DRAINAGE ANALYSIS

TRANSWESTERN NORTH

MARION COUNTY, FLORIDA

Prepared for:

TDC Deltona Land, LLC

Prepared by:

Kimley-Horn and Associates, Inc.

142933003
October 2022

101 E Silver Springs Boulevard, Suite 400
Ocala, Florida 34470
352 438 3000 TEL

Kimley»Horn

DRAINAGE ANALYSIS

TRANSWESTERN NORTH

MARION COUNTY, FLORIDA

Prepared for:

TDC Deltona Land, LLC

Prepared by:

Kimley-Horn and Associates, Inc.

142933003
October 2022

101 E Silver Springs Boulevard, Suite 400
Ocala, Florida 34470
352 438 3000 TEL

THIS IS TO CERTIFY THAT THE ENCLOSED ENGINEERING CALCULATIONS WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

RICHARD V. BUSCHE, P.E.
STATE OF FLORIDA,
PROFESSIONAL ENGINEER,
LICENSE NO. 58568

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY RICHARD V. BUSCHE, P.E. ON THE DATE INDICATED HERE.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

DN: CN=Richard V Busche, dnQualifier=A01410C0000017C13836671000060EA, O=KIMLEY-HORN AND ASSOCIATES INC, C=US
Date: 2022.10.04 10:08:06-04'00'

Richard V. Busche, P.E.
Florida Registration #58568
Registry #35106

TABLE OF CONTENTS

APPENDIX

INTRODUCTION

The proposed Transwestern North Project is located in Marion County, Florida (Section 12, Township 17 South, and Range 21 East) (See ***Map Figures*** in the ***Appendix***). The Project has a total area of 228.10 acres and will consist of industrial warehouses with associated roadway, parking, utility, and stormwater conveyance improvements. The drainage system for this project will be designed to meet Southwest Florida Water Management District and Marion County design criteria. This preliminary summary and analysis are provided to support a rezoning application to Planned Unit Development. A full drainage analysis will be required at the time of development permitting.

DESIGN CRITERIA

The Transwestern North project will be designed to be compliant with stormwater quantity and quality criteria set forth by the Marion County Land Development Code effective October 12, 2013, and the Southwest Florida Water Management District Environmental Resource Permit Applicant's Handbook, Volume II, effective June 1, 2018.

DESIGN METHODOLOGY

Existing Conditions

In existing conditions, the Project area consists of undeveloped, rural land with elevations that vary from 95 feet at the highest point to 77 feet at the lowest point. Stormwater runoff from the Project area is separated in to thirty-four existing primary basins. Most of the basins within the project area drain to existing low points within the project boundary site. Basins B7018 and B 4533 drain to an existing low point on site before discharging to the Interstate 75 right-of-way. Basin B0123 and B0408, along the western property boundary and southwest corner, drain to existing low points off-site. Basin B7164 and B7166, along the southern boundary, also flow to off-site low points. Basin B0348 and B00350, in the southeastern corner, flow to off-site lows. These existing basins can be seen in the **Existing Conditions Basin Map** in the **Appendix**.

Per FEMA FIRM Panels No. 12083C0716E & 12083C0720D effective April 19, 2017, the project area lies in Zone X, an area determined to be outside the 0.2% annual chance floodplain as shown in **Figure 4** (see ***Map Figures*** in the **Appendix**). Per the USDA National Resources Conservation Service, the project area contains Astatula Sand, 0 to 5 percent slopes, Candler Sand, 0 to 5 percent slopes, and Arredondo San, 0 to 5 percent slopes (all Hydrologic Group A). The project's soil type information is shown in **Figure 5** (see ***Map Figures*** in the **Appendix**).

Proposed Conditions

In proposed conditions, the Transwestern North project stormwater management system will include a conveyance network designed to capture stormwater flow from the industrial buildings, parking facilities,

roadways, and landscaped areas. In proposed conditions, the project area will have five primary basins, Basin TW-01 to Basin TW-05, and the runoff generated from these basins will be conveyed to their proposed Drainage Retention Areas (DRA's), TW-01 to TW-05, respectively. These ponds will hold the total stormwater runoff volume generated from the 100-year, 24-hour storm event, with no off-site discharge.

Basins can be seen in the **Proposed Conditions Basin Map** in the **Appendix**.

Basin TW-01

Basin TW-01 (35.15 acres) consists of the southwest portion of the project area. Runoff generated from this basin will drain to a proposed dry retention area, TW-01. On-site runoff will be captured from the industrial building, parking area, and open space via inlets and a storm pipe system.

Basin TW-02

Basin TW-02 (29.10 acres) consists of the northwest portion of the project area. Runoff generated from this basin will drain to a proposed dry retention area, TW-02. On-site runoff will be captured from the industrial building, parking area, and open space via inlets and a storm pipe system.

Basin TW-03

Basin TW-03 (56.33 acres) consists of the northern portion of the project area and additional off-site area north of the project boundary. Runoff generated from this basin will drain to a proposed dry retention area, TW-03. On-site runoff will be captured from the industrial building, parking area, and open space via inlets and a storm pipe system.

