



E N G I N E E R I N G D E S I G N A S S O C I A T E S , P . A .

ENGINEERS

ENVIRONMENTAL PLANNERS

LANDSCAPE ARCHITECTS

FRESHWATER WETLANDS REPORT

1910 Route 9

Block 262, Lot 1.03

Dennis Township, Cape May County, NJ

Applicant : Zemac Acquisition, LLC

EDA # 9306

September 22, 2021

Cambridge Professional Offices

5 Cambridge Drive, Ocean View, New Jersey 08230

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1.0 Introduction

The purpose of this report is to support and identify the extent of wetlands on the subject property in accordance with the Delineation Method as developed by the Interagency Committee for Wetlands Delineation as set forth in the “Federal Manual for Identifying and Delineating Jurisdictional Wetlands.”

2.0 Site Description and Mapping

The subject property, Block 262, Lot 1.03 is comprised of 17.27 acres and is located between New Jersey State Highway Route 9 and the Garden State Parkway. The property is a “U-shaped”, vacant and wooded parcel. The freshwater wetlands are associated with Uncle Aaron’s Creek located on the southern portion of the property.

The mapping provided in Appendix A shows the location and configuration of the site on the U.S.G.S. Quadrangle Map, the Dennis Township tax map, and an aerial photograph. Site photographs are provided in Appendix B.

The accompanying survey entitled “Survey of Premises” prepared by Gregory K Schneider, PLS provides the outbounds of the property, topography, transect locations and numbered locations of the wetlands flagging. The wetlands boundary line was delineated by Engineering Design Associates.

The NJDEP soil survey (SSURGO) data is provided in Appendix A and maps the site as being comprised of the following soil types:

DoeBO- Downer sandy loam, 2 to 5 percent slopes: This soil type is well drained, the depth to the water table is estimated to be greater than 80 inches and there is no frequency of flooding. This soil is comprised of loamy sand and sandy loam and is not hydric.

DoeAO – Downer sandy loam, 0 to 2 percent slopes: This soil type is well drained, the depth to the water table is estimated to be greater than 80 inches and there is no frequency of flooding. This soil is comprised of sandy loam and loam sand is not hydric.

HboA – Hammonton sandy loam, 0 to 2 percent slopes: This soil type is moderately well drained, the depth to the water table is between 18 and 42 inches and there is no frequency of flooding. This soil is comprised of sandy loam and sand and is not hydric.

BEXAS – Berryland and Mullica Soils, 0 to 2 percent slopes: This soil type is occasionally flooded and the estimated depth to the water table is between 0 to 6 inches. This soil is comprised of sand to 80 inches, and is hydric.

MakAt – Manahawkin muck, 0 to 2 percent slopes: This soil type is very poorly drained, the depth to the water table is between 0 and 6 inches and it is frequently flooded. This soil is comprised mostly of muck to 47 inches and is hydric.

In addition to the soils mapping, the NJDEP Freshwater Wetlands mapping provided on Geoweb was reviewed to determine the approximate extent of freshwater wetlands on the site and on adjacent parcels. The field delineated wetlands is consistent with the soils and wetlands mapping provided in Appendix A.

3.0 Field Investigation

The wetlands are located along the southern portion of the site in the vicinity of Uncle Aaron's Creek. The three-parameter approach (hydrology, soils and vegetative identification) as provided in the referenced Federal Manual was utilized to determine the location of the wetland boundary line. At the transect study area, vegetative species, soil boring results and hydrologic conditions were recorded. An area was wetlands if all three indicators were present, namely, hydric soils, wetlands vegetation and wetland hydrology. Transect Data Sheets are provided as Appendix C.

4.0 Vegetation

The wetlands portion of the property includes American holly (*Ilex opaca*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), and sweet pepperbush (*Clethra alnifolia*). The upland portion of the property is vegetated with white oak (*Quercus alba*), red cedar (*Juniperus virginiana*), sassafras (*Sassafras albidum*), sweet gum, sweet pepperbush and multi-flora rose (*Rosa multiflora*).

