

	Field	Acres	Buffer	Net Ac.	Latitude	Long.	FSN#	Tract	Field	Tax ID #	RPC#
Carlton Skinnell	RO78-1	3.0	1.9	1.1	37.218	-79.495	4125	5356	3	199 A 77	19908500
	RO78-2	14.6	4.2	10.4	37.215	-79.497	4125	5356	5	199 A 77	19908500
	RO78-3	9.0	0.8	8.2	37.214	-79.498	4125	5356	4	199 A 77	19908500
	RO78-4	15.6	0.4	15.2	37.214	-79.500	4125	1930	12	199 A 74	19908300
	RO78-5	15.5	2.0	13.5	37.216	-79.501	4125	1930	7	199 A 74	19908300
	RO78-6	30.6	3.5	27.1	37.213	-79.504	4125	1930	8-9	199 A 74	19908300
	RO78-7	10.4	3.5	6.9	37.217	-79.505	4125	3501	6	199 A 73	19908100
	RO78-8	14.4	3.8	10.6	37.219	-79.504	4125	3501	3-5	199 A 73	19908100
	RO78-9	13.5	5.1	8.4	37.235	-79.476	2194	3492	4 & 6	200 1 1	20008700
	RO78-10	14.5	4.1	10.4	37.234	-79.479	2194	3492	3	200 1 1	20008700
	<b>TOTALS</b>	<b>141.1</b>		<b>111.8</b>							

**VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION  
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS**

**PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS**

A. This land application agreement is made on 10/13/2015 between Carlton M. Skinnell referred to here as "Landowner", and Bio-Nomic Services, Inc., referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

**Landowner:**

The Landowner is the owner of record of the real property located in Bedford, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
199 A 73	19908100		
199 A 74	19908300		
199 A 77	19908500		

Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:  The Landowner is the sole owner of the properties identified herein.  
 The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

Class B biosolids      Water treatment residuals      Food processing waste      Other industrial sludges  
 Yes     No       Yes     No       Yes     No

Carlton M. Skinnell      Carlton M. Skinnell      \_\_\_\_\_  
 Landowner - Printed Name, Title      Signature      Mailing Address

**Permittee:**

Bio-Nomic Services, Inc., the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

Vaughn Buck Stevenson      Vaughn "Bud" Stevenson      516 Poincree Road, Charlotte, NC 28217  
 Permittee - Authorized Representative      Signature      Mailing Address  
 Printed Name

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Bio-Nomic Services, Inc. County or City: Bedford County  
Landowner: Carlton M. Skinnell

**Landowner Site Management Requirements:**

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
  - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
  - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
  - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
  - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
  - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil.
  - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
  - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
  - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

  - a. Meat producing livestock shall not be grazed for 30 days,
  - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
  - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Carlton M. Skinnell  
Landowner's Signature

10/13/2015  
Date

**VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION  
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS**

**PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS**

A. This land application agreement is made on 10/13/2015 between Viola T. Skinnell referred to here as "Landowner", and Bio-Nomic Services, Inc., referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

**Landowner:**

The Landowner is the owner of record of the real property located in Bedford, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
199 A 73	19908100		
199 A 74	19908300		
199 A 77	19908500		

Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:  The Landowner is the sole owner of the properties identified herein.  
 The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

Class B biosolids    Water treatment residuals    Food processing waste    Other industrial sludges  
 Yes     No     Yes     No     Yes     No

Viola Trent Skinnell    Viola Trent Skinnell    4455 Shingle Block Rd.  
 Landowner - Printed Name, Title    Signature    Mailing Address  
Bedford, Va. 24523

**Permittee:**

Bio-Nomic Services, Inc., the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

Vaughn Buck Stevenson    Vaughn "Buck" Stevenson    516 Rountree Road, Charlotte, NC 28217  
 Permittee - Authorized Representative    Signature    Mailing Address  
 Printed Name

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Bio-Nomic Services, Inc. County or City: Bedford County  
Landowner: Viola T. Skinnell

**Landowner Site Management Requirements:**

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices:

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
  - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
  - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
  - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
  - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
  - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil.
  - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
  - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
  - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

  - a. Meat producing livestock shall not be grazed for 30 days,
  - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
  - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Viola T. Skinnell  
Landowner's Signature

Oct. 13, 2015  
Date

Printer-Friendly

View In Map

Tax Map #	Link	Parcel Number(RPC)	Address
199 A 77	199 A 77	19908500	4705 SHINGLE BLOCK ROAD

[Link to Real Estate Lookup/Sketch](#)

Parcel Information

Valuation Improvements Ownership History

General Information

Owner:	SKINNELL CARLTON M & VIOLA T	Legal Acreage:	101.2400
Additional Owner:		PCDesc:	4 Commercial/Industrial
Owner Address:	4455 SHINGLE BLOCK RD BEDFORD , VA 24523	Legal Description:	DUMPLING MTN
		Document Number:	

Land Use

- Tax Year:
- 1997
  - 1998
  - 1999
  - 2000
  - 2001
  - 2002
  - 2003
  - 2004
  - 2005
  - 2006
  - 2007
  - 2008
  - 2009
  - 2010
  - 2011
  - 2012
  - 2013
  - 2014
  - 2015
  - 2016

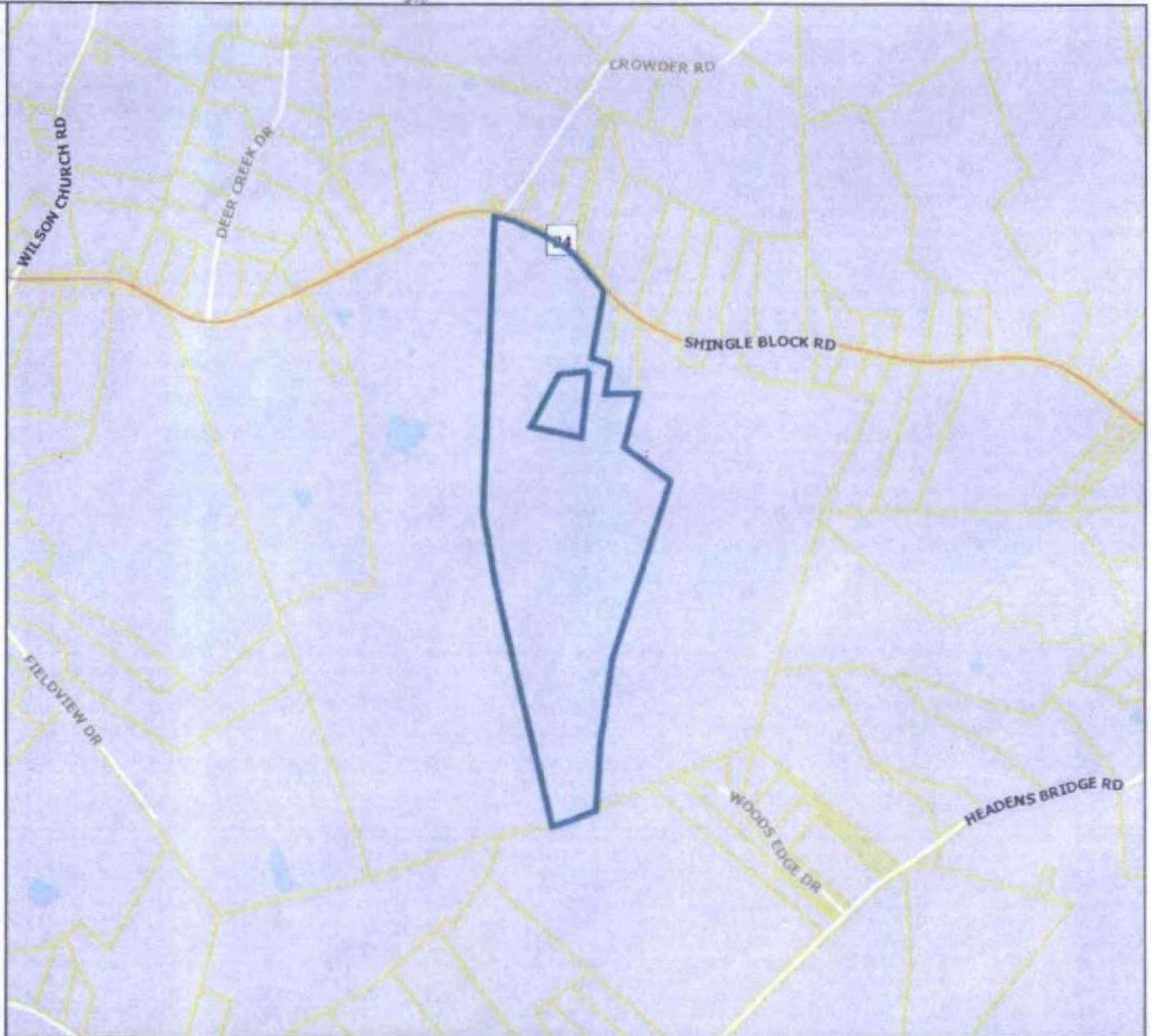
R078-1  
R078-2  
R078-3

# Bedford, VA

## Legend

- Highway
- Blue Ridge Parkway
- US Primary
- Virginia Primary
- Roads
- Parcels - County
- Parcels - Town

R078-1  
R078-2  
R078-3



Title: Skinnell Carlton & Viola 199 A 77 19908500

Date: 3/16/2016

Feet  
0 500 1000 1500 2000  
1:18,056 / 1"=1,505 Feet

DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Bedford County is not responsible for its accuracy or how current it may be.