Basin TW-04

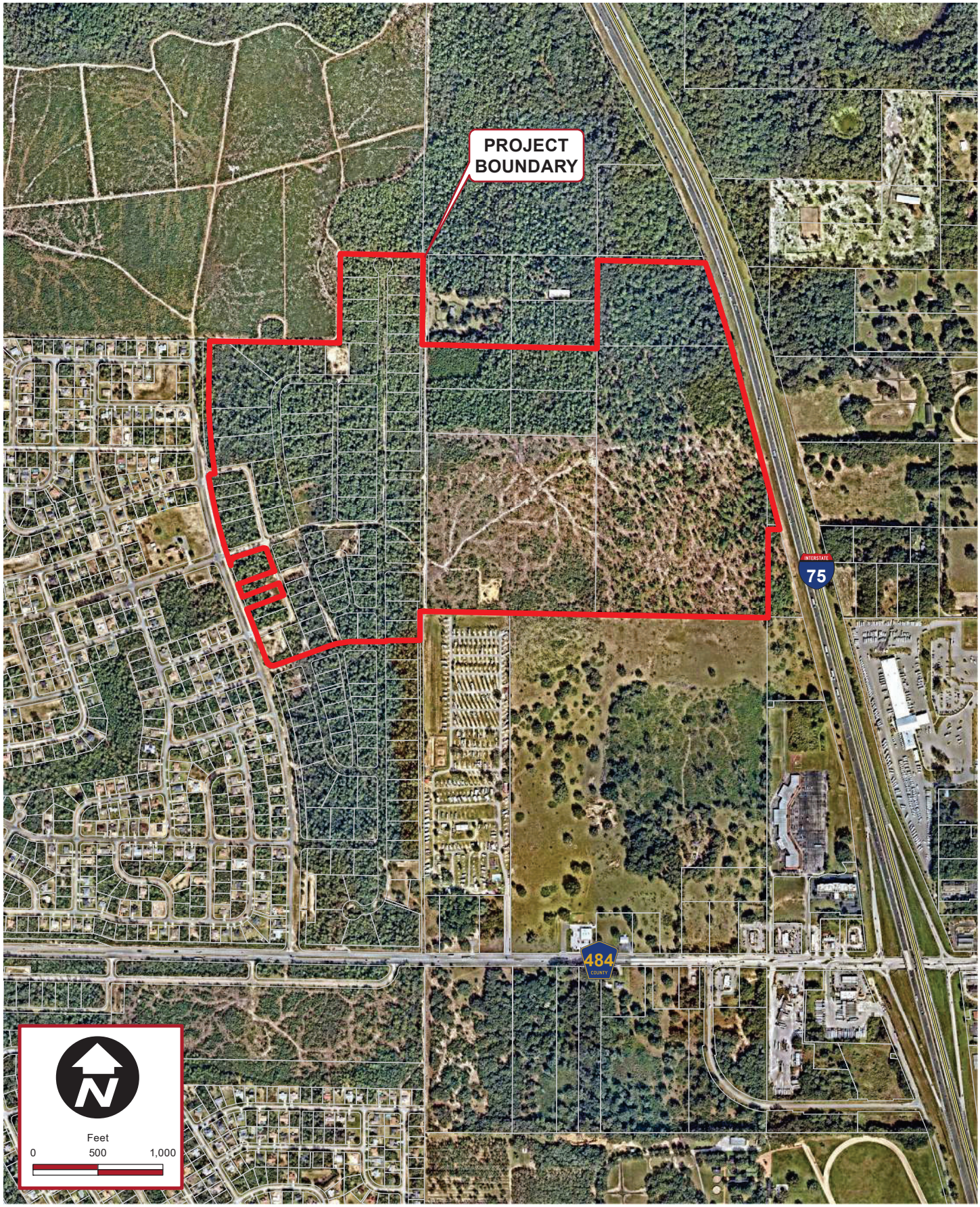
Basin TW-04 (57.20 acres) consists of the northeast portion of the project area and additional off-site area northeast of the project boundary. Runoff generated from this basin will drain to a proposed dry retention area, TW-04. On-site runoff will be captured from the industrial building, parking area, and open space via inlets and a storm pipe system.

Basin TW-05

Basin TW-05 (70.32 acres) consists of the southeast portion of the project area. Runoff generated from this basin will drain to a proposed dry retention area, TW-05. On-site runoff will be captured from the industrial building, parking area, and open space via inlets and a storm pipe system.

APPENDICES

MAP FIGURES



C:\Users\Nathan.Dodge\Desktop\GIS\Maps with New Boundary\01 - Aerial Map.mxd - 9/9/2022 10:28:42 AM - Nathan.Dodge

