JURISDICTIONAL WETLAND DELINEATION REPORT

Virginia Offshore Wind Technology Advancement Project (VOWTAP)

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TABLE OF CONTENTS

1		ODUCTION	
	1.1	Project Area	
2		ECT DESCRIPTION	
	2.1	Onshore Route Alternative 1 (Preferred Alternative)	
	2.2	Onshore Route Alternative 2	
	2.3	Onshore Route Alternative 3 (A and B)	
3	METI	HODS	6
4	RESU	LTS	
	4.1	Onshore Route Alternative 1 (Preferred Alternative)	8
	4.2	Onshore Route Alternative 2	
	4.3	Onshore Cable Alternative 3	
	4.4	Interconnection Station	10
5	SUM	MARY	10
6	REFE	RENCES	13
		TABLES	
Table 1	1. V	Vetland and Lake Summary for the VOWTAP Onshore Cable Alternatives	8
		FIGURES	
Figure 1	1. V	OWTAP Project Overview	2
Figure 2	2. V	OWTAP Alternatives	5
Figure 3	3. V	OWTAP Surveyed Wetlands	11
		ATTACHMENTS	
Attachm	nent A -	- National Wetland Inventory and Soils Maps	
		- Field Data Forms	
Attachm	nent C -	- Representative Photographs	
Attachm	nent D -	- Agency Correspondence	

ACRONYMS AND ABBREVIATIONS

Acronym	Definition
°C	degree Celsius
°F	degree Fahrenheit
ac	acre
Camp Pendleton	Camp Pendleton State Military Reservation
Dominion	Virginia Electric and Power Company, a wholly-owned subsidiary of Dominion Resources, Inc.
ft	feet
GPS	global positioning system
ha	hectare
HDD	horizontal directional drill
m	meter
MW	megawatt
NEPA	National Environmental Policy Act
Tetra Tech	Tetra Tech, Inc.
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VOWTAP	Virginia Offshore Wind Technology Advancement Project

1 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) was contracted by Virginia Electric and Power Company, a wholly-owned subsidiary of Dominion Resources, Inc. (Dominion) to perform a field delineation of observed wetlands and waters of the U.S. within the onshore portion of the Virginia Offshore Wind Technology Advancement Project (VOWTAP), a 12-megawatt (MW), two-turbine offshore wind demonstration project located 24 nautical miles (27 statute miles, 43 kilometers) offshore of Virginia Beach, Virginia. The onshore components of the VOWTAP are located entirely within land owned by the Camp Pendleton State Military Reserve (Camp Pendleton) in Virginia Beach, Virginia, and will be comprised of the following facilities:

- An Onshore Interconnection Cable and Fiber Optic Cable;
- A Switch Cabinet that will serve as the transition point where the Export Cable will be spliced to the Onshore Interconnection Cable and separate Fiber Optic Cable; and
- An Interconnection Station.

This report provides a description of wetlands delineated within onshore portions of the VOWTAP Project Area associated with the construction and operation of the proposed facilities that meet the criteria for federal designation according to the U.S. Army Corps of Engineers (USACE) guidelines and are regulated under Section 404 of the Clean Water Act. Project Area wetlands and surface waters were field delineated in October of 2013. Subsequent route changes to the Preferred Alternative were either field verified for the presence/absence of wetlands in November of 2013, or field delineated boundaries were extended by desktop analysis in December of 2013.

1.1 Project Area

Dominion has proposed to locate the VOWTAP onshore facilities within the property boundary of Camp Pendleton in the city of Virginia Beach, Virginia. The topography on Camp Pendleton is characterized by level ground that fluctuates around the 10-foot (ft) (3-meter [m]) contour. The most prominent topographic features are the sand ridges and dunes that parallel the Atlantic Ocean for the 1,200 ft (366 m) of beachfront on Camp Pendleton. A rifle range with 10-ft-high (3 m) mounded sand berms on three sides is located north of Rifle Range Road and immediately west of the secondary dunes.

The climate associated with the city of Virginia Beach is characterized as moderate throughout the year with an extended spring and fall. Average temperatures range from 48 degrees Fahrenheit (°F) (8.8 degrees Celsius [°C]) in January to approximately 88°F (31°C) in July. The average annual precipitation is 45.79 inches (1.1 m).

The onshore portion of the Project Area is located in the Atlantic Coastal Plain Physiographic Province, Coastal Zone of Virginia and Albemarle Sound Coastal Watershed, which drains into the Albemarle-Pamlico Sound in North Carolina. Camp Pendleton is in the Owls Creek Watershed of Virginia Beach.

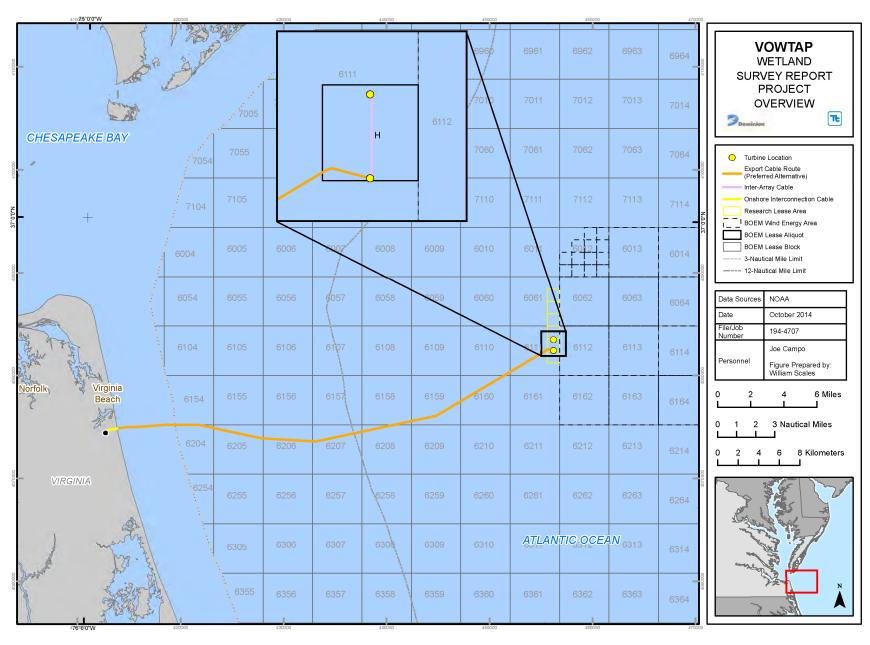


Figure 1. VOWTAP Project Overview

There are 14 soil types on the Camp Pendleton installation (Attachment A). Five soil types occur in the VOWTAP site wetland areas, as follows (USDA-NRCS 2013a).

- Acredale silt loam is poorly drained with slow permeability; the top 0-7 inches (0-18 centimeters [cm]) is grayish brown (10YR 5/2) silt loam, and brownish gray (10YR 6/2) silt loam to gray (5YR 5/1) silty clay loam occur to 20 inches depth (0.5 m).
- Dragston fine sandy loam is somewhat poorly drained with moderately rapid permeability; the top 0-9 inches (0-23 cm) is dark grayish brown (10YR 4/2) fine sandy loam, and light olive brown (2.5Y 5/4) to grayish brown (2.5Y 5/2) fine sandy loam occur to 20 inches depth (0.5 m).
- Duckston fine sand is poorly drained in shallow depressions between dunes and marshes; the top 0-3 inches (0-8 cm) is very dark grayish brown (10YR 3/2) fine sand, with dark grayish brown (10YR 4/2) fine sand at 3-8 inches (8-20 cm), light brownish gray (10YR 6/2) sand at 8-13 inches (20-33 cm), and dark gray (10YR 4/1) sand to 20 inches (0.5 m).
- Nawney silt loam is poorly drained with moderate permeability; the top 0-5 inches is dark gray (10YR 4/1) silt loam, and gray (10YR 6/1) loam to 20 inches (0.5 m) depth.
- Tomotley loam is poorly drained with moderate to moderately slow permeability; the top 0-7 inches (0-18 cm) is dark grayish brown (10YR 4/2) fine sandy loam, light gray (10YR 7/1) fine sandy loam at 7-12 inches (18-30.5 cm), and light brownish gray (2.5Y 6/2) sandy clay loam to 20 inches (0.5 m) depth.

Aside from the Atlantic Ocean, Lake Christine is the largest water body in the vicinity. Lake Christine is a shallow, freshwater lake adjoining the onshore Project Area to the north.

A detailed wetland delineation of Camp Pendleton was conducted in 2004. Results of this delineation confirmed the presence of marine, estuarine, lacustrine, and palustrine ecological systems at Camp Pendleton. The total area of wetlands delineated in 2004 was 6.39 acres (ac) (2 hectares [ha]). The land on either side of Rifle Range Road between the branches of Lake Christine belongs to Naval Air Station Oceana Dam Neck Annex. Separately, the Navy has conducted a wetland determination of the forested wetlands located both north and south of Rifle Range Road (U.S. Department of the Navy 2013).

There are six vegetative cover types on Camp Pendleton. Approximately half of the area is comprised of maintained lawn. The remaining cover types include wet (mesic) forest, dry (xeric) forest, emergent wetlands and open freshwater lake, dune system and backshore, and saturated forest.

2 PROJECT DESCRIPTION

Energy produced by the two offshore 6-MW turbines will be conveyed by the offshore Export Cable to the landfall site within the parking lot adjacent to Camp Pendleton Beach. Export Cable landfall activities will require a 0.5 ac (0.2 ha) HDD Work Area. The proposed 5 ft long by 5 ft wide by 6 ft tall (1.5 m long by 1.5 m wide by 2 m tall) Switch Cabinet will be located entirely within the footprint of the proposed Onshore HDD Work Area.

The Onshore Interconnection Cable and Fiber Optic Cable will each be installed below grade via HDD along the entirety of the proposed route using guided drilling equipment in a point-to-point fashion in up to 12 segments starting at the HDD Work Area and terminating at the interconnection point with

Dominion's existing infrastructure on the southern side of South Birdneck Road. Segments range from approximately 60 ft (18 m) to 500 ft (152 m) in length. Following completion of each cable splice, the pit will be filled and restored to pre-construction conditions.

From the proposed Interconnection Station, the two cables will be installed using HDD an additional 207 ft (63 m) to interconnect with Dominion's existing infrastructure located on the southern side of South Birdneck Road.

To support the construction and operation of the Onshore Interconnection Cable and Fiber Optic Cable, Dominion proposes a 30 ft (9.1 m) temporary construction right-of-way along Rifle Range Road and the Gate 10 Access Road for installation of the cables and for additional equipment laydown and storage. Upon completion of construction, Dominion will retain 15 ft (4.6 m) of the temporary construction right-of-way as a permanent easement for access during operation. Within the right-of-way the Onshore Interconnection Cable and Fiber Optic Cable will be installed approximately 3 ft (0.9 m) apart and buried to a minimum depth of 3.3 ft (1 m) to be consistent with local utility standards.

Dominion will install a new Interconnection Station to support the Project's interconnection with the existing electrical grid. The Interconnection Station will be comprised of a 0.2 ac (0.8 ha) area, located on the east side of the Gate 10 Access Road within Camp Pendleton.

The proposed locations for the VOWTAP onshore facilities are depicted on Figure 2. A total of four potential Onshore Route Alternatives have been considered for the VOWTAP. The following sections provide addition information on the Alternative Onshore Cable Routes considered and associated interconnection facilities (Switch Cabinet and Interconnection Station).

2.1 Onshore Route Alternative 1 (Preferred Alternative)

Onshore Route Alternative 1 would begin at the proposed landfall location in a parking lot at the end of Rifle Range Road on Camp Pendleton. Alternative 1 then extends west, parallel to Rifle Range Road on the north side (subgrade) for approximately 2,372 ft (723 m) to the intersection of Rifle Range Road and Jefferson Avenue. The cable route then extends from this intersection approximately 872 ft (266 m) down an access road to an entrance for Camp Pendleton at Gate No. 10 (Gate 10 Access Road) off of South Birdneck Road. From the Gate 10 Access Road the cable route continues 207 ft (63 m) to interconnect with Dominion's existing electrical infrastructure located on the southern side of South Birdneck Road. The total length from the landfall to the interconnection point for this alternative is 0.7 mi (1 km).

2.2 Onshore Route Alternative 2

Onshore Route Alternative 2 would make landfall at the existing Croatan Beach parking lot at the proposed Switch Cabinet. From the Switch Cabinet, this onshore cable route extends west approximately 950 ft (290 m) paralleling the parking lot edge of pavement north of the existing chain link fence until it intersects with Regulus Avenue. From the intersection with Regulus Avenue, the route extends south along Regulus Avenue for approximately 740 ft (225 m) to the intersection with Rifle Range Road. From this intersection, Alternative 2 shares the same route as Alternative 1 to the interconnection point on South Birdneck Road. The total length of Alternative 2 from landfall to the interconnection point is 4,800 ft (1,463 m).



Figure 2. VOWTAP Alternatives

2.3 Onshore Route Alternative 3 (A and B)

Onshore Route Alternative 3 was studied for the purpose of wetland delineation, but was excluded from further consideration at a later date. This Alternative included two options (Alternatives 3A and 3B) for crossing Lake Christine. Alternative 3A extended north along Regulus Avenue from the intersection with Alternative 2 and turned west toward Lake Christine. Alternative 3B extends northwest toward Lake Christine from the intersection with Alternative 2. Alternatives 3A and 3B included approximately 150 ft square (45 m square) of workspace at both ends of the Lake Christine crossing to accommodate HDD equipment. After the Lake Christine crossing, Alternatives 3A and 3B joined into one alignment and extend southwest along Lake Road for approximately 1,750 ft (530 m) to the intersection with Jefferson Avenue. The alternatives then extended east and connect with Alternative 1 and 2 at the intersection of Rifle Range Road and Jefferson Avenue and shared the same route to the Interconnection Station on South Birdneck Road. The total length of Alternative 3A from landfall to the Interconnection Station is 5,800 ft (1,770 m), and the total length of Alternative 3B is 5,500 ft (1,675 m).

3 METHODS

The basis for wetlands delineation includes application of (1) the 1987 USACE Wetlands Delineation Manual (Environmental Laboratory 1987); (2) the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (USACE 2008); and (3) the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation. Soil color was described using Munsell Color charts (1990). The Routine On-Site Determination Method, as described in the USACE Wetlands Delineation Manual, was used to delineate the wetlands within the onshore portions of the Project Area. This method involved collection and review of background information, followed by an on-site survey and delineated during the original surveys. These additional areas were either field verified or extended by desktop analysis to the same conclusion of no wetland impacts because the additional area was found to be within the previously completed field verification area.

Prior to conducting the fieldwork, Tetra Tech conducted a review of existing site information, including digital orthophotography from Camp Pendleton, the soil survey map and USDA-NRCS hydric soil list (USDA-NRCS 2013b) to determine the presence and extent of hydric and upland soils, Camp Pendleton's Integrated Natural Resource Management Plan, and U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory maps (Attachment A, USFWS 2013). The area within 30 ft (9.1 m) of the center line of the Onshore Route Alternatives, the HDD work areas and splice pits, the Interconnection Station, were field assessed for the presence of hydrophytic vegetation, hydric soil, and wetland hydrology indicators.

Tetra Tech wetland scientists conducted the delineation on October 15 and 16, 2013. An overview of the VOWTAP sites was conducted by vehicle and ground inspection prior to initiating the field delineation to gain a perspective on the distribution of uplands and wetlands on Camp Pendleton. A routine-level wetland determination was conducted within each alternative cable route and HDD area. A USACE Wetland Determination Data Form-Atlantic and Gulf Coastal Plain (Version 2.0) was completed to document vegetation, soils, hydrology, and general site characteristics (Attachment B). Data were

recorded in accordance with the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (USACE 2008). The wetland indicator status of each dominant plant species in each major vegetation stratum was assigned according to the National List of Plant Species (Lichvar 2013). Wetland cover types were classified according to the USFWS classification system for wetlands and deepwater habitats of the United States (Cowardin et al. 1979). Representative photographs were taken of the VOWTAP sites (Attachment C).

Wetland boundaries were marked with sequentially numbered flagging and the corresponding global positioning system (GPS) coordinates were obtained using a Trimble GeoXT handheld unit with submeter accuracy. GPS data were differentially corrected using Pathfinder Office 4.10 software (Trimble Inc., Sunnyvale, CA) and commercial base station control points. A geo-referenced wetland delineation boundary suitable for overlay onto Project maps and aerial photographs was created using ArcView (Environmental Systems Research Institute, Inc.; Redlands, CA) Geographic Information System mapping software.

Subsequent changes to the Preferred Alternative resulted in additional areas for survey, including relocation of the Interconnection Station to the east side of the Gate 10 Access Road and modifications to the Onshore Interconnection/Fiber Optic Cable Route that were not originally surveyed. These areas were either field verified or extended by desktop analysis based on the previously completed field verification. Onsite inspections for the presence of wetland parameters were conducted on November 13, 2013, and verified that the Project footprint would not result in wetlands encroachments. Based on review of the wetland delineation area, site photographs, previous site visits, and geographic information system mapping, a desktop analysis of the conclusion of no wetland encroachments was conducted on December 2–5, 2013. The field verification that was conducted in November to confirm the absence of wetland parameters in the potential modification areas (e.g., the mowed road shoulders) adjacent to the original wetland delineation corridor was extended to include the revised route, which was found to be within the previously field verified area. Therefore, it was concluded that the revised cable route would not result in wetland encroachments.

4 RESULTS

There were 28 data forms recorded for the delineation; 23 forms were recorded for upland plots and five forms were recorded for wetland plots (Attachment B). The precipitation received in the Virginia Beach area for the 8 days prior to the delineation was 3.44 inches according to the National Climate Data Center (2013), which was 2.54 in (6.5 cm) above normal for the period. No precipitation was recorded in the area for the dates of the delineation.

A summary of the delineated wetlands and waterbodies within the Project Area are summarized in Table 1.

Map Acres/ Soil Type1a/ Classification **Alternative** Sample Point Comments Label Hectares^{b/} Wetland 1 PFO1/4 0.47/0.19 3-Alt 3A Duckston fine sand Forested wetland 3B Wetland 2 11, 13-Alt 3B Duckston fine sand PFO1/4 0.66/0.27 Forested wetland none/connects 3A-3B HDD Wetland 3 Duckston fine sand PFO1/4 0.39/0.16 Forested wetland Wetland 1, 2 Forested and 2 Regulus Ave west Wetland 4 15-Alt 2 Nawney silt loam PFO1/PEM 0.14/0.06 emergent wetland side fringe 1 Rifle Range Road none/connects Wetland 5 Nawney silt loam PFO1/4 0.09/0.04 Forested wetland north side Wetland 4 1 Rifle Range Road Lake 1 L1UB 0.09/0.04 Lake Christine none/open water open water north side 1 Rifle Range Road Lake 2 none/open water L1UB 0.01/0.004 Lake Christine open water south side Dragston fine sandy 19-Alt 1/ across loam, Tomotley 1 Rifle Range Road Wetland 6 Dam Neck loam, Acredale silt PFO1 Forested wetland 0.34/0.14 south side fenceline loam, and Nawney silt loam 3A west of Lake 0.82/0.33 Lake 3 none/open water open water L1UB Lake edge Christine 3B west of Lake Lake 4 none/open water open water L1UB 0.58/0.23 Lake edge

Table 1. Wetland and Lake Summary for the VOWTAP Onshore Cable Alternatives

a/ Listed as hydric soil (http://soils.usda.gov/use/hydric/)

Christine

b/ USACE provided a preliminary jurisdictional determination on February 7, 2014 (See Attachment D).

4.1 Onshore Route Alternative 1 (Preferred Alternative)

The beginning point for HDD activities is in an upland area at a compacted sand and gravel parking lot and the rifle range berm. Onshore Route Alternative 1 from this point to the intersection of Regulus Avenue is upland from the beginning of the HDD. The north side is along the rifle range berm and the south side limit is the compacted sand and gravel road shoulder of the paved Rifle Range Road.

The north side of Rifle Range Road is forested wetland for a short distance (less than 100 ft [30.5 m]) as a continuation of the palustrine forested broad-leaved deciduous wetland on the west side of Onshore Route Alternative 2 cable route, then the north side adjacent to the built-up road shoulder is mesic upland forest to the edge of Lake Christine. The topography slopes slightly to the north (away from the cable route) toward Lake Christine. The north side of the cable route on the west side of Lake Christine is mostly upland mowed grass adjacent to the road shoulder. The north side includes a small area (0.09 ac [0.04 ha]) of lake edge at a culverted crossing. The south side of the Onshore Route Alternative 1 is the installation fence line boundary with Dam Neck. The topography slopes to the south (away from the cable route) and there are several straight ditches that drain toward the south. The south side east of Lake Christine includes a narrow sliver of the adjoining forested wetlands for nearly it entire length and a small area (0.01 ac [0.004 ha]) of lake edge at a culverted crossing. The south side of the cable route on the west side of Lake Christine is upland mowed grass adjacent to the road shoulder.

Along South Birdneck Road, Onshore Route Alternative 1 is upland all the way to Camp Pendleton's fence line boundary. Both sides of the cable route are mowed grass along the road shoulder. Part of the cable route is on the paved road surface.

4.2 Onshore Route Alternative 2

Onshore Route Alternative 2 HDD beginning point is in an upland area at a paved parking lot. The cable route extending from the HDD Work Area is upland with the centerline at the base of the rifle range berm. The north side of the route is in the paved parking lot and the south side is along the berm. The berm is mounded sand fill material. Onshore Route Alternative 2 is upland all the way to the intersection with Regulus Avenue.

The cable route along Regulus Avenue is upland mowed grass in the road shoulder on the east side to Rifle Range Road. The west side is upland mowed grass in the road shoulder along Regulus Avenue to the forested wetland fringe, which is adjacent to an emergent wetland that is connected to Lake Christine by a breech in the bank. The emergent wetland is mostly outside the cable route but the near side that is included has button bush (*Cephalanthus occidentalis*), rose mallow (*Hibiscus moscheutos*), and waterprimrose (*Ludwigia peploides*) as predominant species. The emergent wetland drains through a culvert across Rifle Range Road into the forested wetland on Dam Neck. The wetland continues to the intersection with Onshore Route Alternative 1 and then continues westward a short distance on the north side of the Rifle Range Road.

4.3 Onshore Cable Alternative 3

Onshore Route Alternative 3 includes two options for crossing Lake Christine (Alternative 3A and 3B). The Onshore Route Alternative 3 is the same as described for Onshore Route Alternative 2 to its intersection with Regulus Avenue. From this intersection Alternative 3A is upland to the proposed HDD Work Area. The west side of the cable route is the upland wooded edge of the paved road and the east side of the cable route is upland mowed grass in the road shoulder. The HDD Work Area associated with Alternative 3A is upland, mostly cleared land, road access to the paved parking lot, and compacted sand and gravel at the end of Regulus Avenue. From the edge of the HDD Work area Alternative 3A transitions to wetland and continues to the edge of Lake Christine.

From the intersection of Regulus Onshore Route Alternative 3B cable is wetland and continues to the edge of Lake Christine to its proposed HDD Work Area. The HDD Work Area associated with Alternative 3B HDD is forested wetland and partially flooded by a ditched connection to Lake Christine. Recent blowdowns of large trees have enlarged the flooded area. Duckweed (*Lemna* spp.) and alligator weed (*Alternanthera philoxeroides*) are predominant, and the water depth ranges from surface to approximately 2 ft (0.6 m).

Onshore Route Alternatives 3A and 3B west of Lake Christine from will make landfall in HDD Work Areas are upland, mowed grass fields and woodlots to the edge of the lake. From their corresponding HDD Work Areas on the west side of Lake Christine, Onshore Route Alternative 3A and 3B are upland to their intersection with South Birdneck Road. Both sides of the cable routes are mowed grass along the paved road shoulders.

4.4 Interconnection Station

The Interconnection Station is within Camp Pendleton on the north side of South Birdneck Road, within the asphalt paved roadway, mowed road shoulder, and developed right-of-way. The entire area designated for the Interconnection Station is upland.

5 SUMMARY

Field investigations identified and delineated 3.56 ac (1.44 ha) of wetlands and other waters in six palustrine wetlands and four lacustrine open waters within the VOWTAP onshore Project Area (including the area for Onshore Route Alternative 3) (see Table 1 and Figure 3). Forested wetlands totaled 2.06 ac (0.8 ha); these were broad-leaved deciduous/needle-leaved evergreen (hardwood-pine) forest wetlands. An emergent wetland fringe was present in the Onshore Route Alternative 2 cable route. Lacustrine open waters totaled 1.5 ac (0.6 ha). Most (94 percent) of the lacustrine area was identified in the Onshore Route Alternative 3A and 3B open water crossings of Lake Christine.

The total palustrine and lacustrine area along Onshore Route Alternative 1 was 0.18 ac (0.07 ha). Subsequent changes to the Preferred Alternative were either field verified or extended by desktop analysis based on the previously completed field verification. Onsite inspections for presence of wetland parameters were conducted on November 13, 2013, and verified that the Project footprint would not result in wetlands encroachments. Based on review of the wetland delineation area, site photographs, previous site visits, and geographic information system mapping, a desktop analysis of the conclusion of no wetland encroachments was conducted on December 2-5, 2013. The field verification that was conducted in November to confirm the absence of wetland parameters in the potential modification areas (e.g., the mowed road shoulders) adjacent to the original wetland delineation corridor was extended to include the revised route, which was found to be within the previously field verified area. Therefore, it was concluded that the revised cable route for the Preferred Alternative would not result in wetland encroachments. Onshore Route Alternative 2 included 0.14 ac (0.05 ha) of palustrine wetlands along Regulus Avenue in addition to the shared route with Onshore Route Alternative 1 for a total of 0.64 ac (0.26 ha). Onshore Route Alternative 3A included 1.29 ac (0.52 ha) of palustrine and lacustrine areas. Onshore Route Alternative 3B included 0.66 ac (0.27 ha) of palustrine and lacustrine area. The Onshore Route Alternative 3B HDD Work Area on the east side of Lake Christine is entirely within a forested wetland and included 0.39 ac (0.16 ha).



