

# Environmental Assessment Re-Evaluation of the HRCS SEIS

## Appendix B: Wetland Delineation Maps

Map 12 of 20

September 2018

### LEGEND

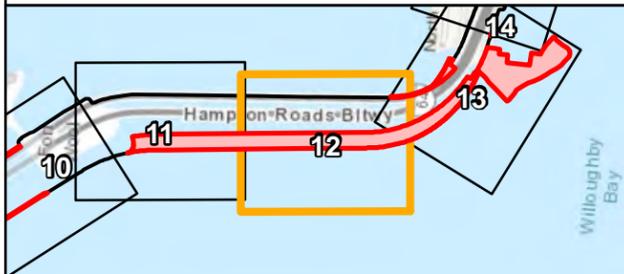
-  Additional Delineation Areas
-  Refined Study Area
-  Roadside Ditch
-  Pipe
-  Wetland Data Point
-  Upland Data Point

#### DELINEATED FEATURES

- |  |  |
|--|--|
|  E1OW                   |  E2EM   |
|  R1                    |  E2FO  |
|  R2                   |  E2RF |
|  R4                   |  E2SS |
|  R6                   |  PEM  |
|  Tidal Ditch          |  PFO  |
|  Jurisdictional Ditch |  PSS  |
|  E2US2                |  PUB  |
|  E2US3                |  |

0 100 200 400

1 inch = 200 feet



**Additional Delineation Areas  
Field Confirmed  
July 17, 2018**

Recd by Corps on  
9/28/18 (GJ)

# Environmental Assessment Re-Evaluation of the HRCS SEIS

Appendix B: Wetland Delineation Maps  
Map 13 of 20  
September 2018

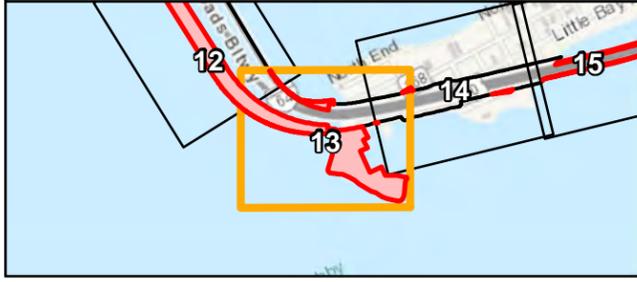
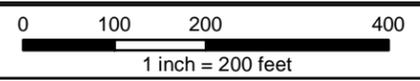
## LEGEND

-  Additional Delineation Areas
-  Refined Study Area
-  Roadside Ditch
-  Pipe
-  Wetland Data Point
-  Upland Data Point

**DELINEATED FEATURES**

 E1OW	 E2EM
 R1	 E2FO
 R2	 E2RF
 R4	 E2SS
 R6	 PEM
 Tidal Ditch	 PFO
 Jurisdictional Ditch	 PSS
 E2US2	 PUB
 E2US3	



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9/28/18 (GJ)

**Additional Delineation Areas  
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# Environmental Assessment Re-Evaluation of the HRCS SEIS

## Appendix B: Wetland Delineation Maps

Map 14 of 20

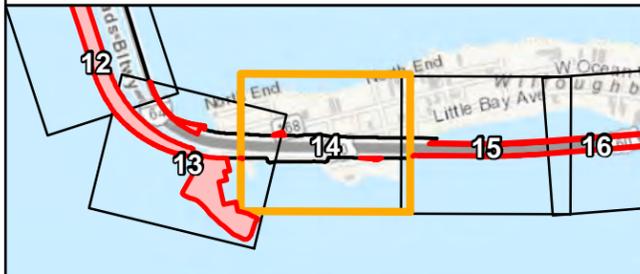
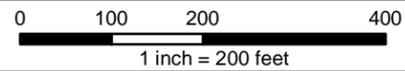
September 2018

### LEGEND

	Additional Delineation Areas
	Refined Study Area
	Roadside Ditch
	Pipe
	Wetland Data Point
	Upland Data Point

DELINEATED FEATURES			
	E1OW		E2EM
	R1		E2FO
	R2		E2RF
	R4		E2SS
	R6		PEM
	Tidal Ditch		PFO
	Jurisdictional Ditch		PSS
	E2US2		PUB
	E2US3		



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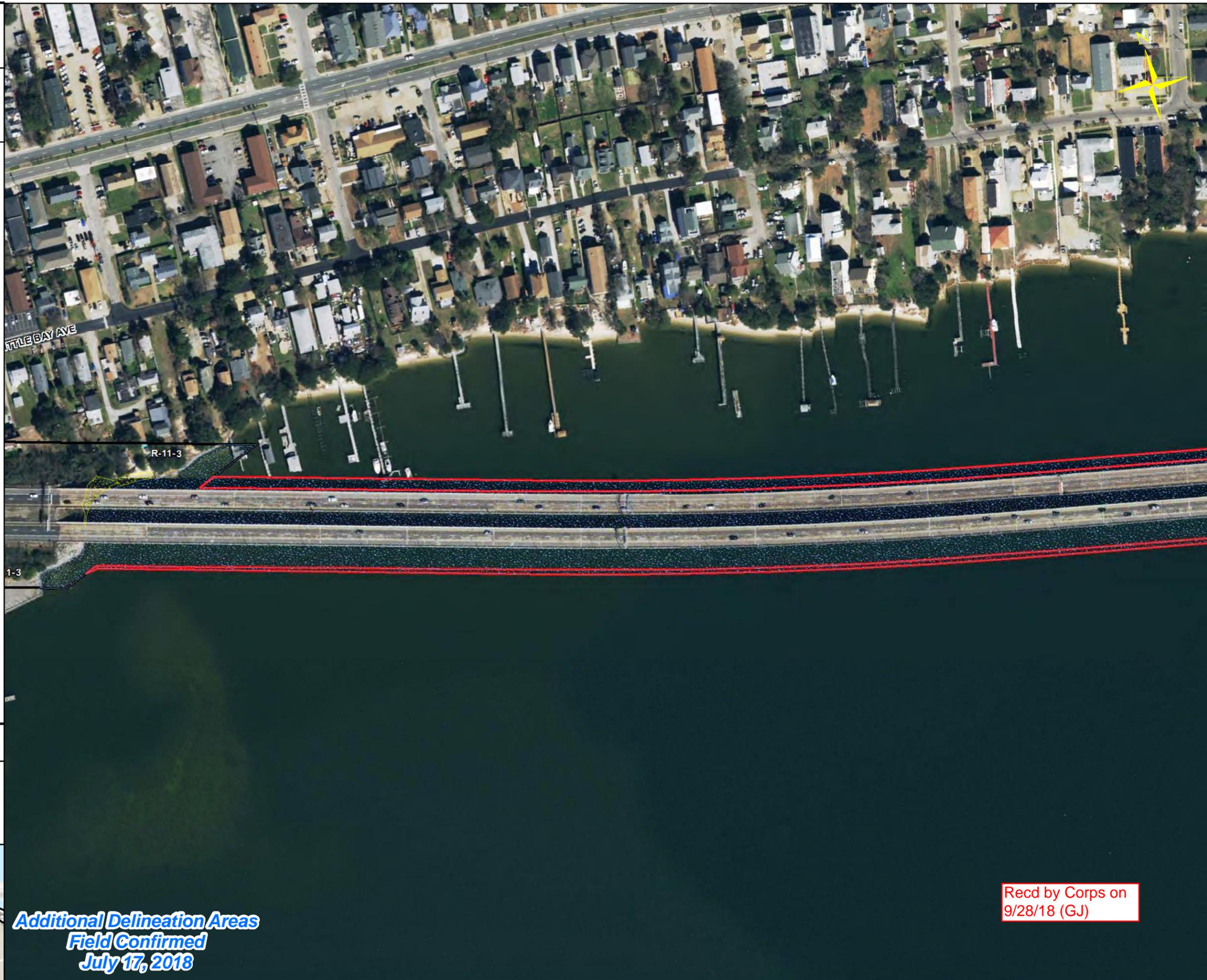
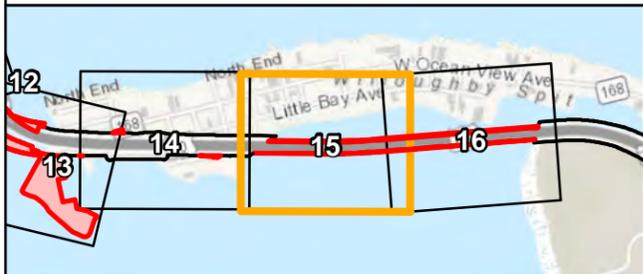
Appendix B: Wetland Delineation Maps  
Map 15 of 20  
September 2018

## LEGEND

-  Additional Delineation Areas
-  Refined Study Area
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### DELINEATED FEATURES

- |  |  |
|--|--|
|  E1OW                   |  E2EM   |
|  R1                    |  E2FO  |
|  R2                   |  E2RF |
|  R4                   |  E2SS |
|  R6                   |  PEM  |
|  Tidal Ditch          |  PFO  |
|  Jurisdictional Ditch |  PSS  |
|  E2US2                |  PUB  |
|  E2US3                |  |



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July 17, 2018**

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# Environmental Assessment Re-Evaluation of the HRCS SEIS