Printer-Friendly

View in Map

Tax Map #	Link	Parcel Number(RPC)	Address
199 A 74	199 A 74	19908300	4455 SHINGLE BLOCK ROAD

[Link to Real Estate Lookup/Sketch](#)

Parcel Information Valuation Improvements Ownership History

General Information

Owner:	SKINNELL CARLTON M & VIOLA T	Legal Acreage:	162.9500
Additional Owner:		PCDesc:	6 Agricultural/Undevl(100+ac)
Owner Address:	4455 SHINGLE BLOCK RD BEDFORD , VA 24523	Legal Description:	SHINGLE BLK RD
		Document Number:	

Land Use

- Tax Year: 1997  
 1998  
 1999  
 2000  
 2001  
 2002  
 2003  
 2004  
 2005  
 2006  
 2007  
 2008  
 2009  
 2010  
 2011  
 2012  
 2013  
 2014  
 2015  
 2016

R078-4  
R078-5  
R078-6

# Bedford, VA

## Legend

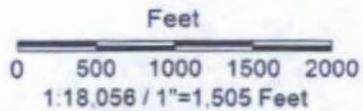
- Highway
- Blue Ridge Parkway
- US Primary
- Virginia Primary
- Roads
- Parcels - County
- Parcels - Town

R078-4  
R078-5  
R078-6



**Title: Skinnell Carlton & Viola 199 A 74 19908300**

**Date: 3/16/2016**



*DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Bedford County is not responsible for its accuracy or how current it may be.*

Search

Results

Details

Map

Contact | GIS Page

Log On

[Printer-Friendly](#)

[View In Map](#)

**Tax Map #**  
199 A 73

**Link**  
199 A 73

**Parcel Number(RPC)**  
19908100

**Address**  
4073 SHINGLE BLOCK ROAD

[Link to Real Estate Lookup/Sketch](#)

Parcel Information

Valuation

Improvements

Ownership History

**General Information**

**Owner:** SKINNELL CARLTON M & VIOLA T  
**Additional Owner:**  
**Owner Address:** 4455 SHINGLE BLOCK RD  
BEDFORD , VA 24523

**Legal Acreage:** 56.4300  
**PCDesc:** 5 Agricultural/Undevl(20-99ac)  
**Legal Description:** SHINGLE BLK RD  
**Document Number:** 040000154

**Land Use**

**Tax Year:** 1997

- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016

R078-7  
R078-8

# Bedford, VA

## Legend

- Highway
- Blue Ridge Parkway
- US Primary
- Virginia Primary
- Roads
- Parcels - County
- Parcels - Town
- Public School Boundary

RO78-7  
RO78-8



**Title: Skinnell, Carlton and Viola 199 A 73 19908100**

**Date: 3/15/2016**

*DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Bedford County is not responsible for its accuracy or how current it may be.*

**VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION  
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS**

**PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS**

A. This land application agreement is made on 10/09/2015 between Curtis L. Skinnell referred to here as "Landowner", and Bio-Nomic Services Inc., referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

**Landowner:**

The Landowner is the owner of record of the real property located in Bedford, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
200 1 1	2000 8700		

Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:  The Landowner is the sole owner of the properties identified herein.  
 The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

Class B biosolids    Water treatment residuals    Food processing waste    Other industrial sludges  
 Yes     No     Yes     No     Yes     No     Yes     No

CURTIS L. SKINNELL    Curtis L. Skinnell    1222 MOORE RD.  
 Landowner - Printed Name, Title    Signature    Mailing Address  
WOODSTOCK, VA 24469

**Permittee:**

Bio-Nomic Services Inc., the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

Vaughn Buck Stevenson    Vaughn "Beede" Stevenson    516 Rountree Road, Charlotte NC 28217  
 Permittee - Authorized Representative    Signature    Mailing Address  
 Printed Name

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Bio-Nomic Services, Inc. County or City: Bedford County  
Landowner: Curtis L. Skinnell

**Landowner Site Management Requirements:**

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
  - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
  - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
  - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
  - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
  - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
  - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
  - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
  - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

  - a. Meat producing livestock shall not be grazed for 30 days,
  - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
  - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Curtis L. Skinnell  
Landowner's Signature

10/9/2015  
Date

**VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION  
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS**

**PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS**

A. This land application agreement is made on 10/09/2015 between Marcella K. Skinnell referred to here as "Landowner", and Bio-Nomic Services Inc., referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

**Landowner:**

The Landowner is the owner of record of the real property located in Bedford, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
200 1 1	20009700		

Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:

- The Landowner is the sole owner of the properties identified herein.  
 The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

Class B biosolids      Water treatment residuals      Food processing waste      Other industrial sludges  
 Yes     No       Yes     No       Yes     No

1222 MOORE RD.

MARCELLA K. SKINELL      Marcella K. Skinnell      WOOSTER, OH 44691  
 Landowner - Printed Name, Title      Signature      Mailing Address

**Permittee:**

Bio-Nomic Services Inc., the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request (Do not check this box if the landowner signs this agreement)

Vaughn Buck Stevenson      Vaughn "Bud" St      516 Rowntree Road, Charlotte NC 28217  
 Permittee - Authorized Representative      Signature      Mailing Address  
 Printed Name

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Bio-Nomic Services, Inc.

County or City: Bedford County

Landowner: Marcella K. Skinnell

**Landowner Site Management Requirements:**

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
  - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
  - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
  - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
  - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
  - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil.
  - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
  - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
  - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

  - a. Meat producing livestock shall not be grazed for 30 days,
  - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
  - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Marcella K. Skinnell  
Landowner's Signature

10/09/2015  
Date

Printer-Friendly

View in Map

Tax Map #	Link	Parcel Number(RPC)	Address
200 1 1	200 1 1	20008700	

[Link to Real Estate Lookup/Sketch](#)

Parcel Information

Valuation

Improvements

Ownership History

General Information

Owner:	SKINNELL CURTIS LANDON & MARCELLA K	Legal Acreage:	165.0000
Additional Owner:		PCDesc:	6 Agricultural/Undevl(100+ac)
Owner Address:	1222 MOORE RD WOOSTER, OH 446919113	Legal Description:	TURNERS CR
		Document Number:	

Land Use

- Tax Year: 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016

R078-9

R078-10

# Bedford, VA

## Legend

- Highway
- Blue Ridge Parkway
- US Primary
- Virginia Primary
- Roads
- Parcels - County
- Parcels - Town

R078-9  
R078-10



**Title: Skinnell Curtis L. & Marcella K 200 1 1 20008700**

**Date: 3/16/2016**

*DISCLAIMER: This drawing is neither a legally recorded map nor a survey and is not intended to be used as such. The information displayed is a compilation of records, information, and data obtained from various sources, and Bedford County is not responsible for its accuracy or how current it may be.*



## **Carlton Skinnell Farm**

Bio-Nomic Services, Inc. is filing this application to apply approved (VA0025020) Class B biosolids to this designated farm land in Bedford County, Virginia.

The farms are located in the Bedford community on the south side of Shingle Block Road and the south side of Phelps Road. All fields are located in a predominately agricultural areas. All streams, drainage features, rock outcrops, structures, dwellings, property lines, roadways and wells are designated and buffered as required. There is one public contact site in the vicinity of RO 78-1. See the attached buffer maps for more details. Biosolids are currently being used as crop nutrients on close by farms, and have been used on this farm by another biosolids contractor.

Mr. Skinnell operates his acreage for hay production or pasture. The grass cover in the hayfields/ pastures is predominately fescue.

The current fescue hay fields are: RO 78-1, 78-6 & 78-9.

The current fescue pastures are: RO 78-2, 78-3, 78-4, 78-5, 78-7, 78-8 & 78-10.

Nutrient Management Plans will be written by a certified plan writer to address the application of biosolids to the designated fields that will address the most recent planned use of the fields should any changes occur in agricultural practices.