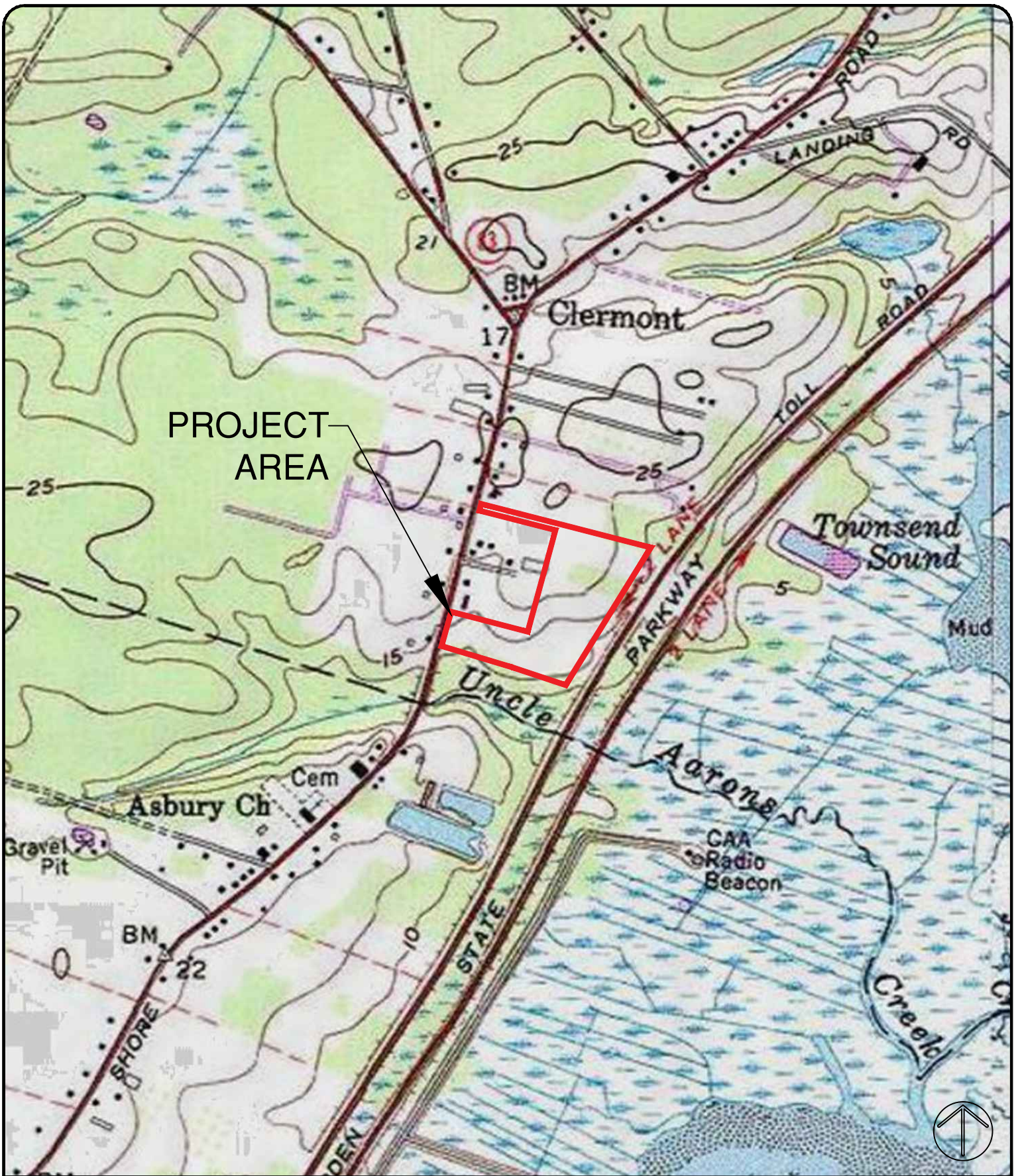
5.0 Soils

Using a hand auger, a boring to at least twenty-four inches was performed, and the results were recorded at the transect points on the site to verify placement of the line. Soil colors were determined by the comparison of samples with the Munsell Soil Color Chart. The wetlands soil consists of black loamy sand. The upland soil is loamy sand with medium and high chroma matrix colors. The seasonal high-water table was greater than 23 inches in the upland area.

