

APPENDIX H

Wetland Delineation Report and Jurisdictional Determinations



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**Technical Report:
Wetlands Survey, Delineation, and
Jurisdictional Determination (JD)
Master Plan Update
Chesterfield County Airport
Richmond, Virginia 23237**

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INTRODUCTION

Mill Creek Environmental Consultants, Ltd. has recently completed a wetlands survey and delineation on property of the Chesterfield County Airport, Richmond, Virginia. The boundary of the survey area is shown by the Yellow limits on the map at Appendix 1.

The purpose of the survey and delineation of identified wetlands was to provide current information and data for an update of the airport's master plan. Updating this document will allow the airport and planning engineers to position structures on the facility while avoiding our minimizing project impacts to these regulated ecosystems. In addition to identifying wetlands, streams and other waters of the United State were also located and measured within the survey area limits.

METHODS

The wetlands delineation was performed following the routine, onsite method as outlined in the Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1) prepared and published by the US Army Waterways Experiment Station, Vicksburg, Mississippi. Other documents utilized during the project included The Unified Stream Methodology for use in Virginia published by the U.S. Army Corps of Engineers, Norfolk District and the Virginia Department of Environmental Quality, along with the U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook.

The Web Soil Survey 2.2 for Chesterfield County, Virginia created by the National Cooperative Soil Survey Committee of the Natural Resources Conservation Service and the old USDA, Soil Conservation Service (SCS) Soil Survey of Chesterfield County, Virginia (1982) provided data for soil types and series.

AREA CHARACERISTICS

Site Location and Drainage. The survey area included all existing airport property (700± acres). The bulk of this area has an elevation between 190 and 255 feet above mean sea level with the highest point on the runway recorded at 237 feet. Topography of the site consists of a broad level plain which has been further engineered to create a more level facility. The main drainage pattern for the airport lies to the south, southeast (SSE) to Reedy Creek which in turn flows into Kingsland Creek and then into the James River.

General Description of the Site. Due to the nature of the topography in and around the airport (moderately to slightly sloping to level) the identified wetlands were part of forested areas, small stream systems with adjacent floodplains, and relatively permanent waterways (RPWs) which are part of the airport drainage system and stormwater management plan.

Hydrology. The developed portions of the airport are physically located on a long broad and level expanse which has been engineered to further flatten the surface. Runoff from the facility is conveyed to well defined natural and manmade drainage features. The natural drainage ways of the site carry mostly intermittent or wet weather flows while the bulk of stormwater management structures are hardened with bedrock, rip rap, and cobblestones. With the exception of the developed portion of the airport and clear zone area, the watersheds in and on the installation exist in a combination of mixed hardwood and pine forests. Clear zone areas are mowed, and drainage channels contain only emergent herbaceous and scrub shrub vegetation.

Soils. The USDA, NRCS Web Soil Survey 2.2 lists eighteen (18) different soil types existing within the survey area. Of this number, five (5) are considered hydric soils and are listed as such on the hydric soils list for Chesterfield County Virginia. These five (5) soils compose fifty-three (53) percent of the survey area of interest (AOI).

Vegetation. Much of the vegetation in some of the identified wetlands areas is managed. Vegetation in the emergent and scrub-shrub areas associated with drainage ditches and some stream beds on the facility is periodically trimmed/cut.

The large expanses of vegetation in the survey area which are not maintained consist of species of mixed deciduous forest. The composition of the mixed deciduous forest varies as a result of selective climatic, soil, and topographical factors together with a history of cultivation and fire. A predominate feature of the mixed deciduous forest is the presence of a great variety of understory species to include saplings, shrubs, and herbs.

DESCRIPTION OF WETLAND AREAS

A description of the nineteen (19) locations identified as wetlands or waters of the US in the survey area follows. Additionally, a disturbed location which exhibits wetlands characteristics is identified at the end of this synopsis. Because of the nature of the site and its present condition this site cannot be assessed by the routine, onsite determination method.

Wetlands Area A.

This wetlands area is a stream channel and adjacent banks of an intermittent stream system which can be classified as relatively permanent waters (RPWs) of the United States. The stream flows to the north, northeast (NNE) through a wooded area off airport property. The source of water for this stream is stormwater run off and surface water sheet flow from the airport runway, taxiways, and runway safety area. The stream is part of the drainage system of the facility.

Hydrology in the channel varies between 2" to dry in certain areas to a flow with a depth of one (1) to two (2) feet during heavy storm events. The stream channel runs for a distance of 1,457 linear feet from its outfall beneath Airfield Drive to the airport property line.

Wetlands Area B.

Area B. is a 0.31± acres mosaic of various types of wetlands/waters of the US. The area is dominated by an open water pond in an old borrow site. The pond area has been expanded by beaver activity. Palustrine, emergent (PEM) vegetation surrounds the edge of the pond while scrub, shrub vegetation transitions from the emergent layer to a deciduous mixed hardwood forest area. Dominant trees include species of various oaks (*Quercus spp.*) including wetlands varieties, Sweetgum (*Liquidambar styraciflua L.*) Red Maple (*Acer rubrum L.*) with some Loblolly Pine (*Pinus taeda L.*) and Tulip Poplar (*Liriodendron tulipifera L.*). Dominant species in the sapling/shrub vegetation layer includes saplings of the above tree species accompanied by American Holly (*Ilex opaca L.*), Black Willow (*Salix nigra L.*) and some Shining Sumac (*Rhus copallina L.*). Highbush Blueberry (*Vaccinium corymbosum L.*), Spicebush (*Lindera benzoin L.*), and Piedmont Azalea (*Rhododendron canescens Michx.*) are predominate in the area in moderately large thickets. Cattail (*Typha spp.*), Wool Grass (*Scirpus cyperinus (L.) Kunth*), and other Sedges (*Carex spp.*) abound in wet drainage channels into the pond area. Common greenbrier (*Smilax rotundifolia L.*) is thick in the wetlands area.

Soils in the area are Aquults which are considered hydric. These soils comprise 27.4% or 191.7± acres of the approximately 700± acres of the entire survey area.

Wetland hydrology at this site is dictated by the area's topography. Numerous channels carry surface flow into the shallow pond location and only one moderate channel exits the site to the east, southeast (ESE).

Wetland Area C.

This Palustrine, forested (PFO) wetlands is on the north, northeast (NNE) side of the survey area. At 31.31± acres in area it is the largest of the nineteen (19) delineated wetland locations. Dominant species in the tree structure of vegetation include Swamp White Oak (*Quercus bicolor Willd.*), Pin Oak (*Quercus palustris Muenchh.*), Red Maple (*Acer rubrum L.*), Sweetgum (*Liquidambar styraciflua L.*), Loblolly Pine (*Pinus taeda L.*), American Elm (*Ulmus americana L.*), and clumps of Water Oak (*Quercus nigra L.*) in areas of drainage borders. The sapling/shrub layer of vegetation include American Holly (*Ilex opaca L.*), Highbush Blueberry (*Vaccinium corymbosum L.*), Spicebush (*Lindera benzoin L. Blume*), Sweet Pepperbush (*Clethra alnifolia L.*), Button Bush (*Cephalanthus occidentalis L.*), and saplings of the dominant tree species. The herb layer of vegetation is dominated by wet grasses (*Graminae spp.*), and various species of ferns such as Virginia Chain Fern (*Woodwardia virginica L.*), Netted Chain Fern (*Woodwardia areolata L.*), and Cinnamon Fern (*Osmunda cinnamomea L.*). Vines present include Common Green bier (*Smilax rotundifolia L.*), Poison Oak (*Toxicodendron radicans L.*), and Poison Ivy (*Rhus radicans L.*).

Soils throughout this area are Aquults which are hydric. They appear gleyed 1, 6N and 7N on the Munsell Soil Color Charts. Where mottling occurs the coloration is 10YR 6/1 and 10 YR 7/1.

The hydrology of the area is dictated by the topography of the area and surface flow is slow throughout the location with the soils holding moisture for a protracted time.

Wetland Area D.

Area D. is a 2.63± acres area of Palustrine, forested (PFO) wetlands at the north (N) end of the survey area. The vegetation here is similar to that of Area C which lies to the south(S) except there is a more dense understory. Sweet Pepperbush (*Clethra alnifolia L.*), Highbush Blueberry (*Vaccinium corymbosum L.*), and American Holly (*Ilex opaca L.*) grow in more abundance in this area.

Soils in this area are also Aquults which are gleyed. They appear as gleyed 1, 6N or 7N on the Munsell Soil Color Charts.

Wetlands hydrology throughout this area is shown by soil saturation at a depth of 6 to 8 inches throughout on the date of field investigation.

Wetlands Area E.

This area is another Palustrine, forested (PFO) wetlands location just north (N) of the developed area of the airport. The location lies between the development area and the existing airport property line to the north (N). The area is 7.36± acres in size.

Dominant tree species in the overstory strata in this area include Red Maple (*Acer rubrum L.*), Loblolly Pine (*Pinus taeda L.*), Swamp White Oak (*Quercus bicolor Willd.*), Willow Oak (*Quercus phellos L.*), Live Oak (*Quercus virginiana Mill.*), Sweetgum (*Liquidambar styraciflua L.*), and American Elm (*Ulmus americana L.*). Understory dominants include American Holly (*Ilex opaca Aiton*), Highbush Blueberry (*Vaccinium corymbosum L.*), Sweet Pepperbush (*Clethra alnifolia L.*), Swamp Bay (*Magnolia virginiana L.*), and saplings of the overstory species. The herb layer contains three (3) dominant fern species. These are the Virginia Chain Fern (*Woodwardia virginica L.*), Cinnamon Fern (*Osmunda cinnamomea L.*), and Marsh Fern (*Thelypteris palustris L.*). Various species of wet grasses along with some species of sedges also are found in the herb layer. Common greenbrier (*Smilax rotundifolia L.*) and Poison Oak (*Toxicodendron L.*) are the only vines located in the area.