## Appendix B: Wetland Delineation Maps

Map 16 of 20

September 2018

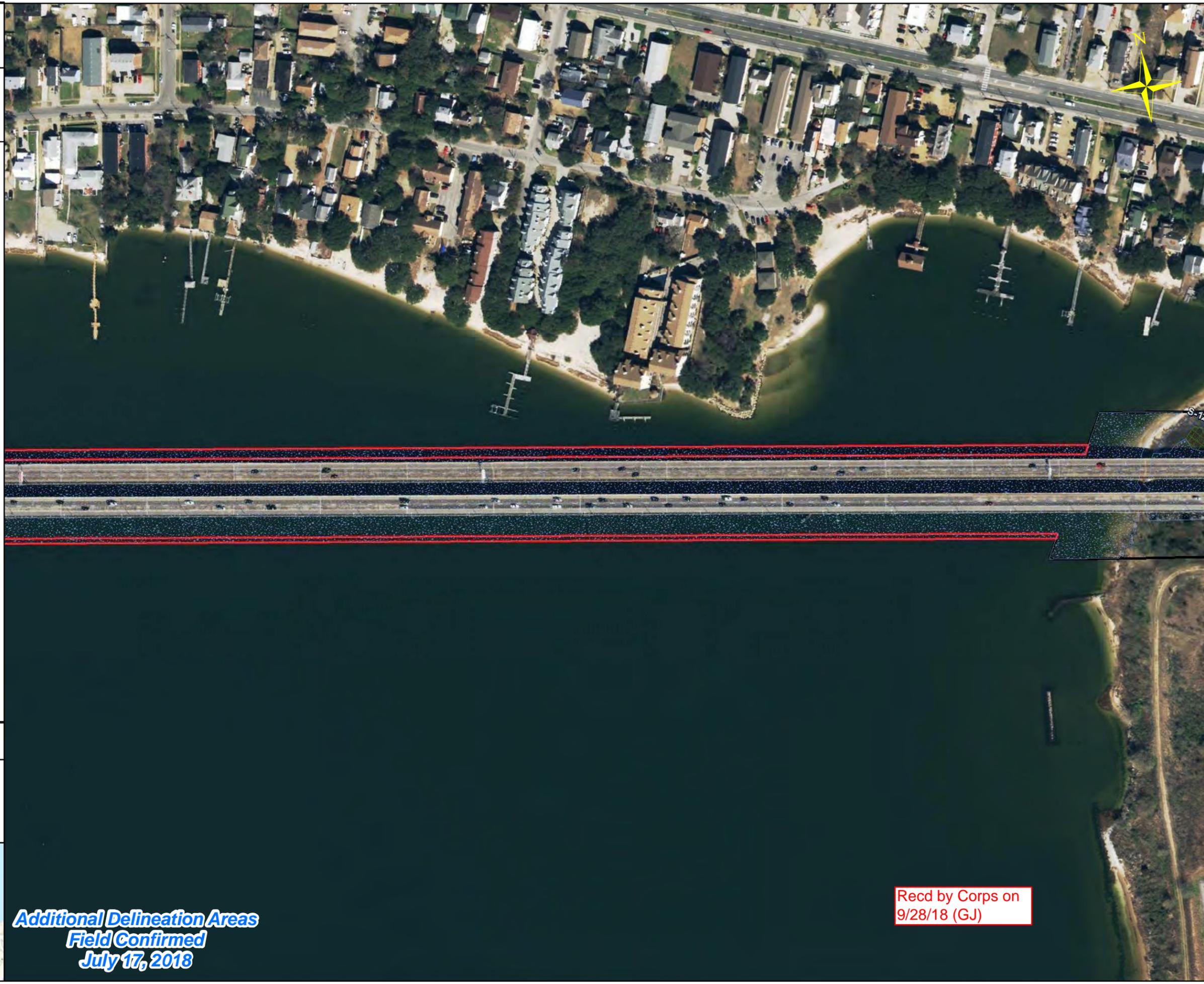
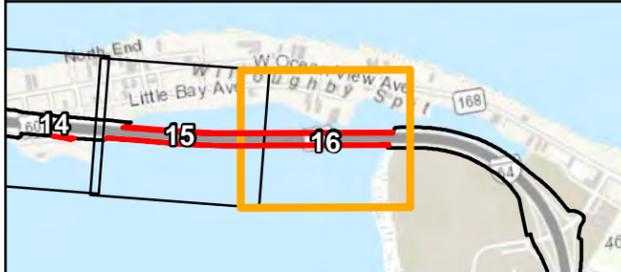
### LEGEND

-  Additional Delineation Areas
-  Refined Study Area
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#### DELINEATED FEATURES

- |  |  |
|--|--|
|  E1OW                   |  E2EM   |
|  R1                    |  E2FO  |
|  R2                   |  E2RF |
|  R4                   |  E2SS |
|  R6                   |  PEM  |
|  Tidal Ditch          |  PFO  |
|  Jurisdictional Ditch |  PSS  |
|  E2US2                |  PUB  |
|  E2US3                |  |

0 100 200 400  
1 inch = 200 feet



**Additional Delineation Areas  
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# Environmental Assessment Re-Evaluation of the HRCS SEIS

Appendix B: Wetland Delineation Maps  
Map 17 of 20  
September 2018

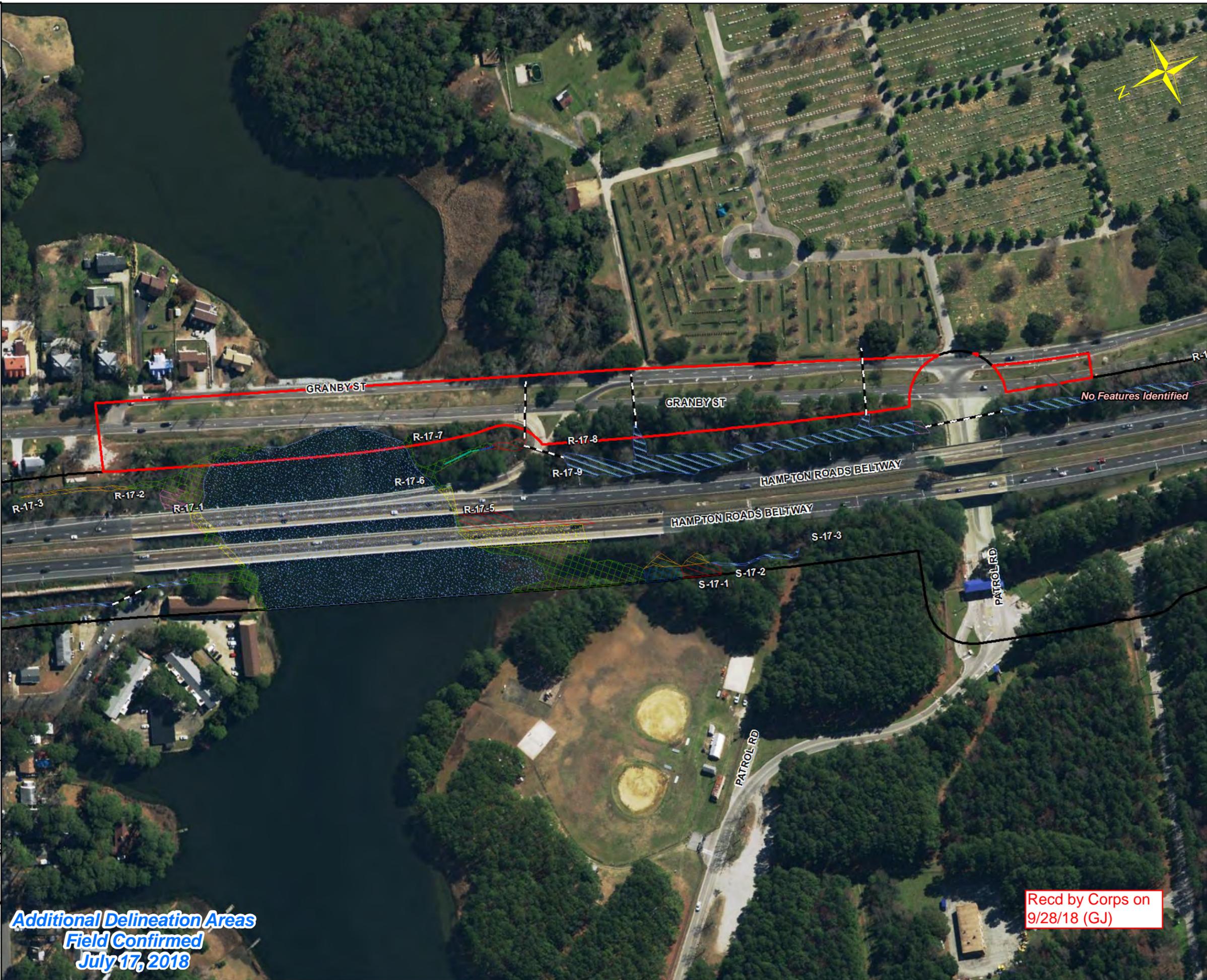
## LEGEND

- Additional Delineation Areas
- Refined Study Area
- Roadside Ditch
- Pipe
- Wetland Data Point
- Upland Data Point

### DELINEATED FEATURES

- |   |   |
|---|---|
| <span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E1OW                 | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2EM |
| <span style="background-color: #00bfff; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> R1                   | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2FO |
| <span style="background-color: #ff00ff; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> R2                   | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2RF |
| <span style="background-color: #00ff00; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> R4                   | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2SS |
| <span style="background-color: #0000ff; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> R6                   | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PEM  |
| <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Tidal Ditch          | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PFO  |
| <span style="background-color: #ffe0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Jurisdictional Ditch | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PSS  |
| <span style="background-color: #ffff00; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2US2                | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PUB  |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2US3                |   |

0 100 200 400  
1 inch = 200 feet



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## Appendix B: Wetland Delineation Maps

Map 18 of 20

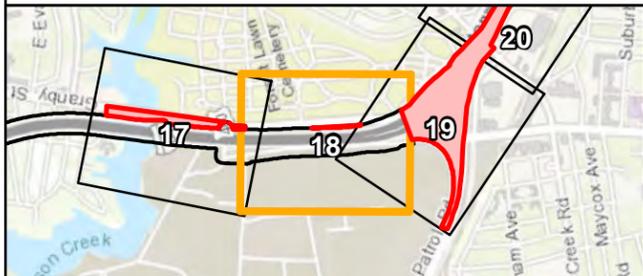
September 2018

### LEGEND

- Additional Delineation Areas
- Refined Study Area
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#### DELINEATED FEATURES