6.0 Hydrology

The depth to the seasonal high-water table in the wetlands is at 12 inches. Hydrologic indicators include roof buttressing and drift lines.

APPENDIX A: SITE MAPPING



U.S.G.S. MAP
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS, CAPE MAY COUNTY, NJ

DATE: 9/22/2021
SCALE: 1"=1000'

DRAWN BY: MAJ
PROJECT #: 9306

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TOWNSHIP

PROJECT
AREA

22/08	R.J.FARRAR	35836
02/09	R.J.FARRAR	35836
23/06	B.A.GLEISSNER	34483
20/05	J.R.WALKER	10294
13/04	J.R.WALKER	10294
7/03	J.R.WALKER	10294
5/03	J.R.WALKER	10294
24/02	J.R.WALKER	10294
DATE	NAME OF P.L.S.	LICENSE # OF P.L.S.
01	B256.01, L6: Rev'd Ac, B262, L1 703 Min. Sub	WPH
99	B262, LOTS 20.05 & 20.06 COMBINED	WPH
98	B259, L18-KINGS Hwy: 45' ROW was 40'	WPH
97	B256.05, L46 REVISED (SEE SHEET 28.01)	WPH
97	B258, L1 & 4: MINOR SUBDIVISION	WPH
97	B261, L1 31.01, 31.02 SUBDIVISION	WPH
97	B256.05, COMBINED L-14.01, 14.02	WPH
96	B259: L 26 WAS 250', L 27: 150' WIDE	WPH
96	B-262, L3 WAS: L 3.01 & 3.02	WPH
96	B256.05, REV L-8.01, Add L-69, Delete L-8.02, 9, 10, 12	WPH
96	B-262: NEW L-20.05, .06 WAS L-20.02	WPH
96	B-261, L-2, 3: DENNIS TWP, EXEMPTED	WPH
96	B-256.05, L14, 15 SUB., ADDED DET. SHEET 28.03	WPH
96	BLOCK 262, L/4 REVISED AC.	WPH
95	B-256.06 L-17 FIRE DISTRICT EASEMENT	CBA
95	B-262 L-102 & L05 SUBDIVISION	CBA
95	B/257 L/19 CORRECT DIM.	CBA
95	B/261 L/28.02, 3 SUBDIVISION	CBA
95	ADD LOT BETWEEN 38.01 & BLOCK 261	CBA
02/94	B/264 L/61, 07 EXEMPT	CBA

AARONS

CREEK

GARDEN

NEW JERSEY DEPARTMENT OF TREES & PLANTS
DIVISION OF FORESTRY
LOCAL PROPERTY AND LANDS

APPROVED AS A TAX MAP

TOWNSHIP OF DENNIS TAX MAP
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS, CAPE MAY COUNTY, NJ

DATE: 9/22/2021
SCALE: 1"=500'
DRAWN BY: MAJ
PROJECT #: 9306

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PROJECT
AREA

TOWNSHIP OF DENNIS ROAD MAP
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS, CAPE MAY COUNTY, NJ

DATE: 9/22/2021
SCALE: 1"=600'

