

October 28, 2020

Application Support
New Jersey Department of Environmental Protection
Division of Land Resource Protection
Mail Code 501-02A
P.O. Box 420
Trenton, New Jersey 08625

CERTIFIED MAIL

Re: Application for a Letter of Interpretation: Line Verification

Block 79, Lots 4, 5, 6, 7, 8.01, and 10

Branchburg Township

Somerset County, New Jersey

To Whom It May Concern:

In accordance with the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A-1 et. seq.), the applicant, Transcontinental Gas Pipe Line Company, LLC (Transco), is requesting a Letter of Interpretation (LOI) to verify the delineated wetland boundaries within the above-referenced site. The approximately 100-acre site is bordered to the north by landscaped/maintained land and Case Road, to the east by landscaped/maintained land, to the south by residential development, and west by agricultural land. The site is occupied by Transco's natural gas compressor station with landscaped/maintained land and associated drives and parking.

As required by Section 7:7A-16.2 and 16.3 of the Rules, enclosed please find the following information:

- 1. A completed Freshwater Wetlands Letter of Interpretation-Line Verification Application Checklist.
- 2. A completed Application Form with State Plane coordinates.
- 3. A copy of the letter to the Branchburg Township Clerk transmitting a complete copy of the request for a Letter of Interpretation and verification of the certified notice.
- 4. A copy of the legal notification that has been forwarded to the Branchburg Township Clerk, Planning Board, Environmental Commission and Construction Official, the Somerset County Planning Board, and property owners within 200 feet of the legal boundary line. Verification of the certified notices and a certified list of property owners are attached.

- 5. A check in the amount of \$11,000.00 (\$1,000.00 + \$100.00 x 100 acres) made payable to "Treasurer, State of New Jersey" for the application fee.
- 6. A Wetland Investigation Report dated October 27, 2020 containing soils, vegetation and hydrology information, as well as original annotated color photographs and Wetland Data Sheets. The Wetland Report also contains a copy of the appropriate portion of the USGS RARITAN NJ, New Jersey quadrangle, a copy of a portion of the local road map on which the subject site location is noted, NRCS Custom Soil Resource Report and the qualifications of the preparers of the report.
- 7. A copy of the current municipal tax map with the site clearly indicated.
- 8. Five (5) copies of a topographical plan showing existing site conditions and wetland/water flag locations at a scale of no more than one inch equals 50 feet. The location of soil borings and photographs are also shown on the map and Figure 3 of the Wetland Investigation Report. The line segments between the wetlands/water flags are numbered. The soil borings are flagged in the field. Flags are numbered as shown on the map and marked in the field.
- 9. A request to the Natural Heritage Program regarding threatened and endangered species has been submitted. Upon receipt, the response document will be forwarded to the Department to aid in the review of this application.
- 10. A computer disk containing a complete copy of the application

Please feel free to contact me if you have any questions regarding this application.

Very truly yours,

EcolSciences, Inc.

Michael Levinson, PWS Senior Project Manager

enclosures

cc: Maggie Schmitt, Clerk, Branchburg Township

Karen Olson Jennifer Broush

David P Moskowitz, Ph.D.



State of New Jersey Department of Environmental Protection

Revised: January 2019 Website: <u>www.nj.gov/dep/landuse</u>



FRESHWATER WETLANDS PROTECTION ACT RULES APPLICATION CHECKLIST

Letter of Interpretation: Line Verification

CALL NJDEP AT (609) 777-0454 IF YOU HAVE ANY QUESTIONS

To apply for a letter of interpretation, please submit the information below to:

Postal Mailing Address

NJ Department of Environmental Protection Division of Land Use Regulation P.O. Box 420, Code 501-02A Trenton, New Jersey 08625-0420 Attn: Application Support

Street Address (Courier & Hand Carry Only)

NJ Department of Environmental Protection Division of Land Use Regulation 501 East State Street Station Plaza 5, 2nd Floor Trenton, New Jersey, 08609

Attn: Application Support

Please note: If you apply for a letter of interpretation and a permit, authorization, or waiver at the same time, the application requirements may be combined.

- Completed application form; ✓

Notice to municipal clerk (N.J.A.C. 7:7A-17.3(a))

A copy of the entire application, as submitted to the Department, must be provided to the municipal clerk in each municipality in which the site is located.

i. Documentation of compliance with this requirement shall consist of a copy of the certified United States Postal Service white mailing receipt, or other written receipt, for each copy of the application sent.

Notice to governmental entities and property owners (N.J.A.C. 7:7A-17.3(b) and (c))

A brief description of the proposed project, a legible copy of the site plan, and the form notice letter described at N.J.A.C. 7:7A-17.3(e)1iii must be sent to the following recipients:

- A. The construction official of each municipality in which the site is located;
- B. The environmental commission, or other government agency with similar responsibilities, of each municipality in which the site is located;
- C. The planning board of each municipality in which the site is located:
- D. The planning board of each county in which the site is located;
- E. The local Soil Conservation District if the regulated activity or project will disturb 5,000 square feet or more of land: and
- F. <u>Adjacent property owners</u>:
 Unless the LOI is submitted with an application for a project listed at N.J.A.C. 7:7A-17.3(c)1-5 (which require different notice to property owners as described in the rules), notice shall be sent to all owners

of real property, including easements, located within 200 feet of the site of the proposed regulated activity.

The owners of real property, including easements, shall be those on a list that was certified by the municipality, with a date of certification no more than one year prior to the date the application is submitted.

- ii. Documentation of compliance with this requirement shall consist of:
 - A. A copy of the certified United States Postal Service white mailing receipt for each public notice that was mailed, or other written receipt; and
 - B. A certified list of all owners of real property, including easements, located within 200 feet of the property boundary of the site (including name, mailing address, lot, and block) prepared by the municipality for each municipality in which the project is located. The date of certification of the list shall be no earlier than one year prior to the date the application is submitted to the Department.
- iii. The form notice letter required under N.J.A.C. 7:7A-17.3(e)1iii shall read as follows:

"This letter is to provide you with legal notification that an application for letter of interpretation <<has been/will be>> submitted to the New Jersey Department of Environmental Protection, Division of Land Use Regulation for the site shown on the enclosed plan(s). A brief description of the proposed project follows: <<INSERT DESCRIPTION OF THE SITE AND ANY PROPOSED PROJECT>>

The complete permit application package can be reviewed at either the municipal clerk's office in the municipality in which the site subject to the application is located, or by appointment at the Department's Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:

New Jersey Department of Environmental Protection Division of Land Use Regulation P.O. Box 420, Code 501-02A Trenton, New Jersey 08625 Attn: (Municipality in which the property is located) Supervisor"

Newspaper Notice (N.J.A.C. 7:7A-17.4)

Please refer to this portion of the rules for guidance on providing newspaper notice for certain large scale linear, public, or commercial projects.

- 3. The appropriate application fee, as specified in N.J.A.C. 7:7A-18.1, in the form of a check (personal, bank, certified, or attorney), money order, or government purchase order:
 - i. If not located in the Pinelands Area, made payable to "Treasurer State of New Jersey"
 - ii. If located in the Pinelands Area, made payable to "NJDEP-Pinelands Wetlands Program."
- 4. State plane coordinates in accordance with N.J.A.C. 7:7A-16.7(a) 🗸
 - i. If submitted with an application for a linear project of one-half mile or longer, include State plane coordinates at the endpoints of the project and State plane coordinates for points located at 1,000-foot intervals along the entire length of the project;
 - ii. If submitted with an application for a linear project of less than one-half mile in length, include State plane coordinates at the endpoints of the project;

- iii. If submitting an application for only an LOI, or an LOI and any other project, State plane coordinates at the approximate center of the site (within 50 feet of the actual center).
- 5. One set of color photographs showing a representative sample of the vegetation on the site or portion(s) of the site affected by the LOI application. Photographs must be mounted on 8½ -inch by 11-inch paper and accompanied by a map showing the location and direction from which each photograph was taken. Copies of photographs are acceptable provided they are color copies. Black and white copies of photographs are not acceptable.
- 6. Color copies of the following maps: \checkmark
 - i. The tax map for the property;
 - ii. A copy of the portion of the county road map showing the property location;
 - iii. A copy of the county soil survey map with the site clearly outlined; and
 - iv. A copy of the USGS quad map(s) that include the site, with the site clearly outlined to scale.
- 7. Documentation of the name(s) and qualification(s) of the person(s) who prepared the application. For a Line Verification LOI, this includes the person who performed the delineation.
- 8. Data sheets for sample locations including: \checkmark
 - i. Soil borings: Soil logs describing the soil characteristics at the location of each soil boring, including a description of the field indicators, or lack thereof, for hydrology as outlined in the 1989 Federal manual:
 - ii. Vegetation: A description of the vegetative species on the site recorded at each soil boring location classified using the United States Fish and Wildlife Service (USFWS) categories listed under "R/IND" and "NAT-IND" (Regional and National Indicators) columns in the "National Wetlands Plant List" and amendments thereto, compiled by the USFWS, United States Army Corps of Engineers, USEPA and the USDA's Natural Resources Conservation Service;
- 9. Survey: Five (5) folded copies of a topographical survey of the site; drawn at a scale of no more than 1 inch to 50 feet, certified in accordance with N.J.A.C. 7:7A-16.2(j), signed and sealed by a licensed surveyor pursuant to N.J.A.C. 13:40-7.2 through 7.4 and N.J.A.C. 7:7A-16.2(h) and 16.3(a)4, which:
 - i. Includes the site boundaries (If applying for a line verification for an entire site) or identifies the portion of the site (which meets the requirements of N.J.A.C. 7:7A-4.5(b)2-3) subject to the verification
 - ii. Proposed boundaries of all on-site wetlands, and/or State Open Waters plus all transition areas (boundary of transition area can be added prior to application or during review);
 - A. When delineating a State open water one to five feet in width measured from top of bank, with no wetland boundary, the delineation shall indicate the centerline of the State open water with several data points numbered and shown on the plans. When delineating a State open water that is greater than five feet in width, the delineation shall include two survey lines, with numbered points, depicting the top of bank on both sides of the State open water;
 - iii. Depicts the flags or stakes identifying the boundaries in the field, sequentially numbered, and sequentially numbered line segments between each flag or stake;
 - iv. Identifies the location and identifying number of each sample location described in item A above;
 - v. Topographic contours as follows:
 - A. If the site is located in Middlesex County or Mercer County or anywhere north of these counties, the survey must show topographic contours at intervals of no more than five feet;
 - B. If the site is located south of Middlesex and Mercer Counties, the survey must show topographic contours at intervals of no more than two feet

vi. A digital copy, georeferenced in NAD 83, of any survey can also be provided in addition to the paper.

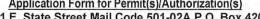
10. Site requirements: \checkmark

- i. Boundary Markers: The property boundaries and the proposed boundaries of all wetlands and/or open waters must be flagged and/or staked on the site as follows:
 - A. All flags and/or stakes must be present on the site prior to submission of the application to the Department;
 - B. The flags and/or stakes must be no more than 75 feet apart, must be set in relation to identifiable points and landmarks if possible and from each flag and/or stake you should be able to see the adjacent ones;
 - C. Each flag and/or stake must be uniquely (sequentially if possible) numbered and identified on the survey;
 - D. Flag and/or stakes shall be positioned so that they can be clearly visible at any time and any weather condition during the year, i.e. care should be taken so that flags and/or stakes are not positioned in a location likely to be covered by snow in the winter or overgrown in the summer.
 - E. Flags should not be tied to dead or annual vegetation.
- ii. Sample locations: All sample locations referenced in the data sheets must be clearly marked in the field.
- 11. Isolated wetland: If the applicant would like the Department to verify that a wetland is an isolated wetland, a request for that determination, and supporting documentation demonstrating that the wetland is isolated. For example, if inlets or pipes are present in the vicinity of the subject wetland, a map of the storm sewer system depicting the endpoint and invert elevations of the inlet or pipe. N/A

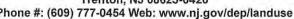


State of New Jersey **Department of Environmental Protection**

Division of Land Use Regulation



Application Form for Permit(s)/Authorization(s)
501 E. State Street Mail Code 501-02A P.O. Box 420
Trenton, NJ 08625-0420
Phone #: (609) 777-0454 Web: www.nj.gov/dep/landuse





1. Applicant Name:	Mr./Ms./Mrs_Transcontinental Gas Pipe Line,LLC Attn: Joe Dean	E-Mail: Joseph.dean	@williams.com	
Address:	2800 Post Oak Blvd Suite 900	Daytime Phone: 713-2		Ext.
City/State:	Houston, TX	Zip Code_77056	Cell Phone:	
2. Agent Name:	Mr./Ms./Mrs			
Firm Name:	-	E-Mail:		
Address:		Daytime Phone:		Ext
City/State:	(Zip Code	Cell Phone:	
3. Property Owner:	Mr./Ms./Mrs_Same as applicant	E-mail:		
Address:	A	Daytime Phone:		Ext
City/State:		Zip Code	Cell Phone:	
4. Project Name:	CS 505 - Letter of Interpretation	Address/Location; 623	CASE RD	
Municipality:	Branchburg	County: Somerset		Zip Code_08853
Block(s):	79	Lot(s): 10,4,5,6,7,8.0)1	
N.A.D. 1983 State P	ane Coordinates (feet) E(x): 427,778 N(y): 619,033	Not Longitude/Latitu	ıde	
N.A.D. 1983 State P Watershed:		Table 1 and 1 and 1	ıde	
N.A.D. 1983 State Pl Watershed: Nearest Waterway:	Raritan River SB (NB to Three Bridges) Pleasant Run UNT	Not Longitude/Latitu Subwatershed: Plea	asant Run	er Wetland Protection Act
N.A.D. 1983 State Pl Watershed: Nearest Waterway:	Raritan River SB (NB to Three Bridges) Pleasant Run UNT	Not Longitude/Latitu Subwatershed: Plea	asant Run	er Wetland Protection Act
N.A.D. 1983 State Pl Watershed: Nearest Waterway: 5. Project Description	Applicant seeks verification of the presence and extent of regular on the above referenced site.	Not Longitude/Latitu Subwatershed: Plea	asant Run	
N.A.D. 1983 State Pl Watershed: Nearest Waterway: 5. Project Description	Applicant seeks verification of the presence and extent of regular on the above referenced site.	Not Longitude/Latitu Subwatershed: Plea	asant Run	
N.A.D. 1983 State P. Watershed: Nearest Waterway: Project Description Provide if applicable	ane Coordinates (feet) E(x): 427,778 N(y): 619,033 Raritan River SB (NB to Three Bridges) Pleasant Run UNT Applicant seeks verification of the presence and extent of regular on the above referenced site.	Not Longitude/Latitu Subwatershed: Plea	asant Run	
N.A.D. 1983 State P Watershed: Nearest Waterway: 5. Project Description Provide if applicable A. SIGNATURE OF AP certify under penalty my inquiry of those indeware that there are	ane Coordinates (feet) E(x): 427,778 N(y): 619,033 Raritan River SB (NB to Three Bridges) Pleasant Run UNT Applicant seeks verification of the presence and extent of regular on the above referenced site.	Not Longitude/Latitus Subwatershed: Pleas ulated features pursuar Waiver request ID # (s): ation submitted in this do ation, I believe that the inding the possibility of	asant Run at to the Feshwate cument and all attenformation is true, ifine and imprison	achments and that, based or accurate, and complete. I an ment. If the applicant is a
N.A.D. 1983 State P. Watershed: Nearest Waterway: Description Provide if applicable A. SIGNATURE OF AP Certify under penalty my inquiry of those indexware that there are	ane Coordinates (feet) E(x): 427,778 N(y): 619,033 Raritan River SB (NB to Three Bridges) Pleasant Run UNT Applicant seeks verification of the presence and extent of regulation on the above referenced site. PLICANT (required): of law that I have personally examined and am familiar with the informatividuals immediately responsible for obtaining and preparing the informatividuals immediately responsible for obtaining false information, included in the party responsible of the party respon	Not Longitude/Latitus Subwatershed: Pleas ulated features pursuar Waiver request ID # (s): ation submitted in this do ation, I believe that the inding the possibility of	asant Run at to the Feshwate cument and all attenformation is true, ifine and imprison	achments and that, based or accurate, and complete. I an ment. If the applicant is an
N.A.D. 1983 State P Watershed: Nearest Waterway: 5. Project Description Provide if applicable A. SIGNATURE OF AP certify under penalty my inquiry of those index aware that there are organization such as a Signature of Applica 10/23/2020 Date	ane Coordinates (feet) E(x): 427,778 N(y): 619,033 Raritan River SB (NB to Three Bridges) Pleasant Run UNT Applicant seeks verification of the presence and extent of regulation on the above referenced site. PLICANT (required): of law that I have personally examined and am familiar with the informatividuals immediately responsible for obtaining and preparing the informatividuals immediately responsible for obtaining false information, included in the party responsible of the party respon	Not Longitude/Latitus Subwatershed: Pleas ulated features pursuar Waiver request ID # (s): ation submitted in this do ation, I believe that the inding the possibility of ponsible for the application	asant Run at to the Feshwate cument and all attenformation is true, ifine and imprison	achments and that, based or accurate, and complete. I an ment. If the applicant is ar

B. PROPERTY OWNER'S CERTIFICATION

I hereby certify that the undersigned is the **owner of the property** upon which the proposed work is to be done. This endorsement is certification that the owner/easement holder grants permission for the conduct of the proposed activity. In addition, written consent is hereby giver to allow access to the site by representatives or agents of the Department for the purpose of conducting a site inspection(s) or survey(s) of the property in question.

In addition, the undersigned property owner hereby certifies:

4			
1.	Whether any work is to be done within an easement?		Yes □ No □
	(If answer is "Yes" - Signature/title of resonsible party is required below)		
2.	Whether any part of the entire project will be located within property belonging	to the State of New Jersey?	Yes □ No □
3.	3. Whether any work is to be done on any property owned by any public agency that would be encumbered by Green Acres?		Yes □ No □
4.	Whether this project requires a Section 106 (National Register of Historic Place	es) Determination as part of a federal approval?	Yes □ No □
Signatur	re of Owner	Signature of Owner/Easement Holder	
Date		Date	
Print Na	me	Print Name/Title	
APPLIC	ANT'S AGENT	co Applicant/C	wher outhorize to get s
1	ANT'S AGENT, the Applicant/Owner and nt/representative in all matters pertaining to my application the following person:		wner authorize to act a
1	, the Applicant/Owner and int/representative in all matters pertaining to my application the following person:		Owner authorize to act a
my age	, the Applicant/Owner and int/representative in all matters pertaining to my application the following person:		wner authorize to act
Mame of Occupation	, the Applicant/Owner and int/representative in all matters pertaining to my application the following person: f Agent	Signature of Applicant/Owner	wner authorize to act a
Mame of Occupate	, the Applicant/Owner and, int/representative in all matters pertaining to my application the following person: f Agent tion/Profession of Agent	Signature of Applicant/Owner	Owner authorize to act a
Mame of Occupate AGENT	, the Applicant/Owner and int/representative in all matters pertaining to my application the following person: f Agent tion/Profession of Agent S CERTIFICATION:	Signature of Applicant/Owner	owner authorize to act a

D. STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS, SURVEYOR'S OR ENGINEER'S REPORT

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature
Thomas J. Murphy, PLS
Print Name

Principal of DW Smith Associates, LLC Position & Name of Firm

24GS03720700 Professional License #

Date

STATEMENT OF PREPARER OF APPLICATION, REPORTS AND/OR SUPPORTING DOCUMENTS (other than engineering)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining and preparing the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

Signature	~	
Print Name		
Position & Name of Firm		
Professional License #	Date	-

B. PROPERTY OWNER'S CERTIFICATION

I hereby certify that the undersigned is the **owner of the property** upon which the proposed work is to be done. This endorsement is certification that the owner/easement holder grants permission for the conduct of the proposed activity. In addition, written consent is hereby giver to allow access to the site by representatives or agents of the Department for the purpose of conducting a site inspection(s) or survey(s) of the property in question.

