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): 2/7/2020

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENAB-OP-RMN (DAVIDSONVILLE SAND AND GRAVEL MINE/ANNE ARUNDEL COUNTY/JD) 2019-00549-E1.

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: Maryland County/parish/borough: Anne Arundel County City: Davidsonville
Center coordinates of site (lat/long in degree decimal format): Lat. 38.940556 **N**, Long. -76.686389**W**.
Universal Transverse Mercator:
Name of nearest waterbody: UNT to Patuxent River
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Patuxent River -
Name of watershed or Hydrologic Unit Code (HUC): Patuxent River: 02131105

☒ 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): December 18, 2019

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 waters[2] (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: 0 linear feet: width (ft) and/or acres.
      Wetlands: 3.837 acres.

      There were no non-jurisdictional waters within the area of review.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual** This evaluation was performed in general accordance with the Routine and Atypical Wetland Determination Methods as outlined in the U.S. Army Corps of Engineers (Corps) Wetlands Delineation Manual (Y-87-1), dated January 1987, and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (ERDC/EL TR-12-9), dated April 2012.

[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).

The CORPS conducted a field review on December 18, 2019. During that review, eight wetlands exhibiting all three wetland indicators were identified within the area of review. The areas are adjacent but not abutting an RPW which flows to the Patuxent River approximately 1,400 lf from the associated wetlands. The Corps has determined that all 8 wetlands are jurisdictional on site. A significant nexus to the downstream TNW exists for these wetlands, which is an RPW. All 8 wetlands are located in close proximity to this RPW (100 lf). The wetlands discharge groundwater to this RPW as they are all within close proximity. In addition, the nearest TNW is relatively close, approximately 1,400 lf from the adjacent wetlands.

Elevation of established OHWM (if known): Unknown.

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:

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 *Rapanos* 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 waterbody[4] 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: **Pick List**
   Drainage area: **Pick List**
   Average annual rainfall: inches
   Average annual snowfall: inches

[3] Supporting documentation is presented in Section III.F.
[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]:
Tributary stream order, if known:

(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: feet
Average depth: feet
Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry:
Tributary gradient (approximate average slope):

(c) Flow:

Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:

Surface flow is: Characteristics:

Subsurface flow: **Pick List**. Explain findings:

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

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

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A 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.
[7] Ibid.

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

☐ High Tide Line indicated by:
- ☐ oil or scum line along shore objects
- ☐ fine shell or debris deposits (foreshore)
- ☐ physical markings/characteristics
- ☐ tidal gauges
- ☐ other (list):

☐ Mean High Water Mark indicated by:
- ☐ survey to available datum;
- ☐ physical markings;
- ☐ vegetation lines/changes in vegetation types.

(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:

(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: .

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: 3.873 acres

Wetland type. PFO Explain: .

Wetland quality. Explain: These wetlands are adjacent to an existing sand and gravel mine. Fairly high quality forested wetlands. .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: Intermittent.

Surface flow is: **Pick List** **Overland sheetflow.**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: Adjacent wetlands discharge hydrology into nearby RPW. .

☐ 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: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW. ¼ mile

Project waters are **Pick List** aerial (straight) miles from TNW. ¼ mile

Flow is from: **Pick List**. Wetland to Navigable Waters

Estimate approximate location of wetland as within the **Pick List** 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: .

Identify specific pollutants, if known: Agricultural pesticides and herbicides.

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

- ☒ Riparian buffer. Characteristics (type, average width): Forested
- ☒ Vegetation type/percent cover. Explain: .100% Forested
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .

☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately (3.84) 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)

Aquatic Resource Name	Aquatic Resource Type	Size	Directly Abuts?
Wetland A	PFO	0.051	N
Wetland B	PFO	0.089	N
Wetland C	PFO	2.328	N
Wetland E	PFO	0017	N
Wetland G	PFO	0.062	N
Wetland O	PFO	0.083	N
Wetland P	PFO	0.044	N
Wetland K	PFO	1.163	N

Summarize overall biological, chemical and physical functions being performed: .

