS SECTION F  
Lake County, Florida

Mr. Sheldon Rubin, Trustee  
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