Non-jurisdictional Waters Determination

The ABC Elementary School Project at Cherokee Park
Beaverton, Murray County, Georgia
(Fictional)

August *2010*

Prepared By: Ryan Ecologists

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JURISDICTIONAL WATER SURVEY: ABC ELEMENTARY SCHOOL PROJECT LOCATED NEAR THE CITY OF BEAVERTON, MURRAY COUNTY, GEORGIA

1.0 INTRODUCTION

The Murray County School District (MCSD) tasked Ryan Ecologists Inc. (REI), to complete a jurisdictional waters survey, to determine the presence or absence of jurisdictional "waters of the United States." Jurisdictional determinations were made in accordance with the U.S. Army Corps of Engineers (USACE) 1987 *Wetlands Delineation Manual* and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (USACE Environmental Research Laboratory 1987 & 2010). MCSD is considering a development off Cherokee Park, northeast of the City of Beaverton, Murray County, Georgia (**Figure 1**). The 200-acre project area is located near 6550 Putnam Ford Drive off Cherokee Park, Beaverton, Murray County, Georgia.

On October 22, 2010, REI ecologists Jack N. Pulpit and Paula Nation surveyed the project area for potential wetlands and other jurisdictional waters of the United States. Site assessment revealed a 0.20 acre potentially non-jurisdictional seasonal pond located in the northeastern corner of the property. REI staff performed a significant nexus to evaluate the feature's contribution to the chemical, physical and biological integrity of Wild Cat Creek. Finally, REI examined whether the feature exhibits a substantive link to interstate commerce. A full ecological assessment of site conditions for jurisdictional wetland determination, significant nexus, and interstate commerce feasibility analysis are presented in the following text. All analyzes suggest the absence of a significant link between the seasonal pond and jurisdictional waters of the U. S. located offsite. Analyses of the site revealed the feature to be a non-navigable, non-jurisdictional upland feature without a substantive link to interstate commerce.

Maps are provided in **Appendix A**, site photographs are in **Appendix B**, data sheets are in **Appendix C,** and jurisdictional determination forms are provided in **Appendix D.**

2.0 EXISTING SITE CONDITIONS

The study area was previously cleared for pasture land and has been periodically harvested for timber. Agricultural fields and pasturelands have been recently abandoned evidenced by the grown-up fence rows and the onset of secondary successional species. Prior to this time it is believed the area was predominantly forested. The site is currently dominated by open fields of herbaceous vegetation comprised of fescue grass (*Festuca rubra)*, Alleghany blackberry (*Rubus allegheniensis*), little bluestem (*Schizacyrium scoparium*), Sericea lespedeza (*Lespedeza cuneata*), and a *Pycanthemum* species. A series of broken forest belts occur along the northeast and southwest boundaries primarily comprised of Red oak (*Quercus falcata*), American beech (*Fagus grandifolia*), Shag-bark hickory (*Carya ovata*), and Loblolly pine (*Pinus taeda*).

A full description of the plant communities within the assessment area can be found in the *Biological Resources Accessment, ABC Elementary School* (REI) and on the wetland data forms. The landscape surrounding the study area is predominately open agricultural lands bordered by residential properties and small forest belts. The site contains one potentially non-jurisdictional seasonal pond (SP-1) feature with no identifiable surface and/or sub-surface connections to the nearest water feature at Wild Cat Creek. SP-1 did not appear on any resources consulted during the initial in-office literature review.

3.0 INVESTIGATATION METHODS

3.1 USGS 7.5' Topographic Survey

The study area can be found on the U. S. Geological Survey (USGS) 7.5-minute Beaverdale Quadrangle Georgia AMS 4053 IV NE — Series V845 1972 map (**Figure 2**, *Vicinity Map*, **Appendix B**). A consultation of the topographic map reveals no waters/streams beginning on or leaving the project site. The elevation measured from the center of the project site is approximately 960 feet above sea level (MSL).

3.2 Murray County, Georgia Soil Survey

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey available via the internet at http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm was consulted to determine the soil information for the study area (**Figure 3**). A polygon was drawn around the project area using the soil data mapping tool to determine the existing soil types located within the project area. Mapped soil types for the project area were compared to the Georgia Hydric Soils List (USDA NRCS, 2007). Soil complexes mapped on-site include: Shack-Minvale-Bodine complex a gravelly silty loam occupying 6 to 15 percent slopes that consist of moderately well drained soils that typically do not experience flooding. Review of the soil maps and aerial photograph were analyzed for indicators of aquatic features and location of wetlands, seeps, springs, or hydric soils. No hydric soils were mapped within the study area. The study area contains the following soil types:

- **- Shack 40 % composition, 6 to 15 percent slopes:** This soil consists of residuum that is well-drained, occurring on ridges, side slopes, convex landforms, moderately high permeable soils with water table occurring at 18 to 30 inches from the surface (USDA SCS, 1984).
- **- Minvale 30 % composition, gravelly silty loam to gravelly silty clay loam, 6 to 15 percent slopes**: This soil consists of deep, well drained, occurring on ridges, side slopes, convex landforms, high permeable soils with water table occurring at 80 inches from the surface (USDA SCS, 1984).
- **- Bodine 30 % composition, gravelly silty loam to gravelly silty clay loam, 6 to 15 percent slopes**: This soil consists of deep, well drained soils on convex side slopes and ridges, highly permeable soils with water table occurring at 80 inches from the surface (USDA SCS, 1984).

3.4 National Wetlands Inventory Map Survey

Review of the National Wetlands Inventory (NWI) maps for the study site in Beaverton, Georgia, available at http://www.fws.gov/wetlands/Data/Mapper.html identified no jurisdictional waters on the project site (**Figure 4**). Features shown on the NWI map are not comprehensive and are not intended to reflect jurisdiction.

3.5 Aerial Photography Survey

A review of a circa 1992 aerial photograph revealed the farm to be in operation. The aerial photographs consulted do not depict the seasonal pond located to the northeast of the property, nor is there evidence of a flow signature leaving the site. The area surrounding the study site is predominately forested, with a less noticeable presence of residential dwellings.

4.0 FIELD INVESTIGATION METHODS

Based on data collected at the ABC Project Site, the area contains one seasonal pond that does not appear to possess a hydrologic connection to waters of the United States. The area was delineated incorporating the following protocols. Because of the rather small land area encompassed by the 0.20 acre seasonal pond, REI ecologists made a determination of the presence or absence of jurisdiction using the routine determination method outlined in the USACE 1987 *Wetlands Delineation Manual* and the *Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (USACE Environmental Research Laboratory 1987 & 2010).

4.1 Vegetative Survey

The study area was surveyed using the circular plot protocol to determine the presence or absence of dominance of hydrophytic plant species. The plant community within sampled locations was relatively homogeneous and did not require additional plots to account for variation in plant community composition. Percent aerial cover was estimated in plots established within areas that were deemed to be a representative location within the plant community. Tree and vine cover was estimated using 30-foot circular radius; sapling/shrub and herb cover was estimated using a 15- foot and 5-foot radius plot respectively. Plant species in each stratum were ranked according to their dominance. Species that contributed to a cumulative total of 50 percent of the total dominant coverage plus any species that comprised at least 20 percent of the total dominant coverage was recorded on wetland data sheets. The wetland indicator status was assigned to each species using the National List of Plant Species that Occur in Wetlands: Region 3 [United States Fish and Wildlife Service (USFWS, 1988). All plants were identified using *Flora of the Southern and Mid-Atlantic States*: Working Draft of 8 March 2010 (Weakley 2010).

4.2 Hydrologic Survey

The presence or absence of riverine and wetland hydrology was evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, depth to free water in soil pits, and depth of capillary fringe. Hydrologic indicators were recorded in accordance with USACE *Wetlands Delineation Manual* and the *Interim Regional Supplement Manual to the Corps of Engineers Wetland Delineation Manual: Eastern Piedmont and Mountains.*

4.3 Soil Survey

On-site soil surveys were conducted in accordance with procedures outlined in the USACE *Wetlands Delineation Manual* (USACE Environmental Research Laboratory 1987). All soil pits were dug to at least 12-inches. At each soil pit the soil texture and color were recorded by comparison with standard plates within a Munsell Soil Color Chart Book (Kollmorgen Instruments Corporation, 2000). The presence or absence of hydric soil indicators was determined using *Field Indicators of Hydric Soils in the United States*: *A Guide for Identifying and Delineating Hydric Soils*, Version 7.0, 2010 (NRCS 2010).

5.0 RESULTS

REI staff ecologists used the methods described above to determine the presence or absence of waters of the U. S. regulated by USACE under Section 404 of the Clean Water Act. Based on the results of our

ecological assessment, REI identified one non- jurisdictional seasonal pond located on the northeastern boundary of the study area. Pertinent field data collected is presented below for regulatory review. REI submits that the feature in question is in fact a non-jurisdictional upland area and therefore, not subject to regulation under Section 404 of the Clean Water Act United States Code (U. S. C.) 1399. The location of this feature is presented in **Figure 5, *Jurisdictional Features and Site Photography***.