Figure 3. VOWTAP Surveyed Wetlands

VOWTAP Jurisdictional Wetland Delineation Report

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6 REFERENCES

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Attachment A – National Wetland Inventory and Soils Maps

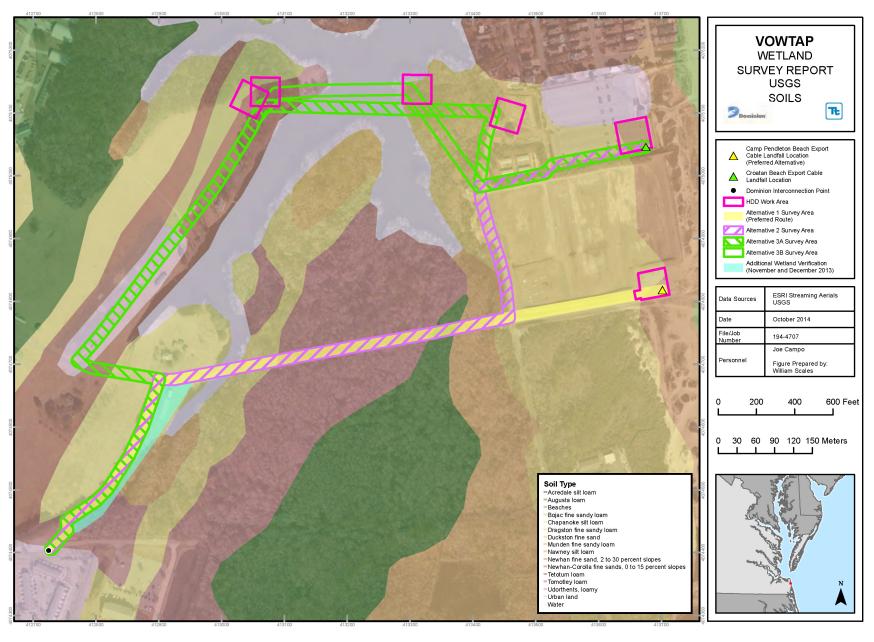


Figure A-1. Research Activities Plan – USGS Soils

Tetra Tech, Inc.
Page A-1

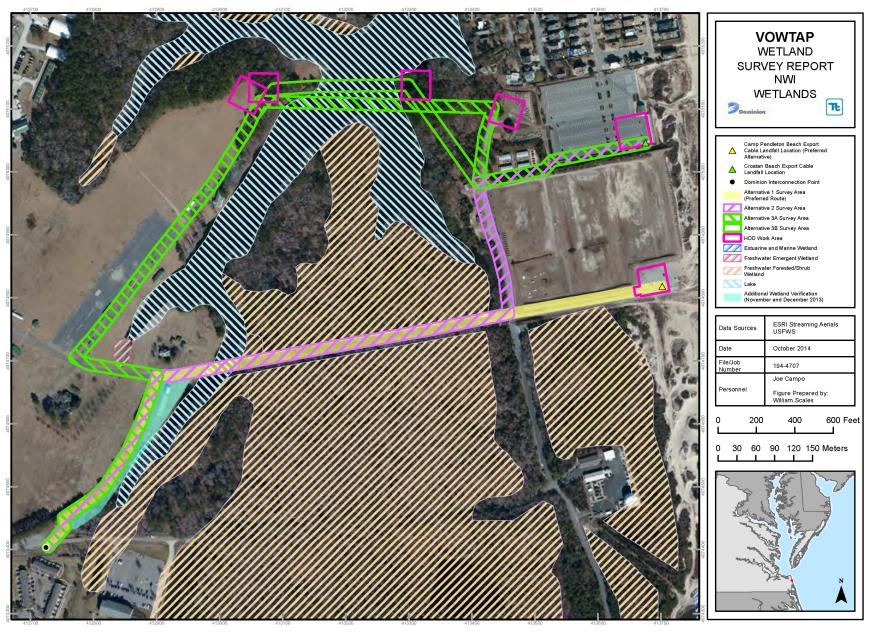


Figure A-2. Research Activities Plan – NWI Wetlands

Attachment B - Field Data Forms

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Camp Pendleton	City/County: Virginia	a Beach	Sampling Date: 10-15-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 1-Alt 3A HDD
Investigator(s): Campo/Sherwood		Range:	
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat:			
Soil Map Unit Name: Duckston fine Sand		NWI classific	
Are climatic / hydrologic conditions on the site typical for this time			
Are Vegetation, Soil X, or Hydrology signification	-		oresent? Yes X No
Are Vegetation, Soil, or Hydrology naturall	-	needed, explain any answe	
SUMMARY OF FINDINGS – Attach site map show		•	,
		<u> </u>	
Hydrophytic Vegetation Present? Hydric Soil Present? Yes X No Yes No X	Is the Sample		V
Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X	within a Wetl	and? Yes	No X
Remarks:			
Nearly all of the Alt 3 A HDD work area is a	compacted road	and parking area	at the end of an
asphalt road. The sample point is the extrer	•		
piles evident from the adjacent road constru			·
HYDROLOGY			
Wetland Hydrology Indicators:			ators (minimum of two required)
Primary Indicators (minimum of one is required; check all that ap	ply)	Surface Soil	·
Surface Water (A1)	` '		getated Concave Surface (B8)
	(B15) (LRR U)	☐ Drainage Pa	
☐ Saturation (A3) ☐ Hydrogen Sulf ☐ Water Marks (B1) ☐ Oxidized Rhize	ospheres along Living Roc	Moss Trim Li	Water Table (C2)
	Reduced Iron (C4)	Crayfish Bur	
	eduction in Tilled Soils (C6		isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	,		Position (D2)
Iron Deposits (B5) Other (Explain	ı in Remarks)	Shallow Aqu	
Inundation Visible on Aerial Imagery (B7)		FAC-Neutral	Test (D5)
Water-Stained Leaves (B9)		Sphagnum n	noss (D8) (LRR T, U)
Field Observations:			
Surface Water Present? Yes No X Depth (inc			
Water Table Present? Yes No X Depth (inc		Vetland Hydrology Preser	-40 V N- X
Saturation Present? Yes No X Depth (includes capillary fringe)	cnes): v	vetiand Hydrology Preser	it? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial p	photos, previous inspection	ns), if available:	
Remarks:			
The site contains fill material from the road	and berm around	the nearby rifle ra	nge. No evidence of
wetland hydrology, no soil saturation to 20 i			
Treatand hydreregy, he con catalanel to 20			

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

0.4		Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 0.1)		Species?		Number of Dominant Species
1. Pinus taeda	10	Υ	FAC	That Are OBL, FACW, or FAC: 10 (A)
2. Quercus phellos	10	Υ	FACW	Total Number of Dominant
3. Nyssa sylvatica	20	Υ	FAC	Species Across All Strata: 11 (B)
4. Quercus pagoda	10	Υ	FACW	
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 91 (A/B)
				That Ale Obl., FACW, of FAC. (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
05		= Total Cov		FACW species x 2 =
50% of total cover: 25	20% of	total cover:	10	FAC species x 3 =
Sapling/Shrub Stratum (Plot size: 0.1)				
1. Liquidambar styraciflua	25	<u>Y</u>	FAC	FACU species x 4 =
2. Nyssa sylvatica	15	Υ	FAC	UPL species x 5 =
3. Morella cerifera	10	Υ	FAC	Column Totals: (A) (B)
4				Prevalence Index = B/A =
5.				
				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				<u>✓</u> 2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
		= Total Cov		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 25	20% of	total cover:	10	
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must
1. None Present				be present, unless disturbed or problematic.
2				Definitions of Four Vegetation Strata:
3.				
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4				more in diameter at breast height (DBH), regardless of height.
5				
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				Herb – All herbaceous (non-woody) plants, regardless
9				of size, and woody plants less than 3.28 ft tall.
10				Woody vine – All woody vines greater than 3.28 ft in
11				height.
12.				
		= Total Cov	er	
50% of total cover:				
Woody Vine Stratum (Plot size: 0.1)		10101 00101		
1 Smilax rotundifolia	40	Υ	FAC	
2. Gelsemium sempervirens	40	<u>Y</u>	FAC	
,		<u>'</u>		
3. Smilax bona-nox	30	<u>r</u>	FAC	
4. Vitis rotundifolia	25	N	FAC	
5				Hydrophytic
	135	= Total Cov	er	Vegetation
50% of total cover: 67.5	20% of	total cover:	27	Present? Yes X No
Remarks: (If observed, list morphological adaptations belo	w)			
Tremaine: (II observed, list morphological adaptations belo	vv).			

Sampling Point: 1-Alt 3A HDD

SOIL Sampling Point: 1-Alt 3A HDD

Profile Desc	cription: (Describe to	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	<u></u> %	Redo	x Features %	Type ¹	Loc ²	Texture	Rema	arke
0-2	10YR 4/2	70	Color (Illoist)		туре	LUC	rexture	brown fine sand	1117.5
2-12	10YR 5/3							•	
l ———								gray-brown sand	1
12-20	10YR 5/3							gray sand	
	_								
¹Type: C=C	oncentration, D=Deple	etion RM=R	educed Matrix M	S=Masked	Sand Gra	ains	² Location:	PL=Pore Lining, M=	
	Indicators: (Applica					ли ю.		for Problematic Hy	
☐ Histosol	(A1)		Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U) <u></u> 1 cm N	Muck (A9) (LRR O)	
Histic E	pipedon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)	_	Muck (A10) (LRR S)	
	istic (A3)		Loamy Muck	-	. , .	(O)		ed Vertic (F18) (out	
	en Sulfide (A4)		Loamy Gleye		F2)			ont Floodplain Soils	
_	d Layers (A5) Bodies (A6) (LRR P,	T 11)	Depleted Ma		6)			alous Bright Loamy S RA 153B)	oolis (F20)
= -	ucky Mineral (A7) (LR		Depleted Da	`	,			arent Material (TF2)	
	esence (A8) (LRR U)		Redox Depre		. ,			Shallow Dark Surface	(TF12)
	uck (A9) (LRR P, T)		Marl (F10) (L				Other	(Explain in Remarks))
	d Below Dark Surface	(A11)	Depleted Oc	. ,	•	•	- \ 31 1:		
	ark Surface (A12) rairie Redox (A16) (M	I DA 150A)	☐ Iron-Mangan☐ Umbric Surfa					cators of hydrophytic tland hydrology must	-
	/lucky Mineral (S1) (L l		Delta Ochric			, 0)		ess disturbed or prob	
_	Gleyed Matrix (S4)	-,-,	Reduced Ve			0A, 150B)		, , , , , , , , , , , , , , , , , , , ,	
	Redox (S5)		Piedmont Flo						
=	Matrix (S6)		Anomalous I	Bright Loan	ny Soils (I	F20) (MLR	A 149A, 153C	, 153D)	
	rface (S7) (LRR P, S, Layer (if observed):	1, U)							
Type:	Layer (ii observeu).								
Depth (in	ches).						Hydric Soil	Present? Yes	No N
Remarks:							Tiyano con		
N	o evidence of	hydric so	oil indicators	s. Dry s	andy s	oil to 20	o inches o	depth. Bits of a	asphalt in the
S	oil from spoil si	ide cast	from nearby	/ road.					
			_						

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Camp Pendleton	City/County: Virginia Beach Sampling Date: 10-15-13
Applicant/Owner: U.S. Army	City/County: Virginia Beach Sampling Date: 10-15-13 State: VA Sampling Point: 2-Alt 3A
0 (0)	Section, Township, Range:
	Local relief (concave, convex, none): Slope (%):
	Long: Datum:
	NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye	
Are Vegetation X , Soil X , or Hydrology X significantly	
Are Vegetation, Soil, or Hydrology naturally pro	
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: The sample point is the beginning of the Alt 3.	Is the Sampled Area within a Wetland? A corridor near the woodland edge and compacted
	It road. Past spoil piles evident from the adjacent road
HYDROLOGY	
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) Drainage Patterns (B10) Moss Trim Lines (B16) heres along Living Roots (C3) Dry-Season Water Table (C2) Iced Iron (C4) Ction in Tilled Soils (C6) E (C7) Sparsely Vegetated Concave Surface (B8) Dry-Season (B10) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Surface Water Present? Yes No X Depth (inches	0):
Water Table Present? Yes No X Depth (inches	
Saturation Present? Yes No X Depth (inches (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	s): Wetland Hydrology Present? Yes No X
Remarks:	nd berm around the nearby rifle range. No evidence of

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

Free Stratum (Plot size: 0.1)		ants.		Sampling Point: 2-Alt 3/	`
Free Stratum (Plot size: U.I	Absolute			Dominance Test worksheet:	
		Species?		Number of Dominant Species	
Pinus taeda	10	Y	FAC	That Are OBL, FACW, or FAC: 10 (A)
Quercus phellos	10	<u>Y</u>	FACW	Total Number of Dominant	
Nyssa sylvatica	20	<u>Y</u>	FAC	Species Across All Strata: 11 (B)
Quercus pagoda	10	<u>Y</u>	FACW	Percent of Dominant Species	
· <u> </u>					A/B
				Davidson Indonesia la	
·				Prevalence Index worksheet:	
				Total % Cover of: Multiply by:	
	50	= Total Cov	er	OBL species x 1 =	
50% of total cover: <u>25</u>	20% of	total cover:	10	FACW species x 2 =	
apling/Shrub Stratum (Plot size: 0.1)				FAC species x 3 =	
Liquidambar styraciflua	25	Υ	FAC	FACU species x 4 =	
Nyssa sylvatica	15	Υ	FAC	UPL species x 5 =	
Morella cerifera	10	Υ	FAC	Column Totals: (A)	(B)
				5 1 1 5 6	
				Prevalence Index = B/A =	
				Hydrophytic Vegetation Indicators:	
-				1 - Rapid Test for Hydrophytic Vegetation	
				2 - Dominance Test is >50%	
k			·	3 - Prevalence Index is ≤3.0 ¹	
25		= Total Cov		Problematic Hydrophytic Vegetation ¹ (Explain))
50% of total cover: <u>25</u>	20% of	total cover			
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology mu	ıst
None Present				be present, unless disturbed or problematic.	
2				Definitions of Four Vegetation Strata:	
3				Tree – Woody plants, excluding vines, 3 in. (7.6 cn	n) o
k				more in diameter at breast height (DBH), regardles	
5				height.	
S				Sapling/Shrub – Woody plants, excluding vines, le	ess
,				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
				Herb – All herbaceous (non-woody) plants, regard	locc
).				of size, and woody plants less than 3.28 ft tall.	1000
*					
0				Woody vine – All woody vines greater than 3.28 ft	in
0 1					in
0. 1.				Woody vine – All woody vines greater than 3.28 ft	in
0		= Total Cov		Woody vine – All woody vines greater than 3.28 ft	in
0		= Total Cov		Woody vine – All woody vines greater than 3.28 ft	: in
0	20% of	= Total Cov	:	Woody vine – All woody vines greater than 3.28 ft	: in
0	20% of	= Total Cov	FAC	Woody vine – All woody vines greater than 3.28 ft	in
0	20% of 40 40	= Total Covers	FAC FAC	Woody vine – All woody vines greater than 3.28 ft	in
50% of total cover: Voody Vine Stratum (Plot size: 0.1) Smilax rotundifolia Gelsemium sempervirens Smilax bona-nox	20% of 40 40 30	= Total Covers	FAC FAC	Woody vine – All woody vines greater than 3.28 ft	: in
0	20% of 40 40	= Total Covers	FAC FAC	Woody vine – All woody vines greater than 3.28 ft	∷in
50% of total cover: Voody Vine Stratum (Plot size: 0.1) Smilax rotundifolia Gelsemium sempervirens Smilax bona-nox	20% of 40 40 30	= Total Covers	FAC FAC	Woody vine – All woody vines greater than 3.28 ft	: in
50% of total cover: Smilax rotundifolia Gelsemium sempervirens Smilax bona-nox Vitis rotundifolia	20% of 40 40 30 25	= Total Covers	FAC FAC FAC	Woody vine – All woody vines greater than 3.28 ft height.	in

SOIL Sampling Point: 2-Alt 3A

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture	Remarks
0-2	10YR 4/2							brown fine sand
2-12	10YR 5/3							gray-brown sand
12-20	10YR 5/3							gray sand
-								
	oncentration, D=Depl Indicators: (Applica					ains.		PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
l <u> </u>		ible to all Li			•	DD C T II		•
Histosol	(A1) pipedon (A2)		Polyvalue Be		, , ,			Muck (A9) (LRR O) Muck (A10) (LRR S)
· 🛏 ·	stic (A3)		Loamy Muck					ed Vertic (F18) (outside MLRA 150A,B
I ==	en Sulfide (A4)		Loamy Gleye			,		ont Floodplain Soils (F19) (LRR P, S, T)
	d Layers (A5)		Depleted Ma	ıtrix (F3)			Anoma	alous Bright Loamy Soils (F20)
	Bodies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B)
	icky Mineral (A7) (LR		Depleted Da				$\overline{}$	arent Material (TF2)
	esence (A8) (LRR U) ick (A9) (LRR P, T)		Redox Depre		5)			hallow Dark Surface (TF12) (Explain in Remarks)
_	d Below Dark Surface	e (A11)	Depleted Oc	,	MLRA 15	51)	<u> </u>	(Explain in Nemarks)
	ark Surface (A12)	,	Iron-Mangan				T) ³ Indic	ators of hydrophytic vegetation and
	rairie Redox (A16) (M		Umbric Surfa			U)		land hydrology must be present,
	Mucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbed or problematic.
	Gleyed Matrix (S4) Redox (S5)		Reduced Ve				24)	
	Matrix (S6)						A 149A, 153C	. 153D)
	rface (S7) (LRR P, S	, T, U)		g = 0 a	., (.	_0) (<u>_</u>		,
	Layer (if observed):							
Type:			<u></u>					
Depth (in	ches):						Hydric Soil	Present? Yes No N
Remarks:								
		•		_	andy s	oil to 20) inches (depth. Bits of asphalt in the
S	oil from spoil s	ide cast	trom nearby	road.				

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Camp Pendleton	City/County: Virginia Bead	ch S	ampling Date: 10-15-13
Applicant/Owner: U.S. Army		State: VA S	ampling Point: 3-Alt 3A
Investigator(s): Campo/Sherwood	Section, Township, Range:		
Landform (hillslope, terrace, etc.):			Slope (%):
Subregion (LRR or MLRA): Lat:			
Soil Map Unit Name: Duckston fine Sand			
Are climatic / hydrologic conditions on the site typical for this tir			
Are Vegetation, Soil, or Hydrology sign	ificantly disturbed? Are "Norn	nal Circumstances" pre	sent? Yes X No
Are Vegetation, Soil, or Hydrology natu		, explain any answers	in Remarks.)
SUMMARY OF FINDINGS - Attach site map sh	owing sampling point locat	ions, transects, i	mportant features, etc.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	within a Wetland?	Yes X	
surface water.	les to Lake Christine who	ere triere is suri	ace saturation and
HYDROLOGY			
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Hydrogen S Oxidized R Presence of Recent Iron		Surface Soil Cr Sparsely Veget Drainage Patte Moss Trim Line Dry-Season Wa Crayfish Burrov Saturation Visit Geomorphic Po Shallow Aquital FAC-Neutral Te	ated Concave Surface (B8) rns (B10) s (B16) ater Table (C2) vs (C8) ble on Aerial Imagery (C9) sition (D2) rd (D3)
Surface Water Present? Yes No Depth Water Table Present? Yes No Depth Saturation Present? Yes No Depth	(inches): 20	I Hydrology Present?	Yes X No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeri	` ' -		
Remarks: The PFO1/4 wetland continues to Lake C water. Evidence of wetland hydrology, so			on and surface

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

	mes of pl	ants.		Sampling Point: 3-Alt 3A
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 0.1)		Species?		Number of Dominant Species
1. Liquidambar styraciflua	25	N	FAC	That Are OBL, FACW, or FAC: 8 (A)
2. Acer rubrum	25	N	FAC	Total Number of Dominant
3. Nyssa sylvatica	40	Υ	FAC	Species Across All Strata: 8 (B)
4. Quercus pagoda	40	Υ	FACW	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100 (A/B)
6				
7				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
	130	= Total Cov	er	OBL species x 1 =
50% of total cover: 65				FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 0.1)				FAC species x 3 =
1 Liquidambar styraciflua	10	N	FAC	FACU species x 4 =
2. Quercus phellos	10	N	FACW	UPL species x 5 =
3. Morella cerifera	10	N	FAC	Column Totals: (A) (B)
Pinus taeda	20	<u>Y</u>	FAC	
5. Vaccinium corymbosum	10	<u>N</u>	FACW	Prevalence Index = B/A =
···	· 			Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
		= Total Cov		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 30	20% of	total cover	12	
Herb Stratum (Plot size: 0.1)				¹ Indicators of hydric soil and wetland hydrology must
1. Chasmanthium sessiliflorum	40	Υ	FAC	be present, unless disturbed or problematic.
2				Definitions of Four Vegetation Strata:
3				Tree Mondy plants evaluding vines 2 in (7.6 cm) or
4				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
5.				height.
6.				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8.				
9.	·			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
				of size, and woody plants less than 5.20 it tall.
10				Woody vine – All woody vines greater than 3.28 ft in
11.				height.
12	40			
20		= Total Cov		
50% of total cover: 20	20% of	total cover		
			E40	
Woody Vine Stratum (Plot size: 0.1)	_	V		
1. Smilax rotundifolia	5	<u>Y</u>	FAC	
1. Smilax rotundifolia 2. Gelsemium sempervirens	10	<u>Y</u>	FAC	
1. Smilax rotundifolia 2. Gelsemium sempervirens 3. Smilax bona-nox	10 5			
1. Smilax rotundifolia 2. Gelsemium sempervirens	10	Y	FAC	
1. Smilax rotundifolia 2. Gelsemium sempervirens 3. Smilax bona-nox 4. Vitis rotundifolia	10 5	Y Y	FAC FAC	Hydrophytic
1. Smilax rotundifolia 2. Gelsemium sempervirens 3. Smilax bona-nox	10 5 5	Y Y Y	FAC FAC	Hydrophytic Vegetation
1. Smilax rotundifolia 2. Gelsemium sempervirens 3. Smilax bona-nox 4. Vitis rotundifolia	10 5 5 25	Y Y	FAC FAC FAC	

SOIL Sampling Point: 3-Alt 3A

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the ir	ndicator	or confirm	the absence	of indicate	ors.)	
Depth	Matrix			x Features	<u> </u>					
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	<u>Texture</u>		Remarks	
0-4	10YR 4/2							-	wn fine sand	
4-12	10YR 5/2							gray-bro	wn sand	
12-20	10YR 5/2							gray san	d	
										
<u> </u>										
	oncentration, D=Deple					ains.			ining, M=Matri	
l <u> </u>	Indicators: (Applica	ble to all Li			•				matic Hydric	Soils":
Histosol	(A1) Dipedon (A2)		Polyvalue Be		· , ·			/luck (A9) (I /luck (A10)	•	
	stic (A3)		Loamy Muck					, ,		/ILRA 150A,B)
	en Sulfide (A4)		Loamy Gleye			-,				(LRR P, S, T)
	d Layers (A5)		Depleted Ma		·				Loamy Soils (
	Bodies (A6) (LRR P,		Redox Dark				_ `	RA 153B)		
	icky Mineral (A7) (LR		Depleted Da					arent Mater	, ,	0)
	esence (A8) (LRR U) ick (A9) (LRR P, T)		Redox Depre		3)			hallow Darl (Explain in l	K Surface (TF1	2)
	d Below Dark Surface	(A11)	Depleted Oc	,	MLRA 15	51)	<u> </u>	(⊏xpiaiii iii i	Remarks)	
	ark Surface (A12)	()	Iron-Mangan	. , ,	•		T) ³ Indic	ators of hyd	drophytic vege	tation and
Coast P	rairie Redox (A16) (M	LRA 150A)	Umbric Surfa	ace (F13) (I	LRR P, T,	U)	wet	land hydrol	ogy must be pi	resent,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbe	ed or problema	tic.
	Gleyed Matrix (S4)		Reduced Ve				2.4.)			
	Redox (S5) Matrix (S6)		Piedmont Flo				9A) A 149A, 153C	153D)		
	rface (S7) (LRR P, S ,	T. U)	Anomalous i	Silgili Luali	ly Solis (i	20) (WILK)	4 149A, 1990	, 1330)		
	Layer (if observed):	-, -,								
Type:	,									
Depth (in	ches):		<u> </u>				Hydric Soil	Present?	Yes X	No
Remarks:										
E	vidence of hyd	lric soil i	ndicators, oı	rganic s	streakir	ng, redo	OX.			

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Sampling Date: 10-15-13 State: VA Sampling Point: 4-Alt 3A none): Slope (%):
NWI classification: Upland If no, explain in Remarks.) Circumstances" present? Yes X No xplain any answers in Remarks.) ns, transects, important features, etc. Yes No X compacted road and parking area ge. Past spoil piles evident from
Slope (%): Datum: Datum: NWI classification: Upland Upland If no, explain in Remarks.) Circumstances" present? Yes X No No
NWI classification: Upland If no, explain in Remarks.) Circumstances" present? Yes X No_ xplain any answers in Remarks.) ns, transects, important features, etc. Yes No X compacted road and parking area ge. Past spoil piles evident from
NWI classification: Upland If no, explain in Remarks.) Circumstances" present? Yes X No_ xplain any answers in Remarks.) ns, transects, important features, etc. Yes No X compacted road and parking area ge. Past spoil piles evident from
If no, explain in Remarks.) Circumstances" present? Yes X No xplain any answers in Remarks.) ns, transects, important features, etc. Yes No X Important features, etc. Past spoil piles evident from
res No X ompacted road and parking area ge. Past spoil piles evident from
Yes No X Ompacted road and parking area ge. Past spoil piles evident from
Yes No X ompacted road and parking area ge. Past spoil piles evident from
ompacted road and parking area ge. Past spoil piles evident from
Secondary Indicators (minimum of two required)
Secondary Indicators (minimum of two required)
occordary indicators (initialities 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) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U)
ydrology Present? Yes No X
earby rifle range. No evidence of
li

	Absolute	Dominant	Indicator	Dominance Test worksheet:		
ree Stratum (Plot size: 0.1)		Species?		Number of Dominant Species		
Pinus taeda	10	Υ	FAC	That Are OBL, FACW, or FAC: 10 (A)		
Quercus phellos	10	Υ	FACW	Total Number of Dominant		
Nyssa sylvatica	20	Υ	FAC	Species Across All Strata: 11 (B)		
Quercus pagoda	10	Υ	FACW			
				Percent of Dominant Species That Are OBL, FACW, or FAC: 91 (A/I		
				Prevalence Index worksheet:		
				Total % Cover of: Multiply by:		
	5 0	= Total Cov	er	OBL species x 1 =		
50% of total cover: 25	20% of	total cover	10	FACW species x 2 =		
apling/Shrub Stratum (Plot size: 0.1)				FAC species x 3 =		
Liquidambar styraciflua	25	Υ	FAC	FACU species x 4 =		
Nyssa sylvatica	15	Υ	FAC	UPL species x 5 =		
Morella cerifera	10	Υ	FAC	Column Totals: (A) (B		
				Drovolongo Index = D/A =		
				Prevalence Index = B/A =		
				Hydrophytic Vegetation Indicators:		
·				<u>✓</u> 2 - Dominance Test is >50%		
		- Total Car		3 - Prevalence Index is ≤3.0 ¹		
500% of total agrees 25	= Total Cover 20% of total cover: 10			☐ Problematic Hydrophytic Vegetation¹ (Explain)		
0				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) more in diameter at breast height (DBH), regardless cheight. 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, regardles of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.		
2						
		= Total Cov	er			
50% of total cover:	20% of	total cover	:			
Voody Vine Stratum (Plot size: 0.1)						
Smilax rotundifolia	40	Υ	FAC			
Gelsemium sempervirens	40	Υ	FAC			
Smilax bona-nox	30	Υ	FAC			
Vitis rotundifolia	25	N	FAC			
<u>. </u>				Hydrophytic		
	135 = Total Cover			Vegetation Present? Yes X No		
50% of total cover: 67.5	20% of total cover: 27					
	w).					