- |  |   |
|--|---|
| <span style="background-color: #e0e0e0; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E1OW                        | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2EM   |
| <span style="background-color: #00bfff; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> R1                          | <span style="background-color: #90ee90; border: 1px solid black; border-style: dashed; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2FO                     |
| <span style="background-color: #ff00ff; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> R2                          | <span style="background-color: #90ee90; border: 1px solid black; border-style: dotted; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2RF                     |
| <span style="background-color: #00ff00; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> R4                          | <span style="background-color: #90ee90; border: 1px solid black; border-style: dashed; border-color: blue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2SS |
| <span style="background-color: #0000ff; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> R6                          | <span style="background-color: #ffcc99; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PEM  |
| <span style="background-color: #cccccc; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Tidal Ditch                 | <span style="background-color: #ffff00; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PFO  |
| <span style="background-color: #ffcccc; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Jurisdictional Ditch        | <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PSS  |
| <span style="background-color: #ffff00; border: 1px solid black; border-style: dotted; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2US2 | <span style="background-color: #0000ff; border: 1px solid black; border-style: dashed; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> PUB                      |
| <span style="background-color: #ff0000; border: 1px solid black; border-style: dotted; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> E2US3 |   |



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Map 19 of 20

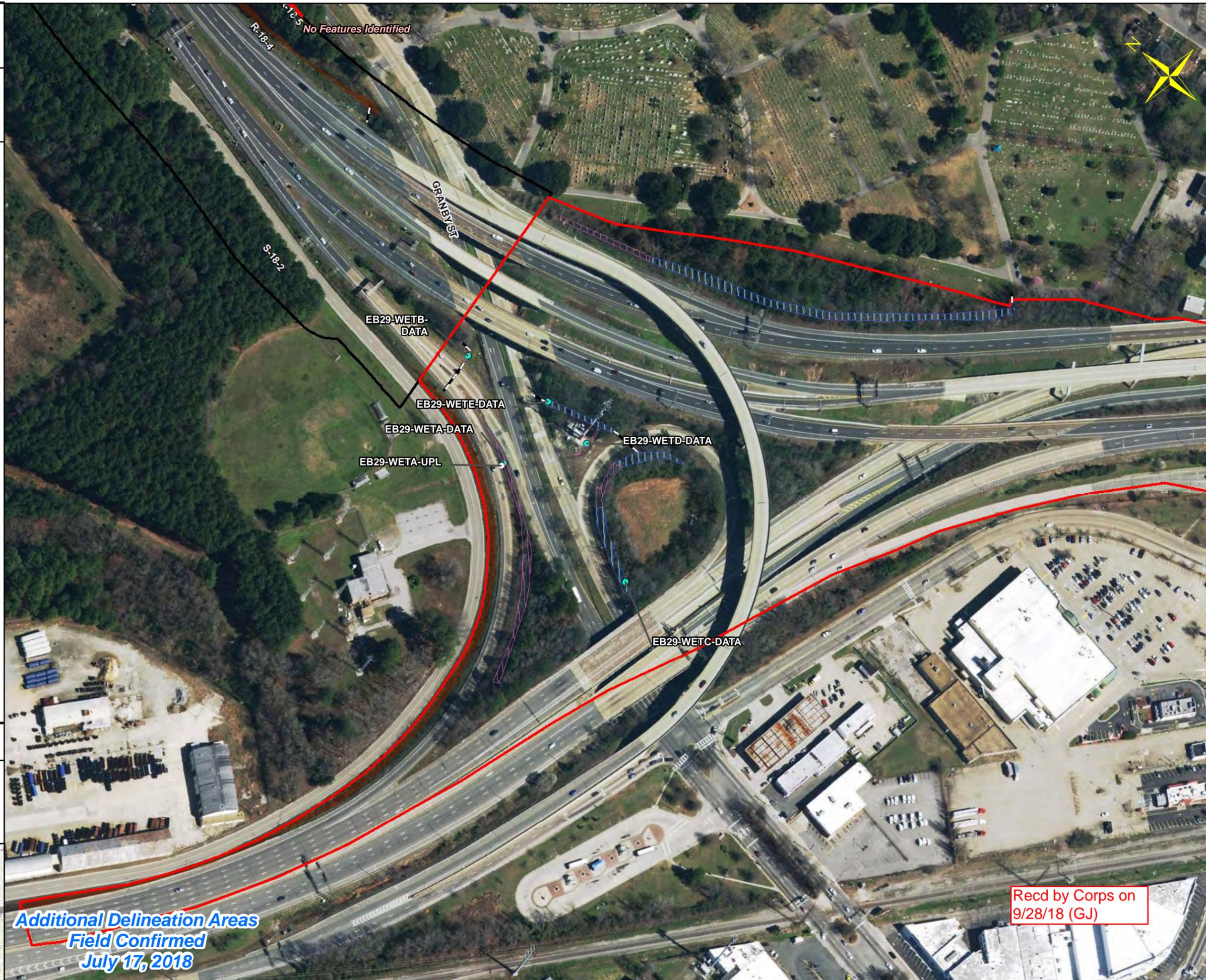
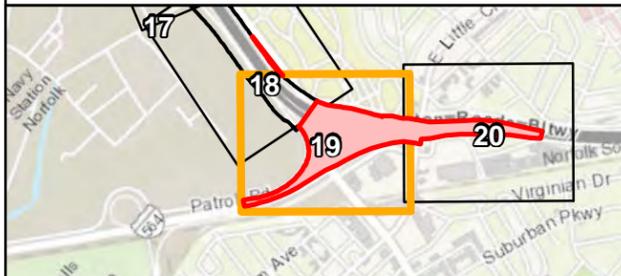
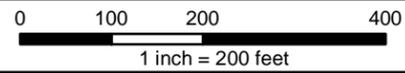
September 2018

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	Refined Study Area
	Roadside Ditch
	Pipe
	Wetland Data Point
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DELINEATED FEATURES			
	E1OW		E2EM
	R1		E2FO
	R2		E2RF
	R4		E2SS
	R6		PEM
	Tidal Ditch		PFO
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	E2US2		PUB
	E2US3		



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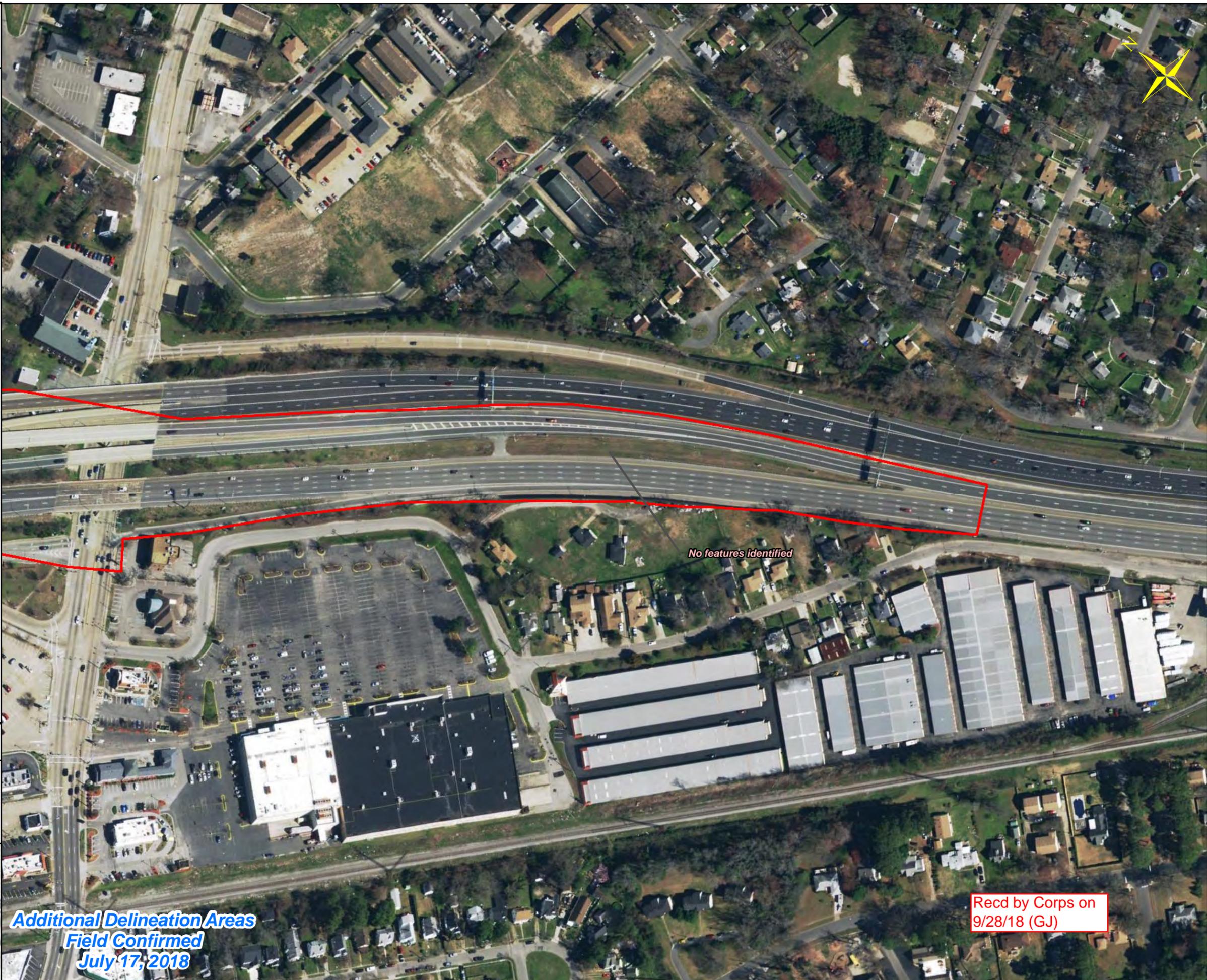
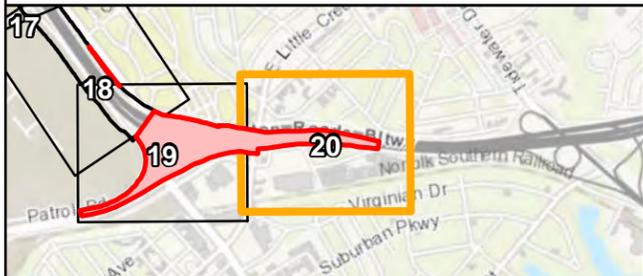
Appendix B: Wetland Delineation Maps  
Map 20 of 20  
September 2018

