

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): APR 12 2016

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: NAB-2014-00746-M24 (Old Herald Harbor Road Property/Pre-App/Approved JD)

C. PROJECT LOCATION AND BACKGROUND INFORMATION: This basis sheet is for the seasonal streams and abutting wetlands & adjacent Wetlands A and A1.

State: Maryland County/parish/borough: Anne Arundel City: Crownsville
Center coordinates of site (lat/long in degree decimal format): Lat. 39.050111° N, Long. 76.588764° W.
Universal Transverse Mercator:

Name of nearest waterbody: Plum Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Severn River

Name of watershed or Hydrologic Unit Code (HUC): 02060004

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s): May 30, 2014

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas
- Wetlands adjacent to TNWs
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: Established by OHWM.

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain:

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapans* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 87.97 Pick List

Drainage area: 87.97 Pick List

Average annual rainfall: 55 inches

Average annual snowfall: 10 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 3 tributaries before entering TNW.

Project waters are 1-2 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 1-2 aerial (straight) miles from TNW.

Project waters are 1-2 aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵: NE.

Tributary stream order, if known:

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, b flow into tributary b, which then flows into TNW.

(b) **General Tributary Characteristics (check all that apply):**

- Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: 10 feet

Average depth: 10 feet

Average side slopes: █.

Primary tributary substrate composition (check all that apply):

- | | | |
|---|--|-----------------------------------|
| <input checked="" type="checkbox"/> Silts | <input checked="" type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input checked="" type="checkbox"/> Cobbles | <input checked="" type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input type="checkbox"/> Vegetation. Type/% cover: | |
| <input type="checkbox"/> Other. Explain: | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Fairly stable systems.

Presence of run/riffle/pool complexes. Explain: No pools mostly runs and riffles.

Tributary geometry: █

Tributary gradient (approximate average slope): 1 %

(c) **Flow:**

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **11-20**

Describe flow regime: Intermittent.

Other information on duration and volume:

Surface flow is: **Discrete and confined**. Characteristics:

Subsurface flow: **Yes**. Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply):

- | | |
|--|---|
| <input checked="" type="checkbox"/> Bed and banks | |
| <input checked="" type="checkbox"/> OHWM ⁶ (check all indicators that apply): | |
| <input type="checkbox"/> clear, natural line impressed on the bank | <input checked="" type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input checked="" type="checkbox"/> sediment sorting |
| <input type="checkbox"/> leaf litter disturbed or washed away | <input checked="" type="checkbox"/> scour |
| <input checked="" type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> other (list): | |
| <input type="checkbox"/> Discontinuous OHWM. ⁷ Explain: | |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> High Tide Line indicated by: | <input checked="" type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): | |

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known: water is fairly clear.

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: Streams and adjacent wetlands provide habitat for aquatic and terrestrial

species.

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.1 acres

Wetland type. Explain: PFOIA.

Wetland quality. Explain: Nondisturbed forested wetland at base of slope within floodplain.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: intermittent flow. Explain: Flow is subsurface or sheetflow during large storms.

Surface flow is: Overland sheetflow

Characteristics:

Subsurface flow: Yes. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain: Wetland is located within the floodplain.

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are 1-2 river miles from TNW.

Project waters are 1-2 aerial (straight) miles from TNW.

Flow is from: Wetland to navigable waters.

Estimate approximate location of wetland as within the 50 - 100-year floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: Water is fairly clear.

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: Streams and adjacent wetlands provide habitat for aquatic and terrestrial

species.