SOIL Sampling Point: 4-Alt 3A

Profile Desc	cription: (Describe to	o the depth	needed to docur	ment the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Features		3		
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR 4/2							brown fine sand
2-12	10YR 5/3							gray-brown sand
12-20	10YR 5/3							gray sand
1							2	
	oncentration, D=Deple Indicators: (Applica					ains.		PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histosol		ible to all Li	Polyvalue Be			DD C T III		Muck (A9) (LRR O)
	oipedon (A2)		Thin Dark Su		· , ·			Muck (A10) (LRR S)
	stic (A3)		Loamy Muck					sed Vertic (F18) (outside MLRA 150A,B)
	en Sulfide (A4)		Loamy Gleye	-		,		ont Floodplain Soils (F19) (LRR P, S, T)
	d Layers (A5)		Depleted Ma	` ,				alous Bright Loamy Soils (F20)
_	Bodies (A6) (LRR P,		Redox Dark	`	,		1 1 '	RA 153B)
_	ucky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre					arent Material (TF2) Shallow Dark Surface (TF12)
	uck (A9) (LRR P, T)		Marl (F10) (L	,	5)			(Explain in Remarks)
	d Below Dark Surface	(A11)	Depleted Oc		(MLRA 1	51)		(
ı '	ark Surface (A12)		Iron-Mangan		. , .			cators of hydrophytic vegetation and
	rairie Redox (A16) (M		_			, U)		tland hydrology must be present,
	Mucky Mineral (S1) (L l Bleyed Matrix (S4)	RR 0, S)	Delta Ochric Reduced Ve			0A 150B)	uni	ess disturbed or problematic.
	Redox (S5)		Piedmont Flo				9A)	
	Matrix (S6)						A 149A, 153C	, 153D)
	rface (S7) (LRR P, S,	T, U)						
Restrictive	Layer (if observed):							
Type:								N
Depth (in	ches):						Hydric Soil	Present? Yes No N
Remarks:	o evidence of	hydric s	oil indicators	Drys	andv s	oil to 20) inches (depth. Bits of asphalt and
	ravel in the soi						7 11101100	depth. Bits of deprial and
9		1 110111 3	Jon Side cas	t ii Oiii i	icarby	Todu.		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Camp Pendleton City	County: Virginia Beach Sampling Date: 10-15-13
Applicant/Owner: U.S. Army	Virginia Beach Sampling Date: 10-15-13 State: VA Sampling Point: 5-Alt 3A
0 (0)	tion, Township, Range:
Landform (hillslope, terrace, etc.): Local	
Subregion (LRR or MLRA): Lat:	Long: Datum:
Soil Map Unit Name: Duckston fine Sand	NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation \underline{X} , Soil \underline{X} , or Hydrology \underline{X} significantly distributed by Significantly \underline{X}	urbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation, Soil, or Hydrology naturally probler	natic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No _X	Is the Sampled Area within a Wetland? Yes No _X
The sampling point is near the Alt 3 A HDD work	area, which is a compacted road and parking area the mowed road shoulder along the asphalt road gment. The site could be considered urban land.
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) Marl Deposits (B15) (LI Hydrogen Sulfide Odor Oxidized Rhizospheres Presence of Reduced In Recent Iron Reduction Thin Muck Surface (C7 Other (Explain in Remain Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations:	(C1)
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Saturation Present? Yes No _X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, processing proc	Wetland Hydrology Present? Yes No X
Remarks: The site contains fill material from the road and be wetland hydrology, hydric soils, or hydrophytic ve	erm around the nearby rifle range. No evidence of getation.

EGETATION (Four Strata) – Use scientific na	Sampling Point: 5-Alt 3A					
		Dominant		Dominance Test worksheet:		
Tree Stratum (Plot size:) None present	% Cover	Species?	Status	Number of Dominant Species		
···				That Are OBL, FACW, or FAC: 0 (A)		
2.				Total Number of Dominant		
3				Species Across All Strata: 2 (B)		
4			· 	Percent of Dominant Species		
5		-	· ——	That Are OBL, FACW, or FAC: 0 (A/B)		
6			· 	Prevalence Index worksheet:		
7		-	· ——	Total % Cover of: Multiply by:		
8		T-4-1 O-		OBL species x 1 =		
F00/ -54-4-1	· · ·	= Total Co		FACW species x 2 =		
50% of total cover:	20% 01	r total covei	r:	FAC species x 3 =		
Sapling/Shrub Stratum (Plot size:) None present				FACU species x 4 =		
**-			· 	UPL species x 5 =		
2.				Column Totals: (A) (B)		
3				(-)		
4				Prevalence Index = B/A =		
5				Hydrophytic Vegetation Indicators:		
6				1 - Rapid Test for Hydrophytic Vegetation		
7				2 - Dominance Test is >50%		
8				3 - Prevalence Index is ≤3.0 ¹		
0-		= Total Co		Problematic Hydrophytic Vegetation ¹ (Explain)		
50% of total cover: 25	20% of	f total cover	r: 10			
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must		
1. Digitaria sanguinalis	50	Y	FACU	be present, unless disturbed or problematic.		
2. Paspalum dilatatum	10	N	FAC	Definitions of Four Vegetation Strata:		
3. Cynodon dactylon	25	Y	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or		
4				more in diameter at breast height (DBH), regardless of		
5				height.		
6				Sapling/Shrub – Woody plants, excluding vines, less		
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
8				Herb – All herbaceous (non-woody) plants, regardless		
9				of size, and woody plants less than 3.28 ft tall.		
10				Woody vine – All woody vines greater than 3.28 ft in		
11				height.		
12						
		= Total Co	ver			
50% of total cover: 42.5	20% of	f total cover	r: <u>17</u>			
Woody Vine Stratum (Plot size:)						
1. None present						
2.						
3.						
4						
5				Hardware hard a		
o			vor	Hydrophytic Vegetation		
50% of total cover:	= Total Cover 20% of total cover:			Present? Yes No X		
		i total covel	· ——			
Remarks: (If observed, list morphological adaptations bel	ioW).					
Mowed road side						

SOIL Sampling Point: 5-Alt 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix			x Features	3				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remarks	
0-12 1	0YR 4/3							compacted sand	
12-20 1	0YR 5/3							compacted sand and grave	el
¹Type: C=Cond	centration, D=Deple	etion. RM=R	educed Matrix. M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=Matrix.	
	licators: (Applica							for Problematic Hydric Soils ³	:
☐ Histosol (A	1)		☐ Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U) <u> </u>	Muck (A9) (LRR O)	
Histic Epipe	edon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)		Muck (A10) (LRR S)	
Black Histic	c (A3)		Loamy Muck	y Mineral (F1) (LRR	O)		ed Vertic (F18) (outside MLRA	-
Hydrogen S			Loamy Gleye		=2)			ont Floodplain Soils (F19) (LRR	P, S, T)
Stratified La			Depleted Ma		۵,			alous Bright Loamy Soils (F20)	
	dies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B) arent Material (TF2)	
	y Mineral (A7) (LR l ence (A8) (LRR U)		Depleted Da Redox Depre					rhallow Dark Surface (TF12)	
	(A9) (LRR P, T)		Marl (F10) (L		·)			(Explain in Remarks)	
	elow Dark Surface	(A11)	Depleted Oc	,	MLRA 15	51)		(Explain in Francisco)	
	Surface (A12)	, ,	Iron-Mangan			-	T) ³ Indic	ators of hydrophytic vegetation	and
	rie Redox (A16) (M		Umbric Surfa	ace (F13) (I	LRR P, T,	U)	wet	land hydrology must be present	.,
_	ky Mineral (S1) (Ll	RR O, S)	Delta Ochric				unle	ess disturbed or problematic.	
	yed Matrix (S4)		Reduced Ve						
Sandy Red			Piedmont Flo					4520)	
Stripped M	atrix (S6) ce (S7) (LRR P, S,	T II)	Anomalous E	Bright Loan	ny Solis (F	-20) (WILKA	A 149A, 153C	, 153D)	
	er (if observed):	1, 0)							
Type:	yer (ii observed).								
Depth (inche)c).		_				Hydric Soil	Present? Yes No	N
			 ,				Hyuric 30ii	rieseiit: ies No	
Remarks:	evidence of	hydric so	oil indicators	Comr	acted	sandy	soil to 20	inches depth. Bits of	
	halt and grav	•						•	
asp	man and gra	ver iii tiit	3011 11 0111 3	poli siu	c casi	ii Oiii iic	alby Ioa	u.	

Project/Site: Camp Pendleton	City/County: Virginia	a Beach	Sampling Date: _	10-15-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point:	6-Alt 3A
Investigator(s): Campo/Sherwood		ange:		
Landform (hillslope, terrace, etc.):				e (%):
Subregion (LRR or MLRA): Lat:				
		NWI classific		
Are climatic / hydrologic conditions on the site typical for this time of ye				
Are Vegetation X , Soil X , or Hydrology X significantly		e "Normal Circumstances"		No X
Are Vegetation, Soil, or Hydrology naturally pro		needed, explain any answe		
SUMMARY OF FINDINGS – Attach site map showing				atures, etc.
Hydrophytic Vegetation Present? Yes	Is the Sample within a Wetl		No X	
The sample point is the mowed road shoulder end of the Alt 3A Washington Ave segment. T			•	ea at the
HYDROLOGY				
Sediment Deposits (B2)	3) 5) (LRR U) Odor (C1) heres along Living Roc ced Iron (C4) ction in Tilled Soils (C6 e (C7)	Surface Soil Sparsely Ve Drainage Pa Moss Trim L Dry-Season Crayfish Bur Saturation V Geomorphic Shallow Aqu FAC-Neutral	getated Concave S tterns (B10) ines (B16) Water Table (C2) rows (C8) isible on Aerial Ima Position (D2) itard (D3)	Surface (B8)
Surface Water Present? Yes No X Depth (inches	3):			
Water Table Present? Yes No _X Depth (inches Saturation Present? Yes No _X Depth (inches (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	s): v	Vetland Hydrology Preserns), if available:	nt? Yes	No X
The site contains fill material from the road and wetland hydrology, hydric soils, or hydrophytic		the nearby rifle ra	nge. No evid	lence of

2	Number of Dominant Species That Are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata:
1. None present 2	Total Number of Dominant Species Across All Strata: Percent of Dominant Species That Are OBL, FACW, or FAC: 0
2	Total Number of Dominant Species Across All Strata: 2 (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 = FACW species x 3 = FACU species x 4 = UPL species x 5 = Column Totals: (A) (B) Prevalence Index = B/A = Hydrophytic Vegetation 2 - Dominance Test is >50% Total Number of Dominant Species 0 (A/B) Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation (Explain)
3	Species Across All Strata:
4	Percent of Dominant Species That Are OBL, FACW, or FAC:
5	That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
8 = Total Cover	That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet:
7	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) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation □ 2 - Dominance Test is >50% □ 3 - Prevalence Index is ≤3.0¹ □ Problematic Hydrophytic Vegetation¹ (Explain)
50% of total cover: 20% of total cover: 20% of total cover: Sapling/Shrub Stratum (Plot size:) 1. None present 2 33	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) Prevalence Index = B/A = Hydrophytic Vegetation Indicators: ✓ 1 - Rapid Test for Hydrophytic Vegetation □ 2 - Dominance Test is >50% □ 3 - Prevalence Index is ≤3.0¹ □ Problematic Hydrophytic Vegetation¹ (Explain)
8 = Total Cover	OBL species
50% of total cover: 20% of total cover: 20% of total cover: Sapling/Shrub Stratum (Plot size:) 1. None present 2 33	FACW species
Sapling/Shrub Stratum (Plot size:	FAC species
1. None present 2	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 ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
2	UPL species x 5 = (A) (B) Prevalence Index = B/A = (B) Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
2	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 ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
3	Prevalence Index = B/A = Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
4	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
5	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
6	1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
7	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
8	3 - Prevalence Index is ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain)
	Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: $\frac{25}{2}$ 20% of total cover: $\frac{10}{2}$	
	'
Hards Otractions (Distraction)	
Herb Stratum (Plot size:) 1 Digitaria sanguinalis 50 Y FA	Indicators of hydric soil and wetland hydrology must ACU he present unless disturbed or problematic
2. Paspalum dilatatum 10 N FA	be present, amose distance of presidentiale.
	Definitions of Four Vegetation Strata:
	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4	
5	<u> </u>
6	
7	than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8	Herb – All herbaceous (non-woody) plants, regardless
9	of size, and woody plants less than 3.28 ft tall.
10	Woody vine – All woody vines greater than 3.28 ft in
11	height.
12	
85 = Total Cover	
50% of total cover: $\frac{42.5}{}$ 20% of total cover: $\frac{17}{}$	7
Woody Vine Stratum (Plot size:)	
1. None present	
2	
3	
4	
5	Hydrophytic
= Total Cover	Vegetation
	Present? Yes No X
= Total Cover 50% of total cover: 20% of total cover: Remarks: (If observed, list morphological adaptations below). Mowed road side	Procent? Vos No X

SOIL Sampling Point: 6-Alt 3A

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			x Features	3				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Rema	
0-12	10YR 4/3							compacted sand	
12-20	10YR 5/3							compacted sand	and gravel
				- '					
¹ Type: C=C	oncentration, D=Depl	etion. RM=R	educed Matrix. M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=	Matrix.
	Indicators: (Applica							for Problematic Hy	
☐ Histosol	(A1)		☐ Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U) <u> </u>	Muck (A9) (LRR O)	
Histic E	oipedon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)		Muck (A10) (LRR S)	
Black Hi	stic (A3)		Loamy Muck	y Mineral (F1) (LRR	O)		ed Vertic (F18) (outs	
_	n Sulfide (A4)		Loamy Gleye		=2)			ont Floodplain Soils (
	d Layers (A5)		Depleted Ma		۵,			alous Bright Loamy S	oils (F20)
= -	Bodies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B) arent Material (TF2)	
	icky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre					arent Material (1F2) Shallow Dark Surface	(TE12)
	ick (A9) (LRR P, T)		Marl (F10) (L	•	·)			(Explain in Remarks)	,
_	d Below Dark Surface	e (A11)	Depleted Oc		MLRA 15	51)		(=::p::::::::::::::::::::::::::::::::::	
	ark Surface (A12)	` ,	Iron-Mangan	, ,		•	T) ³ Indic	cators of hydrophytic	vegetation and
	rairie Redox (A16) (M		Umbric Surfa	ace (F13) (LRR P, T,	, U)	wet	tland hydrology must	be present,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbed or prob	lematic.
	Gleyed Matrix (S4)		Reduced Ve						
	Redox (S5)		Piedmont Flo					452D)	
	Matrix (S6) rface (S7) (LRR P, S,	T 11)	Anomalous I	Bright Loan	ny Solis (i	-20) (NILRA	A 149A, 153C	, 153D)	
	Layer (if observed):	, 1, 0)							
Type:	Layer (ii oboci vea).								
Depth (in	choe):		_				Hydric Soil	Present? Yes	No N
							Hyuric 30ii	rieseitti ies	
Remarks:	o evidence of	hydric so	oil indicators	Comr	acted	sandy	soil to 20	inches depth	Bits of
	sphalt and gra	•							2.1.5 0.
"	spriait and gra	ver iii tiit	3011 110111 3	poli sia	c cast	110111110	andy road	u.	

Project/Site: Camp Pendleton	City/County: Virginia Beach Sampling Date: 10-15-13
Applicant/Owner: U.S. Army	State: VA Sampling Point: 7-Alt 3A
Investigator(s): Campo/Sherwood	Section, Township, Range:
	Local relief (concave, convex, none): Slope (%):
	Long: Datum:
Soil Map Unit Name: Duckston fine Sand	NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year	
Are Vegetation, Soil X, or Hydrology significantly	
Are Vegetation, Soil, or Hydrology naturally pro	
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: The sampling point is pear the Alt 3 A HDD wo	Is the Sampled Area within a Wetland? Yes No _X rk area, which is a compacted road and parking area
	t is the woodland edge near the end of the Alt 3 A
segment on Washington Ave. Past spoil piles	S .
degricit on washington / we. T ast spoil piles	evident from the dajacent road constitution.
HYDROLOGY	
Sediment Deposits (B2)	Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) ed Iron (C4) Crayfish Burrows (C8) cion in Tilled Soils (C6) (C7) emarks) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Emarks) Shallow Aquitard (D3) FAC-Neutral Test (D5) Sphagnum moss (D8) (LRR T, U)
Water Table Present? Yes No X Depth (inches)	
Saturation Present? Yes No X Depth (inches) (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	: Wetland Hydrology Present? Yes No X
Remarks: The site contains fill material from the road and wetland hydrology, no soil saturation to 20 inch	I berm around the nearby rifle range. No evidence of nes.

0.4		Dominant		Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: 0.1		Species?		Number of Dominant Species	
1. Pinus taeda	10	<u>Y</u>	FAC	That Are OBL, FACW, or FAC: 10	(A)
2. Quercus phellos	10	<u>Y</u>	FACW	Total Number of Dominant	
3. Nyssa sylvatica	20	<u>Y</u>	FAC	4.4	(B)
4. Quercus pagoda	10	Υ	FACW	Percent of Dominant Species	
5			-	' 04	(A/B)
6					()
7				Prevalence Index worksheet:	
8.				Total % Cover of: Multiply by:	-
	50	= Total Cov	er	OBL species x 1 =	
50% of total cover: 25				FACW species x 2 =	
Sapling/Shrub Stratum (Plot size: 0.1)	20 /0 01	total cover.	· ——	FAC species x 3 =	
1. Liquidambar styraciflua	25	Υ	FAC	FACU species x 4 =	_
2. Nyssa sylvatica	15	Y	FAC	UPL species x 5 =	
	10	<u>Y</u>		Column Totals: (A)	
3. Morella cerifera			FAC	(1)	(5)
4				Prevalence Index = B/A =	_
5				Hydrophytic Vegetation Indicators:	
6					
7				2 - Dominance Test is >50%	
8				3 - Prevalence Index is ≤3.0¹	
	50	= Total Cov	er	Problematic Hydrophytic Vegetation¹ (Explain	.\
50% of total cover: ²⁵				Troblematic Hydrophytic Vegetation (Explain)
Herb Stratum (Plot size:)				1	
A None Present				¹ Indicators of hydric soil and wetland hydrology mube present, unless disturbed or problematic.	ust
				·	
2				Definitions of Four Vegetation Strata:	
3				Tree – Woody plants, excluding vines, 3 in. (7.6 cr	m) or
4				more in diameter at breast height (DBH), regardles	ss of
5				height.	
6				Sapling/Shrub – Woody plants, excluding vines, I	less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
8.				Harle All bank assaus (non monde) plants research	
9.				Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall.	iless
10				Woody vine – All woody vines greater than 3.28 f	t in
11				height.	
12					
		= Total Cov			
50% of total cover:	20% of	total cover			
Woody Vine Stratum (Plot size: 0.1)					
1. Smilax rotundifolia	40	Υ	FAC		
2. Gelsemium sempervirens	40	Υ	FAC		
3. Smilax bona-nox	30	Υ	FAC		
4. Vitis rotundifolia	25	N	FAC		
5.					
	135	= Total Cov		Hydrophytic Vegetation	
500/ 51 1 1 67 5				Present? Yes X No	
50% of total cover: 67.5		total cover			
Remarks: (If observed, list morphological adaptations belo	w).				

SOIL Sampling Point: 7-Alt 3A

Profile Desc	cription: (Describe to	o the depth	needed to docur	ment the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Features		3		
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-2	10YR 4/2							brown fine sand
2-12	10YR 5/3							gray-brown sand
12-20	10YR 5/3							gray sand
1							2	
	oncentration, D=Deple Indicators: (Applica					ains.		PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histosol		Die to all Lr	Polyvalue Be			DD C T II		Muck (A9) (LRR O)
	oipedon (A2)		Thin Dark Su		· , ·			Muck (A10) (LRR S)
	stic (A3)		Loamy Muck					sed Vertic (F18) (outside MLRA 150A,B)
	en Sulfide (A4)		Loamy Gleye	-		,		ont Floodplain Soils (F19) (LRR P, S, T)
	d Layers (A5)		Depleted Ma	` ,				alous Bright Loamy Soils (F20)
_	Bodies (A6) (LRR P,		Redox Dark	`	,		1 1 '	RA 153B)
_	ucky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre					arent Material (TF2) Shallow Dark Surface (TF12)
	uck (A9) (LRR P, T)		Marl (F10) (L	,	5)			(Explain in Remarks)
	d Below Dark Surface	(A11)	Depleted Oc		(MLRA 1	51)		(
ı '	ark Surface (A12)		Iron-Mangan		. , .			cators of hydrophytic vegetation and
	rairie Redox (A16) (M		Umbric Surfa			, U)		tland hydrology must be present,
	Mucky Mineral (S1) (L l Bleyed Matrix (S4)	RR 0, 5)	Delta Ochric Reduced Ver			0A 150B)	uni	ess disturbed or problematic.
	Redox (S5)		Piedmont Flo				9A)	
	Matrix (S6)						A 149A, 153C	, 153D)
	rface (S7) (LRR P, S,	T, U)						
Restrictive	Layer (if observed):							
Type:								N
Depth (in	ches):		_				Hydric Soil	Present? Yes No N
Remarks:	o evidence of	hvdric so	nil indicators	Drys	andv s	oil to 20) inches (depth. Bits of asphalt and
	ravel in the soi						7 11101100	depth. Bits of deprial and
9		i iiOiii Sp	on side cas	t ii Oiii i	icarby	Todu.		

Project/Site: Camp Pendleton	City/County: V	irginia Beach	Sampling Date: 10-15-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 8-Alt 3B HDD
0 (0)	Section, Towns		
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA):			
Soil Map Unit Name: Urban land		NWI class	sification. Upland
Are climatic / hydrologic conditions on the site typi			
Are Vegetation $\frac{X}{X}$, Soil $\frac{X}{X}$, or Hydrology			
Are Vegetation, Soil, or Hydrology		(If needed, explain any ans	
SUMMARY OF FINDINGS – Attach sit			
	.,	,	, ,
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No X Is the S	ampled Area	V
Wetland Hydrology Present? Yes	No X within a	a Wetland? Yes	No X
Remarks:			
Nearly all of the Alt 3 B HDD wor	k area is an asnhalt nar	king lot. A small port	ion is the rifle range
berm.	K died is dir depriali par	iding lot. At official port	ion is the fine range
berni.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Inc	dicators (minimum of two required)
Primary Indicators (minimum of one is required;	check all that apply)	Surface S	Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely '	Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)		Patterns (B10)
Saturation (A3)	Hydrogen Sulfide Odor (C1)		n Lines (B16)
Water Marks (B1)	Oxidized Rhizospheres along Livir	ng Roots (C3) 🔲 Dry-Seas	on Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish E	Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled So	ils (C6) 🔲 Saturation	n Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorp	hic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow A	Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)		=	tral Test (D5)
☐ Water-Stained Leaves (B9)		<u></u> Sphagnur	m moss (D8) (LRR T, U)
Field Observations:			
	Depth (inches):		
	Depth (inches):		~
Saturation Present? Yes No _2 (includes capillary fringe)	Depth (inches):	Wetland Hydrology Pres	sent? Yes No X
Describe Recorded Data (stream gauge, monitor	ring well, aerial photos, previous ins	pections), if available:	
Remarks:			
The site is urban land. Mostly an	asphalt parking lot.		

EGETATION (Four Stra	ta) – Use scientific n	ames of pla	ants.		Sampling Point: 8-Alt 3	B HDD
			Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species	
1. None present					That Are OBL, FACW, or FAC: 0	(A)
2					Total Number of Dominant	
3					Species Across All Strata: 0	(B)
4					Percent of Dominant Species	
5					That Are OBL, FACW, or FAC: 0	(A/B)
6					Prevalence Index worksheet:	
7					Total % Cover of: Multiply by:	
8						_
		=	Total Cov	er	OBL species x 1 =	
	50% of total cover:	20% of	total cover:		FACW species x 2 =	
Sapling/Shrub Stratum (Plot size	ze:)				FAC species x 3 =	
1. None Present					FACU species x 4 =	
2					UPL species x 5 =	
3					Column Totals: (A)	_ (B)
4					Prevalence Index = B/A =	
5					Hydrophytic Vegetation Indicators:	
6					1 - Rapid Test for Hydrophytic Vegetation	
7					2 - Dominance Test is >50%	
8					3 - Prevalence Index is ≤3.0 ¹	
		=	Total Cov	er	Problematic Hydrophytic Vegetation¹ (Explain	1)
	50% of total cover:	20% of	total cover:		resistance rijerophijas vogstation (Explain	'/
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology me be present, unless disturbed or problematic.	ust
2					Definitions of Four Vegetation Strata:	
					Deminions of Four Vegetation Strata.	
3					Tree – Woody plants, excluding vines, 3 in. (7.6 cl	
4					more in diameter at breast height (DBH), regardle height.	SS OI
5						
6					Sapling/Shrub – Woody plants, excluding vines, I than 3 in. DBH and greater than 3.28 ft (1 m) tall.	less
7 8.						
9.					Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3.28 ft tall.	lless
					of size, and woody plants less than 3.20 it tall.	
10					Woody vine – All woody vines greater than 3.28 f	ft in
11					height.	
12			Total Cau			
	FOO/ of total covers	200/ -f-				
Manada Via a Otantana (Diataina	50% of total cover:	20% 01	lotal cover.			
Woody Vine Stratum (Plot size 1 None Present	,					
2						
3				-		
4				-		
5					Hydrophytic	
	500/ 51 1 1		Total Cov		Vegetation Yes No X	
	50% of total cover:		total cover:			
Remarks: (If observed, list mor	priological adaptations be	nuw).				