## LEGEND

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-  Roadside Ditch
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-  Upland Data Point

### DELINEATED FEATURES

- |  |  |
|--|--|
|  E1OW                   |  E2EM   |
|  R1                    |  E2FO  |
|  R2                   |  E2RF |
|  R4                   |  E2SS |
|  R6                   |  PEM  |
|  Tidal Ditch          |  PFO  |
|  Jurisdictional Ditch |  PSS  |
|  E2US2                |  PUB  |
|  E2US3                |  |



**Additional Delineation Areas  
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# **ATTACHMENT G-4C: PJD REQUEST DECEMBER 2019**



December 19, 2019

Mr. George Janek  
US Army Corps of Engineers  
801 Front Street  
Norfolk, Virginia 23510

Re: Preliminary Jurisdictional Determination Request

Dear Mr. Janek,

Straughan Environmental, Inc. (SEI), under contract to HDR Engineering, Inc. (HDR), evaluated the potential presence of jurisdictional water resources within an expanded study area, due to refinements in design, for the Hampton Road Bridge and Tunnel (HRBT) project in Norfolk, VA. Two delineations were completed prior to SEI's field investigations under a preliminary jurisdictional determination (PJD) on September 19, 2017 and October 18, 2018 (NAO-1994-01166). Since the revised PJD in 2018, the Project design and Limit of Disturbance was refined to include additional areas outside of the previously confirmed delineation. We are submitting this as a revision to the October 18, 2018 issued PJD.

The field investigation to identify waters of the U. S. (WOUS) was conducted on October 7 and 8, 2019 to ground-truth the results of the desktop analysis, and to confirm the presence or absence of wetlands and waterways in the expanded study area provided by HDR. SEI identified and delineated the wetlands using methodology described in the *Army Corps of Engineers Wetland Delineation Manual (1987)* and subsequent guidance included in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0) (2010)*.

The delineation was completed through a review of available data including US Geological Survey (USGS) topographic maps, US Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) soil survey (Figure 1.), National Wetlands Inventory (NWI), National Hydrology Dataset, and subsequent site inspections. There were seven (7) different soil series observed by the NRCS Web Soil Survey. Soil series locations and their corresponding USDA-NRCS map units are displayed in Appendix A.

Several jurisdictional WOUS were identified via photointerpretation due to their offshore locations. The photointerpreted wetlands in Table 1 include all estuarine open water classification (E1OW) with the exception of WL100, WL002 and HU2, which were delineated in the field. WP003 (PFO), HU1 (E2US2), HU3 (E2EM) were also identified in the field investigation. The wetland feature VS (E2RS2) was identified using photointerpretation based on a 2018 benthic report by Versar and aeriels.

A desktop review, figures of delineated areas, field datasheets and representative photographs are located in Appendix A, B, C, and D, respectively.

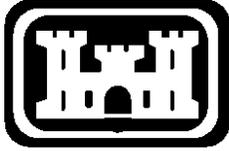
Sincerely,

Rebecca Wilk  
Environmental Scientist  
HDR, Inc.

Enclosures: Delineated Wetland Summary (Table 1.); Pre-App Request Form; Appendix A- Desktop Review Maps, USDA-NRCS Soil Survey; Appendix B- Wetlands and Waters Delineation; Appendix C- Data Sheets; Appendix D- Photo log

**Table 1. Delineated Wetland Summary**

<b>Straughan ID</b>	<b>Aquatic resource in review area (Acreage)</b>	<b>Cowardin Classification</b>	<b>Latitude (Decimal Degrees)</b>	<b>Longitude (Decimal Degrees)</b>	<b>Geographic authority to which the aquatic resource “may be” subject (i.e., Section 404 or Section 10/404)</b>
124_ext	0.26	E1OW	36.96996	-76.2987	Section 10, Section 404
143_ext	0.00 (110 sf)	E1OW	36.96234	-76.2682	Section 10, Section 404
250_ext	0.06	E1OW	36.96409	-76.2963	Section 10, Section 404
124_ext	4.90	E1OW	36.98003	-76.301	Section 10, Section 404
248_ext	5.17	E1OW	36.96449	-76.2988	Section 10, Section 404
WS3	1.41	E1OW	36.9651	-76.297	Section 10, Section 404
WS2	0.48	E1OW	36.96286	-76.2959	Section 10, Section 404
252_ext	0.23	E1OW	36.96246	-76.2728	Section 10, Section 404
252_ext	0.37	E1OW	36.96453	-76.2862	Section 10, Section 404
253_ext	1.63	E1OW	36.96393	-76.2789	Section 10, Section 404
242_ext	0.03	E1OW	37.01141	-76.3234	Section 10, Section 404
VS	0.05	E2RS2	36.98318	-76.3009	Section 404
HU1	0.08	E2US2	37.01159	-76.3234	Section 404
HU2	0.08	E1OW	37.01154	-76.3234	Section 10, Section 404
WL002	0.05	E1OW	36.94627	-76.267	Section 10, Section 404
WP003	0.01	PFO	36.94646	-76.267	Section 404
HU3	0.05	E2EM	37.01178	-76.3235	Section 404
WL100	0.02	E1OW	37.01597	-76.3282	Section 10, Section 404



## **NORFOLK DISTRICT REGULATORY OFFICE PRE-APPLICATION AND/OR JURISDICTIONAL WATERS DETERMINATION REQUEST FORM**

This form is used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE). Please supply the following information and supporting documents described below. This form can be filled out online and/or printed and then mailed, faxed, or e-mailed to the Norfolk District. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. **THIS FORM MUST BE SIGNED BY THE PROPERTY OWNER TO BE CONSIDERED A FORMAL REQUEST.**

The printed form and supporting documents should be mailed to:

U.S. Army Corps of Engineers, Norfolk District  
Regulatory Office  
803 Front Street  
Norfolk, Virginia 23510-1096

Or faxed to (757) 201-7678

Or sent via e-mail to: [CENAO.REG\\_ROD@usace.army.mil](mailto:CENAO.REG_ROD@usace.army.mil)

Additional information on the Regulatory Program is available on our website at:  
<http://www.nao.usace.army.mil/>

Please contact us at 757-201-7652 if you need any assistance with filling out this form.

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### **Location and Information about Property to be subject to a Jurisdictional Determination:**

1. Date of Request: 12/19/2019
2. Project Name: Hampton Roads Bridge and Tunnel- Additional Delineations
3. City or County where property located: Hampton Roads, VA
4. Address of property and directions (attach a map of the property location and a copy of the property plat): From Richmond use I-64E towards Norfolk/Va Beach and take Mallory Street to arrive at the northern area of the project
5. Coordinates of property (if known): 36.96234 -76.2682
6. Size of property in acres: 830
7. Tax Parcel Number / GPIN (if available):
8. Name of Nearest Waterway: James River/ Chesapeake Bay

7. **Brief Description of Proposed Activity, Reason for Preapplication Request, and/or Reason for Jurisdictional Waters Determination Request:**

Two delineations were completed prior to this one. Since the revised PJD in 2018, the Project design and Limit of Disturbance was refined to include additional areas outside of the previously confirmed delineation.

8. **Has a wetland delineation/determination been completed by a consultant or the Corps on the property previously?**  YES  NO  UNKNOWN

If yes, please provide the name of the consultant and/or Corps staff and Corps permit number, if available: NAO-1994-0116 (RK&K)

**Property Owner Contact Information:**

Property Owner Name: Virginia Department of Transportation  
Mailing Address: 1401 E. Broad St.  
City: State: Zip: Richmond, Virginia 23219  
Daytime Telephone: 800-367-7623  
E-mail Address:

If the person requesting the Jurisdictional Determination is **NOT** the Property Owner, please also supply the Requestor's contact information here:

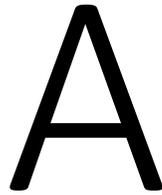
Requestor Name: Rebecca Wilk  
Mailing Address: 4880 Sadler Rd  
City: State: Zip: Glen Allen, VA 23060  
Daytime Telephone: 804-591-4434  
E-mail Address: Rebecca.Wilk@hdrinc.com

Additionally, if you have any of the following information, please include it with your request: wetland delineation map, other relevant maps, drain tile survey, topographic survey, and/or site photographs.