In addition, the undersigned property owner hereby certifies:

1. Whether any work is to be done within an easement?		Yes □ No 🛛
(If answer is "Yes" - Signature/title of resonsible party is required by	below)	
Whether any part of the entire project will be located within proper	ty belonging to the State of New Jersey?	Yes □ No 🗵
3. Whether any work is to be done on any property owned by any pul	blic agency that would be encumbered by Green Acres?	Yes □ No 🗵
4. Whether this project requires a Section 106 (National Register of H	fistoric Places) Determination as part of a federal approval?	Yes □ No 🛛
1/0/1/1		
Signature of Dwney	Signature of Owner/Easement Holder	
10/23/2020 Date	Date	
Joseph Dean	BLAN THE	
Print Name	Print Name/Title	
. APPLICANT'S AGENT		
	/ /	
ny agent/representative in all matters pertaining to my application the follow		wner authorize to act as
	1 / l	
Michael Levinson		
Name of Agent	Signature of Applicant/Owner	
Senior Project Manager/ EcolSciences, Inc. Occupation/Profession of Agent	Signature of co-Applicant/Owner	
AGENT'S CERTIFICATION: I agree to serve as agent for the above-referenced applicant:		
- Composition	EcolSciences, Inc.	
Signature of Agent	Name of Firm	
A COLUMN TO THE PROPERTY OF THE ANGLES OF TH		
STATEMENT OF PREPARER OF PLANS, SPECIFICATIONS,	E. STATEMENT OF PREPARER OF APPLICATION,	
SURVEYOR'S OR ENGINEER'S REPORT	SUPPORTING DOCUMENTS (other than enginee	
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all	I certify under penalty of law that I have perso	
attachments and that, based on my inquiry of those individuals	familiar with the information submitted in this docur and that, based on my inquiry of those individuals	
immediately responsible for obtaining and preparing the information, I	for obtaining and preparing the information, I belie	
believe that the information is true, accurate, and complete. I am	true, accurate, and complete. I am aware that there	
aware that there are significant penalties for knowingly submitting	for knowingly submitting false information, includi	
false information, including the possibility of fine and imprisonment.	and imprisonment.	
	$\mathcal{M}_{\mathcal{M}}$	
	1// 1.	
Signature	Signature Signature	-
	Michael Levinson, PWS	
Print Name	Print Name	
	Senior Project Manager/ EcolSciences, Inc	3.
Position & Name of Firm	Position & Name of Firm	3/2020
Professional License # Date	Professional License # Date	DIZUZU
FIGURESSIONAL LICEUSE # DATE	Professional License # Date	

(If Applicable)

FEE CALCULATION TIPS:

- Whenever the calcuation requires an acreage figure (including the Stormwater calculations), you will need to round UP to the nearest whole number, for example: 0.25 acres gets rounded up to one (1) acre or 2.61 acres gets rounded up to three (3) acres.
- The maximum fee for a CAFRA Individual permit, an Upland Waterfront Development permit, or an In-Water Waterfront Development permit is \$30,000 per permit type. For example: if you are applying for both an upland and an in-water Waterfront Development the maximum fee is applied to each permit for a maximum total of \$60,000 plus any applicable stromwater review fee.
- The stormwater review fee is applied only one time per project, maximum of \$20,000, regardless of multiple applications.

APPLICATION(S) FOR: Please check each permit/authorization that you are applying for and fill in the calculated fee (for each) in the "Fee Paid" column

Coastal General Permits	Fee Amount	Fee Paid
CZMGP1 Amusement Pier Expansion	\$1,000.00	
CZMGP2 Beach/Dune Activities	\$1,000.00	
CZMGP3 Voluntary Reconstruction Certain Residential/Commercial Dev.	\$1,000.00	
CZMGP4 Development of one or two SFH or Duplexes	\$1,000.00	
CZMGP5 Expansion or Reconstruction SFH/Duplex	\$1,000.00	
CZMGP6 New Bulkhead/Fill Lagoon	\$1,000.00	
CZMGP7 Revetment at SFH/Duplex	\$1,000.00	
CZMGP8 Gabions at SFH/Duplex	\$1,000.00	
CZMGP9 Support Facilities at a Marina	\$1,000.00	
CZMGP10 Reconstruction of Existing Bulkhead	\$1,000.00	
CZMGP11 Hazard Waste Clean-up	\$1,000.00	
CZMGP12 Landfall of Utilities	\$1,000.00	
CZMGP13 Recreation Facility at Public Park	\$1,000.00	
CZMGP14 Bulkhead Construction & Fill Placement	\$1,000.00	
CZMGP15 Construction of Piers/Docks/Ramps in Lagoons	\$1,000.00	
CZMGP16 Minor Maintenance Dredging in Lagoons	\$1,000.00	
CZMGP17 Eroded Shoreline Stabilization	\$1,000.00	
CZMGP18 Avian Nesting Structures	\$1,000.00	
CZMGP19 Modification of Electrical Substations	\$1,000.00	
CZMGP20 Legalization of the Filling of Tidelands	\$1,000.00	
CZMGP21 Construction of Telecommunication Towers	\$1,000.00	
CZMGP22 Construction of Tourism Structures	\$1,000.00	
CZMGP23 Geotechnical Survey Borings	\$1,000.00	
CZMGP24 Habitat Creation, Restoration, Enhancement, Living Shorelines	No Fee	No Fee
CZMGP25 1 to 3 Turbines < 200 Feet	\$1,000.00	
CZMGP26 Wind Turbines < 250 Feet	\$1,000.00	
CZMGP27 Dredge Lagoon (post storm event)	\$1,000.00	
CZMGP28 Dredge post Bulkhead Failure	\$1,000.00	
CZMGP29 Dredge Marina (post storm event)	\$1,000.00	
CZMGP30 Aquaculture Activities	\$1,000.00	l
CZMGP31 Placement of Shell (shellfish areas)	\$1,000.00	
CZMGP32 Application of Herbicide in Coastal Wetlands	\$1,000.00	
CZM Permit-by-Certification (On-line application ONLY)	\$1000.00	

Coastal Individual Permits	Fee Amount	Fee Paid
CAFRA – IP SFH or Duplex	\$2,000	
CAFRA – IP Residential not SFH/duplex	\$3,000 x# of units	
CAFRA – IP Commercial, Industrial or Public	\$3,000 xacres of the site	
WFD - IP SFH or Duplex (Upland/Landward of MHWL)	\$2,000	
WFD – IP Residential not SFH/duplex (Upland/Landward of MHWL)	\$3,000 x# of units	
WFD – IP Commercial, Industrial or Public Development (Upland/Landward of MHWL)	\$3,000 xacres of the site	
WFD - IP SFH or Duplex (Waterward of MHWL)	\$2,000	
WFD – IP Residential not SFH/duplex (Waterward of MHWL)	\$3,000 xacres of water area impacted	
WFD – IP Commercial, Industrial or Public Development (Waterward of MHWL)	\$3,000 xacres of water area impacted	
CSW – IP SFH or Duplex	\$2,000	
CSW – IP All Development not SFH/duplex	\$3,000 xacres of wetlands disturbed	

Modification of a Coastal GP Minor Technical Modification of a Coastal Wetland Permit Minor Technical Modification of a CAFRA	\$500 x# of items to be revised	
Wetland Permit		
Minor Technical Modification of a CAFRA		
IP	\$500 x# of items to be revised	
Minor Technical Modification of a Waterfront IP	\$500 x# of items to be revised	
Major Technical Modification of a Coastal Wetland Permit	0.30 xoriginal fee = Fee (Minimum \$500)	
Major Technical Modification of a CAFRA IP	0.30 x original fee = Fee (Minimum \$500)	
Major Technical Modification of a Waterfront IP	0.30 x original fee = Fee (Minimum \$500)	
Zane Letter (Waterfront Development Exemption)	\$500	
CAFRA Exemption Request	\$500	
CZM General Permit Extension	\$240 x# of GPs to be extended	
Waterfront Development Individual Permit – Extension (Waterward of MHWL)	0.25 x original fee = Fee (Maximum \$3,000)	
Meadowlands District Water Quality Certificate	\$5,000 + (\$2,500 x # acres regulated area disturbed)	
Individual Permit Equivalency/CERCLA	No Fee	No Fee

Consistency Determination	Fee Amount	Fee Paid
Water Quality Certificate (NOTE: No fee required under the coastal program)	\$5,000 + (\$2,500 x# acres regulated area disturbed)	
Federal Consistency	No Fee	No Fee

Freshwater Wetlands	Fee Amount	Fee Paid
General Permits		
FWGP1 Main. & Repair Exist Feature	\$1,000.00	
FWGP2 Underground Utility Lines	\$1,000.00	
FWGP3 Discharge of Return Water	\$1,000.00	
FWGP4 Hazard Site Invest/Cleanup	\$1,000.00	
FWGP5 Landfill Closures	\$1,000.00	
FWGP6 Filling of Non-Tributary Wetlands	\$1,000.00	
FWGP6A TA Adj. to Non-Tributary Wetlands	\$1,000.00	
FWGP7 Human-made Ditches/Swales in Headwaters	\$1,000.00	
FWGP8 House Additions	\$1,000.00	
FWGP9 Airport Sight-line Clearing	\$1,000.00	
FWGP10A Very Minor Road Crossings	\$1,000.00	
FWGP10B Minor Road Crossings	\$1,000.00	
FWGP11 Outfalls / Intakes Structures	\$1,000.00	
FWGP12 Surveying and Investigating	\$1,000.00	
FWGP13 Lake Dredging	\$1,000.00	
FWGP14 Water Monitoring Devices	\$1,000.00	
FWGP15 Mosquito Control Activities	\$1,000.00	
FWGP16 Creation/Restoration/Enhancement Habitat	No Fee	No Fee
FWGP17 Trails / Boardwalks	\$1,000.00	
FWGP17A Non-Motorized Multi-Use Paths	\$1,000.00	
FWGP18 Dam Repairs	\$1,000.00	
FWGP19 Docks and Piers	\$1,000.00	
FWGP20 Bank Stabilization	\$1,000.00	
FWGP21 Above Ground Utility Lines	\$1,000.00	
FWGP22 Expansion Cranberry Growing (Pinelands)	No Fee	No Fee
FWGP23 Spring Developments	\$1,000.00	
FWGP24 Malfunctioning Individual Septic Systems	No Fee	No Fee
FWGP25 Minor Channel / Stream Cleaning	\$1,000.00	
FWGP26 Redevelop Previously Disturbed Site	\$1,000.00	
FWGP27 Application of herbicide in wetlands	\$1,000.00	

Highlands	Fee Amount	Fee Paid
Pre-application Meeting	\$500.00	
Resource Area Determination Boundary Delineation < one acre	\$500.00	
Resource Area Footprint of Disturbance	\$500 + (\$50 x# of acres of the site	
Resource Area Determination Verification (> one acre)	\$750 + (\$100 x # of acres of the site)	
Resource Area Determination Extension	0.25 xoriginal fee (Minimum \$250)	
HPAAGP 1/ Habitat Creation/Enhance	No Fee	No Fee
HPAAGP 2 Bank Stabilization	\$500.00	
Preservation Area Approval (PAA)		
PAA with Waiver (Specify type below)		
Waiver Type:	·	
HPAA Extension	\$1,000	

Freshwater Individual Permits	Fee Amount	Fee Paid
FWW IP-SFH/Duplex-Wetlands	\$2,000	
FWW IP-Wetlands (not SFH/Duplex)	\$5,000 + (\$2,500 x # acres FWW disturbed)	
FWW IP-SFH/Duplex-Open Water	\$2,000	
FWW IP-Open Water (not SFH/Duplex)	\$5,000 + (\$2,500 x # acres FWW disturbed)	

Freshwater Wetlands Transition Area Waivers	Fee Amount	Fee Paid
TAW Averaging Plan	<u>With valid LO</u> I \$1,000 + (\$100 x	
TAW Hardship Reduction	# acres TA disturbed)	
TAW Reduction per N.J.A.C. 7:7A-8.1(d)	uistarbea)	
TAW Special Activity Individual Permit		
TAW Special Activity Linear Development	<u>Without valid LO</u> I \$1000 + (\$100 x	
TAW Special Activity Redevelopment	acres TA	
TAW Special Activity Stormwater	disturbed) + LOI Fee	

Letter of Interpretation	Fee Amount	Fee Paid
LOI Presence Absence	\$1,000.00	
LOI Footprint of Disturbance (3 Maximum)	\$1,000.00 each	
LOI Delineation < 1.00 Acres	\$1,000.00	
LOI Verification	\$1,000 + (\$100 x# of acres of the site)	
LOI Partial Site Verification	\$1,000 + (\$100 x# of acres of the site subject to LOI)	
LOI Extension Presence/Absence, Footprint, Delineation < 1 acre (Re- Issuance)	\$500	
LOI Extension Line Verification (Re- Issuance)	0.50 xoriginal fee (Minimum \$500)	

Additional Freshwater Wetlands Authorizations	Fee Amount	Fee Paid
FWGP Administrative Modification	No fee	No Fee
FWGP Minor technical modification	\$500.00	
FWGP Major technical modification	\$500.00	
Individual Permit Administrative Modification	No Fee	No Fee
Individual Permit Minor Technical Modification	\$500.00	
Individual Permit Major Technical Modification	0.30 x original fee (Minimum \$500)	
TAW Administrative Modification	No Fee	No Fee
TAW Minor Technical Modification	\$500.00	
TAW Major Technical Modification	0.30 xoriginal fee (Minimum \$500)	
FWGP Extension	\$500 x# of items to be extended	
Individual Permit/Open Water Permit Extension	0.30 xoriginal fee (Minimum \$500)	
TAW Extension	\$500 x# of items to be extended	
Freshwater Wetlands Exemption	\$500.00	
TAW Exemption	\$500.00	
Permit Equivalency/CERCLA	No Fee	No Fee

Flood Hazard Area General	Fee Amount	Fee Paid
Permits		
FHAGP1 Channel Clean w/o Sediment Removal	No Fee	
FHAGP1 Channel Clean w/Sediment Removal	No Fee	
FHAGP2 Mosquito Control	\$1,000.00	
FHAGP3 Scour Protection Bridges/Culverts	\$1,000.00	
FHAGP4 Creation/Restoration/Enhancement of Habitat and Water Quality Values and Functions	No Fee	
FHAGP5 Reconstruction and/or Elevation of Building in a Floodway	No Fee	
FHAGP6 Construction of One SFH/Duplex and Driveway	\$1,000.00	
FHAGP7 Relocation of Manmade Roadside Ditches for Public Roadway Improvements	\$1,000.00	
FHAGP8 Placement of Storage Tanks	\$1,000.00	
FHAGP9 Construction/Reconstruction of Bride/Culvert Across Water < 50 Acres	\$1,000.00	
FHAGP10 Construction/Reconstruction of Bride/Culvert Across Water > 50 Acres	\$1,000.00	
FHAGP11 Stormwater Outfall Along Regulated Water <50 Acres	\$1,000.00	
FHAGP12 Construction of Footbridges	\$1,000.00	
FHAGP13 Construction of Trails and Boardwalks	\$1,000.00	
FHAGP14 Application of herbicide in riparian zone	\$1,000.00	

	Flood Hazard Area Individual Permits	Fee Amount	Fee Paid
	FHA - IP SFH and/or Accessory Structures	\$2,000	
	ndividual Permit (Fee is calculated by adding pase fee to the specific elements below)	\$3,000 Base Fee	
	FHA – IP Utility*	+ (\$1,000 x# of water crossings)	
-	FHA - IP Bank/Channel (No Calculation Review) *	+ \$1,000	
	FHA - IP Bank/Channel (With Calculation Review) *	+ (\$4,000 + (\$400 xper 100 linear ft.))	
-	FHA - IP Bridge/Culvert/Footbridge/Low Dam (No Calculation Review)*	+ (\$1,000 x# of structures)	
_	FHA - IP Bridge/Culvert/Footbridge/Low Dam (WIth Calculation Review) *	+ (\$4,000 x# of structures)	
	FHA – Review of Flood Storage Displacement (net fill) Calculations*	+ \$4,000	
	Total	IP Review Fee	
	•		

Flood Hazard Area Verifications	Fee Amount	Fee Paid
Verification-Delineation of Riparian Zone Only	\$1,000	
Verification-Method 1 (DEP Delineation) *	\$1,000	
Verification-Method 2 (FEMA Tidal Method) *	\$1,000	
Verification-Method 3 (FEMA Fluvial Method) *	\$1,000	
Verification-Method 4 (FEMA Hydraulic Method)	\$4,000 + (\$400 x per 100 linear feet)	
Verification-Method 5 (Approximation Method)	\$1,000	
Verification-Method 6 (Calculation Method)	\$4,000+(\$400 x per 100 linear feet)	

Additional Flood Hazard Area Authorizations	Fee Amount	Fee Paid
FHA Hardship Exception Request	\$4,000	
FHA GP Administrative Modification	No Fee	No Fee
FHA GP Minor technical modification	\$500 x# of proejct elements to be revised	
FHA GP Major technical modification	0.30 xoriginal fee (Minimum \$500)	
FHA Individual Permit Administrative Modification	No Fee	No Fee
FHA Individual Permit Minor Technical Modification	\$500 x# of proejct elements to be revised	
FHA Individual Permit Major Technical Modification	0.30 xoriginal fee (Minimum \$500)	
FHA Verification Administrative Modification	No Fee	No Fee
FHA Verification Minor Technical Modification	\$500 x# of proejct elements to be revised	
FHA Verification Major Technical Modification	0.30 xoriginal fee (Minimum \$500)	
FHA GP Extension	\$240	
FHA Individual Permit Extension	0.25 xoriginal fee	
FHA Verification Extension of Methods 1, 2, 3, 5, or Riparian Zone Only	\$240	
FHA Verification Extension of Methods 4 or 6	0.25 xoriginal fee	
FHA Individual Permit Equivalency/CERCLA	No Fee	No Fee
FHA GP Administrative Modification	No Fee	No Fee

Stormwater Review Fee (Maximum Fee = \$20,000)	Fee Amount (Round UP to the nearest whole number)	Fee Paid
☐ Stormwater Review (Fee is calculated by adding the base fee to the specific elements below)	\$3,000 Base Fee	
Review of Groundwater Calculations	+ \$250 x# acres disturbed	
Review of Runoff Quantity Calculations	+ \$250 x# acres disturbed	
Review of Water Quality Calculations	+ \$250 x# acres impervious surface	
Total	Stormwater Review Fee	

Applicability Determination	Fee Amount	Fee Paid
Coastal Applicability Determination	No Fee	No Fee
Flood Hazard Applicability Determination	No Fee	No Fee
Highlands Jurisdictional Determination	No Fee	No Fee
Executive Order 215	No Fee	No Fee

TOTAL FEE:	
CHECK NUMBER:	

			APPLICATION FOR	M - APPENDIX I		
Section	<u>1:</u>	Please provide the following information for the overall project site. All area measurements shall be recorded in acres to the nearest thousandth (0.001 acres).				
	PROPOSED:		<u>Preserved</u>	<u>Undisturbed</u>	<u>DISTURBED</u>	
	RIPARI	AN ZONE				
	(CZMRA E & T I	A FORESTED IP - Only) HABITAT ired and/or Threatened				
	FRESH	WATER WETLANDS				
Section	<u>2</u> :	Freshwater Wetlands	•		equested pursuant to the orded in acres to the nearest	
	PERMIT TYPE		WETLAND TYPE Emergent, Forest, Shrub, Etc.	RESOURC CLASSIFIC Ordinary, In Exceptional	ATION termediate,	
	PROPO	OSED DISTURBANCE:	<u>WETLANDS</u>	TRANSITION AREA	<u>SOW</u>	
	FILLED)				
	EXCAV	'ATED				
	CLEAR	ED				
	ТЕМРО	PRARY DISTURBANCE				
	PERMIT TYPE		WETLAND TYPE Emergent, Forest, Shrub, Etc.	RESOURC CLASSIFIC Ordinary, In Exceptional	ATION termediate,	
	<u>Propo</u>	OSED DISTURBANCE:	<u>WETLANDS</u>	TRANSITION AREA	<u>sow</u>	
	FILLED	1				
	EXCAV	'ATED				
	CLEAR	ED				

FILE # (if known):

APPLICANT NAME:

TEMPORARY DISTURBANCE ______ _____



GAS PIPELINE - TRANSCO

Land, GIS & Permits 2800 Post Oak Boulevard, Level 11 Houston, Texas 77056

September 10, 2019

Via Certified Mail Return Receipt Requested

Ms. Catherine R. McCabe Commissioner New Jersey Department of Environmental Protection P.O. Box 402 Trenton, NJ 08625-0402

Dear Ms. McCabe:

Transcontinental Gas Pipe Line Company, LLC, a Delaware limited liability company, (Transco) hereby notifies the Department of the Delegation of Signature Authority with respect to the Responsible Official Definition provided under the provisions of NEPA (42 USCS 4321, et seq. and 40 CFR 6 – implementation thereof). This letter supersedes all previous letters denoting Delegation of Signature Authority.

Persons holding the position of Director, Manager, Environmental Specialist, Environmental Scientist, or Engineer within Transco are recognized as having the ability to perform similar policy or decision making functions as myself for the Company. I hereby Delegate such signing authority to those persons.

Sincerely,

Scott Hallam

Senior Vice President, Atlantic-Gulf

Transcontinental Gas Pipe Line Company, LLC



October 28, 2020

Maggie Schmitt, Clerk Branchburg Township 10100 US Highway 202 North Branchburg, NJ 08876

CERTIFIED MAIL

Re:

Application for a Letter of Interpretation: Line Verification

Block 79, Lots 4, 5, 6, 7, 8.01, and 10

Branchburg Township

Somerset County, New Jersey

Dear Mrs. Schmitt:

This letter is to inform you that Transcontinental Gas Pipe Line, LLC (Transco) is applying to the New Jersey Department of Environmental Protection, Division of Land Resource Protection for a Letter of Interpretation to verify the delineated limits of wetlands within the above-referenced site. The approximately 100-acre site is bordered to the north by landscaped/maintained land and Case Road, to the east by landscaped/maintained land, to the south by residential development, and west by agricultural land. The site is occupied by Transco's natural gas compressor station with landscaped/maintained land and associated drives and parking. Please find enclosed a complete copy of the application. Below please find the legal notice.

This letter is to provide you with legal notification that an application for a letter of interpretation has been submitted to the New Jersey Department of Environmental Protection, Division of Land Resource Protection for the site shown on the enclosed survey.

The complete permit application package can be reviewed at the municipal clerk's office in the municipality in which the site subject to the application is located or by appointment at the Department's Trenton Office. In addition, an electronic copy of the initial application can be provided via an OPRA request by contacting https://www.nj.gov/dep/opra/opraform.html from the Department's Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:

New Jersey Department of Environmental Protection Division of Land Resource Protection P.O. Box 420, Code 501-02A Trenton, New Jersey 08625 Attention: "Branchburg Township Supervisor" Mrs. Maggie Schmitt, Clerk October 28, 2020 Page 2

If you have any questions regarding this notice, please feel free to contact me.