SOIL Sampling Point: 8-Alt 3B HDD

	Matrix		Redo	x Feature	6					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
								Urban laı	nd, asphalt	parking lot
				-						
	-			-						
						-				
	-									
	oncentration, D=Depl					ains.			ining, M=Mat	
ydric Soil	Indicators: (Applica	able to all L							matic Hydric	: Soils³:
Histoso	` '		Polyvalue Be					luck (A9) (L		
	pipedon (A2)		Thin Dark Su					1uck (A10) (MI DA 450A I
	listic (A3) en Sulfide (A4)		Loamy Muck	-		(0)		•	, .	MLRA 150A,E) (LRR P, S, T
	d Layers (A5)		Depleted Ma		1 2)				Loamy Soils	
	Bodies (A6) (LRR P,	T, U)	Redox Dark		6)		· · · · · · · · · · · · · · · · · · ·	RA 153B)		(. =0)
	ucky Mineral (A7) (LR		Depleted Da	rk Surface	(F7)			arent Materi	al (TF2)	
_	resence (A8) (LRR U))	Redox Depre		3)				Surface (TF	12)
	uck (A9) (LRR P, T)	(4.44)	Marl (F10) (L			- 4.	U Other	(Explain in F	Remarks)	
= '	d Below Dark Surface ark Surface (A12)	e (A11)	Depleted Oc		•	•	T) ³ India	ators of by	Irophytic veg	otation and
=	ark Sunace (A12) Prairie Redox (A16) (N	II RA 150A)	☐ Iron-Mangan☐ Umbric Surfa						ogy must be p	
=	Mucky Mineral (S1) (L	,	Delta Ochric			, 0,		-	d or problem	
	Gleyed Matrix (S4)		Reduced Ve			0A, 150B)				
	Redox (S5)		Piedmont Flo	oodplain S	oils (F19)	(MLRA 14	9A)			
	d Matrix (S6)		Anomalous E	Bright Loai	ny Soils (=20) (MLR	A 149A, 153C	, 153D)		
	urface (S7) (LRR P, S	, T, U)					1			
restrictive	Layer (if observed):									
T										
Type:							Huddia Cail	D	Vaa	N. N
Depth (in	iches):		<u> </u>				Hydric Soil	Present?	Yes	NoN
Depth (in	iches):		— — king lot				Hydric Soil	Present?	Yes	No <u>N</u>
Depth (in			king lot				Hydric Soil	Present?	Yes	_ No <u>N</u>
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	_ No <u>N</u>
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No <u>N</u>
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	_ No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N
Depth (in	iches):		king lot				Hydric Soil	Present?	Yes	No N

Project/Site: Camp Pendleton		City/County: Virg	inia Beach	_ Sampling Date: 10-15-13
Applicant/Owner: U.S. Army			State: VA	Sampling Point: 9-Alt 3B
Investigator(s): Campo/Sherwood	t		o, Range:	
Landform (hillslope, terrace, etc.):				
Subregion (LRR or MLRA):				
Soil Map Unit Name: Newhan fine			NWI classif	
Are climatic / hydrologic conditions of				
Are Vegetation X, Soil X,		-		present? Yes X No
Are Vegetation, Soil,			(If needed, explain any answ	
SUMMARY OF FINDINGS –				•
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: The sampling point is a		within a V		No X
parking lot. The berm is	0	Defin at the Ait	S B HDD Work area	, willcit is all aspilali
HYDROLOGY				
Primary Indicators (minimum of one 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 Im Water-Stained Leaves (B9)	Aquatic Faun Aquatic Faun Marl Deposits Hydrogen Su Oxidized Rhiz Presence of I Recent Iron F Thin Muck Su Other (Explai	na (B13) s (B15) (LRR U) ulfide Odor (C1) zospheres along Living Reduced Iron (C4) Reduction in Tilled Soils	Sparsely V Drainage P Moss Trim Pry-Seasor Crayfish Bu (C6) Saturation Geomorphi Shallow Aq FAC-Neutri	Visible on Aerial Imagery (C9) c Position (D2)
Field Observations:	a Na X Dandh (i			
	s No X Depth (in s No X Depth (in			
Saturation Present? Yes (includes capillary fringe)	s No X Depth (in	nches):		ent? Yes No X
Describe Recorded Data (stream g	auge, monitoring well, aerial	photos, previous inspe	ctions), if available:	
Remarks: The site is the rifle rang HDD asphalt parking lo		ıilt-up 10 feet hiç	gh with fill sand. Adj	acent to the Alt 3B

	mes of pl	ants.		Sampling Point: 9-Alt 3B
		Dominant		Dominance Test worksheet:
ree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
None present				That Are OBL, FACW, or FAC: 4 (A)
•				Total Number of Dominant
				Species Across All Strata: 5 (B)
k				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 80 (A/B
S				
7				Prevalence Index worksheet:
3.				Total % Cover of: Multiply by:
		= Total Cov	er	OBL species x 1 =
50% of total cover:				FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 0.1)	20 /0 01	total cover		FAC species x 3 =
Pinus taeda	50	Υ	FAC	FACU species x 4 =
	10	N	FAC	UPL species x 5 =
Baccharis halimifolia				Column Totals: (A) (B)
Morella cerifera	10	N	FAC	Column Totals (A) (B)
k				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
3				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
3				3 - Prevalence Index is ≤3.0¹
		= Total Cov	er	
50% of total cover: 35				Problematic Hydrophytic Vegetation ¹ (Explain)
	20 /0 01	total cover		
Herb Stratum (Plot size:) Andropogon virginicus	10	Υ	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Boltonia diffusa	5	· Y	FAC	' '
Curados dostulos	10	<u>Y</u>	FACU	Definitions of Four Vegetation Strata:
*	. ——			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) o
ł				more in diameter at breast height (DBH), regardless of
5				height.
ò				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
3				Herb – All herbaceous (non-woody) plants, regardless
).				of size, and woody plants less than 3.28 ft tall.
10.				
11.				Woody vine – All woody vines greater than 3.28 ft in height.
2.				noight.
		= Total Cov	·or	
50% of total cover: 12.5		total cover		
	20% 01	total cover	. —	
Voody Vine Stratum (Plot size:)	10	V	FAC	
Colombium componinos	10	Y	FAC	
	-	N	FAC	
Lonicera japonica	5			
Lonicera japonica	5 5	N	FAC	
Lonicera japonica Smilax bona-nox	5		FAC	
Lonicera japonica Smilax bona-nox	5		FAC	Hydrophytic
Lonicera japonica Smilax bona-nox	5			Hydrophytic Vegetation
Gelsemium sempervirens Lonicera japonica Smilax bona-nox 5. 50% of total cover: 10	5 20	N = Total Cov	ver	

SOIL Sampling Point: 9-Alt 3B

Profile Desc	cription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	n the absence	of indicato	ors.)	
Depth	Matrix		Redo	x Features	;					
(inches)	Color (moist)		Color (moist)	%	Type ¹	<u>Loc²</u>	Texture		Remarks	
0-20	10YR 5/3						sand	rifle range be	erm sandy fill mat	erial 10 feet high.
										<u> </u>
								-		
							-	-		
¹ Type: C=C	oncentration, D=Depl	etion, RM=R	leduced Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore L	ining, M=Matri	X.
	Indicators: (Applica								matic Hydric	
☐ Histosol	(A1)		☐ Polyvalue Be	elow Surfac	e (S8) (L	RR S. T. L	J) 🔲 1 cm N	Muck (A9) (L	RR O)	
	pipedon (A2)		Thin Dark Su		. , .			Muck (A10) (•	
· = ·	stic (A3)		Loamy Muck							MLRA 150A,B)
	en Sulfide (A4)		Loamy Gley			-,				(LRR P, S, T)
	d Layers (A5)		Depleted Ma		_,				Loamy Soils (
	Bodies (A6) (LRR P,	T. U)	Redox Dark		6)		· · · · · · · · · · · · · · · · · · ·	RA 153B)		
	ucky Mineral (A7) (LR		Depleted Da				_ `	arent Materi	ial (TF2)	
	resence (A8) (LRR U)		Redox Depre						Surface (TF1	2)
	ick (A9) (LRR P, T)		Marl (F10) (I	•	,			(Explain in F	•	_,
	d Below Dark Surface	(A11)	Depleted Oc		MLRA 1	51)		(,	
	ark Surface (A12)	,	Iron-Mangar				T) ³ Indic	cators of hyd	drophytic vege	tation and
	rairie Redox (A16) (M	LRA 150A)						-	ogy must be p	
	Mucky Mineral (S1) (L		Delta Ochric			, ,		-	ed or problema	
	Gleyed Matrix (S4)	, ,	Reduced Ve			0A, 150B)			·	
	Redox (S5)		Piedmont Flo							
	Matrix (S6)						A 149A, 153C	, 153D)		
	rface (S7) (LRR P, S,	T, U)	_	J	, (, (•	,		
	Layer (if observed):									
Type:										
Depth (in	ches).						Hydric Soil	Present?	Yes	No N
Remarks:	oneo).						,			
R	ifle range bern	n sandv	fill material	10 feet	hiah.					

Project/Site: Camp Pendleton	City/County: Virgin	ia Beach	Sampling Date: 10-15-13
Applicant/Owner: U.S. Army	, , <u> </u>	State: VA	Sampling Date: 10-15-13 Sampling Point: 10-Alt 3B
0 (0)		Range:	
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat:		_ Long:	Datum:
		NWI classific	
Are climatic / hydrologic conditions on the site typical for this time of ye			
Are Vegetation, Soil, or Hydrology significantly	y disturbed? A	re "Normal Circumstances"	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If	needed, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	g sampling poin	t locations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes No X No	within a Wet	ohalt road. The san	
HYDROLOGY			
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9) Field Observations: Surface Water Present? Water Table Present? Surface Water Present? Yes NoX Depth (inches NoX Depth (inches No No Depth (inches No	13) 5) (LRR U) Odor (C1) neres along Living Ro ced Iron (C4) ction in Tilled Soils (C e (C7) Remarks)	Surface Soil Sparsely Ve Drainage Pa Moss Trim L Dry-Season Crayfish Bui Saturation V Geomorphic Shallow Aqu FAC-Neutra Sphagnum r	water Table (C2) rrows (C8) risible on Aerial Imagery (C9) Position (D2) ritard (D3) I Test (D5) moss (D8) (LRR T, U)
Saturation Present? Yes No _X Depth (inches (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo		Wetland Hydrology Prese	nt? Yes No X
Remarks: The site contains fill material from the road and wetland hydrology, no soil saturation to 20 incl	d berm around		inge. No evidence of

Tree Stratum (Plot size: 0.1)	A I I 4 -			
1. Pinus taeda		Species?		Dominance Test worksheet: Number of Dominant Species
	10	Y Y	FAC	That Are OBL, FACW, or FAC: 10 (A)
2. Quercus phellos	10	<u>Y</u>	FACW	Total Number of Dominant
3. Nyssa sylvatica	20	<u>Y</u>	FAC	Species Across All Strata: 11 (B)
4. Quercus pagoda	10	Υ	FACW	Dorgant of Dominant Species
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 91 (A/B)
6				
7				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
v	50	= Total Cov		OBL species x 1 =
50% of total cover: ²⁵				FACW species x 2 =
	20% 01	total cover.		FAC species x 3 =
Sapling/Shrub Stratum (Plot size: 0.1)	25	Υ	FAC	FACU species x 4 =
1. Liquidambar styraciflua	25			UPL species x 5 =
2. Nyssa sylvatica	15	<u>Y</u>	FAC	
3. Morella cerifera	10	<u>Y</u>	FAC	Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8.				
0		= Total Cov		3 - Prevalence Index is ≤3.0¹
75				☐ Problematic Hydrophytic Vegetation¹ (Explain)
50% of total cover: 25	20% of	total cover	10	
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must
1. None Present				be present, unless disturbed or problematic.
2				Definitions of Four Vegetation Strata:
J.				
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
4				more in diameter at breast height (DBH), regardless of height.
4 5				more in diameter at breast height (DBH), regardless of height.
4				more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less
4				more in diameter at breast height (DBH), regardless of height.
4				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
4				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.
4				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.
4				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
4				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.
4				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
4		= Total Cov	er	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
4		= Total Cov	er	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
4		= Total Covers	er	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
4	20% of	= Total Cover	er	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
4		= Total Covers	er	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
4	20% of	= Total Cover	er	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
4	20% of 40 40	= Total Covers	FAC FAC	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
4	20% of 40 40 30	= Total Covers	er FAC FAC FAC	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.
4	20% of 40 40 30 25	= Total Covers	FAC FAC FAC	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.
4	20% of 40 40 30 25 135	= Total Covers	FAC FAC FAC FAC	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.
Woody Vine Stratum (Plot size: 0.1) 1. Smilax rotundifolia 2. Gelsemium sempervirens 3. Smilax bona-nox 4. Vitis rotundifolia	20% of 40 40 30	= Total Covers	er FAC FAC FAC	more in diameter at breast height (DBH), regardless height. Sapling/Shrub – Woody plants, excluding vines, lest than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardle of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft i height.

SOIL Sampling Point: 10-Alt 3B

Profile Desc	cription: (Describe	to the depth	needed to docu	ment the ir	ndicator	or confirm	the absence	of indicate	ors.)	
Depth	Matrix			ox Features						
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	Texture		Remarks	
0-2	10YR 4/2							brown fir		
2-12	10YR 5/2							gray-bro	wn sand	
12-20	10YR 5/3							gray san	d	
		· -								,
	oncentration, D=Depletence (Applications)					ains.			ining, M=Matr matic Hydric	
l <u>-</u>		able to all L			•	DD C T II			-	Solis :
Histosol	(A1) pipedon (A2)		Polyvalue Be		· , ·		. —	1uck (A9) (L 1uck (A10)	•	
	stic (A3)		Loamy Muck					, ,		MLRA 150A,B)
	en Sulfide (A4)		Loamy Gley	-		-,) (LRR P, S, T)
_	d Layers (A5)		Depleted Ma				L Anoma	alous Bright	Loamy Soils	(F20)
	Bodies (A6) (LRR P,		Redox Dark	,	,		_ `	RA 153B)		
	ucky Mineral (A7) (LF		Depleted Da					arent Mater	, ,	10)
	esence (A8) (LRR Uuck (A9) (LRR P, T))	Redox Depre	•	9)			nallow Dan Explain in I	(Surface (TF	12)
_	d Below Dark Surface	e (A11)	Depleted Oc	,	MLRA 15	51)	<u> </u>	LAPIAIII III I	(Ciliarits)	
I = '	ark Surface (A12)	,	Iron-Mangar				T) ³ Indic	ators of hyd	drophytic vege	etation and
	rairie Redox (A16) (N		_			, U)			ogy must be p	
	Mucky Mineral (S1) (L	.RR O, S)	Delta Ochric			0.4 .4E0D\	unle	ess disturbe	d or problema	atic.
	Gleyed Matrix (S4) Redox (S5)		Reduced Ve				0.4.\			
	Matrix (S6)						A 149A, 153C	. 153D)		
_	rface (S7) (LRR P, S	, T, U)		g = 0 a	., (.	_0/ (u		, 1002,		
	Layer (if observed):									
Type:										
Depth (in	ches):						Hydric Soil	Present?	Yes	No N
Remarks:										
N	o evidence of	hydric s	oil indicators	s. Dry sa	andy s	oil to 20) inches d	depth.		

Project/Site: Camp Pendleton	City/County: Virginia Beach Sampling Date: 10-15-13
Applicant/Owner: U.S. Army	State: VA Sampling Point: 11-Alt 3B
Investigator(s): Campo/Sherwood	Section, Township, Range:
	Local relief (concave, convex, none): Slope (%):
	Long: Datum:
	NWI classification: PFO1/4
Are climatic / hydrologic conditions on the site typical for this time of ye	
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: The sample point is the south end of the begin	within a Watland?
	Lake Christine where there is surface saturation and
HYDROLOGY Wetland Hydrology Indicators:	
Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Sparsely Vegetated Concave Surface (B8) John
Field Observations: Surface Water Present? Yes No X Depth (inches)	
Water Table Present? Yes X No Depth (inches) Saturation Present? Yes X No Depth (inches) (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	S): 20 S): 12-20 Wetland Hydrology Present? Yes X No
Remarks: The PFO1/4 wetland continues to Lake Christin water. Evidence of wetland hydrology, soil saturates.	ne where there is surface saturation and surface uration at 12-20 inches.

5 Ota-ture (Dist size 0.1	Absolute	Dominant		Dominance Test worksheet:
ree Stratum (Plot size: 0.1) Liquidambar styraciflua	% Cover 25	Species?	FAC	Number of Dominant Species That Are OBL FACW or FAC: 10 (A)
Acer rubrum	25	N	FAC	That Are OBL, FACW, or FAC: 10 (A)
	40	Y	FAC	Total Number of Dominant
Nyssa sylvatica	· —	Y		Species Across All Strata: 10 (B)
Quercus pagoda	40		FACW	Percent of Dominant Species
				That Are OBL, FACW, or FAC: 100 (A/B
i				Prevalence Index worksheet:
·				Total % Cover of: Multiply by:
k				OBL species x 1 =
		= Total Cov		
50% of total cover: 65	20% of	total cover:	26	FACW species x 2 =
apling/Shrub Stratum (Plot size: 0.1)				FAC species x 3 =
Liquidambar styraciflua	10	N	FAC	FACU species x 4 =
Quercus phellos	10	N	FACW	UPL species x 5 =
Morella cerifera	10	N	FAC	Column Totals: (A) (B)
Pinus taeda	20	Υ	FAC	Prevalence Index = B/A =
Vaccinium corymbosum	10	N	FACW	Hydrophytic Vegetation Indicators:
i.				1 - Rapid Test for Hydrophytic Vegetation
i.				
		= Total Cov		☐ 3 - Prevalence Index is ≤3.0 ¹
50% of total cover: ³⁰				☐ Problematic Hydrophytic Vegetation¹ (Explain)
Herb Stratum (Plot size: 0.1	20 /0 01	total cover.		
Chasmanthium sessiliflorum	20	Υ	FAC	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	20	<u>Y</u>	FACW	' '
()smiindastriim cinnamomeiim				
				Definitions of Four Vegetation Strata:
Woodwardia areolata	20	Y	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Osmundastrum cinnamomeum Woodwardia areolata	20	Y	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
Woodwardia areolata J. 5.	20	<u>Y</u>	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
Woodwardia areolata	20	<u>Y</u>	OBL	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
Woodwardia areolata	20	<u>Y</u>	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Woodwardia areolata	20	Y	OBL	 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.
Woodwardia areolata 5. 5. 7. 8.	20	Y	OBL	 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.
Woodwardia areolata	20	Y	OBL	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.
Woodwardia areolata	20	Y	OBL	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
Woodwardia areolata	20	Y	OBL	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
Woodwardia areolata	20	Y	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) of 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
Woodwardia areolata	20	Y	OBL	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
Woodwardia areolata	20	Y	OBL	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
Woodwardia areolata	20	Y	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) of 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
Woody Vine Stratum (Plot size: 0.1) Smilax rotundifolia	60 20% of	Total Coversitotal covers	OBL	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
Woodwardia areolata 5	60 20% of 5	= Total Cover:	OBL er 20 FAC	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
Woody Vine Stratum (Plot size: 0.1) Smilax rotundifolia Gelsemium sempervirens Smilax bona-nox	60 20% of 5 10	= Total Covers	obl obline of the state of the	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
Woodwardia areolata 5.	60 20% of 10 5	= Total Cover:	er 20 FAC FAC	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.
Woodwardia areolata 50	20 60 20% of 5 10 5 5	= Total Covers	er 20 FAC FAC FAC	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.
Woodwardia areolata Woodwardia areolata Woodwardia areolata Lance of the control of the contr	20 60 20% of 10 5 5 25	= Total Cover:	OBL er 20 FAC FAC FAC FAC er	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.

SOIL Sampling Point: 11-Alt 3B

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the ir	ndicator	or confirm	the absence	of indicate	ors.)	
Depth	Matrix			x Features	<u> </u>					
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	<u>Texture</u>		Remarks	
0-4	10YR 4/2							-	wn fine sand	
4-12	10YR 5/2							gray-bro	wn sand	
12-20	10YR 5/2							gray san	d	
										
<u> </u>										
	oncentration, D=Deple					ains.			ining, M=Matri	
l <u> </u>	Indicators: (Applica	ble to all Li			•				matic Hydric	Soils":
Histosol	(A1) Dipedon (A2)		Polyvalue Be		· , ·			/luck (A9) (I /luck (A10)	•	
	stic (A3)		Loamy Muck					, ,		/ILRA 150A,B)
	en Sulfide (A4)		Loamy Gleye			-,				(LRR P, S, T)
	d Layers (A5)		Depleted Ma		·				Loamy Soils (
	Bodies (A6) (LRR P,		Redox Dark				_ `	RA 153B)		
	icky Mineral (A7) (LR		Depleted Da					arent Mater	, ,	0)
	esence (A8) (LRR U) ick (A9) (LRR P, T)		Redox Depre		3)			hallow Darl (Explain in l	K Surface (TF1	2)
	d Below Dark Surface	(A11)	Depleted Oc	,	MLRA 15	51)	<u> </u>	(⊏xpiaiii iii i	Remarks)	
	ark Surface (A12)	()	Iron-Mangan	. , ,	•		T) ³ Indic	ators of hyd	drophytic vege	tation and
Coast P	rairie Redox (A16) (M	LRA 150A)	Umbric Surfa	ace (F13) (I	LRR P, T,	U)	wet	land hydrol	ogy must be pi	resent,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbe	ed or problema	tic.
	Gleyed Matrix (S4)		Reduced Ve				2.4.)			
	Redox (S5) Matrix (S6)		Piedmont Flo				9A) A 149A, 153C	153D)		
	rface (S7) (LRR P, S ,	T. U)	Anomalous i	Silgili Luali	ly Solis (i	20) (WILK)	4 149A, 1990	, 1330)		
	Layer (if observed):	-, -,								
Type:	,									
Depth (in	ches):		<u> </u>				Hydric Soil	Present?	Yes X	No
Remarks:										
E	vidence of hyd	lric soil i	ndicators, oı	rganic s	streakir	ng, redo	OX.			

Project/Site: Camp Pendleton	City/County: Virginia Beach Sampling Date: 10-15-13
Applicant/Owner: U.S. Army	State: VA Sampling Point: 12-Alt 3B
Investigator(s): Campo/Sherwood	Section, Township, Range:
	Local relief (concave, convex, none): Slope (%):
	Long: Datum:
	NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of year	
Are Vegetation, Soil, or Hydrology significantly	· _ · _ · · · _ · _ · · _ ·
Are Vegetation, Soil, or Hydrology naturally pro	
	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: The sampling point is near Washington Ave. W.	Is the Sampled Area within a Wetland? Yes No _X Which is an asphalt road. The sample point is the
	Alt 3 B corridor. Past spoil piles evident from the
HYDROLOGY	
Sediment Deposits (B2)	Drainage Patterns (B10) Dodor (C1) Every a long Living Roots (C3) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) (C7) Geomorphic Position (D2)
Surface Water Present? Yes No X Depth (inches)).
Water Table Present? Yes No _X Depth (inches) Saturation Present? Yes No _X Depth (inches) (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo):):
Remarks: The site contains fill material from the road and wetland hydrology, no soil saturation to 20 inch	d berm around the nearby rifle range. No evidence of nes.

Tree Stratum (Plot size: 0.1)		ants.		Sampling Point: 12-Alt 3B
ree Stratum (Plot size: 0.1	Absolute			Dominance Test worksheet:
		Species?		Number of Dominant Species
Pinus taeda	10	<u>Y</u>	FAC	That Are OBL, FACW, or FAC: 10 (A)
Quercus phellos	10	<u>Y</u>	FACW	Total Number of Dominant
Nyssa sylvatica	20	Υ	FAC	Species Across All Strata: 11 (B)
Quercus pagoda	10	Υ	FACW	Descent of Descinent Consider
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 91 (A/B
3				That / No OBE, 1 / 10 N, 01 1 / 10 (/ VB
7.				Prevalence Index worksheet:
				Total % Cover of: Multiply by:
3	=0	T-4-1-0		OBL species x 1 =
25		= Total Cov		FACW species x 2 =
50% of total cover: 25	20% of	total cover	10	FAC species x 3 =
Sapling/Shrub Stratum (Plot size: 0.1)				
Liquidambar styraciflua	25	Υ	FAC	FACU species x 4 =
Nyssa sylvatica	15	Υ	FAC	UPL species x 5 =
Morella cerifera	10	Υ	FAC	Column Totals: (A) (B)
				D 1 1 1 D/A
				Prevalence Index = B/A =
i				Hydrophytic Vegetation Indicators:
)				1 - Rapid Test for Hydrophytic Vegetation
·				2 - Dominance Test is >50%
3				3 - Prevalence Index is ≤3.0 ¹
	50	= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 25	20% of	total cover	10	· · · · · · · · · · · · · · · · ·
Herb Stratum (Plot size:)				The disease of booking and continued booking according
None Present				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
··· 				' '
2.				Definitions of Four Vegetation Strata:
3				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
1				more in diameter at breast height (DBH), regardless of
5				height.
S				Sapling/Shrub – Woody plants, excluding vines, less
7.				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.
0				Woody vine – All woody vines greater than 3.28 ft in
l1				height.
2				
		= Total Cov	er	
F00/ - 54-4-1	20% of	total cover		
50% of total cover.	20 /0 01	total cover	· ——	
50% of total cover:		Υ	FAC	
Voody Vine Stratum (Plot size: 0.1)	40		FAC	
Noody Vine Stratum (Plot size: 0.1) Smilax rotundifolia	40			
Noody Vine Stratum (Plot size: 0.1) Smilax rotundifolia Gelsemium sempervirens	40	Y	FAC	
Moody Vine Stratum (Plot size: 0.1) Smilax rotundifolia Gelsemium sempervirens Smilax bona-nox	- —		FAC FAC	
Moody Vine Stratum (Plot size: 0.1) Smilax rotundifolia Gelsemium sempervirens Smilax bona-nox	40	Y		
Moody Vine Stratum (Plot size: 0.1) Smilax rotundifolia) Gelsemium sempervirens Smilax bona-nox Vitis rotundifolia	40 30	Y	FAC	Hydrophytic
Voody Vine Stratum (Plot size: 0.1) Smilax rotundifolia) Gelsemium sempervirens Smilax bona-nox Vitis rotundifolia	40 30 25	Y Y N	FAC FAC	Hydrophytic Vegetation
Moody Vine Stratum (Plot size: 0.1) Smilax rotundifolia Gelsemium sempervirens Smilax bona-nox Vitis rotundifolia 50% of total cover: 67.5	40 30 25	Y	FAC FAC	Hydrophytic Vegetation Present? Yes X No

SOIL Sampling Point: 12-Alt 3B

	cription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicate	ors.)	
Depth (inches)	Matrix Color (moist)	<u></u> %	Color (moist)	ox Features %	Type ¹	Loc ²	Texture		Remarks	
0-2	10YR 4/2		Color (moist)		туре	LUC	Texture	brown fi		
2-12	10YR 5/3							-	wn sand	
l ———										
12-20	10YR 5/3							gray san	nd	
										_
								_		
1Type: C=C	oncentration, D=Depl	otion DM=D	laduaad Matrix, M	C=Maakad	Sand Cr		2l contion:	DI =Doro I	_ining, M=Matr	riv
	Indicators: (Applica					aii i5.			ematic Hydric	
Histosol			Polyvalue Be		•	RR S. T. U		/luck (A9) (I	-	
l '	pipedon (A2)		Thin Dark Su		. , .			лиск (A10)	•	
. =	istic (A3)		Loamy Muck					, ,	•	MLRA 150A,B)
	en Sulfide (A4)		Loamy Gleye		F2)) (LRR P, S, T)
_	d Layers (A5)		Depleted Ma	` '			·	-	t Loamy Soils	(F20)
	Bodies (A6) (LRR P, ucky Mineral (A7) (LR		Redox Dark Depleted Da				_ `	RA 153B) arent Mater	rial (TE2)	
	resence (A8) (LRR U)		Redox Depre						k Surface (TF	12)
=	uck (A9) (LRR P, T)		☐ Marl (F10) (L	•	<i>-</i> ,			(Explain in	•	,
_	d Below Dark Surface	e (A11)	Depleted Oc	,	(MLRA 1	51)			,	
	ark Surface (A12)		Iron-Mangan						drophytic vege	
	rairie Redox (A16) (N		=			, U)		-	logy must be p	
	Mucky Mineral (S1) (L Gleyed Matrix (S4)	KK (), (5)	Delta Ochric Reduced Ve			0Δ 150R)	unio	ess disturbe	ed or problema	atic.
	Redox (S5)		Piedmont Flo				9A)			
	Matrix (S6)						A 149A, 153C	, 153D)		
	rface (S7) (LRR P, S	, T, U)								
Restrictive	Layer (if observed):									
Type:										N
Depth (in	ches):		<u> </u>				Hydric Soil	Present?	Yes	No <u>N</u>
Remarks:	o evidence of	hydric s	oil indicators	Drye	andy s	oil to 20) inches (denth		
I N	o eviderice or	riyuric si	on mulcators	э. Diy S	ariuy s	011 (0 20) IIICII C S (aepuii.		