These forested wetlands discharge hydrology into the adjacent RPW, which directly discharges into the Patuxent River (TNW) approximately ¼ mile away. These river floodplain wetlands provide food, shelter and habitat for various species found within the Patuxent River floodplain. In addition, these wetlands are effective in trapping sediment and other pollutants from runoff from the adjacent sand and gravel mine before these pollutants enter the Patuxent River. Also, the forested wetlands contribute detritus to the downstream TNW which contributes to a diverse benthic habitat.

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:

These forested wetlands discharge hydrology into the adjacent RPW, which directly discharges into the Patuxent River (TNW) approximately ¼ mile away. These river floodplain wetlands provide food, shelter and habitat for various species found within the Patuxent River floodplain. In addition, these wetlands are effective in trapping sediment and other pollutants from runoff from the adjacent sand and gravel mine before these pollutants enter the Patuxent River. Also, the forested wetlands contribute detritus to the downstream TNW which contributes to a diverse benthic habitat. These 8 wetlands are also similarly situated among each other and therefore function as a system adjacent to the existing RPW. Based on this information, it has been determined that a significant nexus exists for these 8 wetlands and are therefore jurisdictional waters of the U.S.

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: UNT to Patuxent River has standing water, evidence of flow and leads directly to the Patuxent River.

☐ 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 the tributary flows seasonally.

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:

3. **Non-RPWs[8] 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: .

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

[8]See Footnote # 3.

☒ 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 jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: **3.873** acres.

These forested wetlands discharge hydrology into the adjacent RPW, which directly discharges into the Patuxent River (TNW) approximately ¼ mile away. These river floodplain wetlands provide food, shelter and habitat for various species found within the Patuxent River floodplain. In addition, these wetlands are effective in trapping sediment and other pollutants from runoff from the adjacent sand and gravel mine before these pollutants enter the Patuxent River. Also, the forested wetlands contribute detritus to the downstream TNW which contributes to a diverse benthic habitat. These 8 wetlands are also similarly situated among each other and therefore function as a system adjacent to the existing RPW. Based on this information, it has been determined that a significant nexus exists for these 8 wetlands and are therefore jurisdictional waters of the U.S.

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: Wetlands W-KLE-01 (0.01 acres), W-KLE-03 (0.01 acres), W-KLE-04 (0.06 acres), W-KLE-05 (0.03 acres), W-KLE-06 (0.04 acres) and W-KLE-07 (0.01 acres) were determined to be isolated wetlands with no significant nexus to downstream TNWs. They are depressional PEM wetlands and the main source of hydrology is groundwater and/or overland flow.

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. Wetland W-KLE-02 1.02 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. Explain:

☒ 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: .

---

[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.*

☒ Other: (explain, if not covered above): **The CORPS conducted a field review on July 24, 2017. During that review, six small wetlands exhibiting all three wetland indicators were identified within the area of review. The areas are not contiguous with or to any water bodies. The Corps has determined that all 6 wetlands are isolated on site. No evidence of connections, surface flow or other hydrologic connections to any other jurisdictional waters of the United States is present for the following isolated wetlands: Wetlands W-KLE-01 (0.01 acres), W-KLE-03 (0.01 acres), W-KLE-04 (0.06 acres), W-KLE-05 (0.03 acres), W-KLE-06 (0.04 acres) and W-KLE-07 (0.01 acres). No significant nexus to downstream TNWs exists for these isolated wetlands. In the State of Maryland, isolated waters are not federally regulated because of the Wilson Case. That is 33 CFR 328.(a)(3) has been removed from Corps regulations in the Fourth Circuit. Therefore, the isolated wetlands at this site are not Federally regulated. .**

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: 0.16 acres.