Very truly yours,

EcolSciences, Inc.

Michael Levinson, PWS Senior Project Manager

enclosures

cc: NJDEP Application Support Section

Branchburg Township Environmental Commission Chairperson w/ Survey

Branchburg Township Planning Board Chairperson w/ Survey

Branchburg Township Construction Official w/ Survey Somerset County Planning Board Chairperson w/ Survey

Karen Olson Jennifer Broush October 28, 2020

Property Owner within 200 Feet

CERTIFIED MAIL

Re:

Application for a Letter of Interpretation: Line Verification

Block 79, Lots 4, 5, 6, 7, 8.01, and 10

Branchburg Township

Somerset County, New Jersey

Dear Property Owner:

This letter is to inform you that Transcontinental Gas Pipe Line, LLC (Transco) is submitting a Freshwater Wetlands application to the New Jersey Department of Environmental Protection (NJDEP), Division of Land Resource Protection (DLUR) for a Letter of Interpretation (LOI): Line Verification to verify the delineated limits of wetlands and width of the transition area (also known as wetlands buffer) within the above-referenced site. All LOI applications require that property owners within 200 feet of the site be notified via certified mail. A certified list of property owners within 200 feet of the above-referenced site was obtained from the Branchburg Township. The LOI application does not authorize a proposed project. If a proposed project requires any other approvals from the NJDEP DLUR, another notice will be sent via certified mail. No action is required on your part unless you wish to comment on this application.

The approximately 100-acre site is bordered to the north by landscaped/maintained land and Case Road, to the east by landscaped/maintained land, to the south by residential development, and west by agricultural land. The site is occupied by Transco's natural gas compressor station with landscaped/maintained land and associated drives and parking. Please find enclosed the survey. Below please find the legal notice.

This letter is to provide you with legal notification that an application for a letter of interpretation has been submitted to the New Jersey Department of Environmental Protection, Division of Land Resource Protection for the site shown on the enclosed survey.

The complete permit application package can be reviewed at the municipal clerk's office in the municipality in which the site subject to the application is located or by appointment at the Department's Trenton Office. In addition, an electronic copy of the initial application can be provided via an OPRA request by contacting https://www.nj.gov/dep/opra/opraform.html from the Department's Trenton Office. The Department of Environmental Protection welcomes comments and any information that you may provide concerning the proposed development and site. Please submit your written comments within 15 calendar days of receiving this letter to:

New Jersey Department of Environmental Protection Division of Land Resource Protection P.O. Box 420, Code 501-02A Property Owner October 28, 2020 Page 2

> Trenton, New Jersey 08625 Attention: "Branchburg Township Supervisor"

If you have any questions regarding this application, please feel free to contact me.

Very truly yours,

EcolSciences, Inc.

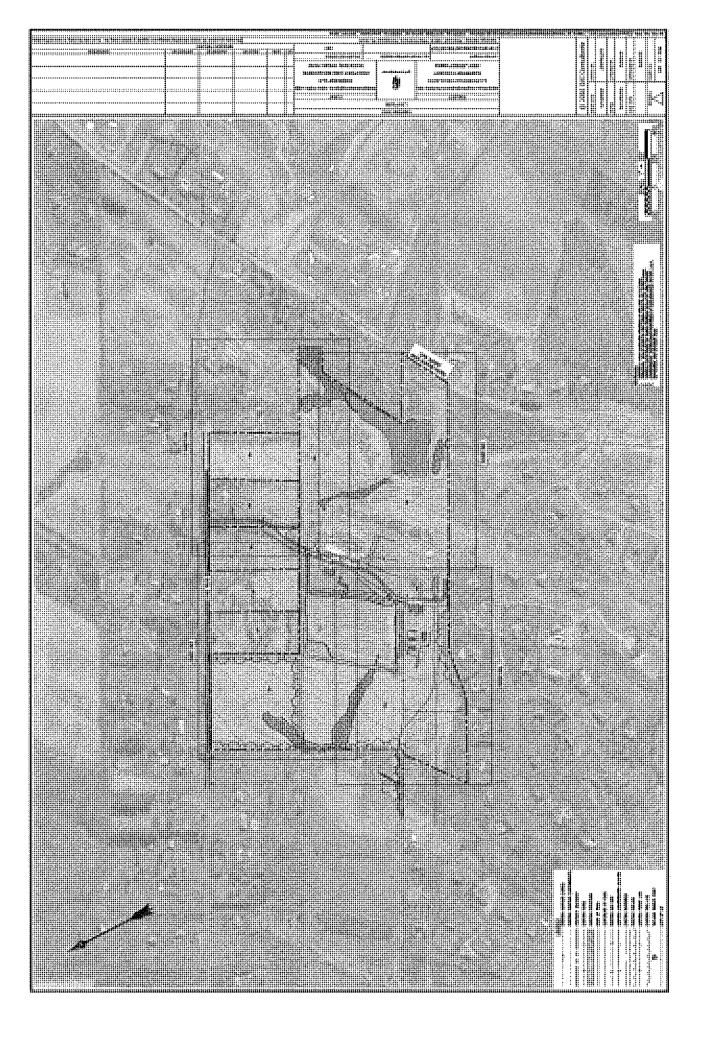
Michael Levinson, PWS Senior Project Manager

enclosures

cc:

NJDEP Application Support

Karen Olson Jennifer Broush



Township of Branchburg 1077 US HIGHWAY 202 NORTH, BRANCHBURG, NJ 08876-3936

TELEPHONE: (908) 526-1300 x139 FAX: (908) 526-7479

www.branchburg.nj.us

OFFICE OF THE ADMINISTRATIVE OFFICER

LETTER OF TRANSMITTAL

October 14, 2020

Sent by regular mail and email

Transco Williams Leigh Kramer P.O. Box 1789 Plains, PA. 18705

Block 79 Lot 4,5,6,7,8.01

Copy	Date	Description
1	10/14/20	Certified Property List Block 79 Lot 4,5,6,7,8.01
1	10/14/20	Utility Notification List

Momass Teach 10/14/20

ZIZZINO DIDIN	TOT OF PRINCIPORO INT		COOMIT IS SOMERSEL
PROPERTY ID	PROPERTY LOCATION	CLASS	OWNERS NAME & ADDRESS
76 2	1367 RT 202 1500+416	4A	1367 202 LLC 1367 RT 202 NORTH NESHANIC STA NJ 08853
76 3	1363 RT 202	2	EITEL RUTH J 1363 RT 202 NESHANIC STA NJ 08853
76 36.01	616 CASE RD	ЗА	GAUER WALTER E & CAROL B 616 CASE RD NESHANIC STA NJ 08853
76 36.01 QFARM	CASE RD	3в	GAUER WALTER E & CAROL B 616 CASE RD NESHANIC STA NJ 08853
76 36.02	610 CASE RD	ЗА	DWYER JAMES & NANCY 610 CASE RD NESHANIC STA NJ 08853
76 36.02 QFARM	CASE RD	3B	DWYER JAMES & NANCY 610 CASE RD NESHANIC STA NJ 08853
76 37	620 CASE RD	2	DERONDE CHRISTOPHER R 4 CARTER CT HILLSBOROUGH NJ 08844
76 38	622 CASE RD	2	CAMPBELL RICHARD J 622 CASE RD NESHANIC STA NJ 08853
76 39	624 CASE RD	2	TAM ALBERT & CHOW MELINDA Y 624 CASE RD NESHANIC STA NJ 08853
76 40	626 CASE RD	2	MORELLI-KALBACHER LIVING TRUST PO BOX 237 NESHANIC STA, NJ 08853
76 41	628 CASE RD	2	BAER DOLORES 628 CASE RD NESHANIC STA NJ 08853
79 8	611 CASE RD	ЗА	EURICK ROBERT J 611 CASE RD NESHANIC STA NJ 08853
79 8.02	617 CASE RD L2FAM	2	MAGROSKY FRANK & FRANCINE 617 CASE RD NESHANIC STA NJ 08853
79 10	623 CASE RD	4A	TRANSCO GAS PIPELINE CORP%TAX DEPT PO BOX 2400 MD 46-4 TULSA OK 74102.2400

TOWNSHIP OF BRANCHBURG UTILITY NOTIFICATION LIST

New Jersey- American Water Company, Inc.

Water:

	c/o General Tax Dept. PO Box 5627 Cherry Hill, NJ 08034
Gas:	Public Service Electric & Gas Company Manager-Corporate Properties 80 Park Plaza, T6B Newark, NJ 07102
Electric:	Corporate Secretary Jersey Central Power & Light 300 Madison Avenue Morristown, NJ 07962
Telecommunication:	Corporate Secretary Verizon 540 Broad Street Newark, NJ 07101
	Nicki Graham Sprint 1201 Walnut Bottom Road Carlisle, PA 17013
	Outside Plant Supervisor AT&T OSP Patricia Drive Flanders, NJ 07836
	United Fiber & Data, LLC Christopher Lodge, Chief Operating Officer 210 York Street, Suite 210 York, PA 17403
Other:	Corporate Secretary Algonquin Gas Transmission Company 890 Winter Street, Suite 300 Waltham, MA 02451-1493
	Corporate Secretary Transcontinental Gas Pipe Line Corp. 99 Farber Road Princeton, NJ 08540

The above utility owners may have easements or rights-of way located on or within 200 feet of the property in question and may require notice under N.J.S.A. 40:55D-12h.

Thomas Leach Teach 10/14/20

Township of Branchburg 1077 US HIGHWAY 202 NORTH, BRANCHBURG, NJ 08876-3936

TELEPHONE: (908) 526-1300 x139 FAX: (908) 526-7479

www.branchburg.nj.us

OFFICE OF THE ADMINISTRATIVE OFFICER

LETTER OF TRANSMITTAL

October 6, 2020

Sent by regular mail and email

Williams Leigh Kramer P.O. Box 1789 Plains, PA. 18705

Block 79 Lot 10

<u>Copy</u>	<u>Date</u>	Description
1	10/06/20	Certified Property List Block 79, Lot 10
1	10/06/20	Utility Notification List
1	10/06/20	Additional Notification List

as Teach 10/6/20

PROPERTY ID PROPERTY LOCATION CLASS OWNERS NAME & ADDRESS 626 CASE RD 2 MORELLI-KALBACHER LIVING TRUST 40 PO BOX 237 NESHANIC STA, NJ 08853 76 628 CASE RD 2 BAER DOLORES 41 628 CASE RD NESHANIC STA NJ08853 76 630 CASE RD 2 TITTA FRANCIS & MIRIAM 42 630 CASE RD NESHANIC STA NJ 08853 76 636 CASE RD 2 HUSLAGE JOHN T & TARRA M 43 636 CASE RD NESHANIC STA NJ 08853 77 2301-2303 SOUTH BRANCH RD 15C COUNTY OF SOMERSET 28 SEE LOT 27.02 PO BOX 3000 SOMERVILLE NJ 08876 77 2327 SOUTH BRANCH RD HAMMER STACI J 2327 SOUTH BRANCH RD 29 NESHANIC STA NJ 08853 77 2325 SOUTH BRANCH RD 15C COUNTY OF SOMERSET 29.01 PO BOX 3000 SOMERVILLE NJ 08876 ZELNOCK MICHAEL A & ELLEN S 2329 SOUTH BRANCH RD 77 2 29.06 2329 SOUTH BRANCH RD NESHANIC STATION NJ 08853 79 CASE RD 3B MIKULSKI MATTHEW J & SHULGA ERI FARMLND PRESERVATION 3 659 CASE RD **QFARM** NESHANIC STA NJ 08853 79 629 CASE RD 1 TRANSCO GAS PIPELINE CORP%TAX DEPT PO BOX 2400 MD 46-4 4 TULSA OK 74102.2400 627 CASE RD 79 TRANSCO GAS PIPELINE CORP%TAX DEPT 1 PO BOX 2400 MD 46-4 TULSA OK 74102.2400 79 625 CASE RD 1 TRANSCO GAS PIPELINE CORP%TAX DEPT PO BOX 2400 MD 46-4 6 TULSA OK 74102.2400 79 621 CASE RD TRANSCO GAS PIPELINE CORP%TAX DEPT PO BOX 2400 MD 46-4 TULSA OK 74102.2400 79 ЗА EURICK ROBERT J 611 CASE RD 611 CASE RD NESHANIC STA NJ 08853

79

14.08

231 RONAN WAY

TAXING DISTRICT 05 BRANCHBURG TWP COUNTY 18 SOMERSET PROPERTY ID PROPERTY LOCATION CLASS OWNERS NAME & ADDRESS 79 619 CASE RD TRANSCO GAS PIPELINE CORP%TAX DEPT 8.01 PO BOX 2400 MD 46-4 TULSA OK 74102,2400 79 617 CASE RD 2 MAGROSKY FRANK & FRANCINE 8.02 L2FAM 617 CASE RD NESHANIC STA NJ 08853 ROMAN ROBERTO & LAGALANTE EVELYN 79 2308 SOUTH BRANCH RD 8.03 2308 SO BRANCH RD NECHANIC STA NJ 79 2316 SOUTH BRANCH RD PAGER DAVID J 2316 SOUTH BRANCH RD NESHANIC STA NJ 08853 79 2312 SOUTH BRANCH RD DELROCCO SHARON 2 9.01 2312 SOUTH BRANCH RD NESHANIC STA NJ 08853 79 2314 SOUTH BRANCH RD GIBBS GERVILLE & LISA 9.02 2314 SOUTH BRANCH RD NESHANIC STA NJ 08853 79 247 RONAN WAY 2 TENDOLKAR AMOL V & SWATI A 11.01 PO BOX 466 NESHANIC STA NJ 08853 79 251 RONAN WAY NOVAK JOSEPH D & ELVIA 2 11.02 251 RONAN WAY NESHANIC STA NJ 08853 79 255 RONAN WAY HYLIND KEITH & ROBERTS PENELOPE 11.03 255 RONAN WAY NESHANIC STA NJ 08853 79 215 RONAN WAY 2 BRENNER DARREN & SUSAN 14.04 215 RONAN WAY NESHANIC STATION NJ 08853 79 219 RONAN WAY 2 MALMSTROM III MORRIS A & LINDA A 14.05 219 RONAN WAY NESHANIC STA NJ 08853 79 223 RONAN WAY 2 BENNER PAUL & JEANNE 14.06 223 RONAN WY NESHANIC STATION NJ 08853 79 227 RONAN WAY 2 BICK MARTIN & KAREN 14.07 227 RONAN WAY NESHANIC STA NJ 08853

2

CARRO JOHN P & TANYA R

08853

231 RONAN WAY NESHANIC STA NJ

ADJACENT	PROPERTY	LISTING	APPLICANT:	William/	Leigh kramer
BRANCHBURG	TWP		COUNTY 18	SOMERSE'	Γ

PAGE 3

TAXING DISTR	ICT 05 BRANCHBURG TWP	CII LIE	COUNTY 18 SOMERSET
PROPERTY ID	PROPERTY LOCATION	CLASS	OWNERS NAME & ADDRESS
79 14.09	235 RONAN WAY	2	TAYLOR JOAN BEAUMAN- 235 RONAN WAY NESHANIC STA NJ 08853
79 14.10	239 RONAN WAY	2	RUDOLPH SCOTT 239 RONAN WAY NESHANIC STA NJ 08853
79 14.11	243 RONAN WAY	2	COLE SHANE & THERESA 243 RONAN WAY NESHANIC STA NJ 08853
79 20	639 CASE RD	2	BOISROND CHARLES 639 CASE RD NESHANIC STA NJ 08853
79 50	618 SUNRISE WAY	2	AMBIELLI ROBERT & PATRICIA 618 SUNRISE WAY NESHANIC STA NJ 08853

Thomas Leach

TOWNSHIP OF BRANCHBURG UTILITY NOTIFICATION LIST

Water:	New Jersey- American Water Company, Inc. c/o General Tax Dept. PO Box 5627 Cherry Hill, NJ 08034
Gas:	Public Service Electric & Gas Company Manager-Corporate Properties 80 Park Plaza, T6B Newark, NJ 07102
Electric:	Corporate Secretary Jersey Central Power & Light 300 Madison Avenue Morristown, NJ 07962
Telecommunication:	Corporate Secretary Verizon 540 Broad Street Newark, NJ 07101
	Nicki Graham Sprint 1201 Walnut Bottom Road Carlisle, PA 17013
	Outside Plant Supervisor AT&T OSP Patricia Drive Flanders, NJ 07836
	United Fiber & Data, LLC Christopher Lodge, Chief Operating Officer 210 York Street, Suite 210 York, PA 17403
Other:	Corporate Secretary Algonquin Gas Transmission Company 890 Winter Street, Suite 300 Waltham, MA 02451-1493
	Corporate Secretary Transcontinental Gas Pipe Line Corp. 99 Farber Road Princeton, NJ 08540

The above utility owners may have easements or rights-of way located on or within 200 feet of the property in question and may require notice under N.J.S.A. 40:55D-12h.

Thomas Leach



Township of Branchburg 1077 U.S. HIGHWAY 202 NORTH, BRANCHBURG, NJ 08876-3936

Telephone: (908) 526-1300 Fax: (908) 526-7479

OFFICE OF THE ADMINISTRATIVE OFFICER

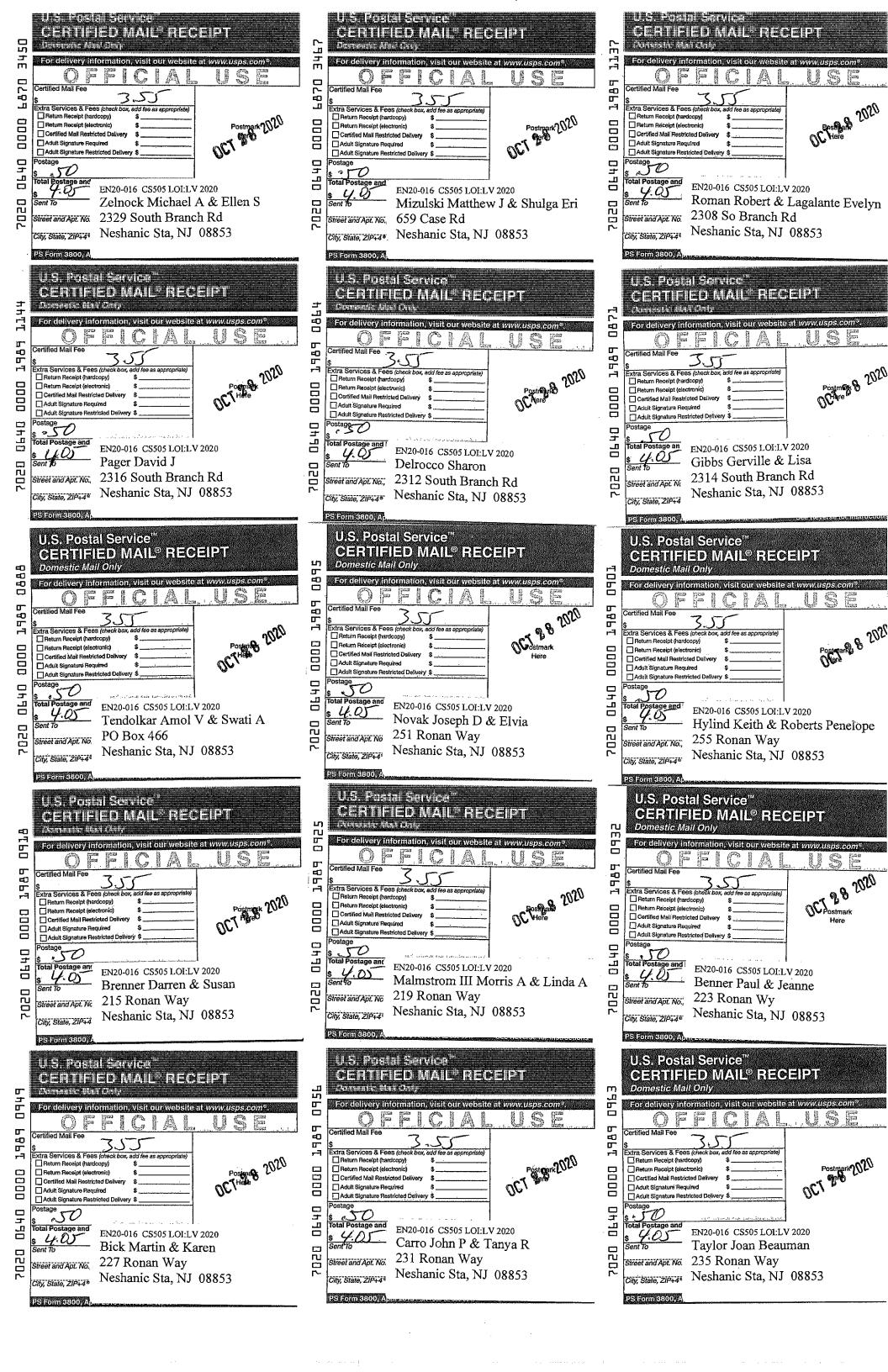
www.branchburg.nj.us

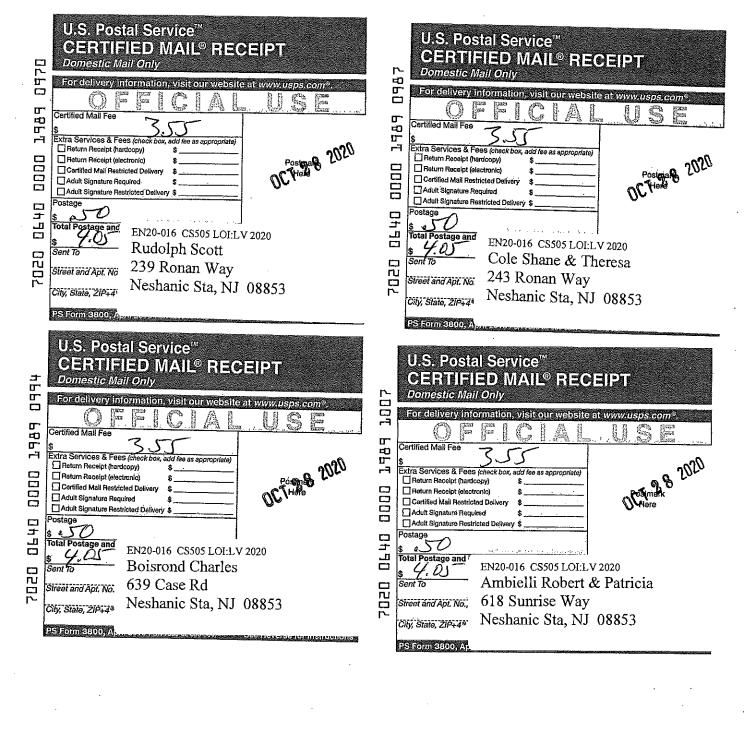
X	Somerset County Planning Board	Commissioner
/ \	P.O. Box 3000	New Jersey Dept.of Transportation
	20 Grove Street	1035 Parkway Avenue
	Somerville, NJ 08876-1262	CN 600
		Trenton, NJ 08625
	Hunterdon County Planning Board	
	1 Main Street	
You 2	Flemington, NJ 08822 are required to <u>Notice</u> and obtain a <u>Certifie</u>	<u>l Property List</u> from the following:
You 2	are required to <u>Notice</u> and obtain a <u>Certifie</u>	
You 2	are required to <u>Notice</u> and obtain a <u>Certific</u> Bridgewater Township Clerk	Hillsborough Township Clerk
You 2	are required to <u>Notice</u> and obtain a <u>Certifie</u>	
You 2	are required to <u>Notice</u> and obtain a <u>Certifie</u> Bridgewater Township Clerk 700 Garretson Road	Hillsborough Township Clerk 379 South Branch Road
You 2	are required to <u>Notice</u> and obtain a <u>Certifie</u> Bridgewater Township Clerk 700 Garretson Road Bridgewater, NJ 08807	Hillsborough Township Clerk 379 South Branch Road Hillsborough, NJ 08844 Bedminster Township Clerk Municipal Building
You 2	are required to <u>Notice</u> and obtain a <u>Certifie</u> Bridgewater Township Clerk 700 Garretson Road Bridgewater, NJ 08807 Readington Township Clerk	Hillsborough Township Clerk 379 South Branch Road Hillsborough, NJ 08844 Bedminster Township Clerk

