

AQUATIC RESOURCE DELINEATION

For

ALEXANDRIA

Situated In

**CAMPBELL COUNTY, ALEXANDRIA,
KENTUCKY**

Prepared For

**MARONDA HOMES, LLC
5900 Wilcox Place
Dublin, Ohio 43016**

December 2021



AQUATIC RESOURCES REPORT
ALEXANDRIA
CAMPBELL COUNTY, ALEXANDRIA, KENTUCKY

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AQUATIC RESOURCES REPORT ALEXANDRIA CAMPBELL COUNTY, ALEXANDRIA, KENTUCKY

A. INTRODUCTION

Maronda Homes, LLC (Maronda) retained LSSE, Inc (LSSE) to complete an aquatic resource delineation on approximately 46 acres within the community of Claryville near the city of Alexandria, Campbell County, Kentucky. Maronda is proposing to construct a new residential development in a single phase between Alexandria Pike and South Licking Pike.

Prior to conducting the field reconnaissance, locations of potential wetlands were determined using mapping contained in United States Department of Agriculture, Natural Resource Conservation Service's (USDA-NRCS) online digital National Cooperative Soil Survey (NCSS 2013) and the United States Fish & Wildlife Service's (USFWS) National Wetlands Inventory (NWI) Map. There are two (2) NWI wetland resources mapped within the project area: R4SBC – Riverine intermittent streambed seasonally flooded and PUBHh – Palustrine unconsolidated bottom permanently flooded diked/impoundment. There are seven (7) soil map units within the project area: EdE2 – Eden silty clay loam, 20 to 35 percent slopes, eroded, LkA – Licking silt loam, 0 to 2 percent slopes, LkB – Licking silt loam, 2 to 6 percent slopes, LIC – Licking silty clay loam, 6 to 12 percent slopes, LID – Licking silty clay loam, 12 to 20 percent slopes, LmD3 – Licking silty clay, 12 to 20 percent slopes, severely eroded (markland), Nk – Newark silt loam (0 to 2 percent slopes, occasionally flooded).

B. METHODOLOGY

An aquatic resource delineation was conducted on December 1, 2021. Wetland Determinations were categorized according to the USFWS's Classification of Wetlands and Deep Water Habitats in the United States (Cowardin et al. 1979). The unique characteristics of wetlands are the result of the interaction of vegetation, soil, and hydrology. Therefore, positive indicators from these three parameters are the basis for wetland assessment. The USACE Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region 2.0 (USACE 2012) procedure was used as guidance in defining these parameters.

Perennial, intermittent, and ephemeral segments are typically assessed for all identified stream channels. Perennial streams are located below the water table, flow throughout the majority of the year, and are capable of supporting two or more taxonomic groups of macroinvertebrates. Intermittent streams are located below the water table and only flow during periods of the year. Intermittent channels are composed primarily of substrates associated with flowing water.

Ephemeral streams only flow for short periods following precipitation and do not have well-defined channels. Since they are located above the water table year-round, ephemeral streams do not transport groundwater.

Stream measurements are taken within a representative area along each identified stream channel. These measurements include channel width, channel depth, wetted width, bank height, and substrate composition.

This report has been prepared consistent with the *Guidance for Submittal of Wetland Delineation Reports* as developed by the U.S. Army Corps of Engineers (USACE).

DIRECTIONS TO SITE:

From the Florence Division of Water Regional Office:

Merge onto I-71 N/I-75 N and continue for 2.5 mi, take Exit 185 to merge onto I-275 E for 6.8 mi. Take Exit 77 to merge onto KY-9 S/Licking Pike toward Maysville for 1.8 mi. From KY-9, turn right onto KY-915 S/Licking Pike for 7.0 mi. Turn right to stay on KY-915 S/Licking for 2.0 mi then turn left onto Camel Crossing for 0.2 mi. Turn right onto Alexandria Pike for 1.0 mi and the destination will be on your right.

Latitude / Longitude: 38.907859, -84.387706 (WGS84)

Organization: LSSE
846 4th Avenue
Coraopolis, PA 15108

Delineator: Adam Greathouse (agreathouse@lsse.com)

Experience: 13 years performing stream delineations and 4 years performing wetland delineations. Received the 36-hour wetland training certificate in 2020.

C. SITE DESCRIPTION

The Area of Investigation (AOI) is situated between Alexandria Pike and S. Licking Pike. The AOI consists of a combination of habitat types. There is a forested area in the northern portion of the AOI consisting of mostly an oak stand of trees. The remainder of the property is comprised of an old livestock pasture that now consists of a mixture of old field and scrub-shrub habitat (trees and shrubs less than 20' tall). Thick areas of multiflora rose, callery pear, honeysuckle, autumn olive and golden rod can be found throughout the site. The AOI is bound

to the north and south by private properties, by Alexandria Pike to the east and S. Licking Pike to the west.

D. SITE IMPROVEMENTS

Maronda, is proposing the construction of a planned residential development. Proposed construction will consist of more than 50 new homes with connecting driveways, cul-de-sacs, pedestrian sidewalks, stormwater management facilities, landscaping, erosion and sediment controls, grading and all other appurtenances necessary.

E. FINDINGS

Seven (7) wetland resources were identified, delineated and documented during the field reconnaissance. Additionally, there were ten (10) streams delineated within the project area. Detailed descriptions of aquatic resources are provided in the following paragraphs. The associated data forms for each resource can be obtained in Appendix D and photographs are located in Appendix E.

WETLANDS

Wetland01

Wetland001 (0.095 ac.) is a palustrine emergent (PEM) wetland resource located in a open swale a couple hundred feet above ephemeral stream R002 in the northern portion of the AOI. Saturation (A3) was the primary hydrology indicator noted, confirming the presence of wetland hydrology. Dominant vegetation included: 100% coverage of reed canary grass (*Phalaris arundiancea*) indicating a vegetative community dominated by hydrophytes. Although there is a monoculture consisting of an invasive species, this specific location identified as a wetland. Hydric soils were confirmed within the soil profile from 0-16 inches, which exhibited 2.5Y 5/2 (95%) with 7.5YR 5/6 (5%) redox features. Soil texture is noted as clay loam.

Wetland02

Wetland002 (0.008 ac.) is a small palustrine emergent (PEM) isolated wetland resource located on a hillside in the northern portion of the AOI. High water table (A1) and saturation (A3) were the primary hydrology indicators noted, confirming the presence of wetland hydrology. Dominant vegetation included: reed canary grass (*Phalaris arundiancea*) and deer tongue (*Dichanthelium clandestinum*) indicating a vegetative community dominated by hydrophytes. Hydric soils were confirmed within the soil profile from 2-6 inches, which

exhibited 5Y 4/1 (97%) with 7.5YR 5/6 (3%) redox features and from 6-16 inches which indicated 2.5Y 5/2 (95%) with 7.5YR 5/6 (5%) redox features. Soil texture is noted as clay loam.

Wetland03

Wetland003 (0.084 ac.) is a palustrine emergent (PEM) isolated wetland resource located on a hillside in the northern portion of the AOI. High water table (A1) and saturation (A3) were the primary hydrology indicators noted, confirming the presence of wetland hydrology. Drainage patterns (B10), geomorphic position (D2) and FAC-neutral test (D5) were recorded as secondary indicators for hydrology. Dominant vegetation included: broadleaf cattail (*Typha latifolia*) and soft rush (*Juncus effusus*) indicating a vegetative community dominated by hydrophytes. Hydric soils were confirmed within the soil profile from 0-6 inches, which exhibited 10YR 4/2 (90%) with 7.5YR 5/6 (10%) redox features and from 6-16 inches which indicated a gley color; Gley 1 5/10GY (80%) with 7.5YR 5/6 (20%) redox features. Soil texture is noted as clay loam.