5.1 Vegetation Survey Review

Survey of the plant community consisted of sampling plots established at northern boundary of the depressional feature (Plot # 1), a mid-point taken approximately 15-linear feet within the center (Plot #2), and the terminal end of the feature, where the feature fans-out into a forested flat (Plot # 3). The dominant canopy vegetation present within the sample plots included: American Beech (*Fagus grandifolia*, FACU), Loblolly Pine (*Pinus taeda*, FAC), Shag-Bark Hickory (*Carya ovata*, FACU), and Red Oak (*Quercus falcate*, FACU). The herbaceous understory composition consisted of Alleghany Blackberry (*Rubus arqutus*, FACU), and Nepalese Browntop (*Microstegium vimineum*, FAC), which was a common herbaceous species throughout the forested understory. No obligate species were discovered during survey. Vegetation observed during the survey consisted of common species indigenous to the Ridge and Valley Province, indicative of an upland plant community.

5.2 Soil Survey Review

No hydric soils were discovered within the soil pits dug within the seasonal pond. An on-site ecological survey examined the soil characteristics of the project area. Soils within the review area surrounding SP-1 are consistent with the characterization of soils in Shack-Minvale-Bodine Complex. The soils within the surrounding forested area are deep, well drained, and located on a system ridges that dissect the property. Soil samples exhibited a dark brown rich loamy surface layer (10 YR 3/3) at 0-4 inches and brownish-yellow loam (10YR 4/6) consistent with upland soils. The soils mapped within the survey area are consistent with the Shack-Minvale-Bodine Complex mapped on USDA Soil Survey of Murray County, Georgia (Figure 4, Site Soils Map). Therefore, the soils within SP-1 have been characterized as upland soil and do not meet hydric soil parameters. Representative photographs are presented in Appendix B.

5.3 Hydrologic Survey Review

No primary hydrologic indicators were noted during the investigation. One second hydrologic indicator, geomorphic position, was present within the survey area. SP-1 is geographically located between two hummocked ridges with approximately 10-feet of relief from the top of the ridges to the base of the feature. However, the presence of well drained soils and the sloping nature of SP-1 preclude the formation of wetland hydrology. Therefore, SP-1 does not meet the hydrologic parameters for wetland designation.

5.4 Significant Nexus Analysis

SP-1 is located at latitude 33. 2435° N and longitude -84.1434° W, near the northeast property boundary. The nearest traditional navigable water, the Conasauga River, is approximately 4.3 nautical miles and 35 river miles from the project area. The project area is located within the Conasauga River Watershed (the watershed). The watershed is approximately 500,000 acres in area and exhibits the highest biodiversity in the state of Georgia. The predominant land use in the area is agriculture. The drainage area associated

with SP-1 is approximately 2 acres in land area. The watershed area has an average annual precipitation rate of 45 inches. Mean temperatures during the winter months range between a minimum temperature of 31º F and a maximum 53º F precluding the presence of a significant snow pack. Mean temperatures during the summer months average a July minimum of 68º F and a maximum temperature average of 90º F. Prevailing winds are typically from the southwest with the highest speeds occurring in spring (USDA Soil Conservation Service, 1984).

An in-house relevant reach search conducted by REI consultants using a digital measurement feature revealed the closest relevant aquatic feature to be Wild Cat Creek (Google Earth 2010). Wild Cat Creek is located 0.27 miles to the northwest; up slope from the survey area and separated by a serious of sloping ridges. Upland forest and high ridges split the project area into two sub-drainage areas, which appear to preclude any hydrologic interconnection between SP-1 and Wild Cat Creek. Wild Cat Creek flows to the northwest outside the project area before turning west before entering Coahulla Creek to the south. After the confluence with Wild Cat Creek, Coahulla Creek intersects with 22 tributaries and approximately 35 river miles before its confluence with the Conasauga River. Peak storm flows for Wild Cat Creek are approximated to be 2.0- 4.0 cfs for a 24 hour 50-year flood event (assuming 20% urban land use). Peak storm flows are approximately 0.6- 1.0 cfs for a 24 hour 10-year flood event (assuming 20% urban land use). An on-site hydrologic assessment was completed using a Turner Designs 10-AU Fluorometer and fluorescent tracer compound, Rhodamine WT, which is a highly fluorescent material with the unique ability to absorb green light and emit red light. Tracer introduced into SP-1 did not indicate migration into Wild Cat Creek or Coahulla Creek during the two week monitoring period. SP-1 is geographically located between two hummocked ridges with approximately 10-feet of relief from the top of the ridges to the base of the feature. SP-1 measures approximately 60-ft long and 30-ft wide, exhibiting a gradual slope to the south. Overland flow from storm run-off enters the seasonal pond from the northeast and exits through a small outlet to the southwest. Water pooling within the feature not leaving through the outlet apparently is absorbed through the well drained soils present within the feature. Given the small drainage area and sloping character of this seasonal pond, SP-1 does not make a significant contribution to the chemical or physical integrity of the surrounding area. Due to the small land area encompassed by the feature, SP-1 does not function as a significant reservoir for potential floodwaters. SP-1 is only capable of holding low volume run-off with a relatively short resonance time, which is not conducive to biogeochemical functioning. Typically, a resonance time of 18 to 72 hours is required to remove a significant amount of dissolved solids (Reddy 2002). The survey area received approximately 0.9 inches of rain during the October 22 site visit. Given the significant rain event, run-off appeared to be partially contained within the pond for several hours before draining to the southwest. Water draining from the feature moves to the southwest were it eventually terminates within the forest approximately 15-feet from the outlet. SP-1 appears to meet the classification of a non-jurisdictional upland depressional area based on the upland nature of the soils, lack of any primary hydrologic indicators, and dominant facultative upland plant community. After determining SP-1 did not meet the three criteria for a jurisdictional wetland, REI next investigated SP-1's potential as a navigable first order stream.

Examination of the area did not reveal signs of distinct channel geomorphology forming an ordinary high water mark. Water exiting the feature fans-out into the forest leaving no sign of drainage pattern. Other than the one secondary indicator of geomorphic position, no hydrologic indicators were detected during the site survey. Wildcat Creek, the nearest relatively permanent water, is located 0.27 miles to northwest outside of the feature's drainage area. Upland forest and low ridges present preclude hydrologic interconnection. A tracer study detected dye within the leaf liter for approximately 15-feet into the upland forest, however; no dye was detected in Wild Cat Creek during the two week monitoring period. Survey of the surrounding upland area adjacent to SP-1 revealed no shallow subsurface flow from the depressional feature nor was any such sub-surface connection discovered during the vegetation and soil surveys conducted on-site. Review of geologic maps of the project area, suggests the site is composed of Blue Ridge Metagraywacke parent material. Metagraywacke is metamorphic rock type primarily

composed of slate/quartzrite/conglomerate rocks, which is not conducive to the formation of karst topography. Surveys performed in the relevant reach did not indicate the presence of abiotic or biotic factors which would indicate the presence of aquatic conditions nor a linkage to traditional navigable waters.

The following terrestrial species are listed as federally endangered or threatened in Murray County, Georgia; Indiana bat (Myotis sodalist, E) and the Bald eagle (Haliaeetus lecuocephalus, T). The following mussel species are listed as federally endangered or threatened in Murray County, Georgia: Alabama clubshell *(Pleurobema troshelianum, T),* Alabama moccasinshell mussel (*Medionidus acutissimus* , T), Coosa moccasinshell mussel (*Medionidus parvulus*, E*),* Fine-lined pocketbook mussel (*Hamiota altilis*, T), Georgia pigtoe (*Pleurobema hanleyanum*), Gulf moccasinshell mussel (*Medionidus pencillatus*, E), Ovate clubshell mussel (*Pleurobema perovatum*, E), Painted clubshell **(***Pleurobema chattanoogaense, E),* Southern acornshell mussel (*Epioblasma othcaloogensis*, E), Southern clubshell mussel **(***Pleurobema decisum, E),* Southern pigtoe mussel (*Pleurobema georgianum*, E), Triangular kidneyshell mussel (*Ptychobranchus greeni*, E), and the Upland combshell mussel, (*Epioblasma metastriata*, E). Four fish species are listed in Murray County including: the Amber darter (*Percina antesella*, E), Blue shiner (*Cyprinella caerulea*, T), *Conasauga* logperch (*Percina jenkinsi*, E) and the Goldline darter (*Percina aurolineata*, E). Large-flowered skullcap (Scutellaria montana, E) is the only federally plant species listed in for Murray County. No Endangered or Threatened Species were encountered during site surveys, nor was suitable critical habitat encountered for endangered and/or threatened species listed for Murray County, Georgia. Faunal survey of SP-1 suggests the feature does not appear to be suitable habitat for aquatic species. No amphibian species were encountered during monitoring of the peak periods conducted two hours before sunrise and two hours after sunset. Many *Plethodon* salamander species, which inhabit moist upland forested areas during most of their life cycle, require approximately 300- meters of forested habitat surrounding suitable breeding habitats (Semlitch & Bodie 2003). Suitable breeding habitat was not located within the project area. SP-1 drains rather quickly and does not appear suitable as a potential salamander breeding site. A search for aquatic macroinvertebrates conducted within SP-1 did not reveal species that inhabit aquatic environments.