as Teach 10/6/20 Administrative Officer









FOR CS 505 BLOCK 79, LOTS 4, 5, 6, 7, 8.01, AND 10 TOWNSHIP OF BRANCHBURG SOMERSET COUNTY, NEW JERSEY

Prepared for:

GAI Consultants 385 E. Waterfront Drive Homestead, Pennsylvania 15120-5005 Attention: Jennifer Broush

Prepared by:

EcolSciences, Inc.
75 Fleetwood Drive, Suite 250
Rockaway, New Jersey 07866
(973) 366-9500

August 7, 2020

Revision Date: October 27, 2020

TABLE OF CONTENTS

		Page
A.	INTRODUCTION	
B.	METHODOLOGY AND RATIONALE	1
C.	RESULTS	3
	1. Soils	3
	2. Hydrology	3
	3. Vegetation	
D.	SUMMARY AND CONCLUSIONS	6
REFE	RENCES	7
ATTA	Figure 1: USGS Site Location Figure 2: Local Road Map Figure 3: Wetlands/Waters Tax Map	
ATTA	CHMENT B – Wetland Data Sheets	
ATTA	ACHMENT C – Annotated Color Photographs	
ATTA	ACHMENT D – Custom Soil Resource Report	
ATTA	ACHMENT E – Vegetative Species List	
ATTA	ACHMENT F – Natural Heritage Program Response	
ATTA	ACHMENT G – Qualifications of Preparers	

A. INTRODUCTION

The site is a 100±-acre area known as Block 79, Lots 4, 5, 6, 7, 8.01, and 10 in the Township of Branchburg, Somerset County, New Jersey (Figures 1 and 2 in Attachment A). The site is bordered to the north by landscaped/maintained land and Case Road, to the east by landscaped/maintained land, to the south by residential development, and west by agricultural land. The site is occupied by Transco's natural gas compressor station with landscaped/maintained land and associated drives and parking. The site is within the Pleasant Run watershed of the South Branch of the Raritan River Drainage Basin.

According to the Wetlands (from Land Use/Land Cover 2012 Update), Edition 20150217 GIS mapping for the site as prepared by the New Jersey Department of Environmental Protection (NJDEP), the site contains an agricultural wetland along the western periphery of the site and a water body along the southeastern border of the site. EcolSciences, Inc. of Rockaway, New Jersey was retained to delineate and characterize any on-site wetlands regulated by the NJDEP in accordance with the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1 et. seq.). This Act also gives the NJDEP jurisdiction over State open waters. Based upon EcolSciences' site investigation, wetlands and State open waters were identified on the site. The following sections describe the study methodology and results of the field investigation.

B. METHODOLOGY AND RATIONALE

As defined by the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-3), freshwater wetland means "an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted to life in saturated soil conditions, commonly known as hydrophytic vegetation".

Wetland investigations were conducted on the site in May, July, September, and October of 2020. The presence and limits of wetlands on the site were determined utilizing the "unified wetland delineation approach" as detailed within the <u>Federal Manual for Identifying and Delineating Jurisdictional Wetlands</u> (Federal Interagency Committee for Wetland Delineation, 1989) as mandated within the New Jersey Freshwater Wetlands Protection Act rules (N.J.A.C. 7:7A). This approach generally requires a coincidence of hydric soils, positive hydrological indicators and a prevalence of hydrophytic vegetation for a determination that an area is a wetland.

Soil samples were obtained utilizing a hand soil auger. Soil coloration to a depth of approximately 24 inches was determined by comparison to Munsell soil color charts and recorded along with soil texture. Mineral hydric soils usually exhibit one of the following color features in the horizon immediately below the A-horizon or 10 inches (whichever is shallower); matrix chroma of 2 or less in mottled soils, or matrix chroma of 1 or less in unmottled soils. Organic soils are typically hydric.

Plant species occurring onsite were identified and compared to the United States Army Corps of Engineers 2016 National Wetland Plant List (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin., 2016). This list rates plant species according to their preference for hydric conditions based upon the following classification system:

OBL – Obligate Wetland Almost always occur in wetlands

FACW – Facultative Wetland Usually occur in wetlands, but may occur in non-wetlands

FAC – Facultative Occur in wetlands and non-wetlands

FACU – Facultative Upland Usually occur in non-wetlands, but may occur in wetlands

UPL – Obligate Upland Almost never occur in wetlands

Additionally, if a species does not occur in wetlands, it is not on the list. At each soil boring location, the vegetation was recorded by species within the field of view. Ocular estimates of relative basal area for trees and cover for shrubs and herbs were made by species. If greater than 50 percent of the dominant species from all strata are classified as FAC, FACW or OBL then the vegetation is hydrophytic. Communities dominated by FACU or UPL species are hydrophytic if hydric soil and indicators of wetland hydrology are present. In other words, if the hydric soil and wetland hydrology criteria are met then the vegetation is considered hydrophytic.

An evaluation of on-site hydrology was made by noting the depth to free water in the auger hole and evidence of surface ponding or flooding. Depth to the seasonal high water table was based on the depth to soil mottling as is the procedure utilized by the USDA Natural Resources Conservation Service (formerly the Soil Conservation Service).

The vegetation, soil, and hydrology information described above was recorded on Wetland Data Sheets at each soil boring location. The wetland perimeter was flagged for subsequent survey where the parameters as set forth in the manual were met. In addition to freshwater wetlands, regulated State open waters were identified during the field investigation. Where State open waters

occur within wetlands, no delineation of these areas is provided. Where State open waters were identified outside of wetlands, they are shown on Figure 3 in Attachment A.

C. RESULTS

Based upon a field analysis of the on-site soils, apparent hydrology, and vegetation conducted in accordance with the federal wetland delineation methodology, EcolSciences has determined that wetlands and State open waters occur on the site. The field delineated limits of the wetlands and State open waters, are shown on Figure 3 in Attachment A. Wetland Data Sheets documenting the delineation are included in Attachment B. Color photographs showing existing conditions and vegetative communities are included in Attachment C. The location of Wetland Data Sheets/sampling points and photographs are noted on Figure 3 in Attachment A and enclosed LOI Plans. The following sections describe appropriate background information and the findings of the field investigation.

1. Soils

According to U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Seven soil map units are mapped on the property: Bucks silt loam, 2 to 6 percent slopes (BucB), Klinesville channery loam, 12 to 18 percent slopes (KkoD), Penn silt loam, 0 to 2 percent slopes (PenA), Penn channery silt loam, 2 to 6 percent slopes (PeoC), Readington silt loam, 2 to 6 percent slopes (RedB), and Rowland silt loam 0 to 2 percent slopes, frequently flooded (RorAt).

Thirteen representative soil borings were taken on the site. A description of the soil profiles noted at each boring is found on Wetland Data Sheets in Attachment B. The location of soil borings is shown on the enclosed LOI Plans.

2. Hydrology

The site generally slopes east-southeast with elevations ranging from 197 in the north and 198 feet in southwest, to 131 feet in the southeast. Overland runoff is toward the southeast to a pond along the southeastern periphery of the site, which directly drains to a tributary of Pleasant Run. Pleasant Run and its tributaries have been classified by the NJDEP as FW2-NT (non-trout) waters (NJDEP, 2020).

Seven (7) wetlands and one State open water were delineated onsite. The onsite State open water is delineated by flags 505-S1-1 through 505-S1-36, commonly known as Transcon Pond, drains

directly to a tributary of Pleasant Run. The first wetland (Wetland 1) is an emergent wetland meadow located in the west-central portion of the site, delineated by flag numbers 505-W1-1 through 505-W1-49 which extends offsite to the west of the property line. The second wetland (Wetland 2) is an emergent and wooded wetland fringe located along the perimeter of the Transcon Pond in the southeastern portion of the site, delineated by flag numbers 505-W2-1 through 505-W2-4. The third wetland (Wetland 3) is an emergent swale located in the eastern portion of the site, delineated by flag numbers 505-W3-1 through 505-W3-35 which also eventually drains to Transcon Pond. The fourth wetland (Wetland 4) is an emergent stormwater basin delineated by flag numbers 505-W4-1 through 505-W4-13 which drains to Wetland 5 and eventually offsite. The fifth wetland (Wetland 5) is mostly located to the southwest of the property line, but the easternmost limit is located on the site as denoted by flags 505-W5-1 through 505-W5-4. Wetland 6 is delineated by flags 505-W6-1 through 505-W6-25 and consists of an emergent wetland meadow located at the north east corner of the site and is hydrologically connected to Transcon Pond. Wetland 7 is an emergent and wooded wetland fringe located along the edge of the pond, delineated by flags 505-W7-1 through 505-W7-4.

Within the identified wetland areas, positive hydrologic indicators include saturated soils, ponding, and silt and debris lines. Specific hydrologic indicators, if any, observed at each soil boring location are recorded on the Wetland Data Sheets included in Attachment B.

3. Vegetation

Based upon species composition, soils, and apparent hydrology noted during the field investigations, six vegetative communities were identified within the site: upland embankment, upland woods, upland field, palustrine deciduous forested (PFO1) wetlands, fringe wetland PEM/PFO and palustrine emergent (PEM) wetlands. Species identified within the site and their corresponding U.S. Army Corps of Engineers wetland classification are presented in Attachment E. Photographs documenting the existing vegetative communities are included in Attachment C. Each community is briefly described below:

<u>Upland Embankment</u> - This community is located within the east portion of the site adjacent the Transcon Pond. Canopy vegetation is dominated by black willow and Russian-olive. The woody understory commonly includes eastern poison ivy, multiflora rose, and Virginia-Creeper. Common herbs include Asiatic tearthumb and garlic-mustard.

<u>Upland Woods</u> - This community comprises a wooded area within the central portion of the site. Canopy vegetation is dominated by black cherry trees. The woody understory commonly includes Russian olive, Japanese honeysuckle, fox grape vine, and Asian bittersweet. Common herbs include reed canary grass, polygonum species, Japanese stilt grass, Asiatic tearthumb, and garlic mustard.

<u>Upland field</u> - This community present throughout the site. The community is comprised of late successional or scrubby fields. The late successional fields are characterized by upland plants such as orchard grass, goldenrod species, white clover, path rush, deer-tongue rosette grass, field garlic, common dandelion, great plantain, and rabbit-foot clover. Scattered plants of Russian-olive, eastern poison ivy, and red maple saplings were also observed.

<u>Palustrine deciduous forested wetland (PFO1)</u>- This community is located within the tree-row between the two fields on the northern portion of the site. The dominant canopy vegetation consists of red maple and mulberry species. The woody understory includes Virginia-creeper, Russian-Olive, eastern poison ivy, multiflora rose, and Asiatic tearthumb. Common herbs include Japanese stilt grass, soft rush, reed canary grass, and goldenrod species.

<u>Fringe wetland PEM/PFO</u> - This community is restricted to the perimeter of the onsite pond and is comprised of an emergent wetland within a wooded canopy. The dominant canopy vegetation consists of black willows. The woody understory includes black willow saplings. Common herbs include eastern poison ivy, Japanese stilt grass, reed canary grass, and sedge species.

<u>Palustrine emergent wetland (PEM)</u> - This community exists as swale on central portion of the site and a wet meadow on the eastern most portion of the site. Typically, this community is dominated by reed canary grass, sensitive fern, Japanese stilt grass, Arrow-lead tearthumb, Swamp milkweed, and garden yellow-rocket.

D. SUMMARY AND CONCLUSIONS

- Based upon a field investigation utilizing the "unified wetland delineation approach"
 as described in the <u>Federal Interagency Manual for Identifying and Delineating</u>
 <u>Jurisdictional Wetlands</u>, EcolSciences, Inc. has determined that wetlands and State
 open waters occur within the site as shown on Figure 3 in Attachment A.
- There are seven (7) wetlands onsite. Wetland 1 delineated by flag numbers 505-W1-1 through 505-W1-49 drains offsite to the west-northwest toward a tributary of Pleasant Run. Wetland 2 (delineated by flag numbers 505-W2-1 through 505-W2-4) and Wetland 3 (delineated by flag numbers 505-W3-1 through 505-W3-35) drain to the Transcon pond in the southeastern portion of the site, which drains directly to a tributary of Pleasant Run. Wetland 4 (delineated by flag numbers 505-W4-1 through 505-W4-13 is a stormwater basin that drains to Wetland 5 (delineated by flag numbers 505-W5-1 through 505-W5-4) and eventually offsite. Wetland 6 is an emergent meadow that drains to Transcon Pond and continues off-site to the northeast. Wetland 7 is a fringe wetland associated with Transcon Pond.
- The Transcon pond located along the southeastern portion of the site was delineated as a State open water, identified as 505-S1-1 through 505-S1-36.
- On-site wetlands and State open waters come under the jurisdiction of the New Jersey Department of Environmental Protection in accordance with the Freshwater Wetlands Protection Act.
- Wetlands within the property are subject to transition areas. The width of the transition areas will be based upon a determination of resource value by the NJDEP.
- Certain General Permit-by-Certification, General Permits, Transition Area Waivers, and Individual Permits, as defined in N.J.A.C. 7:7A Subchapters 5 to 10, may apply to activities proposed for this property.

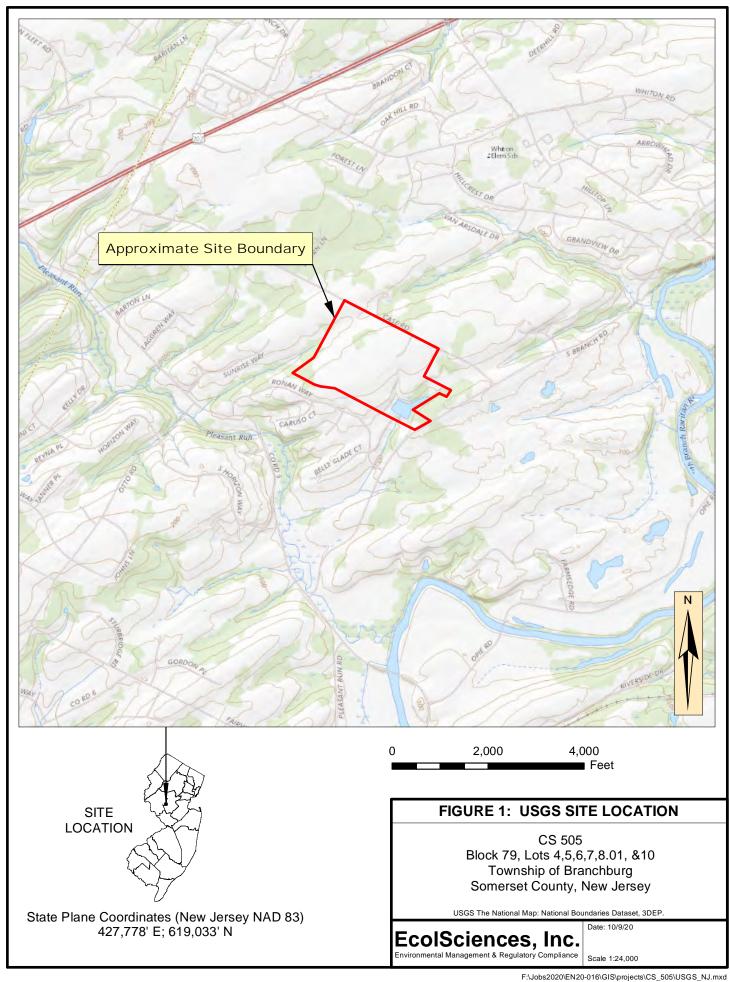
REFERENCES

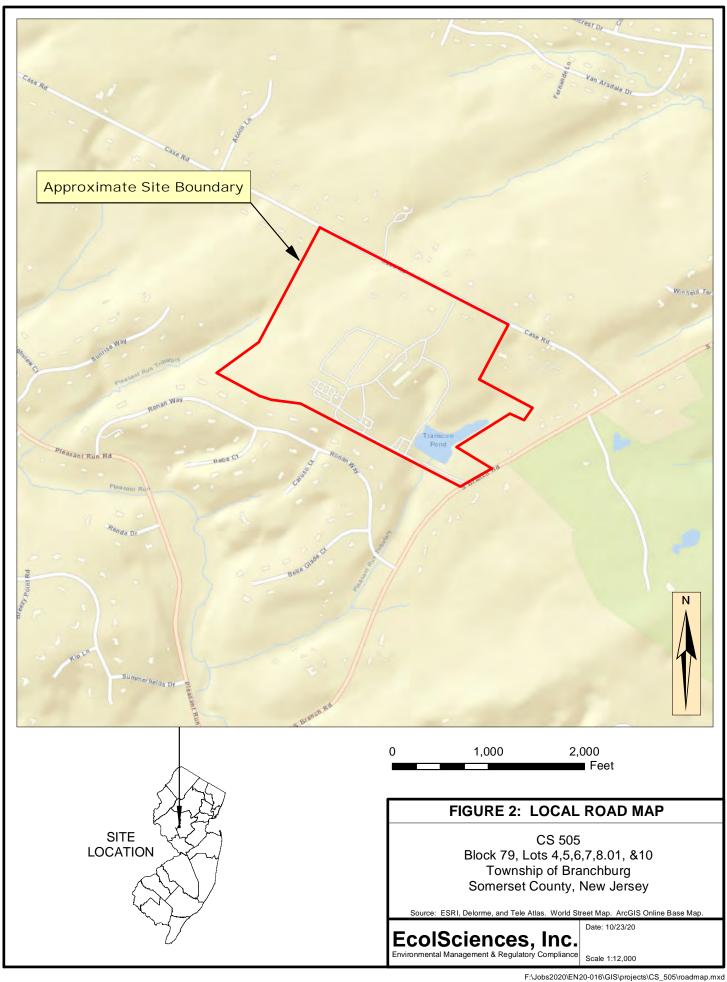
- **Cowardin, L.M., 1979.** Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31.
- Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication. 76 pp. plus appendices.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
- Munsell Soil Color Chart, 1994.
- National Geographic Society. 2011. i-cubed USA Topographic Maps
- New Jersey Department of Environmental Protection (NJDEP), 1989. EPA Priority Wetlands for the State of New Jersey.
- NJDEP, Effective August 5, 2015. Last Amended July 15, 2019. Freshwater Wetlands Protection Act Rules N.J.A.C., 7:7A.
- NJDEP, Effective October 17, 2016, Last Amended April 6, 2020. Surface Water Quality Standards.
- NJDEP, 2015. Wetlands (from Land Use/Land Cover 2012 Update), Edition 20150217
- **Tiner, R. W., Jr., 1985.** "Wetlands of New Jersey". USFWS National Wetlands Inventory. Habitat Resources Region 5, Newton Corner, Massachusetts.
- **Tiner, R. W., Jr., 1985.** Hydric Soils: Their Use in Wetland Identification and Boundary Delineation. In: Proc. Nat. Wetland Assessment Symposium. J. A. Kusler and P. Riexinger (ed). Assoc. State Wetland Managers. Technical Report 1.
- United States Department of Agriculture Natural Resource Conservation Service (USDANRCS), 1995. Hydric Soils of New Jersey, revised 1995. USDA-NRCS Soil Survey Division Website: http://www.statlab.iastate.edu/soils/hydric.
- **USDA. NRCS. August 7, 2020.** Custom Soil Resource Report for Somerset County, New Jersey, Branchburg Township.
- United States Soil Conservation Service National Technical Committee for Hydric Soils, October, 1992. Hydric Soils of New Jersey.