CERTIFICATION: I am hereby requesting a preapplication consultation or jurisdictional waters and/or wetlands determination from the U.S. Army Corps of Engineers, for the property(ies) I have described herein. I agree to allow the duly authorized representatives of the Norfolk District Corps of Engineers and other regulatory or advisory agencies to enter upon the premises of the project site at reasonable times to evaluate inspect and photograph site conditions. This consent to enter the property is superior to, takes precedence over, and waives any communication to the contrary. For example, if the property is posted as "no trespassing" this consent specifically supercedes and waives that prohibition and grants permission to enter the property despite such posting. I hereby certify that the information contained in the Request for a Jurisdictional Determination is accurate and complete:

\_\_\_\_\_  
Property Owner's Signature

\_\_\_\_\_  
Date



A

Desktop Review

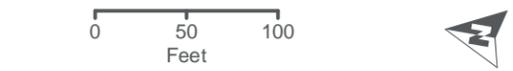
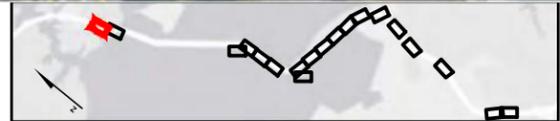
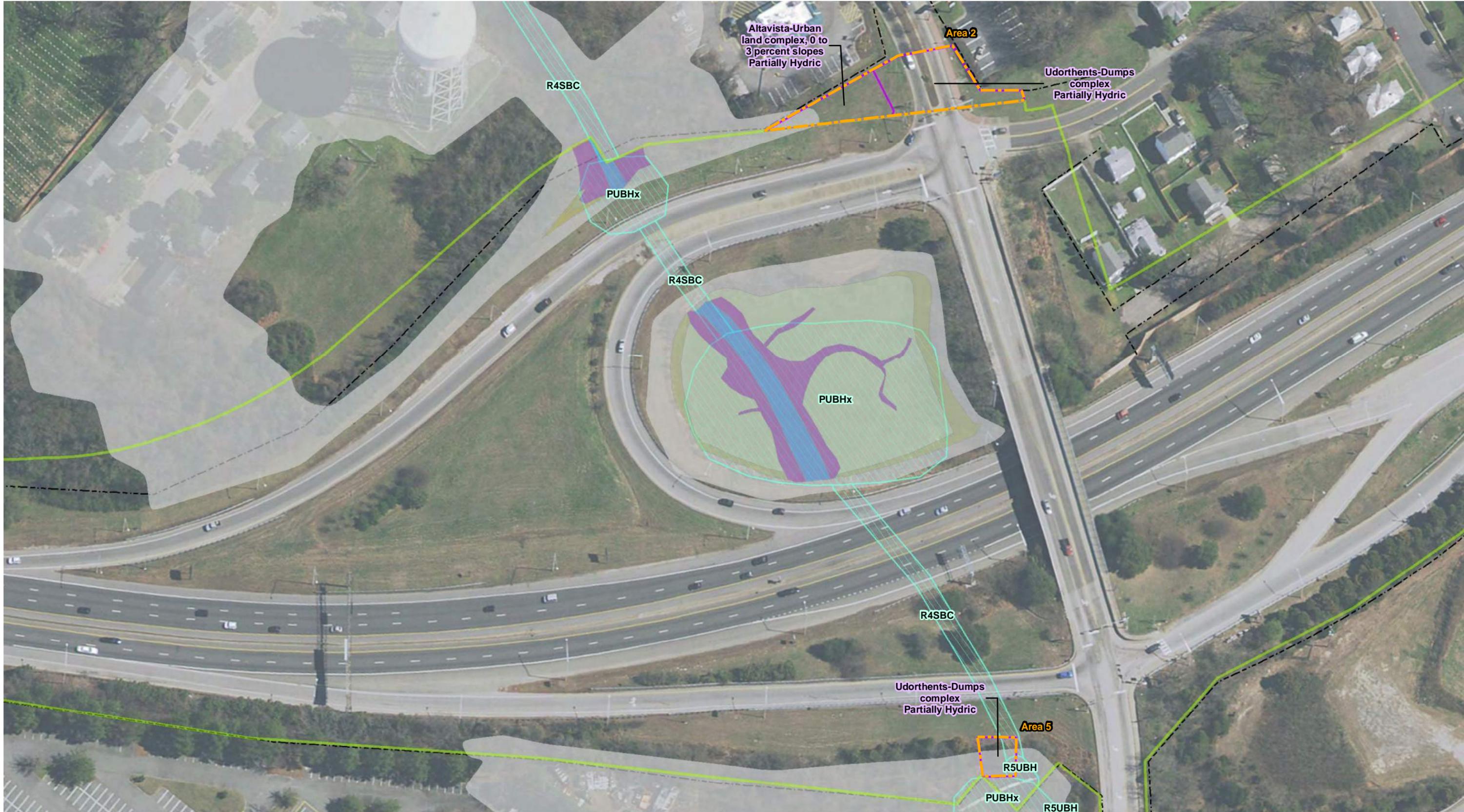
Additional Delineation Areas (2019)  
 Previously Confirmed PJD Delineation Boundary (2018)

Mean High Water (0.95 ft)  
 Mean Low Water (-1.48 ft)  
 VDOT Right of Way

NRCS Soil Boundary  
 NWI Wetlands  
 FEMA 100-Year Floodplain

**Confirmed Jurisdictional WOUS (2018)**

E1OW	E2US2	E2SS	PSS	R2
E2RF	E2US3	E2FO	PFO	R4
E2RS2	E2EM	PEM	PUB	R6



DATA SOURCE: USDA, FWS, FEMA, VDOT, VGIN Aerial Imagery, ESRI World Transportation

Additional Delineation Areas (2019)  
 Previously Confirmed PJD Delineation Boundary (2018)

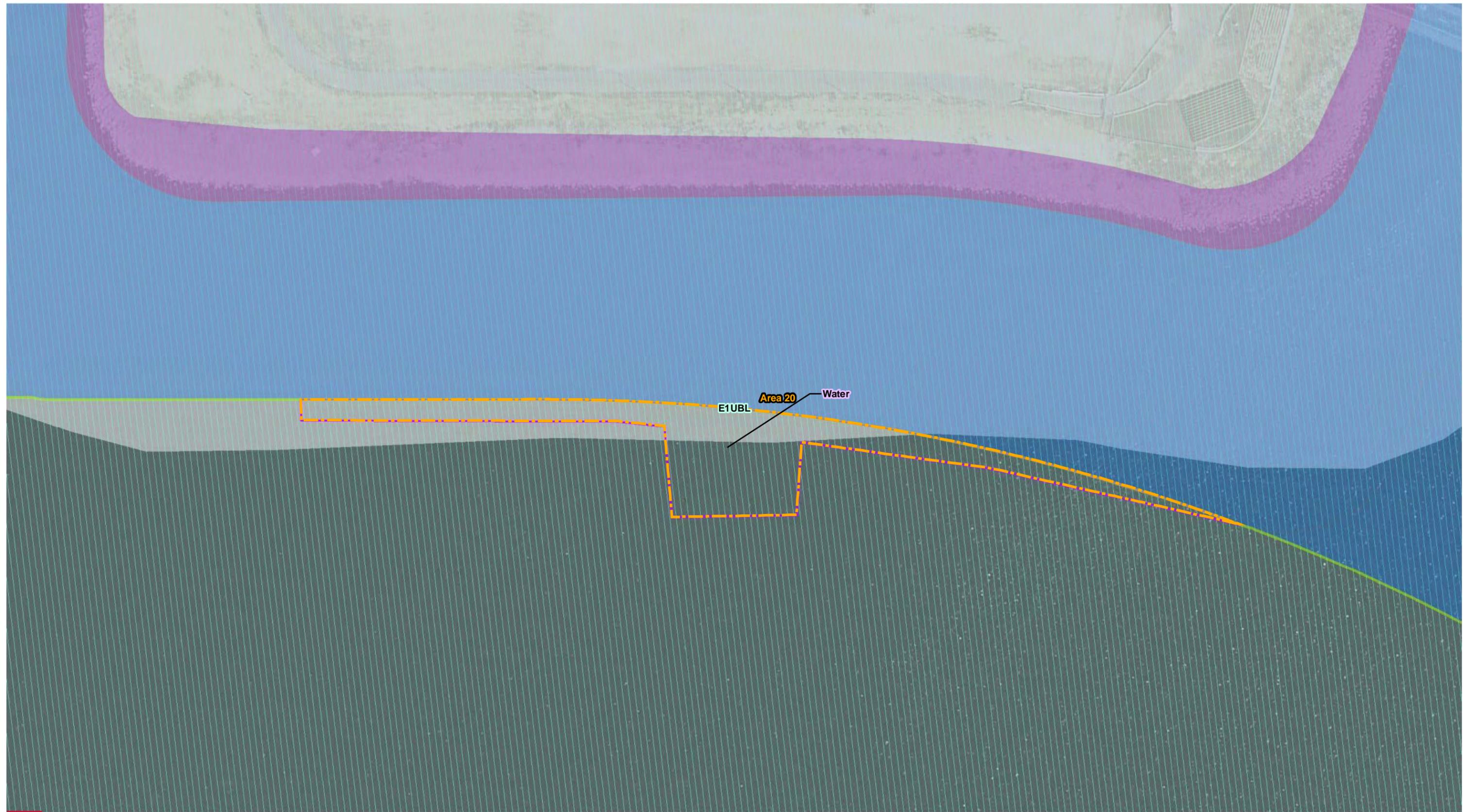
Mean High Water (0.95 ft)  
 Mean Low Water (-1.48 ft)  
 VDOT Right of Way