REI affirms that in its best professional opinion, the review area comprising SP-1 and the surrounding forest are characterized as upland. For this reason, the analysis of scientific data suggests this feature's absence of a significant physical, chemical, or biological nexus between SP-1 and waters of the United States.

5.5 Interstate Commerce Link Analysis

Interstate commerce feasibility studies typically examine commercial usage of waters of the US. Links to interstate commerce generally will depend on the character of the region, its products, and the difficulties or dangers of navigation. It is the waterbody's capability of use by the public for purposes of transportation of commerce which is the determinative factor, and not the time, extent or manner of that use. An internet search was conducted to determine the regional land use and commercial activities, results of the search indicate agriculture, silviculture, and ecotourism to be the major land uses in the region. Based on the data collected on the regional commerce, the seasonal pond does not to support viable links to interstate commerce. Given SP-1's small land area (0.20 acres) the site would not be financial viable for agriculture or silviculture practices, nor does it contain aquatic species which would facilitate a viable commercial ecotourism operation. The analysis suggests SP-1does not contain a significant link to interstate commerce. Moreover, SP-1 is classified as an upland area with no connection to waters of the U.S.; therefore, no potential Section 404 regulated interstate commerce link exists.

6.0 Summary and Conclusions

Ecological assessment of the ABC Middle School property revealed one 0.20-acre potentially non-jurisdictional seasonal pond located on the northeast corner of the property. The Conasauga River, the nearest TNW, is located approximately 4.3 aerial miles and 35- river miles to the east and south of the project site. A relevant reach search conducted by REI consultants using a digital measurement feature revealed the closest relevant aquatic feature to be Wild Cat Creek (Google Earth 2010). Wild Cat Creek is located 0.27 miles to the northwest of the study site and is separated by a serious sloping ridges and East Emerson Road to the west of the study site. Wild Cat Creek drains to the northwest into Coahulla Creek; then travels southeast confluencing with 22 tributaries and traveling approximately 35 river miles before its confluence with the Conasauga River. An on-site hydrologic assessment was completed using a Turner Designs 10-AU Fluorometer and fluorescent tracer compound, Rhodamine WT, which is a highly fluorescent material with the unique ability to absorb green light and emit red light. The tracer study results revealed no migration of the dye into Wild Cat Creek or Coahulla Creek during the two week monitoring period. Ecological surveys conducted in the relevant reach did not indicate the presence of floral or faunal species suited to a life in traditional navigable waters. Thus, the ecological assessment conducted did not indicate the presence of abiotic or biotic factors which could provide significant nexus to traditional navigable waters. An internet search was conducted to determine the regional land use and commercial activities, results of the search indicate agriculture, silviculture, and ecotourism to be the major land uses in the region. Based on the data collected on the regional commerce, the seasonal pond does not to support viable links to interstate commerce. Given SP-1's small land area (0.20 acres) the site would not be financial viable for agriculture or silviculture practices, nor does it contain aquatic species which would facilitate a viable commercial ecotourism operation. Therefore, the interstate commerce feasibility analysis suggests SP-1does not contain a significant link to interstate commerce. Based on the wetland delineation, significant nexus, and interstate commerce analysis; this site was determined to be a non-navigable, non-jurisdictional upland feature without a substantive link to interstate commerce.

7.0 References (Fictional)

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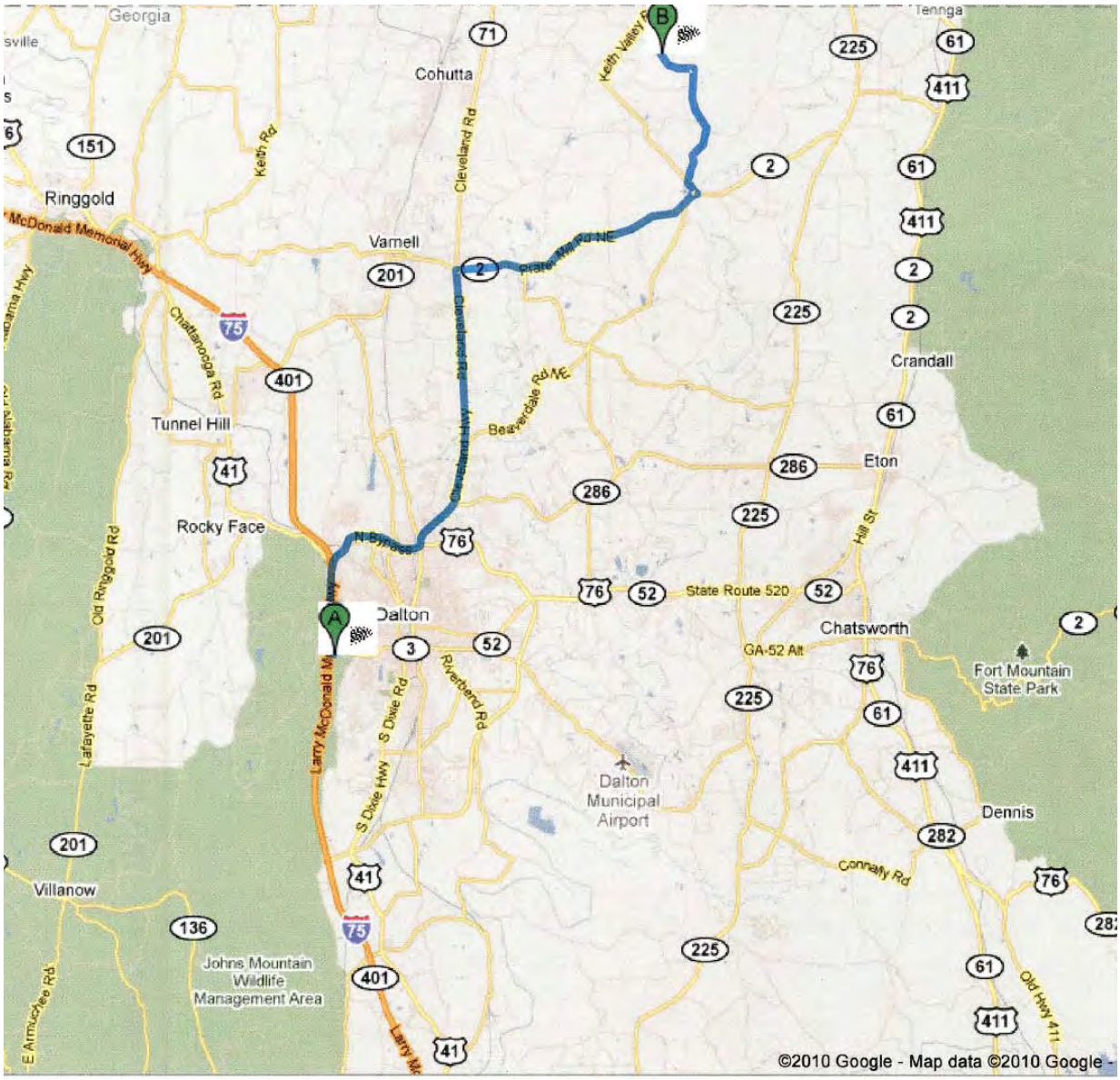
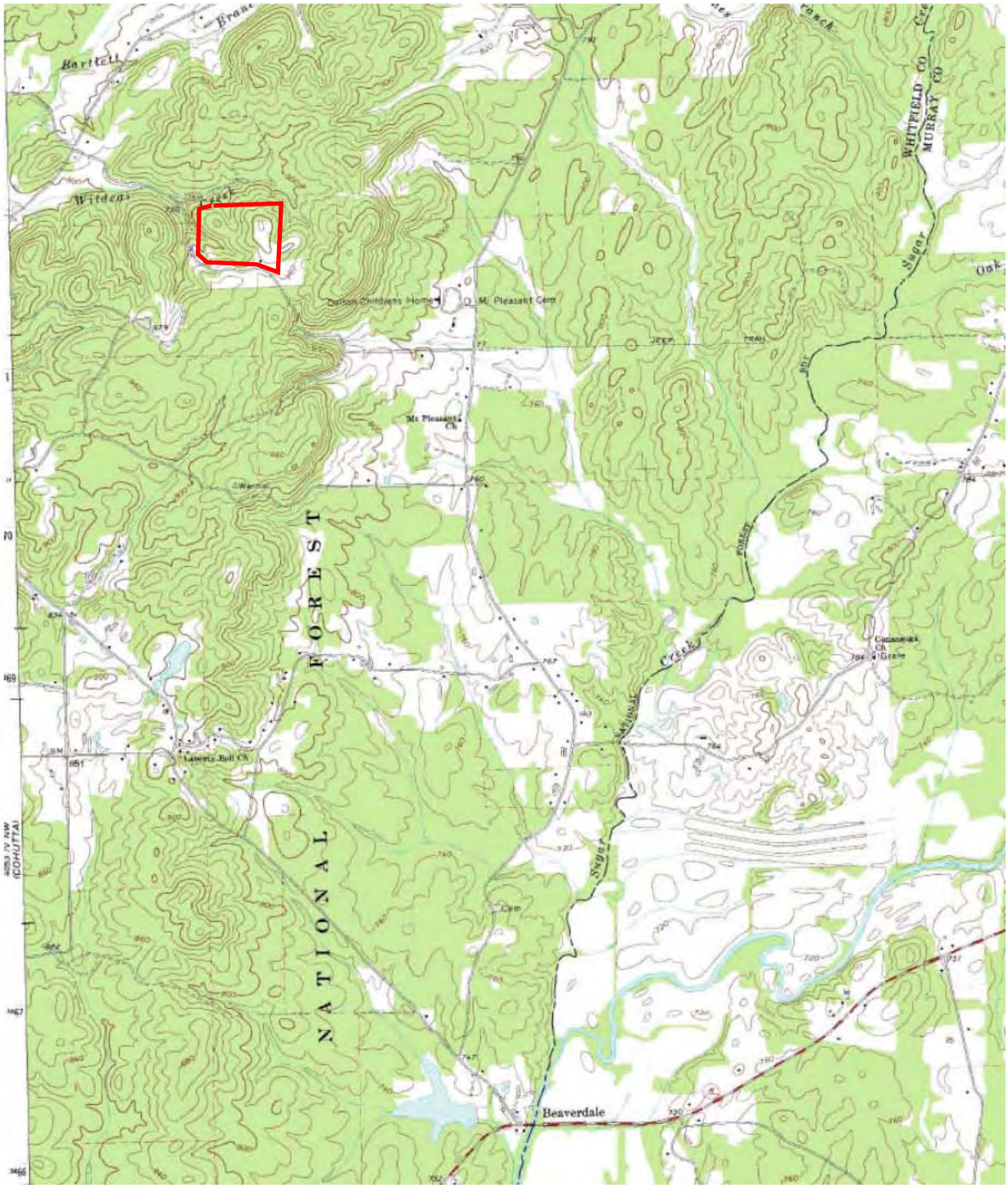
APPENDIX A