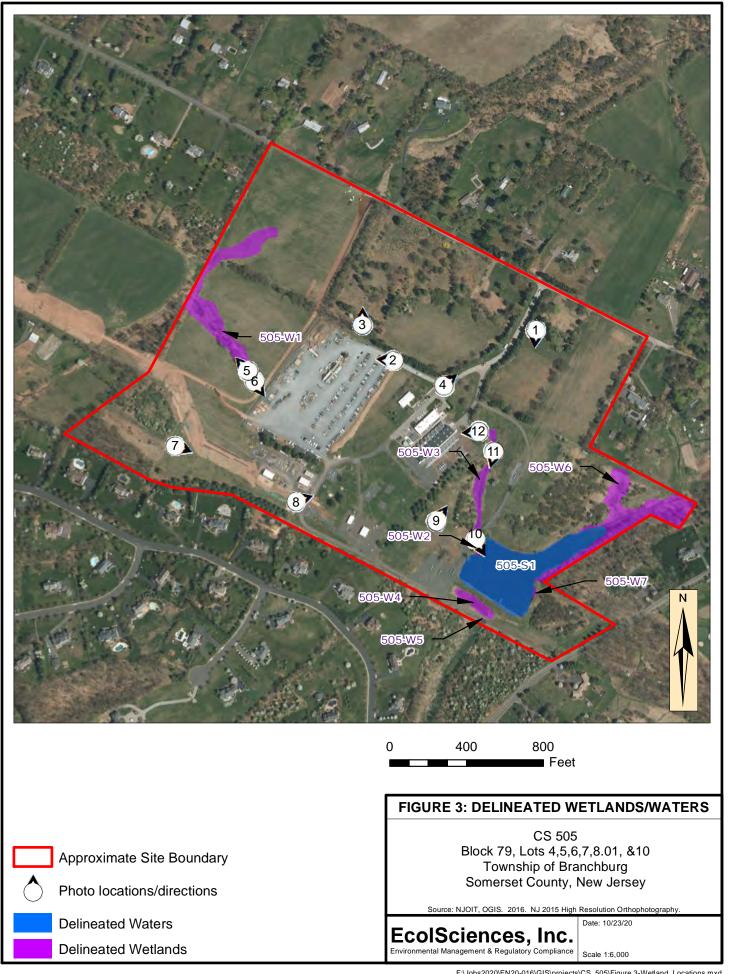
ATTACHMENT A

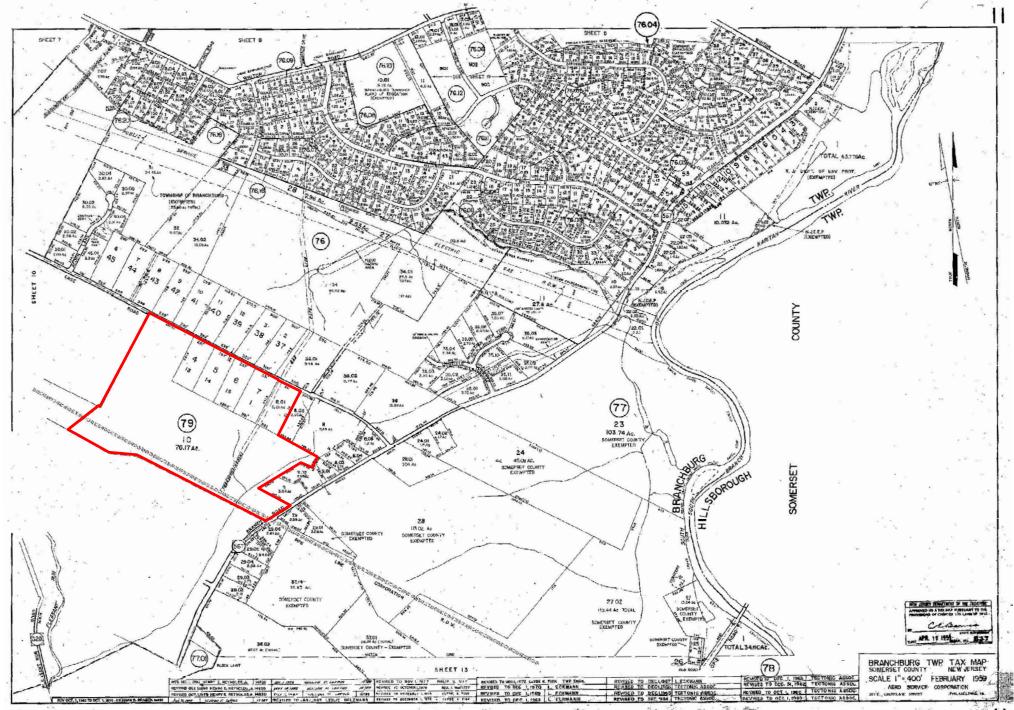
Figure 1: USGS Site Location
Figure 2: Local Road Map
Figure 3: Wetland/Waters
Tax Map

EcolSciences, Inc. Environmental Management & Regulatory Compliance









ATTACHMENT	В
Wetland Data Shee	
EcolSciences, In Environmental Management & Regulatory Compliance	c.

LOCATION:	505-B1				Site:	Williams
•		_				CS 505
					Date:	9/1/2020
WETLAND:	Х	NO	NWETLAND:		Team:	ML/DB
•		_			Photo #:	
					Flag #:	505-W1-2
VEGETATION:		Hydrophytic: Community:	Yes X PEM/Meado	No:	Inconclus	sive:
				5.1.4		
		Snooi		Relative		Regional Indicator Status
		Speci	es	Basal Area		indicator Status
Canopy		N/A				
· · · · · · · · · · · · · · · · · · ·						
				-		
				Percent		
				Cover	-	
Understory/		N/A				
Vines		,,,				
			_			
One and		Name Vanle Inamere		25		EA C\A/
Ground Cover		New York Ironwe	eeu	35 5		FACW FACW
Covei		Swamp milkwee		1		OBL
		Polyganum sp.		3		-
		Reed canary gra	iss	5		FACW
		Nut sedge		5		FACW
		Grass sp.		50		-
				•		
SOILS:		Hydric:	Yes: X	No: Inco	onclusive:	_
Depth (inches)		Munsell Nota	ation	ı	Description	n
0-8	•	5 YR 4/4		Silt loam w/ faint oxidize		
8-20		5 YR 4/3		Silt loam w/ few mangar	nese concre	etions
Hydrology:	Positive	Indicators:	Yes: X	No: Inco	onclusive:	
Depth to Seasonal			8"		na break	
Depth to Saturated	•		Surface	None Encountered		
Depth to Free Wat			Surface	None Encountered		
Other Indicators:		Evidence of pone	ding			

LOCATION:	505-B2				Site:	Williams
•		-				CS 505
					Date:	9/1/20
WETLAND:		NC	NWETLAND:	X	Team:	ML/DB
•		•			Photo #:	-
					Flag #:	505-W1-2
VEGETATION:		Hydrophytic: Community:	Yes Upland field	No: X	Inconclus	sive:
		Spec	cies	Relative Basal Area		Regional Indicator Status
Canopy		N/A				
		-		-		
				Percent		
				Cover		
Understory/		N/A				
Vines		IN/A				
			,			
Ground		Pointed Broom	codao	5		FACW
Cover		Yellow nutsedg		5		FACW
0010.		Tall Redtop		50		FACU
		Horse nettle		10		FACU
		Common milkw	reed	10		FACU
		Dogbane		10		FACU
		Queen Ann's La	ace	5		UPL
		Poison Ivy		5		FAC
		English Plantair	n	1		UPL
					_	
SOILS:		Hydric:	Yes:	No: X In	conclusive:	_
Depth (inches)		Munsell Not	ation		Description	n
0-20	•	5 YR 4/4	Sil	t Loam w/ Shale at	16"	
Hydrology:		Indicators:	Yes:	No: X In	conclusive:	
Depth to Seasonal	l High Wa	ter Table:	>20"	Basis:		<u> </u>
Depth to Saturated				None Encountered	ed:	X
Depth to Free Wat	ter:			None Encountered	ed:	X
Other Indicators:						

COMMENTS: Red bed soils.

LOCATION:	505-B3	-			Site:	Williams CS 505
					Date:	5/29/20
WETLAND:	Х	NON	NWETLAND:		Team:	ML/DB
•		_			Photo #:	
					Flag #:	505-W2-1
VEGETATION:		Hydrophytic: Community:	Yes X Fringe We	No:	Inconclus	sive:
		Speci	es	Relative Basal Area		Regional Indicator Status
0		Dii- Will		400		ODI
Canopy		Black Willow		100		OBL
					_	_
				Percent Cover		
					_	
Understory/		Black Willow		10		OBL
Vines						
				-		
Ground		Eastern Poison I	lvv	15		FAC
Cover		Japanese Stilt G		30		FAC
		Reed Canary Gr		25		FACW
		Sedge sp.		5		-
						
SOILS:		Hydric:	Yes: X	No: In	conclusive:	
Depth (inches)		Munsell Nota		<u> </u>	Description	
0-8		5 YR 3/2		Silt loam	Description	
8-20		5 YR 4/3		Sandy silt loam		
, ,,		Indicators:	Yes: X		conclusive:	
Depth to Seasonal		ter Table:	Surface		ding	
Depth to Saturated			Surface	None Encountere		
Depth to Free Wate Other Indicators:	er:	Ponding	6"	None Encountere	ea:	
o. maioatoro.						

COMMENTS: Red beds.

LOCATION:	505-B4_			Site:	Williams		
					CS 505		
			.,	Date:	5/29/20		
WETLAND:	N	ONWETLAND:	X	Team:	ML/DB		
				Photo #:	EOE WO 4		
				Flag #:	505-W2-1		
VEGETATION:	Hydrophytic: Community:	Yes Upland Em	No: X bankment	Inconclus	sive:		
			Relative		Regional		
	Spe	ecies	Basal Area		Indicator Status		
Canopy	Black Willow		10		OBL		
	Russian-Olive		90		FACU		
	-						
	-			_			
			Percent				
			Cover				
				_			
Understory/	Eastern Poiso	n Ivy	10		FAC		
Vines	Multiflora rose		20		FACU		
	Japanese Hor	neysuckle	15				
	Virginia-Creep	er	10		FACU		
			-				
	A : e = - a		0		540		
Ground Cover	Asiatic Tearth		2		FAC FACU		
Cover	Gariic-Mustare	<u> </u>	80		FACU		
			-				
SOILS:	Hydric:	Yes:	No: X Inc	onclusive:			
Donth (inches)	Munsell No			Description			
Depth (inches) 0-5	5 YR 3/3		Loam	peaci ihii0i	· · · · · · · · · · · · · · · · · · ·		
5-10	5 YR 3/4		Loam				
10+	Refusal						
	Notusai						
Hydrology: P	ositive Indicators:	Yes:	No: X Inc	onclusive:			
Depth to Seasonal H		>10"		encounter	ed		
Depth to Saturated S			None Encountered		X		
Depth to Free Water			None Encountered		X		
Other Indicators:	=		Enountered				

LOCATION:	505-B5	_						Site:	Williams
_		•							CS 505
								Date:	5/29/20
WETLAND:	Х	NOI	WETL	AND:				Team:	ML/DB
								Photo #:	1410.40
								Flag #:	W3-13
VEGETATION:		Hydrophytic: Community:	Yes PEM	Х		No: _		Inconclus	sive:
						Re	lative		Regional
		Speci	es				al Area		Indicator Status
Canopy		N/A							
								<u> </u>	
							rcent over	_	
Understory/		N/A							
Vines		IV/A							
Ground		Reed Canary Gr	ass				60		FACW
Cover		Sensitive Fern					15		FACW
		Japanese Stilt G					40		FAC
		Garden Yellow-F	Rocket				5		FACU
SOILS:		Hydric:	Yes:	Χ		No:	Inco	onclusive:	
5 4 4 1 1									
Depth (inches) 0-15		Munsell Nota 2.5 YR 4/2	ition		Silt Io	am	l	Description	<u>1</u>
15-20		2.5 YR 5/2					FF 2.5 YR	5/3	
.0 20		111 0/2			J.11.10	.a w/ I		. J. J	
Hydrology: I	Positive I	Indicators:	Yes:	Χ		No:	Inco	onclusive:	
Depth to Seasonal			15			Basis:	Redo		
Depth to Saturated			15	5"		None E	ncountered	d:	
Depth to Free Water			18	8"		None E	ncountered	d:	
Other Indicators:		Near by ponding		-					

LOCATION:	505-B6				Site:	Williams
						CS 505
					Date:	5/29/20
WETLAND:		NON	NWETLAND:	X	Team:	ML/DB
					Photo #:	
					Flag #:	505-W3-13
VEGETATION:		Hydrophytic: Community:	YesUpland Woods	No: X	Inconclus	ive:
				Relative		Regional
		Speci	es	Basal Area		Indicator Status
		Оросі		Data: 7 ii da		maioator otatao
Canopy		Black Cherry		100		FACU
.,						
					_	
				Percent Cover	_	
Understand		December Office		00		FAOU
Understory/ Vines		Russian-Olive	·aalda	90		FACU
vines		Japanese Honey Fox Grape	Suckie	<u>10</u> 5	-	FACU FACU
		Asian Bitterswee	.+	15	-	FACU
		Asian billerswee				1 ACO
					_	
Ground		Reed Canary Gr	ass	15		FACW
Cover		Polygonum sp.		30		- FAC
		Japanese Stilt G Asiatic Tearthum		30 5		FAC
		Garlic-Mustard	ib	30	-	FACU
		Garrio-iviustaru			<u> </u>	TAGO
SOILS:		Hydric:	Yes:	No: X Inco	onclusive:	
Depth (inches)		Munsell Nota	tion	ı	Description	1
0-20		2.5 YR 3/3	Silt lo			
, ,,		Indicators:	Yes:	No: X Inco	onclusive:	_
Depth to Seasonal		er Table:	>20"	Basis:		
Depth to Saturated				None Encountered		X
Depth to Free Water	er:			None Encountered	d:	X
Other Indicators:						

LOCATION:	505-B7	_				Site:	Williams	
							CS 505	
						Date:	7/15/20	
WETLAND:	Х	NOI	NWETL	AND:		Team:	ML/DB	
		_				Photo #:		
						Flag #:	505-W1-33	
VEGETATION:		Hydrophytic: Community:	Yes PFO1		No:	Inconclus	sive:	
					Relative		Regional	
		Speci	AS		Basal Area		Indicator Status	
		Орссі			Dasai Arca		indicator otatas	
Canopy		Red Maple			70		FAC	
ошору		Mulberry sp.			30	. —	-	
		male only op.				. —		
					-			
						· —		
		-			-			
					Percent Cover			
Understory/		Virginia-Creeper			2		FACU	
Vines		Russian-Olive			15		FACU	
		Eastern Poison I	VV		3		FAC	
		Multiflora rose	- ,		3		FACU	
		Asiatic Tearthum	nh			1 FAC		
		7 totallo 1 cartillari			<u> </u>		.,,,,	
Ground		Japanese Stilt G	rass		30		FAC	
Cover		Soft rush			10		FACW	
		Reed Canary Gr	ass		20		FACW	
		Goldenrod sp.			5		-	
SOILS:		Hydric:	Yes:	Х	No: Inco	nclusive:		
Donth (inches)		Munsell Nota	tion)aaarintias		
Depth (inches) 0-8	_	5 YR 3/2	IIION		Silty loam w/ FCD conce	Description		
					Silty loam	milalions 5	TK 3/4	
8-20		7.5 YR 3/2			Silty loan			
Hydrology:	Docitivo	Indicators:	Yes:	X	No: Inco	nclusive:		
Depth to Seasona				ace			ter stained leaves	
		ici Tabie.	<u>Suri</u>				ici stallieu leaves	
Depth to Saturated Depth to Free Wa			8		None Encountered None Encountered			
Other Indicators:		Scouring nearby			er, water-stained leaved	·		
Caron maioators.		, nould	, ******	yall	,a.o. olamou louveu			

COMMENTS: Tree row amid field water feature.

LOCATION:	505-B8				Site:	Williams CS 505
					Date:	7/15/20
WETLAND:		. NO	NWETLAND:	X	Team: Photo #:	ML/DB
					Flag #:	505-W1-33
					i lug ".	000 111 00
VEGETATION:		Hydrophytic: Community:	Yes Upland Field	No: <u>X</u>	Inconclus	sive:
				Relative		Regional
		Spec	ies	Basal Area		Indicator Status
Canopy		N/A				
				Percent		
				Cover	_	
Understory/		Russian-Olive		10		FACU
Vines		Eastern Poison	lvy	2		FAC
		5		_		540
Ground Cover		Red Maple Orchard Grass	_	<u>5</u> 75	- —	FAC FACU
00101		Goldenrod sp.		5		-
		White Clover	-	5		FACU
		Path rush		5		FAC
		Deer-Tongue R	osette Grass	5		FAC
		Field Garlic	-1:	2		FACU
		Common Dande Great Plantain	ellon	2 2		FACU FACU
		Rabbit-foot clov	er	10		-
SOILS:		Hydric:	Yes:	No: X Inc	conclusive:	_
Depth (inches)		Munsell Not	ation		Description	n
0-10		7.5 YR 4/3		.oam		
10-20		7.5 YR 4/3	L	oam w/ FCP RC 7.5 \.	/R 5/8	
Hydrology: Depth to Seasonal		Indicators: ter Table:	Yes:	No: X Ind	conclusive:	_
Depth to Saturated				None Encountere	ed:	X
Depth to Free Wat				None Encountere		X
Other Indicators:						

COMMENTS: Recently mowed field.

LOCATION:	505-B9	i			Site:	Williams
						CS 505
				.,	Date:	7/15/20
WETLAND:		NOI	NWETLAND:	X	_ Team:	ML/DB
					Photo #	: N/A
					Flag #:	N/A
VEGETATION:		Hydrophytic: Community:	Yes Upland for	No: X	Inconcl	usive:
				Relati	ve	Regional
		Speci	es	Basal A	Area	Indicator Status
				'		
Canopy		Black Cherry		40		FACU
		Tuliptree		20		FACU
		Sugar Maple		20		FACU
		Blackgum		40	<u> </u>	FAC
				Perce Cove		
Understory/		Multiflora rose		10	n	FACU
Vines		American Witch	Hazol		<u> </u>	FACU
VIIICS		Common Red R			<u> </u>	FAC
		Japanese Honey			<u> </u>	FACU
		Russian-Olive	Suckie		<u> </u>	FACU
Ground Cover		Common Timoth Orchard Grass Mugwort Foxglove Beardt Carolina Horse-I Common Milkwe Canadian Golde	ongue Nettle		2 3 5 5 1 2	FACU FACU UPL FAC FACU FACU FACU
		Reed Canary Gr		15		FACW
		Field Garlic				
		Narrow-Leaf Mo	untain-Mint		3	FACW
SOILS:		Hydric:	Yes:	No: X	Inconclusive:	_
Depth (inches)		Munsell Nota	ition		Descripti	on
0-20		7.5 YR 4/4		Loam w/ FFO 7.5	5 YR 5/6 RC	
Hydrology: F Depth to Seasonal I Depth to Saturated Depth to Free Wate Other Indicators:	High Wat Soil:	i ndicators: er Table:	Yes:	No: Basis: None Enco None Enco		
Outer mulcators.						

LOCATION:	505-B10				Site:	Williams CS 505
					Date:	9/1/20
WETLAND:		NOI	NWETLAND:	<u> </u>	Team: Photo #:	ML/DB
					Flag #:	505-W4-3
					i iug #.	000 114 0
VEGETATION:		Hydrophytic: Community:	Yes Upland Main	No: <u>X</u> tained Lawn	Inconclus	sive:
				Relative		Regional
		Speci	ies	Basal Area		Indicator Status
Canopy		N/A			<u> </u>	
				Percent		
				Cover	_	
Understory/						
Vines						
Ground		Field Meadow-F	oxtail	30		FACW
Cover		Crown vetch		20		-
		Common mulleir	<u>n</u>	5		FACU
		Tall redtop Reed canary gra	ass	30 15	-	FACU FACW
		- tood odinary gro				
				-		
SOILS:		Hydric:	Yes:	No: X Inco	onclusive:	
Depth (inches)		Munsell Nota	ation	ı	Description	1
0-15		5YR 4/3	L	oam		
Hydrology:	Positive I	Indicators:	Yes:	No: X Inco	onclusive:	
Depth to Seasonal			>20"	Basis:		<u> </u>
Depth to Saturated	Soil:			None Encountered		X
Depth to Free Wate Other Indicators:	er:			None Encountered	:	X

COMMENTS: Recently mowed field.

