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 Date:
 August 28, 2016

Kimberly D. Bose, Secretary Federal Energy Regulatory Commission 888 First St., N.E., Room 1A Washington, DC 20426

Dear Ms. Bose:

Subject: Call Summary Regarding the Order 1 Soil Survey Report for the Monongahela National Forest and George Washington National Forest OEP/DG2E/Gas 4 Atlantic Coast Pipeline, LLC Docket Nos. CP15-554-000 and CP15-554-001

The Forest Service provides a summary of a conference call held with Atlantic Coast Pipeline, LLC (ACP) regarding the Order 1 Soil Survey filed with the Federal Energy Regulatory Commission on August 2, 2016 for the proposed Atlantic Coast Pipeline Project (ACP Project). The proposed ACP Project would affect National Forest System lands in the Monongahela National Forest and George Washington National Forest.

The discussion points of the conference call held on August 26, 2016 are listed in the attachment. Specifically, the Forest Service clarified its request to ACP for GIS spatial and tabular data related to the Order 1 Soil Survey Report and explained to ACP why the data is necessary. The Forest Service expected to have received this data with the Order 1 Soil Survey Report, because the data requirements were agreed upon during a meeting between the Forest Service and ACP on March 9, 2016. These data requirements are clearly detailed in the final version of the Order 1 Soil Survey Protocol, submitted by ACP to the Forest Service on April 8, 2016, an excerpt of which is appended. More specifically, the Forest Service has not received "all information" as described in Section 2.3.6, the soil map unit polygons as described in Section 3.0, and some deliverables including the GIS attribute data as described in Section 4.0 of the protocols.

Because the Order 1 Soil Survey Report lacks GIS spatial and tabular data essential to a proper review of the report, the Forest Service is unable to complete its review until the GIS spatial and tabular data is received. The Forest Service urges ACP to provide the necessary data and information, as detailed in the agreed-upon protocol, in order to facilitate the Forest Service's review of the report.







For questions, please contact Jennifer Adams, Special Project Coordinator, by phone at (540) 265-5114 or by email at jenniferpadams@fs.fed.us.

Sincerely,

Clyde N Thompson

CLYDE THOMPSON Forest Supervisor

cc: Atlantic Coast Pipeline, LLC

#### Summary of a Conference Call between the Forest Service and Atlantic Coast Pipeline, LLC

#### **Atlantic Coast Pipeline Project**

Subject:	Clarification of the Data Request Necessary for the Forest Service to Complete its Review of the Order 1 Soil Survey Report for the Proposed Atlantic Coast Pipeline Project
Date:	8/26/2016
Time:	10:30 a.m. to 10:42 a.m.

## **Atlantic Coast Pipeline, LLC**

Colin Olness Richard Gangle

#### **Forest Service**

Monongahela National Forest
Stephanie Connolly, Forest Soil Scientist
Steffany Scagline, Soil Scientist
Adrienne Nottingham, Soil Scientist
George Washington & Jefferson National Forest
Thomas Bailey, Forest Soil Scientist
Jennifer Adams, Special Projects Coordinator
Alex Faught, Lands Program Manager

#### **Discussion points:**

- Stephanie Connolly, MNF Forest Soil Scientist, informed ACP that when the Forest Service Soil Scientists began GIS analyses in ArcGIS, they discovered that the GIS data provided was limited to soil pit and soil transect locations with associated latitude and longitude information, and only sparsely populated attribute tables. Adrienne Nottingham concurred with the description of the data received from ACP.
- Colin Olness of ACP stated that the information requested by the Forest Service in emails August 17, 2016 and August 22, 2016 was provided.
- Ms. Connolly stated that ACP did not provide all of the data requested based upon the Order 1 Soil Survey Protocols. (See excerpt below from Order 1 Soil Survey protocols, provided below.)