Wetland04

Wetland04 (1.163 ac.) is a large palustrine emergent (PEM) wetland that begins near the southern portion of the AOI and spans linearly to the north and west. The wetland drains to stream R001, which is an NWI stream. Saturation (A3) and oxidized rhizospheres (C3) on living roots (C3) were the primary hydrology indicators noted, confirming the presence of wetland hydrology. Crayfish burrows (C8) were also noted as a secondary indicator. Dominant vegetation included: reed canary grass (*Phalaris arundinacea*) and Joe Pye weed (*Eutrochium purpureum*) indicating a vegetative community dominated by hydrophytes. Hydric soils were confirmed within the soil profile from 0-16 inches, which exhibited 10YR 3/2 (95%) with 7.5YR 5/8 (5%) redox features. Soil texture is noted as clay loam.

Wetland05

Wetland05 (0.028 ac.) is a small palustrine emergent (PEM) wetland located along stream R010. The wetland spans across both banks of the stream and into the floodway. High water table (A2) and saturation (A3) were the primary hydrology indicators noted, confirming the presence of wetland hydrology. Geomorphic position (D2) and FAC-neutral test (D5) were also noted as secondary indicators of hydrology. Dominant vegetation included: reed canary grass (*Phalaris arundinacea*) and dark green bulrush (*Scirpus atrovirens*) indicating a vegetative community dominated by hydrophytes. Hydric soils were confirmed within the soil profile from 4-18 inches, which exhibited 10YR 4/1 (85%) with 7.5YR 4/6 (15%) redox features. Soil texture is noted as clay loam.

Wetland06

Wetland06 (0.089 ac.) is an isolated palustrine emergent (PEM) wetland that is located in the south-central portion of the AOI. This wetland is identified on the NWI website as a PUBHh wetland indicating an open water pond. Saturation (A3), surface water (A1) and oxidized rhizospheres on living roots (C3) were the primary hydrology indicators noted, confirming the presence of wetland hydrology. Geomorphic position (D2), microtopographic relief (D4) and FAC-neutral test (D5) were also noted as secondary indicators of hydrology. Dominant vegetation included: hairy aster (*Symphotrichum pilosum*), soft rush (*Juncus effusus*) and strawcolored flatsedge (*Cyperus strigosus*) indicating a vegetative community dominated by hydrophytes. Hydric soils were confirmed within the soil profile from 0-16 inches, which exhibited 10YR 5/1 (80%) with 7.5YR 5/6 (20%) redox features. Soil texture is noted as clay loam.

Wetland07

Wetland07 (0.050 ac.) a small palustrine emergent (PEM) wetland that located in the eastern portion of the AOI near Alexandria Pike. This wetland is located east of Wetland04 with a portion of upland separating the two resources. Saturation (A3) and oxidized rhizospheres on living roots (C3) were the primary hydrology indicators noted, confirming the presence of wetland hydrology. Crayfish burrows (C8) was also noted as a secondary indicator of hydrology. Dominant vegetation included: reed canary grass (*Phalaris arundinacea*), soft rush (*Juncus effusus*) and broom sedge (*Carex scoparia*) indicating a vegetative community dominated by hydrophytes. Hydric soils were confirmed within the soil profile from 0-16 inches, which exhibited 10YR 3/2 (95%) with 7.5YR 5/8 (5%) redox features. Soil texture is noted as clay loam.

STREAMS

R001

R001 is an intermittent unnamed tributary to Pond Creek that flows for approximately 656-feet before it exits the AOI. It is identified on the NWI website as a riverine intermittent streambed. The stream was flowing during the time of investigation, but it contained a short dry section just downstream of Wetland04. Stream R001 is located in a forested section of the AOI located in the northeast corner and it flows north until it exits the AOI. The banks of the creek were unstable with a lot of erosion occurring. The stream contained a lot of fine sediments throughout the observed reach due to the erosion of the surrounding banks. The following stream characteristics were measured (in a representative intermittent area): The bankfull width and bankfull depth were estimated to be 10-feet and 4.7-feet, respectively.

The channel width was measured at 7.5-feet, the wetted width and stream depth were estimated to be 3-feet and 0.2-feet, respectively. The right and left bank heights were projected to be approximately 4.5-feet high. Stream substrate was estimated at 5% cobble, 10% gravel, 15% sand, 30% silt, 20% clay and 20% organic (due to lots of new leaf fall).

R002

R002 is an ephemeral unnamed tributary to stream R001, which is an unnamed tributary to Pond Creek. R002 was not flowing during the time of the investigation. This unnamed tributary has very little sign of sediment sorting and has a lack of substrate composition. The stream is located in the upper portion of the AOI and travels northeast for approximately 834 feet until its confluence with R001. The following stream characteristics were measured (in a representative ephemeral area): The bankfull width and bankfull depth were estimated to be 6-feet and 3-feet, respectively. The channel width was measured at 3.5-feet. Because the stream was dry at the time of the investigation, there is no wetted width or depth to record. The right and left bank height are approximately 3-feet high. Stream substrate was estimated at 5% gravel, 10% sand, 40% silt, 20% clay and 25% organic.

R003

R003 is an intermittent unnamed tributary located in the northwestern portion of the AOI that generally flows northeast for approximately 153-feet to the AOI where it loses all channel definition and dissipates to nothing. This stream begins at a spring in the hillside, flows through Wetland03 and ends as an isolated stream with no confluence. Although the stream channel narrow with not much stream length, it was flowing at the time of investigation. The following stream characteristics were measured (in a representative intermittent area): The bankfull width and bankfull depth were estimated to be 3-feet and 1.1-feet, respectively. The channel width was measured at 1.5-feet, the wetted width and stream depth were estimated at 3-feet and 0.2-feet, respectively. The right and left bank height are approximately 1-foot high. Stream substrate was estimated at 15% gravel, 20% sand, 40% silt, 20% clay and 5% organic.

R004

R004 is an ephemeral unnamed tributary located in the north-central portion of the AOI and it traverses through a shrub row before entering the forested area and exiting the AOI. The stream generally flows northeast for 467-feet to the AOI. It is assumed that it has a confluence with stream R001, but it could not be confirmed since it flows beyond the area of investigation. Stream R004 was not flowing during the time of the investigation. This unnamed tributary has very little sign of sediment sorting and has a lack of substrate composition. Lots of new leaf fall has lined the bottom of the stream bed which is mostly

comprised of upland soils and organic material. The following stream characteristics were measured (in a representative ephemeral area): The bankfull width and bankfull depth were estimated to be 5-feet and 4-feet, respectively. The channel width was measured at 2-feet. Because the stream was dry at the time of the investigation, there is no wetted width or depth to record. The right and left bank height are approximately 4-feet high. Stream substrate was estimated at 15% gravel, 10% sand, 5% silt, 10% clay and 60% organic.

R005

R005 is an ephemeral unnamed tributary located in the north-central portion of the AOI and it traverses north for 135-feet through a shrub row before its confluence with stream R004. Stream R005 was not flowing during the time of the investigation. This unnamed tributary has very little sign of sediment sorting and has a lack of substrate composition. Lots of new leaf fall has lined the bottom of the stream bed which is mostly comprised of upland soils and organic material. The following stream characteristics were measured (in a representative ephemeral area): The bankfull width and bankfull depth were estimated to be 4.5-feet and 3-feet, respectively. The channel width was measured at 1.5-feet. Because the stream was dry at the time of the investigation, there is no wetted width or depth to record. The right and left bank height are approximately 3-feet high. Stream substrate was estimated at 15% gravel, 5% sand, 5% silt, 10% clay and 65% organic.