Brownlee Ave SE, Roanoke, VA 24014

43 min, 25.7 mi

**B** 4057 VA-24, Bedford, VA 24523

Light traffic (38 min without traffic)

Via VA-24, VA-24 E

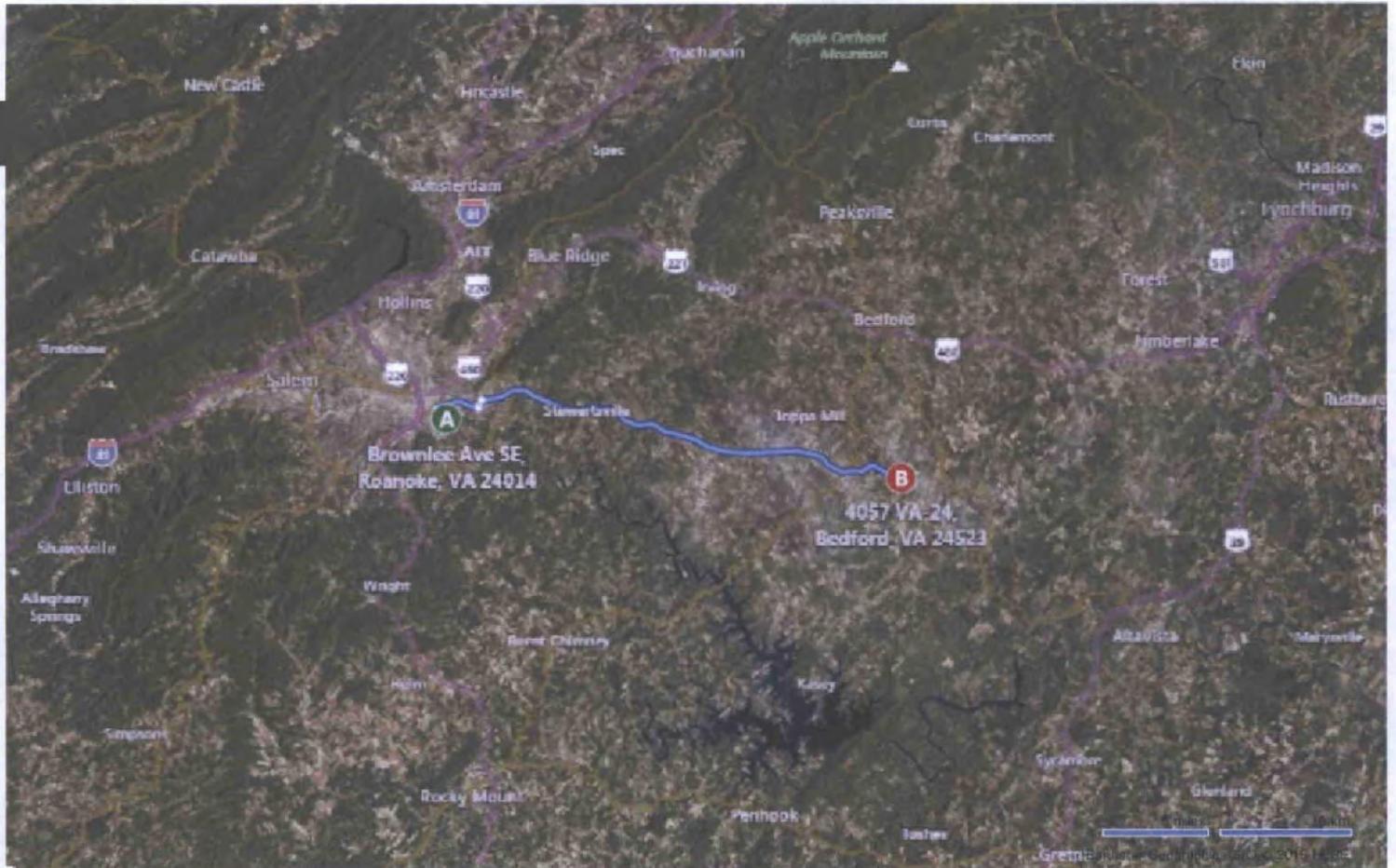
Carlton Skinnell

RO78 Fields

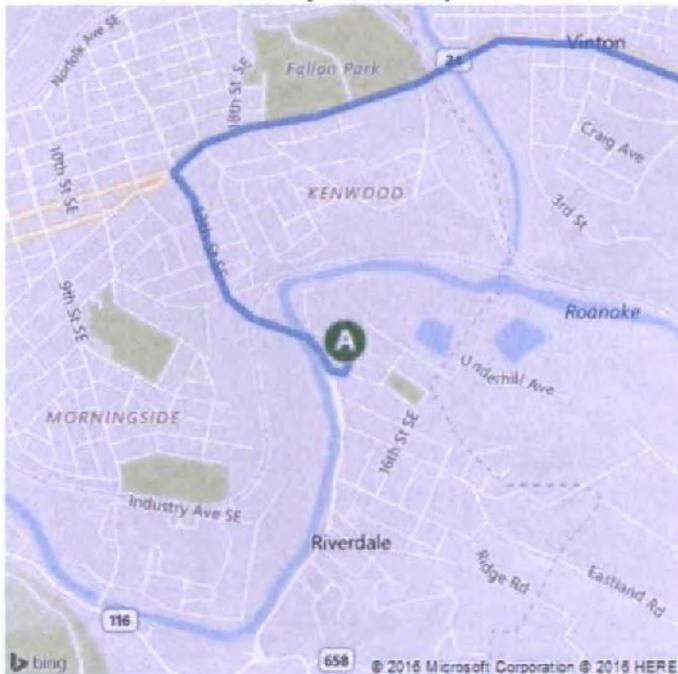
**A** Brownlee Ave SE, Roanoke, VA 24014

↑	1. Depart <b>Brownlee Ave SE</b> toward Kindred St SE	161 ft
↘	2. Turn <b>right</b> onto <b>Kindred St SE</b>	479 ft
↘	3. Turn <b>right</b> onto <b>Carlisle Ave SE</b> , and then immediately turn <b>right</b> onto <b>Bennington St SE</b>	0.8 mi
↘	4. Turn <b>right</b> onto <b>VA-24</b> Pass Hess in 1.0 mi	2.2 mi
↑	5. Keep <b>left</b> to stay on <b>VA-24 E / Bypass Rd</b>	0.4 mi
↘	6. Turn <b>right</b> to stay on <b>VA-24 E</b> Pass Exxon in 4.4 mi	22.2 mi, 30 min
	Arrive at <b>VA-24</b>	
	7. The last intersection is Deer Creek Dr If you reach Crowder Rd, you've gone too far	

**B** 4057 VA-24, Bedford, VA 24523



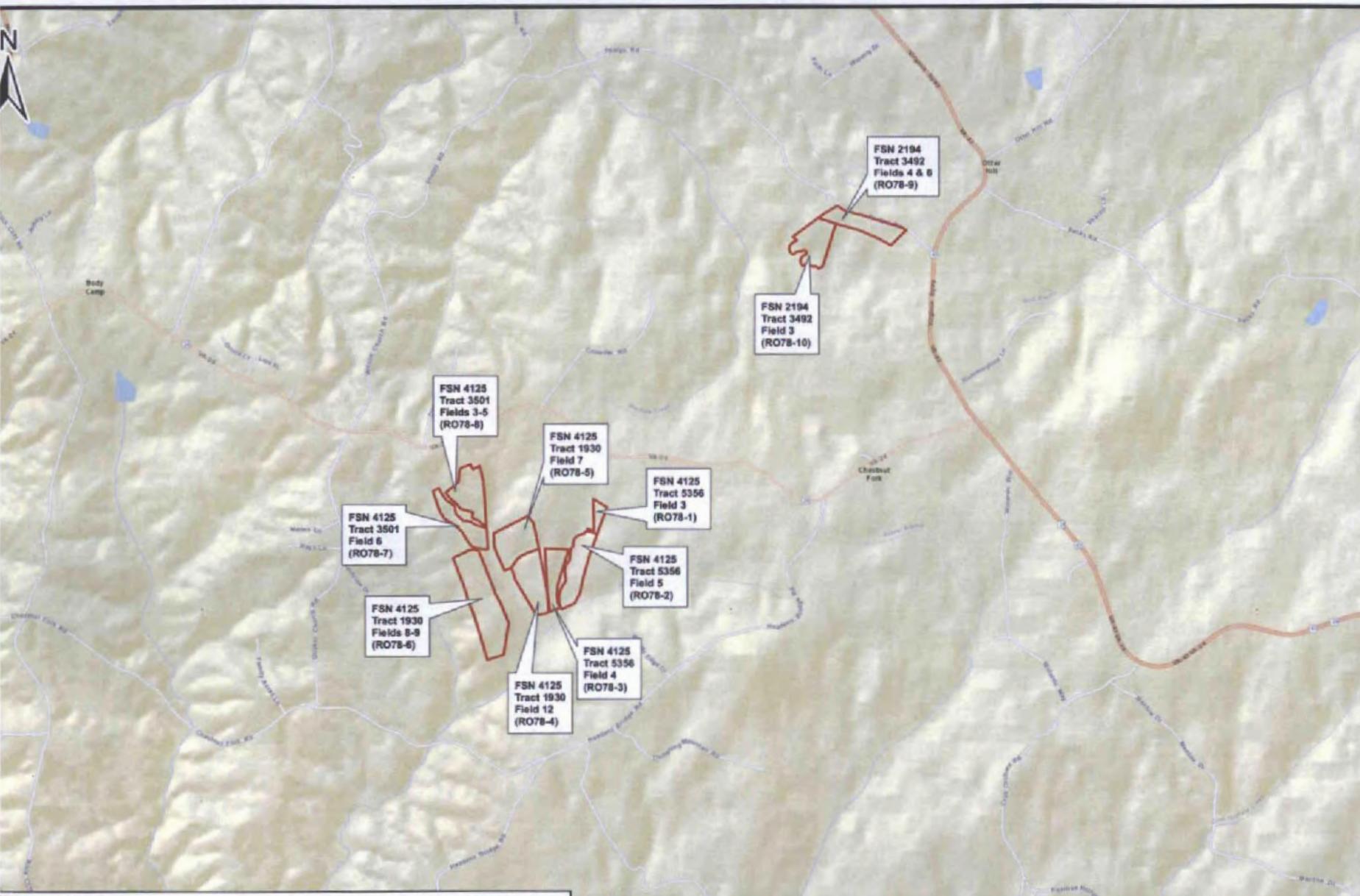
**A** Brownlee Ave SE, Roanoke, VA 24014



