

Wetlands and Subaqueous Lands Section Basic Application Form

Section 1: Applicant Identification

1. Applicant's Name: Therese Fulmer Telephone#: 302-760-2095
 Mailing Address: Delaware Dept. of Transportation Fax #: _____
800 Bay Road, Box 778 E-mail: Terry.Fulmer@state.de.us
Dover, DE 19901

2. Consultant's Name: Laura Callens Telephone#: 443-224-1633
 Mailing Address: Whitman, Requardt & Assoc. Fax #: _____
801 South Caroline Street E-mail: lcallens@wrallp.com
Baltimore, MD 21231

3. Contractor's Name: TBD Telephone #: _____
 Mailing Address: _____ Fax #: _____
 _____ E-mail: _____

Section 2: Project Description

4. Check those that apply: New Project/addition to existing project?
 Repair/Replace of existing structure? (if checked must answer #19)

5. Project Purpose (Attach additional sheets as necessary): See attached supplement

6. Check each Appendix that is enclosed with this application:

<input type="checkbox"/> A. Boat Docking Facilities	<input type="checkbox"/> G. Bulkheads	<input type="checkbox"/> N. Preliminary Marina Checklist
<input type="checkbox"/> B. Boat Ramps	<input checked="" type="checkbox"/> H. Fill	<input type="checkbox"/> O. Marinas
<input type="checkbox"/> C. Road Crossings	<input checked="" type="checkbox"/> I. Rip-Rap	<input checked="" type="checkbox"/> P. Stormwater Management
<input checked="" type="checkbox"/> D. Channel Modifications/Dams	<input type="checkbox"/> J. Vegetative Stabilization	<input type="checkbox"/> Q. Ponds and Impoundments
<input type="checkbox"/> E. Utility Crossings	<input type="checkbox"/> K. Jetties, Groins, Breakwaters	<input type="checkbox"/> R. Maintenance Dredging
<input type="checkbox"/> F. Intake or Outfall Structures	<input type="checkbox"/> M. Projects in Wetlands	<input type="checkbox"/> S. New Dredging

Section 3: Project Location

7. Project Site Address: N/A Name of site owner: _____
 _____ (if other than applicant)
 _____ County: N.C. Kent Sussex

8. Driving directions: See attached supplement

(Attach a location road map with the site indicated on the map).

9. Tax Parcel Number: DelDOT I-95 Right-of-Way Subdivision Name: N/A

WSLS Use Only:

Type of Auth: SP SL WE WQ SA SU LA MP WA EX

Permit #s: _____

SPGP: 18 20 Individual Permit: Nationwide Permit #: _____

Received Date: _____ Project Scientist: _____

Fee Received? Yes No Amt: \$\$ _____ Receipt #: _____

Public Notice #: _____ Public Notice Dates: ON _____ OFF _____

Section 3: Project Location (Continued)

10. Name of Waterbody at Project Location: **Unnamed Tributary to Persimmon Run**
Waterbody is a Tributary to: **Christina River (approximately 2.1 miles downstream)**

11. Is the waterbody: Tidal Non-tidal

12. Is the project:
On public subaqueous lands? On private subaqueous lands? In wetlands?

If the project is on private subaqueous lands, indicate the name of the subaqueous lands owner:

(Written permission of the private subaqueous lands owner must be included with this application).

13. Present Zoning: Agricultural Residential Commercial Industrial Other **Highway**

Section 4: Miscellaneous

14. A. List the name and complete mailing address of the immediately adjoining property owners on all sides of the project. (Attach additional sheets as necessary):

See attached supplement.

B. For wetlands and marina projects, list the name and complete mailing address of each property owner within a 1000 foot radius of the project. (Attach additional sheets as necessary)

N/A

15. Indicate the names of all representatives from DNREC and the Army Corps of Engineers who you have discussed the project with:

Joanne Lee, DNREC Water Resources and Wetlands _____
Jackie Winkler, USACE _____

A. Have you had a State Jurisdictional Determination performed on the property? Yes No

B. Has the project been reviewed in a monthly Joint Permit Processing Meeting? Yes No
If yes, what was the date of the meeting? _____

16. If there is any existing fill or structures in subaqueous lands at the project site, were the structures constructed or fill placed prior to 1969? Yes No - If no, provide a copy of any prior and/or current authorization(s) for projects at this site. If a copy is not available, provide the permit or lease number(s) if known.

17. Have you applied for or obtained a federal permit for the project from the Army Corps of Engineers?

None Pending Issued Denied Date: _____

Type of permit: Nationwide #23 Federal Permit or ID #: _____

18. Have you applied for permits from other Sections within DNREC?

None Pending Issued Denied Date: _____ Permit or ID #: _____

Type of permit (circle all that apply): Septic Well NPDES Storm Water

Section 5: Signature Page

19. Agent Authorization:

If you elect to complete this agent authorization section, all future correspondence to the Department may be signed by the duly authorized agent. In addition, the agent will become the primary point of contact for all correspondence from the Department.

I do not wish to authorize an agent to act on my behalf.

I wish to authorize an agent as indicated below.

I, _____, hereby designate and authorize
Name of Applicant
_____ to act on my behalf in the processing
Name of Agent

of this application and to furnish any information that is requested by the Department.

Authorized Agent's Name: _____
Mailing Address: _____ Telephone #: _____
_____ Fax #: _____
_____ E-mail: _____

20. Agent Signature

I hereby certify that the information on this form and on the attached plans is true and accurate to the best of my knowledge, I further understand that the Department may request information in addition to that set forth herein if deemed necessary to appropriately consider this application.

Agent's Signature Date

21. Applicant's Signature:

I hereby certify that the information on this form and on the attached plans is true and accurate to the best of my knowledge and that I am required to inform the Department of any changes or updates to the information provided in this application. I further understand that the Department may request information in addition to that set forth herein if deemed necessary to appropriately consider this application. I grant permission to authorized Department representatives to enter upon the premises for inspection purposes during working hours.

Applicant's Signature Date

Print Name

22. Contractor's Signature:

I hereby certify that the information on this form and on the attached plans is true and accurate to the best of my knowledge, and that I am required to inform the Department of any changes or updates to the information provided in this application. I further understand that the Department may request information in addition to that set forth herein if deemed necessary to appropriately consider this application.

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL
CONTROL
WETLANDS AND SUBAQUEOUS LANDS DIVISION
PERMIT APPLICATION SUPPLEMENT
Delaware Department of Transportation
I-95 Newark Toll Plaza Highway Speed E-ZPass Lanes
New Castle County, Delaware

5. PROJECT PURPOSE

The purpose of the I-95 Newark Toll Plaza Highway Speed E-ZPass Lanes project is to reduce plaza-related congestion and improve traffic operations, safety and functionality while considering environmental and community concerns in the project area. The need for the project is based on existing and projected traffic congestion, the need to efficiently accommodate the significant increase in E-ZPass users, the need to address the high accident locations on this portion of the Turnpike, and the need to replace or rehabilitate the existing northbound and southbound toll booths.

The limits of the highway speed E-ZPass lanes extends from the Otts Chapel Road overpass to SR896 (College Avenue) interchange. The roadway construction will be confined to these limits. The advance signing and pavement marking work will extend from the MD 279 Interchange in Maryland to the Delaware House Service Area in Delaware.

The improvements covered under this project will include:

- Construction in the median of two barrier-separated, highway-speed E-ZPass lanes in each direction using hot mix asphalt
- Construction of a highway speed toll gantry with E-ZPass equipment that will allow maintenance of overhead toll equipment to be done from above, without closing lanes
- Widening of the northbound approach to the CASH lanes to three (3) lanes
- Construction of stormwater management facilities
- Converting the existing piers of the Welsh Tract Road overpass to web walls
- Installing new signing and pavement marking
- Upgrading the lighting systems
- Retrofitting the existing northbound satellite plaza to provide seven (7) CASH lanes with overhead access for toll collectors (between lanes 5 and 6)
- Removal of Lanes 6-13 at the existing main plaza, leaving seven (7) southbound CASH lanes
- Construction of a reinforced concrete slab over the existing toll collector access tunnel within limits of highway speed E-Z Pass lanes
- Replacement of the five (5) northbound and seven (7) southbound toll booths to remain in service

14. ADDRESSES OF ADJOINING PROPERTY OWNERS

PARCEL# 1100800030
STATE OF DELAWARE
P.O. BOX 778
DOVER, DE 19903

PARCEL# 1804500039
TRADITIONS AT FOREST CHASE LLC
222 SOUTH MANOA RD, SUITE 250
HAVERTOWN, PA 19083

PARCEL# 1804500036
THE CITY OF NEWARK
C/O HUGHES SISK & GLANCY
1700 W 14TH ST
WILMINGTON, DE 19806

PARCEL# 1804500031
NEW CASTLE COUNTY
GOVERNMENT CENTER
87 READS WAY
NEW CASTLE, DE 19720

PARCEL# 1100900032
TRUSTEES OF WELESH
TRACT BAPTIST CHURCH
1 WELSH TRACT RD
NEWARK, DE 19711

PARCEL# 1101200003
FRANK E. ACIERNO
C/O APARTMENT COMMUNITIES
P.O. BOX 7189
WILMINGTON, DE 19803

APPENDIX D
CHANNEL MODIFICATIONS OR IMPOUNDMENT STRUCTURES
(DAMS)

* Please check applicable box(es) and complete all appropriate sections(s).

Section I. **CHANNEL MODIFICATIONS**

Section II. **IMPOUNDMENT STRUCTURES (DAMS)**

* Please make sure answers to all of the questions in this appendix correspond to information on the application drawings.

I. CHANNEL MODIFICATIONS

1. What are the dimensions of the existing channel to be modified relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

O-7 - Station 1106+70, LT.

281' length 2' depth 2' base width 8' top width

O-8 - Station 1111+05, LT.

10' length 1' depth 0' base width 1' top width

O-9 - Station 1116+20, LT.

40' length 2' depth 0' base width 9' top width

O-10 - Station 1117+60, LT.

223' length 2' depth 2' base width 5' top width

O-11 - Station 1119+60, LT.

300' length 1' depth 0' base width 3' top width

O-12 - Station 1122+88, LT.

40' length 1' depth 0' base width 3' top width

2. What will be the dimensions of the new or modified channel relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?

O-7 - Station 1106+70, LT.

281' length 2' depth 2' base width 15' top width

O-8 - Station 1111+05, LT.

10' length 1' depth 0' base width 2' top width

O-9 - Station 1116+20, LT.

40' length 2' depth 0' base width 9' top width

O-10 - Station 1117+60, LT.

223' length 2' depth 2' base width 5' top width

O-11 - Station 1119+60, LT.

300' length 1' depth 0' base width 3' top width

O-12 - Station 1122+88, LT.

40' length 1' depth 0' base width 3' top width

3. **State type and approximate composition percentage of the existing stream bed (e.g. clay 10%, sand 10%, silt 45%, gravel 10%, etc.)**

O-7 - Station 1106+70, LT. - 30% Clay, 70% Silt

O-8 - Station 1111+05, LT. - 100% Grass

O-9 - Station 1116+20, LT. - 100% Grass

O-10 - Station 1117+60, LT. - 100% Concrete

O-11 - Station 1119+60, LT. - 100% Grass

O-12 - Station 1122+88, LT. - 100% Grass

4. **State the type and approximate composition percentage of the new or modified stream bed?**

O-7 - Station 1106+70, LT. - 100% Riprap

O-8 - Station 1111+05, LT. - 100% Grass

O-9 - Station 1116+20, LT. - 100% Grass

O-10 - Station 1117+60, LT. - 100% Concrete

O-11 - Station 1119+60, LT. - 100% Grass

O-12 - Station 1122+88, LT. - 100% Grass

5. What are the approximate normal discharge rate and drainage area of the existing water body?

O-7 - Station 11106+70, LT.

2 yr. 27.72 cfs 71.53 acres

10yr. 74.64 cfs

100 yr. 206.54 cfs

O-8 - Station 1111+05, LT.

2 yr. 2.07 cfs 0.64 acres

10yr. 3.43 cfs

100 yr. 6.12 cfs

O-9 - Station 1116+20, LT.

2 yr. 4.13 cfs 1.28 acres

10yr. 6.86 cfs

100 yr. 12.24 cfs

O-10 - Station 1117+60, LT.