R006

R006 is an ephemeral unnamed tributary located in the northern portion of the AOI. The stream traverses east for 81-feet through the wooded portion of the AOI before its confluence with stream R001. R006 was not flowing during the time of the investigation. This unnamed tributary has very little sign of sediment sorting and has a lack of substrate composition; however, the banks were deeply incised. Lots of new leaf fall has lined the bottom of the stream bed which is mostly comprised of upland soils and organic material. The following stream characteristics were measured (in a representative ephemeral area): The bankfull width and bankfull depth were estimated to be 6-feet and 4.5-feet, respectively. The channel width was measured at 2-feet. Because the stream was dry at the time of the investigation, there is no wetted width or depth to record. The right and left bank height are approximately 4.5-feet high. Stream substrate was estimated at 15% gravel, 15% sand, 5% silt, 10% clay and 55% organic.

R007

R007 is an ephemeral unnamed tributary located in the northern portion of the AOI. The stream generally flows north for 171-feet through the wooded portion of the AOI before its confluence with stream R001. R007 was not flowing during the time of the investigation.

This unnamed tributary has very little sign of sediment sorting and has a lack of substrate composition. Lots of new leaf fall has lined the bottom of the stream bed which is mostly comprised of upland soils and organic material. The following stream characteristics were measured (in a representative ephemeral area): The bankfull width and bankfull depth were estimated to be 5.5-feet and 3.5-feet, respectively. The channel width was measured at 2-feet. Because the stream was dry at the time of the investigation, there is no wetted width or depth to record. The right and left bank height are approximately 3.5-feet high. Stream substrate was estimated at 15% gravel, 15% sand, 35% silt, 15% clay and 20% organic.

R008

R008 is an ephemeral unnamed tributary located in the northern portion of the AOI. The stream generally flows north for 52-feet through the wooded portion of the AOI before its confluence with stream R007. R008 was not flowing during the time of the investigation. This unnamed tributary has very little sign of sediment sorting and has a lack of substrate composition. Lots of new leaf fall has lined the bottom of the stream bed which is mostly comprised of upland soils and organic material. The following stream characteristics were measured (in a representative ephemeral area): The bankfull width and bankfull depth were estimated to be 4-feet and 1.5-feet, respectively. The channel width was measured at 2-feet. Because the stream was dry at the time of the investigation, there is no wetted width or depth to record. The right and left bank height are approximately 1.5-feet high. Stream substrate was estimated at 5% gravel, 15% sand, 10% silt, 5% clay and 65% organic.

R009

R009 is an ephemeral unnamed tributary located in the southeast portion of the AOI. The stream generally flows north for 66-feet through an open field and connects Wetland04A to Wetland04. R009 had trace amounts of water at the time of the investigation. This unnamed tributary has very little sign of sediment sorting and has a lack of substrate composition. This upland channel is mostly comprised of a clay substrate. The following stream characteristics were measured (in a representative ephemeral area): The bankfull width and bankfull depth were estimated to be 3-feet and 1.5-feet, respectively. The channel width was measured at 2-feet, the wetted width and stream depth were estimated at 2-feet and 0.1-feet, respectively. The right and left bank height are approximately 1.5-feet high. Stream substrate was estimated at 10% sand, 20% silt, 40% clay and 30% organic.

R0010

R010 is an ephemeral and intermittent unnamed tributary that drains to a portion of Wetland04. R010 is located in the southwestern portion of the AOI. The ephemeral portion of stream R010 was dry during the site investigation. R010 generally flows northeast for

approximately 564-feet until it changes to intermittent. This unnamed tributary has very little sign of sediment sorting and has a lack of substrate composition. The following characteristics were measured (in a representative ephemeral area): The bankfull width and bankfull depth were estimated to be 5-feet and 2-feet, respectively. The channel width was measured at 2-feet. Because the stream was dry at the time of the investigation, there is no wetted width or depth to record. The right and left bank height are approximately 2-feet high. Stream substrate was estimated at 20% gravel, 20% sand, 30% silt, 25% clay and 5% organic

The intermittent portion of stream R010 is approximately 239-feet. A small spring seeps into the stream channel at the start of the intermittent section. The intermittent portion of R010 provides hydrology to Wetland04, but does not have a confluence with R001. The following stream characteristics were measured (in a representative intermittent area): The bankfull width and bankfull depth were estimated to be 2.5-feet and 1.6-feet, respectively. The channel width was measured at 1.5-feet, the wetted width and stream depth were estimated at 1-foot and 0.1-feet, respectively. The right and left bank height are approximately 2.5-feet and 1.5-feet high, respectively. Stream substrate was estimated at 20% gravel, 20% sand, 30% silt, 25% clay and 5% organic.

F. RECOMMENDATION

Seven (7) wetlands and ten (10) streams were identified within the AOI. Prior to any construction beginning, a Jurisdictional Determination (JD) and a pre-application meeting are recommended with Kentucky Division of Water (KDOW) and ACOE. Coordination will be necessary to verify the resources and ensure the appropriate permitting mechanisms are in place and secured before breaking ground.

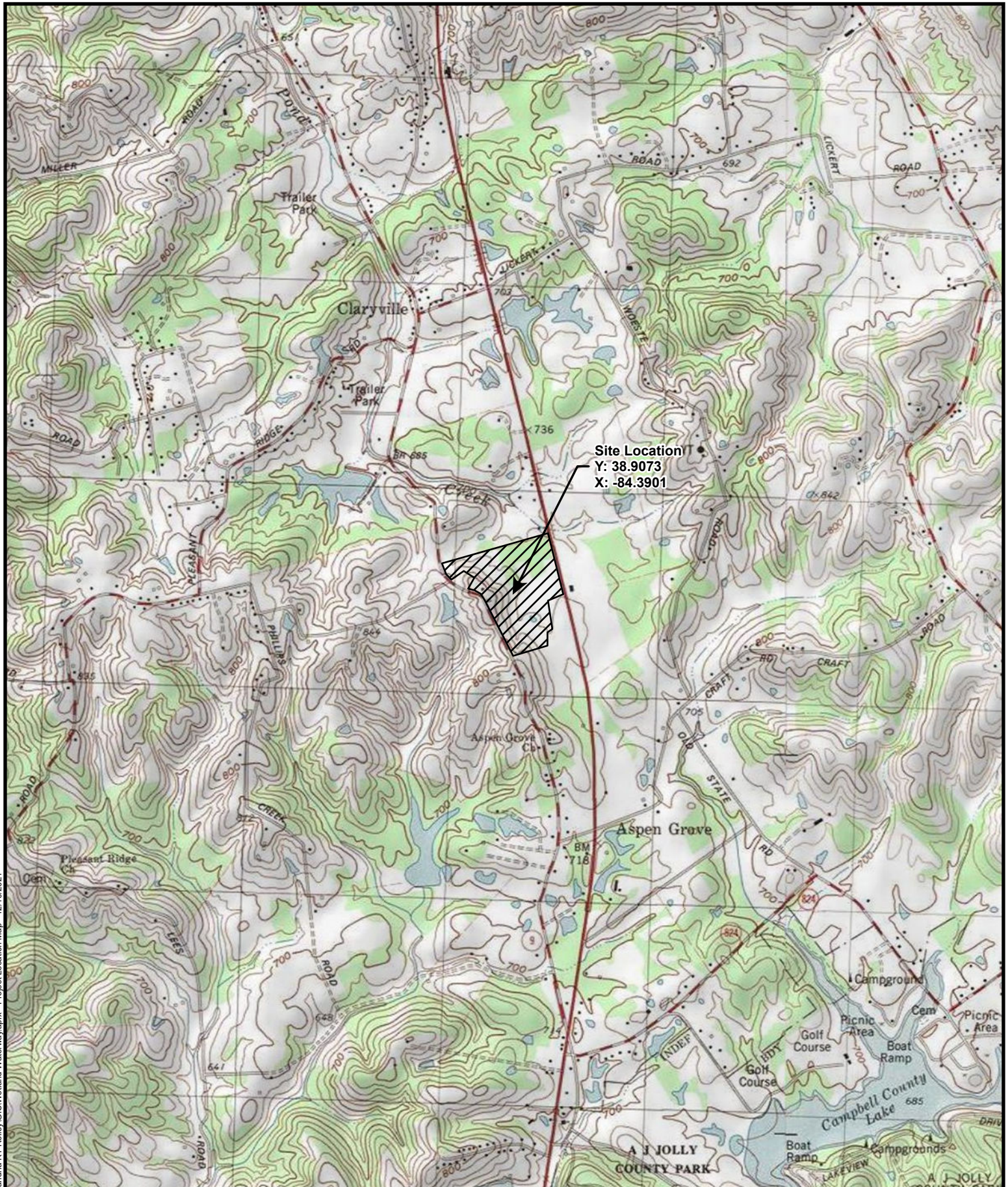
G. RESOURCES

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APPENDIX

APPENDIX A

Location Maps



Path: N:\PROJ\308\308-337 Alexandria KY-Relief\GIS\Wetland Waterway.aprx - Project Location Map - 12/10/2021