Project/Site: Camp Pendleton	City/County: Virginia B	seach	Sampling Date: 10-15-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 13-Alt 3B
Investigator(s): Campo/Sherwood			
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat:			
Soil Map Unit Name: Duckston fine Sand		NWI classific	
Are climatic / hydrologic conditions on the site typical for this time of ye			
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "N	Normal Circumstances" p	oresent? Yes X No
Are Vegetation, Soil, or Hydrology naturally pro		eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point lo	cations, transects	, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks: The sample point is the north end of the begin	within a Wetland	4? Yes X A corridor where	
the corridor. The PFO1/4 wetland continues to surface water.	Lake Christine v	where there is su	irface saturation and
HYDROLOGY			
Sediment Deposits (B2)	5) (LRR U) Odor (C1) heres along Living Roots (ced Iron (C4) ction in Tilled Soils (C6) c (C7) Remarks)	Surface Soil Sparsely Veg Drainage Par Moss Trim Li Crayfish Burn Saturation Vi Geomorphic Shallow Aqui	getated Concave Surface (B8) Itterns (B10) Ines (B16) Water Table (C2) Incows (C8) Isible on Aerial Imagery (C9) Position (D2) Itard (D3)
Water Table Present? Water Table Present? Yes X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No Depth (inches X No No Depth (inches X No No Depth (inches X No	s): <u>20</u> (s): <u>12-20</u> Wetl	land Hydrology Presen	it? Yes X No
Remarks: The PFO1/4 wetland continues to Lake Christi water. Evidence of wetland hydrology, soil sate			ion and surface

EGETATION (Four Strata) – Use scientific na	incs of pi	arito.		Sampling Point: 13-Alt 3B
- 0	Absolute	Dominant		Dominance Test worksheet:
<u>ree Stratum</u> (Plot size: <u>0.1</u>) Liquidambar styraciflua	% Cover 25	Species?	Status FAC	Number of Dominant Species
	25	N N	FAC	That Are OBL, FACW, or FAC: 10 (A)
Acer rubrum				Total Number of Dominant
Nyssa sylvatica	40	<u>Y</u>	FAC	Species Across All Strata: 10 (B)
Quercus pagoda	40	<u>Y</u>	FACW	Percent of Dominant Species
i				That Are OBL, FACW, or FAC: 100 (A/B
S				Dravial and a landary weather to
,				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	130	= Total Cov	er	OBL species x 1 =
50% of total cover: 65	20% of	total cover:	26	FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 0.1)				FAC species x 3 =
Liquidambar styraciflua	10	N	FAC	FACU species x 4 =
Quercus phellos	10	N	FACW	UPL species x 5 =
Morella cerifera	10	N	FAC	Column Totals: (A) (B)
Pinus taeda	20	Y	FAC	
Vaccinium corymbosum	10	N	FACW	Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
)				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
3				3 - Prevalence Index is ≤3.0 ¹
		= Total Cov		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 30	20% of	total cover	12	
Herb Stratum (Plot size: 0.1)				¹ Indicators of hydric soil and wetland hydrology must
Chasmanthium sessiliflorum	20	Υ	FAC	be present, unless disturbed or problematic.
Osmundastrum cinnamomeum	20	Υ	FACW	Definitions of Four Vegetation Strata:
3. Woodwardia areolata	20	Υ	OBL	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
l				more in diameter at breast height (DBH), regardless of
5.				height.
5.				Sapling/Shrub – Woody plants, excluding vines, less
7.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
3				
).).	·			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
				of size, and woody plants less than 3.20 it tall.
0				Woody vine – All woody vines greater than 3.28 ft in
1				height.
2				
		= Total Cov		
50% of total cover: 30	20% of	total cover	20	
Voody Vine Stratum (Plot size: 0.1)				
Smilax rotundifolia	5	Υ	FAC	
Gelsemium sempervirens	10	Υ	FAC	
3. Smilax bona-nox	5	Υ	FAC	
Vitio retundifolio	5	Υ	FAC	
Vitis rotundifolia				Hudranhudia
				Hydrophytic
	25	= Total Cov	er	Vegetation
5. 50% of total cover: 12.5		= Total Cov		Vegetation Present? Yes X No

SOIL Sampling Point: 13-Alt 3B

	cription: (Describe to	the depth				or confirm	the absence	of indicate	ors.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Features %	Type ¹	Loc ²	Texture		Remarks	
0-4	10YR 4/2	70	Color (moist)		туре	LOC	Texture	dark bro	wn fine sand	
4-12	10YR 5/2							gray-bro		<u> </u>
l ———										
12-20	10YR 5/2							gray san	ıd	
1Type: C=C	oncentration, D=Deple	tion PM=P	Peduced Matrix M	S=Maskad	Sand Gr		² l ocation:	DI =Pore I	ining, M=Matr	-iv
	Indicators: (Applical					aii i 3.			matic Hydric	
Histosol			Polyvalue Be		•	RR S. T. U		/luck (A9) (I	-	
	pipedon (A2)		Thin Dark Su		· , ·			/luck (A10)	•	
	istic (A3)		Loamy Muck		. , .	(O)				MLRA 150A,B)
	en Sulfide (A4)		Loamy Gleye		F2)					(LRR P, S, T)
	d Layers (A5)	T 11\	Depleted Ma	, ,	6)			-	Loamy Soils	(F20)
	Bodies (A6) (LRR P, acky Mineral (A7) (LRF		Redox Dark Depleted Da				_ `	RA 153B) arent Mater	ial (TF2)	
	resence (A8) (LRR U)	,.,.,	Redox Depre						k Surface (TF	12)
	uck (A9) (LRR P, T)		Marl (F10) (L	RR U)	•			(Explain in		ŕ
	d Below Dark Surface	(A11)	Depleted Oc				2			
I ==	ark Surface (A12)	DA 450A)	Iron-Mangan					-	drophytic vege	
	rairie Redox (A16) (MI /lucky Mineral (S1) (LF		Umbric Surfa Delta Ochric			, U)		-	ogy must be p ed or problema	
	Gleyed Matrix (S4)	(i(0, 0)	Reduced Ve			0A. 150B)	uni	Jos alstarbe	or probleme	atio.
	Redox (S5)		Piedmont Flo				9A)			
	l Matrix (S6)		Anomalous E	Bright Loan	ny Soils (I	=20) (MLR	A 149A, 153C	, 153D)		
	rface (S7) (LRR P, S,	T, U)					ı			
	Layer (if observed):									
Type:	-l) ·						Hudela Call	D	Yes X	N
Depth (in	cnes):						Hydric Soil	Present?	res <u>~ </u>	No
Remarks: E	vidence of hyd	ric soil i	ndicators, o	ganic s	streakii	ng, redo	OX.			
	,		,	5		3 ,				

Project/Site: Camp Pendleton	City/County: Virgin	nia Beach	Sampling Date: _10-16-13	3
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 14-Alt 2	
Investigator(s): Campo/Sherwood				
Landform (hillslope, terrace, etc.):				
Subregion (LRR or MLRA): Lat:				
		NWI class		
Are climatic / hydrologic conditions on the site typical for this time of y				
Are Vegetation X , Soil X , or Hydrology X significantly			" present? Yes No _	X
Are Vegetation, Soil, or Hydrology naturally p		f needed, explain any ansv		
SUMMARY OF FINDINGS – Attach site map showin				etc.
Libration by the Versatation Presents - Versatation Presents		i	<u> </u>	
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X	Is the Samp		V	
Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X	within a We	tland? Yes	No X	
Remarks:	I			
The sample point is the mowed road shoulder	r along the asp	halt road near the	rifle range area at t	the
end of the Alt 3A on the Washington Ave segi			•	
HYDROLOGY				
Wetland Hydrology Indicators:			cators (minimum of two requir	red)
Primary Indicators (minimum of one is required; check all that apply	-		oil Cracks (B6)	20)
Surface Water (A1) Aquatic Fauna (B High Water Table (A2) Marl Deposits (B1	,		egetated Concave Surface (B Patterns (B10)	38)
Saturation (A3) Hydrogen Sulfide			Lines (B16)	
	heres along Living R		n Water Table (C2)	
Sediment Deposits (B2)			urrows (C8)	
Drift Deposits (B3)	ction in Tilled Soils (0	C6) Saturation	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	ce (C7)	Geomorph	ic Position (D2)	
☐ Iron Deposits (B5) ☐ Other (Explain in	Remarks)	Shallow A	quitard (D3)	
Inundation Visible on Aerial Imagery (B7)		=	al Test (D5)	
Water-Stained Leaves (B9)		<u>∐</u> Sphagnum	moss (D8) (LRR T, U)	
Field Observations: Surface Water Present? Yes No X Depth (inche				
V.				
Water Table Present? Yes No _X Depth (inche Saturation Present? Yes No _X Depth (inche Saturation Present?		Watland Hydrology Pros	ent? Yes No X	
(includes capillary fringe)			ent: 165 NO	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspecti	ons), if available:		
Remarks:				
The site contains fill material from the road an	nd herm aroun	d the nearby rifle i	ange No evidence	of
wetland hydrology, hydric soils, or hydrophytic		u tile flearby fille i	ange. No evidence	OI
welland flydrology, flydric solls, of flydropflyth	c vegetation.			

		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:) 1. None present	% Cover	-		Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
4.5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6				
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	:	= Total Cov	er er	OBL species x 1 =
50% of total cover:	20% of	total cover		FACW species x 2 =
Sapling/Shrub Stratum (Plot size:)				FAC species x 3 =
1. None present			-	FACU species x 4 =
2.			-	UPL species x 5 =
3.				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				✓ 1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	50	= Total Cov	er er	Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 25	20% of	total cover	10	- Problematic Hydrophytic Pogotation (Explain)
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must
1. Digitaria sanguinalis	50	Υ	FACU	be present, unless disturbed or problematic.
2. Paspalum dilatatum	10	N	FAC	Definitions of Four Vegetation Strata:
3. Cynodon dactylon	25	Υ	FACU	Trans. Mandage to restrict a visit of 0 in (7.0 cm) and
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
5				
6				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8.				Harle All bank and a series (non superity) related a series than
9.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
10				Mandy vine All woody vines greater than 2.20 ft in
11.				Woody vine – All woody vines greater than 3.28 ft in height.
12.				
	85 :	= Total Cov	er	
50% of total cover: 42.5	20% of	total cover	17	
Woody Vine Stratum (Plot size:) 1. None present				
2.				
3.				
4				
5		= Total Cov	·or	Hydrophytic Vegetation
50% of total cover:				Present? Yes No X
Remarks: (If observed, list morphological adaptations belo		total cover	•	
	JVV).			
Mowed road side				

Sampling Point: 14-Alt 2

SOIL Sampling Point: 14-Alt 2

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			x Features	3				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Rema	
0-12	10YR 4/3							compacted sand	
12-20	10YR 5/3							compacted sand	and gravel
				- '					
¹ Type: C=C	oncentration, D=Depl	etion. RM=R	educed Matrix. M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=	Matrix.
	Indicators: (Applica							for Problematic Hy	
☐ Histosol	(A1)		☐ Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U) <u> </u>	Muck (A9) (LRR O)	
Histic E	oipedon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)		Muck (A10) (LRR S)	
Black Hi	stic (A3)		Loamy Muck	y Mineral (F1) (LRR	O)		ed Vertic (F18) (outs	
_	en Sulfide (A4)		Loamy Gleye		=2)			ont Floodplain Soils (
	d Layers (A5)		Depleted Ma		۵,			alous Bright Loamy S	oils (F20)
= -	Bodies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B) arent Material (TF2)	
	icky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre					arent Material (1F2) Shallow Dark Surface	(TE12)
	ick (A9) (LRR P, T)		Marl (F10) (L	•	·)			(Explain in Remarks)	,
_	d Below Dark Surface	e (A11)	Depleted Oc		MLRA 15	51)		(=::p::::::::::::::::::::::::::::::::::	
	ark Surface (A12)	` ,	Iron-Mangan	, ,		•	T) ³ Indic	cators of hydrophytic	vegetation and
	rairie Redox (A16) (M		Umbric Surfa	ace (F13) (LRR P, T,	, U)	wet	tland hydrology must	be present,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbed or prob	lematic.
	Gleyed Matrix (S4)		Reduced Ve						
	Redox (S5)		Piedmont Flo					452D)	
	Matrix (S6) rface (S7) (LRR P, S,	T 11)	Anomalous I	Bright Loan	ny Solis (i	-20) (NILRA	A 149A, 153C	, 153D)	
	Layer (if observed):	, 1, 0)							
Type:	Layer (ii oboci vea).								
Depth (in	choe):		_				Hydric Soil	Present? Yes	No N
							Hyuric 30ii	rieseitti ies	
Remarks:	o evidence of	hydric so	oil indicators	Comr	acted	sandy	soil to 20	inches depth	Bits of
	sphalt and gra	•							2.1.5 0.
"	spriait and gra	ver iii tiit	3011 110111 3	poli sia	c cast	110111110	andy road	u.	

Project/Site: Camp Pendleton	City/County: Virginia Beac	h ;	Sampling Date: <u>10-16-13</u>
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 15-Alt 2
Investigator(s): Campo/Sherwood			
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat:			
Soil Map Unit Name: Nawney silt loam		NIWI classifica	tion: PFO1/PEM
Are climatic / hydrologic conditions on the site typical for this time of ye			
Are Vegetation, Soil, or Hydrology significantly			esent? Yes No X
Are Vegetation, Soil, or Hydrology naturally pr		explain any answers	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locat	ons, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No Remarks: The sample point is the woodland fringe and Plasphalt road across from the rifle range area or	within a Wetland? EM wetland near the name the Alt 2 Washington	Yes X mowed road son Ave segmen	nt. The PEM wetland
connects to Lake Christine through a breech in	the bank. Surface w	ater in the adja	acent PEM.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicate	ors (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil C	Cracks (B6)
Sediment Deposits (B2)	5) (LRR U) Odor (C1) neres along Living Roots (C3) ced Iron (C4) ction in Tilled Soils (C6) e (C7)	☐ Drainage Patte ☐ Moss Trim Lin ☐ Dry-Season W ☐ Crayfish Burro ☐ Saturation Vis ☐ Geomorphic P ☐ Shallow Aquite ☐ FAC-Neutral T	es (B16) /ater Table (C2) ows (C8) ible on Aerial Imagery (C9) Position (D2) ard (D3)
Surface Water Present? Yes No X Depth (inches	3).		
Water Table Present? Yes X No Depth (inches Saturation Present? Yes X No Depth (inches (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	s): 18 (s): 12-18 Wetland	Hydrology Present	? Yes X No
Remarks:			
The PFO1woodland fringe is adjacent to the F	PEM wetland that is	connected to L	ake Christine.

0.1				Sa		
		Dominant		Dominance Test worksheet	:	
<u>Free Stratum</u> (Plot size: 0.1) Liquidambar styraciflua		Species?		Number of Dominant Species		
	25	Y	FAC	That Are OBL, FACW, or FAC	D: <u>9</u>	(A)
Acer rubrum	25	Y	FAC	Total Number of Dominant	_	
Persea borbonia	20	<u>Y</u>	FACW	Species Across All Strata:	9	(B)
Nyssa sylvatica	20	<u>Y</u>	FAC	Percent of Dominant Species		
5				That Are OBL, FACW, or FAC		(A/B)
S				Prevalence Index workshee	4.	
7						
3				Total % Cover of:		
	90	= Total Cov	er	OBL species		
50% of total cover: 45	20% of	total cover:	18	FACW species		
Sapling/Shrub Stratum (Plot size: 0.1)				FAC species		
Morella cerifera	50	Υ	FAC	FACU species		
. llex glabra	20	Υ	FACW	UPL species		
Quercus phellos	10	N	FACW	Column Totals:	(A)	(B)
Vaccinium corymbosum	20	Υ	FACW	Prevalence Index = B/A	\ -	
5.					•	
5.				Hydrophytic Vegetation Ind 1 - Rapid Test for Hydrop		
				 	-	
					110/2	
				2 - Dominance Test is >5		
				3 - Prevalence Index is ≤	3.0 ¹	
3	100	= Total Cov	er	=	3.0 ¹	ain)
	100	= Total Cov	er	3 - Prevalence Index is ≤	3.0 ¹	ain)
3	100	= Total Cov	er	3 - Prevalence Index is ≤	3.0 ¹ Vegetation ¹ (Expla	
3	100 20% of	= Total Cov	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic	3.0 ¹ Vegetation ¹ (Explainment) vetland hydrology	
50% of total cover: 50 Solution	100 20% of	= Total Cover:	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic 1Indicators of hydric soil and v	3.0 ¹ Vegetation ¹ (Explainment) Wetland hydrology or problematic.	
50% of total cover: 50 Herb Stratum (Plot size:) None present 2	100 20% of	= Total Cov total cover:	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic 1 Indicators of hydric soil and v be present, unless disturbed to Definitions of Four Vegetation	3.0 ¹ Vegetation ¹ (Explainment of the vetland hydrology or problematic. on Strata:	must
50% of total cover: 50	100 20% of	= Total Cov	er	3 - Prevalence Index is ≤ Problematic Hydrophytic Indicators of hydric soil and v be present, unless disturbed Definitions of Four Vegetati	3.0 ¹ Vegetation ¹ (Explainment of the properties of the propert	must
50% of total cover: 50 Herb Stratum (Plot size:) None present 2 3 4	100 20% of	= Total Cov	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic 1 Indicators of hydric soil and v be present, unless disturbed to Definitions of Four Vegetation	3.0 ¹ Vegetation ¹ (Explainment of the properties of the propert	must
50% of total cover: 50 Herb Stratum (Plot size:) None present 2. 3. 4.	100 20% of	= Total Cov	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was be present, unless disturbed to Definitions of Four Vegetation Tree – Woody plants, excluding more in diameter at breast he height.	3.0 ¹ Vegetation ¹ (Explainment of the vertical of the verti	must cm) or
50% of total cover: 50	100 20% of	= Total Cover:	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic Indicators of hydric soil and was be present, unless disturbed to be present. Tree – Woody plants, excluding more in diameter at breast he height. Sapling/Shrub – Woody plants.	3.0 ¹ Vegetation ¹ (Explain vetland hydrology or problematic. on Strata: ng vines, 3 in. (7.6 ight (DBH), regard	must cm) or
50% of total cover: 50 Solution	100 20% of	= Total Cov	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic Indicators of hydric soil and was be present, unless disturbed to Definitions of Four Vegetatic Tree – Woody plants, excluding more in diameter at breast he height. Sapling/Shrub – Woody plant than 3 in. DBH and greater the	Vegetation ¹ (Explained Problematic) on Strata: ng vines, 3 in. (7.6 ight (DBH), regarded Problematic) ats, excluding vines an 3.28 ft (1 m) ta	must cm) or lless of
50% of total cover: 50 Herb Stratum (Plot size:) None present 2. 3. 4. 5. 6. 7. 8.	100 20% of	= Total Cov	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was be present, unless disturbed of the present of the pre	3.0 ¹ Vegetation ¹ (Explain vetland hydrology or problematic. on Strata: ng vines, 3 in. (7.6 ight (DBH), regard this, excluding vines an 3.28 ft (1 m) ta voody) plants, regard voody) plants, regard voody)	must cm) or lless of
50% of total cover: 50 Herb Stratum (Plot size:) None present 2. 3. 4. 5. 6. 7. 8.	100 20% of	= Total Cov	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic Indicators of hydric soil and was be present, unless disturbed to Definitions of Four Vegetatic Tree – Woody plants, excluding more in diameter at breast he height. Sapling/Shrub – Woody plant than 3 in. DBH and greater the	3.0 ¹ Vegetation ¹ (Explain vetland hydrology or problematic. on Strata: ng vines, 3 in. (7.6 ight (DBH), regard this, excluding vines an 3.28 ft (1 m) ta voody) plants, regard voody) plants, regard voody)	must cm) or clean or cm) or clean or cl
50% of total cover: 50	100 20% of	= Total Cover:	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regarded an 3.28 ft (1 m) talk voody) plants, regards than 3.28 ft tall.	must cm) or lless of
50% of total cover: 50 Herb Stratum (Plot size:) None present 2. 3. 4. 5. 6. 7. 8. 9. 10.	100 20% of	= Total Cover:	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was be present, unless disturbed to be pres	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regarded an 3.28 ft (1 m) talk voody) plants, regards than 3.28 ft tall.	must cm) or lless of
50% of total cover: 50 Herb Stratum (Plot size:) None present 2. 3. 4. 5. 6. 7. 8. 9. 10. 11.	100 20% of	= Total Cov	er 20	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regarded an 3.28 ft (1 m) talk voody) plants, regards than 3.28 ft tall.	must cm) or lless of s, less l. ardless
50% of total cover: 50	100 20% of	= Total Cover:	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regarded an 3.28 ft (1 m) talk voody) plants, regards than 3.28 ft tall.	must cm) or lless of
50% of total cover: 50 Herb Stratum (Plot size:) None present 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 50% of total cover: 42.5	100 20% of	= Total Cov	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regarded an 3.28 ft (1 m) talk voody) plants, regards than 3.28 ft tall.	must cm) or lless of s, less l. ardless
50% of total cover: 50 Herb Stratum (Plot size:) None present 2	100 20% of	= Total Cover:	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regard an 3.28 ft (1 m) take to the strata of the s	must cm) or lless of s, less l. ardless
50% of total cover: 50 Herb Stratum (Plot size:) None present 2	100 20% of	= Total Cover:	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regard an 3.28 ft (1 m) take to the strata of the s	must cm) or lless of
50% of total cover: 50	100 20% of	= Total Cover:	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regard an 3.28 ft (1 m) take to the strata of the s	must cm) or lless of
50% of total cover: 50	85 20% of	= Total Cover:	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regard an 3.28 ft (1 m) take to the strata of the s	must cm) or lless of
50% of total cover: 50	85 20% of	= Total Cover:	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regard an 3.28 ft (1 m) take to the strata of the s	must cm) or lless of
50% of total cover: 50	85 20% of	= Total Cover:	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was be present, unless disturbed of the present of the pre	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regard an 3.28 ft (1 m) take to the strata of the s	must cm) or lless of s, less l. ardless
50% of total cover: 50 Herb Stratum (Plot size:) None present 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 50% of total cover: 42.5 Noody Vine Stratum (Plot size: 0.1) Smilax rotundifolia Vitis rotundifolia Vitis rotundifolia	85 20% of	= Total Cover:	er	3 - Prevalence Index is ≤ Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed to be present	Vegetation ¹ (Explained Notes of Strata: Ing vines, 3 in. (7.6 ight (DBH), regard an 3.28 ft (1 m) take to the strata of the s	must cm) or lless of s, less l. ardless

SOIL Sampling Point: 15-Alt 2

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the ir	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Features				
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 3/2							dark gray silt loam
4-12	10YR 5/2							dark gray silt loam
12-20	10YR 6/3							gray silt loam
	oncentration, D=Depl					ains.		PL=Pore Lining, M=Matrix.
I	Indicators: (Applica	ible to all Li			•	DD C T II		for Problematic Hydric Soils ³ :
Histosol	(A1) pipedon (A2)		Polyvalue Be		, , ,		_	Muck (A9) (LRR O) Muck (A10) (LRR S)
· 🛏 ·	stic (A3)		Loamy Muck					ed Vertic (F18) (outside MLRA 150A,B)
I ==	en Sulfide (A4)		Loamy Gleye	-		,		ont Floodplain Soils (F19) (LRR P, S, T)
_	d Layers (A5)		Depleted Ma	ıtrix (F3)			L Anoma	alous Bright Loamy Soils (F20)
= -	Bodies (A6) (LRR P,		Redox Dark	`	,			RA 153B)
	icky Mineral (A7) (LR		Depleted Da				$\overline{}$	arent Material (TF2)
	esence (A8) (LRR U) uck (A9) (LRR P, T)		Redox Depre	•	5)			Shallow Dark Surface (TF12) (Explain in Remarks)
_	d Below Dark Surface	e (A11)	Depleted Oc		MLRA 15	51)	<u> </u>	(Explain in Remarks)
	ark Surface (A12)	,	Iron-Mangan				T) ³ Indic	cators of hydrophytic vegetation and
	rairie Redox (A16) (M					U)		tland hydrology must be present,
	Mucky Mineral (S1) (L	RR O, S)	Delta Ochric				unl	ess disturbed or problematic.
_	Gleyed Matrix (S4) Redox (S5)		Reduced Ve				0.4.\	
	Matrix (S6)						эд) A 149A, 153C	. 153D)
	rface (S7) (LRR P, S	, T, U)		g	., (.	_0) (<u>_</u>		,
	Layer (if observed):							
Type:			<u> </u>					
Depth (in	ches):						Hydric Soil	Present? Yes X No
Remarks: _						.,		
	•						deeper sa	andy soil. Some sandy soil
ın	corporated fro	m spoil	side cast fro	m near	by roa	d.		

Project/Site: Camp Pendleton	City/County: Virginia	a Beach	Sampling Date: 10-16-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 16-Alt 2
Investigator(s): Campo/Sherwood			
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat:		Long:	Datum:
Soil Map Unit Name: Duckston fine Sand		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye			
Are Vegetation \underline{X} , Soil \underline{X} , or Hydrology \underline{X} significantly	disturbed? Are	"Normal Circumstances" p	present? Yes No X
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If r	needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	sampling point	locations, transects	, important features, etc
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks:	Is the Sample within a Wetla		No X
The sample point is the mowed road shoulder range area at the end of the Alt 2 on Washing	•	side of the aspha	It road near the rifle
HYDROLOGY			
Sediment Deposits (B2)	(C7) (LRR U) (CO) (C1) (C1) (C2) (C3) (C4) (C7) (C1) (C1) (C2) (C2) (C3) (C4) (C6) (C7)	Surface Soil Sparsely Ve Drainage Pa Moss Trim L ts (C3) Dry-Season Crayfish Bur Saturation V Geomorphic Shallow Aqu FAC-Neutral	getated Concave Surface (B8) tterns (B10) ines (B16) Water Table (C2) rows (C8) isible on Aerial Imagery (C9) Position (D2) itard (D3)
Surface Water Present? Yes No X Depth (inches)):		
Water Table Present? Yes No _X Depth (inches) Saturation Present? Yes No _X Depth (inches) (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo): W		nt? Yes No X
Remarks: The site contains fill material from the road and wetland hydrology, hydric soils, or hydrophytic		the nearby rifle ra	nge. No evidence of

		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1. None present				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)
6.				That Are OBL, I ACW, OF I AC.
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
		= Total Co		FACW species x 2 =
50% of total cover:	20% of	total cover	:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. None present				UPL species x 5 =
2				
3				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				2 - Dominance Test is >50%
8				1 🚍
	50	= Total Co	ver	☐ 3 - Prevalence Index is ≤3.0¹
50% of total cover: ²⁵				Problematic Hydrophytic Vegetation ¹ (Explain)
	20 /0 01	total cover	•	
Herb Stratum (Plot size:) 1 Digitaria sanguinalis	50	Υ	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Digitaria sanguinalis 2. Paspalum dilatatum	10	N	FAC	
	· —			Definitions of Four Vegetation Strata:
3. Cynodon dactylon	25	<u>Y</u>	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4				more in diameter at breast height (DBH), regardless of
5				height.
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				Herb – All herbaceous (non-woody) plants, regardless
9.				of size, and woody plants less than 3.28 ft tall.
10				
11.				Woody vine – All woody vines greater than 3.28 ft in
				height.
12	85	= Total Co		
500/ of total account 42.5				
50% of total cover: 42.5	20% 01	total cover	:	
Woody Vine Stratum (Plot size:) 1. None present				
			·	
2				
3				
4				
5				Hydrophytic
	:	= Total Co	ver	Vegetation
50% of total cover:	20% of	total cover		Present? Yes No X
Remarks: (If observed, list morphological adaptations belo				
Mowed road side	,.			
Mowed road side				

Sampling Point: 16-Alt 2

SOIL Sampling Point: 16-Alt 2

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			x Features	3				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Rema	
0-12	10YR 4/3							compacted sand	
12-20	10YR 5/3							compacted sand	and gravel
				- '					
¹ Type: C=C	oncentration, D=Depl	etion. RM=R	educed Matrix. M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=	Matrix.
	Indicators: (Applica							for Problematic Hy	
☐ Histosol	(A1)		☐ Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U) <u> </u>	Muck (A9) (LRR O)	
Histic E	oipedon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)		Muck (A10) (LRR S)	
Black Hi	stic (A3)		Loamy Muck	y Mineral (F1) (LRR	O)		ed Vertic (F18) (outs	
_	en Sulfide (A4)		Loamy Gleye		=2)			ont Floodplain Soils (
	d Layers (A5)		Depleted Ma		۵,			alous Bright Loamy S	oils (F20)
= -	Bodies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B) arent Material (TF2)	
	icky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre					arent Material (1F2) Shallow Dark Surface	(TE12)
	ick (A9) (LRR P, T)		Marl (F10) (L	•	·)			(Explain in Remarks)	,
_	d Below Dark Surface	e (A11)	Depleted Oc		MLRA 15	51)		(=::p::::::::::::::::::::::::::::::::::	
	ark Surface (A12)	` ,	Iron-Mangan	, ,		•	T) ³ Indic	cators of hydrophytic	vegetation and
	rairie Redox (A16) (M		Umbric Surfa	ace (F13) (LRR P, T,	, U)	wet	tland hydrology must	be present,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbed or prob	lematic.
	Gleyed Matrix (S4)		Reduced Ve						
	Redox (S5)		Piedmont Flo					452D)	
	Matrix (S6) rface (S7) (LRR P, S,	T 11)	Anomalous I	Bright Loan	ny Solis (i	-20) (NILRA	A 149A, 153C	, 153D)	
	Layer (if observed):	, 1, 0)							
Type:	Layer (ii oboci vea).								
Depth (in	choe):		_				Hydric Soil	Present? Yes	No N
							Hyuric 30ii	rieseitti ies	
Remarks:	o evidence of	hydric so	oil indicators	Comr	acted	sandy	soil to 20	inches depth	Bits of
	sphalt and gra	•							2.1.5 0.
"	spriait and gra	ver iii tiit	3011 110111 3	poli sia	c cast	110111110	andy road	u.	