LOCATION:	505-B11	-					Site:	Williams CS 505
							Date:	9/1/20
WETLAND:	X	NO	NWETLA	AND:			Team:	ML/DB
							Photo #: Flag #:	505-W4-3
							i iug #.	000 114 0
VEGETATION:		Hydrophytic: Community:	Yes PEM/S		No: water basin		Inconclus	sive:
					Rela	ıtive		Regional
		Spec	ies		Basal			Indicator Status
Canopy		N/A						
оштору		14/7						
		-			-			
					-			
					Pero Co			
						V C1	-	
Understory/		N/A						
Vines								
		-			-			
		-			-			
Ground		Phragmites				00		FACW
Cover		Reed canary gra	ass			20	-	FACW
SOILS:		Hydric:	Yes:	Χ	No:	Inco	nclusive:	
Depth (inches)	_	Munsell Nota	ation				Description	n
0-15		5 YR 3/4			Silt loam			
15+		Refusal						
Hydrology:	Positive	Indicators:	Yes:	Х	No:	Inco	onclusive:	
Depth to Seasona			5"		Basis:	Redo		
Depth to Saturate	d Soil:		surfa	ace	None End	countered	:	
Depth to Free Wa	iter:				None End	countered	:	X
Other Indicators:		scouring						

LOCATION: 505	5-B12			Site:	Williams CS 505		
WETLAND:	X NO	NONWETLAND:		Date: Team:	10/1/20 ML/DR		
WEILAND:	<u> </u>	DNWETLAND:		Photo #:	ML/DB		
				Flag #:	505-W6-5		
VEGETATION:	Hydrophytic: Community:	Yes X PEM	No:	Inconclusive:			
			Relative		Regional		
	Spec	cies	Basal Area	Indicator Status			
Canopy	N/A						
			Percent Cover	_			
Understory/ Vines	River birch		10		FACW		
villes							
Ground	Swamp milkwe		10		OBL		
Cover	Reed canary gr	rass	100	_	FACW		
	False nettle Arrow-leaf tear	thumb	<u>5</u> 30		FACW OBL		
	Tuft grass		10		FACW		
SOILS:	Hydric:	Yes: X	No: Inc	onclusive:	_		
Depth (inches) 0-20	Munsell Not				Description ximorphic concentrations		
Hydrology: Pos	itive Indicators:	Yes: X	No: Inc	onclusive:			
Depth to Seasonal High Water Table: Surface							
Depth to Saturated So Depth to Free Water: Other Indicators:	l: 	surface 18"	None Encountere				

LOCATION:	505-B13				Site:	Williams CS 505
					Date:	10/1/20
WETLAND:		NONWETLAND:		X	Team:	ML/DB
					Photo #:	
					Flag #:	505-W6-5
VEGETATION:		Hydrophytic: Community:	Yes Upland forest	No: <u>X</u>	Inconclus	sive:
		Speci	es	Relative Basal Area		Regional Indicator Status
	_					
Canopy	<u>_</u>	Black Cherry		10		FACU
	E	Eastern red-cedar		15		FACU
	-					
				Percent		
				Cover		
					_	
Understory/	1	Multiflora rose		5	_	FACU
Vines		Black Cherry		5		FACU
	<u> </u>	Autumn Olive		10	_	-
	_					
Ground Cover	1	Carolina Horse-Nettle Common milkweed Deer-Tongue Grass Asiatic Tearthumb		10 5 20 15		FACU UPL FAC FAC
SOILS: Depth (inches)	- - -	Hydric:	Yes:		onclusive:	
0-20	Positive In High Wate Soil:	5 YR 4/4 ndicators:		ley Loam No: X Inco	onclusive: encountered:	
Other Indicators:	_					

ATTACHMENT C
Annotated Color Photographs
EcolSciences, Inc.
Environmental Management & Regulatory Compliance



Photograph facing south of mowed field near the entrance of site.



Photograph facing southwest of the gravel lot to the west of entrance.





Photograph of marginal area facing east to the north of the facility fence line.



Photograph taken facing northeast of the facility entrance.





Photograph of 505-W1 taken facing northwest away from the facility.



Photograph of 505-W1 taken facing southeast toward the facility.



 $\binom{6}{6}$



Photograph of upland field at western boundary of site taken facing east toward the facility.



Photograph of active facility taken from the center of site facing northwest





Photograph of upland field taken from the center of the site facing northeast.



Photograph of 505-S1 (Transcon Pond) facing southeast with 505-W3 wetland fringe in the foreground.





Photograph of wetland 505-W2 taken facing southwest.



Photograph of stormwater control taken facing west toward active facility.



ATTACHMENT I
Custom Soil Resource Repo
EcolSciences, Inc Environmental Management & Regulatory Compliance



Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Somerset County, New Jersey

CS 505



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

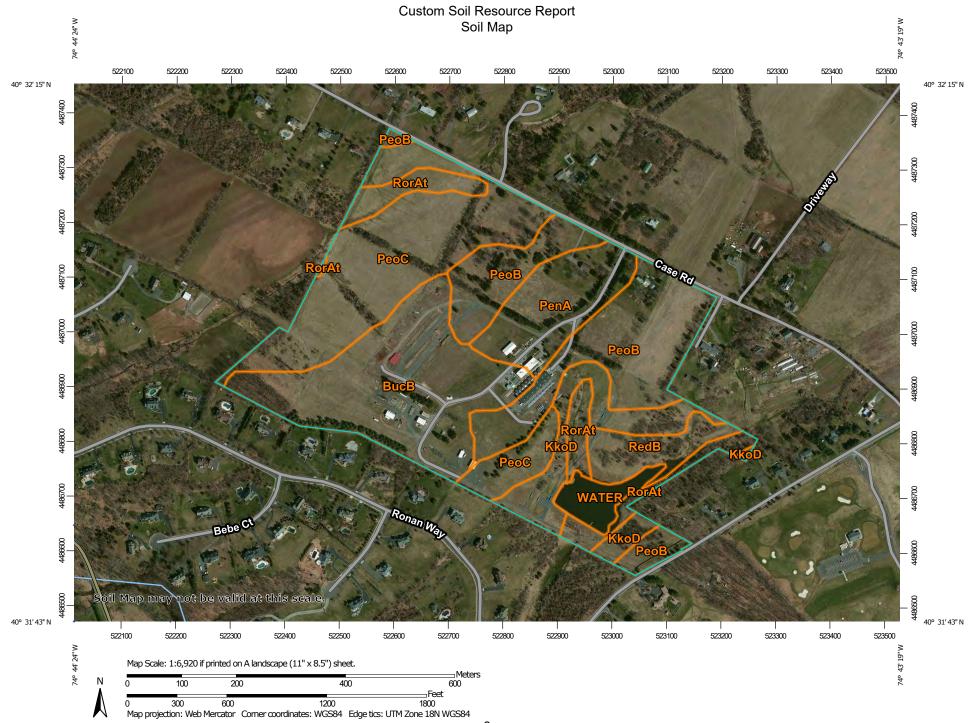
alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
Soil Map	
Soil Map	6
Legend	7
Map Unit Legend	8
Map Unit Descriptions	
Somerset County, New Jersey	10
BucB—Bucks silt loam, 2 to 6 percent slopes	10
KkoD—Klinesville channery loam, 12 to 18 percent slopes	11
PenA—Penn silt loam, 0 to 2 percent slopes	13
PeoB—Penn channery silt loam, 2 to 6 percent slopes	
PeoC—Penn channery silt loam, 6 to 12 percent slopes	16
RedB—Readington silt loam, 2 to 6 percent slopes	17
RorAt—Rowland silt loam, 0 to 2 percent slopes, frequently flooded	19
WATER—Water	20
References	21

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout

☑ Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

+ Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

LOLIND

Spoil Area

Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features

Streams and Canals

Transportation

+++ Rails

Interstate Highways

US Routes



Local Roads

Background

900

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24.000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

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: Somerset County, New Jersey Survey Area Data: Version 18, Jun 1, 2020

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

Date(s) aerial images were photographed: Mar 26, 2011—May 1, 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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
BucB	Bucks silt loam, 2 to 6 percent slopes	22.0	22.3%	
KkoD	Klinesville channery loam, 12 to 18 percent slopes	7.8	7.9%	
PenA	Penn silt loam, 0 to 2 percent slopes	9.1	9.2%	
РеоВ	Penn channery silt loam, 2 to 6 percent slopes	22.0	22.2%	
PeoC	Penn channery silt loam, 6 to 12 percent slopes	24.3	24.6%	
RedB	Readington silt loam, 2 to 6 percent slopes	4.5	4.5%	
RorAt	Rowland silt loam, 0 to 2 percent slopes, frequently flooded	6.5	6.6%	
WATER	Water	2.7	2.7%	
Totals for Area of Interest		98.9	100.0%	

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas

Custom Soil Resource Report

are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Somerset County, New Jersey

BucB—Bucks silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 1j50b Elevation: 50 to 1,000 feet

Mean annual precipitation: 30 to 64 inches Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Bucks and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bucks

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Silty noncalcareous loess over residuum weathered from

sandstone and shale

Typical profile

Ap - 0 to 8 inches: silt loam E - 8 to 13 inches: silt loam BE - 13 to 18 inches: silt loam Bt - 18 to 27 inches: silt loam

2C - 27 to 48 inches: very channery silt loam 2R - 48 to 80 inches: weathered bedrock

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 39 to 59 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Readington

Percent of map unit: 5 percent

Landform: Hillsides

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Abbottstown

Percent of map unit: 5 percent Landform: Drainageways

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Linear Across-slope shape: Concave

Hydric soil rating: No

Penn

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

KkoD—Klinesville channery loam, 12 to 18 percent slopes

Map Unit Setting

National map unit symbol: 1jtbb Elevation: 250 to 1,500 feet

Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: Not prime farmland

Map Unit Composition

Klinesville and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Klinesville

Setting

Landform: Hills

Landform position (two-dimensional): Shoulder

Down-slope shape: Linear

Custom Soil Resource Report

Across-slope shape: Convex

Parent material: Fine-loamy residuum weathered from shale

Typical profile

Ap - 0 to 7 inches: channery loam
B - 7 to 14 inches: channery loam
C - 14 to 18 inches: very channery loam
R - 18 to 80 inches: weathered bedrock

Properties and qualities

Slope: 12 to 18 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00

in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Bucks, eroded

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Hydric soil rating: No

Penn

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: No

Berks, eroded

Percent of map unit: 5 percent

Landform: Hills

Landform position (three-dimensional): Side slope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

PenA—Penn silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1j52r Elevation: 250 to 1,300 feet

Mean annual precipitation: 30 to 64 inches Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Penn and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Penn

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Interfluve

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Fine-loamy residuum weathered from acid reddish shale,

siltstone, and fine-grain sandstone

Typical profile

Ap - 0 to 8 inches: silt loam Bt1 - 8 to 12 inches: silt loam

Bt2 - 12 to 25 inches: channery silt loam C - 25 to 30 inches: very channery silt loam R - 30 to 80 inches: weathered bedrock

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 20 to 39 inches to lithic bedrock

Drainage class: Well drained Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Norton

Percent of map unit: 5 percent

Landform: Flats

Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: No

Readington

Percent of map unit: 5 percent

Landform: Hillsides

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Base slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Klinesville

Percent of map unit: 5 percent

Landform: Hills

Down-slope shape: Linear Across-slope shape: Convex

Hydric soil rating: No

PeoB—Penn channery silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 1j52v Elevation: 250 to 1,300 feet

Mean annual precipitation: 30 to 64 inches Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Penn and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Penn

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Fine-loamy residuum weathered from acid reddish shale,

siltstone, and fine-grain sandstone

Custom Soil Resource Report

Typical profile

Ap - 0 to 9 inches: channery silt loam
Bt - 9 to 22 inches: channery silt loam
C - 22 to 30 inches: very channery loam
R - 30 to 80 inches: weathered bedrock

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 20 to 39 inches to lithic bedrock

Drainage class: Well drained Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Klinesville

Percent of map unit: 5 percent

Landform: Hills

Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: No

Reaville

Percent of map unit: 5 percent

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Bucks

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Summit Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Hydric soil rating: No

PeoC—Penn channery silt loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: 1j52w Elevation: 250 to 1,300 feet

Mean annual precipitation: 30 to 64 inches Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Penn and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Penn

Setting

Landform: Hills

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Convex

Parent material: Fine-loamy residuum weathered from acid reddish shale,

siltstone, and fine-grain sandstone

Typical profile

Ap - 0 to 8 inches: channery silt loam

Bt - 8 to 20 inches: channery silt loam

C - 20 to 25 inches: very channery silt loam

R - 25 to 80 inches: weathered bedrock

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 20 to 39 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 6.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Klinesville

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Shoulder

Down-slope shape: Linear Across-slope shape: Convex

Hydric soil rating: No

Reaville

Percent of map unit: 5 percent

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Readington

Percent of map unit: 5 percent

Landform: Hillsides

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Base slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

RedB—Readington silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 1j534 Elevation: 300 to 1,000 feet

Mean annual precipitation: 30 to 64 inches
Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Readington and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Readington

Setting

Landform: Hillsides

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Base slope

Down-slope shape: Linear Across-slope shape: Linear

Custom Soil Resource Report

Parent material: Fine-loamy residuum weathered from acid red shale, siltstone, and fine-grain sandstone

Typical profile

Ap - 0 to 7 inches: silt loam BA - 7 to 14 inches: silt loam Bt - 14 to 26 inches: silt loam Bx - 26 to 46 inches: silt loam

R - 46 to 80 inches: weathered bedrock

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 24 to 36 inches to fragipan; 39 to 60 inches to lithic

bedrock

Drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Abbottstown

Percent of map unit: 5 percent Landform: Drainageways

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Linear Across-slope shape: Concave

Hydric soil rating: No

Reaville, poorly drained

Percent of map unit: 5 percent

Landform: Depressions

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Croton

Percent of map unit: 5 percent

Landform: Depressions

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

RorAt—Rowland silt loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1j504 Elevation: 200 to 1,000 feet

Mean annual precipitation: 30 to 64 inches Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: Farmland of local importance

Map Unit Composition

Rowland, frequently flooded, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rowland, Frequently Flooded

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear

Parent material: Red and brown fine-loamy alluvium derived from sandstone and

shale and/or conglomerate

Typical profile

A1 - 0 to 3 inches: silt loam
A2 - 3 to 10 inches: silt loam
B - 10 to 40 inches: silt loam
2C - 40 to 65 inches: Error

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.20 to 2.00 in/hr)

Depth to water table: About 12 to 36 inches Frequency of flooding: FrequentNone Frequency of ponding: Frequent

Available water capacity: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C Hydric soil rating: No

Minor Components

Birdsboro

Percent of map unit: 5 percent Landform: Stream terraces

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Riser

Down-slope shape: Linear Across-slope shape: Convex Hydric soil rating: No

Raritan, rarely flooded

Percent of map unit: 5 percent Landform: Stream terraces Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Bowmansville, frequently flooded

Percent of map unit: 5 percent Landform: Flood plains Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: Yes

WATER—Water

Map Unit Setting

National map unit symbol: Idsl

Mean annual precipitation: 30 to 64 inches Mean annual air temperature: 46 to 79 degrees F

Frost-free period: 131 to 178 days

Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2 053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2 053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

ATTACHMENT E	
Vegetative Species List	
EcolSciences, Inc.	
Environmental Management & Regulatory Compliance	

Vegetation Identified Within Block 79, Lots 4, 5, 6, 7, 8.01, &10 **Township of Branchburg Somerset County, New Jersey**

USACE Wetland Classification*

			Classificati	on*
SCIENTIFIC NAME	COMMON NAME	AGCP	EMP	NCNE
TREES				
Acer rubrum	Red Maple	FAC	FAC	FAC
Acer saccharum	Sugar Maple	FACU	FACU	FACU
Betula nigra	River Birch	FACW	FACW	FACW
Juniperus virginiana	Eastern Red-Cedar	FACU	FACU	FACU
Liriodendron tulipifera	Tuliptree	FACU	FACU	FACU
Morus sp.	Mulberry sp.	-	-	-
Nyssa sylvatica	Blackgum	FAC	FAC	FAC
Prunus serotina	Black Cherry	FACU	FACU	FACU
Salix nigra	Black Willow	OBL	OBL	OBL
SHRUBS/VINES				1
Celastrus orbiculatus	Asian Bittersweet	FACU	FACU	UPL
Elaeagnus angustifolia	Russian-Olive	FACU	FACU	FACU
Elaeagnus umbellata	Autumn Olive	-	_	-
Hamamelis virginiana	American Witch-Hazel	FACU	FACU	FACU
Lonicera japonica	Japanese Honeysuckle	FACU	FACU	FACU
Parthenocissus quinquefolia	Virginia-Creeper	FACU	FACU	FACU
Persicaria perfoliata	Asiatic Tearthumb	FAC	FAC	FAC
Rosa multiflora	Multiflora rose	FACU	FACU	FACU
Rubus sp.	Blackberry sp.	-	_	-
Toxicodendron radicans	Eastern Poison Ivy	FAC	FAC	FAC
Vitis labrusca	Fox Grape	FAC	FACU	FACU
HERBS				
Alliaria petiolata	Garlic-Mustard	FACU	FACU	FACU
Allium vineale	Field Garlic	FACU	FACU	FACU
Alopecurus pratensis	Field Meadow-Foxtail	FAC	FACW	FAC
Apocynum cannabinum	Dogbane	FACU	FACU	FAC
Artemisia vulgaris	Mugwort	UPL	UPL	UPL
Asclepias incarnata	Swamp Milkweed	OBL	OBL	OBL
Asclepias syriaca	Common Milkweed	UPL	FACU	UPL
Barbarea vulgaris	Garden Yellow-Rocket	FAC	FACU	FAC
Boehmeria cylindrica	Small-Spike False Nettle	FACW	FACW	OBL
Carex scoparia	Pointed Broom Sedge	FACW	FACW	FACW

Carex stricta	Tussock Sedge	OBL	OBL	OBL
Cyperus esculentus	Yellow nutsedge	FAC	FACW	FACW
Dactylis glomerata	Orchard Grass	FACU	FACU	FACU
Daucus carota	Queen Anne's-Lace	UPL	UPL	UPL
Deschampsia caespitosa	Tufted Hair Grass	FACW	FACW	FACW
Dichanthelium clandestinum	Deer-Tongue Rosette Grass	FACW	FAC	FACW
Juncus effusus	Soft rush	OBL	FACW	OBL
Juncus tenuis	Path rush	FAC	FAC	FAC
Microstegium vimineum	Japanese Stilt Grass	FAC	FAC	FAC
Onoclea sensibilis	Sensitive Fern	FACW	FACW	FACW
Penstemon digitalis	Foxglove Beardtongue	FAC	FAC	FAC
Persicaria perfoliata	Asiatic Tearthumb	FAC	FAC	FAC
Persicaria sagittata	Arrow-Leaf Tearthumb	OBL	OBL	OBL
Phalaris arundinacea	Reed Canary Grass	OBL	FACW	FACW
Phleum pratense	Common Timothy	FACU	FACU	FACU
Phragmites australis	Common Reed	FACW	FACW	FACW
Plantago lanceolata	English Plantain	FACU	UPL	FACU
Plantago major	Great Plantain	FAC	FACU	FACU
Polygonum sp.	Knotweed sp.	-	-	-
Pycnanthemum tenuifolium	Narrow-Leaf Mountain-Mint	FACW	FACW	FAC
Reynoutria japonica	Japanese-Knotweed	UPL	FACU	FACU
Rubus idaeus	Common Red Raspberry	FACU	FAC	FACU
Securigera varia	Crown Vetch	-	-	-
Solanum carolinense	Carolina Horse-Nettle	FACU	FACU	FACU
Solidago canadensis	Canadian Goldenrod	FACU	FACU	FACU
Solidago sp.	Goldenrod sp.	-	-	-
Taraxacum officinale	Common Dandelion	FACU	FACU	FACU
Tridens flavus	Tall Redtop	FACU	FACU	UPL
Trifolium arvense	Rabbit-foot clover	-	-	-
Trifolium repens	White Clover	FACU	FACU	FACU
Verbascum thapsus	Common Mullein	FACU	FACU	UPL
Vernonia noveboracensis	New York Ironweed	FACW	FACW	FACW

*Classification Key

OBL - Obligate Wetland Almost always occur in wetlands

FACW - Facultative Wetland Usually occur in wetlands, but may occur in non-wetlands

FAC - Facultative Occur in wetlands and non-wetlands

FACU - Facultative Upland Usually occur in non-wetlands, but may occur in wetlands

UPL - Obligate Upland Almost never occur in wetlands

-= Not listed

AGCP = Atlantic and Gulf Coastal Plain Region

EMP = Eastern Mountains and Piedmont Region

NCNE = Northcentral and Northeast Region

ATTACHMENT F
Natural Heritage Program Response (to be provided upon receipt)
EcolSciences, Inc. Environmental Management & Regulatory Compliance

ATTACHMENT G
Qualifications of Preparers
EcolSciences, Inc. Environmental Management & Regulatory Compliance

DAVID P. MOSKOWITZ, Ph.D., PWS

EDUCATION: Ph.D. 2016 - Entomology

Rutgers University, New Brunswick, N.J.

M.S. 2000 - Environmental Policy Studies

New Jersey Institute of Technology, Newark, N.J.