846 4th Avenue
Coraopolis, Pennsylvania 15108
Phone: 412-264-4400
Fax: 412-264-1200
email: info@lsse.com

Scale:	1 inch = 2,000 feet		
Drawn By:	Checked By:	Appd By:	
Filename:	Wetland Waterway		
Date:	December 10, 2021		



Alexandria
Project Location Map
Situate in
Campbell County, Alexandria, KY

Path: N:\PROJ\308\308-337 Alexandria KY-Relley\GIS\Wetland Waterway.aprx - Wetland and Waterway Exhibit - 12/10/2021



 Area of Interest

 Wetlands

 Photos

Soil Test Pits

 Upland

 Wetland

Streams

 Ephemeral

 Intermittent

 **LSSE**
Civil Engineers and Surveyors

846 4th Avenue
Coraopolis, Pennsylvania 15108
Phone: 412-264-4400
Fax: 412-264-1200
email: info@lsse.com

Scale:			1 inch = 250 feet		
Drawn By:		Checked By:		Appd By:	
Filename:					
Wetland Waterway					
Date:		December 10, 2021			



Alexandria
Wetland and Waterway Exhibit
Situate in
Campbell County, Alexandria, KY

APPENDIX B

National Wetland Inventory Mapping



U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



August 5, 2021

Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
	Freshwater Pond		Riverine		

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

APPENDIX C

Soils Information



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Boone, Campbell, and Kenton Counties, Kentucky

Alexandria-Reiley



December 9, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

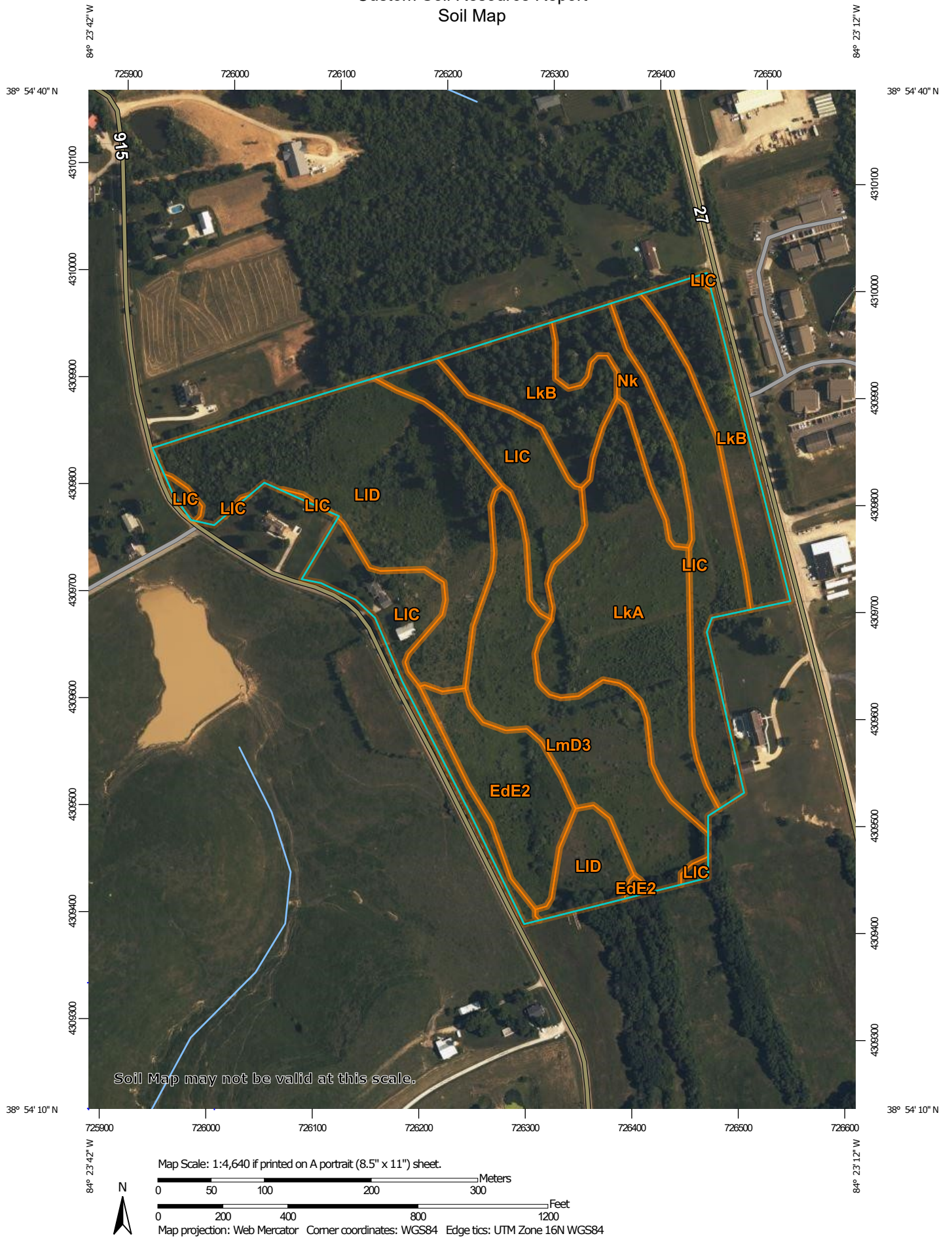
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



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MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boone, Campbell, and Kenton Counties, Kentucky
Survey Area Data: Version 20, Sep 8, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 27, 2019—Sep 22, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EdE2	Eden silty clay loam, 20 to 35 percent slopes, eroded	3.3	7.0%
LkA	Licking silt loam, 0 to 2 percent slopes	7.5	16.1%
LkB	Licking silt loam, 2 to 6 percent slopes	5.7	12.1%
LIC	Licking silty clay loam, 6 to 12 percent slopes	10.5	22.5%
LID	Licking silty clay loam, 12 to 20 percent slopes	11.1	23.7%
LmD3	Licking silty clay, 12 to 20 percent slopes, severely eroded (markland)	6.5	14.0%
Nk	Newark silt loam (0 to 2 percent slopes, occasionally flooded)	2.1	4.6%
Totals for Area of Interest		46.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit

descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Boone, Campbell, and Kenton Counties, Kentucky

EdE2—Eden silty clay loam, 20 to 35 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2vp37

Elevation: 430 to 920 feet

Mean annual precipitation: 37 to 51 inches

Mean annual air temperature: 43 to 65 degrees F

Frost-free period: 161 to 205 days

Farmland classification: Not prime farmland

Map Unit Composition

Eden, eroded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Eden, Eroded

Setting

Landform: Hills

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Clayey residuum weathered from calcareous siltstone and/or
clayey residuum weathered from limestone and shale

Typical profile

Ap - 0 to 6 inches: silty clay loam

Bt - 6 to 18 inches: silty clay

BC - 18 to 24 inches: flaggy silty clay

Cr - 24 to 34 inches: bedrock

Properties and qualities

Slope: 20 to 35 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately
low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 20 percent