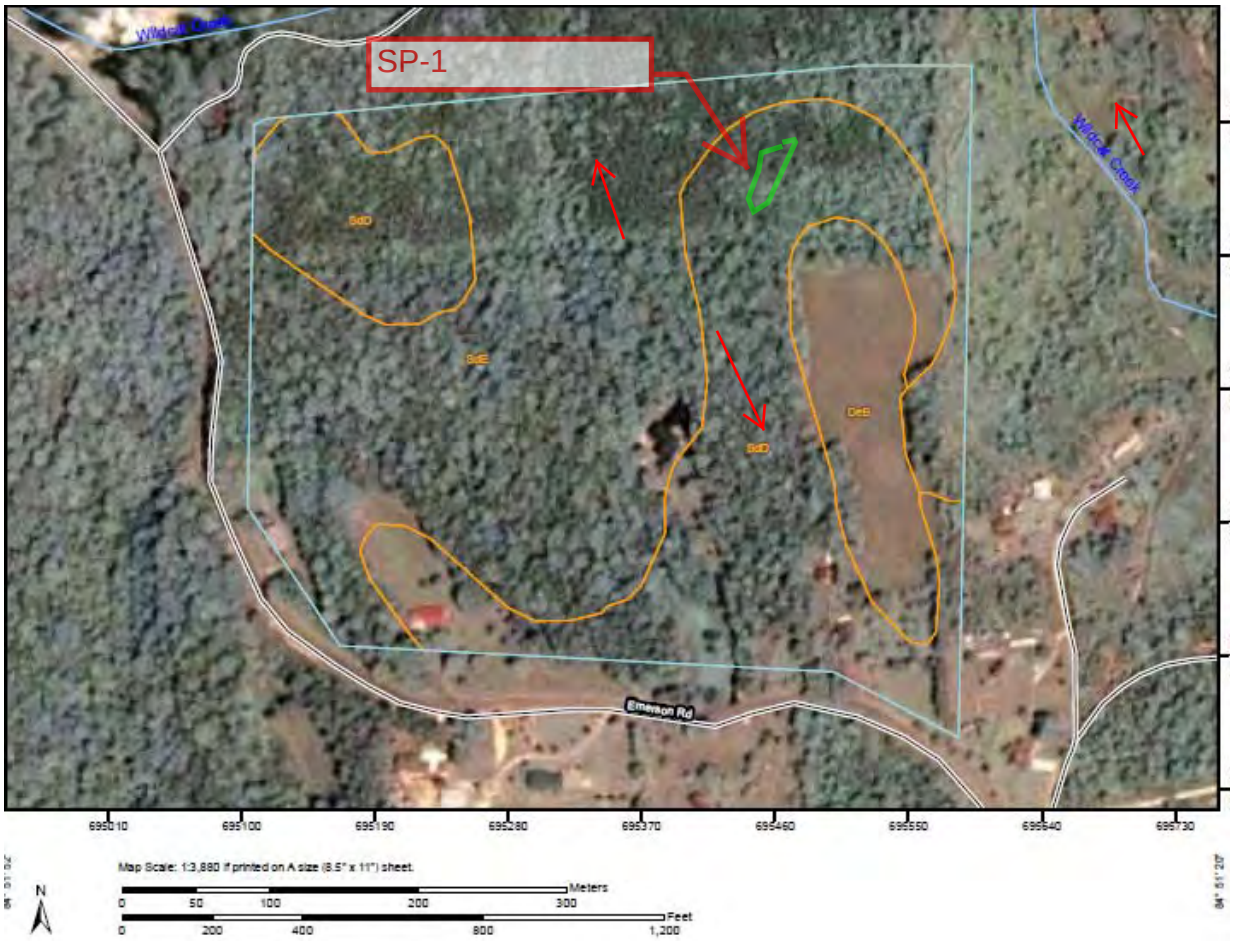


Ryan Ecologists Inc.	ABC Elementary School Murray County School District Beaverton, Georgia	Figure 1 Vicinity Map



Ryan Ecologists Inc.	ABC Elementary School Murray County School District Beaverton, Georgia	Figure 2 USGS Beaverton 7.5'Quadrangle

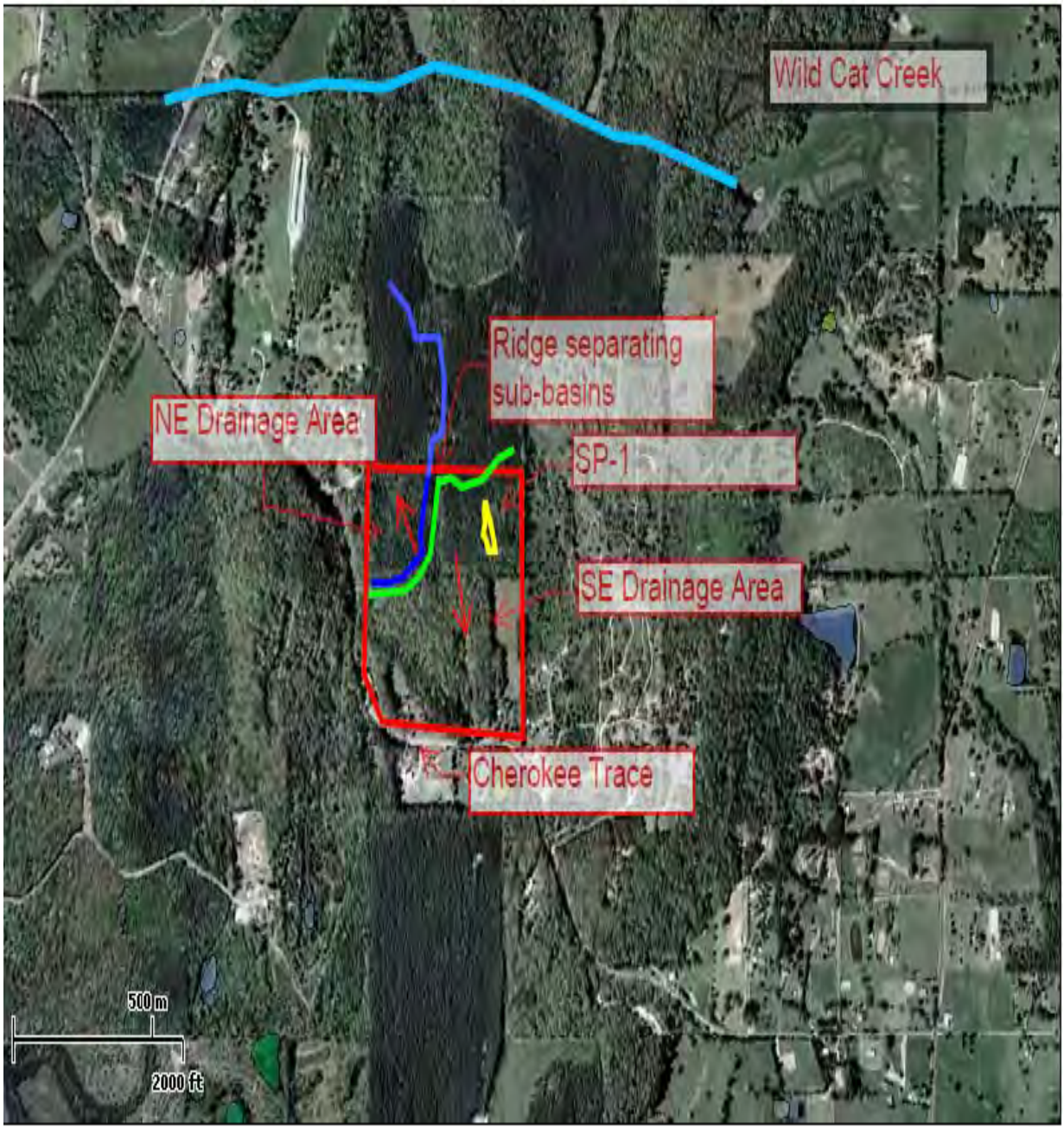
Ryan Ecologists Inc.	ABC Elementary School Murray County School District Beaverton, Georgia	Figure 3 FEMA Flood Map