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: Report of Wetland/Waterway Delineation Study for Davidsonville Sand and Gravel mine.
☒ 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: USGS 7.5-Minute Series Topographic Map for Anne Arundel County.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation:
☒ National wetlands inventory map(s). Cite name:
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Available years from Google Earth.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

NOTES-LAST UPDATED MARCH 2017

1. SURFACE MINING PERMIT: 78-SP0018 (50.2 ACRES)
2. RECLAMATION TO BEGIN UPON REMOVAL OF WASH PLANT PROCESSING EQUIPMENT.
3. PROPERTY FOUND ON ANNE ARUNDEL SOIL MAP #25.
4. PREDOMINANT SOILS: GAB & ESC.
5. THERE IS NO ENCROACHMENT OF THE MINING OR OPERATIONAL AREA OF THIS SITE INTO THE 100-YEAR FLOODPLAIN.
6. BENCHMARK = CONCRETE MONUMENT 151 MILES (N) OF MT. AIRY ROAD. STA. 15+40.53 EAST OF THE SANDS ROAD CENTERLINE NEXT TO POLE G&E #173423 @ COORDINATES N 604034.44 E 891507.69.
7. EXISTING SETTLEMENT POND IS TO BE REMOVED AS PART OF THIS UPDATE. THE EXISTING POND WILL BE REPLACED WITH SEDIMENT TRAPS AND OTHER PROPOSED CONTROLS.
8. ANNE ARUNDEL COUNTY NON-CONFORMING USE No.
9. SURFACE WATER APPROPRIATION PERMIT 69-SAP-017.
10. NPDES WASTEWATER DISCHARGE PERMIT 86-DP-404.
11. ANNE ARUNDEL COUNTY ALLOWS FOR THE CLOSURE OF ALL STATE REGULATED MINING SITES. THIS SITE IS TO BE FILLED WITH OFF SITE FILL MATERIAL. FILL MATERIAL BROUGHT ONTO THE SITE FOR INCORPORATION INTO THE FINAL GRADE SHALL CONSIST OF CLEAN EARTHEN MATERIAL CONTAINING NO MORE THAN 10% CONCRETE, BRICK, OR ASPHALT. CONCRETE, BRICK, OR ASPHALT SHALL NOT EXCEED 1 CUBIC FOOT IN SIZE, CONTAIN NO PROTRUDING RE-BAR, AND NOT BE PLACED IN ANY SLOPES. ALL OTHER CONSTRUCTION DEBRIS, STUMPS, ETC. ARE PROHIBITED.
12. PROPERTY AREA = 164.35 ACRES
13. LIMITS OF DISTURBANCE = 50.2 ACRES
14. VOLUME ANALYSIS
    CUT = 12,422 C.Y. ±
    FILL = 1,914,466 C.Y. ±
15. EXISTING TOPOGRAPHY OBTAINED FROM AERIAL SURVEY PERFORMED BY AXIS GEOSPATIAL LLC, DATED OCTOBER 19, 2016.

2017 CONSULTANT'S CERTIFICATION

THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION ON THE PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THIS SITE, AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASCD PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 13354, EXPIRATION DATE: 2/28/2018.

MD P.E. LICENSE # 13354

NAME ROY C. LITTLE, P.E.

SIGNATURE _____ DATE 3/15/19

FIRM NAME TERRAIN, INC.