Available water supply, 0 to 60 inches: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Faywood, eroded

Percent of map unit: 6 percent
Landform: Hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Lowell, eroded

Percent of map unit: 6 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Fairmount, eroded

Percent of map unit: 3 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F121XY001KY - Shallow Limestone Residuum Backslopes
Hydric soil rating: No

LkA—Licking silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: lJg0
Elevation: 460 to 760 feet
Mean annual precipitation: 37 to 48 inches
Mean annual air temperature: 44 to 63 degrees F
Frost-free period: 161 to 199 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Licking and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Licking

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread

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Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Clayey, calcareous lacustrine deposits

Typical profile

H1 - 0 to 7 inches: silt loam

H2 - 7 to 20 inches: silty clay loam

H3 - 20 to 54 inches: silty clay

H4 - 54 to 66 inches: clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Hydric soil rating: No

Minor Components

Wheeling

Percent of map unit: 3 percent

Hydric soil rating: No

Captina

Percent of map unit: 3 percent

Hydric soil rating: No

Other soils

Percent of map unit: 2 percent

Hydric soil rating: No

Lawrence

Percent of map unit: 2 percent

Hydric soil rating: No

LkB—Licking silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: ljg1

Elevation: 450 to 830 feet

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Mean annual precipitation: 37 to 48 inches
Mean annual air temperature: 44 to 63 degrees F
Frost-free period: 161 to 199 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Licking and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Licking

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey, calcareous lacustrine deposits

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 20 inches: silty clay loam
H3 - 20 to 54 inches: silty clay
H4 - 54 to 66 inches: clay

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 2 percent
Hydric soil rating: No

Lawrence

Percent of map unit: 2 percent
Hydric soil rating: No

Rossmoyne

Percent of map unit: 2 percent
Hydric soil rating: No

Wheeling

Percent of map unit: 2 percent

Hydric soil rating: No

Captina

Percent of map unit: 2 percent

Hydric soil rating: No

LIC—Licking silty clay loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: llg2

Elevation: 450 to 860 feet

Mean annual precipitation: 37 to 48 inches

Mean annual air temperature: 44 to 63 degrees F

Frost-free period: 161 to 199 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Licking and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Licking

Setting

Landform: Stream terraces

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Silty alluvium over clayey, calcareous lacustrine deposits

Typical profile

H1 - 0 to 7 inches: silty clay loam

H2 - 7 to 20 inches: silty clay loam

H3 - 20 to 54 inches: silty clay

H4 - 54 to 66 inches: clay

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C/D

Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 5 percent

Hydric soil rating: No

Wheeling

Percent of map unit: 5 percent

Hydric soil rating: No

Captina

Percent of map unit: 5 percent

Hydric soil rating: No

LID—Licking silty clay loam, 12 to 20 percent slopes

Map Unit Setting

National map unit symbol: llg3

Elevation: 450 to 860 feet

Mean annual precipitation: 37 to 48 inches

Mean annual air temperature: 44 to 63 degrees F

Frost-free period: 161 to 199 days

Farmland classification: Not prime farmland

Map Unit Composition

Licking and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Licking

Setting

Landform: Stream terraces

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Silty alluvium over clayey, calcareous lacustrine deposits

Typical profile

H1 - 0 to 7 inches: silty clay loam

H2 - 7 to 20 inches: silty clay loam

H3 - 20 to 54 inches: silty clay

H4 - 54 to 66 inches: clay

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 5 percent
Hydric soil rating: No

Captina

Percent of map unit: 5 percent
Hydric soil rating: No

Markland

Percent of map unit: 5 percent
Hydric soil rating: No

Negley

Percent of map unit: 5 percent
Hydric soil rating: No

LmD3—Licking silty clay, 12 to 20 percent slopes, severely eroded (markland)

Map Unit Setting

National map unit symbol: ljg4
Elevation: 470 to 850 feet
Mean annual precipitation: 37 to 48 inches
Mean annual air temperature: 44 to 63 degrees F
Frost-free period: 161 to 199 days
Farmland classification: Not prime farmland

Map Unit Composition

Markland, severely eroded, and similar soils: 80 percent
Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Markland, Severely Eroded

Setting

Landform: Stream terraces

Landform position (three-dimensional): Riser

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Silty alluvium over clayey, calcareous lacustrine deposits

Typical profile

H1 - 0 to 4 inches: silty clay

H2 - 4 to 28 inches: silty clay

H3 - 28 to 80 inches: silty clay loam

Properties and qualities

Slope: 12 to 20 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 36 to 72 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Other soils

Percent of map unit: 5 percent

Hydric soil rating: No

Captina

Percent of map unit: 5 percent

Landform: Stream terraces

Hydric soil rating: No

Negley

Percent of map unit: 5 percent

Hydric soil rating: No

Licking

Percent of map unit: 5 percent

Hydric soil rating: No

Nk—Newark silt loam (0 to 2 percent slopes, occasionally flooded)

Map Unit Setting

National map unit symbol: lJg9
Elevation: 450 to 940 feet
Mean annual precipitation: 37 to 48 inches
Mean annual air temperature: 44 to 63 degrees F
Frost-free period: 161 to 199 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Newark, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Newark, Occasionally Flooded

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed fine-silty alluvium

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 32 inches: silt loam
H3 - 32 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.57 to 1.98 in/hr)
Depth to water table: About 12 to 18 inches
Frequency of flooding: NoneOccasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Nolin

Percent of map unit: 2 percent

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Hydric soil rating: No

Lindside

Percent of map unit: 2 percent

Hydric soil rating: No

Woolper

Percent of map unit: 2 percent

Hydric soil rating: No

Huntington

Percent of map unit: 2 percent

Hydric soil rating: No

Poorly drained soils

Percent of map unit: 2 percent

Landform: Flood plains

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

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Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX D

Data Forms

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Wetland01

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 8

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90740368 Long: -84.39132787 Datum: WGS84

Soil Map Unit Name: LID - Licking silty clay loam, 12 to 20 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <u> X </u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u> X </u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u> X </u>	No <u> </u>	
Remarks: (Explain alternative procedures here or in a separate report.)			

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)				Secondary Indicators (minimum of two required)			
☐ Surface Water (A1)		☐ True Aquatic Plants (B14)		☐ Surface Soil Cracks (B6)			
☐ High Water Table (A2)		☐ Hydrogen Sulfide Odor (C1)		☐ Sparsely Vegetated Concave Surface (B8)			
☒ Saturation (A3)		☐ Oxidized Rhizospheres on Living Roots (C3)		☐ Drainage Patterns (B10)			
☐ Water Marks (B1)		☐ Presence of Reduced Iron (C4)		☐ Moss Trim Lines (B16)			
☐ Sediment Deposits (B2)		☐ Recent Iron Reduction in Tilled Soils (C6)		☐ Dry-Season Water Table (C2)			
☐ Drift Deposits (B3)		☐ Thin Muck Surface (C7)		☐ Crayfish Burrows (C8)			
☐ Algal Mat or Crust (B4)		☐ Other (Explain in Remarks)		☐ Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)				☐ Stunted or Stressed Plants (D1)			
☐ Inundation Visible on Aerial Imagery (B7)				☐ Geomorphic Position (D2)			
☐ Water-Stained Leaves (B9)				☐ Shallow Aquitard (D3)			
☐ Aquatic Fauna (B13)				☐ Microtopographic Relief (D4)			
				☐ FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☒ No ☐ Depth (inches): (includes capillary fringe)				Wetland Hydrology Present? Yes ☒ No ☐			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Remarks:							

VEGETATION – Use scientific names of plants.