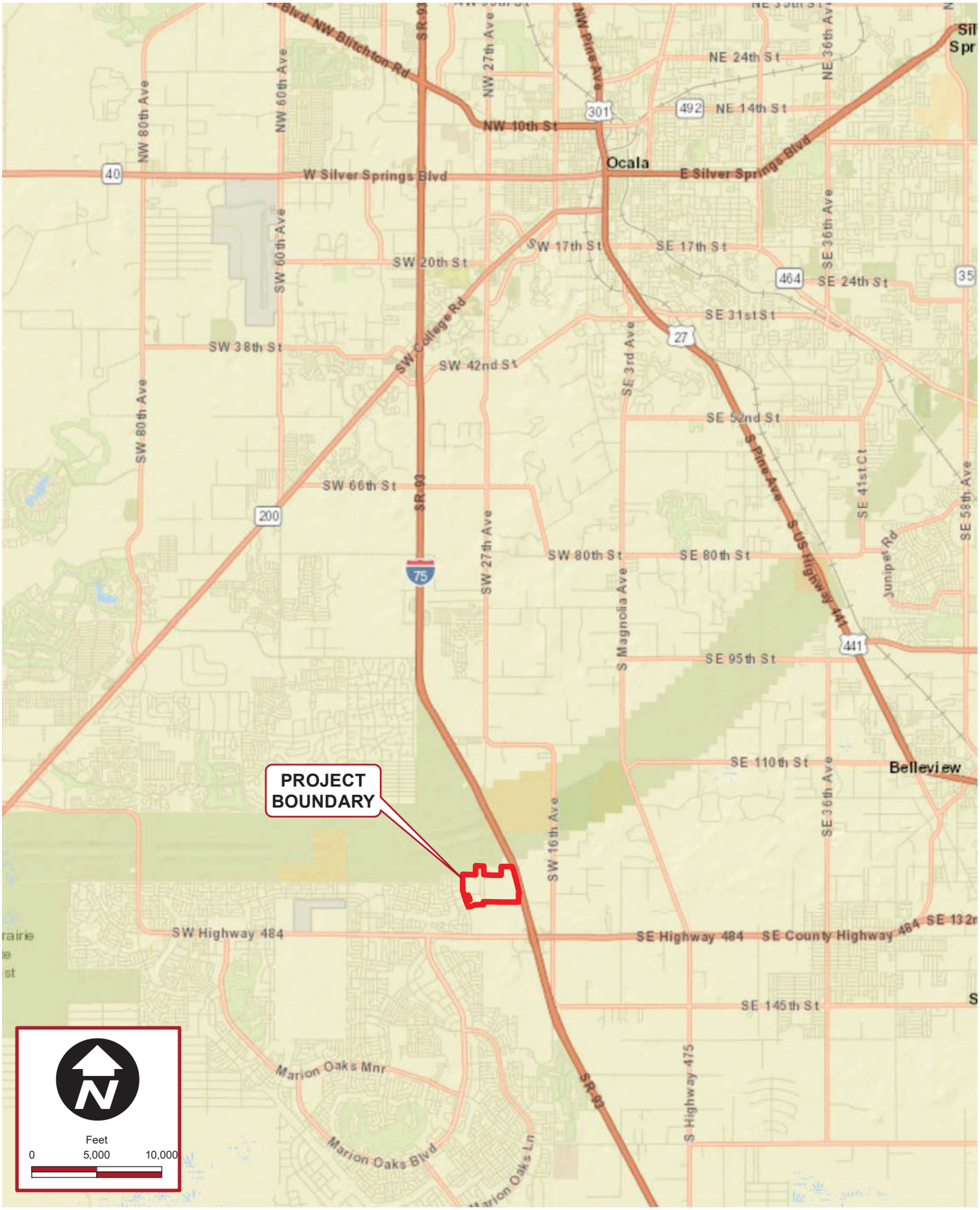
Kimley»Horn

101 East Silver Springs Blvd, Suite 400, Ocala, FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

AERIAL MAP

TRANSWESTERN DEVELOPMENT
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	September 2022	Figure 1



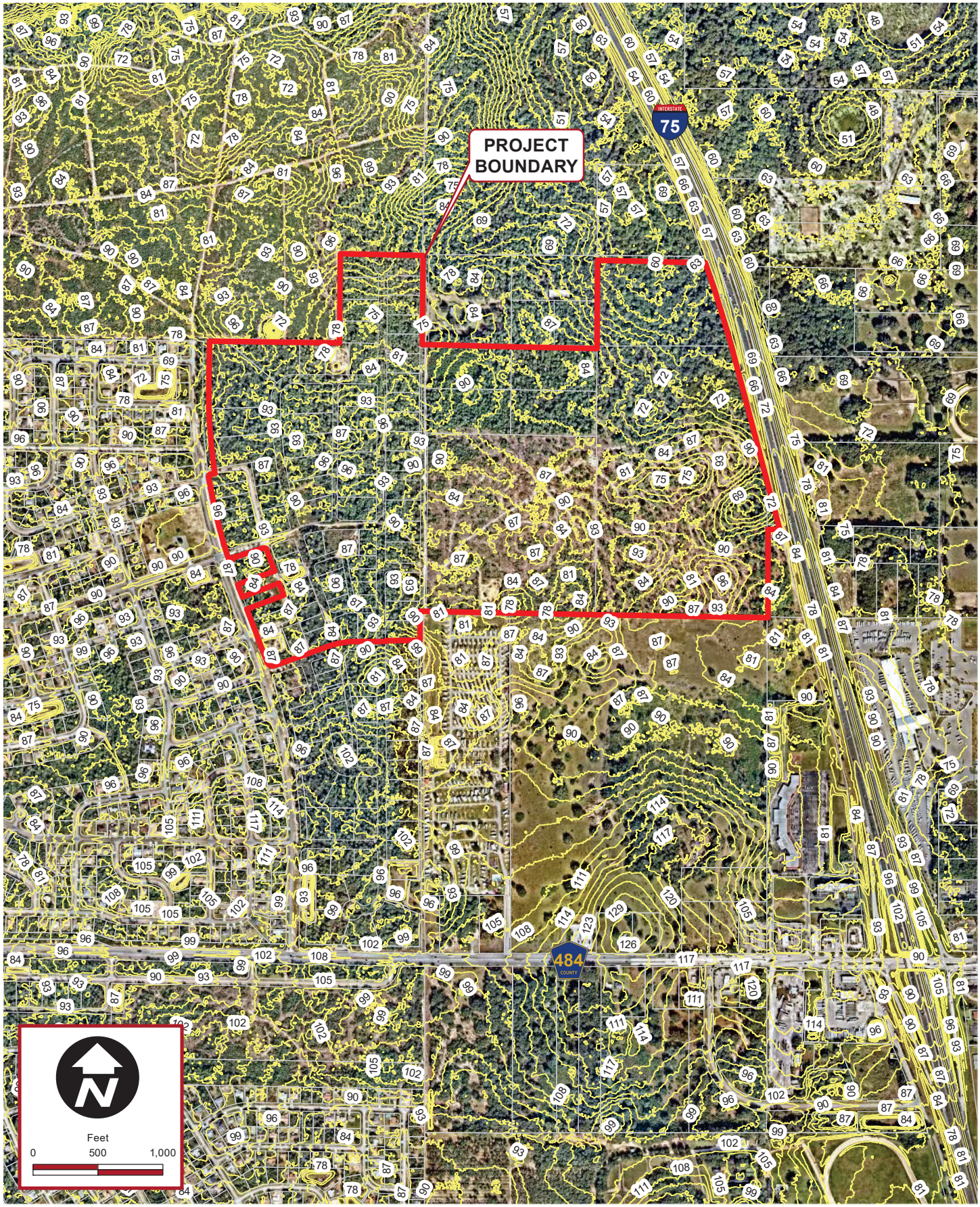
Kimley»Horn

101 East Silver Springs Blvd, Suite 400, Ocala, FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

LOCATION MAP

TRANSWESTERN DEVELOPMENT
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	September 2022	Figure 2



C:\Users\Nathan.Dodge\Desktop\GIS\03 - Topographic Map.mxd - 9/9/2022 10:44:34 AM - Nathan.Dodge