STREET ADDRESS 106 OLD SOLOMONS ISLAND ROAD

ANNAPOLIS, MD 21401

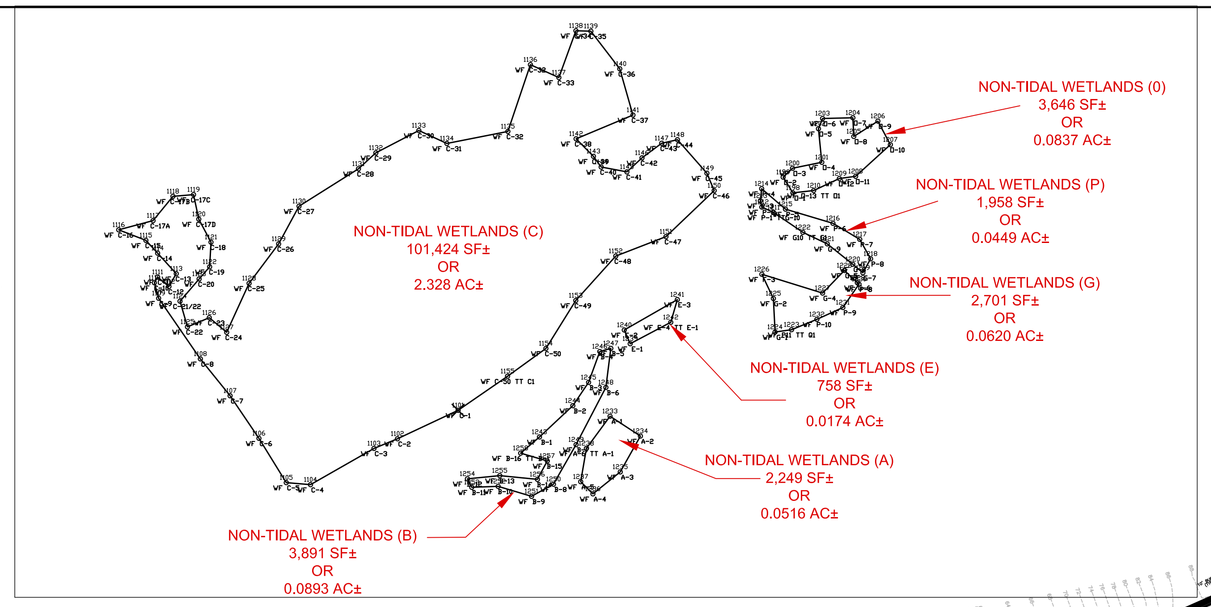
MARCH 2017 OPERATION NOTES

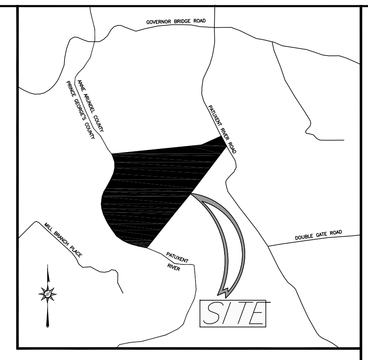
1. HOURS OF OPERATION TO BE 7:00 AM TO 5:00 PM, MONDAY THROUGH SATURDAY, EXCEPT FEDERAL HOLIDAYS.
2. OPERATION WILL BE SUPERVISED BY BRANDYWINE AGGREGATES, INC. PERSONNEL AT ALL HOURS OF OPERATION. ONSITE COMMUNICATIONS WILL BE MAINTAINED BY RADIO CONTACT BETWEEN THE OPERATION TRAILER AND WORK AREA. TELEPHONE CONTACT WILL BE AVAILABLE BETWEEN THE OPERATION TRAILER AND THE BRANDYWINE AGGREGATES, INC. OFFICE.
3. OFF SITE MATERIAL BROUGHT ONTO THE SITE FOR INCORPORATION INTO THE FINAL GRADE SHALL CONSIST OF CLEAN EARTHEN MATERIALS CONTAINING NO MORE THAN 10% CONCRETE, BRICK, OR ASPHALT. CONCRETE, BRICK OR ASPHALT SHALL NOT EXCEED 1 CUBIC FOOT IN SIZE, CONTAIN NO PROTRUDING RE-BAR AND NOT BE PLACE IN ANY SLOPES. ALL OTHER CONSTRUCTION DEBRIS, STUMPS, ETC. ARE PROHIBITED.
4. ALL INCOMING TRUCKS WILL BE VISUALLY INSPECTED AT OPERATION TRAILER PRIOR TO ENTRANCE INTO WORK AREA. AN ELEVATED WALKWAY AT THE TRAILER IS IN PLACE. ALL INCOMING TRUCKS ARE REQUIRED TO SPECIFY THE LOCATION AND SOURCE OF THE LOAD. AS EACH LOAD IS DUMPED AT THE WORK AREA, THE MATERIAL IS VISUALLY INSPECTED BY THE OPERATOR. IF UNSUITABLE OR UNACCEPTABLE MATERIAL IS FOUND, IT WILL BE REMOVED FROM THE SITE.
5. COMPACTION OF INCOMING MATERIAL WILL BE BY WHEEL AND TRACKED EQUIPMENT USED TO DISTRIBUTE THE MATERIAL.
6. SITE IS SECURED BY A FENCE, BERN LOCKING GATE AT ENTRANCE TO PATUXENT RIVER ROAD DURING NON-OPERATION HOURS.