- Tom Bailey, GWJNF Forest Soil Scientist, and Ms. Connolly, discussed the need for the GIS data and tabular information in order to move forward with the reviews. Mr. Bailey and Ms. Connolly requested that ACP provide to the MNF and GWJNF all of the GIS data generated during the Order 1 Soil Survey. All GIS files must be fully populated attribute tables.
- Mr. Olness, stated that they did not want to provide all of the data because it included a lot of extraneous information, and they did not want to confuse the Forest Service Soil Scientists with a large data dump.
- Ms. Connolly asked if ACP's Soil Scientist was present on the call, because there would have been no confusion about the data request if the conversation included an ACP Soil Scientist. A Soil Scientist would understand the Forest Service's data request, including the delineated soil map unit polygons agreed upon in the Order 1 Soil Survey Protocols. (See excerpt below from Order 1 Soil Survey protocols, provided below.)
- Mr. Olness stated that no ACP Soil Scientist was present on the call.
- Ms. Connolly reiterated that having a soil scientist present on the call, involved in the discussion(s) about the Order 1 Soil Survey Report, and responding to the Forest Service's requests for data would have eliminated confusion about the type and relevance of the data requested by the Forest Service.
- The Forest Service also requested that copies of all field drawn maps and notes referred to in the Order 1 Soil Survey Report.
- Mr. Olness stated that the data requested by the Forest Service has already been provided in the Order 1 Level Soil Survey Report in the form of hard copies.
- Tom Bailey, GWJNF Forest Soil Scientist, pointed out that the Forest Service cannot conduct the necessary reviews and analyses with only the paper copies provided by ACP in the Order 1 Soil Survey Report, without unduly delaying the review process. A review using paper copies instead of GIS spatial and tabular data would require considerably more time.
- Richard Gangle of ACP stated that the data requested by the Forest Service will be provided.
- Jennifer Adams, Forest Service Special Project Coordinator, asked if the ACP Soil Scientist in charge of the data compilation and the writing of any documents would be available to answer questions that the Forest Service may have going forward, after the Forest Service receives the requested data.
- Mr. Gangle reassured the Forest Service that ACP's soil scientist would be available for future conversations about the data and the report.

**Dominion Resources Services, Inc.** 5000 Dominion Boulevard, Glen Allen, VA 23060



April 8, 2016

## BY OVERNIGHT (OR EXPRESS) MAIL

Jennifer Adams U.S. Forest Service Special Project Coordinator 1562 Valleypointe Parkway Roanoke, VA 24019

## Re: Dominion Transmission, Inc., Atlantic Coast Pipeline Submittal of Order 1 Soil Survey

Dear Mrs. Adams:

Enclosed please find the Order 1 Soil Survey Protocol for both the Monongahela National Forest (MNF) and George Washington National Forest (GWNF). This protocol was revised comments based on comments received from both the Nicholas Putnam Group and the US Forest Service.

We would appreciate your approval of this protocol as soon as possible since the soil survey are scheduled to commence soon after the issuance of the special use survey permits for each forests. Please contact Mr. William A. Scarpinato at (804) 273-3019 or William.A.Scarpinato@dom.com, if there are questions regarding this protocol. Please direct written responses to:

William A. Scarpinato Dominion Resources Services, Inc. 5000 Dominion Boulevard Glen Allen, Virginia 23060

Sincerely,

Robert M. Bisha Technical Advisor Atlantic Coast Pipeline

Cc: William Scarpinato, Dominion
 Colin Olness, Dominion
 Kent Karriker, U.S. Forest Service Monongahela National Forest
 Alex Faught, U.S. Forest Service George Washington National Forest

Attachments:

Atlantic Coast Pipeline, Order 1 Soil Survey Protocols – Monongahela & George Washington National Forests

Prepared for:

**Dominion Transmission, Inc.** 707 East Main Street Richmond, VA 23219

# **ATLANTIC COAST PIPELINE**

# **ORDER 1 SOIL SURVEY PROTOCOLS**

# MONONGAHELA NATIONAL FOREST, WV AND GEORGE WASHINGTON NATIONAL FOREST, VA

April 2016

Prepared by:



Geosyntec<sup>D</sup> consultants

engineers | scientists | innovators

Reviewed by:

The Nicholas Putnam Group

U.S. Forest Service, Monongahela National Forest and George Washington National Forest

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#### 1.0 INTRODUCTION

An Order 1 Soil Survey will be performed along the approximately 20-mile portion of the Rev 10 reroute between MP 47 and MP 115 on the proposed Atlantic Coast Pipeline (ACP) route that crosses through parts of the Marlinton Ranger District in the Monongahela National Forest (MNF) and parts of the Warm Springs, North River, and Pedlar Ranger Districts in the George Washington National Forest (GWNF). Approximately 5.42 miles of the Rev 10 reroute crosses parts of the MNF and about 14.47 miles crosses parts of the GWNF.