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: █

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: The numerous seasonal channels draining through the site are approximately 3-7 feet wide as they meander through the property. There is some sorting of bed material and has some sinuosity and substrate sorting. The following geomorphology was absent: depositional bars or benches, braided channels and grade controls. The seasonal streams are likely fed by some groundwater component. The seasonal channels are located within a forested area. Aquatic Life (Organisms): There was some aquatic life within the perennial channel fed by the seasonal channels. Habitat for Wildlife: A detailed assessment of the quality of wildlife habitat was not performed. The seasonal streams may provide habitat for a variety of upland wildlife species. Support Nutrient Cycling: The area of review supports nutrient cycling. The riparian forested corridor manages the nutrients from the adjacent forested land. The deciduous forest also inputs detritus into the seasonal channel. Sediment Transport: All channels carry sediment from forest runoff as well as the eroding banks and the drainage pattern through the upstream properties. The natural stream bottom has downcut over the years. The stream maintains the capacity to transport sediments from the abutting forest. Pollution Trapping: There is an opportunity for the stream to perform this function. Although it is limited to the relatively small size and reach of the seasonal stream channels. Water Quality Improvements: The seasonal channel does have vegetative cover to trap and uptake pollutants. The abutting forested uplands filter some runoff. Temperature: There is vegetative cover on the site that it could help control and maintain the temperatures of the stream. Flood Storage: There is some opportunity for the seasonal channel to provide this function and the perennial channel definitely has flood storage potential.

Groundwater Discharge: This function was not confirmed in the field. There is an opportunity for the stream to recharge the groundwater system.

Groundwater recharge: This channel has the capacity to store water to slowly release it for groundwater recharge which could possibly contribute to base flow to surface water systems onsite.

Commerce: This channel, on private property, has limited recreational or opportunities to provide commerce because of its small size. However, it does flow into a TNW which does support fishing opportunities downstream and boating in tidal areas.

Navigation: This reach is not navigable.

Recreation: This reach, on private property, has limited recreational opportunities because of its small size.

Public Health: The water quality functions of these channels does influence downstream areas and to that extent it may affect public health.

Significant Nexus: Based on the information provided above, the seasonal channels have a significant nexus with the physical, chemical and biological integrity of the TNW.

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. TNWs and Adjacent Wetlands. Check all that apply and provide size estimates in review area:

- TNWs: linear feet width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.

2. RPWs that flow directly or indirectly into TNWs.

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The streams were observed flowing during the October 28, 2013 field review. This is a time of year when water tables are low so these streams flow seasonally. The streams were also flowing during the Corps field review of May 30, 2014.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: 5,208 linear feet 10 width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters:

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.
Identify type(s) of waters:

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: Visual observation during Corps field review that wetland directly abut or touch the seasonal streams with the exception of Wetland A.

Provide acreage estimates for jurisdictional wetlands in the review area: 1.73 acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

⁸See Footnote # 3.

Provide acreage estimates for jurisdictional wetlands in the review area: **0.1** acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: _____ acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
 Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
 which are or could be used for industrial purposes by industries in interstate commerce.
 Interstate isolated waters. Explain: _____
 Other factors. Explain: _____

Identify water body and summarize rationale supporting determination: _____

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: _____ linear feet _____ width (ft).
 Other non-wetland waters: _____ acres.
Identify type(s) of waters: _____
 Wetlands: _____ acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
 Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
 Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: _____
 Other: (explain, if not covered above): _____

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): _____ linear feet _____ width (ft).
 Lakes/ponds: _____ acres.
 Other non-wetland waters: _____ acres. List type of aquatic resource: _____
 Wetlands: _____ acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): _____ linear feet, _____ width (ft).
 Lakes/ponds: _____ acres.
 Other non-wetland waters: _____ acres. List type of aquatic resource: _____
 Wetlands: _____ acres.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following *Rapanos*.

SECTION IV: DATA SOURCES.

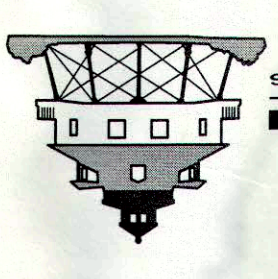
A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: WSSI.
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
- Office concurs with data sheets/delineation report.
- Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: Round Bay .
- USDA Natural Resources Conservation Service Soil Survey. Citation: Anne Arundel County web soil survey.
- National wetlands inventory map(s). Cite name: Round Bay.
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
or Other (Name & Date): 10/28/13.
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): Corps field review of 30 May 2014.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