Soils in this area are also Aquults showing gleyed characteristics. The soils at the data points are Gley 1-6N on the Munsell Soil Color Charts.

Wetlands hydrology is shown by the presence of saturated soils. The soil depth to saturation was approximately 8 inches on the day of field survey.

Wetlands Area F.

This is a 1.72 ± acres are of Palustrine, forested (PFO) wetlands due east (E) of the first row of T-hangars on the right of Airfield Drive.

The tree overstory in this area is dominated by Loblolly Pine (*Pinus taeda L.*), Red Maple

(*Acer rubrum L.*), Swamp White Oak (*Quercus bicolor Willd.*), and Sweetgum (*Liquidambar styraciflua L.*). The understory is dominated by saplings of the above overstory trees interspersed with Sweet Pepperbush (*Clethra alnifolia L.*), Highbush Blueberry (*Vaccinium corymbosum L.*), American Holly (*Ilex opaca Aiton*), and Water Oak (*Quercus nigra L.*). In the herb layer of vegetation, species such as Wool Grass (*Scirpus cyperinus (L.) Kunth*), Soft Rush (*Juncus effusus L.*), Broad-leaved Cattail (*Typha latifolia L.*), and Fox Sedge (*Carex vulpinoidea Michx.*) grow in draining ditches around and through the area. Common Greenbrier (*Smilax rotundifolia L.*) and Trumpet vine (*Campsis radicans L.*) are vines which are also present in this area.

Soils in the area consist of Aquults which are hydric. These are gleyed and are 5N or 6N on the Munsell Soil Color Charts.

Wetland hydrology is demonstrated by saturated soils with a depth to saturation of 6 inches. Drainage patterns abound throughout the woodlands.

Wetlands Area G.

Area G. is another Palustrine forested (PFO) wetlands area on airport property. This 7.17± acres site is located in the north northwest (NNW) corner of the facility and includes part of the runway protection zone (RPZ).

Vegetation in the area is typical of that of the mixed, deciduous hardwood forest of the remainder of the site. The tree strata or overstory is dominated by Red Maple (*Acer rubrum L.*), Loblolly Pine (*Pinus taeda L.*), Sweetgum (*Liquidambar styraciflua L.*), Water Oak (*Quercus nigra L.*), Tulip Poplar (*Liriodendron tulipifera L.*), and Willow Oak (*Quercus phellos L.*). The sapling/shrub vegetation layer consists of saplings of the tree strata along with trunks of American Holly (*Ilex opaca Ait.*), Shining Sumac (*Rhus copallina L.*), Highbush Blueberry (*Vaccinium corymbosum L.*), Sweet Pepperbush (*Clethra alnifolia L.*), and Bayberry (*Myrica cerifera L.*). Herbs and grasses growing in this layer consist of Cinnamon Fern (*Osmunda cinnamomea L.*), Marsh Fern (*Thelypteris palustris L.*), and various sedges (*Carex spp.*). Vines growing beneath the understory include Japanese Honeysuckle (*Lonicera japonica L.*), Common Greenbrier (*Smilax rotundifolia L.*), Poison Oak (*Rhus toxicodendron L.*), and Trumpet Creeper (*Campsis radicans L.*), Blackberry (*Rubus spp.*) bushes also are thick in this area along the edge.

Soils in this location are Colfax fine sandy loam, variant, 0 to 4 percent slopes. These are listed as hydric soils in the Commonwealth of Virginia. The soils appear as gleyed, 6N on the Munsell Soils Color Charts.

Wetland hydrology in the area is exhibited by saturated soil in the upper 12 inches of strata. The soils are saturated at 8 inches and drainage patterns are present in the wetlands.

Wetlands Area H.

Area H. is an intermittent stream channel 285± linear feet in length which carries

stormwater from the impervious area of the airport to drainage ditches. The ditches are part of the stormwater management system of the facility. The stream channel runs through a mixed deciduous forest on the west (W) side of Airfield Drive. Vegetation here is homogeneous with that of the bulk of the wooded airport areas. Soil in this location is Bourne fine sandy loam, 2 to 6 percent slopes. This is a non-hydric soil type.

Wetland Area I.

This location is a 0.27± acres Palustrine, forested (PFO) wetlands adjacent to the west (W) side of Airfield Drive approximately 0.3 miles northwest (NW) of the intersection of Airfield Drive and Whitepine Road. Dominant vegetation species in this area include Red Maple (*Acer rubrum L.*), Swamp White Oak (*Quercus michauxii Nutt.*), Green Ash (*Fraxinus pennsylvanica Marsh*), Sweetgum (*Liquidambar styraciflua L.*), Live Oak (*Quercus virginiana Mill.*), and Pin Oak (*Quercus palustris Muenchh.*) in the tree strata with saplings of these species in the understory or sapling/shrub layer. American Holly (*Ilex opaca Ait.*), Sweetpepper Bush (*Clethra alnifolia L.*), Mountain Laurel (*Kalmia latifolia L.*), and Highbush Blueberry (*Vaccinium sorymbosum L.*) are also found in the shrub layer. The ground or herb layer of vegetation is relatively sparse in this area; however, there are some clumps of ferns present which are endemic to the airport. Greenbrier (*Smilax rotundifolia L.*) is present as the prevalent vine.

Soils at this location are Aquults which are hydric. They appear as gleyed 6N when compared to the Munsell Soil Color Charts.

The soils are saturated with an 8 inch depth to saturated soils in this area. Water marks on trees and drainage patterns in the wetlands provide further evidence of wetlands hydrology.

Wetland Area J.

Area J. is another 0.47± acres area of Palustrine, forested (PFO) wetlands. The site sits astride a stormwater drainage channel at the south, southeast (SSE) end of the airport adjacent to the west (W) side of Airfield Drive. Dominant tree species in this area are Loblolly Pine (*Pinus taeda L.*), Sweetgum (*Liquidambar styraciflua L.*), Red Maple (*Acer rubrum L.*), Water Oak (*Quercus nigra L.*) and American Elm (*Ulmus americana L.*). The understory contains saplings of the tree species along with American Holly (*Ilex opaca Ait.*), Flowering Dogwood (*Cornus florida L.*), Sweet Pepperbush (*Clethra alnifolia L.*), and Sweet Bay Magnolia (*Magnolia virginiana L.*). Wet grasse (*Graminae spp.*) along with ferns such as Virginia Chain Fern (*Woodwardia virginica L.*), Marsh Fern (*Thelypteris palustris L.*), and Cinnamon Fern (*Osmunda cinnamomea L.*) also occur. Common Greenbrier (*Smilax rotundifolia L.*) and Poison Oak (*Rhus toxicodendron L.*) are two prevalent vines in the area.

Soils in this area are typical Aquults and are gleyed with 6N coloration when compared to the Munsell Soil Color Charts.

Wetlands hydrology is exhibited by saturated soils at a depth of 10 inches and water marks on trees along with drainage patterns in the area.

Wetlands Area K.

This 3.45± acres of Palustrine, forested (PFO) wetlands sits astride the major stormwater drainage off airport property to the east (E). The tree strata is dominated by Loblolly Pine (*Pinus taeda L.*), Sweetgum (*Liquidambar styraciflua L.*), Red Maple (*Acer rubrum L.*), Live Oak (*Quercus virginiana Mill.*) and Pin Oak (*Quercus palustris Munchh.*). The sapling/shrub layer contains American Holly (*Ilex opaca Ait.*), Sweet Bay Magnolia (*Magnolia virginiana L.*), and Flowering Dogwood (*Cornus florida L.*), along with saplings of the dominant tree species. The herb layer is relatively sparse as far as vegetative cover due to the thick layer of leaf litter, however some species of grasses (*Graminae spp.*) are present. Also present are Blackberry bushes (*Rubus spp.*), Common Greenbrier (*Smilax rotundifolia L.*), and Poison Oak (*Rhus Toxicodendron L.*).

Soils in this area are lighter than those to the north (N) and east (E) due to the disturbance when the airport was constructed, however they do exhibit hydric characteristics. Their color is 7.5YR 6/1 when matched to the Munsell Soil Color Charts.

Wetland hydrology in this area is shown by soil saturation in the upper 12 inches, drift lines, and drainage patterns in the wetlands.

Wetlands Area L.

This is a stormwater drainage system channel which is 1,003 linear feet in length. The feature flows to the north, northwest (NNW) from the property line adjacent to Whitepine Road and connects to another channel running east (E) off the facility. Water flows through the channel intermittently with its velocity and depth based on precipitation in the region. Emergent vegetation species exist on the edge of the channel with Cattails (*Typha latifolia L.*), Wool Grass (*Scirpus cyperinus (L.) Kunth*), Sedges (*Carex spp.*), Soft Rush (*Juncus effusus L.*), and Ironweed (*Veronia noveboracensis (L.) Michx.*) dominant. Stands of Black Willow (*Salix nigra Marsh.*) grow along the channel at some of the wetter sections.

Wetlands Area M.