B.A. 1984 - Environmental Studies

George Washington University, Washington, D.C.

PROFESSIONAL Soci

Society of Wetland Scientists Entomological Society of America American Entomological Society

Lepidopterists' Society

PROFESSIONAL CERTIFICATIONS:

Professional Wetland Scientist - SWS

Certified Wetland Delineator - Corps of Engineers

USEPA Wetland Delineation - WTI Qualified Ornithologist - NJDEP

Qualified Bog Turtle Surveyor – USFWS (NJ, NY, PA, DE, MD)

OTHER:

East Brunswick Environmental Commission, Chair

Co-Founder – National Moth Week; Global Citizen Science

Founder – Bug Addiction Confessions of a Bug Addict (Facebook)

Administrator: Rutgers Entomology Facebook Page Administrator: National Moth Week Facebook Page

Administrator: National Moth Week – Caterpillars Facebook Page

Wetland Journal Technical Review Board (2000-2002)

SWS Certification Review Panel (1998-2001)

USFWS N.J. Breeding Bird Survey Coordinator (1995-1997)

Roadside and Forage Pollinator Taskforce - North American Pollinator

Protection Campaign

EXPERIENCE:

Dr. Moskowitz is a Senior Vice President with EcolSciences, Inc. During the past 34 years, Dr. Moskowitz has conducted more than 7,500 environmental studies for a wide range of clients including government agencies, and the development, legal, engineering and financial professions. These studies have focused on wetland and wildlife issues including delineations, field surveys, mitigation and regulatory compliance as well as Phase I, Phase II and Brownfields Redevelopment. Dr. Moskowitz has also provided expert testimony before numerous municipal boards and the New Jersey Meadowlands Commission and has been qualified as an expert in Superior Court of New Jersey, New Jersey Office of Administrative Law, New Jersey Condemnation Commission, and the Morris County Board of Taxation. Dr. Moskowitz has published widely on wildlife and wetland related topics in both peer-reviewed and popular forums. His insect photographs have also been published both in articles and on the cover of magazines and journals. Dr. Moskowitz has a PhD in Entomology from Rutgers University and his



David P. Moskowitz Page 2 of 6

Dissertation focused on the Life History of the Tiger Spiketail Dragonfly (Cordulegaster erronea). Dr. Moskowitz will be teaching Special Topics in Entomology in Fall, 2018 on "Communicating Entomology via Social Media" at Rutgers University.

Publications/Articles

Moskowitz, D.P., 1996. Swamp Pink: A Federally-Listed Threatened Species. Wetland Journal 8(3): 14-16.

Moskowitz, D., Auffenorde, T. and M. Kovacs, (1997). Vegetation and Surrounding Landscape Characteristics of Long-Eared Owl (*Asio otus*) Winter Roosts in Central New Jersey. Records of New Jersey Birds. (23)1: 2-6.

Moskowitz, D.P., 1997. Wetland Restoration Using Non-Contact Cooling Water and Stormwater Runoff as a Supplemental Hydrologic Source. Wetland Journal. 9(1): 17-20.

Moskowitz, D.P., 1997. Hine's Emerald Dragonfly (*Somatochlora hineana*): The First Federally Endangered Dragonfly. Wetland Journal. (9)3: 12-14.

Moskowitz, D.P., 1997/98. Fall Migrant Landbird Observations at Sea. Records of New Jersey Birds. (23)4: 95.

Moskowitz, D.P., 1998. Build a Wetland Garden. Water Gardening Magazine.(2)6: 58-60.

Moskowitz, D.P., 1998. Tips Offered on Negotiating N.J.'s Mining, Dredging Rules. Mine Regulation Reporter. 11(4): 86-87.

Moskowitz, D.P., 1998. Vegetation Change in a Forested Wetland after a Bird Roost. Northeastern Naturalist. 5(1): 61-66.

Moskowitz, D.P., 1998. A Wetland Delineation Primer for the Professional Land Surveyor. Professional Surveyor Magazine. 18(1): 22-28.

Moskowitz, D.P. and D.M. Bell., 1998. *Architestes Grandis* (Great Spreadwing) in Central New Jersey, with Notes on Water Quality. Bulletin of American Odonatology. 5(3):49-54.

Moskowitz, D.P., 1999. The Pine Barrens Treefrog (*Hyla Andersonii*): An Ecologist's Dream. Wetland Journal. 11(4): 8-13.

Moskowitz, D.P., 2000. A Comparison of Field-Delineated Wetlands to the New Jersey Freshwater Wetland Maps. M.S. Thesis - New Jersey Institute of Technology.

Moskowitz, D.P., 2000. Old Maps and Wetland Regulation. Professional Surveyor Magazine. 20(6): 22-30.

Moskowitz, D.P. and T.A. Auffenorde., 2000. Persistence of Skunk Cabbage (*Symplocarpus foetidus* [L.] Nutt.) in a Drained Wetland. Wetland Journal 12(3): 23-29.

Moskowitz, D., 2000. A New County Record for *Archilestes Grandis* in New York with Notes on Habitat and Water Quality. ARGIA 12(4): 7-8.

Moskowitz, D.P., 2000. Habitat Notes on a Winter Saw-whet Owl (*Aegolius acadicus*) Roost in Central New Jersey. Records of New Jersey Birds. 26(4): 138-139.



David P. Moskowitz Page 3 of 6

Moskowitz, D., 2000. Book Review: Dragonflies through Binoculars - A Field Guide to Dragonflies of North America. Wetland Journal. 12(4): 41.

Poricy Park Citizens Committee. 2001. A Checklist and Guide to the Butterflies of Poricy Park. Pamphlet.

Moskowitz, D. P. 2001. First Record of the Queen Butterfly (*Danaus gilippus* Cramer) in New Jersey. News of the Lepidopterists' Society. 43(3): 72, 74.

Moskowitz, D., J. Moskowitz, S. Moskowitz and H. Moskowitz. 2001. Notes on a large dragonfly and butterfly migration in New Jersey. Northeastern Naturalist. 8(4): 483-490.

Moskowitz, D. P. 2002. An unusual interaction between a banded hairstreak butterfly (*Satyrium calanus*) Lycaenidae and a stink bug (*Banasa dimidiata*) Pentatomidae. Entomological News. 113:(3) 183-186.

Moskowitz, D. P. 2002. Was there an invasion of the Queen butterfly (*Danaus gilippus* Cramer) in the northeastern United States in 2001? News of the Lepidopterists' Society. 44(2): 66-67.

Newgard, L. and D. Moskowitz. Bog turtle: It's small, secretive, rare, and it's in our hiking region Trailwalker. 29(4): p. 5.

Moskowitz, D.P. and C. Westphal. 2002. Notes on the larval diet of the Painted Lichen moth Hypoprepia fucosa: Hubner (Arctiidae:Lithosiinae). Journal of the Lepidopterist's Society. 56 (4): 289-290.

Moskowitz, D. P. and T. M. Auffenorde. 2003. Bird Use at Two Simulated-Tree Cellular Towers in New Jersey. Records of New Jersey Birds. 28(4): p. 88-91.

Moskowitz, D.P. 2003. The Queen Dilemma in the Northeastern United States. New York State Butterfly Records 2002. New York Chapter, North American Butterfly Association. p. 49-51.

Moskowitz, D.P., Kovacs, M. and J. Tesauro 2003. *Glyptemys (Clemmys) muhlenbergii* (Bog Turtle). Abnormal Coloration. Herpetological Review. 34(3): p. 240.

Moskowitz, D.P. 2004. The Queen (*Danaus gilippus* Cramer) Dilemma in the Northeastern United States. News of the Lepidopterist's Society. 45(2): 62-63.

Moskowitz, D.P. 2004. A new late flight record for *Lestes congener* in North America. ARGIA 15(4):22-23.

Wikelski, M., Moskowitz, D., et al. 2006. Simple Rules Guide Dragonfly Migration. Biology Letters. 2: 325–329.

Moskowitz, D. 2007. The Spring Peeper – The Tiny Frog with the Loud Voice. NJ\NY Trailwalker. March/April. p.7.

Moskowitz, D. 2007. Butterflies Along The Appalachian Trail. NJ\NY Trailwalker. May/June p.7.

Wikelski, M., Moxley, C. Eaton-Mordas, J., Lopez-Uribe, A. Margarita M., Holland, R., Moskowitz, D., Roubik, Ward, D. and R. Kays. 2010. Large-range movements of neotropical orchid bees observed via radio telemetry. PloSOne 5(5). e10738. doi:10.1371/journal.pone.0010738.



David P. Moskowitz Page 4 of 6

Moskowitz, D. 2010. First Record of the Ectoparasitic Beaver beetle (*Platypsyllus castoris* Ritsema) in New Jersey (Coleoptera: Leiodidae: Platypsyllinae). Coleopterist's Bulletin. 65(1): 84-85.

Moskowitz, D. and D. Golden. 2011. First Record of the Green Lacewing *Leucochrysa pavida* (Hagen) in New Jersey (Neuroptera: Leucochrysa: Chryspoidae). Entomological News. 122(1): 55-58.

McDonnell, S. and D. Moskowitz. 2012. First Report of Mating in New Jersey of the Cicada *Okanagana rimosa* (Say) (Homoptera: Cicadidae, Tibicininae). Northeastern Naturalist. 19: 140–142.

Moskowitz, D. and L. Haramaty. 2012. A Note on the Agreeable Tiger Moth (Spilosma congrua) feeding on the fungus *Trichaptum biforme*. Journal of the Lepidopterist's Society. 66(4): p. 230

Moskowitz, D. and L. Haramaty. 2013. National Moth Week – A New Global Citizen Science Project. Terrestrial Arthropod Reviews. pp. 1-16.

Moskowitz, D. and L. Haramaty. 2016. Got Moths? Celebrate National Moth Week and Global Citizen Science. Entomology Today. Published Online July 26, 2016 - https://entomologytoday.org/2016/07/26/got-moths-celebrate-national-moth-week-and-global-citizen-science/

Moskowitz, D. 2016. Life History, Behavior and Conservation of the Tiger Spiketail Dragonfly (*Cordulegaster erronea* Hagen) in New Jersey. Ph.D. Dissertation. Rutgers University.

Moskowitz, D. 2017. Caterpillar hunting with a UV flashlight. News of the Lepidopterists Society. 59(1): 40-42.

Moskowitz, D. 2017. Adult Tiger Spiketail (Cordulegaster erronea Hagen) Habitat Use and Home Range Observed Via Radio-Telemetry, with Conservation Recommendations. Journal of Insect Conservation. 21(5-6): 885-895.

Moskowitz, D. and G. Paulson. 2018. First Report of the Hyperparasite *Taeniogonalos gundlachi* (Hymenoptera) from the Cecropia Moth (*Hyalophora cecropia*: Lepidoptera). Entomological News. 127(5): 502-504.

Moskowitz, D. Caterpillar hunting with a UV flashlight – Part 2. 2018. News of the Lepidopterists' Society. 60(4): 169-172.

Tartaglia, E. and D. Moskowitz. 2019. First Record of and Habitat Notes for *Cyzicus mexicanus* Claus (Branchiopoda: Spinicaudata) in New Jersey. Northeastern Naturalist. 26(1): N1-N8.

Moskowitz, D. and M. L. May. Larval Ecology, Habitat, and Emergence Site Selection of the Tiger Spiketail Dragonfly (*Cordulegaster erronea* Hagen) in New Jersey with Implications for Conservation. 2019. Northeastern Naturalist. 26(1): 141-154.

Moskowitz, D. 2019. A second Alaska record for Polix coloradella (Walsingham, 1888) (Lepidoptera: Gelechioidea: Oecophoridae), the "Skunk Moth". Newsletter of the Alaska Entomologists Society. 12(1): 5-8.

Moskowitz, D. 2019. The History of the Rutgers Insect Collection – A New Jersey Treasure Saved Twice (1888-2019). New Jersey Studies. 5(2): 185-245.



David P. Moskowitz Page 5 of 6

Moskowitz, D. 2019. Surveying for caterpillars of a rare butterfly using ultraviolet light: the Frosted Elfin butterfly (*Callophyrs irus*) as a test case. Journal of Insect Conservation. Published Online: 1-6. https://doi.org/10.1007/s10841-019-00200-7

Moskowitz, D. 2019. The Ailanthus Silkmoth (Samia cynthia) in the New Jersey Meadowlands. News of the Lepidopterists' Society. 61(4): 200-204.

Publications in Preparation

Moskowitz, D. and M. L. May. Mate Recognition and Mating in the Tiger Spiketail Dragonfly (*Cordulegaster erronea* Hagen) (Odonata; Anisoptera).

Moskowitz, Levinson and McMenamin. Historical Pesticide Purchases for A New Jersey Apple Orchard from 1931-1936 and 1943-1945 With Notes on Remnant Pesticide Concentrations in Soil. In Review: Submitted to New Jersey Studies.

Photographic Credits

Monarch Butterfly Cover - Northeastern Naturalist 2001.

Dolichoderus mariae (Ant Colony) – Cover American Entomologist – Fall 2012 (58:3)

Hemaris thysbe (Hummingbird Clearwing Moth) - Cover American Entomologist - Fall 2011 (57:3)

Paranthrene simulans (Hornet Clearwing Moth) - Cover American Entomologist – Fall 2016 (62:3)

Isa textula (Crowned Slug Moth) – Cover American Entomologist – Winter 2016

Wavy-lined Emerald Moth Caterpillar (*Synchlora aerata*) – Plate 7: Moths, Myths, and Mosquitoes: The Eccentric Life of Harrison G. Dyar, Jr. By Marc Epstein. Oxford University Press: 2016.

Cicindela tranquebarica (Oblique-lined Tiger Beetle photographed on snow) – Cover Cicindela – March-June 2016 (48:1-2).

Overwintering Monarchs at El Rosario Monarch Sanctuary, Mexico. Minding Our Monarchs. Wisconsin Natural Resources Magazine. August 2017.

Recent Presentations

Fostering public participation in entomology through social media; Lessons from "Bug Addiction – Confessions of a Bug Addict". 103rd Annual New Jersey Mosquito Control Association Meeting: March 2016, Atlantic City, New Jersey.

The life history, behavior and conservation of the tiger spiketail dragonfly (*Cordulegaster erronea* Hagen) in New Jersey with notes on radiotelemetry studies Session: Contributed Papers: Ecology and Population Dynamics: Sampling. 2016 XXV International Congress of Entomology, Orlando, Florida.

Moths of New Jersey. Mercer County Master Gardeners.

Additional Advanced Training

Identification of Sedges and Rushes - Rutgers University

Field Identification of Raptors - University of Maine/Eagle Hill - Humboldt Field Research Station Field Identification of Raptors - New Jersey Audubon Society/CMBO

Identification of Adult Dragonflies - University of Maine/Eagle Hill – Humboldt Field Research Station Identification of Larval Dragonflies - University of Maine/Eagle Hill – Humboldt Field Research Station



David P. Moskowitz Page 6 of 6

Systematics & Conservation of Lepidoptera - University of Maine/Eagle Hill – Humboldt Field Research Station

Identification of Microlepidoptera – University of Maine/Eagle Hill – Humboldt Field Research Station



DANIEL BRILL

EDUCATION: *B.A., 1996 – Environmental Studies*

Richard Stockton College Galloway, New Jersey

EMPLOYMENT: EcolSciences, Inc. (2001-present)

AREAS OF Threatened & Endangered Species Habitat Assessments and Surveys

EXPERTISE: Geographic Information Systems

PROFESSIONAL Rutgers Cook College Office of Continuing Professional Education

CERTIFICATIONS: - Professional Certificate Program in Geomatics

Birder Certification Online – Certification Level 3, Bird Conservation

Regions 28, 29 & 30 (www.birdercertification.org/)

EXPERIENCE:

Mr. Brill is presently a Senior Environmental Scientist with EcolSciences, Inc. with over 17 years of experience with the company. His particular specialties are in threatened and endangered species studies and the use of Geographic Information Systems (GIS) software as an instrument of environmental analysis.

Mr. Brill has been a birder for over 25 years with 360 bird species observed in New Jersey. He is knowledgeable in their habitats, distribution, and seasonal occurrence. With regards to GIS, Mr. Brill is well-versed in the methodology and species models used to assemble the NJDEP Landscape Project critical habitat map from Versions 1.0 through 3.3.

Prior to his employment with EcolSciences, Mr. Brill was an educator at the Cattus Island Cooper Environmental Center with Ocean County Parks and Recreation and has volunteered with the New Jersey Department of Environmental Protection and New Jersey Audubon Society.

Selected Bird Studies

Contribute to the design, implementation, documentation, and analysis of habitat evaluations and surveys of endangered, threatened, special concern, and other birds. Such studies include:

- Lead Bald Eagle monitor 2012-2014 on a multi-year Public Service Electric & Gas (PSE&G) overhead transmission line right-of-way (ROW) construction project in northern New Jersey in accordance with United States Fish and Wildlife Service (USFWS) permit conditions. Three eagle territories in Morris County were in close proximity to construction activities that included intense helicopter use.
- Bald Eagle monitor 2014-2015 at Lake Tappan in Rockland County, New York. A proposed helicopter pad at a corporate facility would be located 1,200 feet from an active nest. EcolSciences prepared a Habitat Assessment Report concluding that measures such as minimizing flights for emergency purposes only and maintaining a 1,000-foot flight buffer from the nest at all times would likely not result in a "take" of Bald Eagle. Therefore, no permit was required from the New York Department of Environmental Conservation (NYSDEC) pursuant to the New York State Endangered Species Act.



Daniel Brill Page 2 of 3

• Bald Eagle monitor 2014-2019 of a pair that nested on the site of a previously approved residential development at Lake Hopatcong. A take permit was obtained from USFWS. There was no lost productivity from this eagle pair as a result of the development, with young successfully fledged each year from both the on-site nest (even during land clearing and construction activities) and later a second nest less than one half mile away.

- Investigated a suspected alternate Bald Eagle nest located immediately adjacent to the site of a proposed residential development in Schuylkill Township, Pennsylvania. The nest was likely attributable to an eagle pair with an active nest located on the opposite side of a reservoir and in close proximity to an occupied office building. EcolSciences successfully convinced USFWS that the local eagle pair are acclimated to nearby human activity and that the proposed development would not negatively impact the potential future usage of the alternate nest nor the reservoir as foraging habitat. As such, the proposed development did not require an eagle take permit.
- Avian monitor April July 2014 at a ROW construction project on the Raritan Estuary in Middlesex County as required in a NJDEP Waterfront Development Permit. Work activities approached multiple Osprey nests. Several other State-listed birds were observed in the work area including Black-crowned Night-heron, American Bittern, Bald Eagle, Northern Harrier, Least Tern, and Black Skimmer.
- Breeding bird survey of two dredge disposal areas totaling approximately 500 acres along the Delaware River. The survey was conducted to address a special condition of a NJ Department of Environmental Protection (NJDEP) issued Waterfront Development Permit limiting activities including the placement of dredged material inside the disposal areas March 15 through July 31 to avoid and minimize impacts to nesting birds and prevent impacts to nesting Bald Eagles. A small fraction of the 94 bird species identified during the survey likely nested within the disposal areas. Based on the survey results and site conditions within the disposal areas, EcolSciences determined a plan could be developed to eliminate the timing restrictions.
- Helped conduct a bird/radio tower collision study at five 300 to 400-foot high towers in the New
 Jersey Meadowlands during the spring and fall migrations in 2004. A total of 108 bird species
 were observed and feathers or other parts of twelve bird species were located beneath the towers
 or guy wires.
- Conducted a grassland bird survey on over 500 acres of hayfields surrounding a corporate facility in Hunterdon County. Three obligate grassland birds (Savannah Sparrow, Grasshopper Sparrow, and Bobolink) were found nesting here.
- Other avian studies of raptors such as Red-shouldered Hawk, Cooper's hawk, and Barred Owl; grassland species including Upland Sandpiper, Horned Lark, and Vesper Sparrow; wading birds like Black-crowned Night-heron, Yellow-crowned Night-heron, and Great Blue Heron; secretive marsh birds such as Pied-billed Grebe, Virginia Rail, Sora, Common Gallinule, Least Bittern, and American Bittern; and other birds such as Red-headed Woodpecker and Golden-winged Warbler.

Geographic Information Systems

Almost all projects have a geographic component that can be expressed via maps. Geographic Information Systems software has been used to:

• Quickly determine and effectively communicate potential environmental constraints on a given site including critical wildlife habitat.



Daniel Brill Page 3 of 3

• Plot results of wildlife species surveys, establish and quantify critical nesting and foraging habitat according to peer-reviewed models, and develop species management strategies.

• Analyze land use/land cover change over time in areas with records of threatened and endangered birds such as Bald Eagle, Black-crowned Night-heron, Barred Owl, and Red-headed Woodpecker.