2 yr. 9.44 cfs 3.87 acres

10yr. 15.21 cfs

100 yr. 26.58 cfs

O-11 - Station 1119+60, LT.

2 yr. 2.10 cfs 0.74 acres

10yr. 3.69 cfs

100 yr. 6.90 cfs

O-12 - Station 1122+88, LT.

2 yr. 2.10 cfs 0.74 acres

10yr. 3.69 cfs

100 yr. 6.90 cfs

6. What will be the approximate normal flow-rate and drainage area of the new or modified water body (for non-tidal areas only)?

O-7 – Station 1106+70, LT.

2 yr. 22.91 cfs 68.48 acres

10 yr. 71.93 cfs

100 yr. 201.95 cfs

O-8 – Station 1111+05, LT.

2 yr. 1.94 cfs 0.60 acres
10 yr. 3.21 cfs
100 yr. 5.72 cfs

O-9 – Station 1116+20, LT.

2 yr. 3.87 cfs 1.19 acres
10 yr. 6.41 cfs
100 yr. 11.44 cfs

O-10 – Station 1117+60, LT.

2 yr. 3.87 cfs 1.19 acres
10 yr. 6.41 cfs
100 yr. 11.44 cfs

O-11 – Station 1119+60, LT.

2 yr. 1.79 cfs 0.56 acres
10 yr. 3.01 cfs
100 yr. 5.43 cfs

O-12 – Station 1122+88, LT.

2 yr. 1.79 cfs 0.56 acres
10 yr. 3.01 cfs
100 yr. 5.43 cfs

7. What will be the change (if any) in slope and cross-sectional area?

O-7 – Station 1106+70, LT. – No proposed change.

O-8 – Station 1111+05, LT. – Proposed side slope adjustment from 4:1 to 2:1, 1 SF reduction in cross-sectional area.

O-9 – Station 1116+20, LT. – Proposed side slope adjustment from 4:1 to 2:1, 4 SF reduction in cross-sectional area.

O-10 – Station 1117+60, LT. – No proposed change.

O-11 – Station 1119+60, LT. – No proposed change.

O-12 – Station 1122+88, LT. – No proposed change

8. What type of material(s) will be used to stabilize the banks of the new or modified channel (e.g. rip-rap, vegetation, bulkhead, etc.)?

O-7 – Station 1106+70, LT. – Riprap Stabilization

O-8 – Station 1111+05, LT. – Vegetative Stabilization.

O-9 – Station 1116+20, LT. – Vegetative Stabilization.

O-10 – Station 1117+60, LT. – No proposed stabilization.

O-11 – Station 1119+60, LT. – No proposed stabilization.

O-12 – Station 1122+88, LT. – No proposed stabilization

9. **What will be the change in floodplain area upstream of the channel modification for a two year or ten year storm?**

No floodplain impacts are anticipated for any of the proposed channel modifications for either the 2 or 10-year storm events.

Please indicate change in area on plans. – N.A.

II. **IMPOUNDMENT STRUCTURES (DAMS) – N.A.**

1. **What type(s) of material(s) will be used to construct the impoundment structure (e.g. earth, rock, concrete, etc.)?**

2. **How many cubic yards of material for the impoundment structure will be obtained from:**

- A. Upland sources? _____ cubic yards
- B. Dredged material? _____ cubic yards
- C. Other? (explain below) _____ cubic yards

3. **What will be the dimensions of the impoundment structure relative to mean high water (for tidal areas only) or ordinary high water (for non-tidal areas only)?**

4. **What will be the impoundment's?**

Storage capacity: _____ acre-feet

Surface area: _____ acres; _____ square feet

5. **What is the approximate drainage area of the water body upstream of the proposed impoundment? _____ acres**

6. **Have you obtained the appropriate County Conservation District office approval for an erosion and sediment control plan for your project? _____ Yes _____ No _____ N/A**

If you answer is “No”, contact the County Conservation District (address and telephone number are in the Joint Application Form Reference Guide).

7. What is approximate discharge rate from the 2, 10, 100 year frequency storm prior to construction?

2 yr. _____ cfs
10 yr. _____ cfs
100 yr. _____ cfs

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**APPENDIX H
FILL**

- * Please make sure answers to all of the questions in this appendix correspond to information on the application drawings.
- * See Joint Application Form Reference Guide - How to Calculate Square Feet, Cubic Feet, and Cubic Yards.

1. How many feet will the fill be placed channelward of the:

A. Tidal waters: mean high water line? _____ ft.
 mean low water line? _____ ft.

N.A.

B. Non-tidal waters:

O-7 - Station 1107+70, LT. - ordinary high water line? 0 ft.

O-8 - Station 1111+05, LT. - ordinary high water line? 196 ft.

O-9 - Station 1116+20, LT. - ordinary high water line? 289 ft.

O-10 - Station 1117+60, LT. - ordinary high water line? 0 ft.

O-11 - Station 1119+60, LT. - ordinary high water line? 0 ft.

O-12 - Station 1122+88, LT. - ordinary high water line? 0 ft.

2. How much fill will be located:

A. on subaqueous land (channelward of mean high water)

O-7 - Station 1106+70, LT. - ordinary high water line? 1546 sq. ft.

O-8 - Station 1111+05, LT. - ordinary high water line? 30 sq. ft.

O-9 - Station 1116+20, LT. - ordinary high water line? 403 sq. ft.

O-10 - Station 1117+60, LT. - ordinary high water line? 124 sq. ft.

O-11 - Station 1119+60, LT. - ordinary high water line? 1116 sq. ft.

O-12 - Station 1122+88, LT. - ordinary high water line? 188 sq. ft.

B. on vegetated wetlands?

W-2 – Station 1038+87, LT. - 768 sq. ft.

W-4 – Station 1046+01, LT. - 3253 sq. ft.

W-5 – Station 1095+04, LT. - 57 sq. ft.

W-6 – Station 1115+58, LT. - 145 sq. ft.

3. The fill will be (check one)

A. Hauled in from upland sources

B. Obtained from dredged material

**4. What is the total volume of fill? N.A. cubic yards
What is the total fill per running foot of shoreline? N.A. cubic yards**

5. What method will be used to place the fill?

Fill will be placed and compacted in successive 8-inch lifts per *The Delaware Department of Transportation Specifications for Road and Bridge Construction, August 2001*, Section 202 Excavation and Embankment.

6. How will the fill be retained?

All proposed fill areas will lined with soil retention blanket mulch.

7. State the type and composition percentage of the fill material (e.g. sand 80%, silt 5%, clay 15%, etc.)

All fill material will be comprised of the following, per *The Delaware Department of Transportation Specifications for Road and Bridge Construction, August 2001*, Section 209 Borrow:

Borrow Type A. This material shall have between 95 and 100% inclusive, by dry weight, passing a 22" (63 mm) sieve and a maximum of 35%, by dry weight, passing a No. 200 (75 µm) sieve.

Borrow Type B (Special Fill). This material shall have 100%, by dry weight, passing a 3" (75 mm) sieve and a maximum of 10%, by dry weight, passing a No. 200 (75 µm) sieve.

8. Describe the type(s) of structure(s) to be erected on the filled area (if any).

Extension of existing storm drain systems including the construction of storm drain pipe, installation of endwalls or end sections, and riprap placement will be constructed in fill areas.

- 9. What type of ground cover will be provided for the filled area(s) to prevent soil erosion and help keep sediment from reaching State waters?**

All filled areas will be topsoiled and seeded, stabilized with soil retention blanket mulch to prevent soil erosion and minimize impacts to downstream waters.

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Appendix I: Rip-Rap Sills and Revetments **(Wetlands and Subaqueous Lands Section Application Form)**

****** Please respond to each question. Questions left blank may result in the application being returned as incomplete. In addition, the answers to all of the questions in this Appendix must correspond accurately to the information on the plan and section view drawings for the project.******

1. Will the project be:

- New Construction (pipe outfall rip-rap protection)
 - Repair or Replacement of an Existing Rip-Rap Structure or Rubble
 - Repair or Replacement of an Existing Bulkhead
- (If repair or replacement, submit photographs of the entire existing structure).

2. How many linear feet of shoreline are proposed to be stabilized? N/A

3. Is the project a:

- Standard rip-rap revetment
- Free-standing sill

4. Describe the existing shoreline: Under existing conditions, the area of riprap placement is a stream channel located downstream of an existing storm drain outfall. The storm drain outfall will be extended to accommodate the proposed fill slope (Impact O-7) and armored with riprap outfall protection to minimize impacts to areas downstream.

5. A. What is the total number of cubic yards of rip-rap that will be used? 12

B. What is the number of cubic yards of rip-rap per running foot of shoreline? N/A
(See page 3 for a guide to calculating total cubic yards and cubic yards per running foot).

6. What will be the average weight of the stone used for the:

Armor stone: 150 lb/ft³ Core stone: NA

[If material other than stone, such as prefab geo-grid or other similar product is proposed, please describe here and include photographs or a brochure. The Department strongly discourages the use of broken concrete, cinderblocks or other materials that are less dense than stone, more apt to move off site due to currents or wave action, and/or are not aesthetically pleasing or in keeping with the natural environment.]

Describe: _____

7. For Standard Revetments answer 7.A – F, below: (for Sill projects, skip to Question #8)

A. How many linear feet will the structure extend channelward of:

Mean High Water: N/A

Mean Low Water: N/A

Ordinary High Water: N/A (for non-tidal waters)

B. How many square feet of the structure will be located:

Channelward of Mean High Water: N/A

Channelward of Mean Low Water: N/A

Channelward of Ordinary High Water: N/A (for non-tidal waters)

On vegetated wetlands: N/A

C. Will the revetment be backfilled? ___ Yes x No
If yes, complete Appendix H and include it in your application.

D. Will filter cloth be used behind the rip-rap structure? ___ Yes x No

E. What is the average slope of the existing bank? N/A

F. What is the proposed slope of the rip-rap revetment? N/A

(See page 3 for a guide to calculating slopes).

8. Sill Projects:

A. What is the base width of the proposed structure: 15'

B. What is the top width of the proposed structure: 15'

C. How many square feet of the structure will be located:

Channelward of Mean High Water:

Channelward of Mean Low Water:

Channelward of Ordinary High Water: 11' (for non-tidal waters)

On vegetated wetlands:

D. What will be the average height of the structure: N/A

E. How much of the structure (in inches) will extend vertically above:

Mean High Water: N/A Ordinary High Water: N/A (for non-tidal waters)

F. Are breaks or notches proposed in the sill to allow for greater flushing? ___ Yes x No

G. Will fill material be placed behind the sill? x Yes ___ No
If yes, complete Appendix H and include it in your application.

H. Will wetland vegetation be planted behind the sill? Yes No

If yes, complete Appendix J and include it in your application.

Please identify plant species and planting scheme (densities and time of year):

9. Construction Techniques (Complete for both Revetment and Sill Projects):

A. Will any dredging be required? Yes No If yes, how many cubic yards of material will be removed? _____ Describe dredging technique and method for handling dredge spoils:

(If dredging is proposed, please include appropriate dredging Appendix with your application).

B. Please describe the sequence of construction and any techniques that will be utilized to minimize adverse impacts on the aquatic environment, and to preserve existing vegetation (particularly woody vegetation) along the shoreline:

Per The Delaware Department of Transportation Specifications for Road and Bridge Construction, August 2001, Sections 257 Riprap Ditch and 712 Riprap: The proposed riprap footprint will be excavated per the area depicted on the project plans. Geotextile will be placed, flush with the excavated footprint, to an extent sufficient to cover the length and width of the proposed riprap apron, and secured with pins. Upon riprap placement, areas disturbed by the proposed construction will be backfilled as necessary and stabilized with seed and mulch.