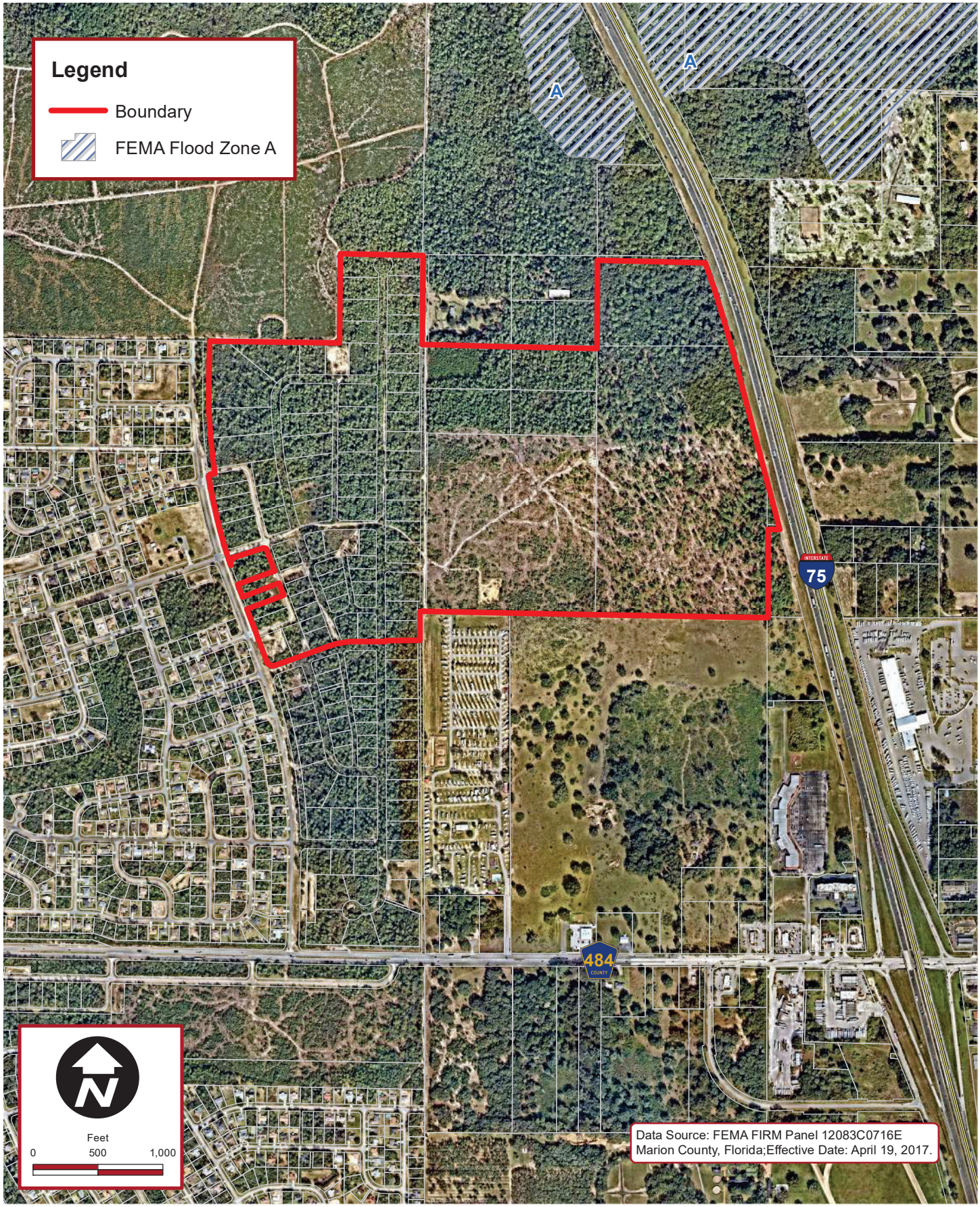
Kimley»Horn

101 East Silver Springs Blvd, Suite 400, Ocala, FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

TOPOGRAPHIC MAP

TRANSWESTERN DEVELOPMENT
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	September 2022	Figure 3



C:\Users\Nathan.Dodge\Desktop\GIS\04 - Fema Map.mxd - 9/9/2022 10:52:51 AM - Nathan.Dodge