**B** 4057 VA-24, Bedford, VA 24523



These directions are subject to the Microsoft® Service Agreement and are for informational purposes only. No guarantee is made regarding their completeness or accuracy. Construction projects, traffic, or other events may cause actual conditions to differ from these results. Map and traffic data © 2016 HERE™.



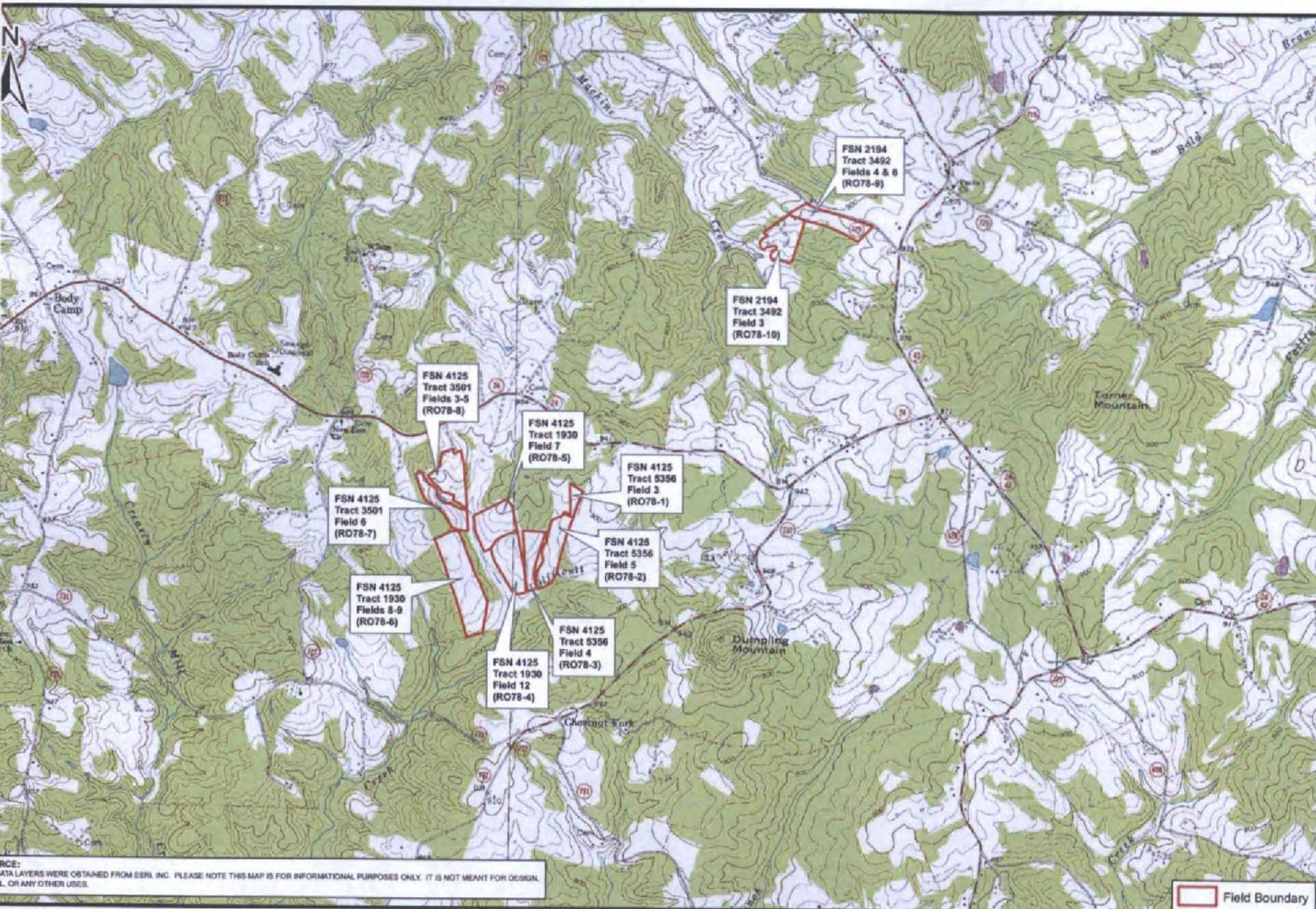
NOTE: DATA LAYERS WERE OBTAINED FROM ESRI, INC. PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, CONSTRUCTION, OR ANY OTHER USES.

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

 Field Boundary

 <b>BIO-NOMIC SERVICES, INC.</b>	DATE: 11.05.2015 DRAWN BY: MEM CHECKED BY: MEM
	SCALE: 1" = 2,000' PROJECT NO: 15-18 PH: 01 ENGINEERING LICENSE NO.:
	<b>VICINITY MAP - CARLTON SKINNELL</b> <b>FSN 2194 &amp; 4125 TRACTS 1930, 3492, 3501, &amp; 5356</b> CITY OF ROANOKE LAND APPLICATION PROGRAM BEDFORD COUNTY, VIRGINIA
FIGURE NO.	<b>1</b>