MARCH 2017 REVISION NOTES

THIS REVISION IS FOR THE PURPOSE OF A PERMIT EXTENSION FOR THE CURRENT STATE MINING PERMIT AND UPDATE FOR THE 2012 AASC/NRCS APPROVAL.

REVISIONS INCLUDE:
1. REMOVING EXISTING SETTLING POND AND CONSTRUCTING FOUR (4) SEDIMENT TRAPS.
2. EXPANDING FILL AREA ON SITE WITHIN THE LIMITS OF DISTURBANCE.
3. UPDATE OWNER INFORMATION.
4. CORRECT GRADING SO THAT ALL TIE-INS TO OFFSITE CONTOURS ARE CORRECTED AND SEDIMENT LADEN RUNOFF DIRECTED TO TRAPS.
5. ADD ADDITIONAL SEDIMENT CONTROLS INCLUDING EARTH DIKES, SCE WITH WASH RACKS, AND RIPRAP INFLOW TO TRAPS.
6. REVISE PROFILES TO SHOW NEW MINING LEVEL TO REMOVE REMAINING GRAVEL ON SITE.
7. REVISE THE SEQUENCE OF CONSTRUCTION TO REFLECT CURRENT PROPOSED.
8. UPDATE ALL SPECIFICATIONS AND NOTES TO CURRENT REQUIREMENTS.