CALCULATIONS

RUN = Base width of the structure (in feet) **RISE** = Vertical height of the structure (in feet)

I. How to calculate total cubic yards:

$$\frac{0.5 \times \text{RUN} \times \text{RISE} \times \text{Linear feet of shoreline stabilized}}{27} = \text{Total Cubic Yards}$$

II. How to calculate cubic yards per running foot of shoreline:

$$\frac{\text{Total \# Cubic Yards}}{\text{Linear feet of shoreline}} = \text{Cubic yards per running foot}$$

III. How to calculate slope: Slope = $\frac{\text{RUN}}{\text{RISE}}$

EXAMPLE:

If we propose to stabilize 100 linear feet of shoreline with a rip-rap revetment that has a basewidth of 6 feet and a height of 3 feet:

I. $\frac{0.5 \times 6 \times 3 \times 100}{27} = 33.33$ Total Cubic Yards

II. $\frac{33.33}{100} = 0.333$ Cubic Yards per running foot

III. $\frac{6}{3} =$ Slope of 2

APPENDIX P

STORMWATER MANAGEMENT

- * **Complete this appendix for stormwater management projects in state-mapped wetlands or impacting subaqueous lands.**
- * **Complete only appendix O, Question 15 for marina projects.**
- * **Please be sure answers to all of the questions in this appendix correspond to information on the application drawings.**

1. Is the stormwater practice required by local or state requirements?

X Yes No

Both proposed Stormwater Management Facilities, BMP No.'s 1 and 2 are required per state requirements.

2. Describe the proposed stormwater management control practice. What is its design criteria?

Both proposed Stormwater Management Facilities are wet extended detention facilities. The proposed facilities are designed per the requirements as set forth in DeIDOT's ES2M design guide. The combination of treatment from both proposed facilities provides adequate water quality treatment for the entire project per the DOT/DNREC MOA regarding stormwater quality management. Each facility has been designed with a permanent pool to provide storage for minimally a half inch of runoff over the contributing drainage area. Water quality extended detention will be provided for the 2-inch storm event in both proposed facilities. Both facilities are designed to reduce the peak flow rates for each the 2, 10, and 100-year storm events under proposed conditions to rates less than existing. BMP No. 1 implements a riser structure to provide attenuation while BMP No. 2 implements a weir structure.

3. Is the control practice: X on-site off-site

Both proposed Stormwater Management BMP's will be constructed within the limits of the project.

4. Describe its sequence of construction. Will the practice be used for sediment control?

Rough grading for the proposed BMP's will be completed prior to the construction of proposed upstream storm drain systems. During the proposed roadway construction, the proposed BMP's will act as sediment traps. Upon the completion of roadway

(APPENDIX P, CONTINUED)

construction, the BMP construction will be completed including final grading and stabilization.

5. Will the risk of downstream flooding be increased due to the construction of the stormwater practice or as a result of any change in land use? (during 100 year storm) _____ Yes X No

Both proposed BMP's will reduce the peak flow rates corresponding to the 100-year storm event to rates less than those under existing conditions and will not increase the risk of downstream flooding.

6. What is the drainage area draining to the stormwater practice?

BMP No. 1 11.99 acres

BMP No. 2 20.16 acres

7. What are the before and after peak discharges to and from the stormwater practice for the 2, 10, and 100 year storms?

BMP No. 1: Note construction of BMP No. 1 results in an overall reduction in peak flow rate at the downstream POI.

Discharges entering before	Discharge entering after	Discharge Leaving Pond
2 yr. <u>6.1</u> cfs	2 yr. <u>33.8</u> cfs	2 yr. <u>6.8</u> cfs
10 yr. <u>10.7</u> cfs	10 yr. <u>59.8</u> cfs	10 yr. <u>16.5</u> cfs
100 yr. <u>19.9</u> cfs	100 yr. <u>115.0</u> cfs	100 yr. <u>29.0</u> cfs

BMP No. 2:

Discharges entering before	Discharge entering after	Discharge Leaving Pond
2 yr. <u>21.6</u> cfs	2 yr. <u>33.5</u> cfs	2 yr. <u>5.8</u> cfs
10 yr. <u>39.9</u> cfs	10 yr. <u>52.2</u> cfs	10 yr. <u>9.2</u> cfs
100 yr. <u>77.8</u> cfs	100 yr. <u>88.9</u> cfs	100 yr. <u>13.6</u> cfs

8. What water quality practices will be implemented to protect water quality in adjacent water bodies and minimize the off-site water quality impacts?

BMP No. 1 includes 4 permanent pools including a sedimentation forebay to allow for deposition of sediments. An aquatic bench and pilot channels are provided between the pools to allow for further deposition and water quality benefit via vegetative filtering. A riser structure is proposed, providing minimally 24-hour water quality extended detention for the 2-inch storm.

BMP No. 2 includes 3 permanent pools including a sedimentation forebay to allow for deposition of sediments. The proposed facility includes an aquatic bench and the proposed riser structure provides minimally 24-hour extended detention for the 2-inch storm event.

9. Is the stormwater pond (if used) designed for extended detention? If so, what detention time? BMP No. 1 37.60 hrs BMP No. 2 28.80 hrs

Is there a normal pool? Yes No

If so how deep? BMP No. 1 4.50 ft BMP No. 2 6.0 ft

Will wetlands vegetation be incorporated in the pond design? Yes No If “Yes”, describe:

Both facilities will be planted with adequate landscaping to enhance chemical and sediment filtering. Landscaping plans have not yet been developed for the subject project. Further details will be provided with future submittals.

10. Describe design aspects of the practice that will facilitate maintenance. Where will material removed from pond (sediments) be disposed of?

Both proposed facilities incorporate maintenance access roads providing access for maintenance personnel to the proposed outfall structures and the proposed sedimentation forebays. A set aside area has been delineated at both facilities to accommodate sediment removed from the proposed facilities.

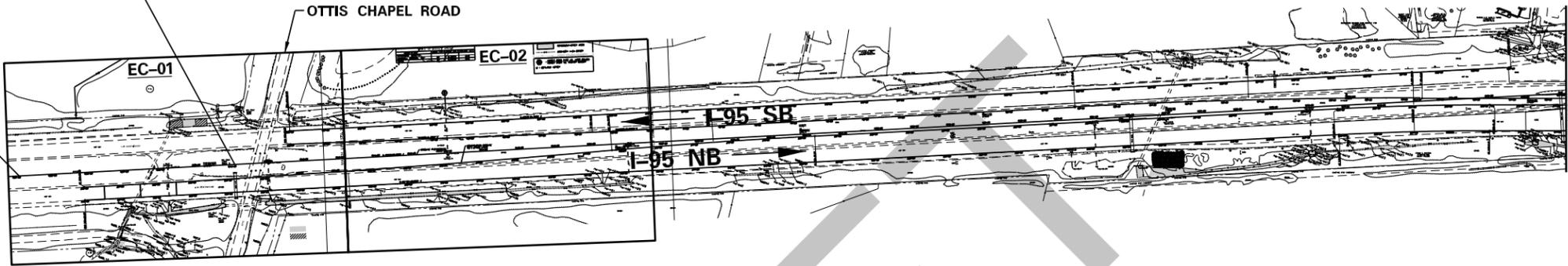
11. Who is responsible for maintenance?

DelDOT

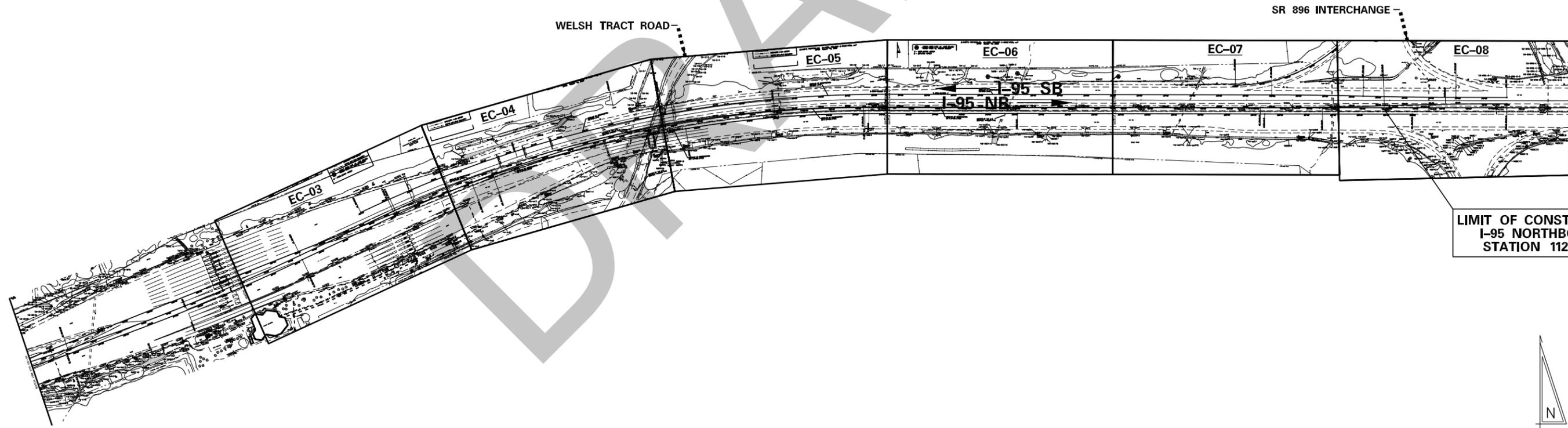
12. Include maintenance schedules as applicable. - N.A.

LIMIT OF CONSTRUCTION
I-95 SOUTHBOUND
STATION 1040+11

LIMIT OF CONSTRUCTION
I-95 NORTHBOUND
STATION 1034+03



LIMIT OF CONSTRUCTION
I-95 SOUTHBOUND
STATION 1142+44

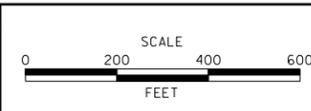


LIMIT OF CONSTRUCTION
I-95 NORTHBOUND
STATION 1129+77



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ADDENDUMS / REVISIONS	



I-95 NEWARK TOLL PLAZA
HIGHWAY SPEED E-ZPASS LANES

CONTRACT 29-090-02	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: J.A.D.
	CHECKED BY: B.J.R.

ENVIRONMENTAL COMPLIANCE
INDEX SHEET

SHEET NO.	N/A
TOTAL SHTS.	444

ENVIRONMENTAL COMPLIANCE NOTES:

1. GENERAL NOTES:

- A. THE PURPOSE OF THESE ENVIRONMENTAL COMPLIANCE SHEETS IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.
- B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY OF THE NATURAL AND/OR CULTURAL RESOURCE ISSUES) IS NECESSARY, THE ENVIRONMENTAL STUDIES SECTION SHOULD BE CONTACTED AT (302) 760-2264 TO ALLOW THE DEPARTMENT TO COORDINATE WITH THE APPROPRIATE AGENCIES FOR APPROVAL.
- C. USE OF THESE SHEETS DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCE ISSUES:

A. PERMIT REQUIREMENTS / APPROVALS:**

CORPS OF ENGINEERS - NATIONWIDE PERMIT #23**

DNREC - SUBAQUEOUS LANDS PERMIT**

NEW CASTLE COUNTY DEPT OF LAND USE - NONE (NO IMPACTS WITHIN THE 100-YEAR FEMA FLOODPLAIN)

* - THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING/OBTAINING THESE PERMITS.

** - THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS (COE, DNREC) ARE IN THEIR POSSESSION PRIOR TO THE BEGINNING OF CONSTRUCTION IN THE PERMITTED AREA(S) AND SHALL BE DISPLAYED ON-SITE DURING THE ENTIRE CONSTRUCTION PERIOD.

B. CONSTRUCTION RESTRICTIONS:
FISHERIES - NONE

ENDANGERED SPECIES - A DOCUMENTED OCCURRENCE OF THE RARE FOUR-TOED SALAMANDER (*HEMIDACTYLUM SCUTATUM*) OCCURS ALONG MUDDY RUN JUST DOWNSTREAM OF THE PROJECT LIMITS. IN ORDER TO ADDRESS CORPS AND DNREC CONCERNS REGARDING THIS SALAMANDER, STORMWATER MANAGEMENT HAS BEEN DESIGNED TO MINIMIZE WATER QUALITY AND QUANTITY IMPACTS, AND MINIMIZE SEDIMENTATION TO PERSIMMON RUN, THE STREAM THAT FLOWS INTO MUDDY RUN.