WETLAND DELINEATION PLAN
 OF
 OLD HERALD HARBOR ROAD
 SUBDIVISION # S2014-009 PROJECT # P2014-0032-00 NF
 TAX MAP 38, GRID 3, PARCEL 20
 OLD HERALD HARBOR ROAD
 CROWNSVILLE, MD 21032
 ANNE ARUNDEL COUNTY ZONED RLD
 SECOND DISTRICT

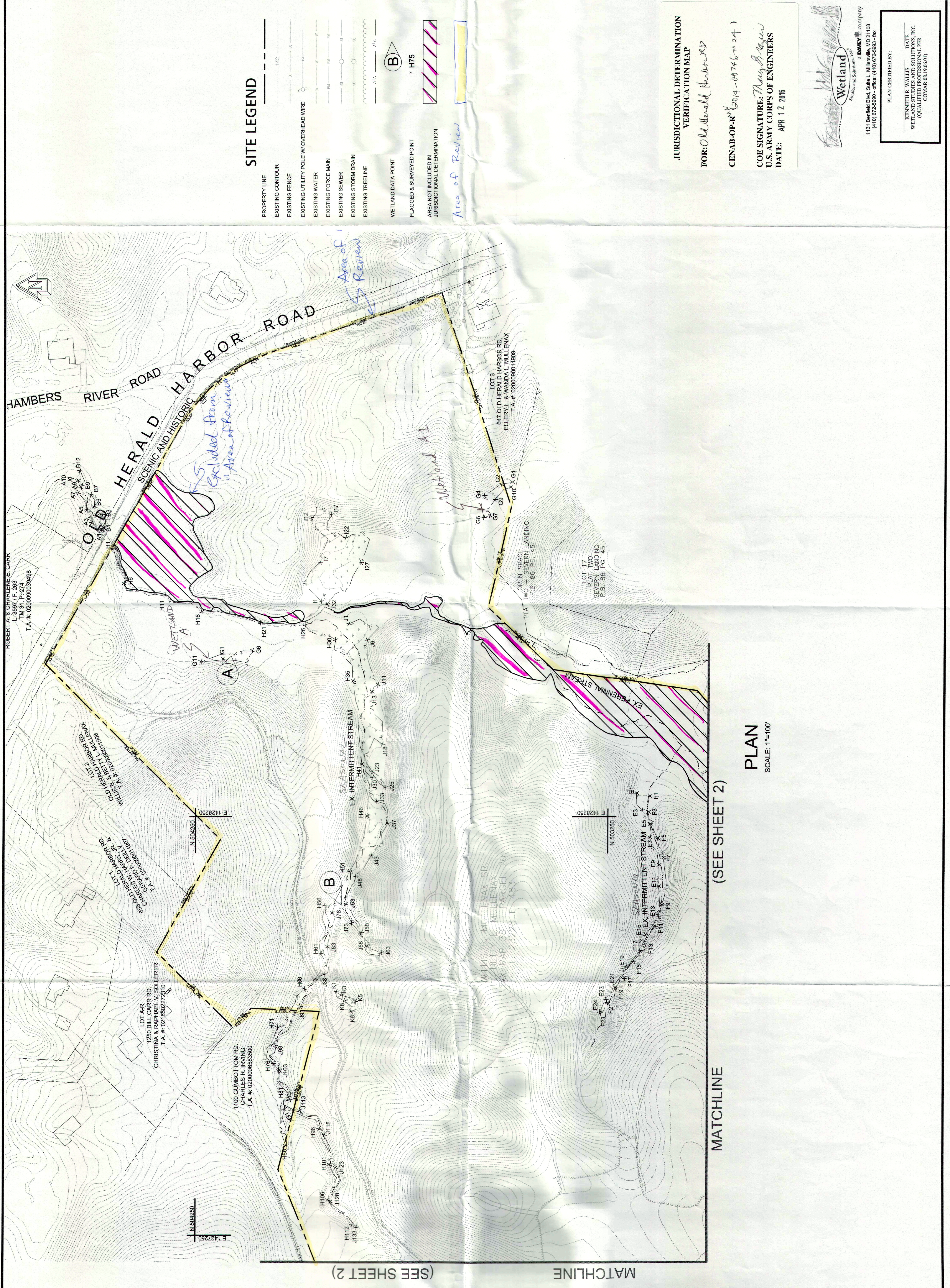
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Rev. #	By	Date	Description