The soil survey activities have been planned to be compliant with the requirements outlined in special use permit #GBR205003, dated April 22, 2015 issued by U.S. Forest Service for surveys in the MNF, and the requirements outlined in special use permit #GWP433201T, dated March 31, 2015 issued by the U.S. Forest Service for surveys in the GWNF. Since both permits are due to expire before completion of this survey program, Atlantic has applied for updated permits and the soil survey activities can be modified to incorporate additional requirements that may be specified in the updated permits as necessary. The Order 1 Soil Survey will follow the methods outlined in the U.S. Department of Agriculture Natural Resources Conservation Service (USDA NRCS) Soil Survey Manual for an Order 1 Survey (Soil Survey Division Staff, 1993, Soil Survey Manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18).

The certified professional soil scientists (CPSSs) or North Carolina (NC) or Virginia (VA) licensed soil scientists (LSSs) pre-approved by the Forest Service for this project will be responsible for the Order 1 Soil Survey including selection of excavation locations, observation, logging, and description of excavations, photographic documentation of the excavations, collection and laboratory assignment of samples, interpretation of findings, and preparation of the Order 1 Soil Survey Report. It is understood that although Geosyntec is serving in the role of Program Manager, it will not influence, provide interpretations or edit the soil data or data collection efforts. All technical soil activities that affect the outcome and results of the Order 1 Soil Survey will be conducted by the soil survey team listed in this survey protocol. These activities include soil pit location identification, determination of pit dimensions, number of soil pits to be excavated, all soil classification determinations, data interpretations, and principle technical authorship of the Order 1 Soil Survey report.

Geosyntec personnel will provide field support for the soil survey team, but will not conduct technical soil activities that affect the outcome and results of the Order 1 Soil Survey. Geosyntec's team will also be observing the Order 1 Soil Survey activities in support of ACP's geohazard program.

## 1.1 Purpose

The purpose of the Order 1 Soil Survey is to provide more site-specific soil data for the proposed pipeline corridor to support construction of the 42-inch diameter pipeline. The site-specific soil data will be used to update the Soil Resource Section for the Final Environmental Impact Statement (EIS), and to make more informed decisions related to design, construction, restoration, and maintenance of the proposed pipeline, right-of-way, and other project components. The Order 1 Soil Survey is not intended to replace the published soil survey information, but rather to supplement it.

### 1.2 Soil Survey Team

The soil survey will be conducted by a team of CPSSs or NC or VA LSSs. Michael Callahan, CPSS with RETTEW will serve as the Soil Scientist Team Project Manager/ Team Lead. John Stipe III, CPSS will serve as the Soil Scientist Team QA/QC Lead. Dr. John Galbraith and Dr. Patrick Drohan will act as Technical Advisors. Stephen Carpenter and Charles Delp with the Nicholas Putnam Group will provide Third Party Review. Kathleen Harrison, PG with Geosyntec Consultants Inc. (Geosyntec) will serve as the overall Program Manager and programmatic liaison between Dominion and the soil scientist team and associated subcontractors. The soils scientist team will be supported by Triple H Enterprises providing laborers to assist with soil pit excavation. Organizational charts are presented in Attachment 1. Soil Scientist resumes are presented in Attachment 2.

If during the project there is a need to include other qualified professional soil scientist on the soil survey team, the names and resumes for those individuals will be provided to the Forest Service for review and acceptance prior to their involvement on the project.

#### 2.0 SOIL SURVEY PROTOCOLS

This section outlines the protocols that will be used to complete the Order 1 Soil Survey. Soil units will be mapped at a scale appropriate to capture inclusions and not-to-exceed a scale of 1:12,000. The minimum soil polygon area will be 2.5 acres or less, with no minimum delineation size. Special symbols will be used to identify restrictive features such as wet spots, caves, sinkholes, rock outcrop, etc. and to identify ephemeral drainage ways to perennial waters across the entire width of the corridor, as defined in the Soil Survey Manual. Hydric soils will be identified across the entire width of the corridor following the National Technical committee for Hydric Soil (NTCHS) Field Indicators of Hydric Soils Ver. 7.0.

## 2.1 Desktop Survey

A preliminary desktop evaluation will be conducted using the collected topographic data, detailed geologic maps, existing SSURGO soil map unit boundaries, aerial photography, and other pertinent remotely- sensed data to highlight potential landscape trends and to aid in field location of test pits.

Preliminary GIS-generated maps will be developed that include topographic contours, SSURGO map units, the pipeline centerline, and the limits of the 300-foot survey corridor. Preliminary survey sample locations will be identified along the center line of the pipeline at 350-foot intervals to assess initial map unit coverage. Actual soil pit locations will be field determined by the soil scientist.