MIGRATORY BIRDS - NONE

C. PROTECTION OF RESOURCES:
SILT FENCE OR CONSTRUCTION SAFETY FENCE SHALL BE USED ALONG THE LIMITS OF CONSTRUCTION IN ALL AREAS WHERE WATER/WETLANDS ARE BEING IMPACTED (AS SHOWN ON EC SHEETS), AND ALSO IN ANY AREA WHERE WATER/WETLANDS EXIST WITHIN 20 FEET OF THE LOC (AS SHOWN ON CONSTRUCTION PLANS). CONTRACTOR ACCESS BEYOND THE LOC IS STRICTLY PROHIBITED.

D. WETLANDS CREATION:

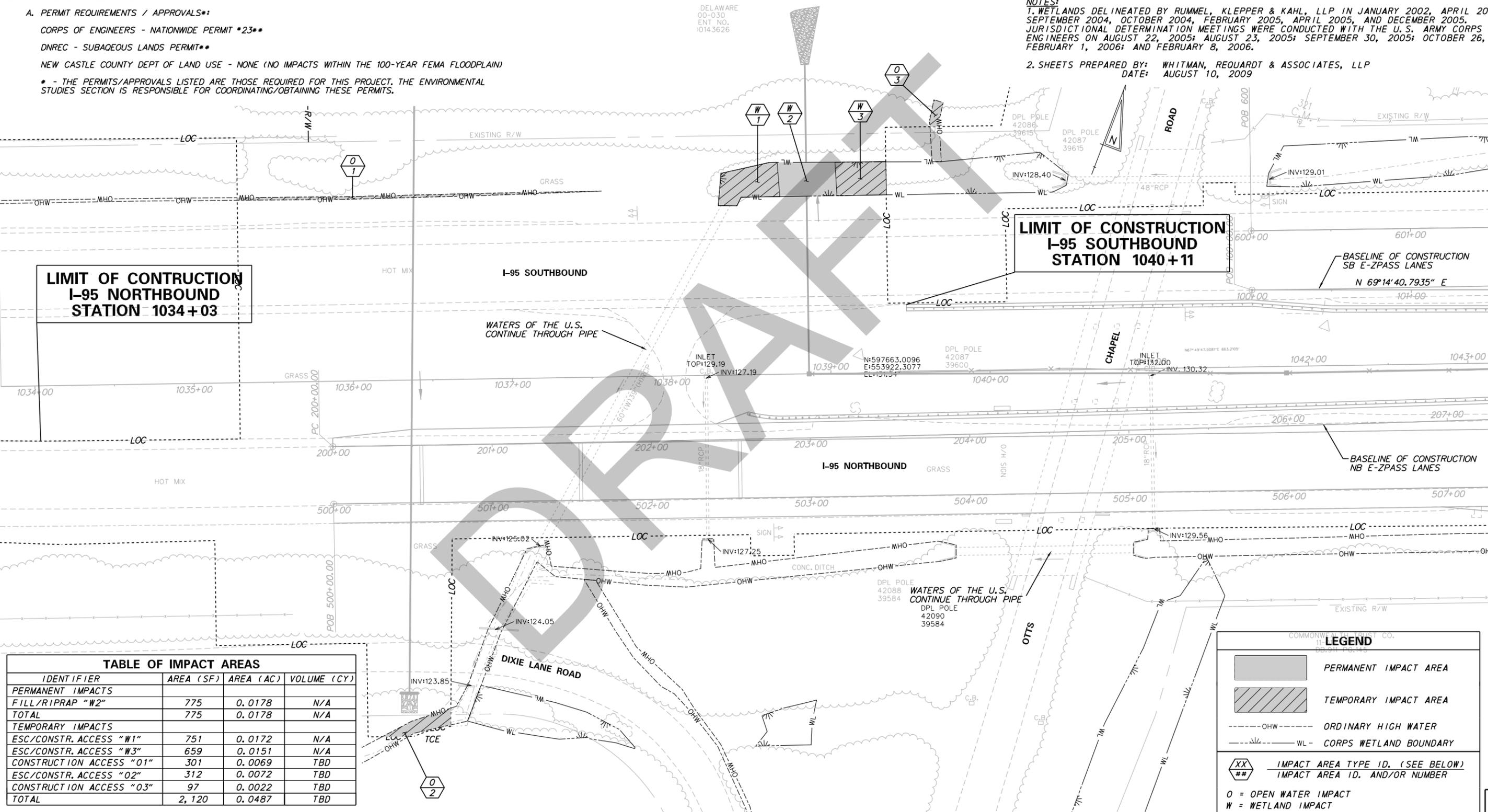
DUE TO THE AMOUNT OF PERMANENT WETLANDS/WATERS IMPACTS (GREATER THAN 1/10 ACRE), COMPENSATORY MITIGATION, IN THE FORM OF ON-SITE IN-KIND REPLACEMENT AND WETLANDS CREATION AT THE GLENVILLE MITIGATION SITE, IS REQUIRED TO SATISFY THE CORPS OF ENGINEERS PERMIT. A TOTAL OF 0.075 ACRES WILL BE REPLACED ON-SITE AND 0.025 ACRES WILL BE DEDUCTED FROM THE BALANCE AVAILABLE AT THE GLENVILLE SITE.

3. CULTURAL RESOURCES ISSUES: NONE

NOTES:

1. WETLANDS DELINEATED BY RUMMEL, KLEPPER & KAHL, LLP IN JANUARY 2002, APRIL 2002, SEPTEMBER 2004, OCTOBER 2004, FEBRUARY 2005, APRIL 2005, AND DECEMBER 2005. JURISDICTIONAL DETERMINATION MEETINGS WERE CONDUCTED WITH THE U.S. ARMY CORPS OF ENGINEERS ON AUGUST 22, 2005; AUGUST 23, 2005; SEPTEMBER 30, 2005; OCTOBER 26, 2005; FEBRUARY 1, 2006; AND FEBRUARY 8, 2006.

2. SHEETS PREPARED BY: WHITMAN, REOUARDT & ASSOCIATES, LLP
DATE: AUGUST 10, 2009



**LIMIT OF CONSTRUCTION
I-95 NORTHBOUND
STATION 1034 + 03**

**LIMIT OF CONSTRUCTION
I-95 SOUTHBOUND
STATION 1040 + 11**

TABLE OF IMPACT AREAS

IDENTIFIER	AREA (SF)	AREA (AC)	VOLUME (CY)
PERMANENT IMPACTS			
FILL/RIPRAP "W2"	775	0.0178	N/A
TOTAL	775	0.0178	N/A
TEMPORARY IMPACTS			
ESC/CONSTR. ACCESS "W1"	751	0.0172	N/A
ESC/CONSTR. ACCESS "W3"	659	0.0151	N/A
CONSTRUCTION ACCESS "O1"	301	0.0069	TBD
ESC/CONSTR. ACCESS "O2"	312	0.0072	TBD
CONSTRUCTION ACCESS "O3"	97	0.0022	TBD
TOTAL	2,120	0.0487	TBD

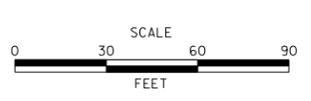
LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- OHW --- ORDINARY HIGH WATER
- WL --- CORPS WETLAND BOUNDARY
- XX IMPACT AREA TYPE ID. (SEE BELOW)
- ## IMPACT AREA ID. AND/OR NUMBER
- O = OPEN WATER IMPACT
- W = WETLAND IMPACT

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ADDENDUMS / REVISIONS



**I-95 NEWARK TOLL PLAZA
HIGHWAY SPEED E-ZPASS LANES**

CONTRACT 29-090-02	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: J.A.D.
	CHECKED BY: B.J.R.

ENVIRONMENTAL COMPLIANCE

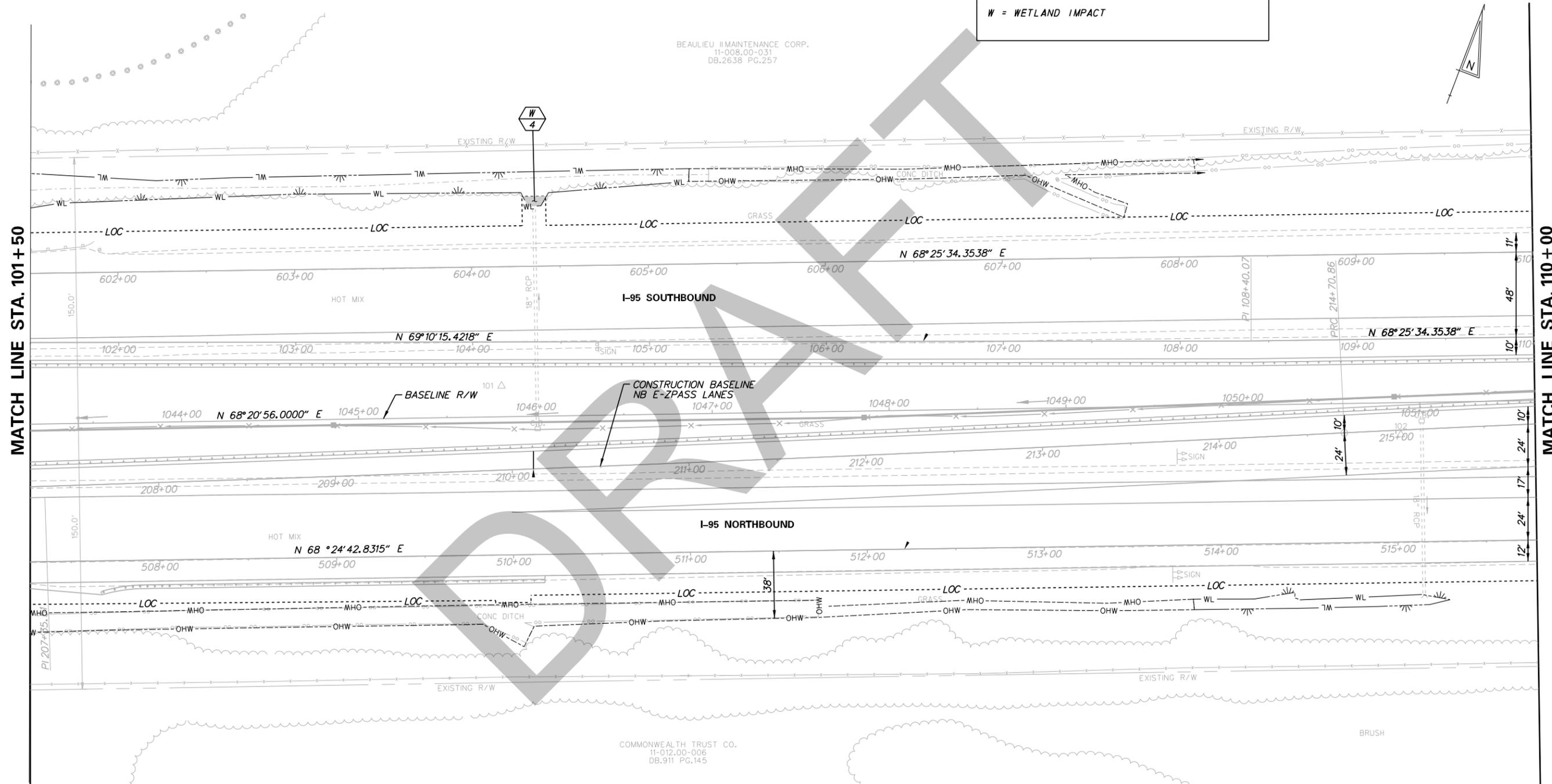
SHEET NO. 114
TOTAL SHTS. 444

EC-01

TABLE OF IMPACT AREAS			
IDENTIFIER	AREA (SF)	AREA (AC)	VOLUME (CY)
PERMANENT IMPACTS			
HEADWALL REMOVAL "W4"	57	0.0013	N/A
TOTAL	57	0.0013	N/A

LEGEND

PERMANENT IMPACT AREA
 - - - - - OHW - - - - - ORDINARY HIGH WATER
 - - - - - WL - - - - - CORPS WETLAND BOUNDARY
 IMPACT AREA TYPE ID. (SEE BELOW)
 IMPACT AREA ID. AND/OR NUMBER
 W = WETLAND IMPACT



MATCH LINE STA. 101 + 50

MATCH LINE STA. 110 + 00



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ADDENDUMS / REVISIONS	



**I-95 NEWARK TOLL PLAZA
HIGHWAY SPEED E-ZPASS LANES**

CONTRACT	BRIDGE NO.
29-090-02	
COUNTY	DESIGNED BY: J.A.D.
NEW CASTLE	CHECKED BY: B.J.R.