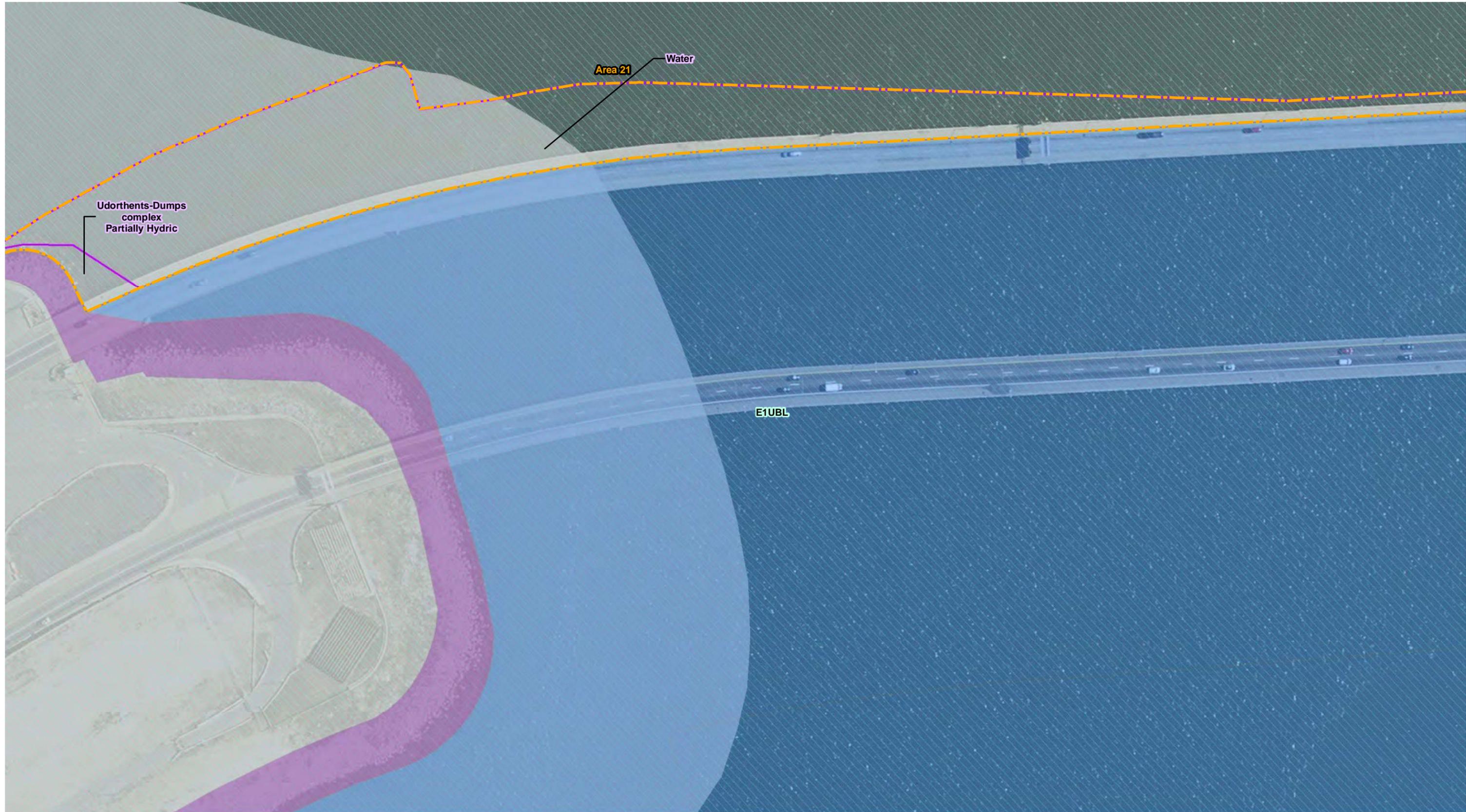
NRCS Soil Boundary  
 NWI Wetlands  
 FEMA 100-Year Floodplain

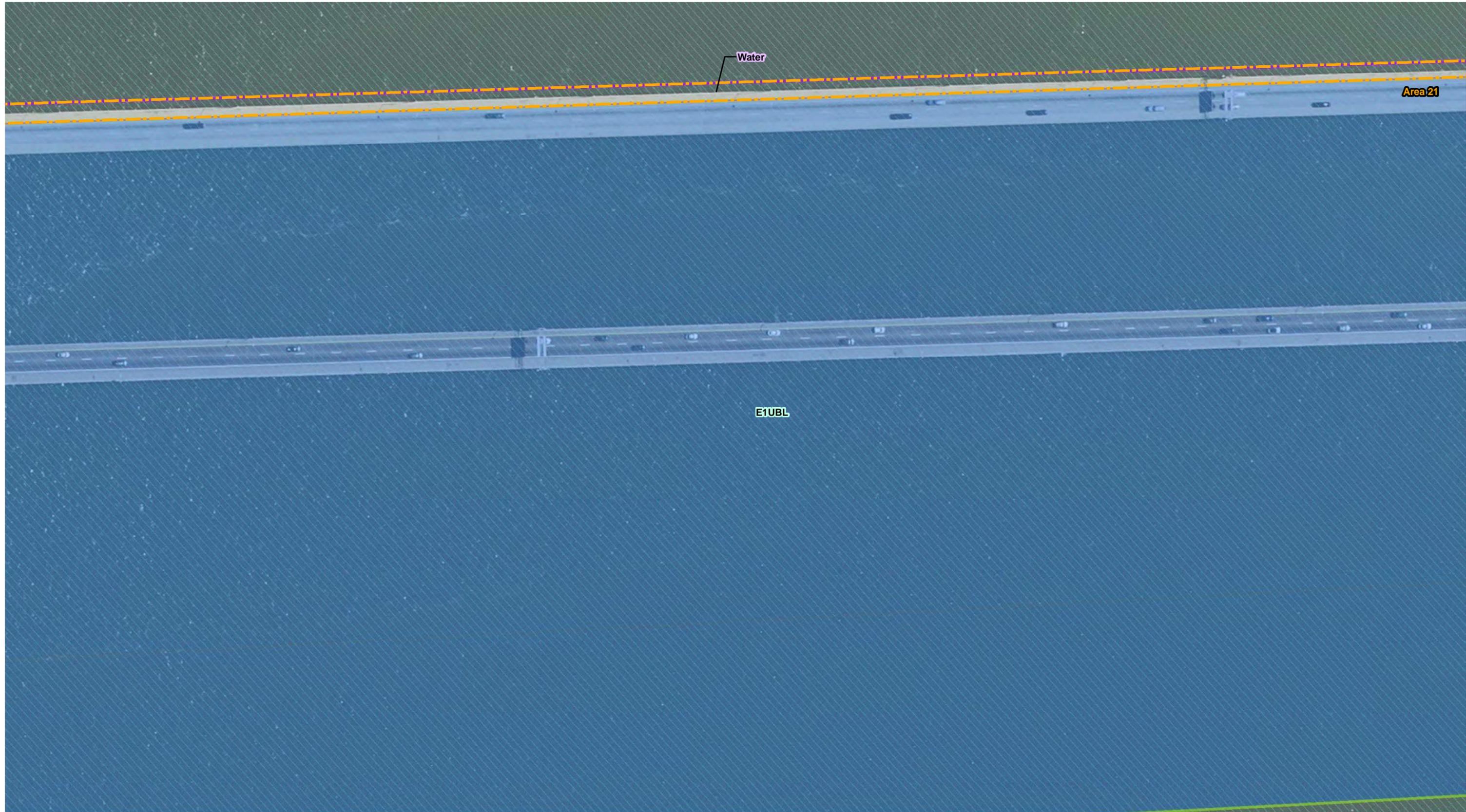
**Confirmed Jurisdictional WOUS (2018)**

E1OW	E2US2	E2SS	PSS	R2
E2RF	E2US3	E2FO	PFO	R4
E2RS2	E2EM	PEM	PUB	R6

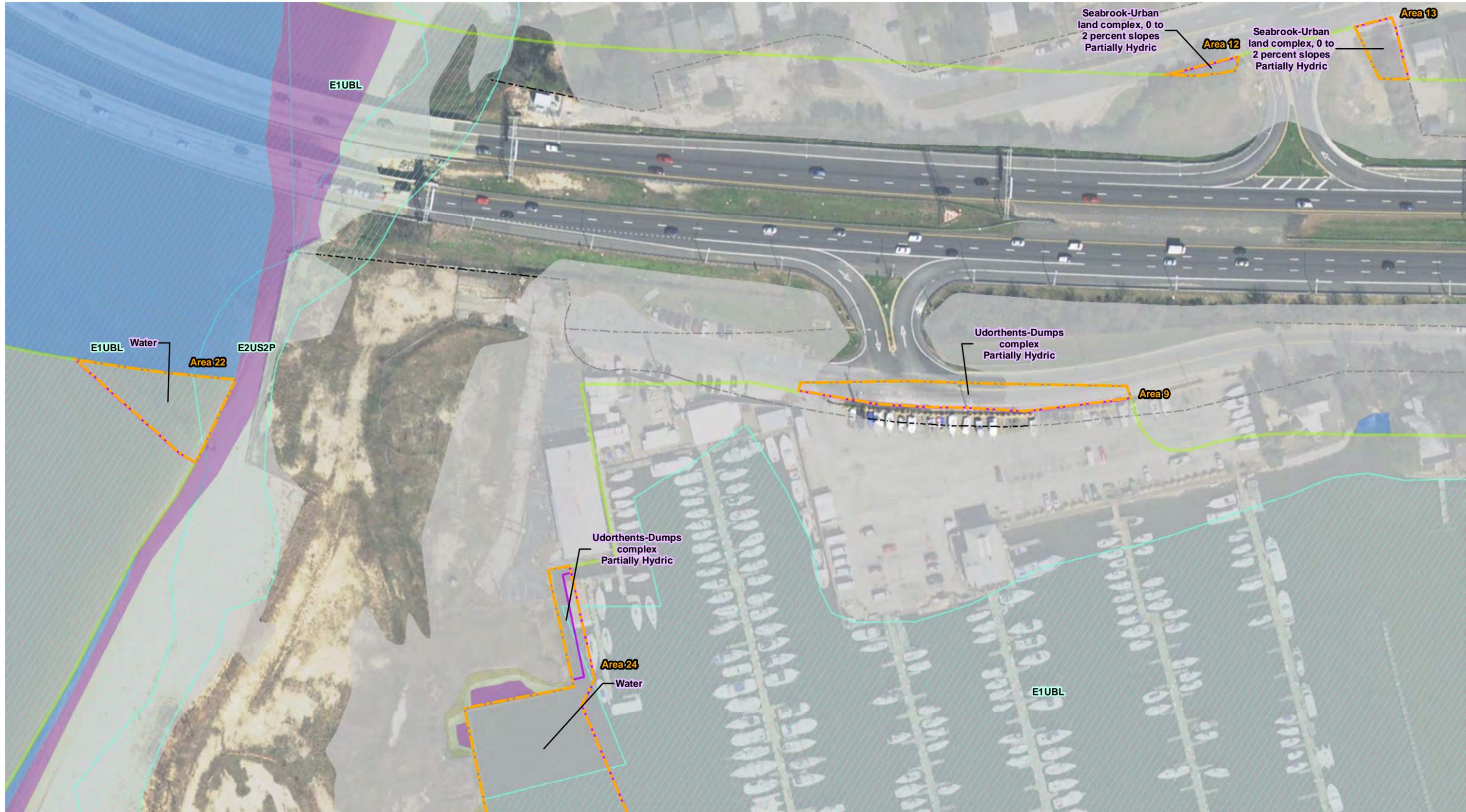












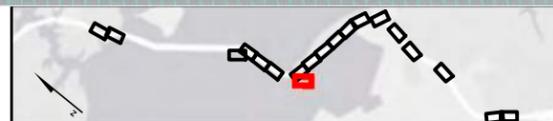
Additional Delineation Areas (2019)  
 Previously Confirmed PJD Delineation Boundary (2018)