Area M. is a 5.99± acres mosaic of several types of wetlands. The bulk of the area is open water habitat created by the activity of a colony of American Beaver (*Castor canadensis*). The animals have dammed two channels of the airport's stormwater management system with small saplings and shrubs causing water to pond in a small depression which served as a borrow site for airfield construction. Surrounding the pond is a variety of small trees and saplings of wetland species. Dominants in this area are Red Maple (*Acer rubrum L.*), Sweetgum (*Liquidambar styraciflua L.*), Loblolly Pine (*Pinus taeda L.*), Common Elderberry (*Sambucus canadensis L.*), Highbush Blueberry (*Vaccinium corymbosum L.*), Smooth Alder (*Alnus serrulata (Aiton) Willd.*) and Button Bush (*Cephalanthus*

occidentalis L.). Emergent species of herbaceous vegetation growing on the margin of the pond includes Wool Grass (*Scirpus cyperinus* (L.) Kunth), Cane (*Arundinaria gigantea* (Walt.) Muhl), Chufa (*Cyperus esculentus* L.), Sedges (*Carex spp.*) and Ironweed (*Veronia noveboracensis* (L.) Michx.). These same species are growing in or near channels leading to the area. Also growing in these channels are clumps of Black Willow (*Salix nigra* L.) and Cattails (*Typha latifolia* L.).

Soils in this area are obviously disturbed because of previous construction. The NRCS Web Soil Survey 2.2 list soils around the southern end of the AOA as Fluvaquents, which are considered hydric.

Hydrology in this area is provided by normal precipitation and surface runoff. Drainage in the channels in impoundment of waters in the basin cause wetlands to continue to exist and even expand.

Wetlands Area N.

Area N. is a 1,637 linear foot long stormwater ditch on the west (W) side of the airport runway and is within the RSA. This constructed and managed structure carries precipitation and surface water runoff from the runway to the south, southeast (SSE) as part of the facility's stormwater management system.

Most of the soils in this area are non-hydric and show extreme mixing because of previous construction activity. However, a short segment of this feature passes through a section of Aquults which are listed as hydric by the NRCS web soil survey. In this section of the ditch, wetland hydrology is maintained for longer time periods because of soil composition. In this section clumps of Black Willow (*Salix nigra* L.), Giant Bulrush (*Scirpus acutus* L.), Soft Rush (*Juncus effusus* L.) and Smartweed (*Polygonum punctatum* Ell.) are present. Broad-leaved Cattail (*Typha latifolia* L.) is also present.

Wetland Area O.

This wetland is an extension of a stormwater control ditch which is parallel to the runway and runs to the north, northwest (NNW) for a distance of 1,584 linear feet. This structure is also a constructed and maintained feature as part of the stormwater management system of the airport. Waters contained in this structure are intermittent and may be considered as relatively permanent waters (RPW) of the US.

Vegetation growing in this feature is Black Willow (*Salix nigra* L.), clumps of Giant Bulrush (*Scirpus tabernaemontana* K.C. Gmel), Soft rush (*Juncus effusus* L.), Saw Grass (*Cladium jamaicense* Crantz.), Broad-leaved Cattails (*Typha latifolia* L.), and Wax Myrtle (*Myrica cerifera* L.). Saplings and shrubs also present are Sweetgum (*Liquidambar styraciflua* L.), Red Maple (*Acer rubrum* L.), and Loblolly Pine (*Pinus taeda* L.).

Soils on the area are disturbed due to construction, however the NCRS Web Soil Survey indicates that a section of the ditch contains Aqualts which are considered hydric or wet soils.

Wetland hydrology in the ditch is maintained through normal precipitation or stormwater events. This makes waters in the ditch intermittent which might be categorized as relatively permanent waters (RPWs) of the US because of the function and construction of the feature.

Wetlands Area P.

Wetlands in this area are in a small drainage feature to the north, northwest (NNW) of the end of Runway 15. The nature of the topography and the continued control of vegetation in the area make the site one of Palustrine, emergent (PEM) wetlands.

Vegetation in the area consists of small saplings of Red Maple (*Acer rubrum L.*), and Sweetgum (*Liquidambar styraciflua L.*). Clumps of Giant Bulrush (*Scirpus tabernaemontani K.C. Gmel.*), Soft Rush (*Juncus effusus L.*), Smartweeds (*Polygonum punctatum Ell.*), and Saw Grass (*Cladium jamicense Crantz*).

Soils in the area are Colfax fine sandy loam, variant, 0 to 4 percent slopes. These are classified as hydric soils in Chesterfield County, Virginia.

Wetland hydrology in this area is exhibited by the fact that the soil is saturated at a depth of only 6 inches. The drainage patterns in these wetlands also confirm primary wetlands hydrology.

Wetlands Area Q.

Area Q. is a 0.72 acres Palustrine, emergent (PEM) wetlands southeast (SE) of Area P.. The site is only separated from Q by the presence of non-hydric soils between the two (2) locations.

Dominant vegetation species in this area are the same as those of Area P. with the addition of clumps of Chufa (*Cyperus esculentus L.*) and Wool Grass (*Scirpus cyperinus (L.) Kunth*).

Soils at this location are extensions of Colfax fine sandy loam, variant, 0 to 4 percent slopes. The soils are also saturated to a shallow depth indicating wetland hydrology.

Wetland Area R.

Area R. is a 264 linear foot long stormwater management ditch at the southeast (SE) end of the airport. The structure collects runoff from Whitepine Road as well as from the area south (S) of the road.

Vegetation in or on the edge of the ditch consists of clumps Black Willow (*Salix nigra* L.). Buttonbush (*Cephalanthus occidentalis* L.), Blackberry bushes (*Rubus spp.*) and stands of Common Greenbrier (*Smilx rotundifolia* L.). Soft rush (*Juncus effusus* L.) and other species of rushes are present along with Wool Grass (*Scirpus cyperinus* (L.) Kunth), Giant Bulrush (*Scirpus tabernaemontani* K.C. Gmel.). Broad-leaved Cattails (*Typha latifolia* L.) is also found growing in the ditch.

Soil in this location is Dunbar fine sandy loam, 0 to 4 percent slopes. This type is listed as hydric or wetland soil in Chesterfield County, Virginia.

Wetland hydrology is shown by the function of the ditch and the presence of water on a frequent, if not permanent basis.

Wetlands Area S.

Area S. is a 2.75± acres Palustrine, forested (PFO) wetlands on the east (E) side of the AOA to the south (S) of the aircraft parking apron.

Dominant vegetation species in this area consists of Loblly Pine (*Pinus taeda* L.), Sweetgum (*Liquidambar styraciflua* L.), Red Maple (*Acer rubrum* L.), Water Oak (*Quercus nigra* L.), Live Oak (*Quercus virginiana* L.), and Sweet Bay Magnolia (*Magnolia virginiana* L.) in the overstory or tree strata. The sapling/shrub layer of the area has as dominants saplings of the tree species along with Smooth Sumac (*Rhus glabra* L.), Highbush Blueberry (*Vaccinium corymbosum* L.), American Holly (*Ilex opaca* Ait.), and Sweet Pepperbush (*Clethra alnifolia* L.). The drainage channels into and throughout this area contain Broad-leaved Cattails (*Typha latifolia* L.), Wool Grass (*Scirpus cyperinus* (L.) Kunth), Soft Rush (*Juncus effusus* L.), Sedges (*Carex spp.*) and in the wetter locations stands of Black Willow (*Salix nigra* L.). Clumps of blackberry bushes (*Rubus spp.*), and Common Greenbrier (*Smilax rotundifolia* L.) are also present in the understory.

Soil in this area consists of Aquults which are hydric in nature.

Wet hydrology is maintained throughout the location by stormwater and surface sheet flow from the apron area and adjacent RSA being channelized into the area. This causes discreet drainage patterns to occur in the wetlands and saturate the soils.

Atypical Situation Site.

A Chesterfield County Fire Department station is located on the east (E) side of Airfield Drive, approximately 0.2 miles from the intersection of this road and Whitepine Road to the south (S). The area to the southeast (E) of the station is a disturbed open field environment which was obviously cleared when site work was completed for construction of the fire station. Soils in this location are disturbed and mixed and the topography of the area is rutted and contains numerous small channels and depressions.

Even though the soil is mixed, the NRCS Web Soil Survey indicates that a portion of this open field consists of Aquults which are listed as hydric in Chesterfield County, Virginia.

Vegetation in this location is a combination of small saplings, various shrubs, and herbaceous species. Wet species such as sedges (*Carex spp.*), Wool Grass (*Scirpus cyperinus* (L.) Kunth), Soft Rush (*Juncus effusus* L.), and Chufa (*Cyperus esculentus* L.) dominate the depressions and channels.

Wet hydrology exists at this location only in the lowest points of the site because of the sloping terrain. Waters are carried through the site in the numerous channels but off the area to the east, southeast (ESE).

Before this open field location is considered for any form of development activity, the area should be examined as an atypical created wetlands. Representatives from the Corps of Engineers (COE) and Department of Environmental Quality (DEQ) should concur on this area's status.

SUMMARY

During the wetlands survey over 700± acres of the Chesterfield Airport was reviewed and evaluated for wetlands characteristics. The survey produced 65.28 acres of wetlands, 98.0 percent of which was Palustrine, forested (PFO) type and 6,241 linear feet of stream channels, the bulk of which have been constructed and serve as part of the stormwater management system of the airport.