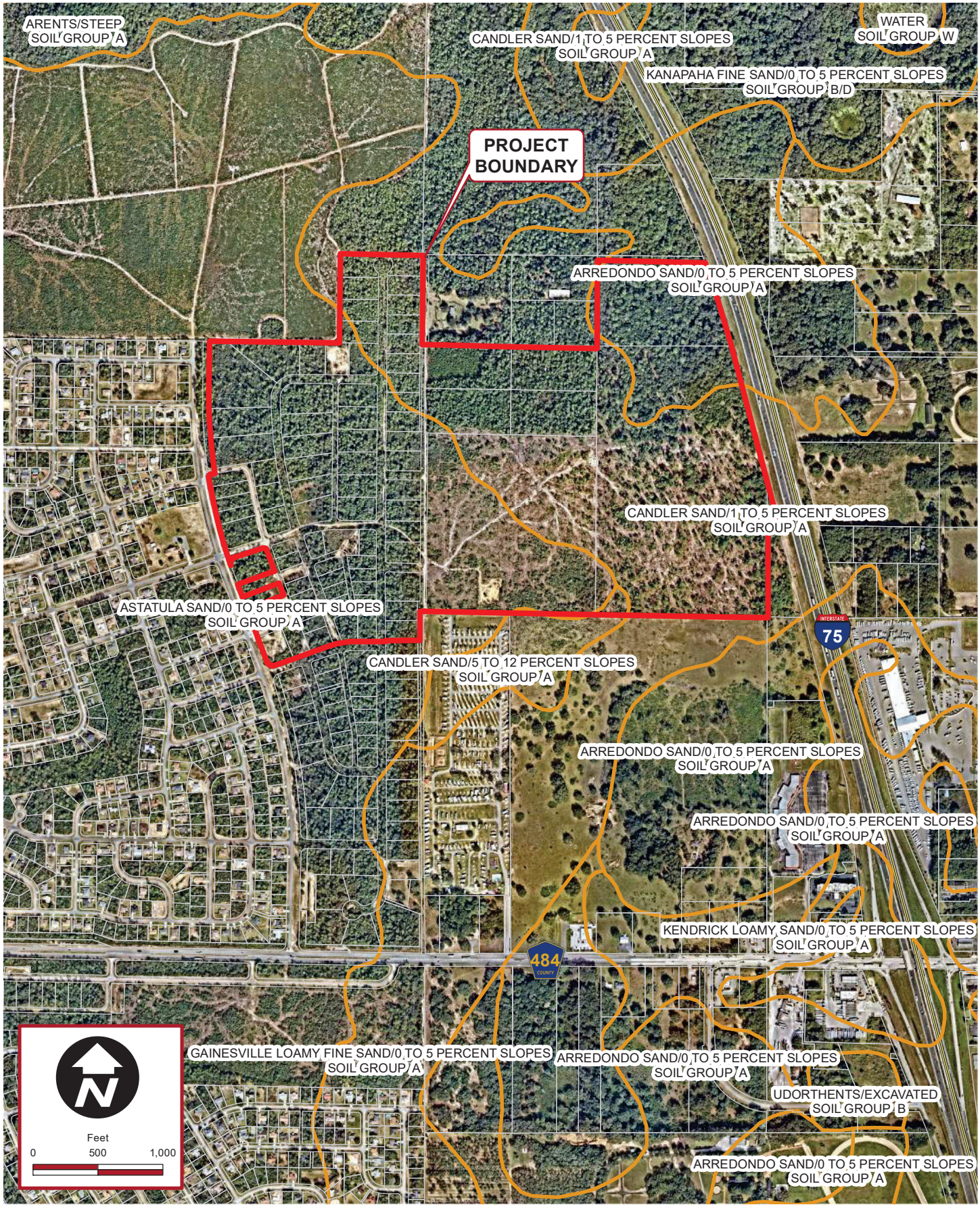
Kimley»Horn

101 East Silver Springs Blvd, Suite 400, Ocala, FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

FEMA MAP

TRANSWESTERN DEVELOPMENT
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	September 2022	Figure 4



C:\Users\Nathan.Dodge\Desktop\GIS\05 - Soils Map.mxd - 9/9/2022 11:31:48 AM - Nathan.Dodge

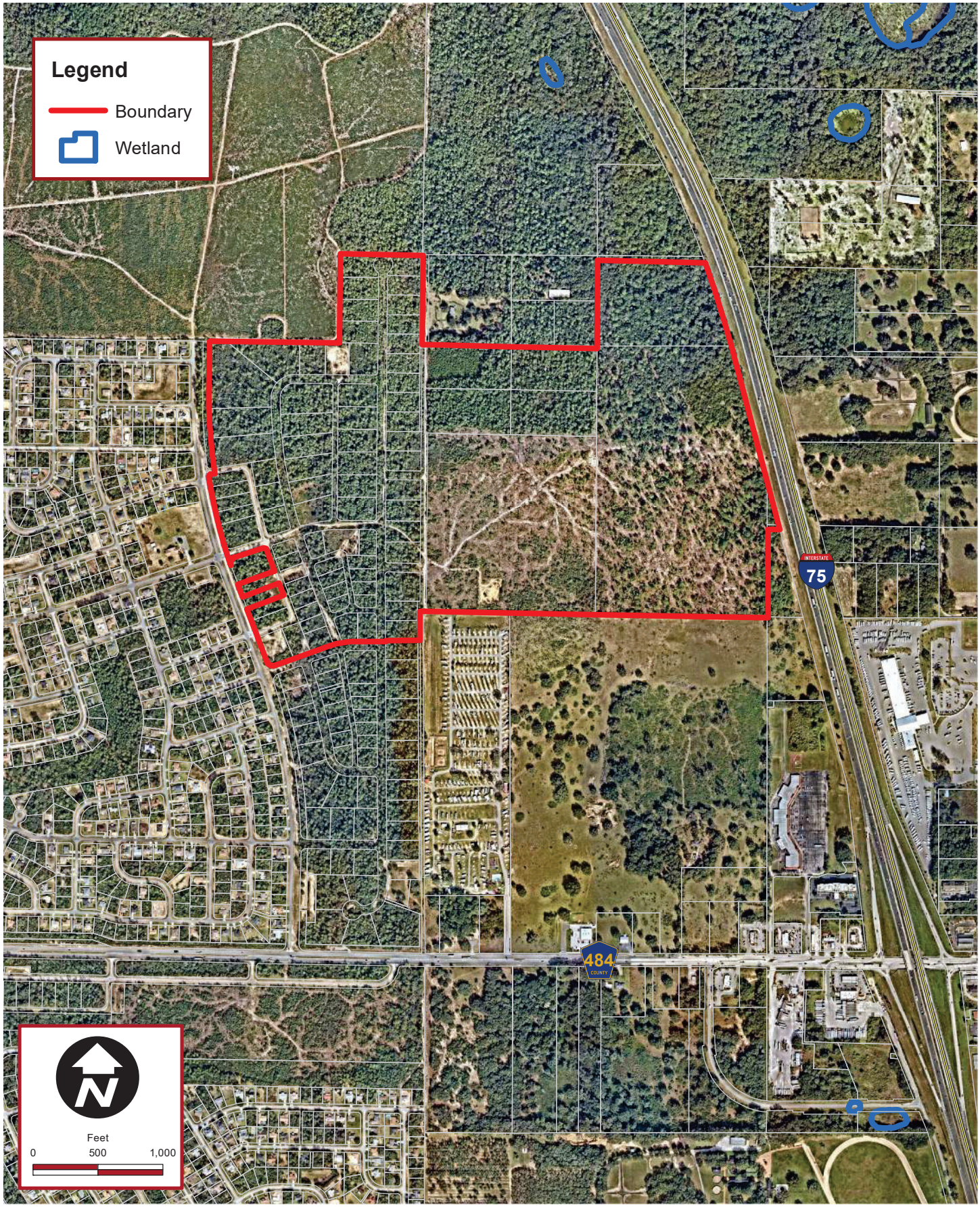
Kimley»Horn

101 East Silver Springs Blvd, Suite 400, Ocala, FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

SOILS MAP

TRANSWESTERN DEVELOPMENT
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	September 2022	Figure 5



C:\Users\Nathan.Dodge\Desktop\GIS\06 - Wetland Map.mxd - 9/9/2022 11:29:02 AM - Nathan.Dodge