C:\projects\2015\1518-01-009 Bio-nomic\Carlton Skinnell\Map\Area1.mxd



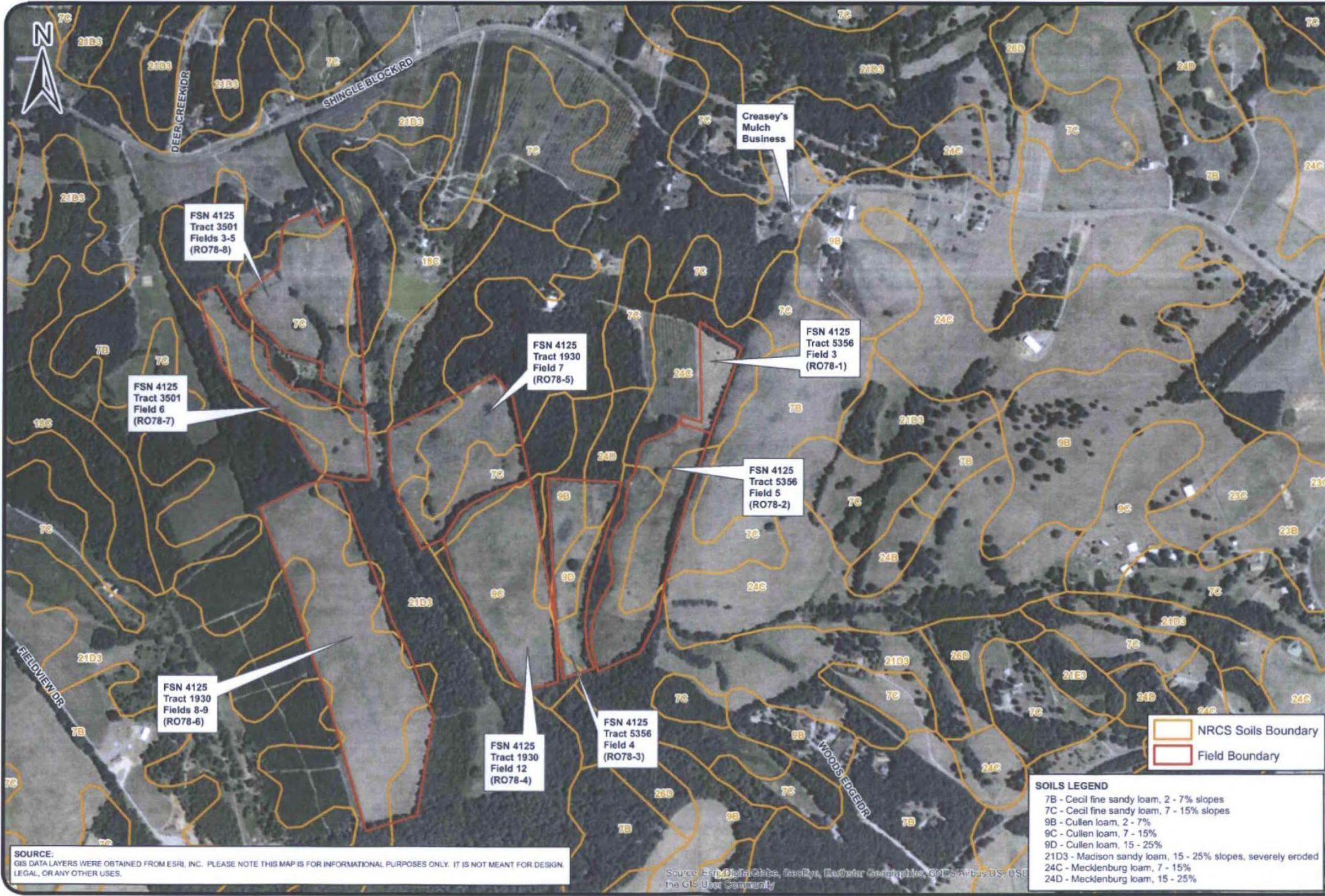
IRCE:  
 DATA LAYERS WERE OBTAINED FROM ESRI, INC. PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN,  
 PL, OR ANY OTHER USES.

	DATE: 11.05.2015 DRAWN BY: MEM CHECKED BY: MEM
	SCALE: 1" = 2,000' PROJECT NO.: 15-18 Ph: 01 ENGINEERING LICENSE NO.:
	<b>BIO-NOMIC SERVICES, INC.</b>

**USGS TOPOGRAPHIC MAP - CARLTON SKINNELL**  
**FSN 2194 & 4125 TRACTS 1930, 3492, 3501, & 5356**  
 CITY OF ROANOKE  
 LAND APPLICATION PROGRAM  
 BEDFORD COUNTY, VIRGINIA

FIGURE NO. **2**

C:\img\2018\1518-01-01 Bio-nomic\Carlton Skinnell\Map\US08 Fig2.mxd



**SOURCE:**  
GIS DATA LAYERS WERE OBTAINED FROM ESRI, INC. PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, the GIS User Community

**SOILS LEGEND**

- 7B - Cecil fine sandy loam, 2 - 7% slopes
- 7C - Cecil fine sandy loam, 7 - 15% slopes
- 9B - Cullen loam, 2 - 7%
- 9C - Cullen loam, 7 - 15%
- 9D - Cullen loam, 15 - 25%
- 21D3 - Macison sandy loam, 15 - 25% slopes, severely eroded
- 24C - Mecklenburg loam, 7 - 15%
- 24D - Mecklenburg loam, 15 - 25%

	NRCS Soils Boundary
	Field Boundary

DATE: 11.05.2015  
DRAWN BY: MEM  
CHECKED BY: MEM

SCALE: 1" = 600'  
PROJECT NO.: 15-18 Ph: 01  
ENGINEERING LICENSE NO.: MEM

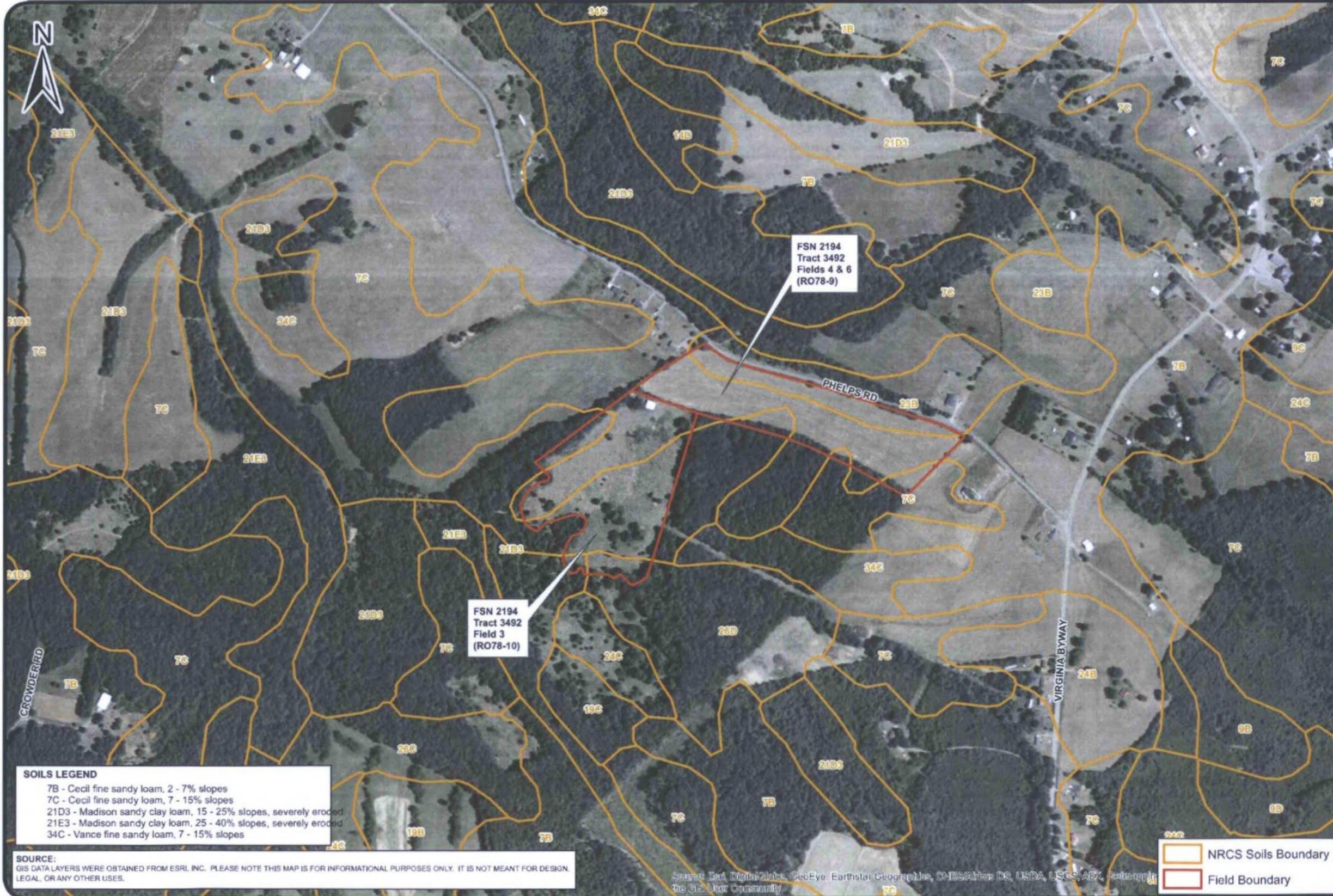


**BIO-NOMIC SERVICES, INC.**

**NRCS SOILS MAP - CARLTON SKINNELL**  
**FSN 4125 TRACTS 1930, 3501, & 5356**  
CITY OF ROANOKE  
LAND APPLICATION PROGRAM  
BEDFORD COUNTY, VIRGINIA

FIGURE NO.  
**3**

C:\aragis\2009\1588-09-059 Bio-nomics\Carlton Skinnell\Maps\NRCS Fig3.mxd



**SOILS LEGEND**  
 7B - Cecil fine sandy loam, 2 - 7% slopes  
 7C - Cecil fine sandy loam, 7 - 15% slopes  
 21D3 - Madison sandy clay loam, 15 - 25% slopes, severely eroded  
 21E3 - Madison sandy clay loam, 25 - 40% slopes, severely eroded  
 34C - Vance fine sandy loam, 7 - 15% slopes