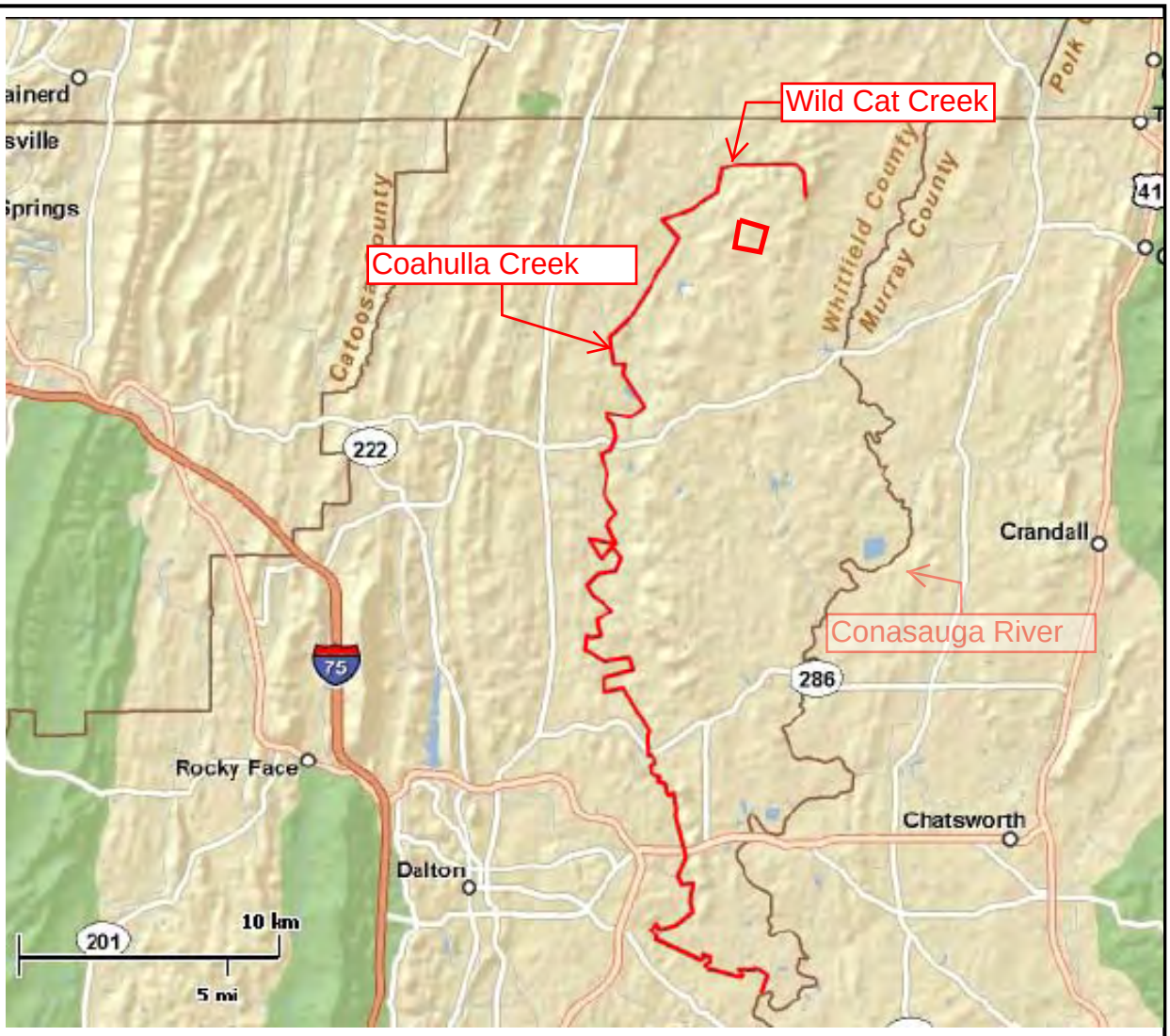
Murray and Whitfield Counties, Georgia (GA648)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
DeB	Dewey silt loam, 2 to 6 percent slopes	4.2	9.2%
SdD	Shack-Minvale-Bodine complex, 6 to 15 percent slopes	18.2	39.8%
SdE	Shack-Minvale-Bodine complex, 15 to 30 percent slopes	23.3	51.0%
Totals for Area of Interest		**45.7**	**100.0%**

Ryan Ecologists Inc.	ABC Elementary School Murray County School District Beaverton, Georgia	Figure 4 USDA NRCS Site Soil Map

Ryan Ecologists Inc.	ABC Elementary School Murray County School District Beaverton, Georgia	Figure 5 Aerial Map

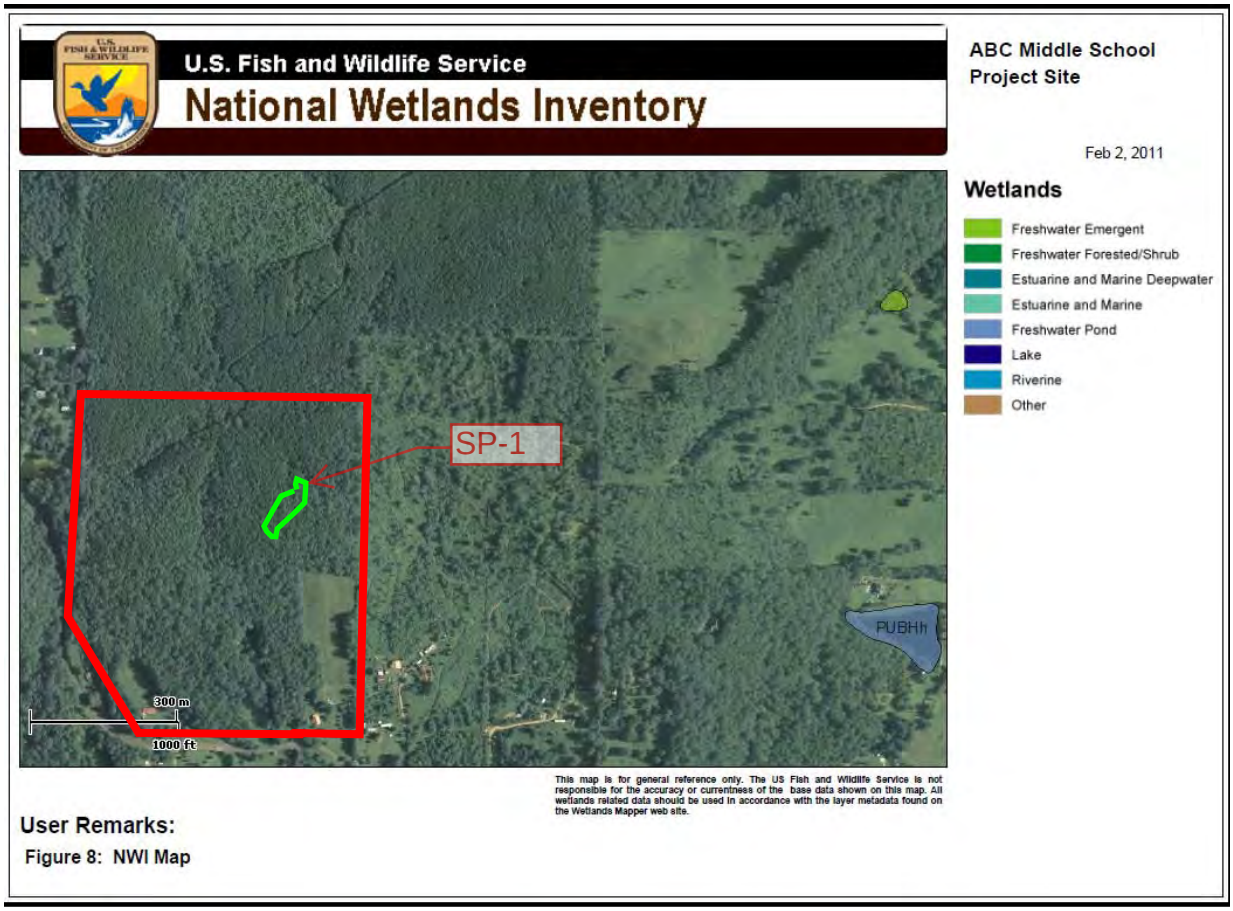


Ryan Ecologists Inc.	ABC Elementary School Murray County School District Beaverton, Georgia	Figure 6 Drainage Area Map



Wild Cat Creek drains to the southwest into Coahulla Creek then travels south intersecting with 22 tributaries and approximately 35 river miles before its confluence with the Conasauga River.