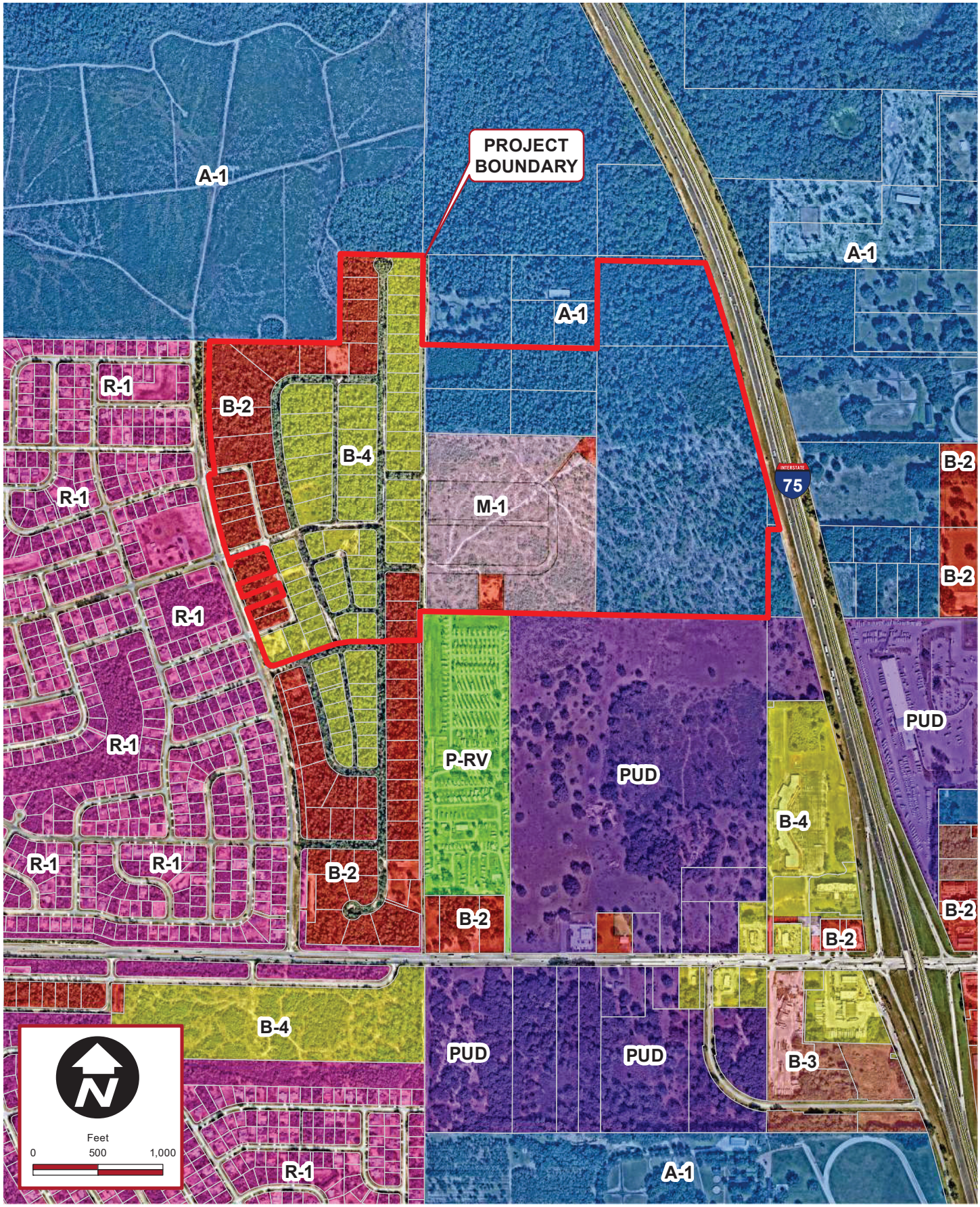
Kimley»Horn

101 East Silver Springs Blvd, Suite 400, Ocala, FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

NATIONAL WETLAND INVENTORY MAP

TRANSWESTERN DEVELOPMENT
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	September 2022	Figure 6