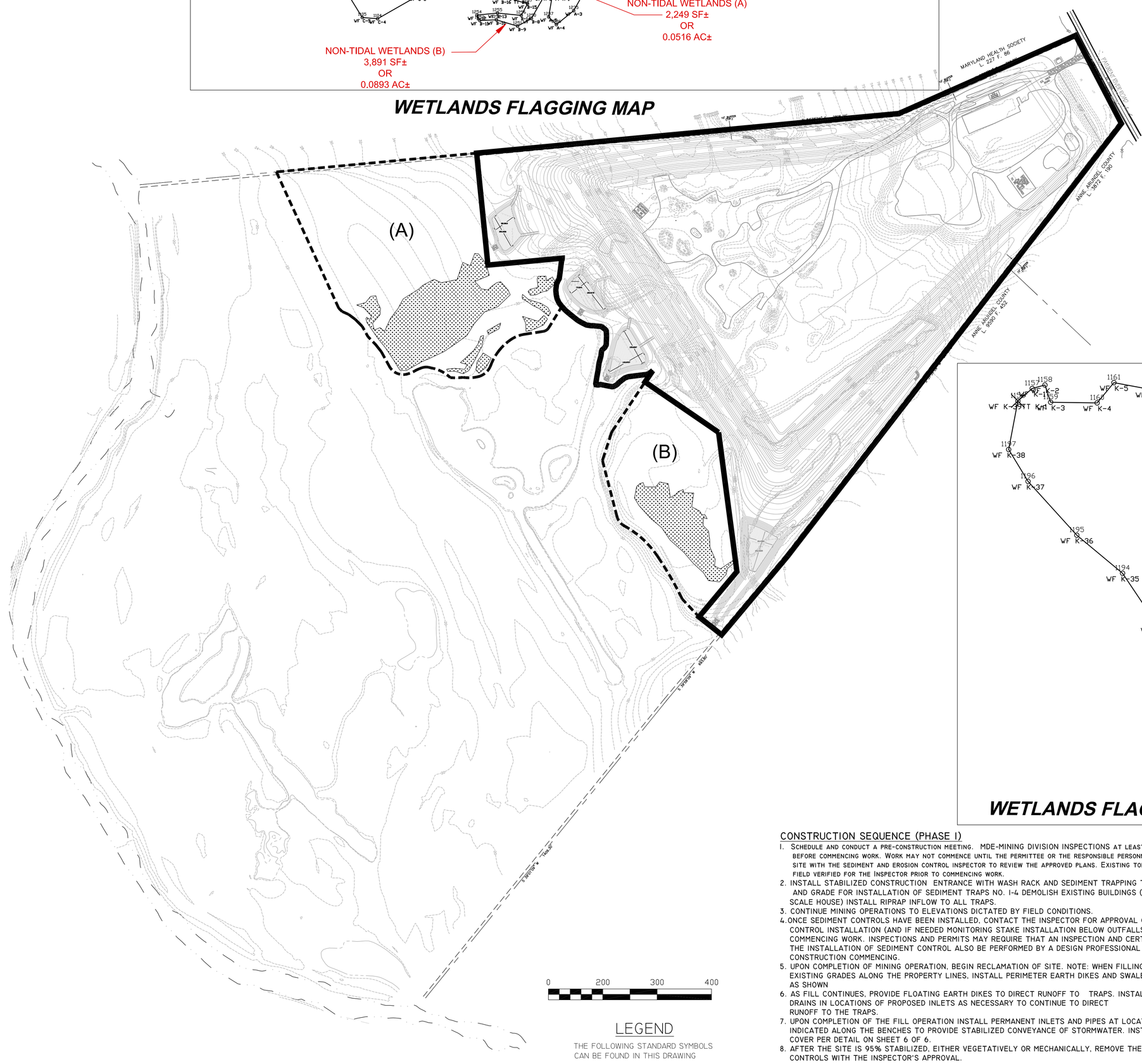




VICINITY MAP

SCALE: 1"=2000'

WETLANDS FLAGGING MAP



WETLANDS FLAGGING MAP

0 200 300 400

LEGEND

THE FOLLOWING STANDARD SYMBOLS CAN BE FOUND IN THIS DRAWING

- LIMIT OF DISTURBANCE
- PROPOSED DRAIN PIPE
- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- SUPER SILT FENCE
- PROPOSED RIPRAP
- PROPOSED HAUL ROAD
- PROPOSED SEDIMENT TRAP
- PROPOSED INLET
- PROPOSED SPOT GRADE
- PROPOSED BAFFLE BOARD
- PROPOSED FLOATING EARTH DIKE

CONSTRUCTION SEQUENCE (PHASE I)

1. SCHEDULE AND CONDUCT A PRE-CONSTRUCTION MEETING. MDE-MINING DIVISION INSPECTIONS AT LEAST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS. EXISTING TOPOGRAPHY MUST BE FIELD VERIFIED FOR THE INSPECTOR PRIOR TO COMMENCING WORK. 2 DAYS
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK AND SEDIMENT TRAPPING TSOS. CLEAR AND GRADE FOR INSTALLATION OF SEDIMENT TRAPS NO. 1-4 DEMOLISH EXISTING BUILDINGS (EXCLUDING SCALE HOUSE) INSTALL RIPRAP INFLOW TO ALL TRAPS 60 DAYS
3. CONTINUE MINING OPERATIONS TO ELEVATIONS DICTATED BY FIELD CONDITIONS. 24 MONTHS
4. ONCE SEDIMENT CONTROLS HAVE BEEN INSTALLED, CONTACT THE INSPECTOR FOR APPROVAL OF SEDIMENT CONTROL INSTALLATION (AND IF NEEDED MONITORING STAKE INSTALLATION BELOW OUTFALLS) PRIOR TO COMMENCING WORK. INSPECTIONS AND PERMITS MAY REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF SEDIMENT CONTROL ALSO BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING.
5. UPON COMPLETION OF MINING OPERATION, BEGIN RECLAMATION OF SITE. NOTE: WHEN FILLING REACHES EXISTING GRADES ALONG THE PROPERTY LINES, INSTALL PERIMETER EARTH DIKES AND SWALES AS SHOWN 60 MONTHS
6. AS FILL CONTINUES, PROVIDE FLOATING EARTH DIKES TO DIRECT RUNOFF TO TRAPS. INSTALL SLOPE DRAINS IN LOCATIONS OF PROPOSED INLETS AS NECESSARY TO CONTINUE TO DIRECT RUNOFF TO THE TRAPS. 60 DAYS
7. UPON COMPLETION OF THE FILL OPERATION INSTALL PERMANENT INLETS AND PIPES AT LOCATIONS INDICATED ALONG THE BENCHES TO PROVIDE STABILIZED CONVEYANCE OF STORMWATER. INSTALL FINAL COVER PER DETAIL ON SHEET 6 OF 6. 12 MONTHS
8. AFTER THE SITE IS 95% STABILIZED, EITHER VEGETATIVELY OR MECHANICALLY, REMOVE THE SIDIMENT CONTROLS WITH THE INSPECTOR'S APPROVAL. 60 DAYS