DRAWN BY: MAJ
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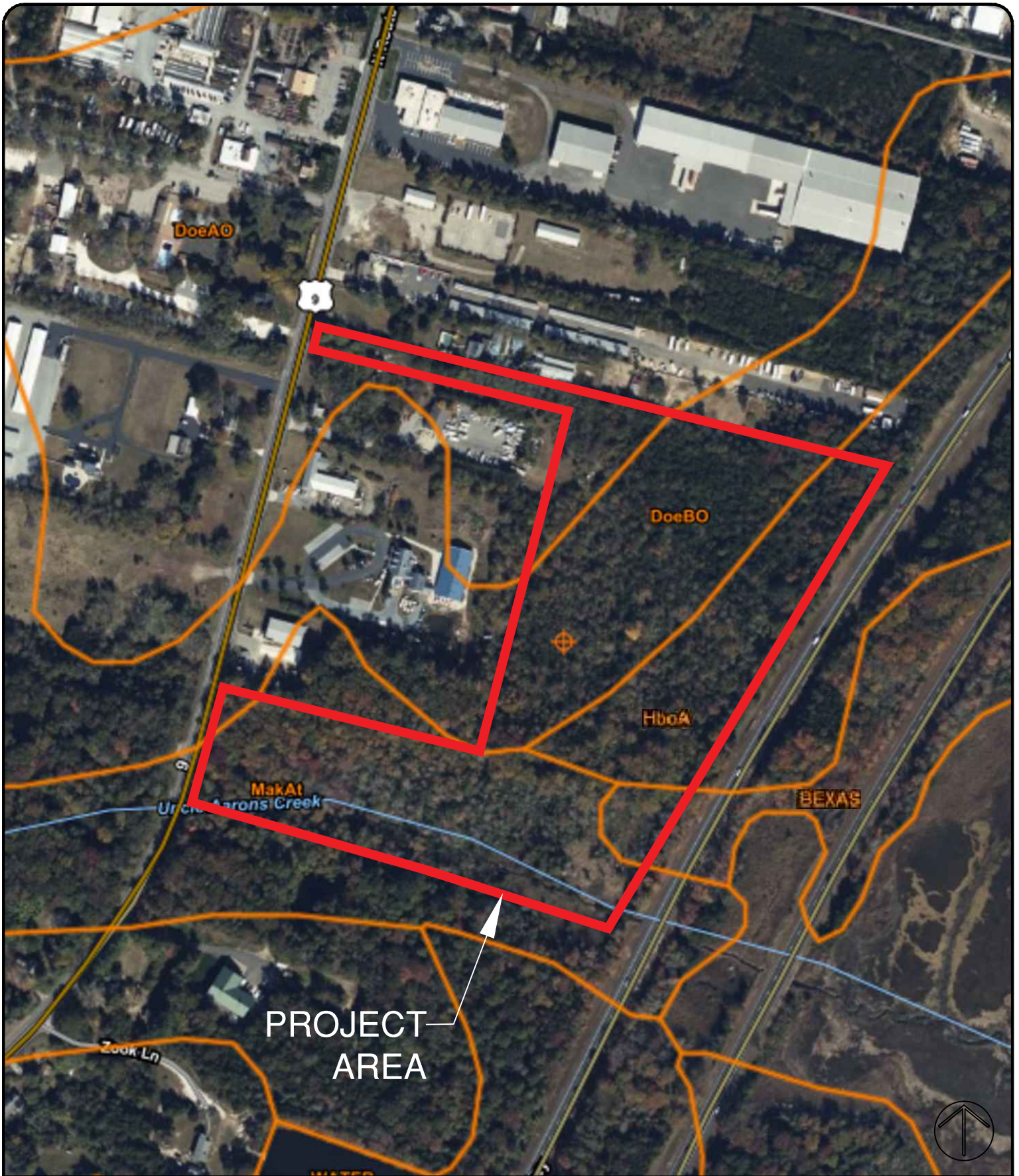
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AREA

TOWNSHIP OF DENNIS AERIAL MAP
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS, CAPE MAY COUNTY, NJ

DATE: 9/22/2021
SCALE: 1"=300'

DRAWN BY: MAJ
PROJECT #: 9306

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CAPE MAY COUNTY SOIL SURVEY MAP
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS, CAPE MAY COUNTY, NJ

DATE: 9/22/2021 DRAWN BY: MAJ
SCALE: 1"=300' PROJECT #: 9306



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PROJECT
AREA



NJ GEOWEB WETLANDS MAP
BLOCK 262, LOT 1.03
TOWNSHIP OF DENNIS, CAPE MAY COUNTY, NJ

DATE: 9/22/2021
SCALE: 1"=400'

DRAWN BY: MAJ
PROJECT #: 9306



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APPENDIX B: SITE PHOTOGRAPHS



View of property from NJSH Route 9 facing south. Property is on left side of photo



View facing east looking at subject site from across NJSH Route 9



View of subject property facing North along NJSH Route 9. Property is on right side of photo.



View of wetlands and transect line.