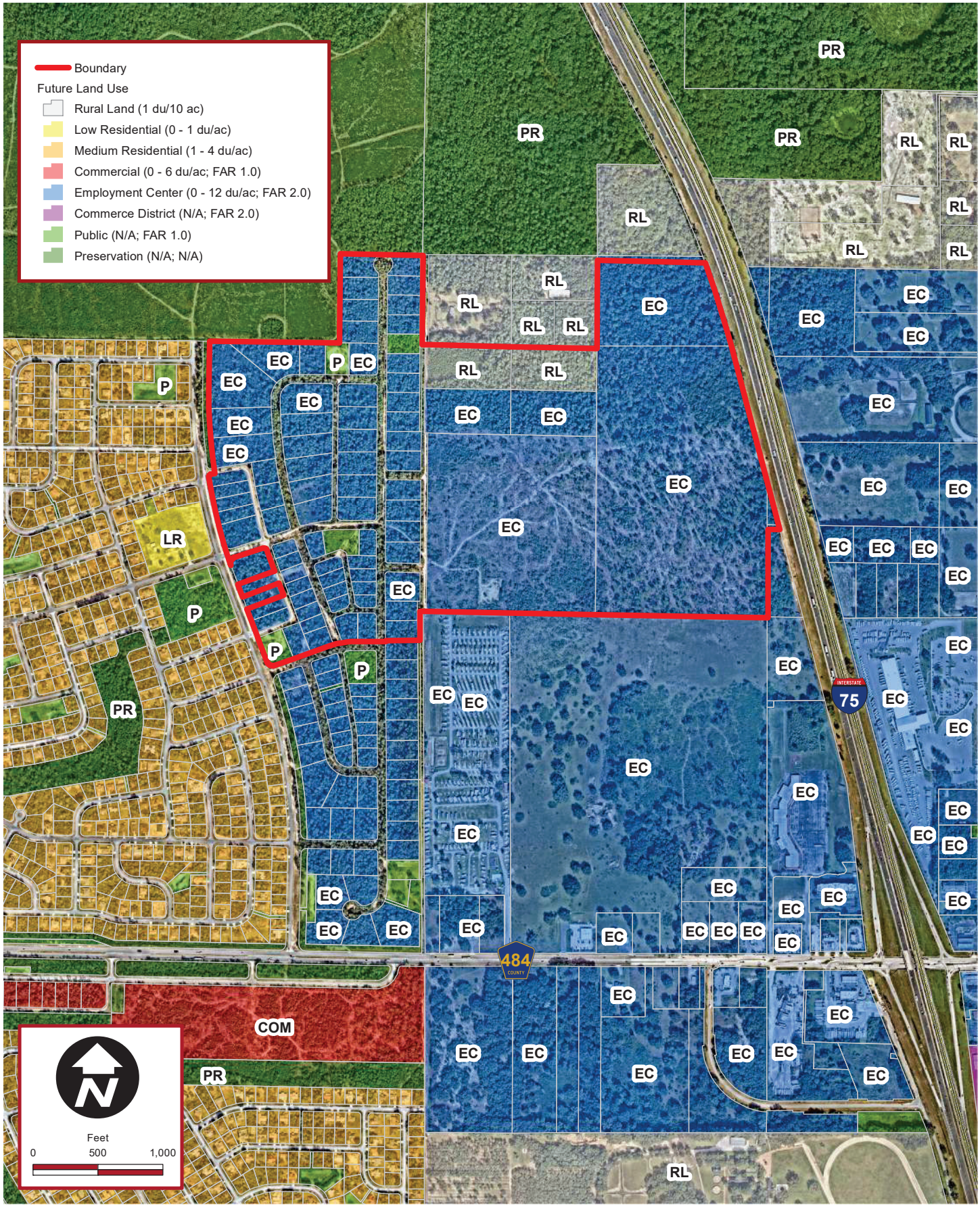
Kimley»Horn

101 East Silver Springs Blvd, Suite 400, Ocala, FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

ZONING MAP

TRANSWESTERN DEVELOPMENT
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	September 2022	Figure 7



C:\Users\Nathan.Dodge\Desktop\GIS\08 - FLU Map.mxd - 9/9/2022 11:17:01 AM - Nathan.Dodge

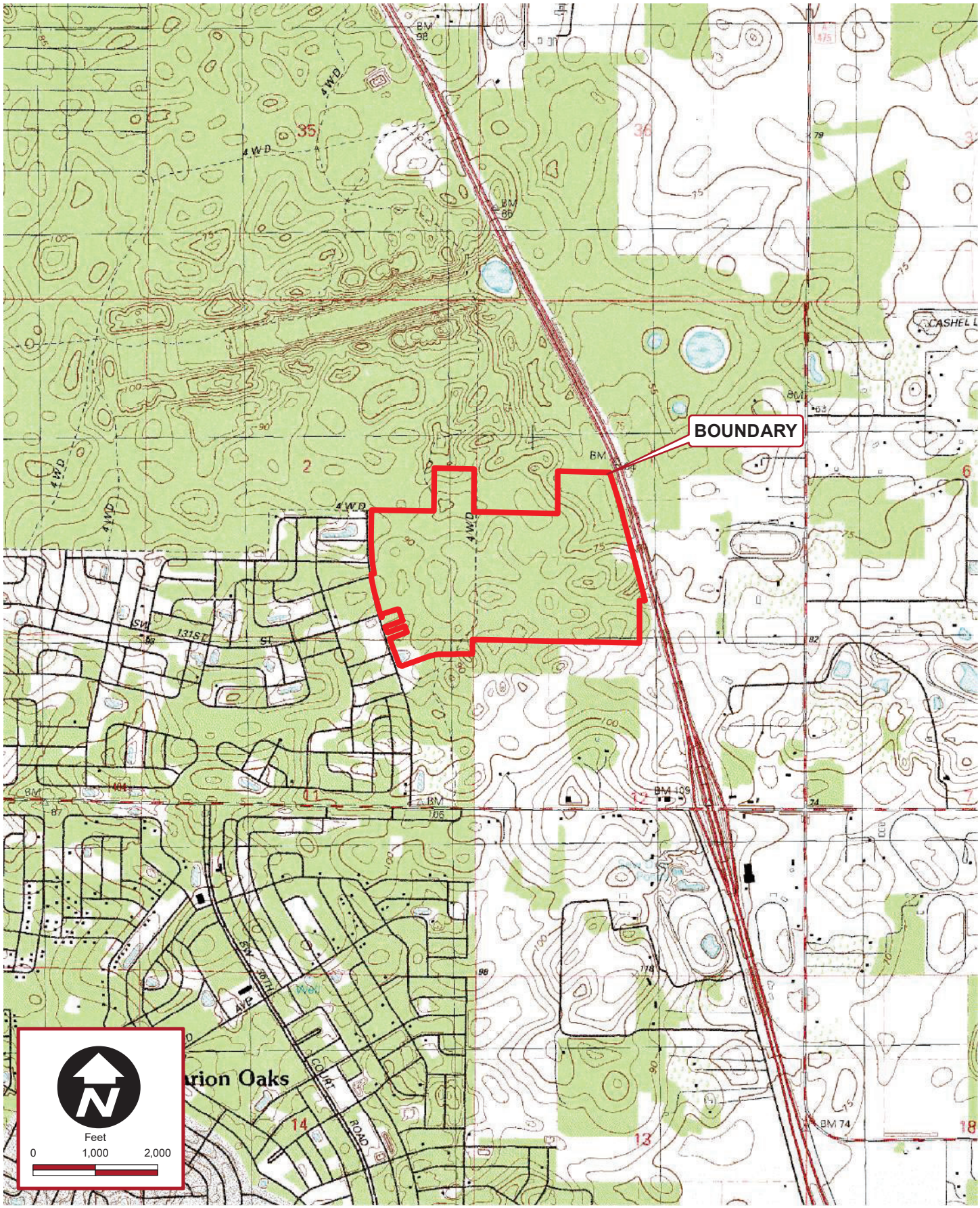
Kimley»Horn

101 East Silver Springs Blvd, Suite 400, Ocala, FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

FUTURE LAND USE MAP

TRANSWESTERN DEVELOPMENT
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	September 2022	Figure 8



Kimley»Horn
© 2022 Kimley-Horn and Associates, Inc.
101 East Silver Springs Blvd, Suite 400, Ocala FL 34470
Phone: (352) 438-3000
www.kimley-horn.com Registry Number 35106

QUADRANGLE MAP

TRANSWESTERN NORTH
MARION COUNTY, FLORIDA

Scale: As Noted	Project No.: 142933003	October 2022	Figure 9

PRIMARY BASIN ANALYSIS

EXISTING CONDITIONS BASIN EXHIBIT

LEGEND

PROJECT BOUNDARY
EXISTING DRAINAGE BASIN
80 EXISTING CONTOURS

NOTES:

- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.