Ryan Ecologists Inc.	ABC Elementary School Murray County School District Beaverton, Georgia	Figure 7 Relevant Reach Diagram



Ryan Ecologists Inc.	ABC Elementary School Murray County School District Beaverton, Georgia	Figure 8 NWI Map

APPENDIX B

Seasonal Pond located to the northeast of ABC Middle School Property Boundary.

Plot #1 Beginning of Seasonal Pond to the Northeast

Center of the SP-1 looking to the Northeast

Plot #2 View to the southeast in the direction of drainage.

Plot # 3 located to the southeast toward terminal end of the review area.

Soil Profile representative of areas sampled.

APPENDIX C

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: ABC Middle School Project City/County: Beaverton / Murray Sampling Date: 10/22/2010

Applicant/Owner: Murray County School District State: GA Sampling Point: Plot #1

Investigator(s): Jack N. Pulpit & Paula Nation Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Seasonal Pond Local relief (concave, convex, none): Sloping Slope (%): 2

Subregion (LRR or MLRA): LRR:N, MLRA 128 Lat: 33.2435 North Long: -841434 West Datum: _____

Soil Map Unit Name: Murray County Custom Soil Report NWI classification: Upland

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ 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 ☐	No ✓	**Is the Sampled Area within a Wetland?** Yes ☐ No ✓
Hydric Soil Present?	Yes ☐	No ✓	
Wetland Hydrology Present?	Yes ☐	No ✓	

Remarks:

Plot #1 is located to the northeast/ beginning of the feature. Feature appears to be a upland depression approximately 0.2 acres in area. Plot #1 does not any of the three criteria for jurisdictional wetland determination under the USACE 2010 Eastern Mountains & Piedmont Regional Supplement, or USACE 1987 Delineation Manual.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ 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)

Secondary Indicators (minimum of two required)

- ☐ 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 ✓	Depth (inches): _____
Water Table Present?	Yes ☐	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ☐	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Feature exhibits a concave geomorphic nature. Feature otherwise lacks any primary and or other secondary hydrologic indicators to suggest the presence of wetland hydrology.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Plot #1

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	55 %	YES	FACU
2. Carya ovata	20 %	YES	FACU
3. Fagus grandifolia	10 %	NO	FACU
4. Pinus taeda	10 %	NO	FAC
5.		-	-
6.		-	-
7.		-	-
8.		-	-
	95 %	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Quercus falcata	40 %	YES	FACU
2. Carya ovata	20 %	YES	FACU
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
	60 %	= Total Cover	

Herb Stratum (Plot size: 5 feet)			
1. Quercus falcata	20 %	NO	FACU
2. Microstegium vimineum	10 %	NO	FAC
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	30 %	= Total Cover	

Woody Vine Stratum (Plot size: 30 feet)			
1. N / A		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, 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 vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: (Include photo numbers here or on a separate sheet.)

Dominant vegetation is facultative upland vegetation.

SOIL

Sampling Point: Plot #1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0/4 in	10 YR 6/3		N / A				loam	Non-hydric yellow color
5/14 in	10 YR 6/4		N / A				loam	Non- hydric yellow/brown color

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

Soil has yellow/ brown color indicative of upland soils. Redox features are completely absent.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: ABC Middle School Project City/County: Beaverton / Murray Sampling Date: 10/22/2010

Applicant/Owner: Murray County School District State: GA Sampling Point: Plot #2

Investigator(s): Jack N. Pulpit & Paula Nation Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Seasonal Pond Local relief (concave, convex, none): Concave / Sloping Slope (%): 1

Subregion (LRR or MLRA): LRR:N, MLRA 128 Lat: 33.1235 North Long: -84.1234 West Datum: _____

Soil Map Unit Name: Murray County Custom Soil Report NWI classification: Upland

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ 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 ☐	No ✓	**Is the Sampled Area within a Wetland?** Yes ☐ No ✓
Hydric Soil Present?	Yes ☐	No ✓	
Wetland Hydrology Present?	Yes ☐	No ✓	

Remarks:

Plot #1 is located to the center of the feature. Feature appears to be a upland depression approximately 0.2 acres in area. Plot # 2 does not any of the three criteria for jurisdictional wetland determination under the USACE 2010 Eastern Mountains & Piedmont Regional Supplement, or USACE 1987 Delineation Manual.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ 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)

Secondary Indicators (minimum of two required)

- ☐ 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 ✓	Depth (inches): _____
Water Table Present?	Yes ☐	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ☐	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Feature exhibits a concave geomorphic nature. Feature otherwise lacks any primary and or other secondary hydrologic indicators to suggest the presence of wetland hydrology.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Plot #2

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	65 %	YES	FACU
2. Carya ovata	20 %	YES	FACU
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
	85 %	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Rubus arqutus	50 %	YES	FACU
2. Quercus falcata	20 %	YES	FACU
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
	70 %	= Total Cover	

Herb Stratum (Plot size: 5 feet)			
1. N / A		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	30 %	= Total Cover	

Woody Vine Stratum (Plot size: 30 feet)			
1. N / A		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, 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 vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: (Include photo numbers here or on a separate sheet.)

Dominant vegetation is facultative upland vegetation.

SOIL

Sampling Point: Plot #2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0/4 in	10 YR 6/3		N / A				loam	Non-hydric yellow color
5/14 in	10 YR 6/4		N / A				loam	Non- hydric yellow/brown color

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

Soil has yellow/ brown color indicative of upland soils. Redox features are completely absent.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont

Project/Site: ABC Middle School Project City/County: Beaverton / Murray Sampling Date: 10/22/2010

Applicant/Owner: Murray County School District State: GA Sampling Point: Plot #3

Investigator(s): Jack N. Pulpit & Paula Nation Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Seasonal Pond Local relief (concave, convex, none): Concave / Sloping Slope (%): 1

Subregion (LRR or MLRA): LRR:N, MLRA 128 Lat: 33.1245 North Long: -84.1236 West Datum: _____

Soil Map Unit Name: Murray County Custom Soil Report NWI classification: Upland

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ 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 ☐	No ✓	**Is the Sampled Area within a Wetland?** Yes ☐ No ✓
Hydric Soil Present?	Yes ☐	No ✓	
Wetland Hydrology Present?	Yes ☐	No ✓	

Remarks:

Plot #3 is located 15- feet to the southeast of the feature. Plot # 3 does not exhibit any of the three criteria for jurisdictional wetland determination under the USACE 2010 Eastern Mountains & Piedmont Regional Supplement, or USACE 1987 Delineation Manual.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ 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)

Secondary Indicators (minimum of two required)

- ☐ 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 ✓	Depth (inches): _____
Water Table Present?	Yes ☐	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ☐	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ☐ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Plot # 3 is located at the feature's terminal end where it fans out into the forest. No wetland hydrology indicators were noted.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Plot #3

Tree Stratum (Plot size: 30 feet)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	50 %	YES	FACU
2. Carya ovata	20 %	YES	FACU
3. Pinus taeda	15 %	NO	FAC
4. Cornus florida	10 %	NO	FACU
5.		-	-
6.		-	-
7.		-	-
8.		-	-
	95 %	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 feet)			
1. Quercus falcata	50 %	YES	FACU
2. Carya ovata	20 %	YES	FACU
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
	70 %	= Total Cover	

Herb Stratum (Plot size: 5 feet)			
1. Microstegium vimineum	40 %	NO	FAC
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
7.		-	-
8.		-	-
9.		-	-
10.		-	-
11.		-	-
12.		-	-
	40 %	= Total Cover	

Woody Vine Stratum (Plot size: 30 feet)			
1. N / A		-	-
2.		-	-
3.		-	-
4.		-	-
5.		-	-
6.		-	-
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

Sapling/Shrub – Woody plants, excluding vines, 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 vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: (Include photo numbers here or on a separate sheet.)

Dominant vegetation is facultative upland vegetation.

SOIL

Sampling Point: Plot #3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0/4 in	10 YR 6/3		N / A				loam	Non-hydric yellow color
5/14 in	10 YR 6/4		N / A				loam	Non- hydric yellow/brown color

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☐ **No** ☑

Remarks:

Soil has yellow/ brown color indicative of upland soils. Redox features are completely absent.

APPENDIX D

REQUEST FOR JURISDICTIONAL DETERMINATION FOR PROPERTY LOCATED WITHIN THE STATE OF GEORGIA

APPLICANT:

Name (First Last) Murray County School District

Address 345 Scholar Point

City Beaverton State GA Zip Code 01089

Phone (678) 890-1234 Fax (678) 423-4567 Email johnceducator@gmail.com

PROPERTY OWNER: **Same as Applicant** ☑

Name (First Last)

Address

City State Zip Code

AGENT/CONSULTANT: (if applicable)

Name (First Last) Ryan Ecologists Inc.