Project/Site: Camp Pendleton	City/County: Virginia Beac	h	Sampling Date:	10-16-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point:	17-Alt 2
Investigator(s): Campo/Sherwood				
Landform (hillslope, terrace, etc.):				oe (%):
Subregion (LRR or MLRA): Lat:	Long:		Da	tum:
Soil Map Unit Name: Duckston fine Sand		NWI classific	ation: Upland	
Are climatic / hydrologic conditions on the site typical for this time of ye				
Are Vegetation \underline{X} , Soil \underline{X} , or Hydrology \underline{X} significantly	disturbed? Are "Norm	al Circumstances" p	oresent? Yes	No X
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed	, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing	sampling point locat	ions, transects	, important fe	eatures, etc.
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks:	Is the Sampled Area within a Wetland?		No X	_
The sample point is the mowed road shoulder range area at the end of the Alt 2 on Washing	•	of the aspha	lt road near	the rifle
HYDROLOGY				
Sediment Deposits (B2)	of (LRR U) Indoor (C1) Indoor (C1) Indoor (C3) Indoor (C3) Indoor (C4) Indoor (C4) Indoor (C4) Indoor (C6) Indoor (C7)	Surface Soil Sparsely Veg Drainage Pa Moss Trim L Dry-Season Crayfish Bur Saturation V Geomorphic Shallow Aqu FAC-Neutral	getated Concave tterns (B10) ines (B16) Water Table (C2) rows (C8) isible on Aerial Im Position (D2) itard (D3)	Surface (B8)
Surface Water Present? Yes No X Depth (inches)	:			
Water Table Present? Yes No _X Depth (inches) Saturation Present? Yes No _X Depth (inches) (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	: Wetland	Hydrology Preser	nt? Yes	No X
Remarks: The site contains fill material from the road and wetland hydrology, hydric soils, or hydrophytic		nearby rifle ra	nge. No evi	dence of

		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:) 1. None present	% Cover	-		Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
4.5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6				
7				Prevalence Index worksheet:
8				Total % Cover of: Multiply by:
	:	= Total Cov	er er	OBL species x 1 =
50% of total cover:	20% of	total cover		FACW species x 2 =
Sapling/Shrub Stratum (Plot size:)				FAC species x 3 =
1. None present			-	FACU species x 4 =
2.			-	UPL species x 5 =
3.				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				✓ 1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	50	= Total Cov	er er	Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 25	20% of	total cover	10	- Problematic Hydrophytic Pogotation (Explain)
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must
1. Digitaria sanguinalis	50	Υ	FACU	be present, unless disturbed or problematic.
2. Paspalum dilatatum	10	N	FAC	Definitions of Four Vegetation Strata:
3. Cynodon dactylon	25	Υ	FACU	Trans. Mandage to restrict a visit of 0 in (7.0 cm) and
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
5				
6				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8.				Harle All bank and a constant of a land a second land
9.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
10				Mandy vine All woody vines greater than 2.20 ft in
11.				Woody vine – All woody vines greater than 3.28 ft in height.
12.				
	85 :	= Total Cov	er	
50% of total cover: 42.5	20% of	total cover	17	
Woody Vine Stratum (Plot size:) 1. None present				
2.				
3.				
4				
5		= Total Cov	·or	Hydrophytic Vegetation
50% of total cover:				Present? Yes No X
Remarks: (If observed, list morphological adaptations belo		total cover	•	
	JVV).			
Mowed road side				

Sampling Point: 17-Alt 2

SOIL Sampling Point: 17-Alt 2

Profile Desc	cription: (Describe to	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)
Depth	Matrix			x Feature:	-			
(inches)	Color (moist)		Color (moist)	%	Type'	<u>Loc²</u>	Texture	Remarks
0-12	10YR 4/3							compacted sand
12-20	10YR 5/3							compacted sand and gravel
	oncentration, D=Deple					ains.		PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applica	ble to all Li	RRs, unless othe	rwise note	ed.)			for Problematic Hydric Soils ³ :
Histosol	` '		Polyvalue Be		. , .			Muck (A9) (LRR O)
	oipedon (A2)		Thin Dark Su					Muck (A10) (LRR S)
l ' ⊒	stic (A3)		Loamy Muck	-	. , .	(O)		ted Vertic (F18) (outside MLRA 150A,B)
_	en Sulfide (A4) d Layers (A5)		Loamy Gleye Depleted Ma		F2)			ont Floodplain Soils (F19) (LRR P, S, T) alous Bright Loamy Soils (F20)
	Bodies (A6) (LRR P,	T. U)	Redox Dark	` ,	-6)			RA 153B)
_	ucky Mineral (A7) (LR		Depleted Da	,	,		1 1 '	arent Material (TF2)
_	resence (A8) (LRR U)		Redox Depre					Shallow Dark Surface (TF12)
1 cm Μι	ıck (A9) (LRR P, T)		Marl (F10) (L				Other	(Explain in Remarks)
	d Below Dark Surface	(A11)	Depleted Oc	, ,	•	•		
ı '	ark Surface (A12)	L DA 450A\	Iron-Mangan		. , .		•	cators of hydrophytic vegetation and
	rairie Redox (A16) (M ⁄lucky Mineral (S1) (L l		Umbric Surfa Delta Ochric			, 0)		tland hydrology must be present, ess disturbed or problematic.
	Gleyed Matrix (S4)	itit 0, 0)	Reduced Ve			0A. 150B)	uni	ess disturbed of problematic.
_	Redox (S5)		Piedmont Flo				9A)	
	Matrix (S6)						A 149A, 153C	, 153D)
	rface (S7) (LRR P, S,	T, U)						
Restrictive	Layer (if observed):							
Type:								N
Depth (in	ches):						Hydric Soil	Present? Yes No
Remarks:	o evidence of	hydric e	oil indicators	Comi	nacted	candy	soil to 20	inches depth. Bits of
	sphalt and gra	•				,		•
l a	spriait ariu gra	vei iii tiit	e son nom s	poli siu	e casi	IIOIII IIE	arby road	u.

Project/Site: Camp Pendleton	City/County: Virgi	nia Beach	Sampling Date:	10-16-13
Project/Site: Camp Pendleton Applicant/Owner: U.S. Army	. , ,	State: VA	Sampling Point:	18-Alt 1 HDD
Investigator(s): Campo/Sherwood				
Landform (hillslope, terrace, etc.):				oe (%):
Subregion (LRR or MLRA): Lat:				
Soil Map Unit Name: Duckston and Newhan fine Sand		NWI clas		
Are climatic / hydrologic conditions on the site typical for this time of ye				
Are Vegetation $\frac{X}{X}$, Soil $\frac{X}{X}$, or Hydrology $\frac{X}{X}$ significantly				No X
Are Vegetation, Soil, or Hydrology naturally pr		If needed, explain any an		
SUMMARY OF FINDINGS – Attach site map showing		· · · · · · · · · · · · · · · · · · ·		eatures, etc.
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks:	Is the Sam within a We		No X	_
The sample point is a gravel parking lot at the rifle range area. No vegetation in the parking		phalt Rifle Range	e road adjacei	nt to the
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary In	ndicators (minimum of	two required)
Primary Indicators (minimum of one is required; check all that apply))	Surface	Soil Cracks (B6)	
Surface Water (A1) Aquatic Fauna (B1	13)	<u></u> Sparsely	Vegetated Concave	Surface (B8)
☐ High Water Table (A2) ☐ Marl Deposits (B1:			e Patterns (B10)	
Saturation (A3)	` '	_	im Lines (B16)	
	heres along Living R		son Water Table (C2)	,
Sediment Deposits (B2)	` '		Burrows (C8)	
	ction in Tilled Soils (on Visible on Aerial Im	nagery (C9)
Algal Mat or Crust (B4)	, ,	=	phic Position (D2)	
☐ Iron Deposits (B5) ☐ Other (Explain in F	Remarks)	_	Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7)		=	utral Test (D5)	
Water-Stained Leaves (B9)		<u></u> Sphagnu	ım moss (D8) (LRR T	', U)
Field Observations:				
Surface Water Present? Yes No X Depth (inches				
Water Table Present? Yes No X Depth (inches				V
Saturation Present? Yes No _X Depth (inches (includes capillary fringe)	s):	Wetland Hydrology Pro	esent? Yes	. No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos, previous inspect	ions), if available:		
Remarks:				
The site contains sand and gravel fill material	for the road a	nd parking lot an	id berm around	d the
nearby rifle range. No evidence of wetland hyd	drology, hydri	c soils, or hydrop	hytic vegetation	n.

	Absolute Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species?	Status	Number of Dominant Species
1. None present	·		That Are OBL, FACW, or FAC: 0 (A)
2			Total Number of Dominant
3			Species Across All Strata: 0 (B)
4			
5.			Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)
6.			That Are OBE, I ACW, OF I AC.
			Prevalence Index worksheet:
7			Total % Cover of: Multiply by:
8			OBL species x 1 =
	= Total Cove		FACW species x 2 =
50% of total cover:	20% of total cover:		FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)			FACU species x 4 =
1. None present	·		UPL species x 5 =
2	·		
3			Column Totals: (A) (B)
4	·		Prevalence Index = B/A =
5			Hydrophytic Vegetation Indicators:
6.			1 - Rapid Test for Hydrophytic Vegetation
7			2 - Dominance Test is >50%
8.			
<u> </u>	= Total Cove		3 - Prevalence Index is ≤3.0 ¹
50% of total cover:			Problematic Hydrophytic Vegetation¹ (Explain)
	20% Of total cover.		
Herb Stratum (Plot size:) 1. None present			¹Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
2			Definitions of Four Vegetation Strata:
3			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4			more in diameter at breast height (DBH), regardless of
5			height.
6			Sapling/Shrub – Woody plants, excluding vines, less
7			than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8			Harb All harbassaus (non woody) plants, regardless
9.			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
10			Woody vine – All woody vines greater than 3.28 ft in
11			height.
12			
	= Total Cove		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size:)			
1. None present			
2	·		
3			
4			
5			Hydrophytic
	= Total Cove		Vegetation
50% of total cover:	20% of total cover:		Present? Yes No X
Remarks: (If observed, list morphological adaptations below		·	
The Alt 1 HDD work area is mostly with	in a gravel park	ing lot.	

Sampling Point: 18-Alt 1 HDD

SOIL Sampling Point: 18-Alt 1 HDD

Depth	cription: (Describe t Matrix	o the depth		ox Features		or commi	the absence	oi illuicato	15.)	
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	-	Remarks	
n/a	n/a							compacte	ed gravel pa	rking lot
								-		
	·									
	-									
1 _{T.} ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Seduced Metric M	C-Maskad	Cand Ca		21	DI -Dana I :	NA-NA-4w	
	oncentration, D=Depl Indicators: (Applica					ains.			ning, M=Matri natic Hydric	
		able to all Li			•	DD C T II			-	Jons .
Histoso	pipedon (A2)		Polyvalue B		, , ,		. —	Лиск (А9) (L Лиск (А10) (•	
	istic (A3)		Loamy Muck							MLRA 150A,B)
_	en Sulfide (A4)		Loamy Gley			. •,		•	, .	(LRR P, S, T)
	d Layers (A5)		Depleted Ma		,				Loamy Soils (
Organio	Bodies (A6) (LRR P,	T, U)	Redox Dark		6)			RA 153B)	·	
5 cm M	ucky Mineral (A7) (LR	R P, T, U)	Depleted Da	ırk Surface	(F7)			arent Materi		
	resence (A8) (LRR U))	Redox Depr	•	3)				Surface (TF1	2)
=	uck (A9) (LRR P, T)	(* ()	☐ Marl (F10) (I	•			U Other	(Explain in F	Remarks)	
=	d Below Dark Surface	e (A11)	Depleted Oc				T \ 31.5.41:4			4-4:
=	ark Surface (A12) ^P rairie Redox (A16) (N	II DA 150A)	☐ Iron-Mangar☐ Umbric Surfa					-	rophytic vege	
	Mucky Mineral (S1) (L		Delta Ochric			, 0)		-	d or problema	
_	Gleyed Matrix (S4)		Reduced Ve			0A. 150B)	QIII.	coo diotarbe	a or probleme	itio.
_	Redox (S5)		Piedmont FI				9A)			
	d Matrix (S6)						A 149A, 153C	, 153D)		
☐ Dark Su	ırface (S7) (LRR P, S	, T, U)								
Restrictive	Layer (if observed):									
Type:			<u></u>							
Depth (in	ches):						Hydric Soil	Present?	Yes	No <u>N</u>
Remarks:										
N	lo evidence of	hydric s	oil indicators	s. Comp	pacted	sand a	nd gravel	parking	lot.	

Project/Site: Camp Pendleton		City/C	ountv: Virginia B	each	Sampling Date: 10-16-13
Applicant/Owner: U.S. Army				State: VA	Sampling Point: 19-Alt 1
Investigator(s): Campo/Sherwoo	od			 ge:	
Landform (hillslope, terrace, etc.):					
Subregion (LRR or MLRA):					
Soil Map Unit Name: Nawney sil				NWI classific	cation: PFO1
Are climatic / hydrologic conditions		his time of vear? Y	es X No	(If no. explain in F	Remarks.)
Are Vegetation, Soil		_			present? Yes No X
Are Vegetation, Soil				ded, explain any answe	
SUMMARY OF FINDINGS					
				<u> </u>	<u>· · · · · · · · · · · · · · · · · · · </u>
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes X Yes X	No	Is the Sampled A		
Wetland Hydrology Present?		No	within a Wetland	? Yes X	No
Remarks:					
The sample point is ac	ross the Camp	Pendleton fe	nceline on D	am Neck prope	erty and is the project
limit for the Alt 1 corrid	•				
Neck that confirms the	PFO1 wetland				
HYDROLOGY					
Wetland Hydrology Indicators:		II that analys		_	ators (minimum of two required)
Primary Indicators (minimum of o					Cracks (B6)
Surface Water (A1) High Water Table (A2)		ic Fauna (B13) Deposits (B15) (LRF	D 11/		egetated Concave Surface (B8) atterns (B10)
Saturation (A3)		gen Sulfide Odor (0		Moss Trim L	
Water Marks (B1)		ed Rhizospheres a			Water Table (C2)
Sediment Deposits (B2)		nce of Reduced Iron		Crayfish Bui	
Drift Deposits (B3)		nt Iron Reduction in			/isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin N	/luck Surface (C7)	, ,		Position (D2)
Iron Deposits (B5)	Other	(Explain in Remark	s)	Shallow Aqu	ıitard (D3)
Inundation Visible on Aerial I	magery (B7)			FAC-Neutra	l Test (D5)
Water-Stained Leaves (B9)				Sphagnum r	moss (D8) (LRR T, U)
Field Observations:					
	es No D				
	es No D				Y
Saturation Present? Y (includes capillary fringe)	es No D	epth (inches):	WetI	and Hydrology Prese	nt? Yes X No
Describe Recorded Data (stream	gauge, monitoring wel	l, aerial photos, pre	vious inspections),	if available:	
Remarks:					
Specific plot data not re	ecorded since t	he wetland h	oundary is o	n the adjacent i	aronarty across the
			•		
installation fenceline.		indary on the	aujaceni pri	operty marks in	e southern illill of the
Alt 1 corridor along Rif	e Range road.				

VEGETATION (Four Strata) - Use scientific names of plants. Sampling Point: 19-Alt 1 Absolute Dominant Indicator **Dominance Test worksheet:** Tree Stratum (Plot size: _____) % Cover Species? Status **Number of Dominant Species** 1 None present 0 ___ (A) That Are OBL, FACW, or FAC: **Total Number of Dominant** 0 _____(B) Species Across All Strata: Percent of Dominant Species 0 ___ (A/B) That Are OBL, FACW, or FAC: Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = ____ = Total Cover FACW species _____ x 2 = ____ 20% of total cover: 50% of total cover: ____ FAC species _____ x 3 = ____ Sapling/Shrub Stratum (Plot size: _____) FACU species _____ x 4 = ____ None present 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 ≤3.0¹ Problematic Hydrophytic Vegetation¹ (Explain) 50% of total cover: _____ 20% of total cover: ____ Herb Stratum (Plot size: _____) ¹Indicators of hydric soil and wetland hydrology must 1 None present be present, unless disturbed or problematic. 2. **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 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. = Total Cover 50% of total cover: _____ 20% of total cover: ____ Woody Vine Stratum (Plot size:) 1. None present Hydrophytic ____ = Total Cover Vegetation Yes X No ____ Present? 50% of total cover: 20% of total cover: Remarks: (If observed, list morphological adaptations below). Specific plot data not recorded since the wetland boundary is on the adjacent property across the installation fenceline.

SOIL Sampling Point: 19-Alt 1

Profile Desc Depth	cription: (Describe to the deption) Matrix	h needed to document the indicator or confirm Redox Features	the absence	of indicators.)
(inches)	Color (moist) %	Color (moist) % Type ¹ Loc ²	Texture	Remarks
n/a	n/a			see notes below
1		Dadward Makin MO Machad Card Oralina	21 4:	DI Dans Linius M Matrix
		Reduced Matrix, MS=Masked Sand Grains. RRs, unless otherwise noted.)		PL=Pore Lining, M=Matrix. for Problematic Hydric Soils ³ :
Histosol		Polyvalue Below Surface (S8) (LRR S, T, U		Muck (A9) (LRR O)
	pipedon (A2)	Thin Dark Surface (S9) (LRR S, T, U)		Muck (A10) (LRR S)
Black Hi		Loamy Mucky Mineral (F1) (LRR O)		ed Vertic (F18) (outside MLRA 150A,B)
	n Sulfide (A4)	Loamy Gleyed Matrix (F2)		ont Floodplain Soils (F19) (LRR P, S, T)
_	d Layers (A5)	Depleted Matrix (F3)		alous Bright Loamy Soils (F20)
Organic	Bodies (A6) (LRR P, T, U)	Redox Dark Surface (F6)	(MLI	RA 153B)
	ıcky Mineral (A7) (LRR P, T, U)	Depleted Dark Surface (F7)		arent Material (TF2)
	esence (A8) (LRR U)	Redox Depressions (F8)		hallow Dark Surface (TF12)
	ick (A9) (LRR P, T)	Marl (F10) (LRR U)	U Other	(Explain in Remarks)
= :	d Below Dark Surface (A11)	Depleted Ochric (F11) (MLRA 151)	T) ³ India	estare of hydrophytic vocatation and
=	ark Surface (A12) rairie Redox (A16) (MLRA 150A	Iron-Manganese Masses (F12) (LRR O, P,) Umbric Surface (F13) (LRR P, T, U)		ators of hydrophytic vegetation and land hydrology must be present,
_	flucky Mineral (S1) (LRR O, S)	Delta Ochric (F17) (MLRA 151)		ess disturbed or problematic.
	Gleyed Matrix (S4)	Reduced Vertic (F18) (MLRA 150A, 150B)		see distalled of problematic.
	Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 14		
	Matrix (S6)	Anomalous Bright Loamy Soils (F20) (MLR		, 153D)
Dark Su	rface (S7) (LRR P, S, T, U)			
Restrictive	Layer (if observed):			
Type:		<u></u>		V
Depth (in	ches):	<u> </u>	Hydric Soil	Present? Yes X No No
Remarks:				
		ecorded since the wetland bounda	ary is on t	ne adjacent property across
tr	e installation fencelin	е.		

Project/Site: Camp Pendleton	City/County: Virginia Beacl	n	Sampling Date:	10-16-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point:	20-Alt 1
Investigator(s): Campo/Sherwood	Section, Township, Range: _			
Landform (hillslope, terrace, etc.):				oe (%):
Subregion (LRR or MLRA): Lat:				
				·
Are climatic / hydrologic conditions on the site typical for this time of you				
Are Vegetation X , Soil X , or Hydrology X significantly	disturbed? Are "Norma	al Circumstances" p	oresent? Yes	No X
Are Vegetation, Soil, or Hydrology naturally pr		explain any answe		
SUMMARY OF FINDINGS - Attach site map showing	sampling point locati	ons, transects	, important fe	eatures, etc.
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks:	Is the Sampled Area within a Wetland?	Yes	No X	-
The Alt 1 corridor sample point is the north-sic road near the intersection with Lake Christine.	e mowed road shou	lder along th	e asphalt rif	le range
HYDROLOGY				
Sediment Deposits (B2)	o) (LRR U) Odor (C1) eres along Living Roots (C3) ed Iron (C4) cion in Tilled Soils (C6) (C7)	Drainage Par Moss Trim Li Dry-Season Crayfish Burn Saturation Vi Geomorphic Shallow Aqui FAC-Neutral	getated Concave sterns (B10) ines (B16) Water Table (C2) rows (C8) isible on Aerial Im Position (D2) itard (D3)	agery (C9)
Surface Water Present? Yes No X Depth (inches				
Water Table Present? Yes No _X Depth (inches				
Saturation Present? Yes No X Depth (inches		Hydrology Presen	nt? Yes	No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	s, previous inspections), if av	ailable:		
Remarks: The site contains fill material from the road consoils, or hydrophytic vegetation.	estruction. No evide	nce of wetlan	d hydrology	v, hydric

		Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:) 1. None present	% Cover			Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
4				
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
				FACW species x 2 =
50% of total cover:	20% of	total cover	·:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. None present				UPL species x 5 =
2				
3				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0¹
	50	= Total Cov	ver	
50% of total cover: ²⁵	20% of			Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size:)	20 /0 01	total cover		1
1. Digitaria sanguinalis	50	Υ	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. Paspalum dilatatum	10		FAC	
3. Cynodon daetylon	25	Y	FACU	Definitions of Four Vegetation Strata:
**	· —			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4 5				more in diameter at breast height (DBH), regardless of height.
6.				Sapling/Shrub – Woody plants, excluding vines, less
7.				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8.				Hart All back as a confusion was discontinuous and a confusion with a confusion with a confusion was discontinuous and a confusion with a confusion was discontinuous and a confusion with a confusion was discont
9.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
10				Woody vine – All woody vines greater than 3.28 ft in
11				height.
12	85			
40.5		= Total Cov		
50% of total cover: <u>42.5</u>	20% of	total cover	: 17	
Woody Vine Stratum (Plot size:) 1. None present				
2.				
3.				
4.				
5				
5				Hydrophytic Vegetation
500/ (1.1.)		= Total Cov		Present? Yes No X
50% of total cover:		total cover	·	
Remarks: (If observed, list morphological adaptations below	ow).			
Mowed road side.				

Sampling Point: 20-Alt 1

SOIL Sampling Point: 20-Alt 1

Profile Desc	cription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			x Features					
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks	
0-12	10YR 4/3							compacted fine sandy lo	oam
12-20	10YR 6/3							compacted fine sandy lo	oam
				- '					
¹Type: C=C	oncentration, D=Depl	etion, RM=R	educed Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=Matrix.	
	Indicators: (Applica							for Problematic Hydric So	ils³:
☐ Histosol	(A1)		☐ Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U) <u> </u>	Muck (A9) (LRR O)	
Histic E	oipedon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)	2 cm N	/luck (A10) (LRR S)	
Black Hi	stic (A3)		Loamy Muck	y Mineral (F1) (LRR	O)		ed Vertic (F18) (outside ML	
_	en Sulfide (A4)		Loamy Gleye		=2)			ont Floodplain Soils (F19) (L	
	d Layers (A5)		Depleted Ma		۵,			alous Bright Loamy Soils (F2	٥)
= -	Bodies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B) arent Material (TF2)	
	ucky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre				$\overline{}$	hallow Dark Surface (TF12)	
	uck (A9) (LRR P, T)		Marl (F10) (L	•	·)			(Explain in Remarks)	
_	d Below Dark Surface	e (A11)	Depleted Oc		MLRA 15	51)		(Explain in Frontaino)	
	ark Surface (A12)	` ,	Iron-Mangan	, ,		•	T) ³ Indic	ators of hydrophytic vegetati	on and
	rairie Redox (A16) (N		Umbric Surfa	ace (F13) (LRR P, T,	, U)	wet	land hydrology must be pres	ent,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbed or problematic.	
	Gleyed Matrix (S4)		Reduced Ve						
	Redox (S5)		Piedmont Flo					4500)	
	Matrix (S6)	T 11\	Anomalous I	Bright Loan	ny Soils (I	-20) (MLR /	A 149A, 153C	, 153D)	
	rface (S7) (LRR P, S Layer (if observed):	, 1, 0)					1		
	Layer (ii observed).								
Type:	ahaa):		_				Lludria Cail	Draggart? Vac	No N
Depth (in	cries).						nyuric Soil	Present? Yes I	<u> </u>
Remarks:	o evidence of	hydric so	oil indicators	Comr	acted	sandy	soil to 20	inches depth. Bits	of
	sphalt and gra	•						•	J1
4	spriait and gra	ver iii tiit	3011 110111 3	poli sid	c casi	II OIII IIC	alby Ioa	u.	

Project/Site: Camp Pendleton	City/County: Virginia Beach	;	Sampling Date:	10-16-13
Applicant/Owner: U.S. Army	S	State: VA	Sampling Point:	21-Alt 1
Investigator(s): Campo/Sherwood	Section, Township, Range:			
Landform (hillslope, terrace, etc.):				oe (%):
Subregion (LRR or MLRA): Lat:	Long:		Da	tum:
Soil Map Unit Name: Dragston fine sandy loam	-	NWI classifica	tion: Upland	
Are climatic / hydrologic conditions on the site typical for this time of y				
Are Vegetation, Soil, or Hydrology significant	y disturbed? Are "Normal	Circumstances" pr	esent? Yes	No X
Are Vegetation, Soil, or Hydrology naturally p		xplain any answers	s in Remarks.)	
SUMMARY OF FINDINGS – Attach site map showin	g sampling point locatio	ns, transects,	important fe	eatures, etc.
Hydrophytic Vegetation Present? Yes X No X	Is the Sampled Area		V	
Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X	within a Wetland?	Yes	No X	-
Remarks:	·			
The Alt 1 corridor sample point is the north-signal and the sample point is sample point in the sample point in the sample point is sample point in the sample poin	te woods near the asp	onait rifie ran	ge road.	
HYDROLOGY				
Wetland Hydrology Indicators:	•	Secondary Indicate	-	two required)
Primary Indicators (minimum of one is required; check all that apply		Surface Soil C		Of (DO)
Surface Water (A1) High Water Table (A2) Aquatic Fauna (B		Drainage Patt	etated Concave	Suпасе (вв)
Saturation (A3) Hydrogen Sulfide		Moss Trim Lin		
	heres along Living Roots (C3)	_	/ater Table (C2)	
Sediment Deposits (B2)	iced Iron (C4)	Crayfish Burro	ows (C8)	
	ction in Tilled Soils (C6)		ible on Aerial Im	agery (C9)
Algal Mat or Crust (B4)	` '	Geomorphic F	` ,	
☐ Iron Deposits (B5) ☐ Other (Explain in	Remarks)	Shallow Aquita FAC-Neutral 1	, ,	
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	•	=	est (D5) oss (D8) (LRR T	U)
Field Observations:		<u> </u>	700 (B0) (E IRIT I	, •,
Surface Water Present? Yes No X Depth (inche	s):			
Water Table Present? Yes No X Depth (inche				
Saturation Present? Yes No X Depth (inche	s): Wetland H	ydrology Present	? Yes	No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial pho	tos, previous inspections), if avai	lable:		
33.,	, μ			
Remarks:				
The site contains no evidence of wetland hyd	rology. Mesic forest co	onditions.		