- PRIOR TO CONSTRUCTION WITHIN ANY EXISTING PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE AUTHORITY HAVING JURISDICTION.

No.	REVISIONS	DATE	BY
0	NOT FOR CONSTRUCTION	-	-

Kimley»Horn

101 EAST SILVER SPRINGS BLVD, SUITE 400, OCALA, FL 34470
PHONE: 352-438-3000
WWW.KIMLEY-HORN.COM REGISTRY 35106

LICENSED PROFESSIONAL
RICHARD V. BUSCHE, P.E.
FLORIDA LICENSE NUMBER 58568
DATE: OCTOBER 2022

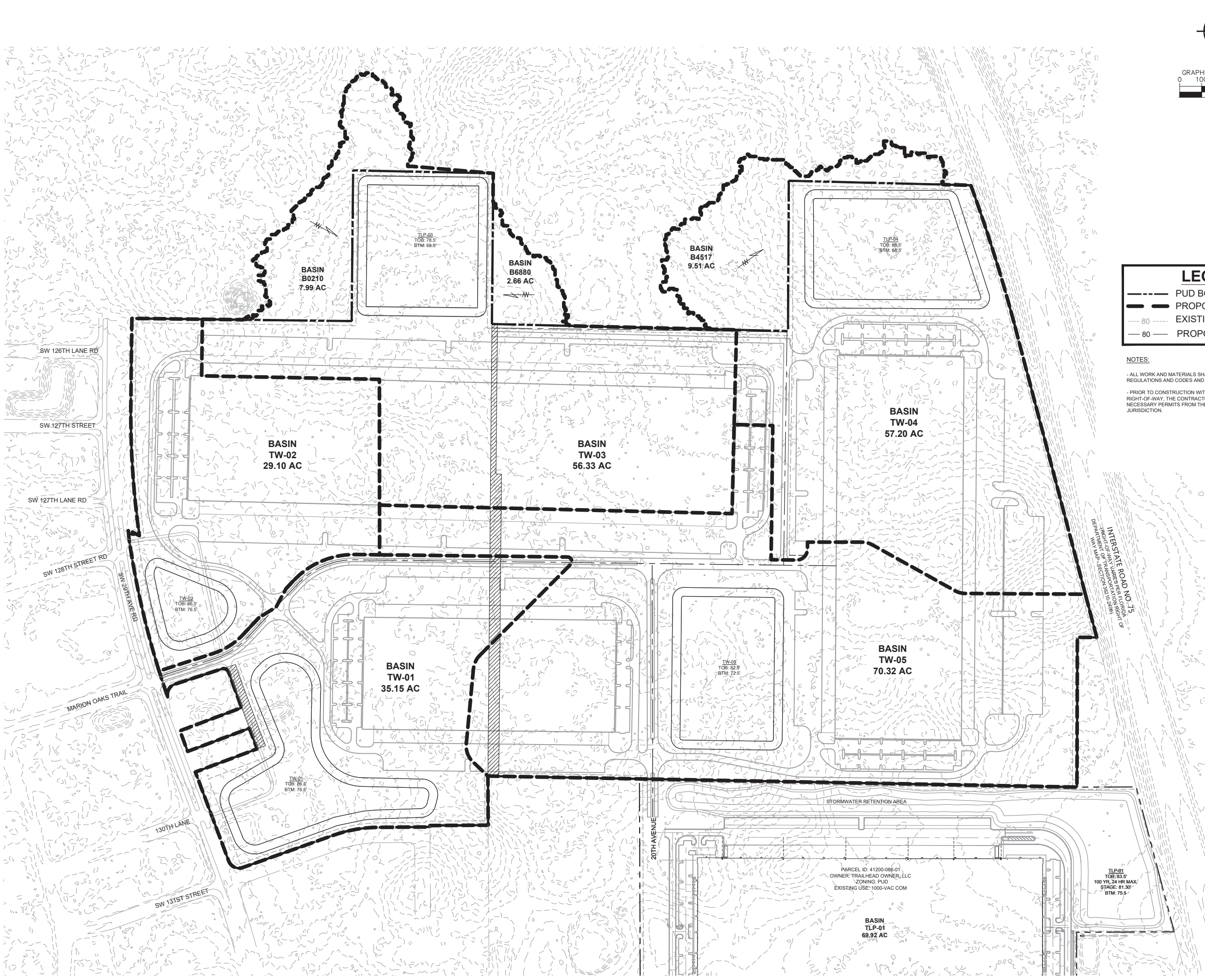
KHA PROJECT 142933003
DATE OCTOBER 2022
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY KHA
CHECKED BY KHA

EXISTING CONDITIONS BASIN MAP

TRANSWESTERN NORTH
PREPARED FOR
TDC DELTONA LAND, LLC
MARION COUNTY FLORIDA

SHEET NUMBER
EX-01

PROPOSED CONDITIONS BASIN EXHIBIT



LEGEND

— - - —	PUD BOUNDARY
▬ ▬	PROPOSED DRAINAGE BASIN
---- 80 ----	EXISTING CONTOURS
—— 80 ——	PROPOSED CONTOURS

NOTES:

- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.

- PRIOR TO CONSTRUCTION WITHIN ANY EXISTING PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE AUTHORITY HAVING JURISDICTION.

No.	REVISIONS	DATE	BY
△	NOT FOR CONSTRUCTION	-	-

Kimley»Horn

101 EAST SILVER SPRINGS BLVD, SUITE 400, OCALA, FL 34470
PHONE: 352-438-3000
WWW.KIMLEY-HORN.COM REGISTRY 35106

LICENSED PROFESSIONAL
RICHARD V. BUSCHE, P.E.
FLORIDA LICENSE NUMBER
58568
DATE: OCTOBER 2022

KHA PROJECT 142933003
DATE OCTOBER 2022
SCALE AS SHOWN
DESIGNED BY KHA
DRAWN BY KHA
CHECKED BY KHA

PROPOSED BASIN MAP

TRANSWESTERN NORTH

PREPARED FOR
TDC DELTONA LAND, LLC
MARION COUNTY FLORIDA

SHEET NUMBER
EX-02