PHASE II

1. AFTER ACCEPTANCE OF PHASE I COMPLETION, BEGIN CLEARING AND GRADING FOR INSTALLATION OF SEDIMENT TRAPS 5,6, AND 7. INSTALL RIPRAP INFLOW TO ALL TRAPS. 30 DAYS
2. ONCE SEDIMENT CONTROLS HAVE BEEN INSTALLED, CONTACT THE INSPECTOR FOR APPROVAL OF SEDIMENT CONTROL INSTALLATION (AND IF NEEDED MONITORING STAKE INSTALLATION BELOW OUTFALLS) PRIOR TO COMMENCING WORK. INSPECTIONS AND PERMITS MAY REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF SEDIMENT CONTROL ALSO BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING.
3. UPON COMPLETION OF MINING OPERATION, BEGIN RECLAMATION OF SITE. NOTE: WHEN FILLING REACHES EXISTING GRADES ALONG THE PROPERTY LINES, INSTALL PERIMETER EARTH DIKES AND SWALES AS SHOWN 60 MONTHS
4. AS FILL CONTINUES, PROVIDE FLOATING EARTH DIKES TO DIRECT RUNOFF TO TRAPS. INSTALL SLOPE DRAINS IN LOCATIONS OF PROPOSED INLETS AS NECESSARY TO CONTINUE TO DIRECT RUNOFF TO THE TRAPS. 60 DAYS
5. UPON COMPLETION OF THE FILL OPERATION INSTALL PERMANENT INLETS AND PIPES AT LOCATIONS INDICATED ALONG THE BENCHES TO PROVIDE STABILIZED CONVEYANCE OF STORMWATER. INSTALL FINAL COVER PER DETAIL ON SHEET 6 OF 6. 12 MONTHS
6. AFTER THE SITE IS 95% STABILIZED, EITHER VEGETATIVELY OR MECHANICALLY, REMOVE THE SIDIMENT CONTROLS WITH THE INSPECTOR'S APPROVAL. REMOVE THE REMAINING SCALE HOUSE. 60 DAYS
7. FINAL CLEAN UP AND MAINTENANCE. 30 DAYS

STANDARD RESPONSIBILITY NOTES

1. I (WE) CERTIFY THAT:
   a. ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS SEDIMENT AND EROSION CONTROL PLAN, AND FURTHER, AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT (AASCD) BOARD OF SUPERVISORS OR THEIR AUTHORIZED AGENTS.
   b. ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT'S APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

   RESPONSIBLE PERSONNEL ON SITE: DANIEL JONES (OR HIS DESIGNEE)