License No. Expiration Date

24x36, VMAP, SJP-BAUSUM-SITE : Xrefs / Images
 Cad File : F:\13-4458 Koch Old Herald Harbor Road\Drawing Files\S\Sketch Plans\13-4458 WETLAND EXHIBIT.dwg



- SITE LEGEND**
- PROPERTY LINE
 - EXISTING CONTOUR
 - EXISTING FENCE
 - EXISTING UTILITY POLE W/ OVERHEAD WIRE
 - EXISTING WATER
 - EXISTING FORCE MAIN
 - EXISTING SEWER
 - EXISTING STORM DRAIN
 - EXISTING TREE LINE
 - WETLAND DATA POINT
 - FLAGGED & SURVEYED POINT
 - AREA NOT INCLUDED IN JURISDICTIONAL DETERMINATION
 - Area of Review

JURISDICTIONAL DETERMINATION
 VERIFICATION MAP
 FOR: Old Herald Harbor Rd
 CENAB-OP-R 15014-00746-n 24)
 COE SIGNATURE: *Naug A. Harkin*
 U.S. ARMY CORPS OF ENGINEERS
 DATE: APR 12 2016

Wetland
 Studies and Solutions, Inc.
 a **DAVEY** company
 1151 Bentfield Blvd, Suite L, Millersville, MD 21108
 (410) 672-8880 - office, (410) 672-8883 - fax

PLAN CERTIFIED BY:
 KENNETH R. WALLIS
 WETLAND PROFESSIONAL PER.
 DATE: APR 12 2016
 COMAR 08.19.06.01

PLAN
 SCALE: 1"=100'

(SEE SHEET 2)

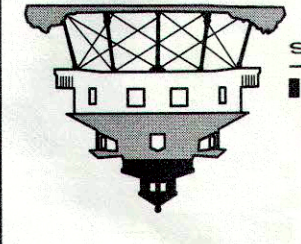
MATCHLINE

MATCHLINE

(SEE SHEET 2)

WETLAND DELINEATION PLAN
OF
OLD HERALD HARBOR ROAD
SUBDIVISION # S2014-009 PROJECT # P2014-0032-00 NF
TAX MAP 38, GRID 3, PARCEL 20
OLD HERALD HARBOR ROAD
CROWNSVILLE, MD 21032
SECOND DISTRICT ANNE ARUNDEL COUNTY ZONED RLD

Bay Engineering Inc.
Engineers, Planners and Surveyors
2661 Riva Road, Building 800
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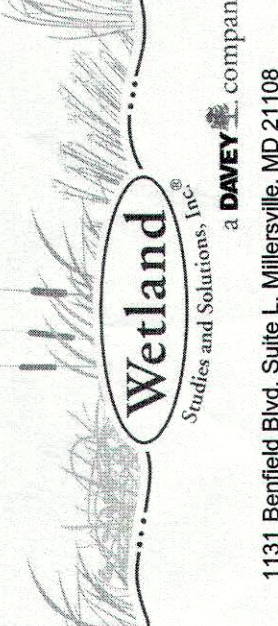