ENVIRONMENTAL COMPLIANCE

EC-02
SHEET NO.
115
TOTAL SHTS.
444

TABLE OF IMPACT AREAS			
IDENTIFIER	AREA (SF)	AREA (AC)	VOLUME (CY)
TEMPORARY IMPACTS			
DUCT INSTALLATION "04"	627	0.0144	N/A
TOTAL	627	0.0144	N/A

LEGEND

TEMPORARY IMPACT AREA

---OHW--- ORDINARY HIGH WATER

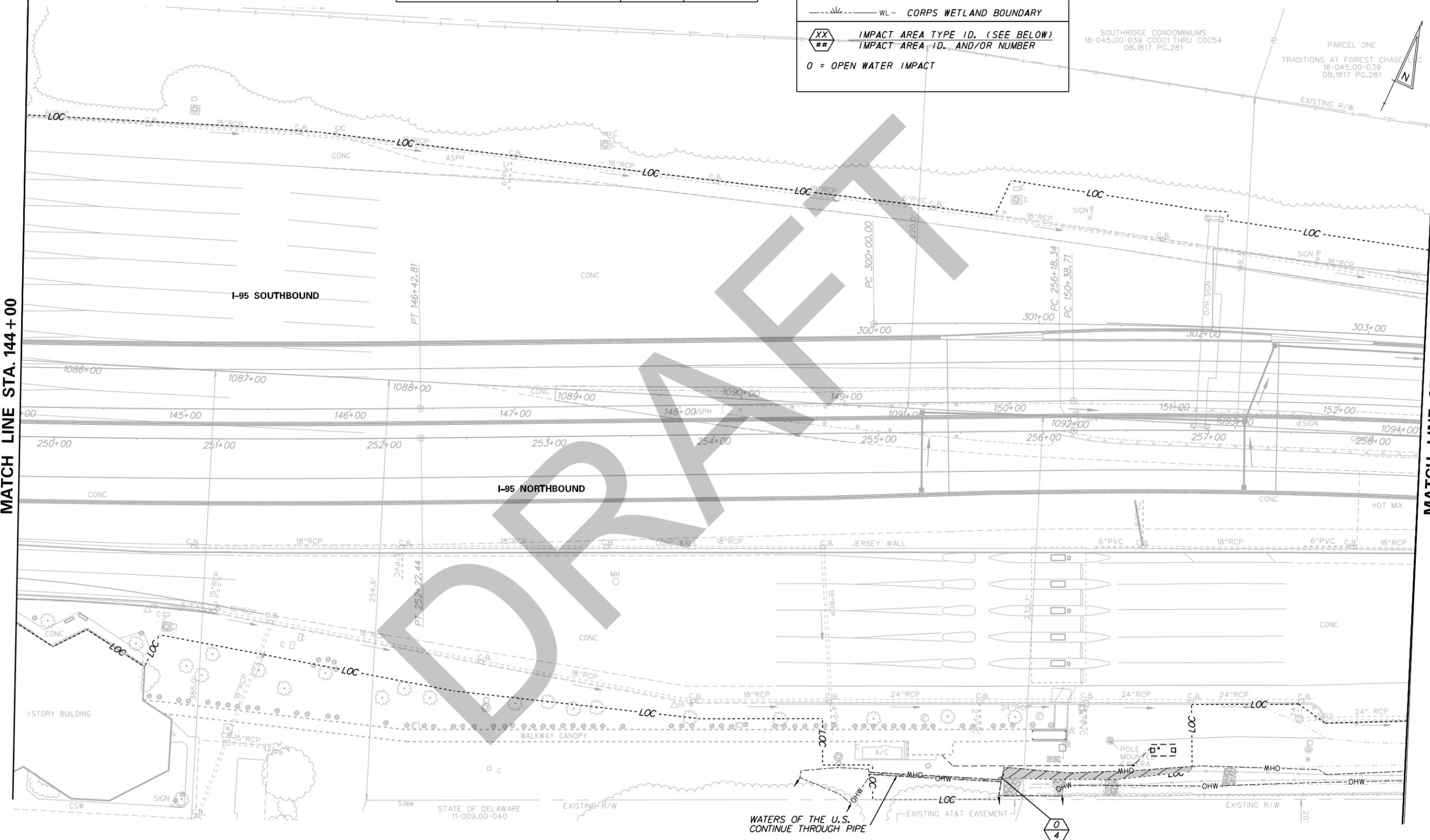
---WL--- CORPS WETLAND BOUNDARY

IMPACT AREA TYPE ID. (SEE BELOW)
IMPACT AREA ID. AND/OR NUMBER

0 = OPEN WATER IMPACT

MATCH LINE STA. 144+00

MATCH LINE STA. 152+50



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18-045.00-039 C0001 THRU C0054
DB.1817 PG.281

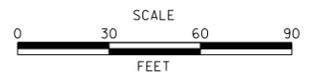
PARCEL ONE
TRADITIONS AT FOREST CHASE
18-045.00-039
DB.1817 PG.281

EXISTING R/W

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ADDENDUMS / REVISIONS	



**I-95 NEWARK TOLL PLAZA
HIGHWAY SPEED E-ZPASS LANES**

CONTRACT 29-090-02	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: J.A.D.
	CHECKED BY: B.J.R.

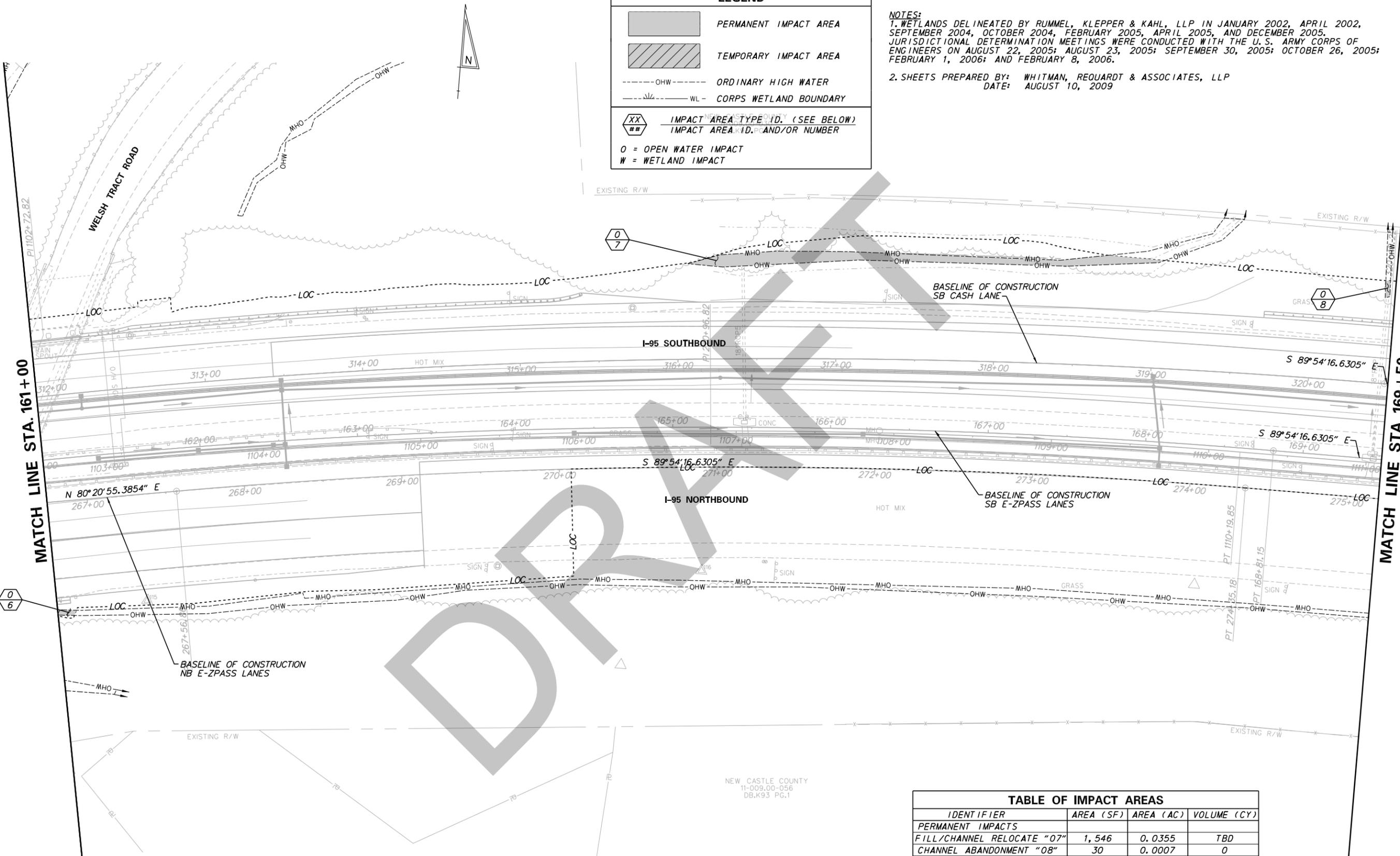
ENVIRONMENTAL COMPLIANCE

EC-03
SHEET NO. 116
TOTAL SHTS. 444

LEGEND	
	PERMANENT IMPACT AREA
	TEMPORARY IMPACT AREA
	OHW - ORDINARY HIGH WATER
	WL - CORPS WETLAND BOUNDARY
	IMPACT AREA TYPE ID. (SEE BELOW) IMPACT AREA ID. AND/OR NUMBER
O	OPEN WATER IMPACT
W	WETLAND IMPACT

NOTES:
 1. WETLANDS DELINEATED BY RUMMEL, KLEPPER & KAHL, LLP IN JANUARY 2002, APRIL 2002, SEPTEMBER 2004, OCTOBER 2004, FEBRUARY 2005, APRIL 2005, AND DECEMBER 2005. JURISDICTIONAL DETERMINATION MEETINGS WERE CONDUCTED WITH THE U. S. ARMY CORPS OF ENGINEERS ON AUGUST 22, 2005; AUGUST 23, 2005; SEPTEMBER 30, 2005; OCTOBER 26, 2005; FEBRUARY 1, 2006; AND FEBRUARY 8, 2006.

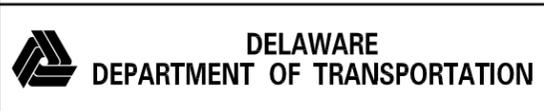
2. SHEETS PREPARED BY: WHITMAN, REQUARDT & ASSOCIATES, LLP
 DATE: AUGUST 10, 2009



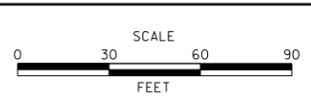
NEW CASTLE COUNTY
 11-009.00-056
 DB.K93 PG.1

IDENTIFIER	AREA (SF)	AREA (AC)	VOLUME (CY)
PERMANENT IMPACTS			
FILL/CHANNEL RELOCATE "07"	1,546	0.0355	TBD
CHANNEL ABANDONMENT "08"	30	0.0007	0
TOTAL	1,576	0.0362	TBD
TEMPORARY IMPACTS			
RE-GRADING "06"	37	0.0008	N/A
TOTAL	37	0.0008	N/A