Other Applicable Experience

- Co-authored an Avian Survey Protocol for the PSE&G overhead transmission ROWs. The
 objective of the protocols is to provide a consistent framework in which to survey and evaluate
 habitat for birds addressed in the Utility ROW No Harm Best Management Practices (BMPs)
 developed by the NJ Endangered and Nongame Species Program (ENSP) ahead of scheduled
 vegetation maintenance activities. Data collected will be reviewed by PSE&G environmental
 managers, who will authorize relief from seasonal restrictions listed in the BMPs where warranted.
- Participated in a panel assembled by ENSP to assess or reassess the status of over 170 bird species
 occurring in New Jersey. This was accomplished via the Delphi Technique that entailed five rounds
 of voting and considered materials provided by ENSP and comments and expert opinions of panel
 members.
- Presented at the Endangered and Nongame Species Advisory Committee meeting September 21, 2010 as part of a gathering of various users of the NJDEP Landscape Project critical wildlife habitat map to discuss its application, strengths, limitations, and suggested improvements.
- Assisted the annual Sandy Hook Hawk Watch for New Jersey Audubon Society in spring of 2000 and 2001. Fifteen or more species of diurnal raptors can be expected at this location.
- Project assistance for Neotropical Passerine Critical Areas: Pinelands Survey (Landscape Project
 for Protection of Rare Species). The objective of this 1999 NJDEP-sponsored study was to
 determine the distribution, abundance, and habitat characteristics of neotropical birds and other
 observed species.
- Participation in the New Jersey Breeding Bird Atlas with data contributed towards *Birds of New Jersey* (Walsh, Elia, Kane, and Halliwell, 1999) published by the New Jersey Audubon Society.
 Work involved identifying and recording all breeding bird species and observed behaviors in predetermined survey blocks.
- Present volunteer monitor of a nesting pair of State-endangered Peregrine Falcons in New Brunswick.
- Submitted multiple ENSP Rare Wildlife Sighting Report forms documenting observations of endangered, threatened, and special concern birds.
- Frequent contributor to eBird, submitting multiple rare and unusual local records.
- Present coordinator of the Assunpink Christmas Bird Count (CBC). Participant in other CBCs.



MICHAEL J. LEVINSON, PWS

EDUCATION: *M.S.*, 2018– Biology: Ecology and Evolution

Montclair State University, Montclair, N.J.

Thesis: Impacts of Drainage Basin Characteristics on Macroinvertebrate

Communities in the Upper Passaic River

B.S., 2008 – Environmental Science, Concentration in Pollution Science

Cook College, Rutgers University, New Brunswick, N.J.

AREAS OF

EXPERTISE: Regulatory Assessments and Constraints Analysis

Wetland Delineations & Regulatory Review

Threatened & Endangered Species Survey & Studies

Environmental Impact Assessment Construction Monitoring & Management

Geographic Information System Software Projects

PROFESSIONAL

CERTIFICATIONS: Professional Wetland Scientist – Society of Wetland Scientists

Wetland Delineation Certificate – Rutgers University OCPE

OSHA 40 Hour HAZWOPER

PROFESSIONAL ASSOCIATIONS:

Member of the Society of Wetland Scientists

EXPERIENCE:

Mr. Levinson is a Senior Project Manager with EcolSciences, Inc. and has more than ten years of environmental experience. Mr. Levinson has managed and participated in a wide variety of projects related to: wetland delineation, wetland mitigation, land use permitting, environmental impact assessment & statement preparation and threatened & endangered species surveys. Additionally, Mr. Levinson is experienced in conducting site investigation (phase I and phase II), sampling of hazardous materials and the remedial investigation of contaminated sites. He has worked on a variety of projects and is familiar with local, state and federal regulations throughout the country and has used his skills in GIS mapping, regulatory compliance, and permit application preparation in order to assure that clients comply with all applicable regulations.



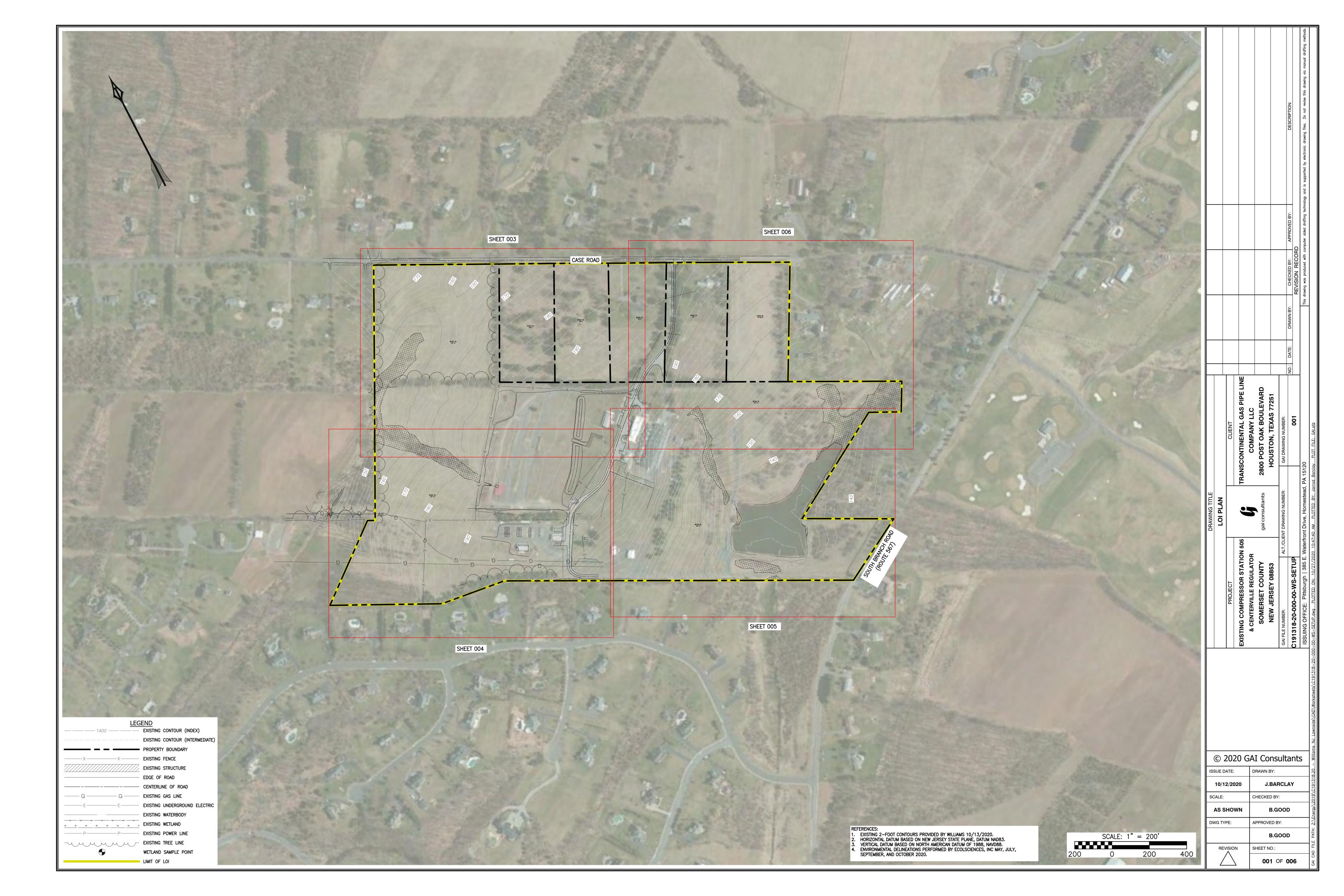
Michael J. Levinson Page 2 of 2

A summary of Mr. Levinson's relevant experience includes:

• Wetland delineations based on the Federal Manual three-parameter approach using indicators of hydrophytic vegetation, hydric soils, and wetland hydrology.

- Preparation of Environmental Impact Statements, Letters of Interpretation, Transition Area Waivers, General / Individual Permits, CAFRA / Waterfront Development Permits and U.S. Army Corps permits for numerous development projects throughout NJ.
- Preliminary environmental studies, permitting, construction monitoring and site inspections for major electric and gas utility maintenance, upgrade and construction projects.
- Phase I, II and III habitat evaluations and surveys for the Federally-threatened and State-endangered bog turtle (Glyptemys muhlenbergii) in NJ, NY and PA.
- Coordinate and assist with field surveys for the State-endangered blue-spotted salamander (Ambystoma laterale), northern goshawk (Accipiter gentiles), red-shouldered hawk (Buteo lineatus), timber rattlesnake (Crotalus horridus) and southern gray treefrog (Hyla chrysoscelis), and the State-threatened red-headed woodpecker (Melanerpes erythrocephalus), barred owl (Strix varia), wood turtle (Glyptemys insculpta), northern pine snake (Pituophis melanoleucus melanoleucus) and pine barrens treefrog (Hyla andersonii) on proposed development properties throughout New Jersey.
- Coordinate and assist with field surveys for rare plants including, among many others, the
 Federally-endangered northeastern bulrush (Scirpus ancistrochaetus), the Federally-threatened
 small whorled pogonia (Isotria medeoloides) and swamp pink (Helonias bullata) and the NJ
 Pinelands Commission listed little ladies' tresses (Spiranthes tuberosa).
- Vernal habitat surveys in accordance with survey protocols developed by the NJDEP and the New York State Department of Environmental Conservation (NYSDEC).





	505-W1	
LINE #	BEARING	DISTANCE
W1-L1	N39°26'32"W	38.46'
W1-L2	N50°51'22"W	43.82'
W1-L3	N24°08'24"W	43.29'
W1-L4	N22°57'01"W	40.35'
W1-L5	N44°04'21"W	50.51
W1-L6	N33°35'47"W	70.46'
W1-L7	N46°08'59"W	50.35'
W1-L8	N38*57'42"W	58.18'
W1-L9	N51°59'29"W	68.46'
W1-L10	N43°38'29"W	64.34'
W1-L11	N52°14'52"W	31.00'
W1-L12	N36°49'25"W	36.26
W1-L13	S60°21'25"W	24.36'
W1-L14	S48°38'27"W	23.15'
W1-L15	N29*40'37"E	316.02'
W1-L16	N28°01'54"E	59.91'
W1-L17	N68°49'12"E	38.21'
W1-L18	N77°26'08"E	71.95'
W1-L19	N61*59'39"E	59.60'
W1-L20	N48*51'14"E	56.31'
W1-L21	N65°06'27"E	37.72'
W1-L22	N77°27'44"E	64.30'
W1-L23	S67°50'01"E	33.01'
W1-L24	S01°33'12"W	45.67'
W1-L25	N88°59'58"W	32.28'
W1-L26	S47°33'44"W	58.65'
W1-L27	S16°34'30"W	32.78'
W1-L28	S74°01'21"W	43.34'
W1-L29	S65°13'45"W	62.38'
W1-L30	S88°21'23"W	48.36'
W1-L31	S76°54'27"W	49.68'
W1-L32	S49°36'24"W	67.81'
W1-L33	S44°47'35"W	63.12'
W1-L34	S15°45'46"W	49.21'
W1-L35	S23°49'31"W	48.54'
W1-L36	S63°26'51"E	45.73'
W1-L37	S62°14'33"E	55.59'
W1-L38	S24°06'08"E	34.90'
W1-L39	S07°34'21"E	26.09'
W1-L40	S48°44'04"E	26.08'
W1-L41	S13°48'58"E	26.32'
W1-L42	S08*50'48"E	34.57'
W1-L43	S44°10'28"E	60.73'
W1-L44	S57°17'52"E	69.38'
W1-L45	S22°14'12"E	66.03'
W1-L46	S24°03'47"E	139.21
W1-L47	S37°12'30"E	36.20'
	S37°26'25"W	39.62'

505-W2			
LINE #	BEARING	DISTANCE	
W2-L1	S01°23'45"W	64.82'	
W2-L2	S50°40'12"W	32.74'	
W2-L3	N65°11'01"W	17.57'	
W2-L4	N49*16'44"E	27.02'	
W2-L5	N22°45'19"E	30.88'	
W2-L6	N18*01'06"E	33.73'	
		_	

ICE	
2'	
1'	
7'	
2'	
3'	
3'	

	505-W3	
LINE #	BEARING	DISTANCE
W3-L1	N73°26'46"E	26.68'
W3-L2	N78*40'03"E	45.91'
W3-L3	S02*38'58"E	53.79'
W3-L4	S19°32'11"W	25.77'
W3-L5	S10°44'21"W	55.86'
W3-L6	S05°36'29"E	57.53'
W3-L7	S36°33'27"W	51.76'
W3-L8	S15°19'38"W	46.62'
W3-L9	S08°30'38"W	41.98'
W3-L10	S15°29'58"W	35.94'
W3-L11	S30°24'28"W	13.61'
W3-L12	S08°31'48"E	27.44'
W3-L13	S00°26'31"W	33.91'
W3-L14	S05°39'13"W	41.46'
W3-L15	S07°49'11"E	37.38'
W3-L16	S32°31'35"W	27.38'
W3-L17	S65°59'44"W	28.38'
W3-L18	N37*25'03"W	9.33'
W3-L19	N25*10'53"E	42.89'
W3-L20	N10°26'01"E	37.05'
W3-L21	N22°28'34"W	27.61'
W3-L22	N03°20'07"W	48.31'
W3-L23	N18*41'34"W	34.73'
W3-L24	N00°47'19"E	41.54
W3-L25	N09°48'14"E	43.15'
W3-L26	N34°00'21"E	36.33'
W3-L27	N46°27'18"E	45.17
W3-L28	N32°21'43"E	41.51'
W3-L29	N10°17'48"E	38.80'
W3-L30	N03*51'26"E	30.14'
W3-L31	N02°38'36"W	17.70'
W3-L32	N06°05'08"W	35.67'

| W3-L33 | N32°30'25"W |

| W3-L34 | N80°53'12"W | 26.59'

W3-L35 N05*13'02"E 4.01'

		_			
505-W4				505-W5)
BEARING	DISTANCE		LINE #	BEARING	DI:
N84*10'57"W	29.33'		W5-L1	S88*04'10"E	
N59°41'41"W	56.86'		W5-L2	S74°54'57"E	
N63°46'45"W	56.07		W5-L3	S32*16'09"E	
N12°50'27"E	25.93'				
N65°53'45"W	50.83'				
N42*29'56"W	32.63'				
N26°04'18"W	21.28'				

LINE #

W4-L1

W4-L2

W4-L3

W4-L4

W4-L5

W4-L6

W4-L7

| W4-L8 | N40°24'55"E | 21.29'

| W4-L12 | S46°47'29"E | 32.85'

| W4-L14 | S03°01'48"W | 29.07'

32.64

49.58

98.52

18.91'

W4-L9 S68*16'09"E

W4-L10 S62°03'53"E

W4-L11 S50°56'17"E

W4-L13 S46°45'09"E

505-W5				
E #	BEARING	DISTANC		
-L1	S88*04'10"E	43.05		
-L2	S74°54'57"E	25.64'		
-L3	S32*16'09"E	47.52		

W6-L1

W6-L2

W6-L3 W6-L4

W6-L5

W6-L6

W6-L7

W6-L8

W6-L9

W6-L10

W6-L11

W6-L12

W6-L13

| W6-L14 | S60°17'15"W |

| W6-L15 | N32*20'30"E | 1.17'

| W6-L16 | N32°05'29"E | 22.91'

| W6-L17 | N68*43'06"E | 52.29'

W6-L18 S81°38'39"E 35.87'

| W6-L19 | N50°03'53"E | 51.07'

| W6-L20 | N39°33'39"E | 49.95'

| W6-L21 | N17°30'33"W | 33.98'

W6-L22 N54°13'30"W 41.15'

| W6-L23 | N29*41'58"E | 52.38'

| W6-L24 | N14*59'50"E | 35.66'

| W6-L25 | N56°09'16"E | 36.70'

| W6-L26 | N39*08'21"W | 38.37'

W6-L27 N12°05'42"E 43.11'

W6-L29 S81°05'10"E 47.53'

W6-L30 S51°21'36"E 41.17'

| W6-L31 | S03*53'41"E | 40.82'

| W6-L32 | S14°04'43"W | 66.13'

| W6-L35 | S46*57'24"E | 35.31'

W6-L38 N49*46'22"E 44.15'

W6-L40 N57*29'32"E 83.38'

W6-L28 N70°37'24"E

| W6-L33 | S59*36'53"W |

W6-L34 S00°52'38"W

W6-L36 N87*53'34"E

W6-L37 N68°28'28"E

W6-L39 S61*56'51"E

49.30'

19.72

69.59'

59.42

505-W6	
BEARING	DISTANCE
N89°04'48"W	11.89'
N55*12'10"E	82.17'
N63°22'14"E	48.38'
N55°48'47"E	40.74
N55*16'31"E	61.45'
N56*30'58"E	43.15'
N73°05'10"E	30.26
N56°01'32"E	78.00'
N56°08'48"E	53.76'
N27°44'31"E	16.84'
N44°09'12"W	41.94'
S78°42'18"W	39.42'
S83°01'40"W	48.27'

	505-S1	
LINE #	BEARING	DISTANCE
" S1–L1	S56°10'06"E	53.03'
S1-L2	S56*11'27"E	0.06'
S1-L3	S63°54'35"E	59.38'
S1-L4	S63°54'31"E	7.76'
S1-L5	S75°45'10"E	14.23'
S1-L6	S75°45'08"E	47.30'
S1-L7	N88°06'01"E	20.50'
S1-L8	N88*06'02"E	40.07'
S1-L9	N75°38'39"E	14.56'
S1-L9	N75 38 39 E	21.28'
S1-L11	N58*42'54"E	63.47'
S1-L12	N57°26'09"E	26.87'
S1-L13	N57*26'11"E	26.60'
S1-L14	N54°41'58"E	25.39'
S1-L15	N54°41'58"E	24.10'
S1-L16	N88°10'59"E	34.98'
S1-L17	N88°10'55"E	13.67'
S1-L18	N60°06'49"E	51.49'
S1-L19	N83°01'40"E	48.27'
S1-L20	N78°42'18"E	39.42'
S1-L21	S44°09'12"E	11.95'
S1-L22	S44°09'13"E	30.00'
S1-L23	S27°18'11"W	11.14'
S1-L24	S27°18'19"W	5.30'
S1-L25	S56°08'48"W	53.76'
S1-L26	S55°50'36"W	46.56'
S1-L27	S55°50'34"W	31.61'
S1-L28	S73°05'10"W	30.26'
S1-L29	S56°30'58"W	43.15'
S1-L30	S55°16'31"W	32.08'
S1-L31	S55°16'30"W	29.36'
S1-L32	S55°48'48"W	27.31'
S1-L33	S55°48'46"W	13.43'
S1-L34	S63°22'14"W	24.56'
S1-L35	S63°22'14"W	23.81'
S1-L36	S55*12'10"W	82.17'
S1-L37	S22°34'04"W	16.37'
S1-L38	S22°34'01"W	11.76'
S1-L39	S18*52'02"E	27.24'
S1-L40	S18°31'40"W	50.99'
S1-L41	S23°48'54"W	67.66'
S1-L42	S31°23'08"W	0.17
S1-L43	S31°20'06"W	42.25'
S1-L44	N65°02'03"W	74.50'
S1-L45		
S1-L46	N58*45'28"W	104.11'
	N58°45'28"W N57°53'44"W	104.11' 79.89'
S1-L47		
S1-L47 S1-L48	N57*53'44"W	79.89'
	N57°53'44"W N54°55'16"W	79.89' 96.57'
S1-L48	N57°53'44"W N54°55'16"W N53°25'55"W	79.89' 96.57' 37.09'
S1-L48 S1-L49	N57°53'44"W N54°55'16"W N53°25'55"W N13°14'44"W	79.89' 96.57' 37.09' 17.90'
S1-L48 S1-L49 S1-L50	N57*53'44"W N54*55'16"W N53*25'55"W N13*14'44"W N21*23'56"E	79.89' 96.57' 37.09' 17.90' 41.50'
S1-L48 S1-L49 S1-L50 S1-L51	N57°53'44"W N54°55'16"W N53°25'55"W N13°14'44"W N21°23'56"E N29°45'25"E	79.89' 96.57' 37.09' 17.90' 41.50' 42.42'
S1-L48 S1-L49 S1-L50 S1-L51 S1-L52	N57°53'44"W N54°55'16"W N53°25'55"W N13°14'44"W N21°23'56"E N29°45'25"E N36°26'02"E	79.89' 96.57' 37.09' 17.90' 41.50' 42.42' 36.64'
S1-L48 S1-L49 S1-L50 S1-L51 S1-L52 S1-L53	N57*53'44"W N54*55'16"W N53*25'55"W N13*14'44"W N21*23'56"E N29*45'25"E N36*26'02"E N81*30'21"E	79.89' 96.57' 37.09' 17.90' 41.50' 42.42' 36.64' 22.76'
S1-L48 S1-L50 S1-L51 S1-L52 S1-L53 S1-L54	N57*53'44"W N54*55'16"W N53*25'55"W N13*14'44"W N21*23'56"E N29*45'25"E N36*26'02"E N81*30'21"E S65*11'01"E	79.89' 96.57' 37.09' 17.90' 41.50' 42.42' 36.64' 22.76' 17.57'
S1-L48 S1-L50 S1-L51 S1-L52 S1-L53 S1-L54 S1-L55	N57*53'44"W N54*55'16"W N53*25'55"W N13*14'44"W N21*23'56"E N29*45'25"E N36*26'02"E N81*30'21"E S65*11'01"E N50*40'12"E	79.89' 96.57' 37.09' 17.90' 41.50' 42.42' 36.64' 22.76' 17.57' 32.74'
S1-L48 S1-L50 S1-L51 S1-L52 S1-L53 S1-L54 S1-L55 S1-L56	N57*53'44"W N54*55'16"W N53*25'55"W N13*14'44"W N21*23'56"E N29*45'25"E N36*26'02"E N81*30'21"E S65*11'01"E N50*40'12"E N01*23'44"E	79.89' 96.57' 37.09' 17.90' 41.50' 42.42' 36.64' 22.76' 17.57' 32.74' 64.82'