				Sampling Point: 21-Alt 1
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 0.1	% Cover	Species?	Status	Number of Dominant Species
1. Liquidambar styraciflua	25	Υ	FAC	That Are OBL, FACW, or FAC: 7 (A)
2. Quercus pagoda	25	Υ	FACW	Total Number of Dominant
3. Acer rubrum	25	Υ	FAC	Species Across All Strata: 7 (B)
4. Nyssa sylvatica	25	Υ	FAC	
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.				That Aid OBE, I AOW, OI I AO.
7				Prevalence Index worksheet:
8.				Total % Cover of: Multiply by:
o	400	= Total Cov		OBL species x 1 =
50% of total cover: 50				FACW species x 2 =
Sapling/Shrub Stratum (Plot size: 0.1)	20 /0 01	total cover.		FAC species x 3 =
	75	Υ	FAC	FACU species x 4 =
·· 				UPL species x 5 =
2				Column Totals: (A) (B)
3				(2)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	75	= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 37.5	20% of	total cover	15	
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must
1. Microstegium vimineum	40	Υ	FAC	be present, unless disturbed or problematic.
2.				Definitions of Four Vegetation Strata:
3.				
				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of
	· ——			, , , , , , , , , , , , , , , , , , ,
4				height.
5				height.
5 6				Sapling/Shrub – Woody plants, excluding vines, less
5				
5				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
5				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
5				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
5				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.
5				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
5				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
5		= Total Cov	er	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
5	40	= Total Cov	er	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
5	40 20% of	= Total Cov	er	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
5	40 20% of	= Total Cov total covers	er 8	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
5	40 20% of	= Total Cov total cover	er 8	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
5	40 20% of	= Total Covers	er 8	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
5	40 20% of	= Total Covers	er 8	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.
5	40 20% of	= Total Cov total cover:	er 8	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
5	40 20% of	= Total Cov total cover:	er 8 FAC	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.

SOIL Sampling Point: 21-Alt 1

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicato	rs.)	
Depth	Matrix			x Features						
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture		Remarks	
0-4	5Y 5/2								fine sandy l	oam
4-12	5Y 5/3							grey fine	sandy loam	
12-20	5 Y/5/2							grey fine	sandy loam	
	oncentration, D=Depl					ains.			ning, M=Matrix	
l <u> </u>	Indicators: (Applica	ible to all Li			•				matic Hydric S	ioils":
Histosol	` '		Polyvalue Be		· , ·		_	/luck (A9) (L	•	
	oipedon (A2) stic (A3)		Thin Dark Su					/luck (A10) (ed Vertic (F	18) (outside N	II RA 150A B)
	en Sulfide (A4)		Loamy Gleye			0)			ain Soils (F19)	
	d Layers (A5)		Depleted Ma		,				Loamy Soils (F	
Organic	Bodies (A6) (LRR P,	T, U)	Redox Dark	Surface (F	6)			RA 153B)		
	ıcky Mineral (A7) (LR		Depleted Da					arent Materi	. ,	
	esence (A8) (LRR U)		Redox Depre		3)				Surface (TF12	2)
	ick (A9) (LRR P, T)	. (Δ44)	Marl (F10) (L	,	MI DA 45	-4\	U Other	(Explain in F	Remarks)	
	d Below Dark Surface ark Surface (A12)	(ATT)	Depleted Oc				T) ³ Indic	eators of hyd	Irophytic veget	ation and
	rairie Redox (A16) (M	ILRA 150A)					•		ngy must be pro	
	lucky Mineral (S1) (L		Delta Ochric			-,		-	d or problemat	
	Bleyed Matrix (S4)		Reduced Ve			0A, 150B)				
Sandy F	Redox (S5)		Piedmont Flo							
	Matrix (S6)		Anomalous I	Bright Loan	ny Soils (F	20) (MLR	A 149A, 153C	, 153D)		
	rface (S7) (LRR P, S	, T, U)					1			
	Layer (if observed):									
Type:	-h).						Hudela Call	D=====42	Vaa	No N
Depth (in	cnes):						Hyaric Soil	Present?	Yes	NO
Remarks:	o evidence of	hydric s	oil indicators	Dry s	oil to 2	0 inche	e no soil	saturati	on down t	o 28
	ches. No mott	•		л. Diy 3	011 to 2	0 1110110	5. 110 50II	Jatarati	on down t	0 20
"'	CHES. NO HIGH	iirig.								

Project/Site: Camp Pendleton	City/County: Virg	ginia Beach	Sampling Date: 10-16-13
Applicant/Owner: U.S. Army	, ,	State: VA	Sampling Point: 22-Alt 1
0		p, Range:	
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): La			
Soil Map Unit Name: Chapanoke silt loam	At	NWI classi	fication: Upland
Are climatic / hydrologic conditions on the site typical for this			
Are Vegetation $\frac{X}{X}$, Soil $\frac{X}{X}$, or Hydrology $\frac{X}{X}$ si			
Are Vegetation, Soil, or Hydrology na		(If needed, explain any answ	
SUMMARY OF FINDINGS – Attach site map s	howing sampling po	int locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes No	X Is the Sau	npled Area	
Hydric Soil Present? Yes No	X within a V	-	No X
Wetland Hydrology Present? Yes No	, <u>X</u>		
Remarks:	_		
The sample point is the mowed road she	oulder along the S	. Birdneck asphalt r	oad.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	cators (minimum of two required)
Primary Indicators (minimum of one is required; check all the	nat annly)		oil Cracks (B6)
	Fauna (B13)		egetated Concave Surface (B8)
	posits (B15) (LRR U)		Patterns (B10)
	n Sulfide Odor (C1)		Lines (B16)
	Rhizospheres along Living	_	n Water Table (C2)
	e of Reduced Iron (C4)		urrows (C8)
Drift Deposits (B3)	ron Reduction in Tilled Soils	(C6) Saturation	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	ck Surface (C7)	Geomorph	ic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Ex	xplain in Remarks)	Shallow Ac	quitard (D3)
Inundation Visible on Aerial Imagery (B7)		=	al Test (D5)
☐ Water-Stained Leaves (B9)		<u></u> Sphagnum	moss (D8) (LRR T, U)
Field Observations:			
Surface Water Present? Yes No X Dep			
Water Table Present? Yes No X Dep			ent? Yes No ^X
Saturation Present? Yes No X Dep (includes capillary fringe)	tn (inches):	Wetland Hydrology Pres	ent? Yes No <u>^</u>
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspe	ctions), if available:	
Remarks:			
The site contains fill material from the ro	ad construction. N	o evidence of wetla	ind hydrology, hydric
soils, or hydrophytic vegetation.			

/EGETATION (Four Strata) – Use scientific na	mes of pl	ants.		Sampling Point: 22-Alt 1
		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:) None present	% Cover	Species?	Status	Number of Dominant Species
··-				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
F00/ of total account		= Total Cov		FACW species x 2 =
50% of total cover:	20% of	total cover	:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:) 1. None present				FACU species x 4 =
** 				UPL species x 5 =
2				Column Totals: (A) (B)
3				()
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8	F 0			3 - Prevalence Index is ≤3.0 ¹
75		= Total Cov		Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 25	20% of	total cover	:	
Herb Stratum (Plot size:) 1. Digitaria sanguinalis	50	Υ	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. Paspalum dilatatum	10	<u>N</u>	FAC	<u>'</u>
3. Cynodon dactylon	25	<u>Y</u>	FACU	Definitions of Four Vegetation Strata:
**	· —			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4				more in diameter at breast height (DBH), regardless of height.
5				
6.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
7				
8				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
9				of size, and woody plants less than 3.20 it tall.
10				Woody vine – All woody vines greater than 3.28 ft in
11				height.
12	0.5	= Total Cov		
50% of total cover: 42.5				
	20 /6 01	total cover	•	
Woody Vine Stratum (Plot size:) 1. None present				
· ·				
2				
4			-	
J		= Total Cov	· · · · · · · · · · · · · · · · · · ·	Hydrophytic Vegetation
50% of total cover:				Present? Yes No _X
		total cover	•	
Remarks: (If observed, list morphological adaptations belo	ow).			
Mowed road side				

SOIL Sampling Point: 22-Alt 1

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			x Features	3				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type'	Loc ²	<u>Texture</u>	Remar	KS
0-12	10YR 5/3							compacted sand	
12-20	10YR 6/4							compacted sand a	and gravel
									_
¹ Type: C=C	oncentration, D=Depl	etion. RM=R	educed Matrix. M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=M	latrix.
	Indicators: (Applica							for Problematic Hyd	
☐ Histosol	(A1)		Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U)	Muck (A9) (LRR O)	
Histic E	oipedon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)		/luck (A10) (LRR S)	
Black Hi	stic (A3)		Loamy Muck	y Mineral (F1) (LRR	O)		ed Vertic (F18) (outsi	
_	n Sulfide (A4)		Loamy Gleye		=2)			ont Floodplain Soils (F	
	d Layers (A5)		Depleted Ma		۵,			alous Bright Loamy So	ils (F20)
= -	Bodies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B) arent Material (TF2)	
	icky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre				$\overline{}$	arent Material (1F2) Shallow Dark Surface (TE12)
	ick (A9) (LRR P, T)		Marl (F10) (L		·)			(Explain in Remarks)	11 12)
_	d Below Dark Surface	e (A11)	Depleted Oc	,	MLRA 15	51)		(Explain in Homanio)	
	ark Surface (A12)	, ,	Iron-Mangan			•	T) ³ Indic	ators of hydrophytic ve	egetation and
	rairie Redox (A16) (M		Umbric Surfa	ace (F13) (I	LRR P, T,	, U)	wet	land hydrology must b	e present,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbed or proble	ematic.
	Gleyed Matrix (S4)		Reduced Ve						
	Redox (S5)		Piedmont Flo					4500)	
	Matrix (S6) rface (S7) (LRR P, S	T 11)	Anomalous I	Bright Loan	ny Soils (I	-20) (MLR /	A 149A, 153C	, 153D)	
	Layer (if observed):	, 1, 0)					<u> </u>		
	Layer (ii observed).								
Type:	ahaa);		_				Liveiria Cail	Dragant? Vac	No N
Depth (in	unes).						nyuric Soil	Present? Yes	NO
								inches depth. I	Bits of
a	sphalt and gra	vel in the	e soil from s	poil sid	e cast	from ne	earby road	d.	

Project/Site: Camp Pendleton	City/County: Virg	jinia Beach	Sampling Date: 10-16-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 23-Alt 1
0		p, Range:	
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat			
Soil Map Unit Name: Chapanoke silt loam		NWI classi	ification: Upland
Are climatic / hydrologic conditions on the site typical for this t			
Are Vegetation $\frac{X}{X}$, Soil $\frac{X}{X}$, or Hydrology $\frac{X}{X}$ sig			
Are Vegetation, Soil, or Hydrology na		(If needed, explain any answ	
SUMMARY OF FINDINGS – Attach site map si	nowing sampling po	int locations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes No	X Is the San	npled Area	
Hydric Soil Present? Yes No	X within a W	-	No X
Wetland Hydrology Present? Yes No	<u>X</u>		
Remarks:			
The sample point is the mowed road sho	oulder along the S.	Birdneck asphalt r	oad.
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indi	icators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	at annly)		pil Cracks (B6)
	auna (B13)		/egetated Concave Surface (B8)
	osits (B15) (LRR U)		Patterns (B10)
	Sulfide Odor (C1)		Lines (B16)
	Rhizospheres along Living I	_	on Water Table (C2)
	of Reduced Iron (C4)		urrows (C8)
☐ Drift Deposits (B3) ☐ Recent Iro	on Reduction in Tilled Soils	(C6) Saturation	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Surface (C7)	Geomorph	nic Position (D2)
☐ Iron Deposits (B5) ☐ Other (Ex	plain in Remarks)	Shallow Ad	quitard (D3)
Inundation Visible on Aerial Imagery (B7)		=	ral Test (D5)
☐ Water-Stained Leaves (B9)		<u></u> Sphagnum	n moss (D8) (LRR T, U)
Field Observations:			
Surface Water Present? Yes No X Depti			
Water Table Present? Yes No X Depti			ent? Yes No X
Saturation Present? Yes No X Depti (includes capillary fringe)	ı (ınches):	Wetland Hydrology Pres	ent? Yes No _^_
Describe Recorded Data (stream gauge, monitoring well, ae	rial photos, previous inspec	ctions), if available:	
Remarks:			
The site contains fill material from the ro	ad construction. N	o evidence of wetla	and hydrology, hydric
soils, or hydrophytic vegetation.			

		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:) 1. None present	% Cover	-	-	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant Species Across All Strata: 2 (B)
4.5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6				
7				Prevalence Index worksheet:
8				
	:	= Total Cov	er	OBL species x 1 =
50% of total cover:	20% of	total cover	·	FACW species x 2 =
Sapling/Shrub Stratum (Plot size:)				FAC species x 3 =
1. None present				FACU species x 4 =
2.				UPL species x 5 =
3				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				✓ 1 - Rapid Test for Hydrophytic Vegetation
7				2 - Dominance Test is >50%
8				3 - Prevalence Index is ≤3.0 ¹
	50	= Total Cov	er	Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: 25	20% of	total cover	10	· · · · · · · · · · · · · · · · ·
Herb Stratum (Plot size:)				¹ Indicators of hydric soil and wetland hydrology must
1. Digitaria sanguinalis	50	Υ	FACU	be present, unless disturbed or problematic.
2. Paspalum dilatatum	10	N	FAC	Definitions of Four Vegetation Strata:
3. Cynodon dactylon	25	Υ	FACU	Tree Meadantanta restudianciana Oir (70 cm) an
4.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
5				
6				Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8.				Horb. All herbaccous (non woody) plants, regardless
9.				Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
10				Mandania Allunadu viana gradanthan 2 20 ft in
11.				Woody vine – All woody vines greater than 3.28 ft in height.
12.				
	85	= Total Cov	er	
50% of total cover: 42.5				
Woody Vine Stratum (Plot size:) 1. None present	_			
2				
3				
4				
5				Hydrophytic
		= Total Cov		Vegetation Present? Yes No X
50% of total cover:		total cover		· · · · · · · · · · · · · · · · · · ·
Remarks: (If observed, list morphological adaptations below	ow).			
Mowed road side				

Sampling Point: 23-Alt 1

SOIL Sampling Point: 23-Alt 1

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			x Features	<u> </u>				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Rema	_
0-12	10YR 5/3							compacted sand	and silt oam
12-20	10YR 6/4							compacted sand	and gravel
									_
¹Type: C=C	oncentration, D=Depl	etion, RM=R	educed Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=I	Matrix.
	Indicators: (Applica							for Problematic Hyd	
☐ Histosol	(A1)		☐ Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U) <u> </u>	/luck (A9) (LRR O)	
Histic E	pipedon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)	2 cm N	/luck (A10) (LRR S)	
Black Hi	stic (A3)		Loamy Muck	y Mineral (F1) (LRR	O)		ed Vertic (F18) (outs	
	n Sulfide (A4)		Loamy Gleye		=2)			ont Floodplain Soils (
_	d Layers (A5)		Depleted Ma		•			alous Bright Loamy So	oils (F20)
= -	Bodies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B) arent Material (TF2)	
	icky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre				$\overline{}$	shallow Dark Surface	/TE12)
	ick (A9) (LRR P, T)		Marl (F10) (L	•	·)			(Explain in Remarks)	(11.12)
_	d Below Dark Surface	e (A11)	Depleted Oc		MLRA 15	51)		(Explain in Nomanio)	
	ark Surface (A12)	` ,	Iron-Mangan	, ,		-	T) ³ Indic	ators of hydrophytic v	egetation and
	rairie Redox (A16) (M		Umbric Surfa	ace (F13) (LRR P, T,	U)	wet	land hydrology must	be present,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbed or probl	ematic.
	Gleyed Matrix (S4)		Reduced Ve						
	ledox (S5)		Piedmont Flo					4500)	
	Matrix (S6)	T 11\	Anomalous I	Bright Loan	ny Soils (F	-20) (MLRA	A 149A, 153C	, 153D)	
	rface (S7) (LRR P, S _ayer (if observed):	, 1, 0)					<u> </u>		
	Layer (ii observed).								
Type:	ahaa);		_				Lludria Cail	Dragant? Vac	No N
Depth (in	ines).						nyuric Soil	Present? Yes	NO
Remarks:	o evidence of	hydric so	oil indicators	Comr	acted	sandy	soil to 20	inches depth.	Rits of
	sphalt and gra	•							Dito of
4	spriait ariu gra	vei iii tiit	5 3011 11 0111 3	poli siu	c casi	II OIII IIC	alby Ioa	u.	
l									

Project/Site: Camp Pendleton	City/County: Virgini	a Beach	Sampling Date: 10-16-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 24-Alt 1
Investigator(s): Campo/Sherwood			
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat:		Long:	Datum:
Soil Map Unit Name: Tomotley loam		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of y			
Are Vegetation X , Soil X , or Hydrology X significantly	y disturbed? Ar	e "Normal Circumstances" p	present? Yes No X
Are Vegetation, Soil, or Hydrology naturally processed as a second s	roblematic? (If	needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing	g sampling point	t locations, transects	, important features, etc
Hydrophytic Vegetation Present? Yes	Is the Sampl within a Wet		No X
The sample point is the asphalt S. Birdneck R shoulder on each side.	load at the insta	allation boundary v	vith mowed road
HYDROLOGY			
Sediment Deposits (B2)	13) 5) (LRR U) Odor (C1) heres along Living Rocced Iron (C4) ction in Tilled Soils (C6) e (C7)	Surface Soil Sparsely Veg Drainage Par Moss Trim Li ots (C3) Dry-Season Crayfish Burn Saturation Vi Geomorphic Shallow Aqui	getated Concave Surface (B8) tterns (B10) nes (B16) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) Position (D2)
Surface Water Present? Yes No X Depth (inches	s):		
Water Table Present? Saturation Present? Yes No _X Depth (inche: No _X No _X Depth (inche: No _X No _X	s):\	Netland Hydrology Presen	t? Yes No X
The site contains fill material from the road co soils, or hydrophytic vegetation.	nstruction. No	evidence of wetlan	d hydrology, hydric

		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1. None present				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant
3				Species Across All Strata: $\frac{2}{}$ (B)
4				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6.				That Are OBL, I AGW, OF I AG.
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
		= Total Cov		FACW species x 2 =
50% of total cover:	20% of	total cover	·:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. None present				UPL species x 5 =
2				
3				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				2 - Dominance Test is >50%
8.				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
	50	= Total Co	ver	
50% of total cover: ²⁵				Problematic Hydrophytic Vegetation ¹ (Explain)
	20 /0 01	total cover	•	
Herb Stratum (Plot size:) 1 Digitaria sanguinalis	50	Υ	FACU	Indicators of hydric soil and wetland hydrology must
1	10	N	FAC	be present, unless disturbed or problematic.
2. Paspalum dilatatum				Definitions of Four Vegetation Strata:
3. Cynodon dactylon	25	<u>Y</u>	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4				more in diameter at breast height (DBH), regardless of
5				height.
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				Herb – All herbaceous (non-woody) plants, regardless
9.				of size, and woody plants less than 3.28 ft tall.
10				
				Woody vine – All woody vines greater than 3.28 ft in
11 12.				height.
12.	85	= Total Cov		
50% of total cover: 42.5				
	20% 01	total cover	:	
Woody Vine Stratum (Plot size:)				
1. None present				
2				
3				
4				
5				Hydrophytic
		= Total Cov	ver	Vegetation
50% of total cover:	20% of	total cover	·:	Present? Yes No X
Remarks: (If observed, list morphological adaptations belo	ow).			1
Mowed road side and asphalt road at ir	•	n boun	dary fer	nceline.

Sampling Point: 24-Alt 1

SOIL Sampling Point: 24-Alt 1

Profile Desc	ription: (Describe t	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			x Features	<u> </u>				
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Rema	_
0-12	10YR 5/3							compacted sand	and silt oam
12-20	10YR 6/4							compacted sand	and gravel
									_
¹Type: C=C	oncentration, D=Depl	etion, RM=R	educed Matrix, M	S=Masked	Sand Gra	ains.	² Location:	PL=Pore Lining, M=I	Matrix.
	Indicators: (Applica							for Problematic Hyd	
☐ Histosol	(A1)		☐ Polyvalue Be	elow Surfac	ce (S8) (L	RR S, T, U) <u> </u>	/luck (A9) (LRR O)	
Histic E	pipedon (A2)		Thin Dark Su	urface (S9)	(LRR S,	T, U)	2 cm N	/luck (A10) (LRR S)	
Black Hi	stic (A3)		Loamy Muck	y Mineral (F1) (LRR	O)		ed Vertic (F18) (outs	
	n Sulfide (A4)		Loamy Gleye		=2)			ont Floodplain Soils (
_	d Layers (A5)		Depleted Ma		•			alous Bright Loamy So	oils (F20)
= -	Bodies (A6) (LRR P,		Redox Dark	`	,		_ ,	RA 153B) arent Material (TF2)	
	icky Mineral (A7) (LR esence (A8) (LRR U)		Depleted Da Redox Depre				$\overline{}$	shallow Dark Surface	/TE12)
	ick (A9) (LRR P, T)		Marl (F10) (L	•	·)			(Explain in Remarks)	(11.12)
_	d Below Dark Surface	e (A11)	Depleted Oc		MLRA 15	51)		(Explain in Nomanio)	
	ark Surface (A12)	` ,	Iron-Mangan	, ,		-	T) ³ Indic	ators of hydrophytic v	egetation and
	rairie Redox (A16) (M		Umbric Surfa	ace (F13) (LRR P, T,	U)	wet	land hydrology must	be present,
	lucky Mineral (S1) (L	RR O, S)	Delta Ochric				unle	ess disturbed or probl	ematic.
	Gleyed Matrix (S4)		Reduced Ve						
	ledox (S5)		Piedmont Flo					4500)	
	Matrix (S6)	T 11\	Anomalous I	Bright Loan	ny Soils (F	-20) (MLRA	A 149A, 153C	, 153D)	
	rface (S7) (LRR P, S _ayer (if observed):	, 1, 0)					<u> </u>		
	Layer (ii observed).								
Type:	ahaa);		_				Lludria Cail	Dragant? Vac	No N
Depth (in	ines).						nyuric Soil	Present? Yes	NO
Remarks:	o evidence of	hydric so	oil indicators	Comr	acted	sandy	soil to 20	inches depth.	Rits of
	sphalt and gra	•							Dito of
4	spriait ariu gra	vei iii tiit	5 3011 11 0111 3	poli siu	c casi	II OIII IIC	alby Ioa	u.	
l									

Project/Site: Camp Pendleton	City/County: Virginia Beach Sampling Date: 10-16-13
Applicant/Owner: U.S. Army	State: VA Sampling Point: 25-Alt 3A_3B HDD
Investigator(s): Campo/Sherwood	Section, Township, Range:
	Local relief (concave, convex, none): Slope (%):
Subregion (LRR or MLRA): Lat:	Long: Datum:
Soil Map Unit Name: Tetotum loam and Bojac fine sandy loam	NWI classification: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye	
Are Vegetation X , Soil X , or Hydrology X significantly	y disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation, Soil, or Hydrology naturally pro	
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks:	Is the Sampled Area within a Wetland? Yes No X
The sample point is HDD work areas for alt 3A and part is in the adjacent woodlot.	A and Alt 3B. Most of the HDD areas is in mowed field
HYDROLOGY	
Sediment Deposits (B2)	Sparsely Vegetated Concave Surface (B8) 5) (LRR U) Odor (C1) heres along Living Roots (C3) ciced Iron (C4) ction in Tilled Soils (C6) e (C7) 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) Geomorphic Position (D2)
Surface Water Present? Yes No X Depth (inches	3):
Water Table Present? Yes No _X Depth (inches Saturation Present? Yes No _X Depth (inches (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photo	s): s): Wetland Hydrology Present? Yes No X
Remarks: No evidence of wetland hydrology, hydric soils lawn with adjacent woodlot.	s, or hydrophytic vegetation. Mostly mowed field or

2. Liquidambar styraciflua

Sapling/Shrub Stratum (Plot size: _____)

Herb Stratum (Plot size: _____)

1. Digitaria sanguinalis

2 Paspalum dilatatum

1. None present

Tree Stratum (Plot size:

1. Pinus taeda

3. Quercus pagoda

1. None present

% Cover Species? Status

15 _ = Total Cover

= Total Cover 20% of total cover: 10

85 _ = Total Cover

_____ = Total Cover

10

50% of total cover: 42.5 20% of total cover: 17

50% of total cover: _____ 20% of total cover: ____

FACU

FAC

50% of total cover: 7.5 20% of total cover: 3

50% of total cover: ²⁵

3. Cynodon dactylon 25 Y

FAC

FAC

FACW

	Sampling Point: 25-Alt 3A_3E	B HDD
De	ominance Test worksheet:	
	umber of Dominant Species nat Are OBL, FACW, or FAC: $\frac{3}{}$ (A	.)
	otal Number of Dominant opecies Across All Strata: 5 (B)
	ercent of Dominant Species nat Are OBL, FACW, or FAC: 60 (A	/B)
Pr	revalence Index worksheet:	
-	Total % Cover of: Multiply by:	
- -	BL species x 1 =	
- 1	ACW species x 2 =	
-	AC species x 3 =	
_	ACU species x 4 =	
	PL species x 5 =	
Co	olumn Totals: (A) (B)
-	Dravelance Inday - D/A -	
٠ لـــ	Prevalence Index = B/A =	
	ydrophytic Vegetation Indicators:	
	1 - Rapid Test for Hydrophytic Vegetation	
- ⊻	2 - Dominance Test is >50%	
- <u>L</u>	3 - Prevalence Index is ≤3.0 ¹	
	Problematic Hydrophytic Vegetation ¹ (Explain)	
-		
¹Ir be	ndicators of hydric soil and wetland hydrology mus e present, unless disturbed or problematic.	t
De	efinitions of Four Vegetation Strata:	
Tr	ree – Woody plants, excluding vines, 3 in. (7.6 cm) ore in diameter at breast height (DBH), regardless eight.	
	apling/Shrub – Woody plants, excluding vines, les an 3 in. DBH and greater than 3.28 ft (1 m) tall.	ss
	erb – All herbaceous (non-woody) plants, regardle size, and woody plants less than 3.28 ft tall.	SS
w	loody vine – All woody vines greater than 3.28 ft in eight.	n
-		
-		
-		
-		
-		
-		
-		
	ydrophytic	
	egetation resent?	
<u>- </u>		
		_

Remarks:	(If observed,	list morphological	adaptations	below).

Woody Vine Stratum (Plot size: _____)

Mowed field or lawn with adjacent woodlot.