Mean High Water (0.95 ft)  
 Mean Low Water (-1.48 ft)  
 VDOT Right of Way

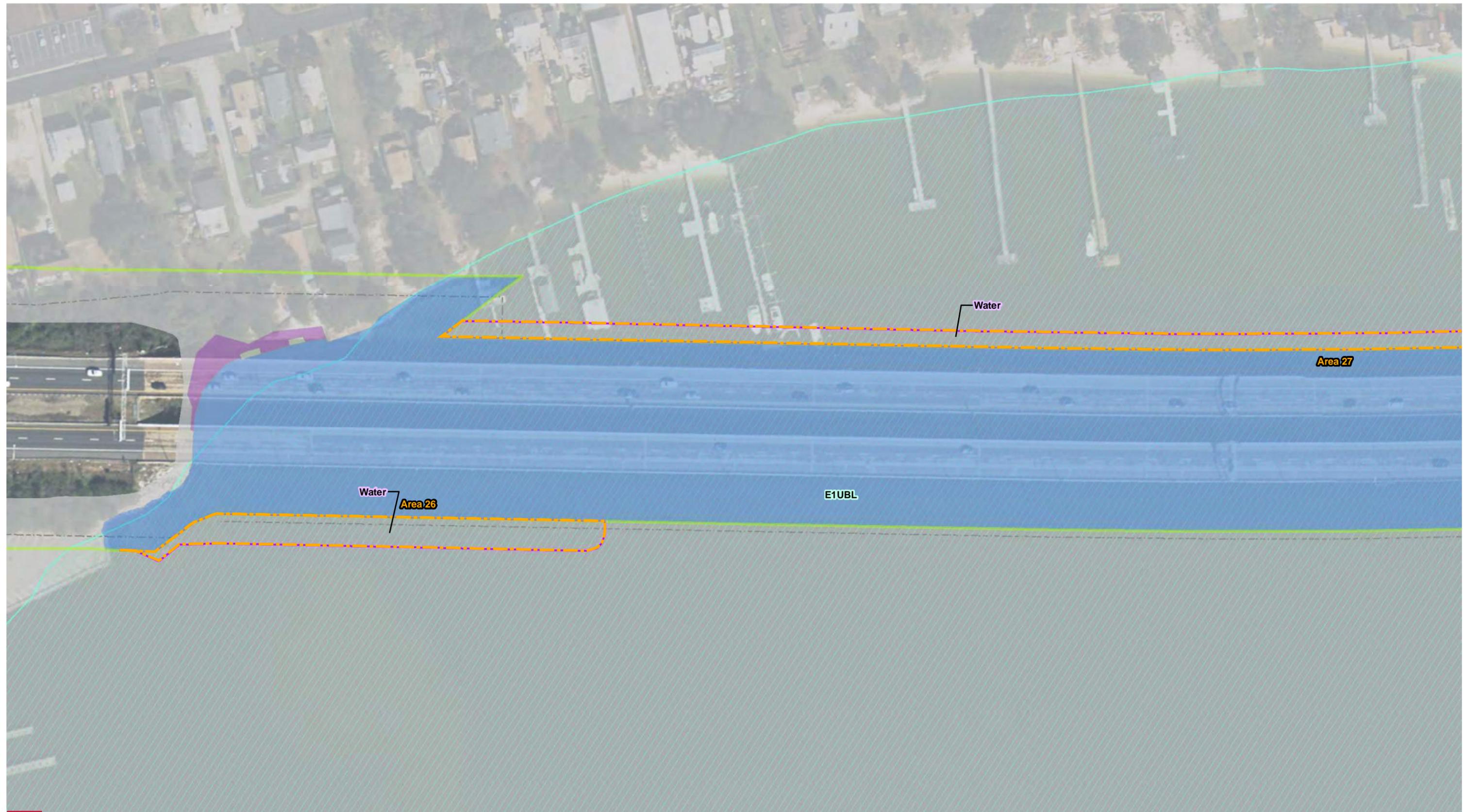
NRCS Soil Boundary  
 NWI Wetlands  
 FEMA 100-Year Floodplain

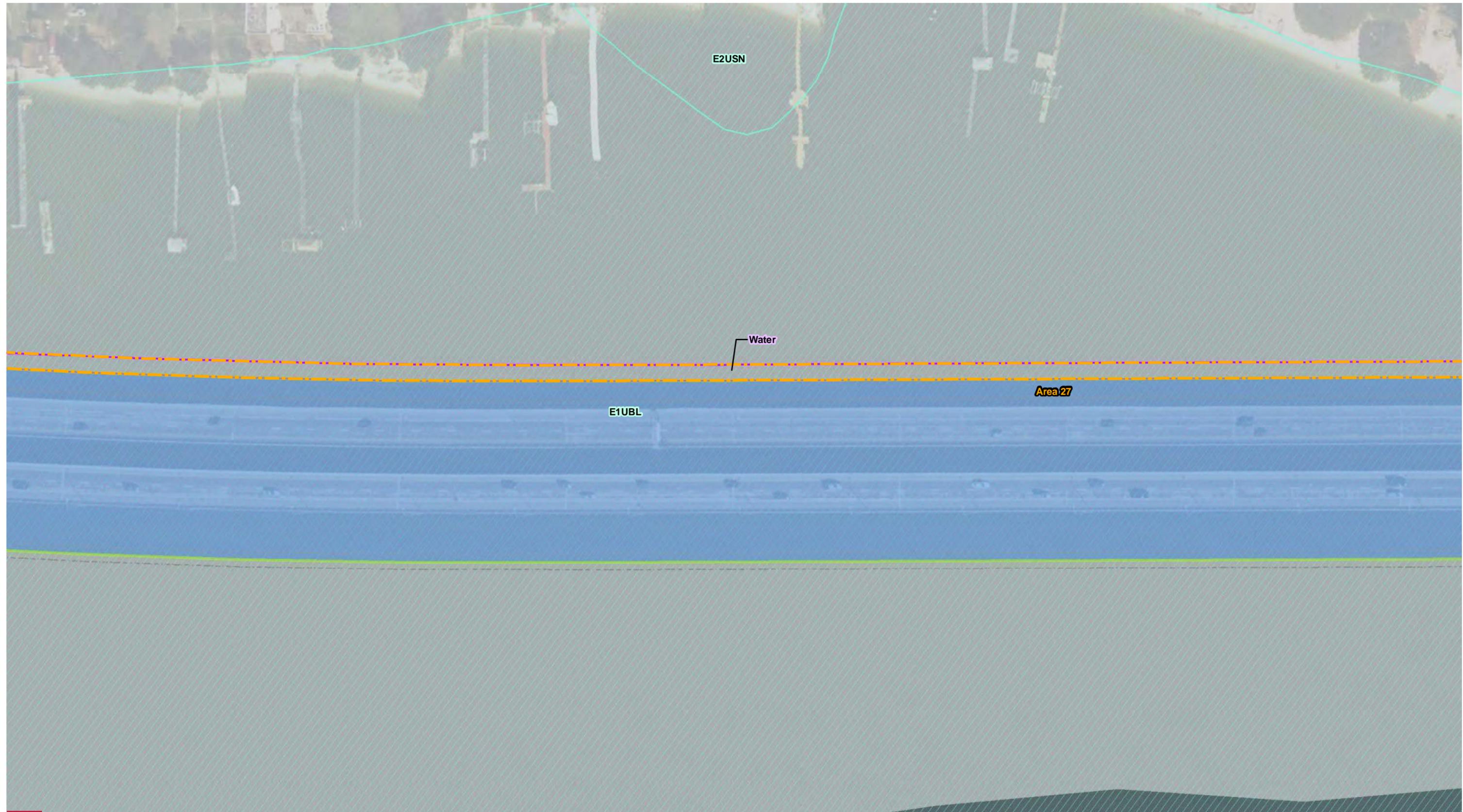
**Confirmed Jurisdictional WOUS (2018)**