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ADDENDUMS / REVISIONS



**I-95 NEWARK TOLL PLAZA
 HIGHWAY SPEED E-ZPASS LANES**

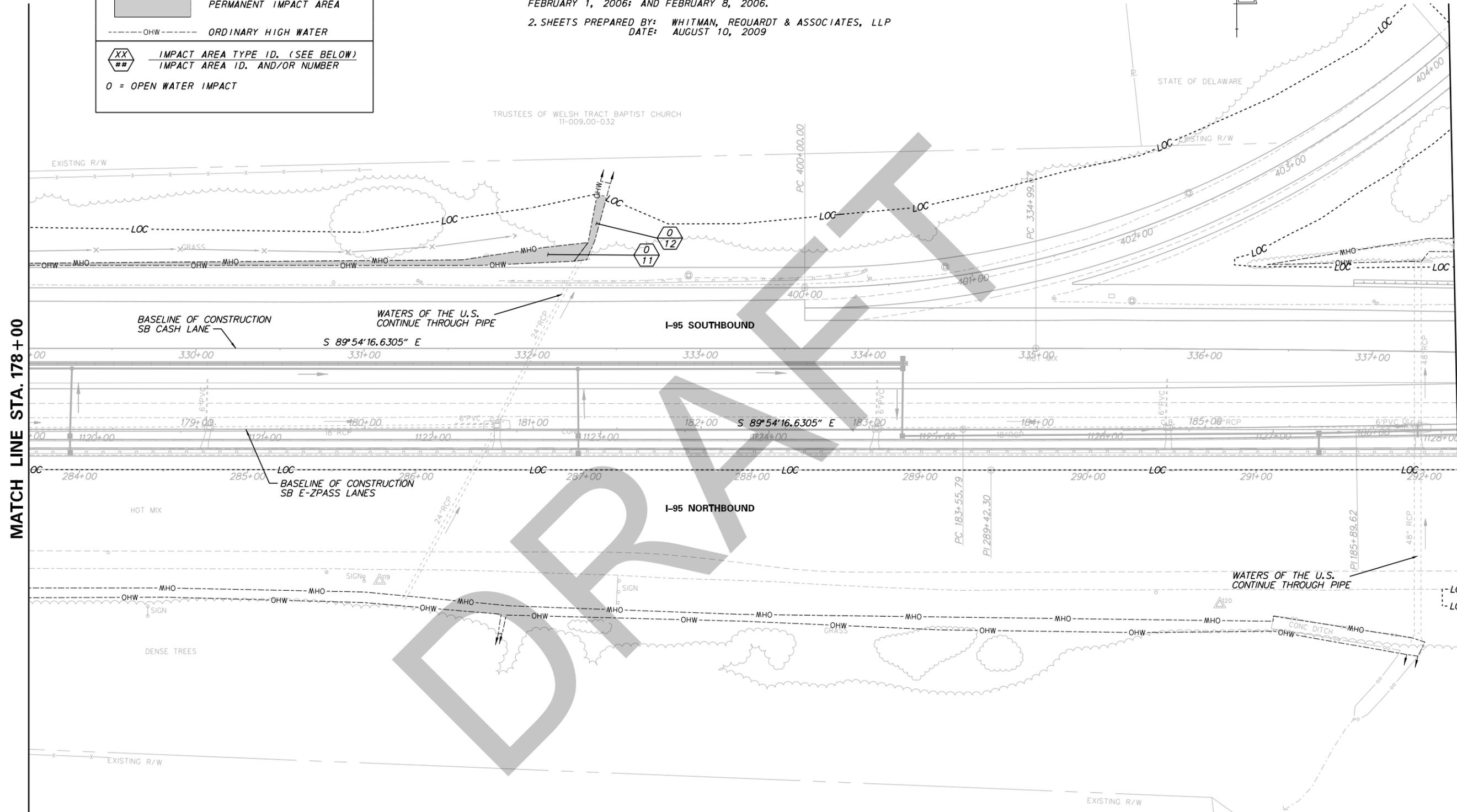
CONTRACT 29-090-02	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: J.A.D.
	CHECKED BY: B.J.R.

ENVIRONMENTAL COMPLIANCE

EC-05
SHEET NO. 118
TOTAL SHTS. 444

LEGEND	
	PERMANENT IMPACT AREA
	ORDINARY HIGH WATER
	IMPACT AREA TYPE ID. (SEE BELOW) IMPACT AREA ID. AND/OR NUMBER
O = OPEN WATER IMPACT	

NOTES:
 1. WETLANDS DELINEATED BY RUMMEL, KLEPPER & KAHL, LLP IN JANUARY 2002, APRIL 2002, SEPTEMBER 2004, OCTOBER 2004, FEBRUARY 2005, APRIL 2005, AND DECEMBER 2005. JURISDICTIONAL DETERMINATION MEETINGS WERE CONDUCTED WITH THE U.S. ARMY CORPS OF ENGINEERS ON AUGUST 22, 2005; AUGUST 23, 2005; SEPTEMBER 30, 2005; OCTOBER 26, 2005; FEBRUARY 1, 2006; AND FEBRUARY 8, 2006.
 2. SHEETS PREPARED BY: WHITMAN, REQUARDT & ASSOCIATES, LLP
 DATE: AUGUST 10, 2009



MATCH LINE STA. 178+00

MATCH LINE STA. 186+50

TABLE OF IMPACT AREAS			
IDENTIFIER	AREA (SF)	AREA (AC)	VOLUME (CY)
PERMANENT IMPACTS			
CHANNEL RELOCATION "O11"	1,116	0.0256	-
CHANNEL RELOCATION "O12"	188	0.0043	-
TOTAL	1,304	0.0299	-



ADDENDUMS / REVISIONS	



**I-95 NEWARK TOLL PLAZA
 HIGHWAY SPEED E-ZPASS LANES**

CONTRACT 29-090-02	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: J.A.D. CHECKED BY: B.J.R.

ENVIRONMENTAL COMPLIANCE

EC-07
SHEET NO. 120
TOTAL SHTS. 444

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LEGEND

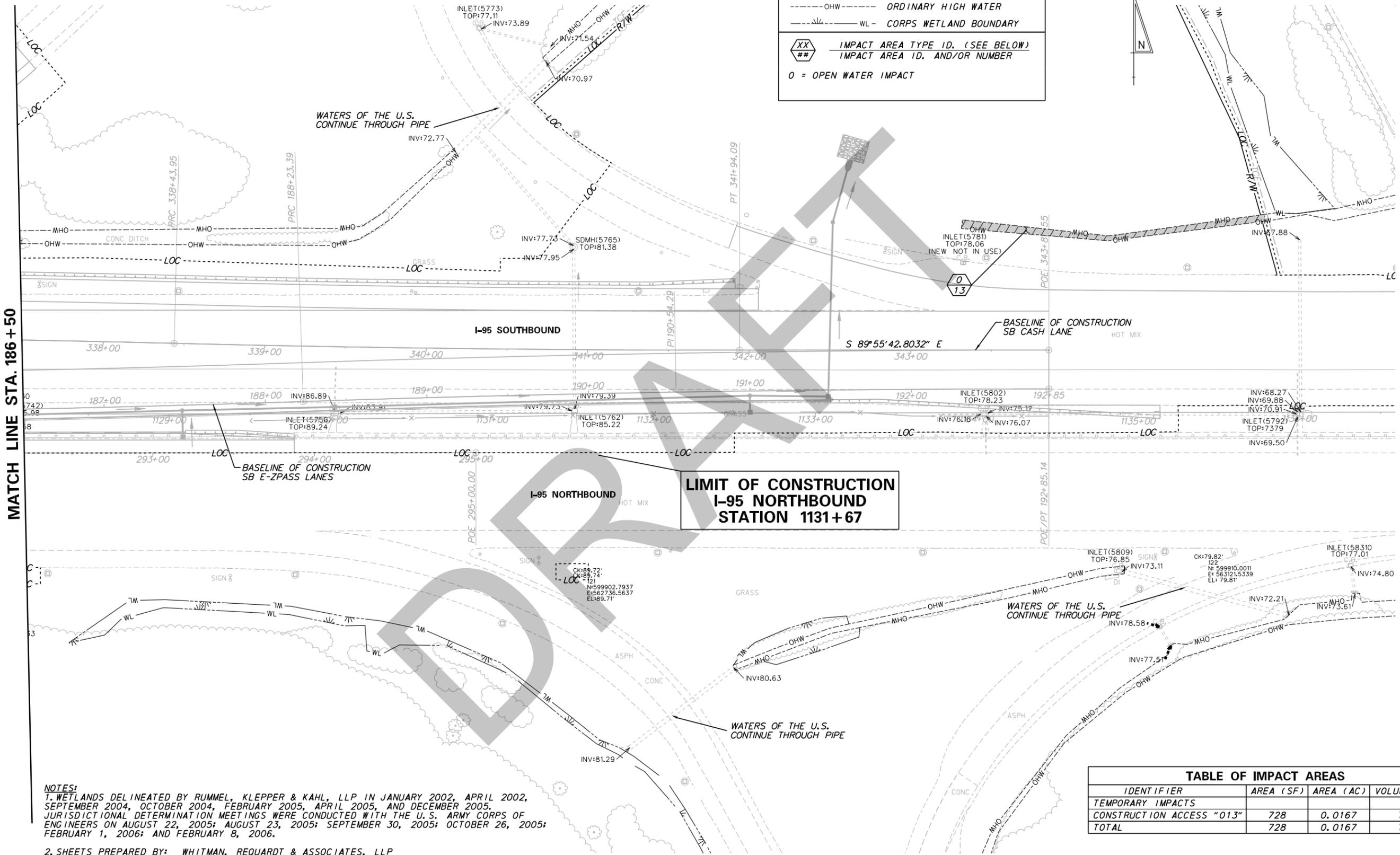
 TEMPORARY IMPACT AREA

 OHW --- ORDINARY HIGH WATER

 WL --- CORPS WETLAND BOUNDARY

 **XX**
IMPACT AREA TYPE ID. (SEE BELOW)
IMPACT AREA ID. AND/OR NUMBER

0 = OPEN WATER IMPACT



MATCH LINE STA. 186+50

NOTES:
 1. WETLANDS DELINEATED BY RUMMEL, KLEPPER & KAHL, LLP IN JANUARY 2002, APRIL 2002, SEPTEMBER 2004, OCTOBER 2004, FEBRUARY 2005, APRIL 2005, AND DECEMBER 2005. JURISDICTIONAL DETERMINATION MEETINGS WERE CONDUCTED WITH THE U.S. ARMY CORPS OF ENGINEERS ON AUGUST 22, 2005; AUGUST 23, 2005; SEPTEMBER 30, 2005; OCTOBER 26, 2005; FEBRUARY 1, 2006; AND FEBRUARY 8, 2006.

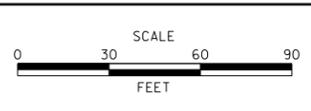
2. SHEETS PREPARED BY: WHITMAN, REQUARDT & ASSOCIATES, LLP
 DATE: AUGUST 10, 2009

TABLE OF IMPACT AREAS			
IDENTIFIER	AREA (SF)	AREA (AC)	VOLUME (CY)
TEMPORARY IMPACTS			
CONSTRUCTION ACCESS "013"	728	0.0167	TBD
TOTAL	728	0.0167	TBD

DWG: 19506-003.ecad.ec08_195 Tollplaza 8/17/2009 4:15:50 PM



ADDENDUMS / REVISIONS



**I-95 NEWARK TOLL PLAZA
 HIGHWAY SPEED E-ZPASS LANES**

CONTRACT 29-090-02	BRIDGE NO.
COUNTY NEW CASTLE	DESIGNED BY: J.A.D.
	CHECKED BY: B.J.R.

ENVIRONMENTAL COMPLIANCE

EC-08
SHEET NO. 121
TOTAL SHTS. 444



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL
DIVISION OF FISH & WILDLIFE
NATURAL HERITAGE & ENDANGERED SPECIES
4876 HAY POINT LANDING ROAD
SMYRNA, DELAWARE 19977

TELEPHONE: (302) 653-2880
FAX: (302) 653-3431

March 10, 2009

Therese Fulmer
Delaware Department of Transportation
800 Bay Road
PO Box 778
Dover, DE 19903

Re: I – 95 Toll Plaza

Dear Ms. Fulmer:

Thank you for contacting the Natural Heritage and Endangered Species Program (NHESP) about information on rare, threatened and endangered species, unique natural communities, and other significant natural resources as they relate to the expansion of the toll plaza on Interstate 95 (I95) just east of the Maryland Delaware border.

A review of our database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities at this project site. As a result, at present, this project does not lie within a State Natural Heritage Site, nor does it lie within a Delaware National Estuarine Research Reserve which are two criteria used to identify “Designated Critical Resource Waters” in the Army Corps of Engineers (ACOE) Nationwide Permit General Condition No. 19. Please be advised that the ACOE will not process permits without adequate documentation from the Natural Heritage and Endangered Species Program. Therefore, this letter should be included with materials submitted to the ACOE.

Rare Salamanders

As noted in NHESP comments to DelDOT dated February 11, 2005, two species of rare salamander, the four-toed salamander (*Hemidactylium scutatum*) and the spotted salamander (*Ambystoma maculatum*), had been documented in the project area. The most recent design for the toll plaza, as presented during the DelDOT hosted site visit on February 25, 2009, has shifted impacts considerably from previous iterations.