The findings of the desktop evaluation will be shared with the Forest Service, the Technical Advisors, and the Nicholas Putnam Group.

## 2.2 Preliminary Field Reconnaissance

The soil team leads under the direction of the Team Lead and advised by the Technical Advisors and the Nicholas Putnam Group, will conduct a preliminary field reconnaissance along the pipeline corridor to do a coarse evaluation of the soil resources using select test pit locations based on the desktop evaluation to help develop preliminary, reconnaissance-level soil-landscape relationships for the project area. Both soil test pits and transects will be used during this evaluation.

Results of the field reconnaissance will be used to generate a list of the main soil series and a draft mapping unit legend for the project personnel to use when conducting mapping exercises. The preliminary soil pit location map developed during the desktop study will be developed into a more refined soil test pit sampling plan based on the preliminary field reconnaissance. The 350-foot spacing interval of the soil pits may be modified by the soil scientist. The actual spacing and location of the test pits will be determined based on field conditions (e.g. topography, vegetation trends). If any modifications are made to the location of test pits, it will be for the purpose of gathering more data where necessary. At no point will the modifications result in fewer test pits sampled or result in a less intensive assessment of soil properties.

The Forest Service, the Technical Advisors, and the Nicholas Putnam Group will review the results of the reconnaissance findings and the proposed soil test pit sampling plan prior to commencement of the remainder of the soil survey.

## 2.3 Soil Survey

### 2.3.1 Training

Prior to the start of the full-scale mapping effort, the soil scientist field teams will be provided with in-field training led by the Team Lead and supported by the Technical Advisors, and the Nicholas Putnam Group. The purpose of the training is to highlight unique soil properties that might be encountered, provide guidance on soil profile description best practices, develop a map unit identification matrix and naming system, discuss the soil-landscape relationships that are likely to be encountered during the soil survey, and to discuss other pertinent information gathered during the reconnaissance phase, including criteria for identifying the soil map unit boundaries and composition.

All training materials will be provided to the Forest Service, the Technical Advisors, and the Nicholas Putnam Group for review and comment prior to the initiation of any training activities.

### 2.3.2 Soil Test Pit Placement

Proposed soil test pits will be field located within the 300-foot wide corridor and mapped with a GPS (sub-meter accuracy). In the field, soil scientists will confirm the soil test pit locations and modify the location as required based on changes in topography, vegetation, geology, rock outcrops, or other features that would indicate a change in soil type. All sample locations will be located in the field using a mapping grade hand-held GPS device (sub-meter accuracy).

Based on a minimum of one sampling location per 2.5 acres, it is anticipated that up to 290 soil test pits will be observed; with 80 soil test pits in the MNF and 210 test pits in the GWNF. Additional soil test pits may be required to ensure survey accuracy along the centerline. In addition to the soil test pits, periodic additional shovel excavations or auger holes may be required to confirm the continued presence and/or boundary of a specific soil type.

The tables below summarize the approximate number of soil sampling locations (soil test pits) per soil map unit in the MNF and GWNF. These estimates are based on the SSURGO mapped soil series traversed by the proposed pipeline center line. The actual number of soil test pits in each soil series will vary based on the actual placement of the soil test pits within the 300-foot wide corridor and placement of soil test pits based on field observations.

Monongahela NF Map Units	Number of Sampling Locations
Berks	39
Berks-Weikert	3
Calvin-Dekalb-Berks	4
Cateache	16
Dekalb-Hazelton	1
Elliber	2
Weikert	15
Total	80

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George Washington NF Map Units	Number of Sampling Locations			
Berks-Weikert	7			
Berks	82			
Caneyville	3			
Cataska	4			
Craigsville	3			
Dekalb-Alticrest	2			
Dekalb-Lily-McClung	1			
Dekalb-Watahala-McClung	4			
Gilpin	2			
Hartleton	1			
Hazleton	6			
Lehew-Berks	2			
Lew	12			
Lily-McClung-Dekalb	1			
Macove-Berks	2			
Macove	3			
Madsheep	ł			
McClung-Watahala-Dekalb	5			
Monongahela	3			
Oriskany-Murrill	2			
Oriskany	10			
Shelocta-Berks	1			
Weikert-Berks-Rough	20			

George Washington NF Map Units	Number of Sampling Locations
Weikert-Berks	31
Weikert	2
Total	210

### 2.3.3 Soil Test Pit Excavation

Soil test pits will be excavated to bedrock or 50 inches, whichever is encountered first, to expose the soil profile. Soil test pits will be excavated with hand tools by laborers. The soil scientist will confirm the adequacy of the depth of the soil test pit.