REERENCES

- Alden, Peter et al., Ed. 1999, National Audubon Society Field Guide to the Mid-Atlantic States, Alfred A. Knopf, Inc., New York, NY, 447 pp.
- Fernald, M.L., 1950. Gray's Manual of Botany, 8th Edition. American Book Company, New York, NY, 1632 pp.
- Silberhorn, Gene M., 1999. Common Plants of the Mid-Atlantic Coast: A Field Guide, The John Hopkins University Press, Baltimore, MD, 294 pp.
- US Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi, 100 pp. W/Appendices.
- US Department of Agriculture, Soil Conservation Service. 1991. Hydric Soils of the United States, 3d Edition, Miscellaneous Publication Number 1491, Washington, D.C., 564 pp.
- US Department of Agriculture, Natural Resources Conservation Service. 2009 Web Soil Survey 2.2 of Chesterfield County, Virginia, Washington, D.C.
- US Fish and Wildlife Service, Biological Services Program, 1979. Classification of wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31, US Department of the Interior, Washington, D.C., 103 pp.



DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-1096

June 30, 2011

PRELIMINARY JURISDICTIONAL DETERMINATION

Southern Virginia Regulatory Section
2007-00012 (Reedy Creek)

Mr. Matt Neely
Mill Creek Environmental Consultants, LTD
11400 Longtown Drive
Midlothian, Virginia 23112

Dear Mr. Neely:

This letter is in regard to your request for a preliminary jurisdictional determination for Chesterfield County Airport located west of Route 10 and north of Route 288, in Chesterfield County, Virginia.

The wetland delineation map prepared by Mill Creek entitled "Wetlands Mapping, Chesterfield County Airport, Richmond, Virginia" dated February 2010, received by the Corps on June 22, 2011 and on file with the Corps, provides the location of wetlands on the property listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual, the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation, and the presence of an ordinary water mark.

Discharges of dredged or fill material, including those associated with mechanized landclearing, into waters and/or wetlands on this site may require a Department of the Army permit and authorization by state and local authorities including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps preliminary jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

This is a preliminary jurisdictional determination and is therefore not a legally binding determination regarding whether Corps jurisdiction applies to the waters or wetlands in question. Accordingly, you may either consent to jurisdiction as set out in this preliminary jurisdictional determination and the attachments hereto if you agree with the determination, or you may request and obtain an approved jurisdictional determination.

This delineation of waters and/or wetlands is valid for a period of five years from the date of this letter unless new information warrants revision prior to the expiration date. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form" for your records. Please review the document, sign it and return it as an e-mail attachment to silvia.b.gazzera@usace.army.mil within 30 days of receipt and keep one for your records.

Please contact Dr. Silvia Gazzera in the Richmond Field Office at 9100 Arboretum Parkway, Suite 235, Richmond, Virginia 23236, (804) 212-6817 with any questions.

Sincerely,

GAZZERA.SILVIA.B.
1242826155

Digitally signed by GAZZERA.SILVIA.B.1242826155
DN: cn=US, o=U.S. Government, ou=DoD, ou=PKL,
ou=USA, cn=GAZZERA.SILVIA.B.1242826155
Date: 2011.06.30 10:59:15 -0400

Silvia B. Gazzera, Ph.D
Environmental Scientist

Attachments:
Preliminary JD Form
Supplemental Preapplication Information

Copy Furnished w/out enclosures:
Virginia Department of Environmental Quality, Glen Allen, Virginia
Chesterfield County, Department of Environmental Engineering, Chesterfield, Virginia.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION:

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): Thursday, June 30, 2011

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Delta Airport Consultants, Inc.
8008 Corporate Center Drive, Suite 300
Charlotte, NC 28226

C. DISTRICT OFFICE: Norfolk District (CENAO-REG)

FILE NAME: Chesterfield County Airport

FILE NUMBER: 2007-00012

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: **VIRGINIA** County/parish/borough: Chesterfield City:

Center coordinates of site (lat/long in degree decimal format):

Latitude: 37-24-16 ° N Longitude: 77-31-16 ° W

Universal Transverse Mercator:

Name of nearest waterbody: Reedy Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 9,061 linear feet; width (ft); and/or acres.

Cowardin Class: R4

Stream Flow:

Wetlands: 66.61 acres

Cowardin Class: 50.51 (PFO), 9.44 (PSS), 6.66 (PEM)

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

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

Office (Desk) Determination. Date:

Field Determination. Date(s): May 12, 2011, June 16, 2011

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.
3. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply) - checked items should 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: Wetland map prepared by Mill Creek Consultants entitled "Wetland Mapping, Chesterfield County Airport, Richmond, Virginia" dated February 10, 2011 and received by the Corps on June 22, 2011.

- 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: Chesterfield 1" = 2000'
- 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: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
or Other (Name & Date):
- Previous determination(s):

File no. and date of response letter:

- Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

GAZZERA.SILVI
A.B.1242826155

Digitally signed by
GAZZERA.SILVI.A.B.1242826155
DN: c=US, o=U.S. Government, ou=DoD,
ou=HQ, ou=USA,
cn=GAZZERA.SILVI.A.B.1242826155
Date: 2011.10.05 08:47:38 -0400

Signature
Regulatory Project Manager
(REQUIRED)

2011-06-30

Date

Signature of person requesting
Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

Date



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-109

JUNE 30, 2001

Supplemental Preapplication Information

Project Number: 2007-00012

Applicant: Delta Airport Consultants, Inc.

Project Location:

1. A search of the Virginia Department of Historic Resources data revealed the following:

- No known historic properties are located on the property.
- The following known architectural resources are located on the property:
- The following known archaeological resources are located on the property:
- The following known historic resources are located in the vicinity of the property (potential for effects to these resources from future development):

NOTE:

- 1) *The information above is for planning purposes only. In most cases, the property has not been surveyed for historic resources. Undiscovered historic resources may be located on the subject property or adjacent properties and this supplemental information is not intended to satisfy the Corps' requirements under Section 106 of the National Historic Preservation Act (NHPA).*
 - 2) *Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.*
2. A search of the data supplied by the Virginia Department of Conservation and Recreation and the Virginia Department of Game and Inland Fisheries revealed the following:

- No known populations of threatened or endangered species are located on the property or within a one to two mile radius.
- The following federally-listed species are known to be within a one to two mile radius of the property:
- The following state-listed (or other) species are known to be within a three mile radius of the property: Upland sandpiper, Loggerhead Shrike, Barking tree frog, Bald Eagle, Migrant loggerhead shrike.

Please note this information is being provided to you based on the preliminary data you submitted to the Corps relative to project boundaries and project plans. Consequently, these findings and recommendations are subject to change if the project scope changes or new information becomes available and the accuracy of the data.

SAMPLE

Site Number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1	37.4036458	-77.5214740	PSS	9.44 acres	section 404
2	37.4036458	-77.5214740	PEM	6.66 acres	section 404
3	37.4036458	-77.5214740	PFO	50.51 acres	section 404
4	37.4036458	-77.5214740	R4	9,061lf	section 404
5					
6					



MillCreek

Environmental Consultants, LTD

**Technical Report:
Wetlands Survey, Delineation,
and Jurisdictional Determination (JD)
Chesterfield County Airport (FCI)
Chesterfield, VA**

Prepared for:

**Delta Airport Consultants, Inc.
1805 Sardis Road North, Suite 101
Charlotte, NC 28270**

19 November 2012

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Introduction

Mill Creek Environmental Consultants, Ltd. recently completed a wetlands survey and delineation of these type ecosystems in the vicinity of the Chesterfield County Airport, Chesterfield Virginia. The survey area boundary consists of two (2) distinct parcels. One (1) survey area is located to the southeast (SE) of the airport runway and the other to the northwest (NW) as depicted in Appendix 1. The purpose of the wetlands survey and delineation was to provide current information and data on the location and type of the wetlands within the two survey areas in preparation for an update to the airport's master plan. This knowledge is to be used for the planning and design of that master plan in order to facilitate the avoidance or minimization to any waters of the United States.

Methods

The wetlands delineation was performed according to technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbor Act. This guidance and procedures is found in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) as well as in the actual Corps of Engineers Wetlands Delineation Manual (TR Y-87-1).

The USDA Natural Resource Conservation Service (NRCS) Soil Survey Chesterfield County, Virginia (2010), USF&WS National Wetlands Inventory (NWI) mapping, and Google Earth Aerials along with other available information was reviewed prior to and during the field survey.

Area Characteristics

Site Location and Drainage

The delineation was comprised of two (2) distinct survey areas, 49.1± acres to the northwest (NW) of the airport runway/runway safety area, and 39.1± acres southeast (SE) of the airport runway/runway safety area, as seen in Appendix 1.

Each survey area drains to opposite directions; however both eventually drain to the lower James River watershed. Topography in the northwest (NW) survey area ranges between 190-220 feet above mean sea level. Waters originating within this survey area flow northwest (NW) into Licking Creek, which feeds Falling Creek that drains into the lower James River. Topography within the southeast (SE) survey area is relatively flat and more gently sloping with a range between 180-190 feet above mean sea level. Waters originating within this survey area flow east into a small unnamed tributary of Reedy Creek and eventually the Lower James River.

Topographic vicinity maps of each survey area can be found in Appendix 2.

General Description of the Site.

Both survey areas start relatively flat at their boundary closest to the airport and slope away towards the dominant hydrologic feature within or in the vicinity of the boundary. The vegetation within each survey area is significantly different and varies considerably within each one. The northwest (NW) survey area is comprised of maintained open fields, urban development such as buildings and roads, as well as a mature mixed hardwood/pine forest with substantial tree height. The southeast (SE) survey area is comprised maintained open fields, urban development such as buildings and roads, scrub shrub and emergent vegetated areas as

well as small immature forested areas. A further discussion about the vegetation specific to each survey area follows in a subsequent section.