   C IF APPLICABLE, THE APPROPRIATE ENCLOSURE WILL BE CONSTRUCTED AND MAINTAINED ON SEDIMENT BASIN(S) INCLUDED IN THIS PLAN. SUCH STRUCTURE(S) WILL BE IN COMPLIANCE WITH THE ANNE ARUNDEL COUNTY CODE.
2. THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHT, AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR THE SEDIMENT AND EROSION CONTROL PRACTICES, STORM WATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORM WATER ONTO OR ACROSS ADJACENT OR DOWNSTREAM PROPERTIES INCLUDED IN THE PLAN.
3. FOR INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT AND/OR TEMPORARY STABILIZATION PER THE AASCD VEGETATIVE ESTABLISHMENT SHALL BE COMPLETED WITHIN THREE CALENDAR DAYS FOR THE SURFACE OF ALL CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. THE GRADING AND SEDIMENT CONTROL APPROVAL ON THIS PLAN EXTENDS ONLY TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE.
5. THE APPROVAL OF THIS PLAN FOR SEDIMENT AND EROSION CONTROL DOES NOT RELIEVE THE DEVELOPER/CONSULTANT FROM COMPLYING WITH FEDERAL, STATE OR COUNTY REQUIREMENTS PERTAINING TO ENVIRONMENTAL ISSUES.
6. THE DEVELOPER MUST REQUEST THAT THE SEDIMENT AND EROSION CONTROL INSPECTOR APPROVE WORK COMPLETED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE GRADING OR BUILDING PERMIT, AND THE ORDINANCE.
7. ALL MATERIAL SHALL BE TAKEN TO A SITE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN.
8. FIRST PHASE INSPECTION AND APPROVAL OF THE SEDIMENT AND EROSION CONTROL INSPECTOR SHALL BE REQUIRED UPON COMPLETION OF THE INSTALLATION OF EROSION AND SEDIMENT CONTROLS PRIOR TO PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THE INITIAL APPROVAL BY THE SEDIMENT AND EROSION CONTROL INSPECTOR IS GIVEN. INSPECTION AND PERMITS MAY ALSO REQUIRE THAT AN INSPECTION AND CERTIFICATION OF THE INSTALLATION OF SEDIMENT CONTROL ALSO BE PERFORMED BY A DESIGN PROFESSIONAL PRIOR TO CONSTRUCTION COMMENCING.
9. APPROVAL FROM THE INSPECTOR MUST BE REQUESTED ON FINAL STABILIZATION OF ALL SITES PRIOR TO REMOVAL OF SEDIMENT AND EROSION CONTROLS.
10. EXISTING TOPOGRAPHY MUST BE FIELD VERIFIED BY RESPONSIBLE PERSONNEL TO THE SATISFACTION OF THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING WORK.

SIGNATURE OF DEVELOPER/OWNER _____ DATE _____

PRINT: NAME: DANIEL JONES, ESQ. TITLE: MANAGING MEMBER

AFFILIATION: BRANDYWINE AGGREGATES, INC.

ADDRESS: 2056 GENERALS HIGHWAY, ANNAPOLIS, MD 21401

TELEPHONE NUMBER: 410-224-2095 EMAIL ADDRESS: _____

SHEET INDEX

DEVELOPER:
BRANDYWINE AGGREGATES, INC.
MR. DANIEL JONES
2056 GENERALS HIGHWAY
ANNAPOLIS, MD 21401
410-224-2095

TERRAIN, INC.
LAND ENGINEERING & DEVELOPMENT SERVICES
106 OLD SOLOMON'S ISLAND ROAD
ANNAPOLIS, MARYLAND 21401
410-266-1160 FAX (410) 266-6129
E-MAIL: TERRAIN@COMCAST.NET

REVISED MINING AND SEDIMENT CONTROL PLAN
DAVIDSONVILLE PLANT
3024 & 3040 PATUXENT RIVER ROAD
LIBER 9948 FOLIO 315
TAX MAPS 53 & 54 PARCELS 6 & 9
ANNE ARUNDEL COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 13354, EXPIRATION DATE: 2/28/21 (CORPORATE LICENSE #40856, EXPIRATION DATE: 2/28/2020)

COVER SHEET: MODIFICATION TO STATE MINING PERMIT #78-SP-0018

REVISION:

PHASE TWO EXPANSION

AASCD#:	147-24
DRAWN BY:	SJW
CHECKED BY:	RCL
DATE:	3/15/19
SCALE:	1"=200'
JOB#:	2621
SHEET NO.	1 of 9