 Sampling Point: Wetland01

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
			=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>105</u></td> <td>(A) <u>220</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.10</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>105</u>	(A) <u>220</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>100</u>	x 2 = <u>200</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals <u>105</u>	(A) <u>220</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
			=Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Asclepias syriaca</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
			<u>105</u> =Total Cover															
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
			=Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 X 2 - Dominance Test is >50%
 X 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

SOIL

Sampling Point: Wetland01

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Wetland02

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 8

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90804402 Long: -84.39352183 Datum: WGS84

Soil Map Unit Name: LID - Licking silty clay loam, 12 to 20 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <u> X </u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u> X </u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u> X </u>	No <u> </u>	
Remarks: (Explain alternative procedures here or in a separate report.)			

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)				
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)		
☒ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)		
☒ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)		
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)		
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)		
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)		
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)		
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)		
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)		
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)		
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)		
		☐ FAC-Neutral Test (D5)		
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☒ No ☐ Depth (inches): 8" Saturation Present? Yes ☒ No ☐ Depth (inches): 0" (includes capillary fringe)			Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

VEGETATION – Use scientific names of plants.

 Sampling Point: Wetland02

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
		=Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>60</u></td> <td>x 2 = <u>120</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>95</u></td> <td>(A) <u>245</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.58</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>60</u>	x 2 = <u>120</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>95</u>	(A) <u>245</u> (B)	Prevalence Index = B/A = <u>2.58</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>60</u>	x 2 = <u>120</u>																			
FAC species <u>15</u>	x 3 = <u>45</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals <u>95</u>	(A) <u>245</u> (B)																			
Prevalence Index = B/A = <u>2.58</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. <u>Lonicera maackii</u>	<u>5</u>	<u>Yes</u>	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
		=Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																				
1. <u>Phalaris arundinacea</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Cirsium arvense</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
3. <u>Dichanthelium clandestinum</u>	<u>15</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Glechoma hederacea</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		=Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
		=Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.) majority of the wetland is vegetated with reed canary grass. 100% PEM																				

Hydrophytic Vegetation Indicators:
 _____ 1 - Rapid Test for Hydrophytic Vegetation
 _____ 2 - Dominance Test is >50%
☒ 3 - Prevalence Index is ≤3.0¹
 _____ 4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)

 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☒ No _____

SOIL

Sampling Point: Wetland02

[illegible]

Project/Site: Alexandria - Reiley School City/County: Claryville, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Wetland03

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Alexandria

Landform (hillside, terrace, etc.): floodplain Local relief (concave, convex, none): convex Slope (%): 1-2

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.9085366 Long: -84.3927904 Datum: WGS84

Soil Map Unit Name: LID - Licking silty clay loam, 12 to 20 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <u> X </u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u> X </u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u> X </u>	No <u> </u>	
Remarks: (Explain alternative procedures here or in a separate report.)			

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)					
☒ Surface Water (A1)	☐ True Aquatic Plants (B14)			☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)			☐ Sparsely Vegetated Concave Surface (B8)	
☒ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)			☒ Drainage Patterns (B10)	
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)			☐ Moss Trim Lines (B16)	
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)			☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)			☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)			☐ Saturation Visible on Aerial Imagery (C9)	
☐ Iron Deposits (B5)				☐ Stunted or Stressed Plants (D1)	
☐ Inundation Visible on Aerial Imagery (B7)				☒ Geomorphic Position (D2)	
☐ Water-Stained Leaves (B9)				☐ Shallow Aquitard (D3)	
☐ Aquatic Fauna (B13)				☐ Microtopographic Relief (D4)	
				☒ FAC-Neutral Test (D5)	
Field Observations: Surface Water Present? Yes ☒ No ☐ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☒ No ☐ Depth (inches): _____ (includes capillary fringe)				Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

Sampling Point: Wetland03

US Army Corps of Engineers

SOIL

Sampling Point: Wetland03

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Wetland04 & 04A

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): floodplain/slope Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90786046 Long: -84.38837075 Datum: WGS84

Soil Map Unit Name: LIC - Licking silty clay loam, 6 to 12 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <u> X </u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u> X </u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u> X </u>	No <u> </u>	
Remarks: (Explain alternative procedures here or in a separate report.)			

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)					
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)			
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)			
☒ Saturation (A3)	☒ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)			
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)			
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)			
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☒ Crayfish Burrows (C8)			
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)			
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)			
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)			
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)			
		☐ FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☒ No ☐ Depth (inches): 10 Saturation Present? Yes ☒ No ☐ Depth (inches): (includes capillary fringe)				Wetland Hydrology Present? Yes ☒ No ☐	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: Wetland04 & 04A

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
			=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>80</u></td> <td>x 2 = <u>160</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>110</u></td> <td>(A) <u>265</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.41</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>80</u>	x 2 = <u>160</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>110</u>	(A) <u>265</u> (B)	Prevalence Index = B/A = <u>2.41</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>80</u>	x 2 = <u>160</u>																			
FAC species <u>15</u>	x 3 = <u>45</u>																			
FACU species <u>15</u>	x 4 = <u>60</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals <u>110</u>	(A) <u>265</u> (B)																			
Prevalence Index = B/A = <u>2.41</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
			=Total Cover																	
Herb Stratum (Plot size: <u>5'</u>)																				
1. <u>Phalaris arundinacea</u>	<u>75</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Asclepias syriaca</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
3. <u>Eutrochium purpureum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																	
4. <u>Pycnanthemum virginianum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Cyperus strigosus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
6. <u>Apocynum androsaemifolium</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
			110 =Total Cover																	
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
			=Total Cover																	
Remarks: (Include photo numbers here or on a separate sheet.)																				

Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

SOIL

Sampling Point: Wetland04 & 04A

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Wetland05

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): floodway/slope Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90608659 Long: -84.39005998 Datum: WGS84

Soil Map Unit Name: LmD3 - Licking silty clay, 12 to 20 percent slopes, severely eroded (markland) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <u> X </u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u> X </u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u> X </u>	No <u> </u>	
Remarks: (Explain alternative procedures here or in a separate report.) 			

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)			
☒ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)			
☒ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)			
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)			
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)			
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)			
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)			
☐ Inundation Visible on Aerial Imagery (B7)		☒ Geomorphic Position (D2)			
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)			
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)			
		☒ FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☒ No ☐ Depth (inches): 10 Saturation Present? Yes ☒ No ☐ Depth (inches): (includes capillary fringe)			Wetland Hydrology Present? Yes ☒ No ☐		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: Wetland05

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
			=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>40</u></td> <td>x 2 = <u>80</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>95</u></td> <td>(A) <u>240</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.53</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>40</u>	x 2 = <u>80</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>95</u>	(A) <u>240</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>40</u>	x 2 = <u>80</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals <u>95</u>	(A) <u>240</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Elaeagnus umbellata</u>	<u>15</u>	<u>Yes</u>	_____															
2. <u>Juniperus virginiana</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
			<u>20</u> =Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Phalaris arundinacea</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>															
2. <u>Scirpus atrovirens</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>															
3. <u>Solidago canadensis</u>	<u>15</u>	<u>No</u>	<u>FACU</u>															
4. <u>Dipsacus fullonum</u>	<u>10</u>	<u>No</u>	<u>FACU</u>															
5. <u>rosa multiflora</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
			<u>90</u> =Total Cover															
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
			=Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:
 _____ 1 - Rapid Test for Hydrophytic Vegetation
 _____ 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
 _____ 4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)

 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: Wetland05

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Wetland06

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): field Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90608736 Long: -84.3892823 Datum: WGS84

Soil Map Unit Name: LmD3 - Licking silty clay, 12 to 20 percent slopes, severely eroded (markland) NWI classification: PUBHh

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <u> X </u>	No <u> </u>	Is the Sampled Area within a Wetland? Yes <u> X </u> No <u> </u> If yes, optional Wetland Site ID: <u> </u>
Hydric Soil Present?	Yes <u> X </u>	No <u> </u>	
Wetland Hydrology Present?	Yes <u> X </u>	No <u> </u>	
Remarks: (Explain alternative procedures here or in a separate report.) This wetland is an open water pond in an old livestock pasture			