Hydrology

The hydrology of both survey areas is dominated by their proximity to the Lower James River watershed (HUC 02080206). Waters originating within the northwest (NW) survey area flow via groundwater and overland sheet-flow northwest (NW) into Licking Creek which empties into Falling Creek that leads to the James. Waters originating within the southeast (SE) survey area flow via groundwater and overland sheet-flow east (E) into a unnamed branch and then into Reedy Creek, and eventually the Lower James.

Soils

The soil survey of Chesterfield County, VA (USDA, NRCS Web Soil Survey 2010) shows six (6) different soil series located within the northwest (NW) survey area boundary. Of these, the only soils listed as hydric by the NRCS are a section of Aquults in the eastern part of the survey area. The other soil series within the survey area consisted of sandy loams with varying textures, portions of which, displayed hydric indicators that will be discussed in a later section.

Like the northwest (NW) survey area, the southeast (SE) survey area contains six (6) different soil series. Of these, only one series, Aquults, is listed hydric by the NRCS. Four (4) of the other soil series consist of varying textures of sandy loams common to this region. While not listed as hydric, hydric soil indicators were found in multiple locations within the soil profile, facilitating a wetland determination that is discussed later. Soil Survey information regarding specific series and mapped types can be found in Appendix 3.

Vegetation.

Vegetation within the northwest (NW) survey area ranges from low mowed grassy fields to mature forested areas. The maintained emergent/mowed areas consist of vegetation common throughout the region such as blackberry (*Rubus spp.*), smooth crabgrass (*Digitaria ischaemum*), Broomsedge (*Andropogon virginicus L.*), Chinese bush clover (*Lespedeza cuneata*), common buttonweed (*Diodia teres* Walter) and purpletop (*Tridens flavus L.*) in the upland areas, and species such as tufted love grass (*Eragrostis pectinacea*), tapered rosette grass (*Dichanthelium acuminatum*), and deertongue (*Dichanthelium clandestinum L.*) in the wet areas. There is also a wide variety of forested vegetation present within the northwest (NW) survey area. Forested vegetation found in upland areas was dominated by species such as white oak (*Quercus alba*), black oak (*Quercus velutina*), American holly (*Ilex opaca Aiton.*), tuliptree (*Liriodendron tulipifera L.*), dogwood (*Cornus florida L.*), and varying species of hickory (*Carya spp.*) while the lower wet areas were dominated by species such as red maple (*Acer rubrum L.*), sweetgum (*Liquidambar styraciflua L.*), Loblolly pine (*Pinus taeda L.*), blackgum (*Nyssa sylvatica L.*), and sweetbay (*Magnolia virginiana L.*).

Vegetation within the southeast (SE) survey area ranges from emergent grassy areas to immature forested areas that have been previously cut. Upland vegetation consists of winged sumac (*Rhus copallina*), Chinese bush clover (*Lespedeza cuneata*), purpletop (*Tridens flavus L.*), broomsedge (*Andropogon virginicus L.*) and blackberry (*Rubus spp.*) in the herb stratum, with southern red oak (*Quercus falcata*), and white oak (*Quercus alba*) dominating in the tree stratum. Wet areas are dominated by tapered rosette grass (*Dichanthelium acuminatum*), Virginia buttonweed

(*Diodia virginiana*), fall panic grass (*Panicum dichotomiflorum* Michx.), common reed (*Phragmites australis*), and common rush (*Juncus effusus* L.) in the emergent and scrub shrub stratum, with species such as red maple (*Acer rubrum* L.), blackgum (*Nyssa sylvatica*), and Loblolly pine (*Pinus taeda* L.) dominating the tree stratum.

Wetland Discussion

The wetland delineation of the northwest (NW) survey area revealed the presence of approximately 3.3± acres of palustrine forested (PFO) wetlands, 2.1± acres of palustrine emergent (PEM) wetlands, 2318.3± linear feet of intermittent stream segments, and one pond totaling .06 ± acres of open water. The forested wetlands within the northwest (NW) survey area primarily consist of small floodplains associated with the intermittent streams that drain to Licking Creek. These areas are comprised of mature forested vegetation with sparse groundcover. Mature tree species within these wetland areas include red maple (*Acer rubrum* L.), sweetgum (*Liquidambar styraciflua* L.), Loblolly pine (*Pinus taeda* L.), blackgum (*Nyssa sylvatica* L.), and sweetbay (*Magnolia virginiana* L.). While the majority of the soils in the northwest (NW) survey area are not listed as hydric for the exception of the Aquults, the low wet areas within the PFO boundaries possess hydric soil indicators within the soil profile, the most common of these being a depleted matrix. These indicators along with the vegetation and hydrological characteristics lead to the determination of an area being a wetland. The emergent (PEM) wetlands found within the northwest (NW) survey consist of 2.1± acres, most of which is located in a mowed field. Vegetation within these wetlands is dominated by tufted love grass (*Eragrostis pectinacea*), tapered rosette grass (*Dichanthelium acuminatum*), and deertongue (*Dichanthelium clandestinum* L.). Like the PFO wetlands, soils here exhibit a depleted matrix, in addition to the manganese masses within the profile. This in conjunction oxidized rhizospheres on living roots and saturation within the upper 12 inches of the profile in certain locations led to this wetland determination. A wetland delineation map of this area can be seen in Appendix 4.

The wetland delineation of the southeast (SE) survey area revealed the presence of approximately 4.7± acres of palustrine forested (PFO) wetlands, 4.2± acres of palustrine emergent (PEM) wetlands, .35± acres of palustrine scrub shrub (PSS) wetlands, 1096.4± linear feet of intermittent stream, and .11± acres of open water. The forested wetlands within the southeast (SE) survey area are adjacent to both the intermittent streams and open water found within the survey area. Vegetation within these areas is dominated by species such as red maple (*Acer rubrum* L.), blackgum (*Nyssa sylvatica*), Loblolly pine (*Pinus taeda* L.), and sweetgum (*Liquidambar styraciflua* L.). Soils within these forested areas possess depleted matrices. This combined with oxidized rhizomes on living roots and in some areas, saturation high in the profile, led to the wetland determination. The emergent wetlands within the southeast (SE) survey area are located adjacent to the unnamed intermittent branch that leads to Reedy Creek. Vegetation in these areas is dominated by wet emergent such as tapered rosette grass (*Dichanthelium acuminatum*), Virginia buttonweed (*Diodia virginiana*), fall panic grass (*Panicum dichotomiflorum* Michx.), common reed (*Phragmites australis*), and common rush (*Juncus effusus* L.). A depleted soil matrix accompanied by secondary indicators such as drainage patterns led to the determination in this area. The .35± acres of PSS wetlands is merely a small buffer of shrubs that surround the intermittent stream bed for part of its course. A wetland delineation map of this area can be seen in Appendix 4.

Summary

The wetlands delineation of both survey areas revealed 8.0± acres of PFO wetlands, 6.3± acres of PEM wetlands, .35± acres of PSS wetlands and .17± acres of open water. This delineation was confirmed by Ms. Silvia Gazzera of the US Army Corps of Engineers and Mr. William Pfeifle of the Virginia Department of Environmental Quality. Any dredging or filling activities within these areas may require the issuance of a permit. Consultation with both agencies is required before any activities within the delineated wetland boundaries.



DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-1096

November 13, 2012

PRELIMINARY JURISDICTIONAL DETERMINATION

Southern Virginia Regulatory Section
2007-00012 (Reedy Creek, Licking Creek)

Mr. Matt Neely
Mill Creek Environmental Consultants, LTD
11400 Longtown Drive
Midlothian, Virginia 23112

Dear Mr. Neely:

This letter is in regard to your request for a preliminary jurisdictional determination for 2 parcels of land located north and south of the Chesterfield County Airport, north of Route 288, in Chesterfield County, Virginia.

The wetland delineation maps prepared by Mill Creek entitled "Chesterfield County Airport Wetland Delineation Southeast Survey Area" and "Chesterfield County Airport Wetland Delineation Northwest Survey Area" and on file with the Corps, provides the location of wetlands on the property listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual, the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation, and the presence of an ordinary water mark.

Discharges of dredged or fill material, including those associated with mechanized landclearing, into waters and/or wetlands on this site may require a Department of the Army permit and authorization by state and local authorities including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps preliminary jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

This is a preliminary jurisdictional determination and is therefore not a legally binding determination regarding whether Corps jurisdiction applies to the waters or wetlands in question. Accordingly, you may either consent to jurisdiction as set out in this preliminary jurisdictional determination and the attachments hereto if you agree with the determination, or you may request and obtain an approved jurisdictional determination.

This delineation of waters and/or wetlands is valid for a period of five years from the date of this letter unless new information warrants revision prior to the expiration date. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form" for your records. Please review the document, sign it and return it as an e-mail attachment to silvia.b.gazzera@usace.army.mil within 30 days of receipt and keep one for your records.

Please contact Dr. Silvia Gazzera in the Richmond Field Office at 9100 Arboretum Parkway, Suite 235, Richmond, Virginia 23236, (804) 212-6817 with any questions.