Address 123 Prairie Tree Way

City Atlanta State GA Zip Code 3003

Phone (770) 314-0123 Fax (770) 314-4567 Email ryantheecologist@yahoo.com

PROPERTY LOCATION:

Location/Address/Subdivision 678 Cherokee Way

City (in/near) Beaverton County Murray

Directions from nearest interstate (use additional sheet(s) if needed) From Interstate 75 north take exit 336 Dalton/ Rocky Face and right onto GA-3/US-41S/US-76E south for 2.6 mile, turn left onto GA-71/Cleveland Hwy for 7.1 miles; turn right at GA-2 NE for 6.6 miles, then turn left on Beaverton Hwy before turning right onto Cherokee Way. The project site is located at next left after turning onto Cherokee Way.

Latitude 33.2345° N Longitude -84.1234° W
(In decimal degrees at center of the site. Linear projects should also include decimal degrees location of the start, end, and any turn points of the review/project area. Use additional sheet(s) if needed.)

Property Size (acres and/or dimensions) 206 acre

Nearest named waterbody (Stream/River/Lake) Wild Cat Creek 0.27 miles

TYPE OF JURISDICTIONAL DETERMINATION:

Please indicate the type of jurisdictional determination (JD) you are requesting by marking the appropriate type below. The Corps encourages the regulated public to utilize the preliminary JDs and expanded preliminary JDs where appropriate.

☐ **Preliminary Jurisdictional Determination** - Preliminary JDs are non-binding "written indications that there may be waters of the United States, including wetlands, on a parcel or indications of the approximate location(s) of waters of the United States or wetlands on a parcel. Preliminary JDs are advisory in nature and may not be appealed." (See 33 C.F.R. 331.2.)

☐ **Expanded Preliminary Jurisdictional Determination** - The intent of using the expanded preliminary JD is to allow a landowner or other "affected party" to move ahead expeditiously to obtain a Corps permit authorization where the party determines that it is in his or her best interest. In most cases, expanded preliminary JDs are also non-binding "written indications that there may be waters of the United States, including wetlands, on a parcel or indications of the approximate location(s) of waters of the United States or wetlands on a parcel." However, Corps verification of a delineation, which is submitted in conjunction with an expanded preliminary JD request, would provide the landowner or affected party with defensible documentation concerning the limits of Corps jurisdiction.

√ **Approved Jurisdictional Determination** - As defined in Regulatory Guidance Letter 08-02, an approved JD is an official Corps determination that jurisdictional "waters of the United States," or "navigable waters of the United States," or both, are either present or absent on a particular site. An approved JD precisely identifies the limits of those waters on the project site determined to be jurisdictional under the CWA/RHA. (See 33 C.F.R. 331.2.)

I, John D. Educator "Murray County School District", request a jurisdictional
Print Name
determination on the above property, grant the US Army Corps of Engineers permission to conduct an on-site inspection, and certify that I am authorized to grant permission for entry into the property.

SIGNED John T. Educator **DATE** 10/22/2010

****TO COMPLETE THIS REQUEST ALL OF THE REQUIRED INFORMATION IN THE APPLICABLE CHECKLIST MUST BE PROVIDED ****

SAS APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers (Revised 10 Jan 2009)

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): October 22, 2010

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Savannah District, ABC Elementary School Project SAS-2010-0098X

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **Georgia** County/parish/borough: **Murray County** City**: Beaverton**
Center coordinates of site (lat/long in degree decimal format): **Lat. 33.2345º N, Long. -84. 1234º W.**
Universal Transverse Mercator:
Name of nearest waterbody: **Wild Cat Creek**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Conasauga River**
Name of watershed or Hydrologic Unit Code (HUC): **03070103 Conasauga Watershed**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLIES):
☒ Office (Desk) Determination. Date: **September 10, 2010**
☒ Field Determination. Date(s): **October 22, 2010**

SECTION II: SUMMARY OF FINDINGS
A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are No "navigable waters of the US" within the Rivers and Habors Act (RHA) jurisdiction (as defined by 33 C. F. R. part 329) in the review area [*Required*].
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **ARE NO** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. **Waters of the U.S.**
   a. Indicate presence of CWA jurisdictional waters of U.S. in review area (check all that apply): 1
   ☐ TNWs, including territorial seas (complete Sec III A. 1)
   ☐ Wetlands adjacent to TNWs (complete Sec III A 2.)
   ☐ Interstate Waters that flow directly or indirectly into TNWs, explain in Sec III B 1.
   ☐ Wetlands adjacent to Interstate Waters that flow directly or indirectly into TNWs. Explain in section III B 2.
   ☐ Waters that flow directly or indirectly into and have a significant nexus with a TNW (provide data supporting this conclusion in Section III.D.)
   ☐ Wetlands adjacent to waters that flow directly or indirectly into a TNW and the tributary (relevant reach) and its adjacent wetlands have a significant nexus with that TNW (provide data supporting this conclusion in Section III.D.)
   ☐ Impoundments of jurisdictional waters (As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional).
   ☐ Demonstrate that impoundment was created from "waters of the U.S."
   ☐ Demonstrate that water meets the criteria for one of the categories presented above
   ☐ Demonstrate that water is isolated with a nexus to commerce (see below).
   ☐ Isolated (interstate or intrastate) waters, including isolated wetlands (Isolated [Interstate Or Intra-State] Waters, Including Isolated Wetlands, The Use, Degradation Or Destruction Of Which Could Affect Interstate Commerce, Including Any Such Waters (Check All That Apply):2

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

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

b. Identify (estimate) size of all waters of the U.S. selected above in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands:

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

☒ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR). Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

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

☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **The 0.20 acre upland seasonal pond does not exhibit a connection to jurisdictional waters of the US to include: no connection with traditional navigable waters of the US, non- navigable relatively permanent waters, nor, is the seasonal pond adjacent (bordering, contiguous, or neighboring) to wetlands to jurisdictional wetlands.**

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

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

☒ **Uplands: Explain: The 0.20 acre non-jurisdictional seasonal pond does not meet any of the three criteria for jurisdictional wetland determination. Furthermore, the feature is surrounded by 200 acres of uplands predominately pasture land interspersed with woodland areas.**

☐ Potential jurisdictional waters and/or wetlands were assessed within the review area and determined to be non- jurisdictional. **Explain:**

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

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

1. TNW
Identify TNW:

Summarize rationale supporting determination: .
☐ Waters of the State
☐ Waters Covered Under a Court Case
☐ Navigable in Fact Waters (if selected explain below)
Basis for Decision:

Tributary has (check all that apply):
☐ Bed and banks

☐ OHWM3 (check all indicators that apply):

- ☐ clear, natural line impressed on the bank
- ☐ changes in the character of soil
- ☐ shelving
- ☐ vegetation matted down, bent, or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ other (list):
- ☐ the presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ the presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ multiple observed or predicted flow events
- ☐ abrupt change in plant community

☐ Discontinuous OHWM.4 Explain: .

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

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

2. **Wetland adjacent to TNW.**

Summarize rationale supporting conclusion that wetland is "adjacent": .

Wetland relationship to water (s) of the US, excluding other wetlands

☐ Separated by berm or barrier or the like – (footnote see section Sec 328.3 (c)

☐ Connections

- ☐ Surface
- ☐ Shallow subsurface
- ☐ Ecological

Basis for decision (explain):

B. CHARATERISTICS OF INTERSTATE WATERS/WETLANDS:

1. **Interstate Waters that flow directly to or indirectly into TNW**

Summarize rationale supporting basis for determination: .

- ☐ Waters of the State
- ☐ Waters Covered Under a Court Case :
- ☐ Navigable in Fact Waters (if selected explain below)

Basis for Decision:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through

Tributary stream order, if known:

Project waters are river miles from TNW.

Project waters are straight miles from TNW.

Identify flow route to TNW5:

Tributary has (check all that apply):

☐ Bed and banks

☐ OHWM6 (check all indicators that apply):

- ☐ clear, natural line impressed on the bank
- ☐ the presence of litter and debris

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

[4]Ibid.

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

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

☐ changes in the character of soil
☐ shelving
☐ vegetation matted down, bent, or absent
☐ leaf litter disturbed or washed away
☐ sediment deposition
☐ water staining
☐ other (list):
☐ destruction of terrestrial vegetation
☐ the presence of wrack line
☐ sediment sorting
☐ scour
☐ multiple observed or predicted flow events
☐ abrupt change in plant community

☐ Discontinuous OHWM.7 Explain: .

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

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

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

2. **Wetland adjacent to Interstate Waters,**
Summarize rationale supporting conclusion that wetland is "adjacent": .
Wetland relationship to water (s) of the US, excluding other wetlands
☐ Explain

☐ Connections
- ☐ Surface
- ☐ Shallow subsurface
- ☐ Ecological

Basis for decision (explain**):**

C. **Characteristics of Tributary and Its Adjacent Wetlands (If Any):**

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any. If the JD covers only the waterbody8 (and no adjacent wetlands), complete Sections III.C.1, III.D and IV. If the JD covers a tributary with adjacent wetlands, complete Section III.C.1 for the tributary, Section III.C.2 for any onsite wetlands, and Section III.C.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.D below, then complete Sec IV.

1. Characteristics of the waterbody that flows directly or indirectly into a TNW

(i) General Area Conditions:
Watershed size:
Drainage area:
Average annual rainfall:
Average annual snowfall:

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through how many tributaries before entering TNW.
Identify flow route to TNW9: .
Tributary stream order, if known: .
Project waters are Pick List river miles from TNW.
Project waters are Pick List aerial (straight) miles from TNW.