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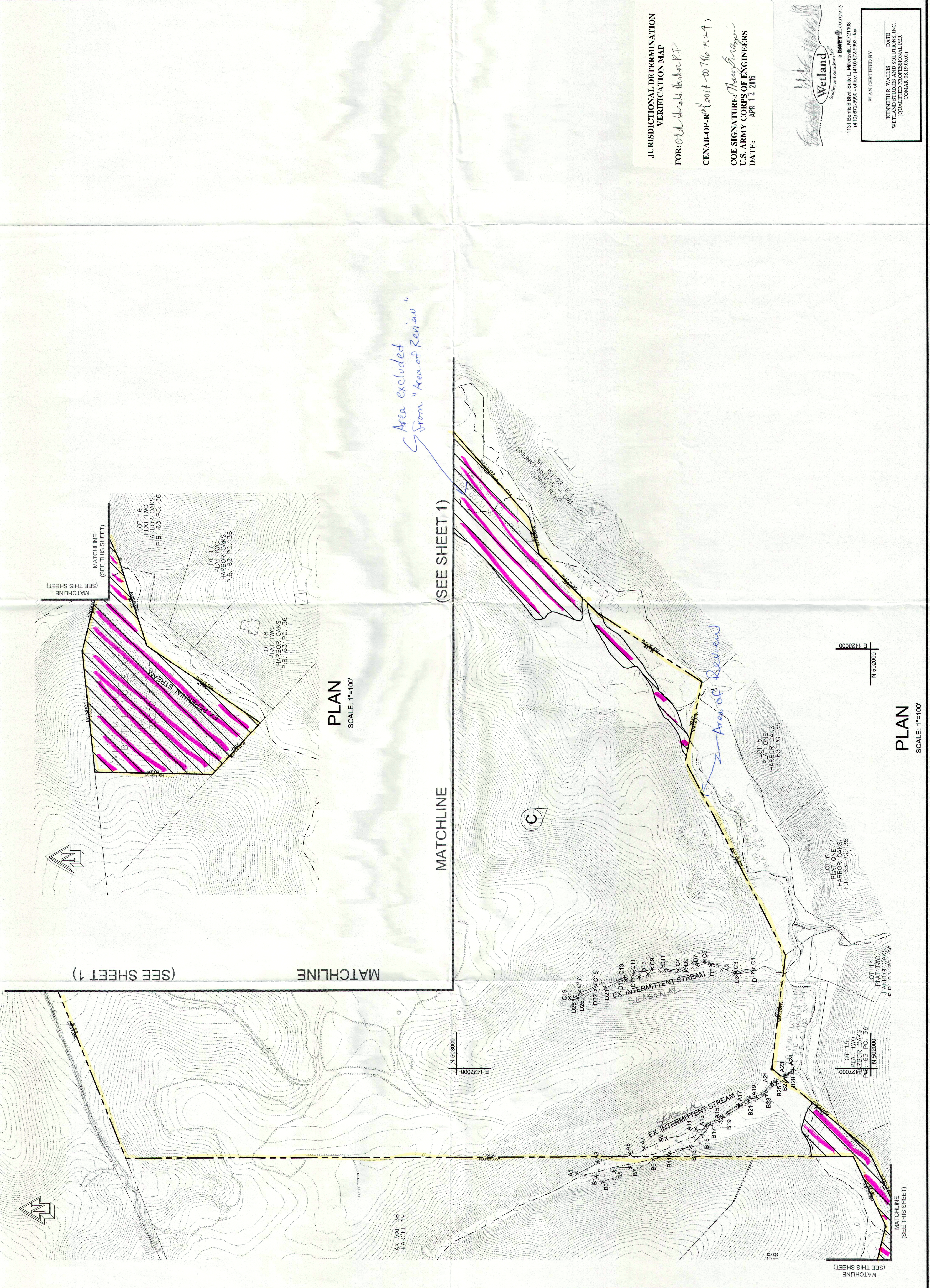
PLAN CERTIFIED BY:
KENNETH R. WALLIS DATE: _____
WETLAND DELINEATION PLANS, INC. (SUNSHINE PROFESSIONAL PER. COMAR 08.19.06.01)



COE SIGNATURE: *Nancy Nguyen*
U.S. ARMY CORPS OF ENGINEERS
DATE: APR 12 2016

JURISDICTIONAL DETERMINATION
VERIFICATION MAP
FOR: *Old Herald Harbor*
CENAB-OP-R^M (2014-0746-124)

DATE: FEBRUARY, 2016
JOB NUMBER: 13-4458
SCALE: AS SHOWN
DRAWN BY: AS SHOWN
APPROVED BY: RUP/DCK
FIELD REFERENCE: KOCH HOMES
OLD HERALD HARBOR ROAD



(SEE SHEET 1)

MATCHLINE

PLAN
SCALE: 1"=100'

PLAN
SCALE: 1"=100'

(SEE SHEET 1)

MATCHLINE

MATCHLINE
(SEE THIS SHEET)

MATCHLINE
(SEE THIS SHEET)