Sincerely,

GAZZERA.SILVIA.B
.1242826155

Digitally signed by GAZZERA.SILVIA.B.1242826155
DN: c=US, o=U.S. Government, ou=DoD, ou=PKA,
ou=USA, cn=GAZZERA.SILVIA.B.1242826155
Date: 2012.11.13 17:07:27 -05'00'

Silvia B. Gazzera, Ph.D
Environmental Scientist

Attachments:
Preliminary JD Form
Supplemental Preapplication Information

Copy Furnished:
Virginia Department of Environmental Quality, Glen Allen, Virginia
Chesterfield County, Department of Environmental Engineering, Chesterfield, Virginia.

Chesterfield County Airport Wetland Delineation Northwest Survey Area

Coordinate System: NAD 1983 State Plane Virginia South FIPS 4502 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
False Easting: 11,482,916.6667
False Northing: 3,280,833.3333
Central Meridian: -78.5000
Standard Parallel 1: 36.7667
Standard Parallel 2: 37.9667
Latitude Of Origin: 36.3363
Units: Foot US

Legend

⊗ Data points

▭ Survey Area Boundary

Stream = approx. 2318.3 linear feet

PFO = approx. 3.3 acres

PEM = Approx 2.1 acres

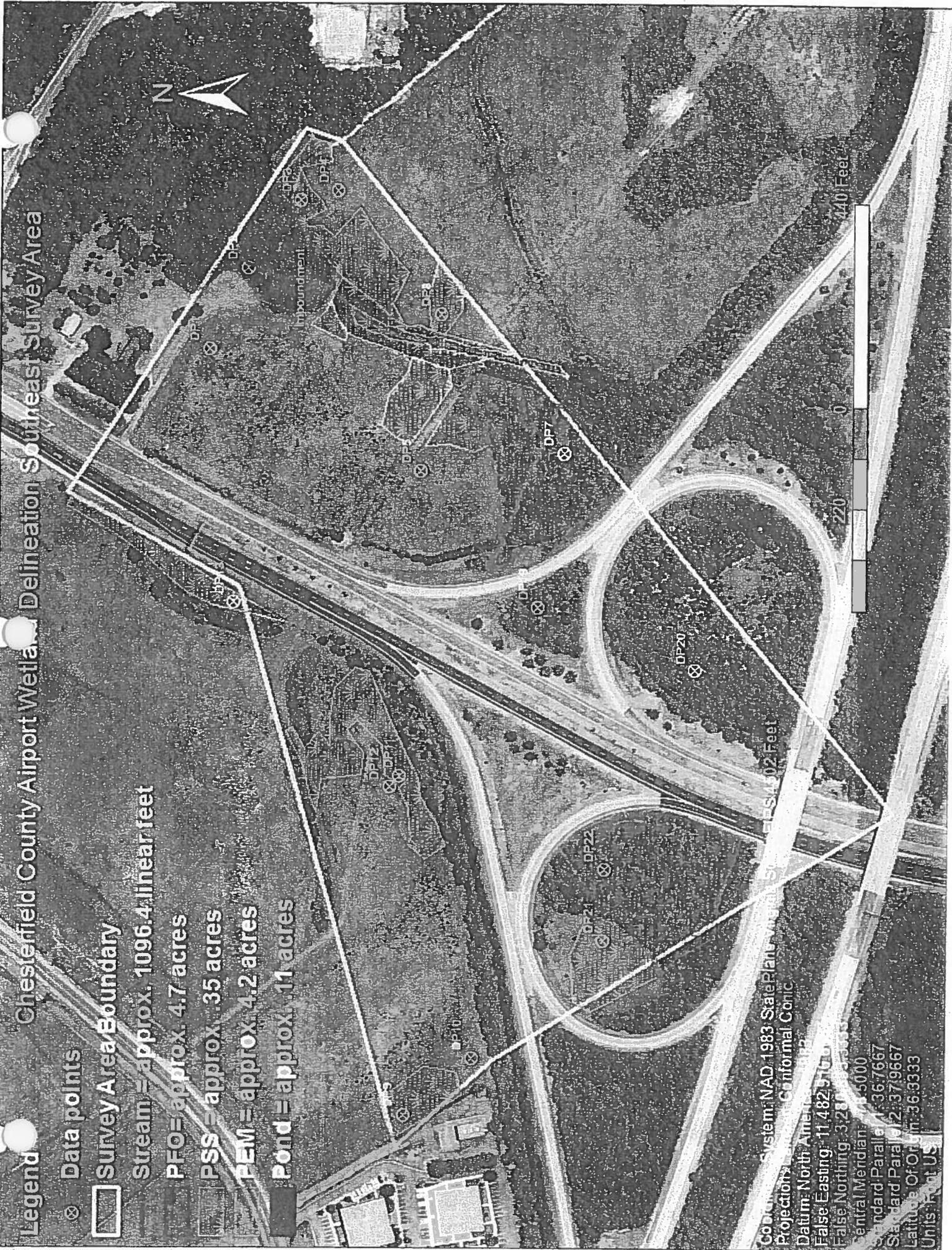
Pond = approx. .06 acres



Chesterfield County Airport Wetland Delineation Southeast Survey Area



- ⊗ Data points
- ▭ Survey Area Boundary
- Stream = approx. 1096.4 linear feet
- PFO = approx. 4.7 acres
- PSS = approx. 35 acres
- PEM = approx. 4.2 acres
- Pond = approx. 11 acres



Coordinate System: NAD:1983 StatePlaneVirginiaSouth TPS:102 Feet
Projection: Transverse Conformal Conic
Datum: North American 1983
False Easting: 11482.5160
False Northing: 32500.0000
Central Meridian: -77.5000
Standard Parallel 1: 36.7667
Standard Parallel 2: 37.9667
Latitude Of Origin: 36.3333
Units: Feet US

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION:

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): Tuesday, November 13, 2012

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Chesterfield County Airport

C. DISTRICT OFFICE: Norfolk District (CENAO-REG)

FILE NAME: Chesterfield County Airport

FILE NUMBER: 2007-00012

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: **VIRGINIA** County/parish/borough: Chesterfield City:

Center coordinates of site (lat/long in degree decimal format):

Latitude: 37-23-45 ° N Longitude: 77-30-49 ° W

Universal Transverse Mercator:

Name of nearest waterbody: Reedy Creek, Licking Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 3414.7 linear feet; width (ft); and/or acres.

Cowardin Class: R4

Stream Flow:

Wetlands: 14.82 acres

Cowardin Class: PFO, PSS, PEM, POW

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

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

Office (Desk) Determination. Date:

Field Determination. Date(s): 11/8/2012

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.
3. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply) - checked items should 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:
Wetland delineation map entitled "Chesterfield County Airport Wetland Delineation Southeast Area" and "Chesterfield County Airport Wetland Delineation Northwest Area"

- 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: Chesterfield 1" = 2000'
- USDA Natural Resources Conservation Service Soil Survey.

Citation:
- National wetlands inventory map(s). Cite name: U.S.F.W.S.
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
or Other (Name & Date):
- Previous determination(s):
File no. and date of response letter:
- Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

GAZZERA.SILVI
A.B.1242826155

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GAZZERA.SILVI.A.B.1242826155
DN: cn=US, o=U.S. Government, ou=DoD,
sn=PRO, email=GAZZERA.SILVI.A.B.1242826155
Date: 2012.11.05 08:47:38 -0400

Signature
Regulatory Project Manager
(REQUIRED)

2012-11-13

Date

Signature of person requesting
Preliminary JD
(REQUIRED, unless obtaining the signature is
impracticable)

Date

SAMPLE

Site Number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
5	37.3958498	-77.5139509	PFO	4.7 acres	section 404
6	37.3958498	-77.5139509	PEM	4.2 acres	section 404
7	37.3958498	-77.5139509	PSS	0.35 acre	section 404
8	37.3958498	-77.5139509	R4	1096.4 lf	section 404
9	37.3958498	-77.5139509	POW	0.11 acre	section 404



MillCreek

Environmental Consultants, LTD

**Technical Report:
Supplement to the
Wetlands Survey, Delineation,
and Jurisdictional Determination (JD)
Chesterfield County Airport (FCI)
Chesterfield, VA**

Prepared for:

**Delta Airport Consultants, Inc.
1805 Sardis Road North, Suite 101
Charlotte, NC 28270**

14 June 2013

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Introduction

Mill Creek Environmental Consultants, Ltd. recently completed a wetlands survey and delineation of these type ecosystems in the vicinity of the Chesterfield County Airport, Chesterfield Virginia. After completion of this study and confirmation by the US Army Corps of Engineers, Mill Creek was asked to conduct a supplemental survey and delineation on additional parcels, the majority of which exist in the VDOT right of way within Rt. 288 and Rt. 10. This study was completed and confirmation has been received from Ms. Silvia Gazzera of the US Army Corps of Engineers. The additional survey areas outside of the original were delineated and confirmed. The purpose of the wetlands survey and delineation was to provide current information and data on the location and type of the wetlands within the additional survey areas in preparation for an update to the airport's master plan. This knowledge is to be used for the planning and design of that master plan in order to facilitate the avoidance or minimization to any waters of the United States.

Methods

The wetlands delineation was performed according to technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbor Act. This guidance and procedures is found in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) as well as in the actual Corps of Engineers Wetlands Delineation Manual (TR Y-87-1).

The USDA Natural Resource Conservation Service (NRCS) Soil Survey Chesterfield County, Virginia (2010), USF&WS National Wetlands Inventory (NWI) mapping, and Google Earth Aerials along with other available information was reviewed prior to and during the field survey.