### 2.3.4 Soil Logging

The exposed soil profile and site properties will be described using the USDA-NRCS protocols in accordance with the Field Book for Describing and Sampling Soils, Version 3.0 (Schoeneberger, P.J., D.A. Wysocki, E.C. Benham, and Soil Survey Staff, 2012, Natural Resources Conservation Service, Natural Resources Conservation Service, National Soil Survey, Lincoln NE). Additional reference is the NRCS National Soil Survey Handbook Section 629 Glossary of Landform and Geomorphic Terms. Photographs of all test pits will be taken and categorized with the descriptions.

Soil profile descriptions will be prepared for all excavated test pits. Soil profile descriptions will not be recorded for any supplemental shovel probes or auger holes used for the purpose of refining the placement of soil map unit boundaries unless the soil scientist deems the information necessary or they are part of a transect. Soil profile descriptions of master horizons will be recorded in shovel probes or auger holes related to transect. The location of supplemental testing and special symbols such as rock outcrops will be recorded with a GPS with sub-meter accuracy in either case.

Soil profile descriptions within soil test pits will include the following:

- o Horizon depth and thickness
- o Horizon nomenclature
- Matrix color (moist)
- Rock fragment type, size, and abundance (surface and subsurface)
- Rock outcrops

- USDA soil texture class
- o Soil structure type, grade, and size
- o Moist consistence (e.g. friable, firm, very firm, etc.)
- o Boundary topography and distinctness
- o Depth to, abundance, and contrast of redoximorphic features
- Soil pH (field determination at select locations)
- o Fragipans or water-restrictive subsoil features
- o Slope
- Estimate of soil mineralogy
- o Soil stickiness and plasticity estimates
- o Bedrock type and characteristics
- o Depth to bedrock and bedrock structure/ dip slope
- o Determination of drainage class
- o Topographic position
- o Indications of past shallow slope failures both natural and those attributed to anthropogenic disturbance such as road building, logging, mining and other activities
- Presence of apparent subsurface water tables. Seasonal water tables will be indicated by drainage class or wetness class
- o Dominant vegetation
- o Observations of special features (wet spots, springs, etc.)

Upon completion of soil observations, the excavated soil pits and supplemental shovel probes or auger holes will be backfilled with the excavated soil.

#### 2.3.5 Chemical Analysis

In addition to the soil profile descriptions logged at each test pit location, soil samples will be collected from representative soil profiles for each soil series, soils representative of identified potentially problematic areas, and soils that are representative of the geologic or parent material changes along the proposed pipeline route. The collected soil samples will be prepared for shipment to Virginia Tech Soil Testing Laboratory or another accredited laboratory. Once mapping commences, a determination will be made on the number of soil series present in the pipeline corridor, the location of any potentially problematic areas, and the location of major geologic landform changes. Based on a preliminary review of the SSURGO database,

approximately 35 soil series are located along the proposed pipeline route within the MNF and GWNF. Assuming five horizons per soil series, an estimated 175 to 200 soil samples will be submitted for laboratory analysis and evaluated for effectiveness in use for reclamation such as vegetation establishment. The intent of the laboratory analysis is to characterize the soil chemical properties associated with the differing soil and geologic conditions along the proposed pipeline route as well as to identify any potentially problematic conditions that may be encountered and provide data that will help determine the appropriate seed mixtures and application rates for lime and fertilizer.

Soil samples will be analyzed for:

- o Total organic carbon (TOC), and loss on ignition (LOI)
- o Soil texture classification
- o Soil pH
- Standard soil fertility analysis

The laboratory methodologies are included Attachment 3 to this Soil Survey Protocols document.

## 2.3.6 Quality Assurance/Quality Control

The following quality assurance/quality control (QA/QC) protocols will be implemented:

- The findings of the soil survey will be reviewed by the Technical Advisors. Reviews will occur at 10%, 50%, and 100% completion at a minimum.
- Independent verification and review of soil classification by third-party review (Nicholas Putnam Group).
- The Forest Service will be provided access to all information shared with the Technical Advisors and the Nicholas Putnam Group, as well as the review comments generated by those parties.

## 3.0 REPORTING

The field collected data will be used to further refine the soil-landscape relationships to aid in developing the soil map unit polygons. Field data will be shared with the Technical Advisors, the Nicholas Putnam Group, and the Forest Service on at least a weekly basis.