If there is to be no work conducted east of the current toll plaza and south of the mown area of the northbound lanes of I95, there should be no impact on the four-toed salamander population.

According to the current design, there will be impacts beyond the mown area of the northbound lanes to the west of the current toll plaza. The forest south of Dixie Line Road in this area has been documented to host spotted salamander. Effort should be made to keep impacts from this project to the north of Dixie Line Road. The primary goal for protecting the spotted salamander population on this watershed is maintaining water quality and quantity. If it is determined that minor work to the south of Dixie Line Road (e.g. steambank stabilization) will help maintain water quality downstream from the project, then that work should be undertaken. Every effort should be made to minimize impact to native vegetation while this work is being conducted. It is anticipated that a stormwater management (SWM) feature will drain into the stream that feeds the spotted salamander habitat area. The SWM should be designed to minimize increases

in sedimentation to the stream and should include measures (perhaps in the form of planted native vegetation) to ensure that chemical runoff does not increase into the stream as a result of this project.

Mature Forest

Much of the forest area adjacent to the southbound side of I95 is good quality, mature hardwood forest. Impacts from construction on wildlife habitat do not stop at a project's delineated limit of disturbance. When trees at the edge of a forest are removed, formerly protected trees are more exposed to the elements, more exposed to runoff from the construction site, may be more prone to disease and may be more likely to be felled during storm events. Additionally, invasive species will penetrate further into the forest area. Every effort should be made to minimize loss of forest along the edge of the project area in order to maintain as much of the mature forest as is possible.

Rare Plants

Comments from NHESP regarding this project were included in a letter regarding several aspects of work being planned for the I95 – I 295 area. This letter, dated August 26, 2002, mentions rare plants documented at the intersection of Route 896 and I95. These plants were observed beyond the northbound lanes of I95. If there is to be no work conducted east of the current toll plaza and south of the mown area of the northbound lanes of I95, there should be no impact on the rare plants in this area.

Enhancing Delaware's Highways

In April of 2005, DelDOT, in cooperation with the University of Delaware, published a manual entitled "Enhancing Delaware's Highways". The plantings and practices described in this manual may have been implemented within the cloverleaf on the northwest corner of the intersection of Route 896 and I95. The current project design for the toll plaza has a SWM feature planned for this area. Toll plaza designers should coordinate with the staff within DelDOT responsible for roadside plantings to determine if the SWM in question may impact any native plantings at this cloverleaf.

We are continually updating our records on Delaware's rare, threatened and endangered species, unique natural communities and other significant natural resources. If the start of the project is delayed more than a year past the date of this letter, please contact us again for the latest information.

Feel free to get in touch with me if you have any questions or require additional information.

Sincerely,



Matthew Bailey
Environmental Review Coordinator for DelDOT Projects
(302) 382-4151
(302) 653-3431 fax
Matthew.bailey@state.de.us



WHITMAN, REQUARDT AND ASSOCIATES, LLP
 801 South Caroline Street
 Baltimore, Maryland 21231

*Engineers,
 Architects
 and Planners*
 Phone: (410) 235-3450
 Fax: (410) 243-5716

MEMORANDUM OF MEETING

Date: March 11, 2009

Date of Meeting: February 25, 2009

Time: 9:00 am

Location: DelDOT Canal District Office

Project: Contract Number 29-090-02
 I-95 Newark Toll Plaza Highway E-ZPass Lanes
 WR&A W.O.: 31636-003

Subject: Permitting Pre-Application Meeting

Attendees:

NAME	ORGANIZATION	PHONE
Darren O'Neil	DelDOT	302-760-2274
Terry Fulmer	DelDOT	302-760-2095
Ken Dunne	DelDOT	302-760-2130
Jacqueline Winkler	USACE	215-656-5833
Joanne Lee	DNREC	302-739-9943
Stephanie Pratt	FHWA	410-779-7160
Nick Blendy	FHWA	302-734-2966
Brian Riffel	WR&A	443-224-1621
Tennile Rubin	WR&A	443-224-1663
Laura Callens	WR&A	443-224-1633

A pre-application meeting was held on Wednesday February 25, 2009 with representatives from the Delaware Department of Transportation (DelDOT), Delaware Department of Natural Resources and Environmental Compliance (DNREC), US Army Corps of Engineers, Federal Highway Administration (FHWA), and Whitman, Requardt & Associates to discuss the I-95 Newark Toll Plaza Highway E-ZPass Lanes project. DelDOT is proposing the above mentioned project to be included in the State's Economic Recovery program. The purpose of the meeting was to discuss the proposed impacts to USACE and DNREC jurisdictional wetlands and streams. The following items were discussed during the I-95 Newark Toll Plaza Highway E-ZPass Lanes Permitting Pre-Application Meeting:

1. 2009 Design Revised Project Limits from 2005 EA FONSI**a. Project details:**

1. The approximate project limits for the roadway construction are from just south of Otts Chapel Road to just north of the SR-896 Interchange.
2. The proposed project will provide two (2) highway speed E-ZPass lanes and seven (7) cash/E-ZPass lanes in each direction.
3. I-95 northbound - The two (2) barrier separated highway speed E-ZPass lanes will develop north of Otts Chapel Road overpass and continue beyond the northbound cash plaza. Before the Welsh Tract Road overpass, the two (2) highway speed E-ZPass lanes and seven (7) cash/E-ZPass lanes will tie into the existing four (4) northbound travel lanes. There is no widening of the roadway to the outside in the northbound direction.
4. I-95 southbound - The two (2) barrier separated highway speed E-ZPass lanes will develop at the SR896 interchange and continue beyond the southbound cash plaza. Before the Otts Chapel Road overpass, the two (2) highway speed E-ZPass lanes and seven (7) cash/E-ZPass lanes will tie into the existing three (3) southbound travel lanes. This work will include widening to the outside of the existing roadway near from SR896 to the southbound toll plaza. This is the only stretch of the proposed project that will include widening to the outside.
5. With the current 2009 design the Otts Chapel Road and the Welsh Tract overpasses will not be reconstructed as with the design proposed in the 2005 Environmental Assessment (EA).
6. The current 2009 design proposes the addition of two SWM facilities. One will be constructed with the SR 896 loop ramp and the other just west of Otts Chapel Road on the southbound side of I-95.

b. Benefits of project (briefly discussed):

1. Reduce driver confusion approaching plazas
2. Reduce the high rate of accidents at the plaza
3. Reduce the user delay experienced at the plaza

c. Reason for project design change from 2005:

1. The project has been reduced significantly because of the available funding.

2. Also, the future of highway tolling is to move towards “cashless collection” by the year 2020. Therefore it is not fiscally or environmentally responsible to reconstruct the entire toll plaza now, knowing the majority of the facility will no longer be needed in the near future.

2. Change in Impacts from 2005 FONSI vs 2009 Design

- a. Overall project impacts have been reduced from the 2005 FONSI to the 2009 design.
- b. 2009 Wetland and Stream Impact Roll Maps- Each DNREC and USACE jurisdictional wetland and stream impacts were discussed (following south to north along I-95):
 1. **NW-BL** is a perennial channel with 1,339 sf (184 lf) of impacts due to the outfall from the SWM pond on the southbound side of I-95.
 - a. USACE and DNREC both expressed concern over the quantity of impacts to NW-BL and requested that the design in this area be revisited and impacts reduced to the most practical extent. It was also requested that impacts be further broken down between temporary and permanent.
 - b. DNREC further requested that the permit submittal include hydraulic analysis of the predicted base flows and storm event flows through the culvert and the proposed associated stormwater management pond.
 2. **NW-T** is an emergent wetland with 377 sq ft. of impacts also related to the outfall from the SWM on the southbound side of I-95.
 - a. USACE and DNREC requested that that the design in this area be revisited and impacts reduced to the most practical extent and that impacts be further broken down between temporary and permanent.
 3. **SW-D** is an ephemeral channel with 545 sf of impacts due to the required staging area for construction of the project in combination with the construction of the SWM facility.
 4. **SW-CB** is an intermittent channel with 97 sf of impacts due to SWM pond construction.
 - a. USACE and DNREC requested the permit submittal document flow of hydrology from the proposed stormwater management pond.
 5. **SW-BC** is an emergent wetland with 2,353 sf of impacts due to roadway widening and roadway ditch construction. SW-BC will be reconstructed and replaced as a flat bottom ditch.

- a. USACE indicated that the goal for reducing impacts to the surrounding area associated with the relocation of the roadway ditch should be to maintain the habitat area nearby by not removing any of the existing trees.
6. **SW-N** is perennial channel with 85 sf of impacts due to culvert lengthening. This existing channel is concrete lined.
7. **SW-H** is an intermittent channel with 1,546 sf of impacts due to roadway widening and sideslope grading. A reconfiguration of SW-H will be required.
8. **SW-I** is an intermittent channel with 35 sf of impacts this outfall will be eliminated and will no longer receive stormwater runoff from the median.
9. **SW-J** is a scrub/shrub wetland with 84 sf of impacts due to roadway widening and sideslope re-grading.
10. **SW-BB** is an emergent/scrub/shrub wetland with 145 sf of impacts due to roadway widening and sideslope re-grading
11. **SW-K** is a perennial stream with 206 sf of impacts due to roadway widening and sideslope re-grading.
12. **SW-AZ** is an intermittent channel with 1,244 sf of impacts due to roadway widening and sideslope re-grading. The channel is partially concrete lined.
13. **SW-L** is a perennial channel with 138 sf of impacts related to culvert lengthening.
14. **SW-896-B** is an intermittent channel with 277 sf of impacts due to providing maintenance access to the proposed SWM facility within the 896 interchange.
 - a. USACE suggested that the stormwater management facility proposed near SW-896-B be designed to minimize impacts to the streams and surrounding area.
 - b. USACE suggested that the stormwater management facility proposed near SW-896-B be designed to include wildlife habitat. DelDOT discussed the safety issues related to providing wildlife along an Interstate facility.

3. NEPA Re-Evaluation Documentation

- a. Due to the reduction of the scope of the project from 2005 to 2009 design, the NEPA document for the 2009 design will be a Categorical Exclusion (CE).
- b. Section 106 for the project limits has been cleared under the 2005 EA. Documentation of the Section 106 Clearance will be included with the nationwide permit.

- c. The proposed project does not pose an air quality concern and has been documented in the CE.
- d. The proposed project does not pose any noise impacts and has been documented in the CE.
- e. The proposed project does not pose any Right-of-Way impacts and has been documented in the CE.
- f. Submission of the CE to the FHWA will occur within the next few weeks. WR&A is awaiting comments from DelDOT.

4. Permitting Requirements

- a. USACE – A Nationwide 23 will be submitted for this project. USACE has requested that the permit submittal include what type of Categorical Exclusion approval was requested of FHWA.
- b. DNREC Subaqueous Lands Permit exemption - DNREC will evaluate whether the SB186 exemption Section 4b (maintenance, reconstruction, and retrofitting) applies to this project. Concern whether the impacts to **NW-BL** meet the definition of retrofit is of issue. If a DNREC Subaqueous Lands permit is required, DNREC will work with DelDOT to insure efficient permit review and approval.

5. Mitigation Requirements

- a. USACE and DNREC will require mitigation for impacts. The mitigation can be a combination of creation and enhancement. Riparian corridor enhancement is suggested for streams that have been relocated.
- b. The Glenville Mitigation Site has wetland credits available. However, the mitigation site is a fluvial wetland and there may be no stream credits available. USACE and DNREC suggested looking for on-site enhancement opportunities.

6. Stormwater Management

- a. DNREC indicated that they would like to see stormwater management facilities built in a more creative way than the standard stormwater management pond.
- b. USACE indicated that during the 2005, JD the (non-impacted) wetland and streams of SW-896 were observed to be a very nice system that provided butterfly habitat. USACE indicated that buffer enhancement as part of the stormwater management design in this area may be an opportunity to meet on-site stream enhancement criteria. DelDOT stated that the SWM pond will be designed to meet regulatory standards. DelDOT stated that enhancing the area for wildlife habitat is not recommended due to the location within a highway interchange.