**SOURCE:**  
 GIS DATA LAYERS WERE OBTAINED FROM ESRI, INC. PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES.

 NRCS Soils Boundary  
 Field Boundary

DATE: 11.05.2015  
 DRAWN BY: MEM  
 CHECKED BY: MEM

SCALE: 1" = 500'  
 PROJECT NO.: 15-18 Ph: 01  
 ENGINEERING LICENSE NO.:



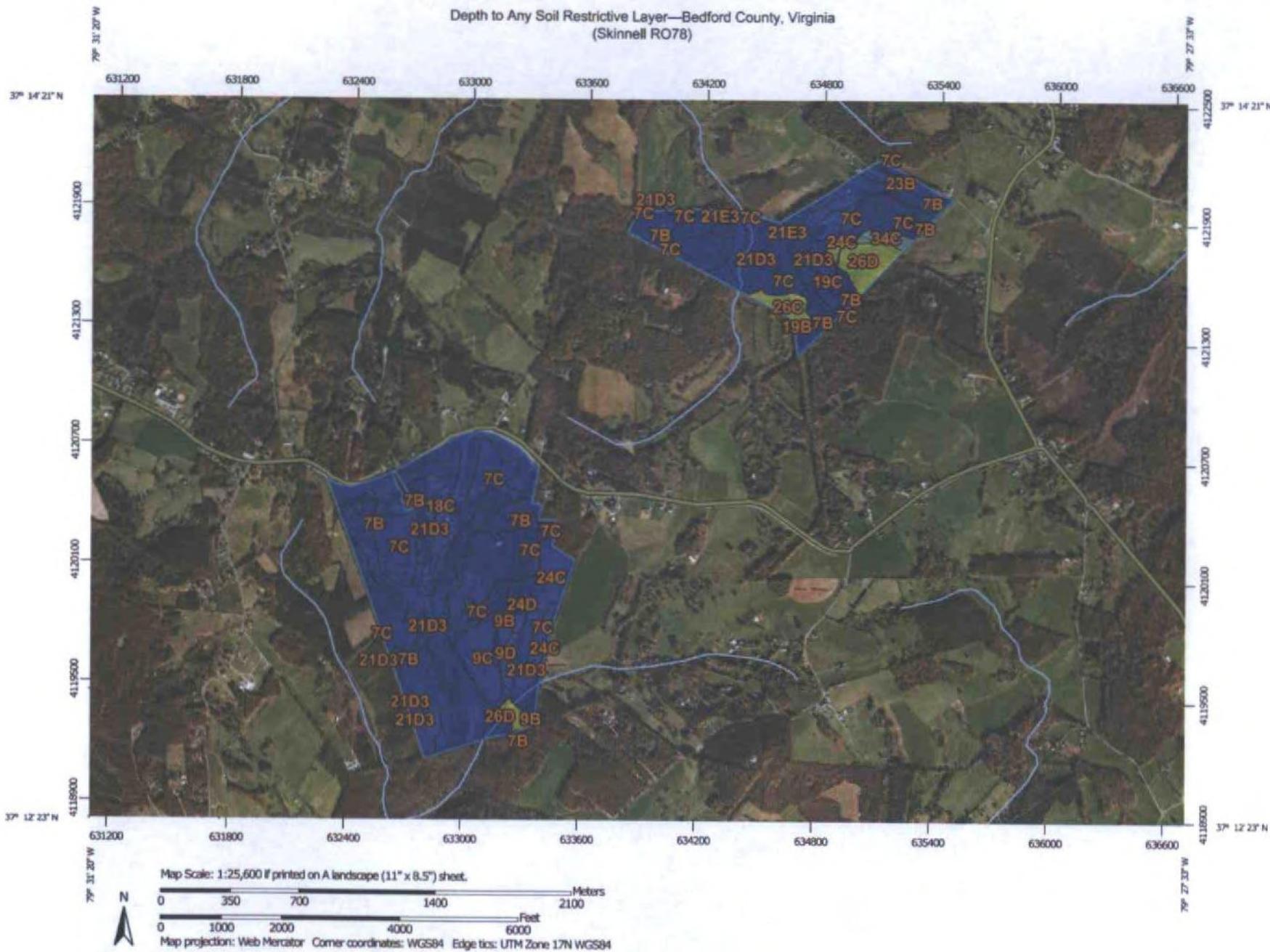
**BIO-NOMIC SERVICES, INC.**

**NRCS SOILS MAP - CARLTON SKINNELL**  
**FSN 2194 TRACT 3492**  
 CITY OF ROANOKE  
 LAND APPLICATION PROGRAM  
 BEDFORD COUNTY, VIRGINIA

FIGURE NO. **4**

C:\aragis\2009\1508-09-059 Bio-nomics\Carlton Skinnell\Maps\NRCS Figs.mxd

Depth to Any Soil Restrictive Layer—Bedford County, Virginia  
(Skinnell RO78)



Map Scale: 1:25,600 if printed on A landscape (11" x 8.5") sheet.

0 350 700 1400 2100 Meters

0 1000 2000 4000 6000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 17N WGS84

Depth to Any Soil Restrictive Layer—Bedford County, Virginia  
(Skinnell RO78)

### MAP LEGEND

<b>Area of Interest (AOI)</b>	 Area of Interest (AOI)	 Not rated or not available
<b>Soils</b>		<b>Water Features</b>
<b>Soil Rating Polygons</b>		 Streams and Canals
 0 - 25		<b>Transportation</b>
 25 - 50		 Rails
 50 - 100		 Interstate Highways
 100 - 150		 US Routes
 150 - 200		 Major Roads
 > 200		 Local Roads
 Not rated or not available		<b>Background</b>
		 Aerial Photography
<b>Soil Rating Lines</b>		
 0 - 25		
 25 - 50		
 50 - 100		
 100 - 150		
 150 - 200		
 > 200		
 Not rated or not available		
<b>Soil Rating Points</b>		
 0 - 25		
 25 - 50		
 50 - 100		
 100 - 150		
 150 - 200		
 > 200		

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Bedford County, Virginia  
Survey Area Data: Version 11, Dec 11, 2013

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

Date(s) aerial images were photographed: Nov 8, 2010—Mar 17, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Depth to Any Soil Restrictive Layer

Depth to Any Soil Restrictive Layer— Summary by Map Unit — Bedford County, Virginia (VA019)				
Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
7B	Cecil fine sandy loam, 2 to 7 percent slopes	>200	143.5	29.5%
7C	Cecil fine sandy loam, 7 to 15 percent slopes	>200	98.9	20.3%
9B	Cullen loam, 2 to 7 percent slopes	>200	6.9	1.4%
9C	Cullen loam, 7 to 15 percent slopes	>200	16.8	3.5%
9D	Cullen loam, 15 to 25 percent slopes	>200	2.3	0.5%
18C	Helena fine sandy loam, 7 to 15 percent slopes	>200	19.2	3.9%
19B	Iredell fine sandy loam, 2 to 7 percent slopes	>200	0.2	0.0%
19C	Iredell fine sandy loam, 7 to 15 percent slopes	>200	4.7	1.0%
21D3	Madison sandy clay loam, 15 to 25 percent slopes, severely eroded	>200	121.9	25.1%
21E3	Madison sandy clay loam, 25 to 40 percent slopes, severely eroded	>200	14.4	3.0%
23B	Mattaponi sandy loam, 2 to 7 percent slopes	>200	6.2	1.3%
24C	Mecklenburg loam, 7 to 15 percent slopes	>200	17.4	3.6%
24D	Mecklenburg loam, 15 to 25 percent slopes	>200	4.7	1.0%
26C	Poindexter fine sandy loam, 7 to 15 percent slopes	56	7.2	1.5%
26D	Poindexter fine sandy loam, 15 to 25 percent slopes	56	17.7	3.6%
34C	Vance fine sandy loam, 7 to 15 percent slopes	102	4.1	0.8%
<b>Totals for Area of Interest</b>			<b>486.2</b>	<b>100.0%</b>

## Description

A "restrictive layer" is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers.