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)					
☒ Surface Water (A1)		☐ True Aquatic Plants (B14)		☐ Surface Soil Cracks (B6)	
☐ High Water Table (A2)		☐ Hydrogen Sulfide Odor (C1)		☐ Sparsely Vegetated Concave Surface (B8)	
☒ Saturation (A3)		☒ Oxidized Rhizospheres on Living Roots (C3)		☐ Drainage Patterns (B10)	
☐ Water Marks (B1)		☐ Presence of Reduced Iron (C4)		☐ Moss Trim Lines (B16)	
☐ Sediment Deposits (B2)		☐ Recent Iron Reduction in Tilled Soils (C6)		☐ Dry-Season Water Table (C2)	
☐ Drift Deposits (B3)		☐ Thin Muck Surface (C7)		☐ Crayfish Burrows (C8)	
☐ Algal Mat or Crust (B4)		☐ Other (Explain in Remarks)		☐ Saturation Visible on Aerial Imagery (C9)	
☐ Iron Deposits (B5)				☐ Stunted or Stressed Plants (D1)	
☐ Inundation Visible on Aerial Imagery (B7)				☒ Geomorphic Position (D2)	
☐ Water-Stained Leaves (B9)				☐ Shallow Aquitard (D3)	
☐ Aquatic Fauna (B13)				☒ Microtopographic Relief (D4)	
				☒ FAC-Neutral Test (D5)	
Field Observations: Surface Water Present? Yes ☒ No ☐ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☒ No ☐ Depth (inches): 0 (includes capillary fringe)			Wetland Hydrology Present? Yes ☒ No ☐		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: Wetland06

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
			=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>80</u></td> <td>(A) <u>230</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.88</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>80</u>	(A) <u>230</u> (B)	Prevalence Index = B/A = <u>2.88</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>30</u>	x 2 = <u>60</u>																			
FAC species <u>30</u>	x 3 = <u>90</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals <u>80</u>	(A) <u>230</u> (B)																			
Prevalence Index = B/A = <u>2.88</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. <u>Pyrus calleryana</u>	<u>15</u>	<u>Yes</u>	_____																	
2. <u>Juniperus virginiana</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
			=Total Cover																	
Herb Stratum (Plot size: <u>5'</u>)																				
1. <u>Symphotrichum pilosum</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Juncus effusus</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Cyperus strigosus</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Solidago canadensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
			=Total Cover																	
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
			=Total Cover																	
Remarks: (Include photo numbers here or on a separate sheet.)																				

Hydrophytic Vegetation Indicators:
 _____ 1 - Rapid Test for Hydrophytic Vegetation
 _____ 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
 _____ 4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)

 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

SOIL

Sampling Point: Wetland06

[illegible]

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021
 Applicant/Owner: Maronda Homes State: KY Sampling Point: Wetland07
 Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville
 Landform (hillside, terrace, etc.): field Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR or MLRA): _____ Lat: 38.90805956 Long: -84.38811294 Datum: WGS84
 Soil Map Unit Name: LmD3 - Licking silty clay, 12 to 20 percent slopes, severely eroded (markland) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)
☐ Surface Water (A1) ☐ High Water Table (A2) ☒ Saturation (A3) ☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Water-Stained Leaves (B9) ☐ Aquatic Fauna (B13)	☐ True Aquatic Plants (B14) ☐ Hydrogen Sulfide Odor (C1) ☒ Oxidized Rhizospheres on Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Thin Muck Surface (C7) ☐ Other (Explain in Remarks)	☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10) ☐ Moss Trim Lines (B16) ☐ Dry-Season Water Table (C2) ☒ Crayfish Burrows (C8) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Stunted or Stressed Plants (D1) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ Microtopographic Relief (D4) ☐ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

 Sampling Point: Wetland07

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
		=Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>60</u></td> <td>(A) <u>130</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.17</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>60</u>	(A) <u>130</u> (B)	Prevalence Index = B/A = <u>2.17</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals <u>60</u>	(A) <u>130</u> (B)																			
Prevalence Index = B/A = <u>2.17</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. <u>Pyrus calleryana</u>	<u>5</u>	<u>Yes</u>	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
		=Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																				
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Juncus effusus</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Carex scoparia</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Solanum carolinense</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		=Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
		=Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																				

Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

SOIL

Sampling Point: Wetland07

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Upland01

Investigator(s): S. Kovac/A. Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90788725 Long: -84.39106909 Datum: WGS84

Soil Map Unit Name: LID - Licking silty clay loam, 12 to 20 percent slopes NWI classification: Not mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) 			

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)					
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)			
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)			
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)			
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)			
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)			
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)			
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)			
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)			
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)			
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)			
		☐ FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)				Wetland Hydrology Present? Yes ☐ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: Upland01

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Quercus rubra</u>	20	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)														
2. <u>Pyrus calleryana</u>	15	Yes	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
	35	=Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>165</u></td> <td>x 4 = <u>660</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>165</u></td> <td>(A) <u>660</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>165</u>	x 4 = <u>660</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>165</u>	(A) <u>660</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>165</u>	x 4 = <u>660</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals <u>165</u>	(A) <u>660</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Rosa multiflora</u>	30	Yes	FACU															
2. <u>Juniperus virginiana</u>	10	Yes	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
	40	=Total Cover																
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Solidago canadensis</u>	30	Yes	FACU	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Dipsacus fullonum</u>	10	No	FACU															
3. <u>Dactylis glomerata</u>	50	Yes	FACU															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	90	=Total Cover																
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
		=Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Upland01

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Upland02

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 10

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90726152 Long: -84.39133131 Datum: WGS84

Soil Map Unit Name: LID - Licking silty clay loam, 12 to 20 percent slopes NWI classification: Not Mapped

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) 			

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)			
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)			
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)			
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)			
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)			
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)			
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)			
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)			
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)			
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)			
		☐ FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)			Wetland Hydrology Present? Yes ☐ No ☒		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: Upland02

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u><i>Pyrus calleryana</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)														
2. <u><i>Juniperus virginiana</i></u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
	<u>15</u>	<u>=Total Cover</u>		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>80</u></td> <td>(A) <u>320</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>80</u>	(A) <u>320</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals <u>80</u>	(A) <u>320</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u><i>Juniperus virginiana</i></u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>															
2. <u><i>Rosa multiflora</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
	<u>15</u>	<u>=Total Cover</u>																
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u><i>Solidago canadensis</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u><i>Dactylis glomerata</i></u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>															
3. <u><i>Dipsacus fullonum</i></u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>															
4. <u><i>Asclepias syriaca</i></u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
5. <u><i>Allium schoenoprasum</i></u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
	<u>50</u>	<u>=Total Cover</u>																
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
	_____	<u>=Total Cover</u>																
Remarks: (Include photo numbers here or on a separate sheet.)				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>														

SOIL

Sampling Point: Upland02

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Upland03

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): 8

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.9080679 Long: -84.39335812 Datum: WGS84

Soil Map Unit Name: LID - Licking silty clay loam, 12 to 20 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) 			

Wetland Hydrology Indicators:				Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)					
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)			
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)			
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)			
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)			
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)			
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)			
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)			
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)			
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)			
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)			
		☐ FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)				Wetland Hydrology Present? Yes ☐ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: Upland03

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Juniperus virginiana</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16.7%</u> (A/B)														
2. <u>Pyrus calleryana</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
	<u>30</u>	<u>=Total Cover</u>		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>30</u></td> <td>x 2 = <u>60</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>130</u></td> <td>(A) <u>460</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.54</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>30</u>	x 2 = <u>60</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>130</u>	(A) <u>460</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>30</u>	x 2 = <u>60</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals <u>130</u>	(A) <u>460</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Lonicera morrowii</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
	<u>5</u>	<u>=Total Cover</u>																
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Solidago canadensis</u>	<u>35</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation</u> ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>															
3. <u>Dipsacus fullonum</u>	<u>10</u>	<u>No</u>	<u>FACU</u>															
4. <u>Allium schoenoprasum</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
	<u>95</u>	<u>=Total Cover</u>																
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
	_____	<u>=Total Cover</u>																
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: Upland03

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Upland04

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 4

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90862126 Long: -84.39263876 Datum: WGS84

Soil Map Unit Name: LID - Licking silty clay loam, 12 to 20 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.)			