(b) General Tributary Characteristics (check all that apply):
Tributary is:
☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

[7] Ibid.
[8] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[9] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, flows into tributary b, which then flows into TNW.

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: Pick List.

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

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

(c) Flow:
Tributary provides for: Pick List
Estimate average number of flow events in review area/year: Pick List
Rationale to support flow regime:
Other information on duration and volume:

Surface flow is: Pick List. Characteristics:

Subsurface flow: Pick List. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM10 (check all indicators that apply):
☐ clear, natural line impressed on the bank
☐ changes in the character of soil
☐ shelving
☐ vegetation matted down, bent, or absent
☐ leaf litter disturbed or washed away
☐ sediment deposition
☐ water staining
☐ other (list):
☐ the presence of litter and debris
☐ destruction of terrestrial vegetation
☐ the presence of wrack line
☐ sediment sorting
☐ scour
☐ multiple observed or predicted flow events
☐ abrupt change in plant community
☐ Discontinuous OHWM.11 Explain:

Factors other than the OHWM used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by:
☐ oil or scum line along shore objects
☐ fine shell or debris deposits (foreshore)
☐ physical markings/characteristics
☐ tidal gauges
☐ other (list):
☐ Mean High Water Mark indicated by:
☐ survey to available datum;
☐ physical markings;
☐ vegetation lines/changes in vegetation types.

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain:
Identify specific pollutants, if known:

(iv) Biological Characteristics. Channel supports (check all that apply):
☐ Riparian corridor. Characteristics (type, average width):

---

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

☐ Wetland fringe. Characteristics:
☐ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish rearing/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to tributary that flows directly or indirectly into TNW

(i) Physical Characteristics:

(a) Wetland Adjacency Determination:
☐ Directly abutting
☐ Not directly abutting
☐ Separated by berm/barrier.
☐ Connection.
☐ Surface
☐ Shallow subsurface
☐ Ecological
Basis for decision (explain):

(b) General Wetland Characteristics:
Properties:
Wetland size:
Wetland type. Explain:
Wetland quality : Explain:

(c) General Flow Relationship:
Flow is: . Explain:

Surface flow is:
Characteristics:

Subsurface flow: Pick List. Explain findings:
☐ Dye (or other) test performed:

(d) Proximity (Relationship) to TNW
Project wetlands are river miles from TNW.
Project waters are aerial (straight) miles from TNW.
Flow is from:
Estimate approximate location of wetland as within the
(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width):
☐ Vegetation type/percent cover. Explain:
☐ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

(iv) Other Ecological Characteristics.
☐ Explain: Freshwater fish habitat

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

All wetland(s) being considered in the cumulative analysis:
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

D. Significant nexus determination

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

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

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

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

1. Significant nexus findings for water that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section IV:

2. Significant nexus findings for water and its adjacent wetlands, where the water flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section IV:

SECTION IV: DATA SOURCES.

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

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☒ U.S. Geological Survey Hydrologic Atlas:
☐ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name:

☒ USDA Natural Resources Conservation Service Soil Survey. Citation:
☒ National wetlands inventory map(s). Cite name:
☐ State/Local wetland inventory map(s):
☒ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date):Google Earth August 15, 2010
or ☒ Other (Name & Date): USFWS NWI Map: August 15, 2010
☐ Previous determination(s). File no. and date of response letter:
☒ Applicable/supporting case law: USACE v. SWANCC
☐ Applicable/supporting scientific literature:
☒ Other information (Attached Ecological Assessment):

B. ADDITIONAL COMMENTS TO SUPPORT JD:

The ABC Middle School project area is located within the 8 digit United States Geological Survey (USGS) Hydrologic Unit Code 03070103 known as the Conasauga watershed. The Conasauga watershed spans 500,000-square acres of the land area and 13 counties within Georgia's Ridge and Valley Major Land Resource Region. The drainage area of the proposed ABC Elementary School site is approximately 140 acres, which drains to northwest and southeast of the property.

One potentially non-jurisdictional seasonal pond (SP-1) approximately 0.20 acres in area was delineated within the project area limits. SP-1 is located at latitude 33. 2435° N and longitude -84.1434° W, near the northeast corner of the project boundary. The nearest traditional navigable water, the Conasauga River, is approximately 4.3 aerial miles and 35 river miles from the project area. The watershed is approximately 500,000 acres in area and exhibits the highest biodiversity in the state of Georgia. The drainage area of SP-1 is approximately 2 acres in area transporting run-off to the southeast. An in-house relevant reach search conducted by REI consultants using a digital measurement feature revealed the closest relevant aquatic feature to be Wild Cat Creek (Google Earth 2010 and USFWS NWI 2010). Wild Cat Creek is located 0.27 miles from SP-1 and is separated from the seasonal pond by a serious of northwest sloping ridges. Upland forest and high ridges split the project area into two drainage areas, which appear to preclude any hydrologic interconnection between Wild Cat Creek and SP-1. Wild Cat Creek drains to the northwest before turning south into Coahulla Creek then travels southeast intersecting with 22 tributaries and approximately 35 river miles before its confluence with the Conasauga River. The watershed area has an average annual precipitation rate of 45 inches. Peak storm flows for Wild Cat Creek are approximated to be 2.0- 4.0 cfs for a 24 hour 50-year flood event (assuming 20% urban land use). Peak storm flows are approximately 0.6- 1.0 cfs for a 24 hour 10-year flood event (assuming 20% urban land use). Run-off entering SP-1 exhibits a resonance time of approximately 6-7 hours, and slowly fans out into a forested area to the southeast of the project boundary toward East Emerson Road. An on-site hydrologic assessment was completed using a Turner Designs 10-AU Fluorometer and fluorescent tracer compound, Rhodamine WT, which is a highly fluorescent material with the unique ability to absorb green light and emit red light. The tracer study results revealed no migration of the dye into the surrounding waterbodies during the two week monitoring period.

Ecological conditions within study area are of upland character. No endangered or threatened species were encountered during site surveys performed on site, nor was suitable critical habitat encountered for endangered and/or threatened species listed for Murray County, Georgia. Faunal survey of SP-1 suggests the feature does not appear to be suitable habitat for aquatic species. No amphibian species were encountered during monitoring of the peak periods conducted two hours before sunrise and two hours after sunset. SP-1 drains rather quickly and does not appear suitable as a potential salamander breeding site. A search for aquatic macroinvertebrates conducted within SP-1 did not reveal species that inhabit aquatic environments. SP-1 consisting of upland soils, upland vegetation, and the absence of wetland hydrology, does not meet the three criteria of a jurisdictional wetland. SP-1 does not exhibit signs of a first order stream due to its lack of an Ordinary High Water Mark (OHWM), and absence of continuous bed and bank properties. Vegetation sampled within the SP-1 was predominantly facultative upland species common to the Ridge and Valley Region, indicative of an upland landscape. SP-1 fans out into the woodland to the southeast and shows no sign of interconnection to offsite jurisdictional waters. The woodland area is separated from Wild Cat Creek by the series ridges running to the northeast and southwest.

An internet search was conducted to determine the regional land use and commercial activities, results of the search indicate agriculture, silviculture, and ecotourism to be the major land uses in the region. Based on the data collected on the regional commerce, the seasonal pond does not to support viable links to interstate commerce. Given SP-1's small land area (0.20 acres) the site would not be financial viable for agriculture or silviculture practices, nor does it contain

aquatic species which would facilitate a viable commercial ecotourism operation. Interstate commerce feasibility analysis suggests SP-1does not contain a significant link to interstate commerce. SP-1 is classified as an upland area with no connection to waters of the U.S.; therefore, no interstate commerce link exists.

Based upon the scientific data collected, SP-1 does not contribute to the chemical, physical and/or biological integrity of the Conasauga River. Based on the wetland delineation, significant nexus, and interstate commerce analysis; this site was determined to be a non-navigable, non-jurisdictional upland feature without a substantive link to interstate commerce.

US Army Corps of Engineers
Savannah District, Regulatory Division
Global Positioning Systems (GPS) Datasheet
Delineation of Wetlands, Streams and Other Waters
Within the State of Georgia

USACE File Number 20100077X Date of Delineation October 22, 2010

Name of Delineator Present Paula Nationl

Make and Model of GPS Device Used (must be capable of sub-meter accuracy) Trimble -GEO XH

Geographic Coordinate System Used US State Plane 1983, Georgia East 1001

Name of Continually Operated Reference Station Used for Post-processing CORS Dalton., GA

Date Post-processing Performed 10-22-10

Percent Dilution of Position (PDOP) (6 or less is required) yes

Name and Coordinates of Known Property Corner and/or Monument SW corner N 59 1669.9266 E 87 4345.0390

GPS Reading of Known Property Corner and/or Monument SW corner N 59 1669.9266 E 87 4345.0390

Frequency of Waypoints Taken During Survey 30-50 ft

Note: GPS data must be provided, if requested. If GPS data and/or GPS delineation is determined unacceptable by the Savannah District, a survey sealed by a surveyor licensed in Georgia will be required.