SOIL Sampling Point: 25-Alt 3A_3B HDD

	cription: (Describe	to the depti				or commi	tne absence	of indicators.)	
Depth (inches)	Matrix Color (moist)	%	Color (moist)	x Features %	Type ¹	Loc ²	Texture	Remarks	
0-12	7.5YR 3/4		00.0. (0.0.7		.,,,,,		. 07.00.0	brown loamy sand	
12-20	7.5YR 4/4	· 						brown sandy loam	
	7.011(1) 1	· -						brown danay loan	
				_					
		· -							
¹ Type: C=C	oncentration, D=Dep	letion PM=I	Peduced Matrix M	S=Macked	Sand Gra	nine	² Location:	PL=Pore Lining, M=Matrix.	
	Indicators: (Application)					aii i5.		for Problematic Hydric Soi	ls ³ :
Histosol			Polyvalue Be		•	RR S. T. U		Muck (A9) (LRR O)	
	pipedon (A2)		Thin Dark Su		· , ·			Muck (A10) (LRR S)	
	istic (A3)		Loamy Muck					ed Vertic (F18) (outside MLI	RA 150A,B)
	en Sulfide (A4)		Loamy Gley	•	=2)			ont Floodplain Soils (F19) (L l	
	d Layers (A5)		Depleted Ma	` '				alous Bright Loamy Soils (F20	0)
	Bodies (A6) (LRR P,		Redox Dark	,	,			RA 153B)	
	ucky Mineral (A7) (LF resence (A8) (LRR U		Depleted Da					arent Material (TF2) Shallow Dark Surface (TF12)	
	uck (A9) (LRR P, T)	,	Marl (F10) (I	•	')			(Explain in Remarks)	
=	d Below Dark Surface	e (A11)	Depleted Oc	,	MLRA 1	51)		(=xp:a:::::::::::::::::::::::::::::::::::	
	ark Surface (A12)		Iron-Mangar				T) ³ Indic	cators of hydrophytic vegetation	on and
	rairie Redox (A16) (N		Umbric Surfa	ace (F13) (I	LRR P, T	, U)		tland hydrology must be prese	ent,
	Mucky Mineral (S1) (L	.RR O, S)	Delta Ochric				unl	ess disturbed or problematic.	
	Gleyed Matrix (S4)		Reduced Ve				0.4.\		
	Redox (S5) I Matrix (S6)		Piedmont Flo				9A) A 149A, 153C	1530)	
	rface (S7) (LRR P, S	T U)	Anomalous i	ongni Luan	ly Solis (i	20) (WILK)	H 145A, 1550	, 1330)	
	Layer (if observed):								
Type:									
Depth (in	ches):						Hydric Soil	Present? Yes N	lo N
Remarks:									
N	lo evidence of	hydric s	oil indicators	s. Comp	acted	sandy	loam soil	to 20 inches depth.	

Project/Site: Camp Pendleton	City/County: Virgi	nia Beach	Sampling Date: 10-16-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 26-Alt 3A-3B
Investigator(s): Campo/Sherwood	Section, Township		
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA):	Lat:	Long:	Datum:
Soil Map Unit Name: Tetotum Ioam		NWI classif	
Are climatic / hydrologic conditions on the site typica			
Are Vegetation X , Soil X , or Hydrology	significantly disturbed?	Are "Normal Circumstances"	present? Yes No X
Are Vegetation, Soil, or Hydrology _		If needed, explain any answ	
SUMMARY OF FINDINGS - Attach site	map showing sampling poi	nt locations, transect	s, important features, etc.
Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	No X No X No X within a We	etland? Yes	No X
The sample point is the mowed fie sampling point is on the centerline	•	•	ke Avenue. The
HYDROLOGY			
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Aquatic Fauna (B13) Marl Deposits (B15) (LRR U) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (Thin Muck Surface (C7) Other (Explain in Remarks)	Surface So Sparsely Vo Drainage P Moss Trim Oots (C3) Dry-Seasor Crayfish Bu Saturation V Geomorphi Shallow Aq FAC-Neutra	Visible on Aerial Imagery (C9) c Position (D2) uitard (D3)
	Depth (inches):		
	Depth (inches):		
Saturation Present? Yes No X	Depth (inches):	Wetland Hydrology Prese	ent? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorin Remarks:	g well, aerial photos, previous inspect	ions), if available:	
The site contains fill material from soils, or hydrophytic vegetation.	the road construction. No	evidence of wetla	nd hydrology, hydric

50% of total cover: ____

50% of total cover: ²⁵

3. Cynodon dactylon 25

= Total Cover ____ 20% of total cover: ____

50% of total cover: 42.5 20% of total cover: 17

____ = Total Cover 50% of total cover: ____ 20% of total cover: ____

Tree Stratum (Plot size: _____)

Sapling/Shrub Stratum (Plot size: _____)

Herb Stratum (Plot size: _____)

1. Digitaria sanguinalis

2 Paspalum dilatatum

1. None present

1. None present

1. None present

	ants.			pling Point: 26-A	VIII JA-
	Dominant Species?		Dominance Test worksheet: Number of Dominant Species		
			That Are OBL, FACW, or FAC:	0	(A)
			Total Number of Dominant Species Across All Strata:	2	(B)
			Percent of Dominant Species That Are OBL, FACW, or FAC:	0	_ (A/E
			Prevalence Index worksheet:		
			Total % Cover of:	Multiply by:	
	= Total Cov	er	OBL species	x 1 =	_
	total cover:		FACW species	x 2 =	_
20 /0 01	total cover.		FAC species	x 3 =	
			FACU species	x 4 =	
			UPL species	x 5 =	_
			Column Totals: ((A)	(B
			Prevalence Index = B/A	=	
			Hydrophytic Vegetation Indic	ators:	
			1 - Rapid Test for Hydroph		
			2 - Dominance Test is >50		
			3 - Prevalence Index is ≤3	.0 ¹	
0	= Total Cov	er	Problematic Hydrophytic V	egetation¹ (Expla	ain)
0	<u>Y</u> N	FACU FAC	¹ Indicators of hydric soil and we be present, unless disturbed on	problematic.	must
5	Y	FACU	Definitions of Four Vegetatio	n Strata:	
	<u>·</u>		Tree – Woody plants, excluding more in diameter at breast heigheight.		
			Sapling/Shrub – Woody plants than 3 in. DBH and greater tha		
			Herb – All herbaceous (non-wood size, and woody plants less		ardles
			Woody vine – All woody vines height.	greater than 3.2	8 ft in
5	= Total Cov				
	total cover:				
			Hydrophytic Vegetation		
	- Total Cav		Vegetation		
	= Total Cov total cover:		Present? Yes	No X	

Remarks:	(If observed,	list morphological	adaptations	below).
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Mowed road side and field or lawn.

Woody Vine Stratum (Plot size: _____)

SOIL Sampling Point: 26-Alt 3A-3B

Profile Desc	cription: (Describe to	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)		
Depth	Matrix			x Features	-					
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture		marks	
0-12	10YR 4/3							compacted sa	nd and s	ilt oam
12-20	10YR 6/4							compacted sa	nd and g	ravel
	oncentration, D=Deple					ains.		PL=Pore Lining,		2
l <u> </u>	Indicators: (Applica	ble to all Li						for Problematic	-	oils³:
Histosol	` '		Polyvalue Be		. , .			Muck (A9) (LRR O		
	pipedon (A2)		Thin Dark Su					Muck (A10) (LRR sed Vertic (F18) (o		DA 150A D\
I =	stic (A3) en Sulfide (A4)		Loamy Muck	-		. 0)		ont Floodplain Soi		
_	d Layers (A5)		Depleted Ma)			alous Bright Loam		
	Bodies (A6) (LRR P,	T, U)	Redox Dark	, ,	⁻ 6)			RA 153B)	, (-,
5 cm Μι	ucky Mineral (A7) (LR	R P, T, U)	Depleted Da	rk Surface	(F7)			arent Material (TF		
	resence (A8) (LRR U)		Redox Depre	,	8)			Shallow Dark Surfa	,	
_	ick (A9) (LRR P, T)	(0.4.4)	Marl (F10) (L		(MI DA 4)	-4\	L Other	(Explain in Remar	ks)	
	d Below Dark Surface ark Surface (A12)	(A11)	Depleted Oc				T) ³ Indic	cators of hydrophy	tic vegetat	ion and
ı '	rairie Redox (A16) (M	LRA 150A)	=		. , .		•	tland hydrology mi	•	
	Mucky Mineral (S1) (L		Delta Ochric			, -,		ess disturbed or p		
	Gleyed Matrix (S4)		Reduced Ve			0A, 150B)		•		
Sandy F	Redox (S5)		Piedmont Flo	oodplain S	oils (F19)	(MLRA 149	9A)			
	Matrix (S6)		Anomalous I	Bright Loar	my Soils (I	=20) (MLR	A 149A, 153C	, 153D)		
	rface (S7) (LRR P, S, Layer (if observed):	T, U)					ı			
Type:	Layer (ii observeu).									
Depth (in	ches).						Hydric Soil	Present? Yes		No N
Remarks:							Tiyano con	110001111. 100		
N	o evidence of	hydric s	oil indicators	. Comp	pacted	sandy l	loam soil	to 20 inches	depth	. Bits of
a	sphalt and gra	vel in the	e soil from s	poil sid	e cast	from ne	earby road	d.		
				•			,			

Project/Site: Camp Pendleton	City/County: Virgin	ia Beach	Sampling Date: 10-16-13
Applicant/Owner: U.S. Army	<u> </u>	State: VA	Sampling Point: 27-Alt 3A
Investigator(s): Campo/Sherwood		Range:	
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat: _			
Soil Map Unit Name: Tetotum Ioam		NWI classific	
Are climatic / hydrologic conditions on the site typical for this tim			
Are Vegetation X , Soil X , or Hydrology X signif	icantly disturbed? Ar	re "Normal Circumstances" p	present? Yes No X
Are Vegetation, Soil, or Hydrology natur		needed, explain any answe	
SUMMARY OF FINDINGS - Attach site map sho	owing sampling poin	t locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks:	within a Wet	land? Yes	No X
The sample point is the mowed field and a Jefferson Ave. The sampling point is on the			of Lake Avenue and
HYDROLOGY			
Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Hydrogen Si Oxidized Rh Presence of Recent Iron Thin Muck S	na (B13) is (B15) (LRR U) ulfide Odor (C1) izospheres along Living Ro Reduced Iron (C4) Reduction in Tilled Soils (C	Drainage Pa Moss Trim Li ots (C3) Dry-Season Crayfish Burn 6) Saturation Vi Geomorphic Shallow Aqu FAC-Neutral	getated Concave Surface (B8) tterns (B10) ines (B16) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) Position (D2) itard (D3)
Surface Water Present? Yes No X Depth (inches):		
Water Table Present? Yes No X Depth (
Saturation Present? Yes No X Depth (Wetland Hydrology Preser	it? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aeria	l photos, previous inspection	ons), if available:	
Remarks: The site contains fill material from the road soils, or hydrophytic vegetation.	d construction. No	evidence of wetlan	d hydrology, hydric

		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1. None present				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6.				That Are OBL, I ACW, OF I AC.
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
		= Total Cov		FACW species x 2 =
50% of total cover:	20% of	total cover	:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. None present				UPL species x 5 =
2				
3				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				2 - Dominance Test is >50%
8.				3 - Prevalence Index is ≤3.0 ¹
	50	= Total Co	/er	
50% of total cover: ²⁵				Problematic Hydrophytic Vegetation ¹ (Explain)
	20 /0 01	total cover	•	
Herb Stratum (Plot size:) 1 Digitaria sanguinalis	50	Υ	FACU	Indicators of hydric soil and wetland hydrology must
1. Digitaria sanguinalis 2. Paspalum dilatatum	10	N	FAC	be present, unless disturbed or problematic.
				Definitions of Four Vegetation Strata:
3. Cynodon dactylon	25	<u>Y</u>	FACU	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4				more in diameter at breast height (DBH), regardless of
5				height.
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				Herb – All herbaceous (non-woody) plants, regardless
9				of size, and woody plants less than 3.28 ft tall.
10				W
11.				Woody vine – All woody vines greater than 3.28 ft in height.
12.				noight.
12.	85	= Total Cov	/or	
50% of total cover: 42.5				
	20% 01	total cover	· <u>- · · </u>	
Woody Vine Stratum (Plot size:) 1. None present				
2				
3				
4				
5				Hydrophytic
	:	= Total Cov	/er	Vegetation
50% of total cover:	20% of	total cover	:	Present? Yes No X
Remarks: (If observed, list morphological adaptations belo	ow).			
Mowed road side and field or lawn with	adjacer	nt aspha	alt pave	ment.

Sampling Point: 27-Alt 3A

SOIL Sampling Point: 27-Alt 3A

Profile Desc	cription: (Describe to	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)		
Depth	Matrix			x Features	-					
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture		marks	
0-12	10YR 4/3							compacted sa	nd and s	ilt oam
12-20	10YR 6/4							compacted sa	nd and g	ravel
	oncentration, D=Deple					ains.		PL=Pore Lining,		2
l <u> </u>	Indicators: (Applica	ble to all Li						for Problematic	-	oils³:
Histosol	` '		Polyvalue Be		. , .			Muck (A9) (LRR O		
	pipedon (A2)		Thin Dark Su					Muck (A10) (LRR sed Vertic (F18) (o		DA 150A D\
I =	stic (A3) en Sulfide (A4)		Loamy Muck	-		. 0)		ont Floodplain Soi		
_	d Layers (A5)		Depleted Ma)			alous Bright Loam		
	Bodies (A6) (LRR P,	T, U)	Redox Dark	, ,	⁻ 6)			RA 153B)	, (-,
5 cm Μι	ucky Mineral (A7) (LR	R P, T, U)	Depleted Da	rk Surface	(F7)			arent Material (TF		
	resence (A8) (LRR U)		Redox Depre	,	8)			Shallow Dark Surfa	,	
_	ick (A9) (LRR P, T)	(0.4.4)	Marl (F10) (L		(MI DA 4)	-4\	L Other	(Explain in Remar	ks)	
	d Below Dark Surface ark Surface (A12)	(A11)	Depleted Oc				T) ³ Indic	cators of hydrophy	tic vegetat	ion and
ı '	rairie Redox (A16) (M	LRA 150A)	=		. , .		•	tland hydrology mi	•	
	Mucky Mineral (S1) (L		Delta Ochric			, -,		ess disturbed or p		
	Gleyed Matrix (S4)		Reduced Ve			0A, 150B)		•		
Sandy F	Redox (S5)		Piedmont Flo	oodplain S	oils (F19)	(MLRA 149	9A)			
	Matrix (S6)		Anomalous I	Bright Loar	my Soils (I	=20) (MLR	A 149A, 153C	, 153D)		
	rface (S7) (LRR P, S, Layer (if observed):	T, U)					ı			
Type:	Layer (ii observeu).									
Depth (in	ches).						Hydric Soil	Present? Yes		No N
Remarks:							Tiyano con	110001111. 100		
N	o evidence of	hydric s	oil indicators	. Comp	pacted	sandy l	loam soil	to 20 inches	depth	. Bits of
a	sphalt and gra	vel in the	e soil from s	poil sid	e cast	from ne	earby road	d.		
				•			,			

Project/Site: Camp Pendleton	City/County: Virginia	Beach	Sampling Date: 10-16-13
Applicant/Owner: U.S. Army		State: VA	Sampling Point: 28-Alt 3A_3
Investigator(s): Campo/Sherwood		ange:	
Landform (hillslope, terrace, etc.):			
Subregion (LRR or MLRA): Lat:			
		NWI classific	
Are climatic / hydrologic conditions on the site typical for this time of y			
Are Vegetation X , Soil X , or Hydrology X significantly	y disturbed? Are	"Normal Circumstances" p	resent? Yes No X
Are Vegetation, Soil, or Hydrology naturally p		eeded, explain any answei	
SUMMARY OF FINDINGS - Attach site map showin	g sampling point	locations, transects	, important features, etc
Hydrophytic Vegetation Present? Yes	Is the Sampled within a Wetla		No X
The sample point is the mowed field and adjace Birdneck Road and Jefferson Ave. The sample centerline.			
HYDROLOGY			
Sediment Deposits (B2)	13) (5) (LRR U) Odor (C1) heres along Living Root uced Iron (C4) loction in Tilled Soils (C6) e (C7)	Surface Soil of Sparsely Veg Drainage Pat Moss Trim Lites (C3) Dry-Season Veg Crayfish Burr Saturation Vieg Geomorphic Shallow Aqui	tetated Concave Surface (B8) terns (B10) nes (B16) Water Table (C2) ows (C8) sible on Aerial Imagery (C9) Position (D2) tard (D3)
Surface Water Present? Yes No X Depth (inches	s):		
Water Table Present? Saturation Present? Yes No _X Depth (inche: No _X No _X Depth (inche: No _X No _X	s): W	etland Hydrology Presens), if available:	t? Yes No X
Remarks: The site contains fill material from the road co soils, or hydrophytic vegetation.	nstruction. No e	evidence of wetlan	d hydrology, hydric

		Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1. None present				That Are OBL, FACW, or FAC: 0 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				
5.				Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
6.				That Are OBE, I ACW, OF I AC.
				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
8				OBL species x 1 =
		= Total Co		FACW species x 2 =
50% of total cover:	20% of	total cover	:	FAC species x 3 =
Sapling/Shrub Stratum (Plot size:)				FACU species x 4 =
1. None present				UPL species x 5 =
2				
3				Column Totals: (A) (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				1 - Rapid Test for Hydrophytic Vegetation
7.				2 - Dominance Test is >50%
8.				
<u> </u>		= Total Co	ver	3 - Prevalence Index is ≤3.0 ¹
50% of total cover: ²⁵				Problematic Hydrophytic Vegetation ¹ (Explain)
	20 /0 01	total cover	• ——	
Herb Stratum (Plot size:) 1 Digitaria sanguinalis	50	Υ	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. Paspalum dilatatum	10	N	FAC	
3. Cynodon dactylon	25	Y	FACU	Definitions of Four Vegetation Strata:
	· ——			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or
4				more in diameter at breast height (DBH), regardless of
5				height.
6				Sapling/Shrub – Woody plants, excluding vines, less
7				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
8				Herb – All herbaceous (non-woody) plants, regardless
9				of size, and woody plants less than 3.28 ft tall.
10				Woody vine – All woody vines greater than 3.28 ft in
11.				height.
12.				
	85	= Total Co	ver	
50% of total cover: 42.5				
Woody Vine Stratum (Plot size:)	20 /0 01	total covel		
1. None present				
	· 			
2				
3				
4				
5				Hydrophytic
		= Total Co	ver	Vegetation No. X
50% of total cover:	20% of	total cover	:	Present? Yes No X
Remarks: (If observed, list morphological adaptations belo	ow).			
Mowed road side and field or lawn with	adjacer	nt aspha	alt pave	ment.

Sampling Point: <u>28-Alt 3A_3B</u>

SOIL Sampling Point: 28-Alt 3A_3B

Profile Desc	cription: (Describe to	o the depth	needed to docu	ment the i	ndicator	or confirm	the absence	of indicators.)		
Depth	Matrix			x Features	-					
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture		marks	
0-12	10YR 4/3							compacted sa	nd and s	ilt oam
12-20	10YR 6/4							compacted sa	nd and g	ravel
	oncentration, D=Deple					ains.		PL=Pore Lining,		2
l <u> </u>	Indicators: (Applica	ble to all Li						for Problematic	-	oils³:
Histosol	` '		Polyvalue Be		. , .			Muck (A9) (LRR O		
	pipedon (A2)		Thin Dark Su					Muck (A10) (LRR sed Vertic (F18) (o		DA 150A D\
I =	stic (A3) en Sulfide (A4)		Loamy Muck	-		. 0)		ont Floodplain Soi		
_	d Layers (A5)		Depleted Ma)			alous Bright Loam		
	Bodies (A6) (LRR P,	T, U)	Redox Dark	, ,	⁻ 6)			RA 153B)	, (-,
5 cm Μι	ucky Mineral (A7) (LR	R P, T, U)	Depleted Da	rk Surface	(F7)			arent Material (TF		
	resence (A8) (LRR U)		Redox Depre	,	8)			Shallow Dark Surfa	,	
_	ick (A9) (LRR P, T)	(0.4.4)	Marl (F10) (L		(MI DA 4)	-4\	L Other	(Explain in Remar	ks)	
	d Below Dark Surface ark Surface (A12)	(A11)	Depleted Oc				T) ³ Indic	cators of hydrophy	tic vegetat	ion and
ı '	rairie Redox (A16) (M	LRA 150A)	=		. , .		•	tland hydrology mi	•	
	Mucky Mineral (S1) (L		Delta Ochric			, -,		ess disturbed or p		
	Gleyed Matrix (S4)		Reduced Ve			0A, 150B)		•		
Sandy F	Redox (S5)		Piedmont Flo	oodplain S	oils (F19)	(MLRA 149	9A)			
	Matrix (S6)		Anomalous I	Bright Loar	my Soils (I	=20) (MLR	A 149A, 153C	, 153D)		
	rface (S7) (LRR P, S, Layer (if observed):	T, U)					ı			
Type:	Layer (ii observeu).									
Depth (in	ches).						Hydric Soil	Present? Yes		No N
Remarks:							Tiyano con	110001111. 100		
N	o evidence of	hydric s	oil indicators	. Comp	pacted	sandy l	loam soil	to 20 inches	depth	. Bits of
a	sphalt and gra	vel in the	e soil from s	poil sid	e cast	from ne	earby road	d.		
				•			,			

Attachment C – Representative Photographs

Representative Photographs for VOWTAP Wetland Delineation 15-16 October 2013



Alternative 3A Upland



Alternative 3A Soil Profile

Representative Photographs for VOWTAP Wetland Delineation 15-16 October 2013



Alternative 3A HDD Upland



Alternative 3A Upland





Alternative 3A Wetland

Alternative 3A Soil Profile





Alternative 3B Upland

Alternative 3B Soil profile





Alternative 3B Wetland

Alternative 3B Soil Profile





Alternative 3A-3B HDD Wetland

Alternative 3A-3B HDD Wetland





Alternative 2 HDD Parking Lot

Alternative 2 HDD Rifle Range Berm





Alternative 2 Upland

Alternative 2 Wetland





Alternative 1-2 Upland

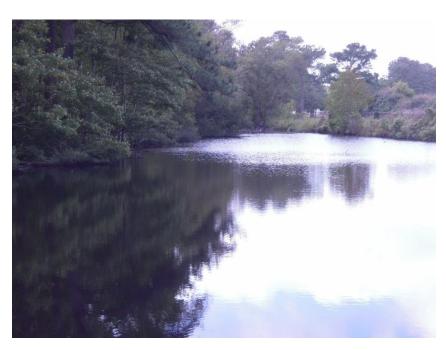
Alternative 1 HDD upland parking lot and rifle range berm



Alternative 1 HDD rifle range berm



Alternative 1 south of Rifle Range Road onto Dam Neck property



Alternative 1 south of Rifle Range Road Lake Christine



Alternative 1 north of Rifle Range Road Lake Christine



Alternative 1 north of Rifle Range Road



Alternative 1 north of Rifle Range Road soil profile



Alternative 1 upland S. Birdneck Road



Alternative 1 upland end of S. Birdneck Road





Alternatives 3A-3B edge of lake on west side of Lake Christine

Alternatives 3A-3B upland woodlot



Alternatives 3A-3B HDD upland



Alternatives 3A-3B upland



Alternatives 3A-3B upland along Jefferson Avenue



Alternatives 3A-3B upland along Jefferson Avenue





View east at intersection of Jefferson Avenue, unnamed road to S. Birdneck Rd, and Riffle range Road

Same view moving eastward toward Lake Christine. Upland road shoulder.



Same view as in previous picture moving eastward toward Lake Christine

Same view as in previous picture moving eastward toward Lake Christine





Same view as in previous picture moving eastward toward Lake Christine. Note small wetland fringe at edge of lake. Upland road shoulder to wet fringe.

View southward from intersection of Rifle Range Road and unnamed road to S. Birdneck Rd showing CP fenceline on edge of Lake Christine. Dam Neck property is across the fenceline.





View west from the north side of Rifle Range Road toward Lake Christine. Note small wetland fringe at lake edge. Upland at picture point. Same view as previous picture from 100 feet away from Lake Christine. Note higher elevation at picture point than the lake.





Same view as previous picture from 150 feet away from Lake Christine. Note higher elevation at picture point than the lake.

Same view as previous picture from 175 feet away from Lake Christine. Note higher elevation at picture point than the lake.





Same view as previous picture from 200 feet away from Lake Christine. Note higher elevation at picture point than the lake. Upland to the wet fringe at lake edge.

View east from the same picture point as the previous picture. Note higher elevation in the background looking eastward than the picture point.





View east at north end of interconnect station on unnamed road near S. Birdneck Rd. Tape measures 58 feet from edge of asphalt pavement to the CP fenceline boundary.

View south across the tapeline in the previous photo. The area is upland, mowed road shoulder to the fenceline.





View south as in previous photo Note all upland, mowed road shoulder to the fenceline.

Another view south as in previous photo Note all upland, mowed road shoulder to the fenceline.





View south along fenceline in the proposed interconnect station area along the unnamed road at S. Birdneck Rd.

View north along fenceline at same photo point as in previous photo. Note upland mowed road shoulder on left side of fence and wetland across the fence on Dam neck property.





View south of the proposed interconnect station area at intersection of unnamed road and S. Birdneck Rd.

View north of the proposed interconnect station area at intersection of unnamed road and S. Birdneck Rd. Note all upland mowed road shoulder





View north from near the south end of the proposed interconnect station area at intersection of unnamed road and S. Birdneck Rd. Note all upland mowed road shoulder.

View east from near the south end of the proposed interconnect station area at intersection of unnamed road and S. Birdneck Rd. Tape measures 70 feet from edge of unnamed road pavement across the paved arc toward the fenceline.





View of existing switch cabinet on S. Birdneck Rd.

View north across S. Birdneck Rd. toward the proposed interconnect station.





View east on S. Birdneck Rd. toward Dam Neck. Note existing switch cabinet.

View north across S. Birdneck Rd from the existing switch cabinet toward the proposed interconnect station area.

Attachment D – Agency Correspondence

Lavallee, Janelle

Subject:

FW: Section 10 - RE: Data form update. (UNCLASSIFIED)

From: "Evans, John D NAO" < John.D. Evans@usace.army.mil>

Date: February 7, 2014 at 8:32:49 AM EST

To: "Kimberly Q Lanterman (Services - 6)" < <u>kimberly.q.lanterman@dom.com</u>>

Subject: Section 10 - RE: Data form update. (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Kim:

TGIF!

I have reviewed the history of Lake Christine and agree that the lake is not a Section 10 Rivers and Harbors Act waterway. As such, the only need for a Corps permit in Lake Christine would be for an activity that includes the discharge of dredged or fill material as regulated by Section 404 of the Clean Water Act.

My understanding of the proposed transmission and data cable construction plan is to use horizontal directional drilling from upland to upland, for cable placement under all waters and wetlands at Camp Pendleton. There will be no discharge of dredged or fill material in waters or wetlands for any activity landward of the high tide line on the Camp Pendleton beach.

If my understanding is accurate, then we may not need to review all of the data forms and delineation work. It would seem reasonable for Dominion to state that all VOWTAP construction activity landward of the high tide line at Camp Pendleton is in upland, or by horizontal directional drilling under waters or wetlands, and in no case involves any discharge of dredged or fill material in waters or wetlands, and therefore does not require Section 404 Clean Water Act authorization.

Please let me know how you want to proceed.

Sincerely,

John

The Norfolk District is committed to providing the highest level of support to the public. Please assist us in better serving you by completing our customer survey at the following link: http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey

-----Original Message-----From: Evans, John D NAO

Sent: Monday, February 03, 2014 8:49 AM To: 'Kimberly Q Lanterman (Services - 6)'

Subject: Data form update. (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Kim:

Good morning.

I have read the various emails from Thursday late afternoon and Friday, and there is certainly lots of VOWTAP activity. As a part of that, when do you anticipate that data forms will be available for each data point?

Also, I appreciate Joe's discussion of Lake Christine. I will try to address the Section 10 issue this week.

Have a Great Week,

John

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

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