Area Characteristics

Site Location and Drainage

The supplemental survey area was comprised of eleven (11) additional survey areas outside of the original boundary (see Appendix 1). The total combined acreage of these areas is approximately 12± acres. All additional survey areas drain to constructed storm water management ditches or small unnamed creeks that lead into Proctor's Creek, then Falling Creek, and eventually the lower James River.

General Description of the Site.

All 11 survey areas are in the vicinity of the Southeast (SE) corner of Chesterfield County Airport (FCI). Eight (8) of these distinct survey areas lie within VDOT right of ways for Rt. 288 and Rt. 10, while three (3) separate areas can be seen adjacent to the industrial park to the south and a residence along Rt. 10 to the north (N) (see Appendix 1).

Hydrology

The hydrology of both survey areas is dominated by their proximity to the Lower James River watershed (HUC 02080206). Waters originating within survey area flow via groundwater and overland sheet-flow into storm water management ditches and small streams that lead to Proctor's Creek to the east(E) and eventually into Falling Creek that leads to the James.

Soils

The soil survey of Chesterfield County, VA (USDA, NRCS Web Soil Survey 2010) shows four (4) different soil series located within the survey area boundary. Of these, the only soils listed as hydric by the NRCS are a section of Aquults in the southern part of the survey area. The other soil series consist of sandy loams with varying textures, portions of which, displayed hydric indicators that will be discussed in a later section. Soil Survey information regarding specific series and mapped types can be found in Appendix 3.

Vegetation.

Vegetation within the survey areas consists of a dense mature tree strata. Species such as Loblolly pine (*Pinus taeda L.*), Red Maple (*Acer rubrum L.*), Sweetgum (*Liquidambar styraciflua L.*), White Oak (*Quercus alba L.*), Blackgum (*Nyssa sylvatica L.*), Black Oak (*Quercus velutina L.*), and Southern Red Oak (*Quercus falcata L.*) were found throughout. These species of tree are consistent with what is expected in the region. In addition to these dominants, varying Hickories (*carya spp.*) and instances of Eastern Red Cedar (*Juniperus virginiana*) were also noted.

Wetland Discussion

A total of 4.4± acres of palustrine forested wetlands (PFO) were found within the different distinct boundaries of the 12 acres of additional survey area (see Appendix 1). The hydrology within these areas is strongly influenced by the modified grading and topography due to road construction and maintenance. Water flows away from the high road shoulders and down into the medians and clover leaves and infiltrates the ground or slowly moves to storm water ditches or streams that lead to Proctor's Creek. These factors, over time, have contributed to the growth of PFO wetlands. The vegetation within these areas consists of Red Maple (*Acer rubrum L.*), Blackgum (*Nyssa sylvatica L.*), Sweetgum (*Liquidambar styraciflua L.*), and Loblolly Pine (*Pinus taeda L.*) in the mature tree stratum and instances of Highbush Blueberry (*Vaccinium corymbosum L.*) and Horsebrier (*Smilax rotundifolia L.*), in the shrub and woody vine stratum respectively. Within these areas, the soils show depleted matrices which is a characteristic consistent with long durations of anaerobic conditions and is a common soil indicator within wetlands of these soil types.

In addition to the forested wetlands, approximately 793± linear feet of stream/waters of the US were also identified and map (see Appendix 1).

Summary

The supplemental wetland survey and delineation revealed and additional 4.4± acres of PFO wetlands to the southeast (SE) of FCI, the majority of which are located within VDOT right of ways. Additionally, 793± linear feet of stream/waters of the US were also identified and mapped. Grading, clearing, filling, or major activity in these areas or their vicinity may require a permit from the US Army Corps of Engineers, or Virginia Department of Environmental Quality (VADEQ). Prior to commencing any activities, further consultation should be initiated.



**DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-1096**

June 12, 2013

PRELIMINARY JURISDICTIONAL DETERMINATION

Southern Virginia Regulatory Section
2007-00012 (Reedy Creek, Proctors Creek)

Mr. Matt Neely
Mill Creek Environmental Consultants, LTD
11400 Longtown Drive
Midlothian, Virginia 23112

Dear Mr. Neely:

This letter is in regard to your request for a preliminary jurisdictional determination for multiple parcels of land located at and near the intersection of Route 10 and Route 288, in Chesterfield County, Virginia.

The wetland delineation maps prepared by Mill Creek entitled "Chesterfield County Airport Wetland Addendum" received by the Corps on May 13, 2013, and on file with the Corps, provides the location of wetlands on the property listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual, the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation, and the presence of an ordinary water mark.

Discharges of dredged or fill material, including those associated with mechanized landclearing, into waters and/or wetlands on this site may require a Department of the Army permit and authorization by state and local authorities including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps preliminary jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

This is a preliminary jurisdictional determination and is therefore not a legally binding determination regarding whether Corps jurisdiction applies to the waters or wetlands in question. Accordingly, you may either consent to jurisdiction as set out in this preliminary jurisdictional determination and the attachments hereto if you agree with the determination, or you may request and obtain an approved jurisdictional determination.

This delineation of waters and/or wetlands is valid for a period of five years from the date of this letter unless new information warrants revision prior to the expiration date. Enclosed is a copy of the "Preliminary Jurisdictional Determination Form" for your records. Please review the document, sign it and return it as an e-mail attachment to silvia.b.gazzera@usace.army.mil within 30 days of receipt and keep one for your records.

Please contact Dr. Silvia Gazzera in the Richmond Field Office at 9100 Arboretum Parkway, Suite 235, Richmond, Virginia 23236, (804) 212-6817 with any questions.

Sincerely,

GAZZERA.SILVIA.

B.1242826155

Silvia B. Gazzera, Ph.D.
Environmental Scientist

Digitally signed by GAZZERA.SILVIA.B.1242826155
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=USA, cn=GAZZERA.SILVIA.B.1242826155
Date: 2013.06.12 11:04:23 -04'00'

Attachments:
Preliminary JD Form
Supplemental Preapplication Information

Copy Furnished:
Virginia Department of Environmental Quality, Glen Allen, Virginia
Chesterfield County, Department of Environmental Engineering, Chesterfield, Virginia.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION:

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): Wednesday, June 12, 2013

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
Chesterfield County Airport

C. DISTRICT OFFICE: Norfolk District (CENAO-REG)

FILE NAME: Chesterfield County Airport

FILE NUMBER: 2007-00012

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: **VIRGINIA** County/parish/borough: Chesterfield City:

Center coordinates of site (lat/long in degree decimal format):

Latitude: 37-23-38 ° N Longitude: 77-30-50 ° W

Universal Transverse Mercator:

Name of nearest waterbody: Reedy Creek, Proctors Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 793 linear feet; width (ft); and/or acres.

Cowardin Class: R4

Stream Flow:

Wetlands: 4.4 acres

Cowardin Class: PFO

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal:

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

Office (Desk) Determination. Date:

Field Determination. Date(s): 6/15/2013

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.
3. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply) - checked items should 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: Wetland delineation map entitled "Chesterfield County Airport Wetland Addendum" received by the Corps on May 13, 2013.

- 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: Chesterfield 1" = 2000'
- USDA Natural Resources Conservation Service Soil Survey.

Citation:
- National wetlands inventory map(s). Cite name: Corps GIS
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date):
or Other (Name & Date):
- Previous determination(s):

File no. and date of response letter:
- Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

GAZZERA.SILVI
A.B.1242826155

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GAZZERA.SILVI.A.B.1242826155
DN: cn=US, o=U.S. Government, ou=DoD,
ou=PKI, ou=USA,
cn=GAZZERA.SILVI.A.B.1242826155
Date: 2013.06.08 08:47:38 -0400

Signature
Regulatory Project Manager
(REQUIRED)

2013-06-12

Date

Signature of person requesting
Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

Date

SAMPLE

Site Number	Latitude	Longitude	Cowardin Class	Estimated amount of aquatic resource in review area	Class of aquatic resource
1	37.3940535	-77.5139448	PFO	4.4 acres	section 404
2	37.3940535	-77.5139448	R4	793	section 404



DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-109

REPLY TO
ATTENTION OF

JUNE 12, 2013

Supplemental Preapplication Information

Project Number: NAO-2007-00012

Applicant: Chesterfield County Airport

Project Location: Route 10 and Route 288, Chesterfield County, Virginia

1. A search of the Virginia Department of Historic Resources data revealed the following:

3 No known historic properties are located on the property:

The following known architectural resources are located on the property: 020-0641

The following known archaeological resources are located on the property:

The following known historic resources are located in the vicinity of the property (potential for effects to these resources from future development):

NOTE:

1) *The information above is for planning purposes only. In most cases, the property has not been surveyed for historic resources. Undiscovered historic resources may be located on the subject property or adjacent properties and this supplemental information is not intended to satisfy the Corps' requirements under Section 106 of the National Historic Preservation Act (NHPA).*

2) *Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.*

2. A search of the data supplied by the Virginia Department of Conservation and Recreation and the Virginia Department of Game and Inland Fisheries revealed the following:

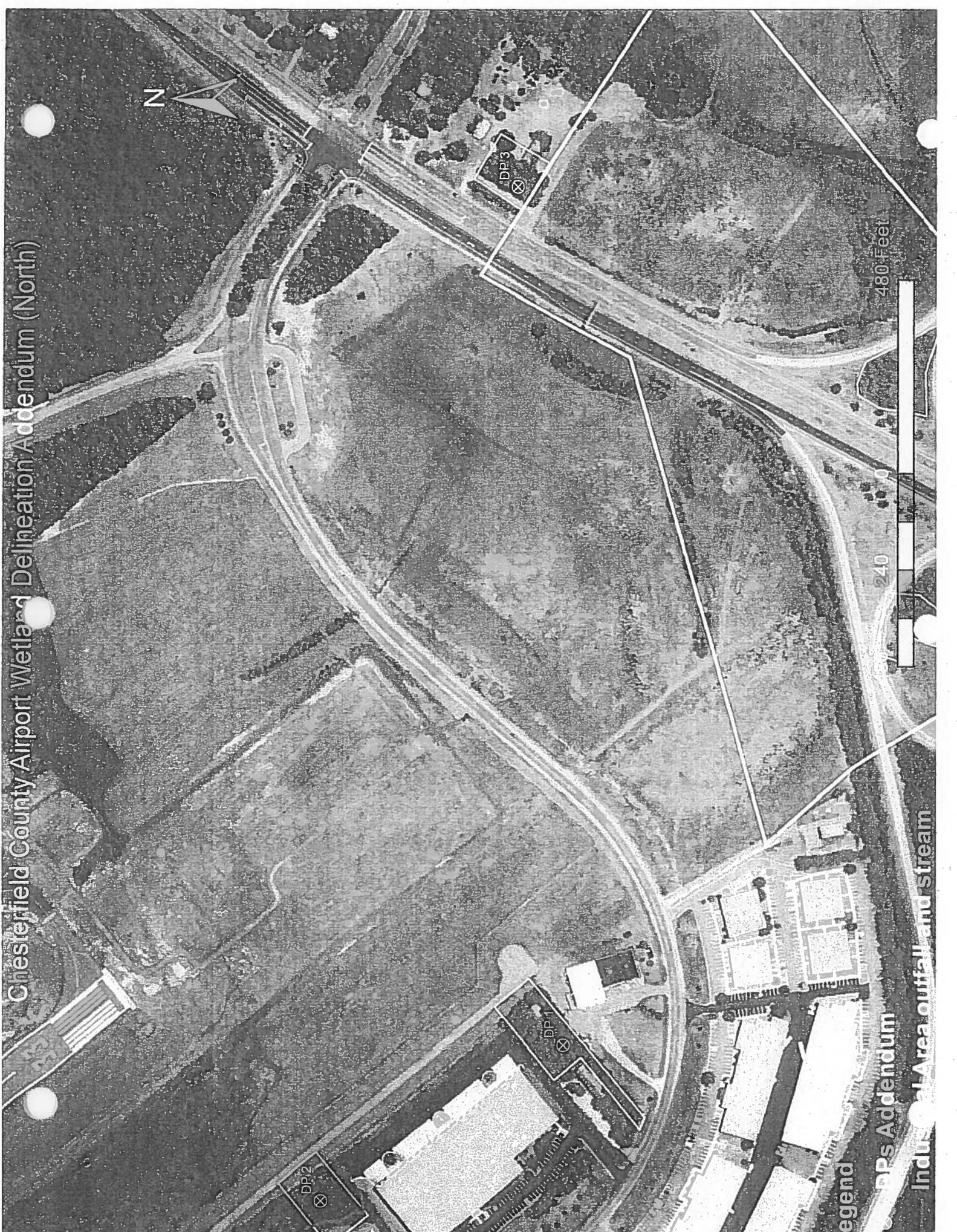
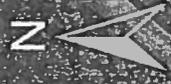
No known populations of threatened or endangered species are located on the property or within a one to two mile radius.

The following federally-listed species are known to be within a one to two mile radius of the property:

The following state-listed (or other) species are known to be within a one to two mile radius of the property:

Please note this information is being provided to you based on the preliminary data you submitted to the Corps relative to project boundaries and project plans. Consequently, these findings and recommendations are subject to change if the project scope changes or new information becomes available and the accuracy of the data.

Westland Delineation Addendum (North)



480 Feet

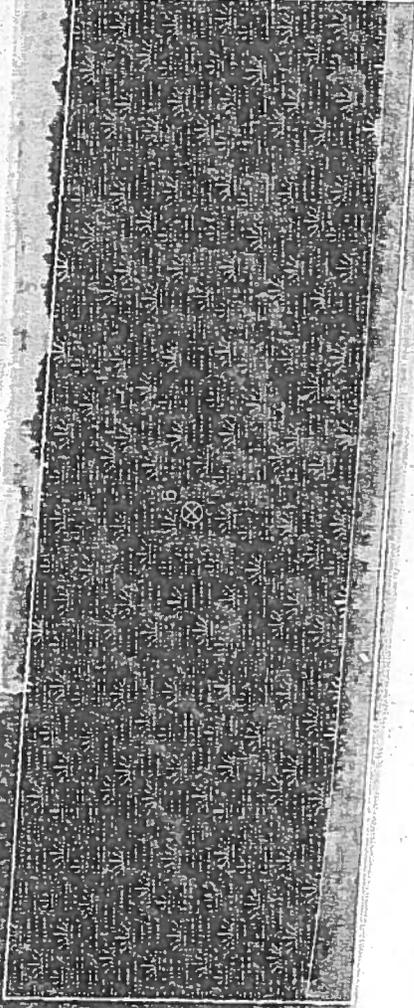
240

Legend

DPs Addendum

Industrial Area outfall and stream

Chesterfield County Airport Wetland Delineation Addendum (East)



Legend

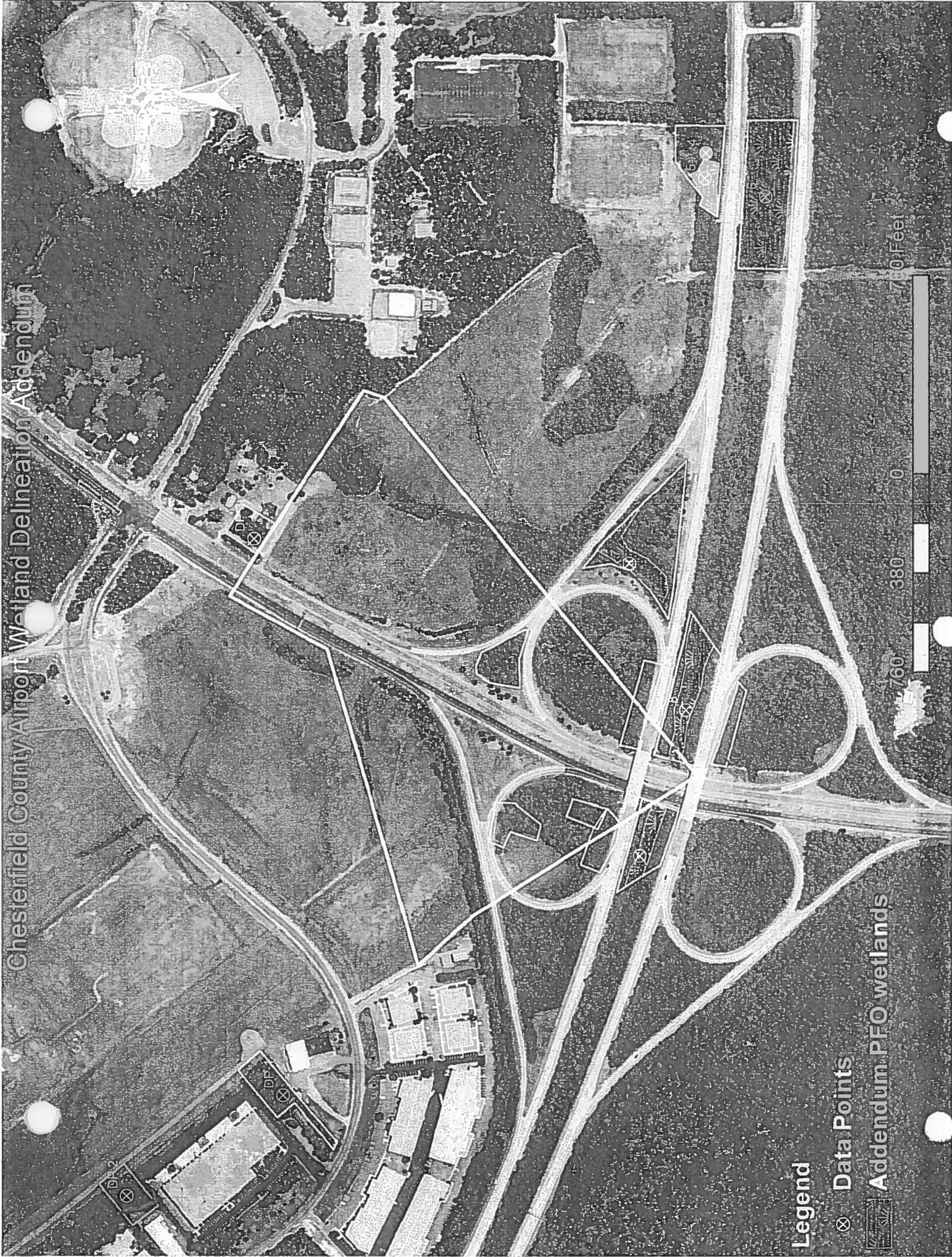
⊗ Data Points

 Addendum PFO wetlands

180 90 0 180 Feet



Chesierfield County Airport Wetland Delineation Addendum



Legend

⊗ Data Points

▭ Addendum PFO wetlands

70 Feet

380

760

Chesterfield County Airport Wetland Delineation Addendum (South)



Legend

⊗ Data Points

▭ Stream

▭ Addendum PFO wetlands

275 137.5 0 275 Feet