APPENDIX C: TRANSECT DATA

TRANSECT DATA

A. Transect Area T1.1

Soil Boring Results:

0" - 4" 10YR 2/1 sandy loam
4" - 12" 10YR 5/2 loamy sand
12" - 25" 10YR 6/1 loamy sand

Depth to seasonal high water : 12"
Depth to ground water: 16"

Soils:

Hydric: Yes
Mottling: No

Hydrology:

Saturated soils: Yes
Surface Inundated: Yes
Hydrologic Indicators: root buttressing, drift lines

Vegetation:

Common Name/ <i>Specie</i>	Indicator Status	% Cover
Red Maple/ <i>Acer Rubrum</i>	OBL	25.0
Sweet Gum/ <i>Liquidambar styraciflua</i>	FAC	25.0
American Holly/ <i>Ilex opaca</i>	FACU+	50.0
High Bush Blueberry/ <i>Vaccinium corymbosum</i>	FACW	10.0
Sweet Pepperbush/ <i>Clethra alnifolia</i>	FAC	20.0

Hydrophytic Vegetation: Yes

STATUS: Wetland

B. Transect Area T1.2

Soil Boring Results:

0-8" 10YR 4/4 Sandy Loam
8"-18" 10YR 5/4 Sandy Loam
18"-28" 10YR 7/3 Loamy Sand w/ mottles of 10YR 8/2, common, medium, distinct

Depth to Seasonal High Water: 18"
Depth to Ground Water: Greater than 28"

Soils:

Hydric: No
Mottling: @ 18"

Hydrology:

Saturated soils: None
Surface Inundated: No
Hydrologic Indicators: None

Vegetation:

Common Name/ <i>Specie</i>	Indicator Status	% Cover
Sweet Gum/ <i>Liquidambar styraciflua</i>	FACW	20.0
American Holly/ <i>Ilex opaca</i>	FAC-	60.0
White Oak/ <i>Quercus alba</i>	FACU	20.0
Sweet Pepperbush/ <i>Clethra alnifolia</i>	FAC+	10.0

Hydrophytic Vegetation: Yes

STATUS: Transition Area

C. Transect Area T1.3

Soil Boring Results:

0 - 6" 10YR 5/2 Sandy Loam
6" - 23" 10YR 5/4 Sandy Loam
23" - 30" 10YR 6/4 Loamy Sand,w/ mottles of 10 YR 7/2 Sand Few Fine & Faint

Depth to Seasonal High Water: 23"
Depth to Ground Water: None to 30"

Soils:

Hydric: No
Mottling: Yes @ 23"

Vegetation:

Common Name/ <i>Specie</i>	Indicator Status	% Cover
White Oak/ <i>Quercus alba</i>	FACU-	20.0
Eastern Red Cedar/ <i>Juniperus virginiana</i>	FAC-	60.0
Sassafras/ <i>Sassafras albidum</i>	FACU-	10.0
Sweetgum/ <i>Liquidambar styraciflua</i>	FAC	10.0
Multi Flora Rose / <i>Rosa multiflora</i>	FACU-	10.0

Hydrophytic Vegetation: No

Hydrology:

Saturated soils: No
Surface Inundated: No
Hydrologic Indicators: None

STATUS: Upland

APPENDIX D: PREPARER'S QUALIFICATIONS

Engineering Design Associates

Christopher J. Carey, L.L.A.

*General Partner
Vice President*

Education

B.S. Landscape Architecture, Cook College, Rutgers University, New Brunswick, NJ

Professional Affiliations

Certified Municipal Inspector, State of New Jersey

Licensed Landscape Architect, State of New Jersey License No. 868

Experience Summary

Mr. Carey is a Licensed Landscape Architect in the State of New Jersey. He has over 25 years' experience in soils analysis, septic designs, wetland delineations and CAFRA permitting. He has over 25 years' experience in construction management and experience in residential and commercial site design and development. Mr. Carey has served as Hamilton Township Zoning Board Landscape Architect since 2009 and as Hamilton Township Planning Board Landscape Architect since 2010. Mr. Carey began working with Engineering Design Associates in 1991 prior to becoming a General Partner in 2002.