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)			
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)			
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)			
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)			
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)			
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)			
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)			
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)			
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)			
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)			
		☐ FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)			Wetland Hydrology Present? Yes ☐ No ☒		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: Upland04

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
			=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>90</u></td> <td>(A) <u>350</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.89</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>90</u>	(A) <u>350</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals <u>90</u>	(A) <u>350</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Juniperus virginiana</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Elaeagnus umbellata</u>	<u>10</u>	<u>Yes</u>	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
			=Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Tridens flavus</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Solidago canadensis</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>															
3. <u>Dichanthelium clandestinum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
			=Total Cover															
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
			=Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:
 _____ 1 - Rapid Test for Hydrophytic Vegetation
 _____ 2 - Dominance Test is >50%
 _____ 3 - Prevalence Index is ≤3.0¹
 _____ 4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

SOIL

Sampling Point: Upland04

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Upland05

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 8

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.9080483 Long: -84.38840561 Datum: WGS84

Soil Map Unit Name: LIC - Licking silty clay loam, 6 to 12 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes _____	No <u> X </u>	Is the Sampled Area within a Wetland? Yes _____ No <u> X </u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <u> X </u>	
Wetland Hydrology Present?	Yes _____	No <u> X </u>	
Remarks: (Explain alternative procedures here or in a separate report.)			

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)				
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)		
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)		
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)		
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)		
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)		
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)		
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)		
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)		
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)		
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)		
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)		
		☐ FAC-Neutral Test (D5)		
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)			Wetland Hydrology Present? Yes ☐ No ☒	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:				
Remarks:				

VEGETATION – Use scientific names of plants.

 Sampling Point: Upland05

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>80</u></td> <td>x 4 = <u>320</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>80</u></td> <td>(A) <u>320</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>80</u>	x 4 = <u>320</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>80</u>	(A) <u>320</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>80</u>	x 4 = <u>320</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals <u>80</u>	(A) <u>320</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Pyrus calleryana</u>	<u>5</u>	<u>Yes</u>	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
_____ = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Solidago canadensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>															
2. <u>Apocynum cannabinum</u>	<u>15</u>	<u>No</u>	<u>FACU</u>															
3. <u>Dipsacus fullonum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>															
4. <u>Dactylis glomerata</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
_____ = Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is $\leq 3.0^1$

____ 4 - Morphological Adaptations¹
(Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

SOIL

Sampling Point: Upland05

[illegible]

Project/Site: Alexandria - Reiley School City/County: Alexandria, Campbell Sampling Date: 12/1/2021

Applicant/Owner: Maronda Homes State: KY Sampling Point: Upland06

Investigator(s): S.Kovac/A.Greathouse Section, Township, Range: Claryville

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR or MLRA): LRR N, MLRA 121 Lat: 38.90604435 Long: -84.38996733 Datum: WGS84

Soil Map Unit Name: LmD3 - Licking silty clay, 12 to 20 percent slopes, severely eroded (markland) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland? If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.)			

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
☐ Surface Water (A1)	☐ True Aquatic Plants (B14)	☐ Surface Soil Cracks (B6)			
☐ High Water Table (A2)	☐ Hydrogen Sulfide Odor (C1)	☐ Sparsely Vegetated Concave Surface (B8)			
☐ Saturation (A3)	☐ Oxidized Rhizospheres on Living Roots (C3)	☐ Drainage Patterns (B10)			
☐ Water Marks (B1)	☐ Presence of Reduced Iron (C4)	☐ Moss Trim Lines (B16)			
☐ Sediment Deposits (B2)	☐ Recent Iron Reduction in Tilled Soils (C6)	☐ Dry-Season Water Table (C2)			
☐ Drift Deposits (B3)	☐ Thin Muck Surface (C7)	☐ Crayfish Burrows (C8)			
☐ Algal Mat or Crust (B4)	☐ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)		☐ Stunted or Stressed Plants (D1)			
☐ Inundation Visible on Aerial Imagery (B7)		☐ Geomorphic Position (D2)			
☐ Water-Stained Leaves (B9)		☐ Shallow Aquitard (D3)			
☐ Aquatic Fauna (B13)		☐ Microtopographic Relief (D4)			
		☐ FAC-Neutral Test (D5)			
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)			Wetland Hydrology Present? Yes ☐ No ☒		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					

VEGETATION – Use scientific names of plants.

 Sampling Point: Upland06

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
			=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>90</u></td> <td>x 4 = <u>360</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals <u>90</u></td> <td>(A) <u>360</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>90</u>	x 4 = <u>360</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals <u>90</u>	(A) <u>360</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
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FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>90</u>	x 4 = <u>360</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals <u>90</u>	(A) <u>360</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Rosa multiflora</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Elaeagnus umbellata</u>	<u>5</u>	<u>Yes</u>																
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
			=Total Cover															
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Solidago canadensis</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>															
2. <u>Dipsacus fullonum</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
			=Total Cover															
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
			=Total Cover															
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:
 _____ 1 - Rapid Test for Hydrophytic Vegetation
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 _____ 3 - Prevalence Index is ≤3.0¹
 _____ 4 - Morphological Adaptations¹
 (Provide supporting data in Remarks or on a separate sheet)

 _____ Problematic Hydrophytic Vegetation¹ (Explain)

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Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

SOIL

Sampling Point: Upland06

[illegible]

APPENDIX E

Photographs



Photo 1 - Overview Facing East



Photo 2 - Overview Facing Northwest



Photo 3 - Overview Facing South



Photo 4 - Overview Facing Southeast



Photo 5 - Overview Facing West



Photo 6 - Overview Facing West



Photo 7 - Wetland01 Facing Northeast



Photo 8 - Wetland02 Facing South



Photo 9 - Wetland03 Facing South



Photo 10 - Wetland04 West



Photo 11 - Wetland05 Facing West



Photo 12 - Wetland06 Facing East



Photo 13 - Wetland07 Facing South



Photo 14 - Upland 01 Facing East



Photo 15 - Upland02 Facing Southwest



Photo 16 - Upland03 Facing Southeast



Photo 17 - Upland04 Facing East



Photo 18 - Upland05 Facing East



Photo 19 - Upland06 Facing East



Photo 20 - R001 Intermittent Facing Upstream



Photo 21 - R001 Intermittent Facing Downstream



Photo 22 - R002 Ephemeral Facing Upstream



Photo 23 - R002 Ephemeral Facing Downstream



Photo 24 - R003 Intermittent Facing Upstream



Photo 25 - R003 Intermittent Facing Downstream



Photo 26 - R004 Ephemeral Facing Upstream



Photo 27 - R004 Ephemeral Facing Downstream



Photo 28 - R005 Ephemeral Facing Upstream



Photo 29 - R005 Ephemeral Facing Downstream



Photo 30 - R006 Ephemeral Facing Upstream



Photo 31 - R006 Ephemeral Facing Downstream



Photo 32 - R007 Ephemeral Facing Upstream



Photo 33 - R007 Ephemeral Facing Downstream



Photo 34 - R008 Ephemeral Facing Upstream



Photo 35 - R008 Ephemeral Facing Downstream



Photo 36 - R009 Ephemeral Facing Downstream



Photo 37 - R010 Ephemeral Facing Upstream



Photo 38 - R010 Ephemeral Facing Downstream



Photo 39 - R010 Intermittent Facing Upstream



Photo 40 - R010 Intermittent Facing Downstream