A soil survey report will be completed that will provide information on the soil map units and the collected data to accompany the soil survey map. The soil survey report will be formatted similar to the guidance provided in the Standards and Procedures for Site Specific Soil Mapping in Rhode Island (Stolt, 2007).

### 4.0 SCHEDULE

The anticipated schedule for completion of the Order 1 Soil Survey is outlined below. This schedule is based on a start date of April 4, 2016 for the desktop survey.

Kick-Off Meeting with Forest Service: 1 day (March 9, 2016 - completed).

<u>Desktop Survey</u>: The desktop survey will be conducted a minimum of two weeks prior to the Field Reconnaissance phase. It is anticipated the draft desktop survey will be completed in one week. The desktop survey will be forwarded to the Forest Service, the Technical Advisors, and the Nicholas Putnam Group for review and input during week two. Revisions to the Soil Survey protocols will also be updated during this time period, and will be provided to the Forest Service, the Technical Advisors, and the Nicholas Putnam Group for review and comment prior to commencement of field activities.

<u>Preliminary Field Reconnaissance</u>: The preliminary field reconnaissance will be conducted upon completion and technical review of the desktop survey. It is anticipated that three days will be spent in the MNF and five days will be spent in the GWNF. The focus areas of the preliminary field reconnaissance will be determined by the desktop survey, so changes to the times spent in each Forest and the total time may be adjusted depending on the desktop survey results.

<u>Soil Scientist Team Training</u>: Soil scientist team members will be provided site-specific soil training by the Team Lead supported by the team's Technical Advisors and the Nicholas Putnam Group. It is anticipated that soil training will be conducted over a two day period in the field and may be supplemented with written information. All training materials will be provided to the Forest Service, the Technical Advisors, and the Nicholas Putnam Group for review and comment.

<u>Soil Survey</u>: Nine soil scientists have been identified to conduct the soil survey. For the purposes of determining the project schedule, it is assumed that five soil scientists will operate in any given week. Additionally, if needed, one soil scientist will be dedicated to locating the soil pits to be dug and staying with the digging crews until they can be sure each pit is representative of the soil and is not disturbed, substandard, or non-representative. To account for time needed to

access the test pit locations, excavation time by the laborers, and the potential need for confirmatory augering/digging, it is assumed that each soil scientist will be able to describe four test pits and map approximately six to seven acres per day. Based on five soil scientists per day and travel time, it is assumed that the field work can be conducted in approximately three to four weeks, weather permitting. During the soil survey investigation, field data will be sent to the team's Technical Advisors, to the Nicholas Putnam Group, and to the Forest Service for review. If necessary, the soil survey field work may be paused to address areas of concern or additional investigations may be warranted based on the reviewer's feedback. Soil samples will be submitted for laboratory analysis periodically throughout the duration of the soil survey.

<u>Deliverable</u>: The findings of the field investigation will be used to generate a GIS based Order 1 soil survey map with accompanying written documentation detailing the composition of map units, the results of the laboratory data, and other pertinent information. The GIS attribute data will include parameters specific to the analysis of the feasibility of constructing a natural gas pipeline, such as, but not be limited to, depth to bedrock, depth of topsoil, soil acidity, indications of soil slippage, soil wetness issues, etc. The map and report will be reviewed, at a minimum, by the Soil Scientist Team Lead, the QA/QC Lead, the Technical Advisors and the Nicholas Putnam Group prior to submission to the Forest Service for review.

## <u>Timeline</u>

- Kick-Off Meeting –March 9, 2016
- Desktop Survey: April 4 16, 2016
- Preliminary Field Reconnaissance: April 18 27, 2016
- Update Protocols and Prepare Field Training Program based on Field Reconnaissance Findings: April 28- May 11, 2016
- Soil Training: May 12-13, 2016
- Soil Survey: May 16 June 3, 2016 (assuming completion of soil survey in 3 weeks)

A preliminary schedule of the soil survey by milepost is outlined in the table below and illustrated on Figures 1 and 2 in Attachment 4.

Survey Day	Date	Team 1	Team 2	Team 3	Team 4	Team 5	Forest
1	5/16/2016	Mile 71	-72	Mile 73-74		MNF	
2	5/17/2016	Mile 80-81			Mile 81.25-81.75		MNF
3	5/18/2016		Mile 81.75-82.75				MNF
4	5/19/2016	Mile 82.75-83.75				MNF	