This theme presents the depth to any type of restrictive layer that is described for each map unit. If more than one type of restrictive layer is described for an individual soil type, the depth to the shallowest one is presented. If no restrictive layer is described in a map unit, it is represented by the "> 200" depth class.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

## Rating Options

*Units of Measure:* centimeters

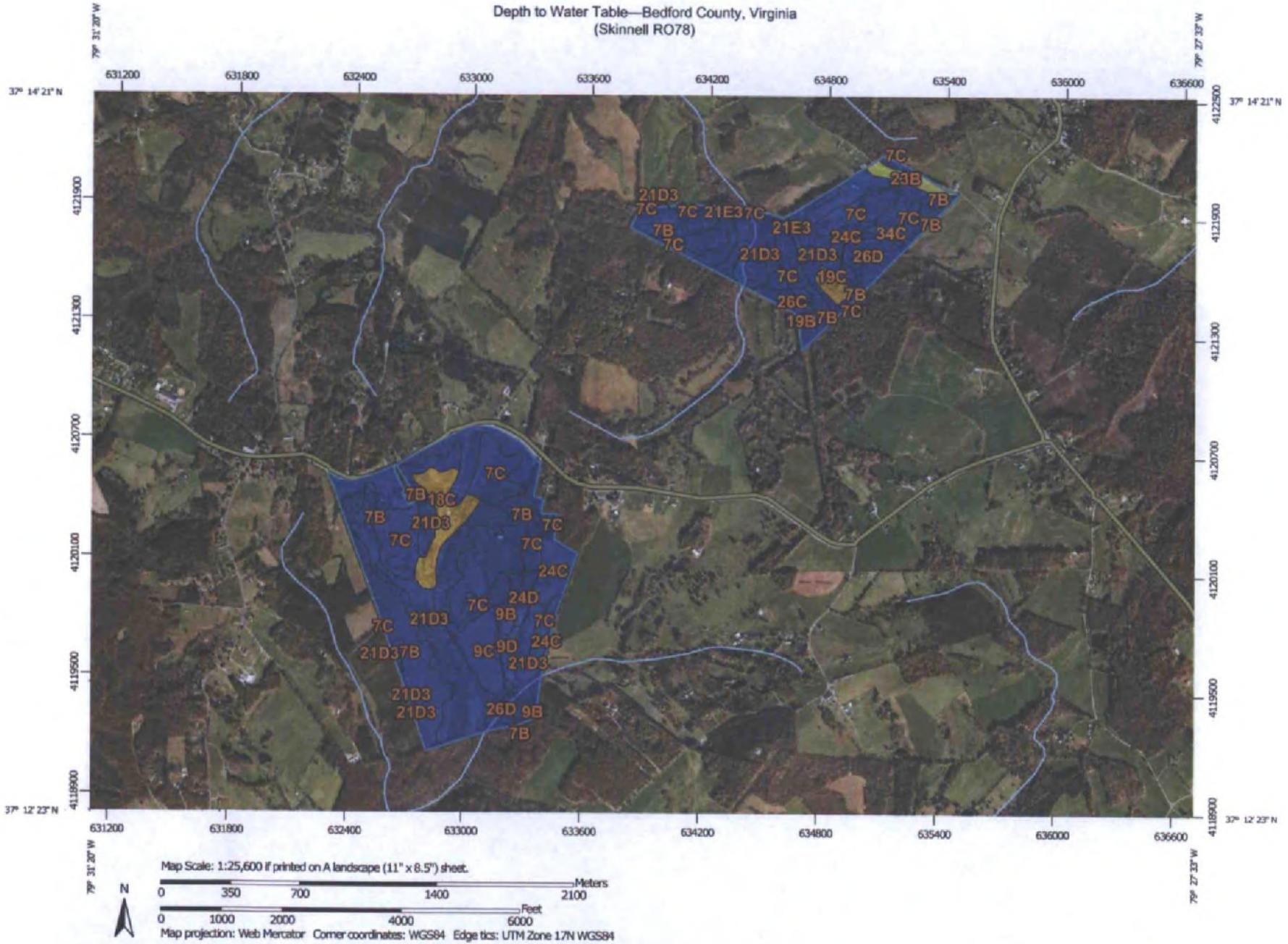
*Aggregation Method:* Dominant Component

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

*Interpret Nulls as Zero:* No

Depth to Water Table—Bedford County, Virginia  
(Skinnell RO78)



Depth to Water Table—Bedford County, Virginia  
(Skinnell RO78)

**MAP LEGEND**

- |  |  |  |
|--|--|--|
| <b>Area of Interest (AOI)</b>  |  Area of Interest (AOI) |  Not rated or not available |
| <b>Soils</b>   |  | <b>Water Features</b>  |
| <b>Soil Rating Polygons</b>  |  |  Streams and Canals         |
|  0 - 25                     |  | <b>Transportation</b>  |
|  25 - 50                    |  |  Rails                      |
|  50 - 100                   |  |  Interstate Highways        |
|  100 - 150                  |  |  US Routes                  |
|  150 - 200                  |  |  Major Roads                |
|  > 200                      |  |  Local Roads                |
|  Not rated or not available |  | <b>Background</b>  |
|  |  |  Aerial Photography         |
| <b>Soil Rating Lines</b>   |  |  |
|  0 - 25                     |  |  |
|  25 - 50                    |  |  |
|  50 - 100                   |  |  |
|  100 - 150                  |  |  |
|  150 - 200                  |  |  |
|  > 200                      |  |  |
|  Not rated or not available |  |  |
| <b>Soil Rating Points</b>  |  |  |
|  0 - 25                   |  |  |
|  25 - 50                  |  |  |
|  50 - 100                 |  |  |
|  100 - 150                |  |  |
|  150 - 200                |  |  |
|  > 200                    |  |  |

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Bedford County, Virginia  
Survey Area Data: Version 11, Dec 11, 2013

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

Date(s) aerial images were photographed: Nov 8, 2010—Mar 17, 2011

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## Depth to Water Table

Depth to Water Table— Summary by Map Unit — Bedford County, Virginia (VA019)				
Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
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7C	Cecil fine sandy loam, 7 to 15 percent slopes	>200	98.9	20.3%
9B	Cullen loam, 2 to 7 percent slopes	>200	6.9	1.4%
9C	Cullen loam, 7 to 15 percent slopes	>200	16.8	3.5%
9D	Cullen loam, 15 to 25 percent slopes	>200	2.3	0.5%
18C	Helena fine sandy loam, 7 to 15 percent slopes	46	19.2	3.9%
19B	Iredell fine sandy loam, 2 to 7 percent slopes	30	0.2	0.0%
19C	Iredell fine sandy loam, 7 to 15 percent slopes	30	4.7	1.0%
21D3	Madison sandy clay loam, 15 to 25 percent slopes, severely eroded	>200	121.9	25.1%
21E3	Madison sandy clay loam, 25 to 40 percent slopes, severely eroded	>200	14.4	3.0%
23B	Mattaponi sandy loam, 2 to 7 percent slopes	91	6.2	1.3%
24C	Mecklenburg loam, 7 to 15 percent slopes	>200	17.4	3.6%
24D	Mecklenburg loam, 15 to 25 percent slopes	>200	4.7	1.0%
26C	Poindexter fine sandy loam, 7 to 15 percent slopes	>200	7.2	1.5%
26D	Poindexter fine sandy loam, 15 to 25 percent slopes	>200	17.7	3.6%
34C	Vance fine sandy loam, 7 to 15 percent slopes	>200	4.1	0.8%
<b>Totals for Area of Interest</b>			<b>486.2</b>	<b>100.0%</b>

## Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

## Rating Options

*Units of Measure:* centimeters

*Aggregation Method:* Dominant Component

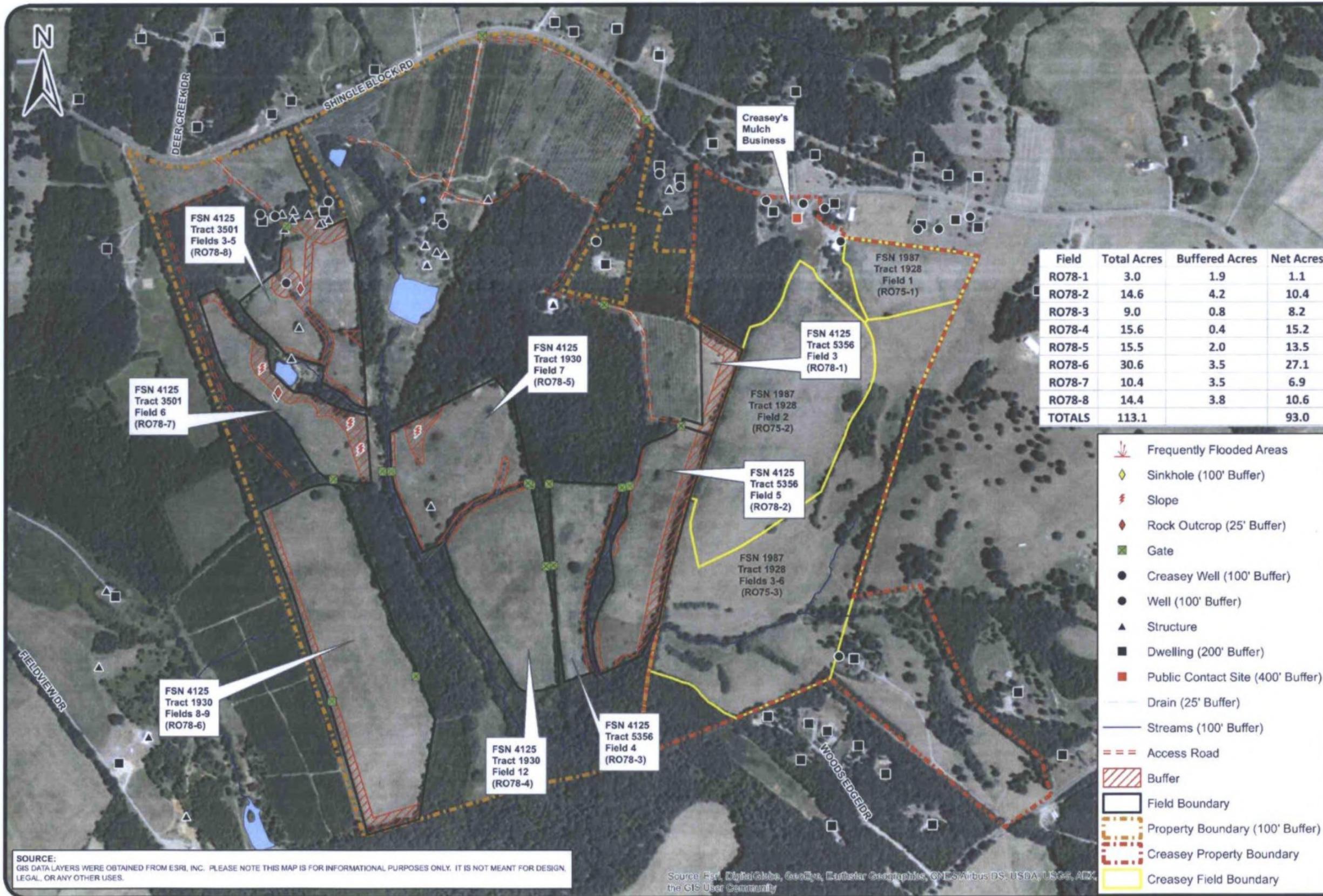
*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Lower

*Interpret Nulls as Zero:* No

*Beginning Month:* January

*Ending Month:* December



Field	Total Acres	Buffered Acres	Net Acres
RO78-1	3.0	1.9	1.1
RO78-2	14.6	4.2	10.4
RO78-3	9.0	0.8	8.2
RO78-4	15.6	0.4	15.2
RO78-5	15.5	2.0	13.5
RO78-6	30.6	3.5	27.1
RO78-7	10.4	3.5	6.9
RO78-8	14.4	3.8	10.6
<b>TOTALS</b>	<b>113.1</b>		<b>93.0</b>

- Frequently Flooded Areas
- Sinkhole (100' Buffer)
- Slope
- Rock Outcrop (25' Buffer)
- Gate
- Creasey Well (100' Buffer)
- Well (100' Buffer)
- Structure
- Dwelling (200' Buffer)
- Public Contact Site (400' Buffer)
- Drain (25' Buffer)
- Streams (100' Buffer)
- Access Road
- Buffer
- Field Boundary
- Property Boundary (100' Buffer)
- Creasey Property Boundary
- Creasey Field Boundary

**SOURCE:**  
GIS DATA LAYERS WERE OBTAINED FROM ESRI, INC. PLEASE NOTE THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR ANY OTHER USES.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community

DATE: 01.29.2016

DRAWN BY: MEM

CHECKED BY: MEM

SCALE: 1" = 600'

PROJECT NO.: 15-18 Ph: 01

ENGINEERING LICENSE NO.:

**BIO-NOMIC SERVICES, INC.**

**BUFFER MAP - CARLTON SKINNELL**  
**FSN 4125 TRACTS 1930, 3501, & 5356**  
 CITY OF ROANOKE  
 LAND APPLICATION PROGRAM  
 BEDFORD COUNTY, VIRGINIA

FIGURE NO.

5

C:\arcgis\2009\1588-09-059 Bio-nomics\Carlton Skinnell\Maps\Buffer Figs.mxd





Common Land Unit  
 [Yellow Box] Cropland [Green Box] Non-cropland

**Farm 2194**  
**Tract 3492**

Wetland Determination Identifiers  
 ● Restricted Use  
 ▼ Limited Restrictions  
 ■ Exempt from Conservation Compliance Provisions

2016 Crop Year



Tract Page: 1 of 1

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. Wetland identifiers do not represent the size, shape, or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).



Common Land Unit  
 [Yellow Box] Cropland [Yellow Box with Diagonal Lines] Non-cropland

**Farm 4125**  
**Tract 1930**

**Wetland Determination Identifiers**  
 ● Restricted Use  
 ▼ Limited Restrictions  
 ■ Exempt from Conservation Compliance Provisions

2016 Crop Year



Tract Page: 1 of 1

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Common Land Unit  
 [Yellow Box] Cropland [Green Box] Non-cropland

Wetland Determination Identifiers  
 ● Restricted Use  
 ▼ Limited Restrictions  
 ■ Exempt from Conservation Compliance Provisions

2016 Crop Year



Farm 4125  
 Tract 3501

Tract Page: 1 of 1

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Common Land Unit  
 Cropland Non-cropland

**Farm 4125**  
**Tract 5356**

**Wetland Determination Identifiers**

- Restricted Use
- ▼ Limited Restrictions
- Exempt from Conservation Compliance Provisions

2016 Crop Year



Tract Page: 1 of 1

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Report Number: 16-098-0527

Account Number: 45671



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 www.waypointanalytical.com

Send To: BIO-NOMIC SERVICES INC  
 Joel Coert  
 516 ROUNDTREE RD  
 CHARLOTTE NC 28217

"Every acre... Every year."™

Grower: SKINNELL

Submitted By: DON GREENE  
 Farm ID: RO 78

**SOIL ANALYSIS REPORT**

Analytical Method(s): Lime Index Mehlich 3 Loss On Ignition Water pH

Date Received: 04/07/2016

Date Of Analysis: 04/08/2016

Date Of Report: 04/08/2016

Sample ID Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	M3 ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
78-1	06795	4.1 M	MIN	119	33 M NC = 27		38 VL NC = 19	133 M	1614 VH		7.0		0.0	9.3	
78-2	06796	6.3 H	MIN	150	57 H NC = 47		134 M NC = 69	204 M	2102 H		6.8		0.4	13.0	
78-3	06797	5.8 H	MIN	145	184 VH NC = 153		166 H NC = 85	140 L	2440 H		6.5		1.1	14.9	
78-4	06798	3.7 M	MIN	113	20 L NC = 17		31 VL NC = 16	98 M	1282 VH		6.8		0.2	7.5	
78-5	06799	3.6 M	MIN	111	28 L NC = 23		186 VH NC = 95	85 L	1091 M		5.9	6.79	1.4	8.0	

Sample ID Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts	Chloride	Aluminum
	K %	Mg %	Ca %	Na %	H %	NO <sub>3</sub> N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate	Cl ppm Rate	Al ppm
78-1	1.0	11.9	86.8		0.0										
78-2	2.6	13.1	80.8		3.1										
78-3	2.9	7.8	81.9		7.4										
78-4	1.1	10.9	85.5		2.7										
78-5	6.0	8.9	68.2		17.5										

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: *Paucic McGroary*

Paucic McGroary

Report Number: 16-098-0527

Account Number: 45671



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Sample ID Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	M3 ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
78-6	06800	3.8 M	MIN	116	24 L NC = 20			28 VL NC = 14	67 L	1257 VH		7.0		0.0	6.9
78-7	06802	2.9 M	MIN	98	29 L NC = 24			23 VL NC = 12	55 L	1287 VH		6.7		0.3	7.3
78-8	06803	5.5 H	MIN	145	55 H NC = 46			92 L NC = 47	124 L	1783 VH		6.9		0.1	10.3
78-9	06804	4.4 M	MIN	123	81 H NC = 67			68 L NC = 35	161 M	1682 H		6.7		0.5	10.4
78-10	06805	4.1 M	MIN	120	89 H NC = 74			32 VL NC = 16	150 H	1360 H		6.8		0.2	8.3

Sample ID Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts	Chloride	Aluminum
	K %	Mg %	Ca %	Na %	H %	NO <sub>3</sub> N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate	Cl ppm Rate	Al ppm
78-6	1.0	8.1	91.1		0.0										
78-7	0.8	6.3	88.2		4.1										
78-8	2.3	10.0	86.6		1.0										
78-9	1.7	12.9	80.9		4.8										
78-10	1.0	15.1	81.9		2.4										

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: *Pauric McGroary*

Pauric McGroary