It should be noted that initially the proposed project was to be advertised as a design-build contract. A portion of the meeting was used to discuss process and protocol of the permitting process as it relates to design-build since both DNREC and USACE have had no previous involvement in this type of contract. However, after the meeting was adjourned it was determined by DelDOT and FHWA that the project would be a design-bid-build contract and follow the second phase of the Economic Recovery package. All discussions pertaining to the design-build aspect of the project have not been included in the above memorandum as it is no longer relevant.

A field meeting was held after the above meeting adjourned. A separate memorandum of minutes has been prepared.

The above is a memorandum of understanding between the parties regarding the topics discussed and the decisions reached. Any participants desiring to add to, or otherwise amend the minutes, are requested to put their comments in writing to the writer within seven (7) days; otherwise, the minutes will stand as written.


Tennile Rubin

Enclosures

cc: Drew Boyce, DelDOT
Tom Hannan, WR&A
Attendees



WHITMAN, REQUARDT AND ASSOCIATES, LLP

801 South Caroline Street
Baltimore, Maryland 21231

*Engineers,
Architects
and Planners*

Phone: (410) 235-3450
Fax: (410) 243-5716

MEMORANDUM OF MEETING

Date: March 11, 2009

Date of Meeting: February 25, 2009

Time: 12:30 pm

Location: I-95 Project Study Area

Project: Contract Number 29-090-02
I-95 Newark Toll Plaza Highway E-ZPass Lanes
WR&A W.O.: 31636-003

Subject: Permitting Pre-Application Field Meeting

Attendees:

NAME	ORGANIZATION	PHONE
Ken Dunne	DelDOT	302-760-2130
Jacqueline Winkler	USACE	215-656-5833
Joanne Lee	DNREC	302-739-9943
Matt Bailey	DNREC	302-382-4151
Stephanie Pratt	FHWA	410-779-7160
Brian Riffel	WR&A	443-224-1621
Tennile Rubin	WR&A	443-224-1663
Laura Callens	WR&A	443-224-1633

The following items were discussed during the I-95 Newark Toll Plaza Highway E-ZPass Lanes Permitting Pre-Application Field Meeting that followed the pre-application meeting at the DelDOT Canal District Office:

1. Resource Impact Areas: Each resource impact area was reviewed and discussed in the field (listed east to west).

- a. **SW-896-B.** The wetland area associated with resource SW-896 located in the SR 896 interchange was investigated to determine if any stream enhancement could occur within this area. The area was mowed at the time of the field meeting. According to Matt Bailey with DNREC the interchange was planted with native grasses by the University of

Delaware. The area is periodically mowed to prevent woody shrubs/trees from establishing. Wetland SW-896-C and stream SW-896 were inspected to determine if stream enhancement could be met in this area. Ms. Winkler with USACE indicated that a 25 to 50 foot deed restriction on either side of the channel would be required. Based on this statement it was concluded that riparian buffer planting for the area is not ideal due to the current management protocol.

- b. **SW-L.** USACE suggested removal of the concrete in the channel and that partial enhancement credit may be given. However, there is still the issue of restrictive easements for the stream enhancement.
- c. **SW-AZ.** DNREC requested that the LOC be tightened within this area to keep the impacts minimal. USACE requested that tree clearing be avoided where possible.
- d. **SW-K.** To reduce impact to SW-K, WR&A will look into building the headwall higher rather than further out into the channel.
- e. **SW-BB.** USACE requested that tree clearing be avoided where possible.
- f. **SW-J.** USACE requested that tree clearing be avoided where possible.
- g. **SW-I.** WR&A indicated that as a result of the stormwater management design impacts to SW-I will permanent as it will no longer receive stormwater flow from the median. USACE requested that tree clearing as a result of construction be avoided where possible. DNREC formally identified per the field review that SW-I is no longer DNREC jurisdictional.
- h. **SW-H.** USACE requested that tree clearing be avoided where possible.
- i. **SW-N.** DNREC requested that impacts to this resource be minimized. USACE requested that tree clearing be avoided where possible.
- j. **SW-BC.** The concrete slab below this wetland will be removed. After construction this area will still received overland flow from the seven cash/E-ZPass lanes. The stormwater flow from the median will be removed and treated off site. USACE requested that tree clearing be avoided where possible.
- k. **SW-BE.** USACE requested that tree clearing be avoided where possible.
- l. **NW-BL.** Any impact to this area may affect the spotted salamander downstream. USACE and DNREC requested that during design attempts be made to limit sediment discharge into the stream. WR&A felt the alternate designs may reduce the impacts to the wetlands and waters that are currently shown. DNREC and USACE were also concerned that the proposed SWM outfall would lead to higher flow rates and cause erosion downstream. WR&A indicated that hydraulic analysis of the stormwater outfall would be conducted and the required stabilization of the channel would be constructed. The USACE also requested that every attempt must be made to minimize the impacts related to the pipe jacking pits that will be required in this area.

The above is a memorandum of understanding between the parties regarding the topics discussed and the decisions reached. Any participants desiring to add to, or otherwise amend the minutes, are requested to put their comments in writing to the writer within seven (7) days; otherwise, the minutes will stand as written.



Tennile Rubin

Enclosures

cc: Drew Boyce, DelDOT
Tom Hannan, WR&A
Attendees

DRAFT

DEPARTMENT OF THE ARMY
PHILADELPHIA OFFICE OF ENGINEERS
WANAMAKER BUILDING, 105 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

JUN 12 2007

RECEIVED

Regulatory Branch
Application Section I

JUN 14 2007

RUMMEL, KLEPPER & KAHL, LLP

SUBJECT: CENAP-OP-R-200300839-11 (JD)
Delaware Turnpike (I-95) Toll Plaza Project

Ms. Therese M. Fulmer
Delaware Department of Transportation
P.O. Box 778
Dover, Delaware 19903

Dear Ms. Fulmer:

The plans identified on the following page depict the extent of Federal jurisdiction on the subject property. The basis of our determination of jurisdiction is also provided (Enclosure 1).

Pursuant to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, a Department of the Army permit is required for work or structures in navigable waters of the United States and the discharge of dredged or fill material into waters of the United States including adjacent and isolated wetlands. Any proposal to perform the above activities within the area of Federal jurisdiction requires the prior approval of this office.

This letter is valid for a period of five (5) years. However, this wetland determination is issued in accordance with current Federal regulations and is based upon the existing site conditions and information provided by you in your application. This office reserves the right to reevaluate and modify the jurisdictional determination at any time should the existing site conditions or Federal regulations change, or should the information provided by you prove to be false, incomplete or inaccurate.

This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a combined Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form (Enclosure 2). If you request to appeal this determination, you must submit a completed RFA form to the North Atlantic Division Office at the following address:

James W. Haggerty
Regulatory Appeals Review Officer
North Atlantic Division, U.S. Army Corps of Engineers
Fort Hamilton Military Community
General Lee Avenue, Building 301
Brooklyn, NY 11252-6700

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by AUG 10 2007.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

If you should have any questions regarding this matter, please contact Jacqueline Winkler at (215) 656-5833 between the hours of 1:00 and 3:30 p.m. or write to the above address.

Sincerely,

William H. Jenkins
Chief, Applications Section I

SUBJECT PROPERTY: Proposed Delaware Turnpike (I-95) Toll Plaza
Project Boundaries, New Castle County, Delaware and Cecil County,
Maryland.

SURVEY DESCRIPTION: Plans prepared by RK&K, dated June 2006,
unrevised, entitled: Delaware Turnpike (I-95) Toll Plaza Wetland
Delineation, Sheets 1 through 20 of 20.

COMMENTS: This wetland delineation was field verified by a
Representative of this office.

Enclosures

Copies Furnished:

- 1. Greg O'Hare
RK&K
81 Mosher Street
Baltimore, Maryland 21217-4250



RUMMEL, KLEPPER & KAHL, LLP

LETTER OF TRANSMITTAL

Sheet 1 of 1

81 MOSHER STREET
BALTIMORE, MARYLAND 21217-4250
(410) 728-2900
(410) 728-2834 (FAX)

DATE:	March 29, 2006
JOB NO:	103-059
PROJECT:	Delaware Turnpike
	Newark Toll Plaza

TO: DNREC
Division of Water Resources
Wetlands and Subaqueous Lands Section
89 Kings Highway
Dover, DE. 19901

ATTENTION: Joanne Haughey

WE ARE SENDING YOU:

- Tax Maps
- Specifications
- Shop Drawings
- Prints
- Copy of Letter
- Change Order

- Plans
- Other _____

VIA:

- US Mail
- Overnight _____
- FAX (_____)

Messenger

Total Pages _____

IN-HOUSE CIRCULATION:

WKH/file 103-059
JTR
RM

COPIES	DWG NO	DESCRIPTION
2	1-14	Revised Delaware Turnpike Toll Plaza March 2006 DNREC Jurisdictional Wetlands Plans
1		Final JD Memorandum of Field Meeting

THESE ARE TRANSMITTED as checked below:

- For approval
- For your use
- As requested
- For review and comment
- Approved
- Approved as noted
- Disapproved
- _____
- Please acknowledge receipt of this material
- Acknowledgement of receipt not required

REMARKS: Hi Joanne,
Attached for your approval are the updated Toll Plaza JD plans and the Memorandum of Field Meeting from our final JD. The updated JD plans reflect all changes discussed at our February 3, 2006 Final JD Field Review. If the JD plans meet your approval, please send a JD letter referencing these plans. Please contact me with any questions or requests for additional information. Thanks, Greg.

COPY TO: Terry Fulmer, DelDOT
*Darren O'Neill, DelDOT

SIGNED: _____
Gregory O'Hare, P.F.
Project Scientist

*Transmittal Sheet Only

If enclosures are not as noted, kindly notify us at once.

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

JUN 12 2007

RECEIVED

Regulatory Branch
Application Section I

JUN 14 2007

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AUG 10 2007

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

If you should have any questions regarding this matter, please contact Jacqueline Winkler at (215) 656-5833 between the hours of 1:00 and 3:30 p.m. or write to the above address.

Sincerely,

William H. Jenkins
Chief, Applications Section I

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Delineation, Sheets 1 through 20 of 20.

COMMENTS: This wetland delineation was field verified by a
Representative of this office.

Enclosures

Copies Furnished:

- 1. Greg O'Hare
RK&K
81 Mosher Street
Baltimore, Maryland 21217-4250

Memorandum of Field Meeting

Date: March 15, 2006
To: Joanne Haughey (DNREC)
From: Greg O'Hare (RK&K)
CC: DelDOT: Terry Fulmer, Darren O'Neill and
RK&K: Bill Hellmann/File, Rick Maddox, & Justin Reel
Subject: Final Jurisdictional Determination Field Review
Reference: I-95 Newark Toll Plaza Improvements
RK&K Project # 103-059

A final jurisdictional determination (JD) field review of subaqueous lands was conducted February 3, 2006 within the expanded study area for the above referenced project. Those in attendance were:

Joanne Haughey
Greg O'Hare

DNREC
RK&K

Summary

A field review of additional potentially jurisdictional subaqueous lands was conducted within the expanded study area shown on the March 2006 DNREC Jurisdictional Wetland Plan Sheets 3-6, 9-10, 12, and 14. It was determined that four (4) existing jurisdictional subaqueous lands should be expanded and that five (5) additional jurisdictional subaqueous lands and (5) non-jurisdictional areas were present within the expanded project area. In addition, the jurisdictional status of a potential subaqueous lands feature (ephemeral channel), which is located along the west side of Otts Chapel Road just south of Welsh Tract Road, was determined to be non-jurisdictional pending further review of the New Castle County Soil Survey and USGS Quad mapping. The enclosed March 2006 DNREC Jurisdictional Wetland Plans reflect all changes discussed during our meeting. Should anyone have any corrections to these minutes, please contact Greg O'Hare at 410-728-2900 extension 1165 as soon as possible.

Action Items

- ✓ Submit revised final wetland report and plans to DNREC for review and approval. (RK&K)



- ✓ Review New Castle County Soil Survey and USGS Quad mapping to determine if the potential subaqueous lands feature (ephemeral channel) located along the west side of Otts Chapel Road just south of Welsh Tract Road is non-jurisdictional. **(RK&K & DNREC)** *Upon review of the soil survey and USGS Quad mapping, this area was determined to be non-jurisdictional.*

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DRAFT