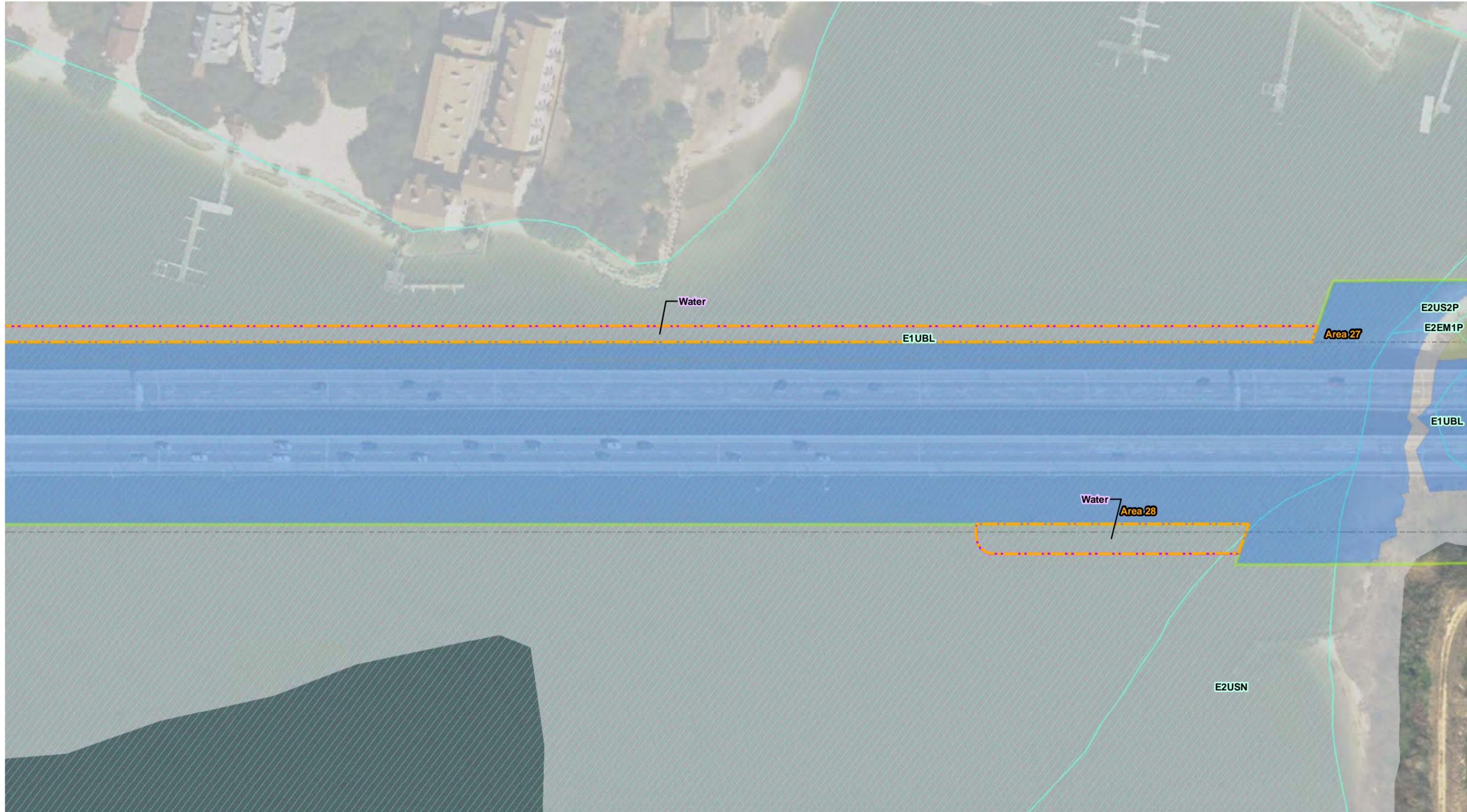
E1OW	E2US2	E2SS	PSS	R2
E2RF	E2US3	E2FO	PFO	R4
E2RS2	E2EM	PEM	PUB	R6

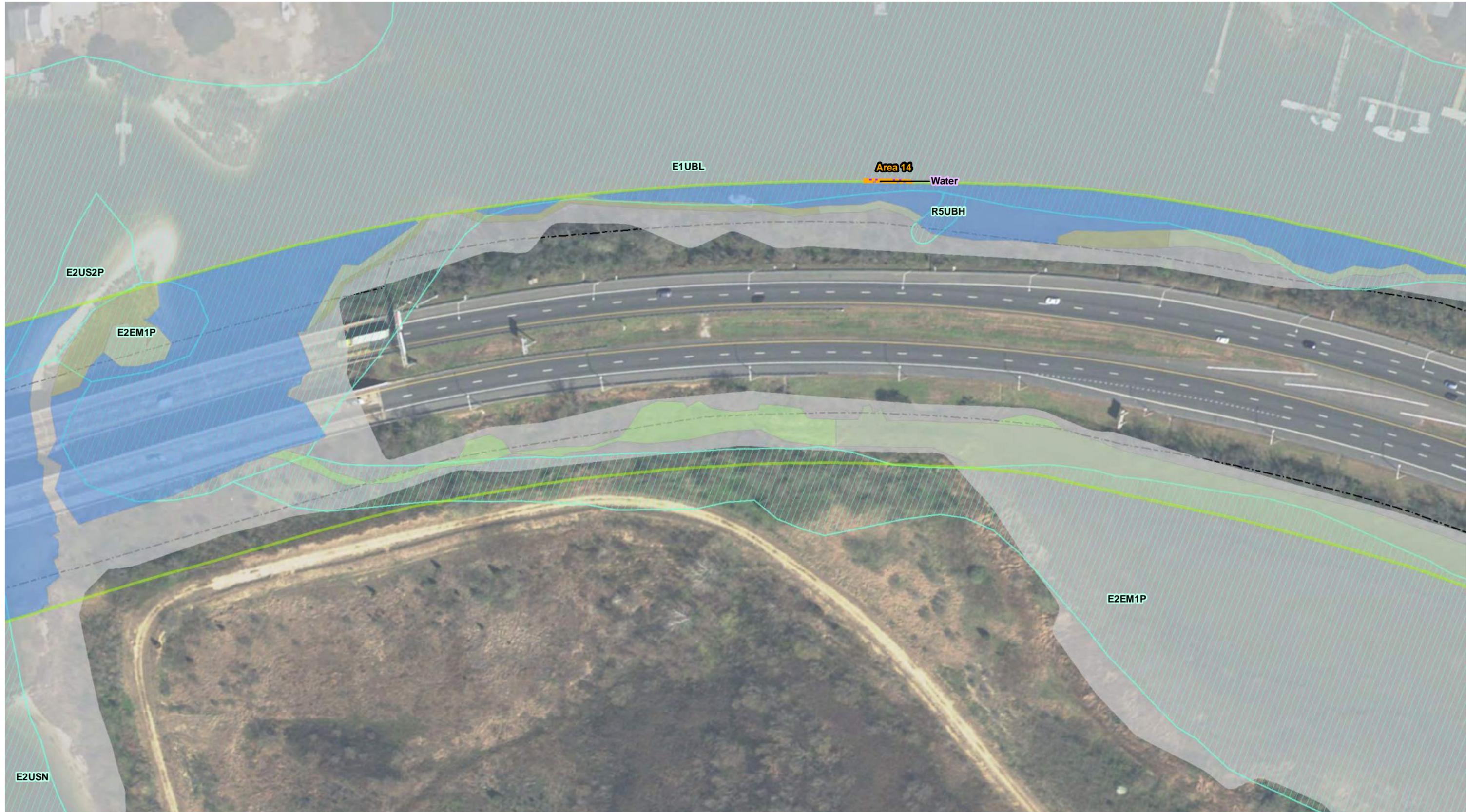






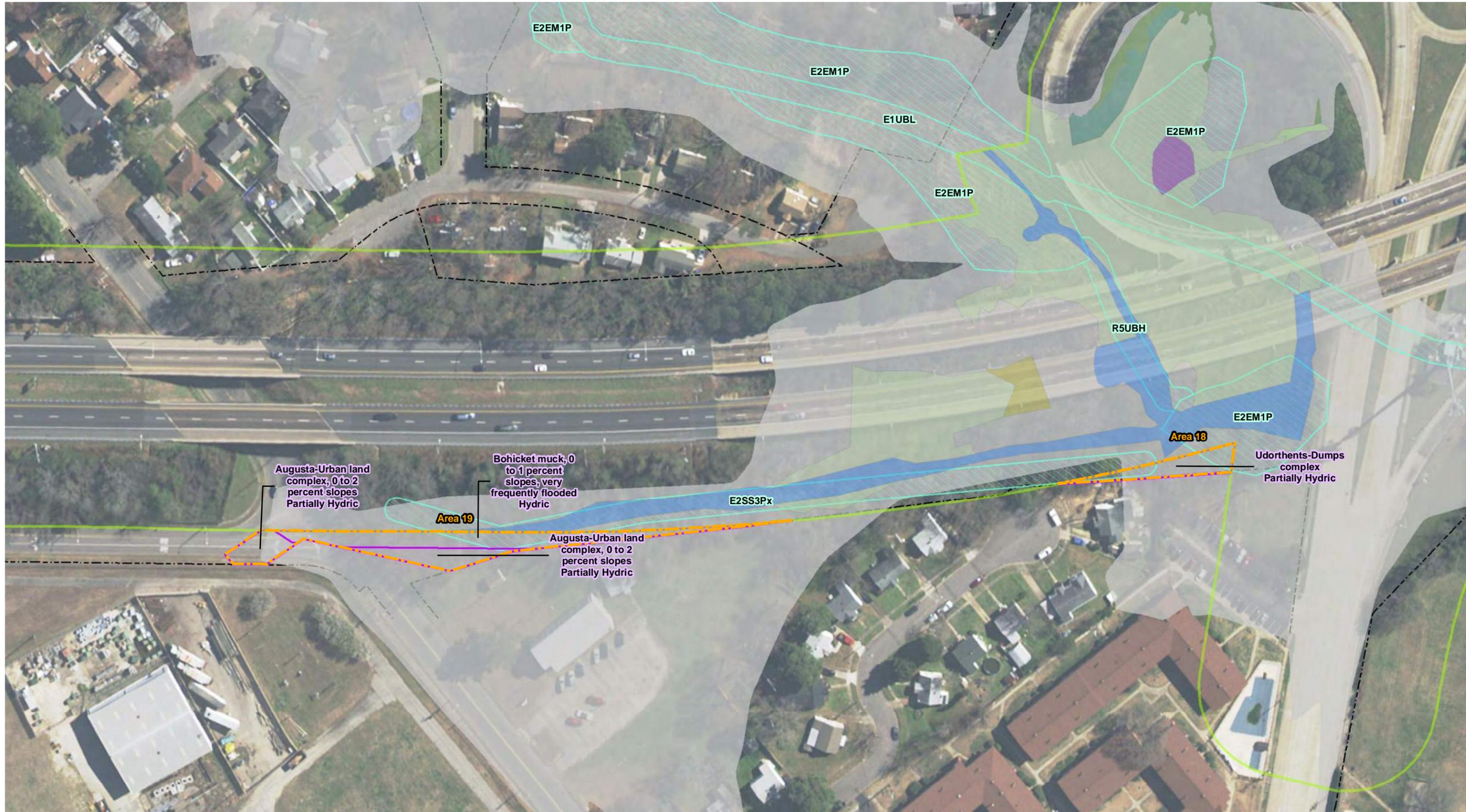














Altavista-Urban  
land complex, 0 to  
3 percent slopes  
Partially Hydric

Area 6

E2EM1P

E1UBL

